Total Management Plan/Strategic Asset Management Plan for Gladstone City Councils Water Service Business

Version 2.0

November 2006

TMP Table of Contents:

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

SUMMARY DOCUMENT

TABLE OF CONTENTS

CERTIFICATION

The development of this Total Management Plan has been facilitated by Chris Adam of Integran Pty Ltd based on submissions and contributions from the staff of Gladstone City Councils Water Services business. Components of this Total Management Plan have specifically been developed to address the requirements of the Water Act for a registered Water Service Provider's Strategic Asset Management Plan.

In this regard, the Total Management Plan addresses:

- the services for which the business is registered as a water services provider;
- the ongoing requirements for operations, maintenance and renewals of the infrastructure used in providing these services; and
- the draft levels of service which are being targeted.

The elements of this Total Management Plan that address the statutory requirements of a Strategic Asset Management Plan are considered appropriate for the service provider's infrastructure, the services for which the business is registered and in keeping with the current expectations of customers, the constraints of Local Government budgetary allocations, and to the extent possible with regard to the information provided for inclusion in the plan.

In making this Certification, due consideration has been given to:

- the requirements of Section 408 of the Water Act and the Guideline for preparing Strategic Asset Management Plans (NR&M, February 2002);
- the need for operational, maintenance and renewals strategies, processes, procedures and actions to achieve the target levels of service standards; and
- the need for adequate financial arrangements to implement all the elements of the Strategic Asset Management Plan.

Signed by:

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Chris Adam **MIE Aust, RPEQ No. 6794**

This Total Management Plan outlines the major strategies, processes, procedures and actions being pursued by Gladstone City Councils Water Services business in delivering water supply and wastewater services.

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Mathew Stahl,
Manager, Water

MEETING THE WATER ACT 2000 REQUIREMENTS

Under Section 408 of the Water Act 2000, service providers are required to prepare a Strategic Asset Management Plan (SAMP) for ensuring continuity of supply of each of the registered services provided by the service provider. The SAMP must identify:

- the registered services to which the plan applies;
- the infrastructure for providing the services;
- standards for appropriate levels of service, including customer service and performance indicators for the service; and
- an operation, maintenance and renewals strategy that demonstrates how each standard will be achieved.

Table 1 provides an overview of the SAMP requirements achieved by Gladstone City Council in completing this TMP.

TABLE 1: SAMP Compliance

Category	Information	Document	Location
Nature of Service	Types of service provided	Summary Document	Section 4.1
	Nature of service (eg, potable, pressure on demand, etc) documented	Summary Document	Section 4.1
	No. of connections documented	Summary Document	Section 4.3
Infrastructure Details	Information on infrastructure – purpose and capacity provided	Summary Document	Tables 4.1 and 4.2
		Asset Evaluation Plan	Section 3.0
	Schematic layout provided	Summary Document	Appendix A
Standards of Service	Standards of service quantified	Customer Service/Customer Relations Plan	Appendix A
	Methodology used for setting standards documented	Customer Service/Customer Relations Plan	Section 3.3 and 3.6
Operation, Maintenance and Renewals Strategy	Explanation provided on how system is operated to meet demands	Operations Management Plan	Section 3.0
	Explanation provided on control systems (eg, telemetry, manual, etc)	Operations Management Plan	Section 3.0
	Explanation provided on system monitoring (eg, telemetry, meter reading, etc)	Operations Management Plan	Section 3.0
	Maintenance strategies documented for various asset groups (eg, mains, hydrants, pumps) including frequency of activities	Maintenance Management Plan	Appendix A
	Availability of suitably qualified O&M staff documented	Human Resource Development Plan	Section 3.0
	Listing of documented procedures for operation and maintenance provided. Also includes response and contingency procedures.	Maintenance Management Plan	Section 3.2
	Date of procedure reviews outlined	Maintenance Management Plan	Section 3.2
	Date of proposed new procedures outlined	Maintenance Management Plan	Section 3.2
	Documentation review process documented	Operations Management Plan	Action Plan Item 1
	Process for monitoring performance against service standards documented	Customer Service/ Customer Relations	Section 3.4
Renewals Strategy	Renewals strategy for existing infrastructure documented	Asset Evaluation Plan	Section 3.1.4
	Process for developing and updating strategy documented	Asset Evaluation Plan	Section 3.1.4
Actions	Proposed major actions in operation, maintenance and renewals to meet service standards documented (10 year time frame) – target dates included	Asset Evaluation Plan Operations Management Plan Maintenance Management Plan	Section 5.0
Financial Arrangements	Planned expenditure (10 years) for operation, maintenance and renewals documented	Financial Management Plan	10 year financial models for water supply and wastewater
	Funding sources listed	Financial Management Plan	10 year financial models for water supply and wastewater
Certification	Certification by RPEQ	Certification	Front page of TMP Document

1 OVERVIEW OF REGISTERED SERVICES

Gladstone City Council supplies potable water and wastewater services to an estimated 10,800 rateable properties located within the city. This includes both residential and commercial demand. These services are managed to meet a variety of specific key performance indicators for pressure, flow, quality and reliability. The standard of service currently provided for the business is considered appropriate for an organisation of this size. Both the water supply and wastewater schemes are relatively young and asset replacement is not a major issue at this stage.

This Total Management Plan provides a summary of the businesses current position and future initiatives for further development of the services.

2 STRUCTURE OF THE TOTAL MANAGEMENT PLAN:

Management of a Water services business is becoming increasingly complex, with Council officers having to address an increasingly diverse range of issues. The Total Management Plan (TMP) has been designed to assist Gladstone City Council to address a variety of issues in a logical, cost-effective manner.

The Total Management Plan is one of several key strategic business planning documents. The Total Management Plan translates the strategic objectives of the business (as outlined in the businesses Strategic Plan) into tangible, practical actions. The TMP links in with Council's corporate and operational planning process1. The goals, objectives and strategies in the summary framework feed upward into the Corporate Plan, while Action Plans in the TMP Sub-Plans will in due course form the major inputs to Council's Operational Plan in respect of these services. The relationship between the Councils Corporate Plan and the Water Services Business Strategic Plan, Annual Operating Plan and Total Management Plan are illustrated in Figure 1.

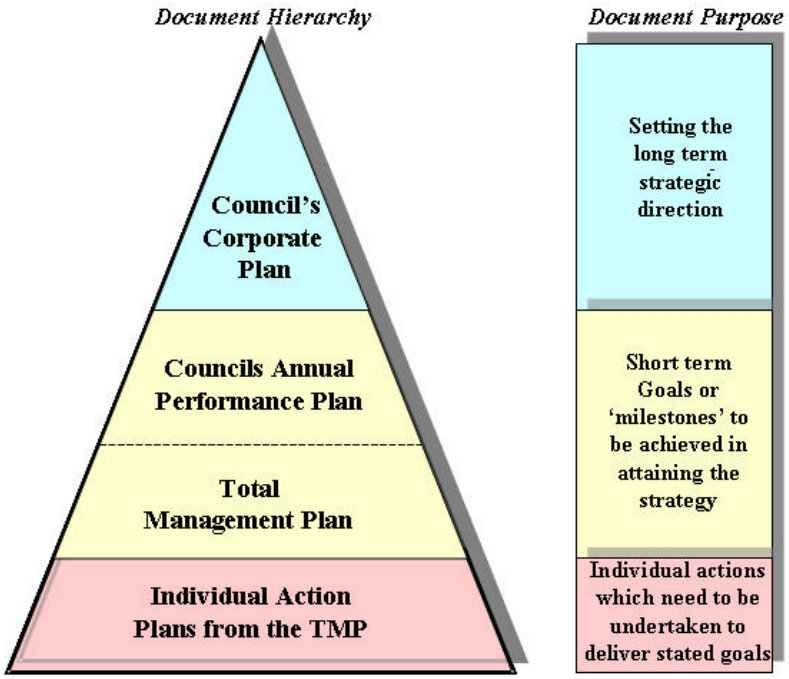
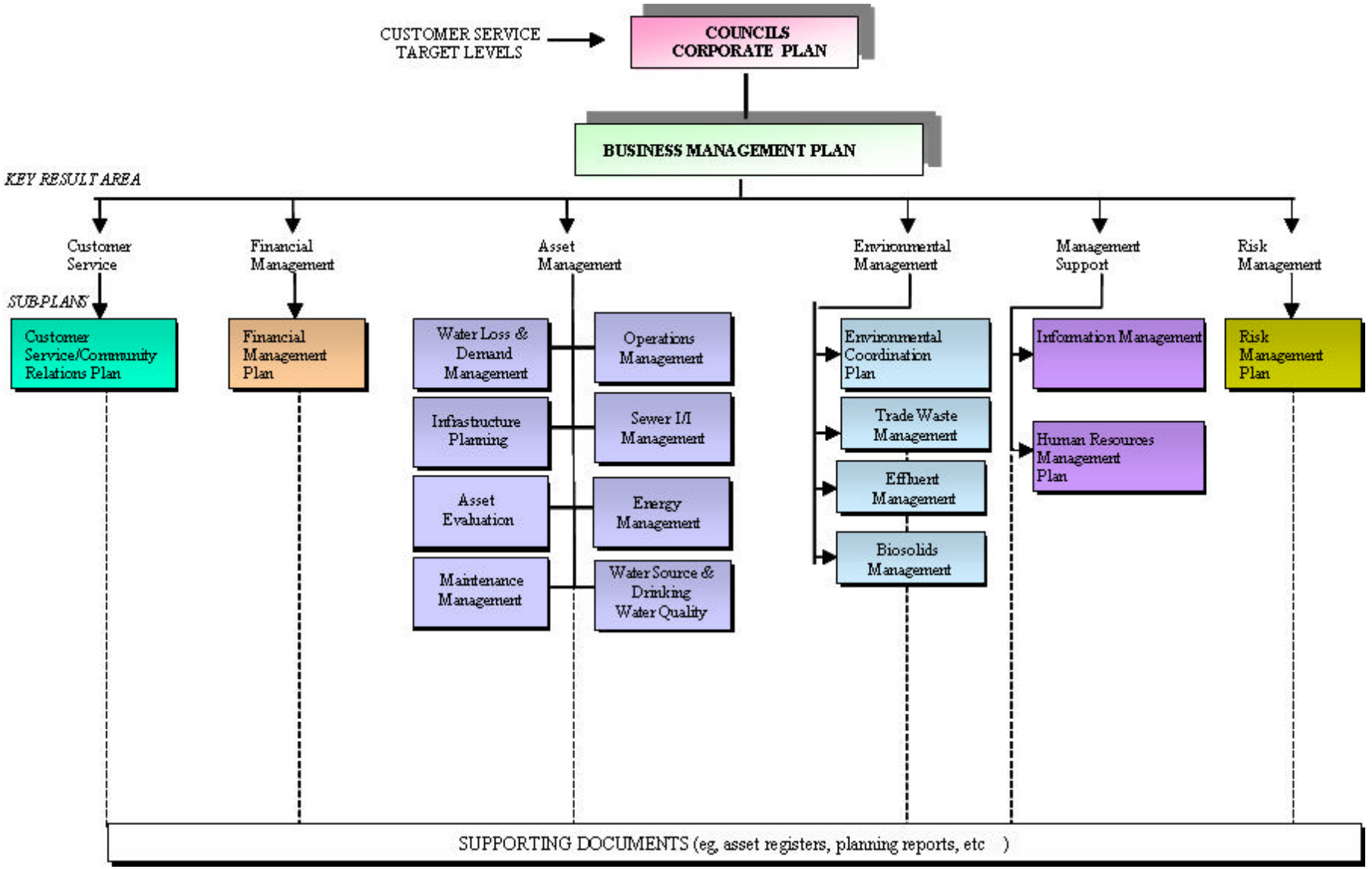


Figure 1: Relationships Between Key Documents

1 Council is currently undertaking a comprehensive re-writing of its Corporate Plan. The new Corporate Plan will apply from 2005 -2010.

The TMP is essentially a management process supported by a hierarchy of interrelated documents. The proposed overall documentation structure is illustrated in Figure 2.


CUSTOMER SERVICE TARGET LEVELS
COUNCILS CORPORATE PLAN
BUSINESS MANAGEMENT PLAN
KEY RESULT AREA
Customer Service
Financial Management
Asset Management
Environmental Management
Management Support
Risk Management
SUB-PLANS
Customer Service/Community Relations Plan
Financial Management Plan
Water Loss & Demand Management
Infrastructure Planning
Asset Evaluation
Maintenance Management
Operations Management
Sewer I/I Management
Energy Management
Water Source & Drinking Water Quality
Environmental Coordination Plan
Trade Waste Management
Effluent Management
Biosolids Management
Information Management
Human Resources Management Plan
Risk Management Plan
SUPPORTING DOCUMENTS (eg, asset registers, planning reports, etc)

This TMP has been designed to provide the following outcomes:

- A total picture of how the business currently plans and manages its water and wastewater services;
- An overview of linkages between business activities and the Councils overall Vision for Gladstone;
- A systematic 'blueprint' for future planning and management;
- Sound basis for making planning and management decisions; and
- A major input into the Water Services component of Council Annual Performance Plan.

With the adoption of Total Management Planning, Council reaffirms its determination to provide a cost-effective, quality water service to all connected customers. A vital part of the service is interaction and consultation. Elected members and Council officers are available to any ratepayers who wish to inquire on matters contained within this plan.

3 THE BUSINESSES STRATEGIC DIRECTION

The Mission and Vision Statement for the business provide an overview of where the business sees itself and where it is headed. These statements of strategic intent for the business will ultimately be linked in with the outcomes of Councils review of its own Corporate Plan.

3.1 Mission

The businesses Mission statement effectively summarises the businesses current position (what we do and for whom). The businesses current (interim) Mission Statement is:

> *"We provide water and wastewater services which meet the needs of our customers in an efficient and environmentally sustainable manner"*

3.2 Vision

The Vision Statement for the business should be a succinct expression of what the business is aspiring to achieve. The businesses (interim) Vision statement is:

> *"The Water Services business will meet the growing needs of Gladstone City Council through effective management of the various social, environmental and financial objectives of business and alignment of infrastructure with planning timelines."*

3.3 Values

The values of the business are the attitudes and beliefs that underpin the operating behaviour of the business. The values of our business are reflected in:

Our Customers:	being the central focus of our business.
The Environment:	being protected for future generations through responsible resource management.
Our Staff:	being reflected in maintaining our high quality staff by ensuring staff are motivated and enjoy their work.
Quality of Our Products and Services:	reflected in the business performance benchmarks being among the best in Queensland.
Continuous Improvement:	being reflected in consolidation of recent improvements and progressive increases in the standards of service provided by the business.
Our Commercial Performance:	the business is established along sound commercial lines.

4 OUR BUSINESS AND CUSTOMERS

4.1 Overview of the Business:

The business provides both water supply and wastewater services to each of the rateable properties in Gladstone. Core activities undertaken by the business include:

Bulk Water Management:

- Operation of the Gladstone Water Treatment Plant
- Cooperation and coordination with GAWB (the regional bulk water supplier) regarding management of raw water and water catchment areas;

Retail Water:

- investigation, planning, design and construction of water supply infrastructure;
- operation and maintenance of water infrastructure;

Waste water Collection and Treatment:

- Operation of the Councils two (2) wastewater treatment plants and associated effluent reuse schemes;
- investigation, planning, design and construction of wastewater transportation and treatment infrastructure;
- operation and maintenance of wastewater infrastructure;

The business is in a transitional phase and is moving from a growth orientation (where the emphasis is on procurement of new assets) into a more stable operational phase (where the emphasis changes toward better management of existing assets). This change requires adaptation by the business to ensure that it is structured appropriately and that the skill sets within the business are well suited to the new business focus.

The overall objective of the business is to provide, operate and maintain an effective water services system to service the community in a cost-effective and environmentally responsible manner.

4.2 Extent of Services Provided:

The performance of Council's water supply and wastewater transportation network have been reviewed with particular emphasis on the following service characteristics:

- Operational performance capability
- Capacity to service further growth (Spare capacity);
- reliability of service; and
- Environmental impact.

A brief overview of the key characteristics of the water supply and wastewater schemes are provided below:

4.2.1 Water Supply System:

The primary source of supply of water to the region is from the Awoonga Dam. The Dam and the associated bulk water infrastructure is owned and managed by the Gladstone Area Water Board (GAWB). Gladstone City Councils water services business provides specific water treatment operations and maintenance expertise at the plant.

The Council itself owns, manages, operates and maintains all other infrastructure integral to provide a reticulated, potable water supply to its customer base. Key components of the water supply network are summarised in Table 4.1 below and illustrated in Appendix A:

TABLE 4.1: Summary of Water Supply Infrastructure

Scheme Name	**Gladstone City Council Water Supply**
Source G.A.W.B. Infrastructure	Name: Awoonga Dam Capacity: 800,000 Mega litres
Treatment Plant G.A.W.B. Infrastructure	Process: Coagulation, Flocculation, Sedimentation, filtration, pH correction and disinfection Capacity = 694 L/S (50.4 ML/20hr day)
Reservoirs Name and Capacity Total capacity	Round Hill 13.6ML Clinton Park 13.6ML N.R.G. 13.6ML Paterson St 4.5ML Ferris Hill 9.1ML Radar Hill 2.27ML Fisher St 2.27ML = 58.94 Mega litres
Pump Stations	2.
Length of Mains	273.82 kms (as at March 2005)
Population Serviced	28,000
Annual Water Consumption	6,044,414KL (2004/05)
Per Capita Water Consumption	215KL /per annum or 591l/p/d (2004/05)

4.2.2 Wastewater System:

The Gladstone Cities wastewater infrastructure is owned, managed, operated and maintained entirely by the Council. The City is fully reticulated utilising a conventional gravity system and all residences and industrial premises are required to connect to the system.

A key part of the network are the two (2) wastewater treatment plants. The major plant is located on the Calliope River (near the Gladstone Power Station) and the other on the South Trees inlet. Whilst both are licensed by the by the Qld Environmental Protection Agency (EPA) for discharge of their effluent into the waterways, in both cases, the effluent from the plants is provided to industrial consumers for beneficial reuse. The scope of the wastewater network is summarised on the following Table and illustrated in Appendix A:

TABLE 4.2: Summary of Wastewater Infrastructure

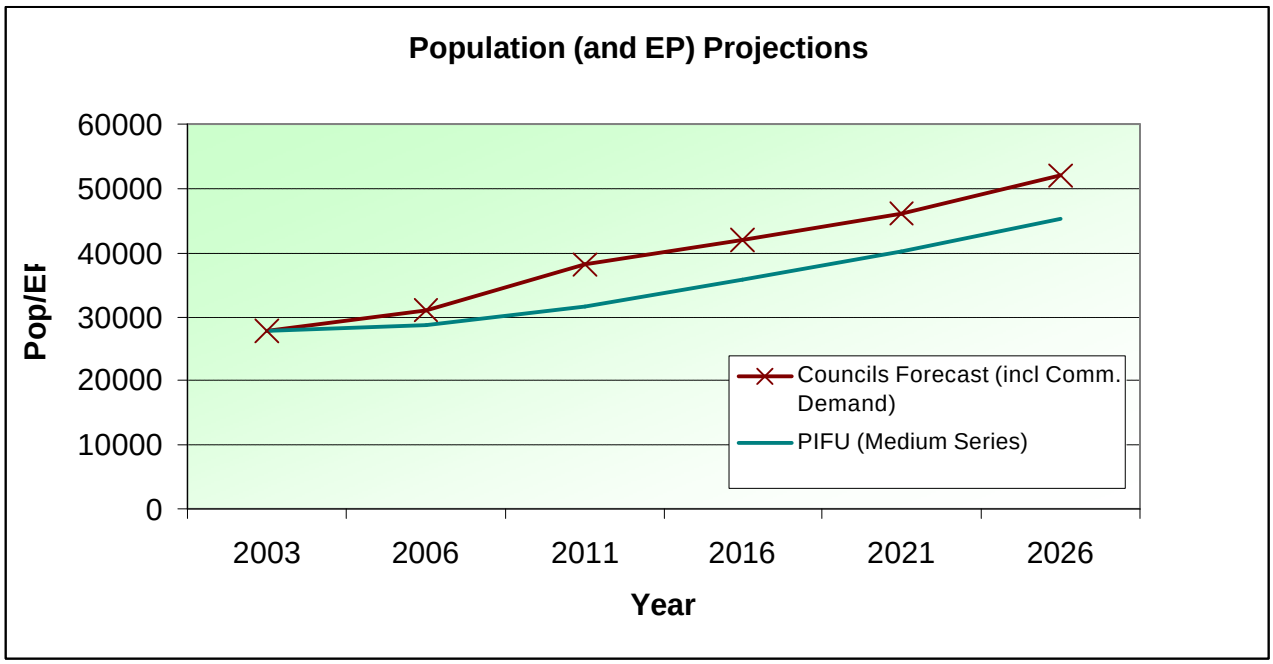
Scheme Name	**Gladstone City Council Calliope River and South Trees Wastewater Treatment Plants.**
Population served	27,000
Treatment Plant Capacity/ Process	41,000Ep - biological/Filtration and Activated Sludge (oxidation Ditch)
Average day flow (kL/d)	7,500KL/d
EPA Effluent Standards for The Calliope River and South Trees Plants	Suspended Solids 30mg/L Five Day B.O.D. 20mg/L pH 6.6 – 8.5, D.O. 2mg/L
No. Of Pump Stations	54
Length of Mains Rising mains Gravity mains	 38.52 kms 307.58 kms

Detailed information is available in the Gladstone City Council Total Management Plan

Wastewater System Management Plan 15 (Wastewater Infrastructure Management Plan).

4.3 Our Customers:

The water supply component of the business serves a total of 10,847 connections (including 1,662 commercial connections). These users consume 17,000Kl per day (Average Day). The region is currently experiencing strong growth. The business has scheduled an annual increase in the demand for water services of between 2 and 3% per annum over the next 15 years. Councils forecasts for increased demand in water services (including the commercial/industrial component) is summarised below together with a comparison with the states population forecast (PIFU- medium series).



The wastewater component of the business serves a total of 10,837 connections of which 1,662 are commercial premises and 21 are listed Trade waste customers. These customers generate an average dry weather flow of around 7,400kL/day.

Some of the main customers of the business include:

- The Gladstone Area Water Board (for who the business provides Water treatment Operations and Maintenance services);
- NRG and Gladstone port Authority are large water users; and
- NRG and Queensland Alumina Ltd who are key users of treated effluent

In addition, to these direct customers, the business provides a range of other services to;

- developers/contractors/private certifiers;
- other Directorates of Council
- Councillors (advisory role);
- other statutory bodies (eg, State Government bodies); and
- other Councils;

4.4 Our Service Standards

Council's high service standards ensure a reliable supply of potable water with a quality exceeding the National Health and Medical Research Council (NHMRC) guidelines, to its customers at a pressure and flow to meet their needs. Details of these standards are summarised in the Customer Services Sub Plan.

Both the water and wastewater systems have been designed with sufficient spare capacity to handle normal domestic, commercial and industrial usage as well as industries requiring major use of treated water and effluent.

The business has developed and issued comprehensive Customer Service Standards which include a range of performance indicators in respect of each service characteristic. A complete list of KPIs is included in the Customer Service Standard Sub Plan.

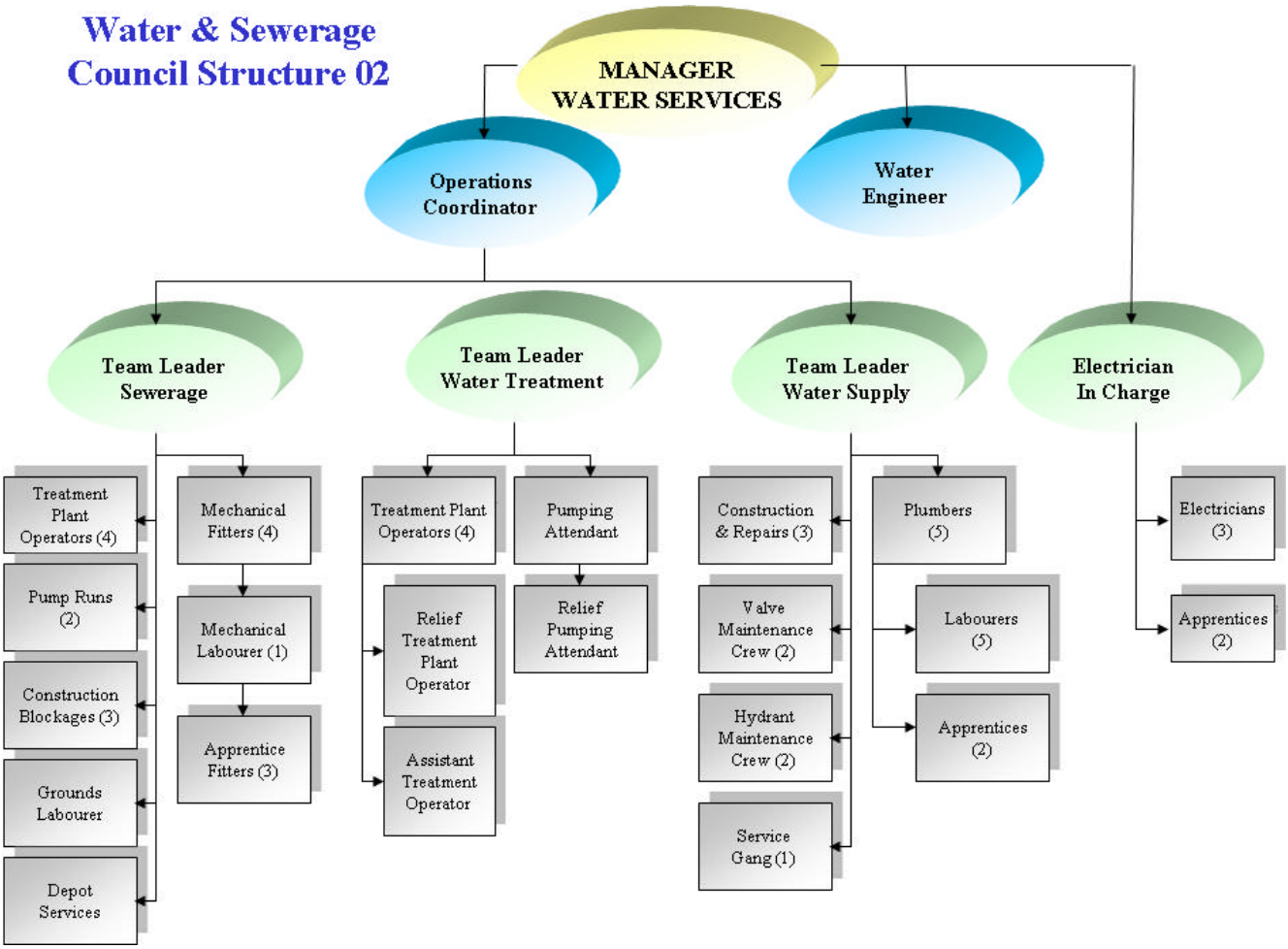
4.5 Our Organisational Structure:

Councils water services business boasts a total workforce of around 60 staff who are responsible to 4 functional managers. These managers include team leaders responsible for:

- Wastewater Services
- Water treatment (including the GAWB contract)
- Water Supply (encompasses reticulation work); and
- Electrical

Almost all functional managers are responsible to the Operations Coordinator who in turn is responsible to the Manager, Water Services. The businesses Water Engineer and Electrical team leader report directly to the Manger Water Services.

This structure enables the Manager, Water Services to establish, manage and monitor the strategic direction of the business with general, day to day, operational issues managed by the Operations Coordinator and Water Engineer. A copy of the organisational chart is provided below:



5 MAJOR ISSUES FOR THE BUSINESS

In developing this Total Management Plan, the business has identified a wide range of current and emerging challenges facing management. These are summarised below and discussed in more detail in the various TMP Sub-Plans. The major areas of challenge are summarised in the following:

5.1 General Issues

The following items affect both the water and wastewater components of the business equally.

5.1.1 Development/ Refinement of Operational Procedures:

Management of information and knowledge is becoming one of the key challenges facing many water service providers. For Gladstone City Councils water service business, one of the key strategies for management is to ensure that Operations and Maintenance procedures are up to date and sufficiently comprehensive. Whilst the business is currently meeting all nominated service standards, continuation of such excellence in service delivery will require the business to standardise its practices and improve data management capability. In some instances, historical breaches of a nominated Key Performance indicator has been a reflection of breakdown in operations and maintenance reporting procedures, not a reflection of inadequacy in the underlying strategies.

Proposed actions to address this issue are contained in the *Operations Management Sub Plan* and Maintenance Management Sub plan.

5.1.2 Developing the businesses Asset Management Capability

As noted earlier, the business is developing from a growth orientation to one in which the focus will be more on management of the existing network to meet service standards. Management of this transition from a growth to an O&M orientation will require further development of the businesses Asset Management capabilities. This may include undertaking CCTV inspection of buried assets, condition assessment of assets, macro and micro modelling of assets and networks etc.

Proposed actions to address this issue are contained in the *Asset Evaluation and Infrastructure Planning plans*.

5.1.3 Asset Valuation and Financial Management Strategies:

One of the immediate issues facing the business is to address existing financial issues confronting the business. These include moving the businesses tariff regime toward a Full Cost recovery basis as well as undertake a review of asset value and associated Depreciation expenses.

Proposed actions to address this issue are contained in the *Financial Management Sub Plan.*

5.1.4 Organisational Structure

The business has recently implemented a new organisational structure which will allow the Manager, Water Services to delegate more o the ‘day to day’ operational decision making to a manager, operations This new structure will allow the Manager, Water Services to focus more on the long term objectives of the business.

Proposed actions in managing the transition to the new organisation structure are contained in the *Human Resource Management plan*

5.1.5 Liaison with Councils Planning Department

Councils Planning and Development group are responsible for management and accepting reticulation assets which are provided by developers as part of the cost of developing new lots within the City. Historically, the business has had problems with the standard of works donated to Council. To address this problem, the business is developing design guidelines for water and wastewater assets. Upon completion, these guidelines will be provided to Councils development Application group as a checklist for donated water services assets.

Proposed actions are contained within the *Infrastructure Planning Sub plan.*

5.2 Issues Specific to the Water Supply Business

5.2.1 GAWB Partnering Agreement

The business currently operates and maintains the Regional Water Treatment Plant which is owned by the Gladstone Area Water Board. Historically, the relationship between GAWB and GCC has been sound but both businesses are keen to formalise the arrangement to ensure that the responsibilities (and risks) to either arty are clearly identified and allocated.

Proposed actions for development of the Partnering Agreement are contained in the *Water Source and Drinking Water Quality Plan*

5.3 Issues Specific to the Wastewater component of the business

5.3.1 Flow Monitoring:

The wastewater component of the business has recently completed the development of extensive network models or the wastewater transportation system. These models require additional flow monitoring for calibration and to ensure that the results of the modelling reflect the actual performance of the system. This calibration will be undertaken in two stages. Initially, the SCADA software will be upgraded to allow the business to monitor flows within the system over a 12month period. This data will be used to undertake a preliminary calibration of the network model. Following the completion of this data collection and model calibration exercise, key catchments will be identified and further flow monitoring will be undertaken as required. The model will then be fully calibrated using this additional information. A calibrated model will be the cornerstone for the business to develop its infrastructure management and Inflow/Infiltration management strategies.

Proposed actions for development of the businesses wastewater transportation modelling capability are provided in the *Infrastructure Planning Overview and the Sewer Inflow/Infiltration sub plans.*

6 OVERVIEW OF KEY STRATEGIES

This section summarises the key challenges facing the business in each aspect of the Total Management planning framework. These establish a context for the specific management strategies contained in Table 7.1.

Customer Service
Major challenges facing the business over the next few years will be to:

- Ensure that its Customer Service Standards comply with all requirements of the Water Act.
- maintain the relatively low level of customer complaints and good relationship between the business and its customer base;
- ensure that the drought management initiatives of GAWB (specifically application of water restrictions) are consistent with those of the Council as a whole;

Financial Management
The key financial challenges facing the business are:

- To ensure that the water businesses operating expenses are covered by operating revenues;
- Managing the proposed price increase (in the water component of the business) from the Gladstone Area Water Bord (GAWB). This will include negotiation of an unequalised tariff between GCC and CSC;
- To review the value of the existing assets and develop a strategy for accommodating any increases in asset valuation in the businesses reporting and pricing frameworks.
- To ensure that the business meets the intent of the Councils revenue policy for recovering the full cost of its services.

Asset Evaluation
Over the coming years, the main focus of the business will move its current growth orientation (i.e. asset acquisition) to placing greater emphasis on a more operational approach (i.e. asset condition and performance analysis and implementation of asset management strategies based on risk impacts) One of the key outcomes being sought from this asset evaluation plan is the comprehensive knowledge of assets to support effective decision-making.

In this regard, specific challenges facing the business, from an asset evaluation viewpoint include the following:

- Ensuring that the business assets are operated and maintained in a manner which maximises the value to the Council and the community;
- Ensuring that the business asset information is reliable, accessible and useful enough to allow development of effective asset maintenance and operations strategies; and
- To ensure that the Council has structures in place to manage this information (i.e. data bases remain up to date, remain relevant to different users (eg financial asset register and fixed asset registers) and are not corrupted;

Maintenance Management
The key challenges facing the business from a maintenance management perspective are to:

- Further develop the businesses data collection and maintenance procedures to ensure that the business fully understands the condition, processes and performance of the asset base. Development of a sound knowledge base will be a key challenge in supporting the businesses move from a growth orientation to a more O&M approach;
- Ensuring that the contracted demands of the GAWB operations and maintenance partnering agreement do not adversely impact on the Councils own planned maintenance procedures;
- Move across to the new IT system and ensure that the business gains ‘value for money’ from the new system;
- Further develop the businesses advanced asset management capabilities (including improvement in planned maintenance functions).

Operations Management

The key challenges facing the business from an operational management perspective are to:

- Further develop the businesses operational procedures as part of the businesses broader knowledge management strategy;
- Management and resourcing of the GAWB partnering agreement
- Upgrade of systems and processes to ensure that the operations strategy is implemented as cost effectively as possible.
- Continue to meet the businesses high level of operational efficiency;
- Ensure that KPIs set in the Councils Annual Operations Plan are measurable and targets are set; and
- Further develop the businesses contingency planning capability.

Energy Management

The key energy management challenges facing the business are:

- To ensure that the businesses equipment is energy efficient in its operation;
- To ensure that the business stays abreast of any opportunities for electricity tariff reductions which may be available at the end of the current supply contract;

Infrastructure Planning

The key challenges facing the business are:

- To build on the foundation provided by the completion of the comprehensive infrastructure planning reports and associated network models. These documents will be a cornerstone for the business in development of a range of network improvement strategies
- Ensure that planning remains up to date (and reflects potential future changes in industry or residential development);
- Ensure that the business meets its obligations under the Integrated Planning Act (IPA) in the development of a Priority Infrastructure Plan and Infrastructure Charges Schedules which encompass the water and wastewater networks.

Water Loss and Demand Management

. The key Water Loss and Demand Management challenges facing the business are:

- To ensure that the water usage of the business remains sustainable (i.e. can meet future demand requirements from both commercial and domestic users);
- To increase awareness of the issues within the community
- To ensure that the business is well positioned to manage an extended period of drought.

Water Source and Drinking Water Quality Management

The key challenges facing the business will be to:

- Ensure that the business continues to receive a reliable supply of high quality water in accordance with various environmental, social and other statutory requirements;
- Ensure that water source issues are managed cooperatively with the Gladstone Area Water Board.

Effluent Management:

The key effluent management challenges facing the business are:

- To develop a plan to manage odour emissions in wastewater system.
- To identify recycling opportunities for effluent treated at South Trees Sewage Treatment Plant

Biosolids Management

The key challenges facing the business in terms of management of its biosolids are:

- To ensure that operating and monitoring procedures are appropriate; and
- Identify options for beneficial reuse (or disposal) of biosolids.

Trade Waste Management:

The key trade waste management challenges facing the business are:

- To phase in the new Trade Waste Management Policy
- To secure sufficient resources to ensure that the Policy is adequately enforced;
- To promote greater awareness on water and wastewater related issues.

Inflow/Infiltration

The key challenges facing the business from an Inflow/Infiltration management perspective are:

- To ensure that the business has tools available to have a full appreciation of the performance of the sewer network;
- To ensure that the business understands the condition of its passive (buried) assets;

Environmental Coordination

The key environmental challenges facing the business are:

- To ensure that the business continues to meet its environmental obligations under Councils Integrated Environmental Management System (IEMS):
- Review issues associated with management of the sewer transportation network (and specifically the issue of wastewater overflow)
- To secure state funding to assist in recycling effluent from the South Trees Sewage Treatment Plant.

Information Management

The key challenges facing the business in managing its information systems are to:

- Finalise the roll out of "People Soft" and ensure that the business can obtain "value for money" from the software; and
- Ensure that data is provided in a timely and accurate fashion. In particular, information on operating performance provided by the Councils telemetry system.

Human Resources Development

The key challenges facing the business are:

- Implementing the new organisational structure and identifying areas for further improvement;
- Ensuring that staff remain motivated and their skills remain relevant and up-to-date;
- Continue to develop and implement the Councils HR management strategies (incorporating skills audits and satisfaction surveys).

Risk Management:

Documented contingency plans have already been developed as part of Council's counter-disaster plan. Other significant and high risk reduction strategies will be addressed within the relevant TMP sub-plan to complement the risk management initiatives implemented to date.

7 STRATEGIC BASIS OF PLAN

7.1 Framework

The strategic elements of the Total Management Plan are designed to be consistent with Council's Corporate Plan and have been defined in accordance with conventional strategic planning practice.

The means of delivery of our strategic direction will be the underpinning Total Management Plans (TMP). The strategic framework of the TMP is summarised in Table 7.1 and the significance of the various plan elements is outlined below.

Key Result Areas
For the purpose of structuring the TMP, service delivery has been considered in terms of a number of key result areas (KRAs), each being an area of major activity in which progress can be made by the business in fulfilling its role as a service provider.

KRAs have been developed on the basis that measurable outcomes can be established on which to report performance in achieving related goals.

Goals
Goals have been developed for each KRA on which to base the various strategies required to deliver the goals.

Strategies
Strategies are the component strategic management issues to be addressed in attaining the goal for which management plans are developed (typically several strategies are needed to deliver a goal).

Management Plans
Each Management Plan represents one aspect of service delivery which presents significant independent opportunities for the business to achieve its management goal. Management Plans also provide the detailed background information relevant to each strategic issue. Each KRA has a number of strategies developed into the Management Plans building to form the TMP suite.

For each Management Plan, one or more *outcomes* has been defined, as the basis for determining practical Action Plans for implementation and on which to base *performance targets* to measure the achievement of goals.

Action Plans
An Action Plan has been developed for each Management Plan, providing individual actions for implementation.

The Action Plans include a defined set of activities, target completion dates and management responsibilities for implementing a *strategy*,

The TMP has been developed to be implemented on a rolling 3 years basis, with an annual review of the strategic framework and individual Action Plans. The delivery timetable will also be subject to review at least annually.

TABLE 6.1 : Strategic Framework of TMP for the business

Key Result Area and Goal	Sub-Plan and Management Objectives	Management Strategies	Target Date (s)
Customer Service *Goal:* *To achieve stakeholder satisfaction through effective customer service.*	Customer Service *Objectives:* ♦ To provide quality services which customer's value.	• To develop and maintain the existing customer service monitoring and response program.	• Comply with the KPI's nominated in the customer service standard. • Compare customer service KPIs with those used by other water service providers by June 2008; • Undertake further customer service surveys by Oct 2008 and every two years thereafter. • Achieve ongoing improvement in business services (as measured by positive customer service responses).
Financial Management *Goal* *To ensure that the business remains financially viable and meets al stakeholder requirements*	Financial Management *Objectives:* ♦ To develop a commercially viable business.	• Ensure that the financing of water services reflects statutory requirements and COAG/NCP water reforms.	• Compliance with financial requirements as set out in the Councils Revenue Policy; • Develop Discussion Paper on key financial issues by June 05 • Review pricing for 05/06 year by Aug 05. • Review long term pricing strategies by June 06 • Negotiate with CSC on price equalisation by June 06 • Undertake initial asset revaluation by Sept 05 • Undertake detailed asset revaluation by June 06 • Review Headwork's charges by Dec 05 • Develop ICS by March 2006
Asset Management *Goal:* *To manage Council's water services infrastructure so as to allow adopted customer service standards to be achieved*	Asset Evaluation *Objective:* ♦ To ensure that the existing asset portfolio is managed in a manner which meets agreed customer service at minimum life cycle cost.	• Maintain corporate asset register and deliverables • Develop and implement a condition monitoring plan.	• Maintain/update Corporate Asset Register. • Successfully transfer of data into People soft by June 06 • Develop a detailed asset renewal/replacement strategy by Dec 06

Key Result Area and Goal	Sub-Plan and Management Objectives	Management Strategies	Target Date (s)
at minimum lifecycle costs.	Water Source and Drinking Water Quality Management *Objective:* ♦ To manage water sources and treatment/distribution infrastructure to meet agreed customer service standards.	• Sustain and enhance cost effective water sources	• Work cooperatively with GAWB/CSC to develop Regional Drought management strategies by Oct 2007; • Develop contingency plans
	Demand and Water Source Management: *Objective:* ♦ To manage water infrastructure to meet agreed customer service standards	• Effectively manage water consumption and potentially defer the need for augmentation works.	• Develop pressure reduction and leakage detection strategy by October 2007; • Implement pressure reduction strategy by June 08. • Develop and implement water education program for schools. • Investigate and report to Council on feasibility of rainwater tanks by Dec 08.
	Sewer Inflow/Infiltration Management: *Objective:* ♦ To achieve a reduction in the volume of stormwater entering the sewer network.	• Gin greater understanding of the performance of the sewer network and scope of I/I within the system	• Development of I/I strategy by Dec 06 • Undertake CCTV and sewer relining program by July 07
	Maintenance Management *Objective:* ♦ To ensure that the nature of the business assets is adequate to meet agreed customer service standards at minimum lifecycle cost.	• Minimise lifecycle costs of assets while maintaining their service capability.	• Develop detailed planned maintenance program by Dec 06 • Fully Implement new IT systems by Dec 05 • Develop pilot program for more advanced AM strategies.
	Operations Management *Objective:* ♦ To optimise the management of Councils infrastructure and continue to meet agreed customer service standards at minimum lifecycle costs.	• Minimise the operational costs of water services delivery while maintaining agreed service standards.	• Review and develop Operations Procedures by Dec 06 • Undertake minor SCADA upgrade (RTU's) by June 06. • Examine options for a major SCADA upgrade by June 07 • Develop Operations contingency planning by June 07 • Undertake Benchmarking of Operations activities;

Key Result Area and Goal	Sub-Plan and Management Objectives	Management Strategies	Target Date (s)
	Energy Management *Objective:* ♦ To minimise the amount of energy used in providing the nominated customer service standards.	• Minimise the 'environmental footprint' of the business.	• Monitor and benchmark energy consumption. • Ensure that proposed SCADA upgrade includes provision for energy consumption (Dec 06) • Undertake energy audit by Jan 08 • Review electricity tariff structure.
	Infrastructure Planning Overview *Objective:* ♦ To meet the cites growth projections and optimise the long-term investment in infrastructure.	• Maintain and enhance the infrastructure planning process	• Upgrade the SCADA software as the first step in calibrating the Wastewater network model by June 05; • Undertake initial calibration of the wastewater network model by Dec 05 • Identify the need for further flow monitoring of specific catchments by June 06 • Manage the Capital Works program • Develop design guidelines by Dec 05 • Update Councils headwork Charges Planning Scheme Policy by Dec 05 • Develop IPA compliant charging regime by March 06.
Environmental Management *Goal:* *To ensure environmentally sustainable procedures are implemented which*	Environmental Coordination *Objective:* ♦ To ensure environmentally sustainable procedures are implemented to provide protection for the environment.	• Continue monitoring environmental performance and assess opportunities for improvement in environmental initiatives.	• Continued compliance with Councils IEMS and EPA requirements. • Undertake an audit of the IEMS by Nov 05 • Establish regional forum for IWCM by Dec 05

Key Result Area and Goal	Sub-Plan and Management Objectives	Management Strategies	Target Date (s)
provide maximum protection for the environment.	Trade Waste Management *Objective:*	• Minimize the pollutant load of trade waste entering wastewater transportation system.	• Continue staged implementation of Trade Waste Management policy • Review need for additional resources to implement Policy (Dec 05) • Invite and review comments on new policy by Dec 05 • Review policy by June 06
	Effluent Management *Objective:* ♦ To achieve best-practice effluent standards to meet licence requirements and to facilitate beneficial reuse.	• Maintain current contract for beneficial reuse and to reduce odour in the system	• Continue to manage the existing effluent reuse contracts • Identify feasible options for recycling South Trees WWTP effluent by Dec 06. • Seek funding assistance from state government by June 07. ♦ Develop an Odour control/management strategy by Jun 06
	Biosolids Management: *Objective:* ♦ To minimise the beneficial reuse of biosolids from Council wastewater treatment plants.	• Develop a comprehensive biosolids management strategy	• Characterise Biosolids quality by June 06 • Investigate opportunities for improved biosolids reuse by Dec 06
Management Support *Goal:* *To develop systems and staff to achieve best practice in management of the water services business.*	Information Management *Objective:* ♦ To continuously develop systems to achieve best practice.	• Ensure that the collection, processing and reporting of all water and wastewater services information is undertaken in an efficient manner.	• Develop a strategy for rationalising external reporting by June 06. • Complete “People Soft” roll out by June 06 • Collate data sources by June 07. • Undertake a review of all KPIs by Dec 05.
	Human Resources Development *Objective:* ♦ To develop workforce skills, flexibility, satisfaction and motivation to meet the needs of the business.	• Develop a Performance Management Framework • Improve 2 way communication at all levels of the business	• Further develop a structured training program by Dec 06 • Review wastewater operating functions to ensure that KPIs can be met (specifically in terms of blockages) by Dec 05

Key Result Area and Goal	Sub-Plan and Management Objectives	Management Strategies	Target Date (s)
Risk Management *Goal:* *To effectively manage all risks in the delivery of water services.*	Risk Management *Objective:* ♦ To effectively manage all risks in the delivery of water services.	• Understanding and appropriately manage risks associated with the range of activities undertaken by the business.	• Undertake a broad Risk Assessment by June 06 • Develop contingency plans by June 07 • Implement staff training awareness in risk management by Dec 08. • Ongoing monitoring of risk plan.

8 MANAGEMENT RESPONSIBILITY

Overall responsibility for the development and maintenance of the TMP will rest with the Manager, Water Services. Specific areas of responsibility have been allocated to those personnel (either within the business, within Council or external (eg GAWB)) as appropriate.

APPENDIX A – SYSTEM SCHEMATICS

A.1 – Water Supply Scheme

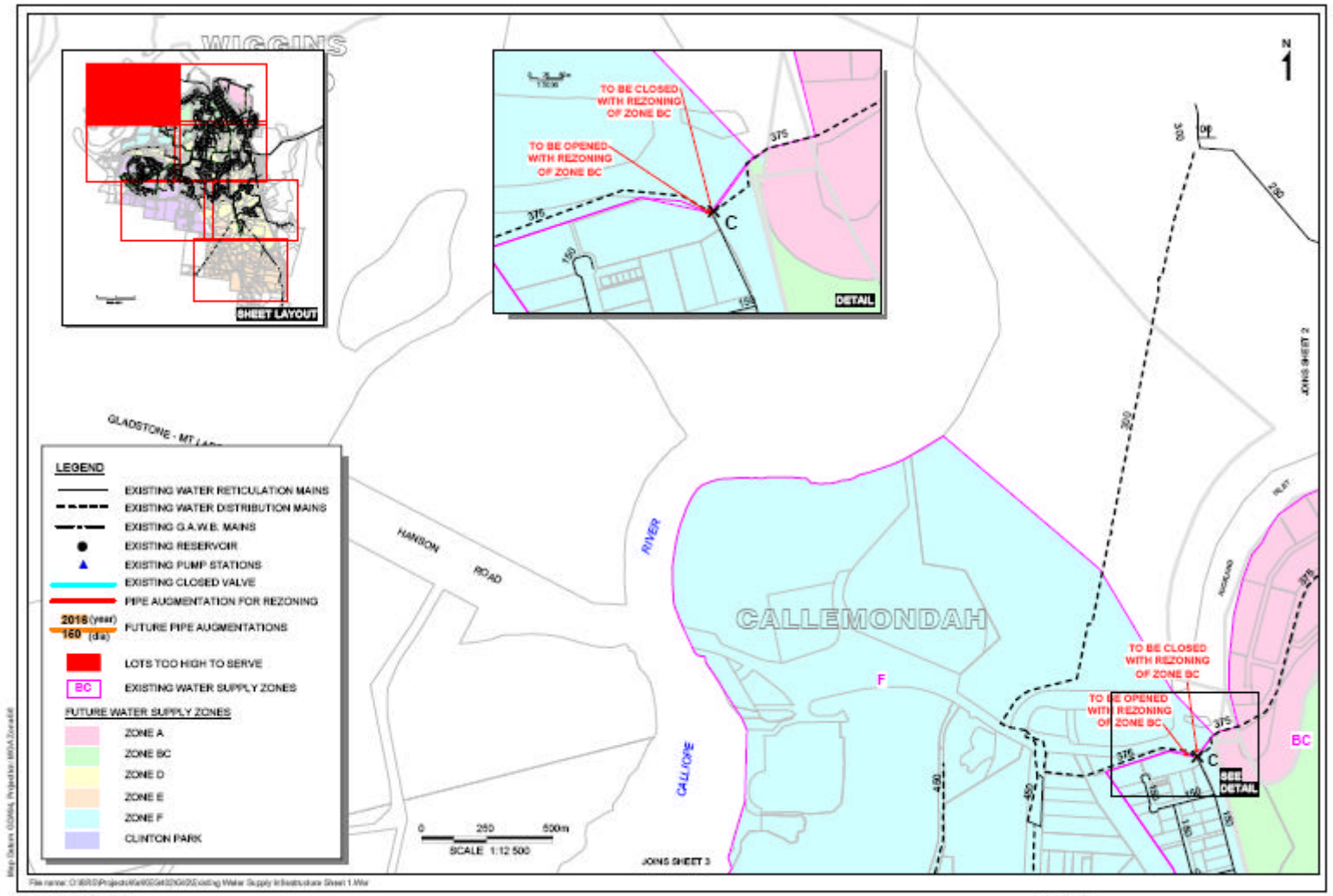


Figure A.1
EXISTING WATER SUPPLY INFRASTRUCTURE
AND PROPOSED AUGMENTATIONS - SHEET 1 OF 7

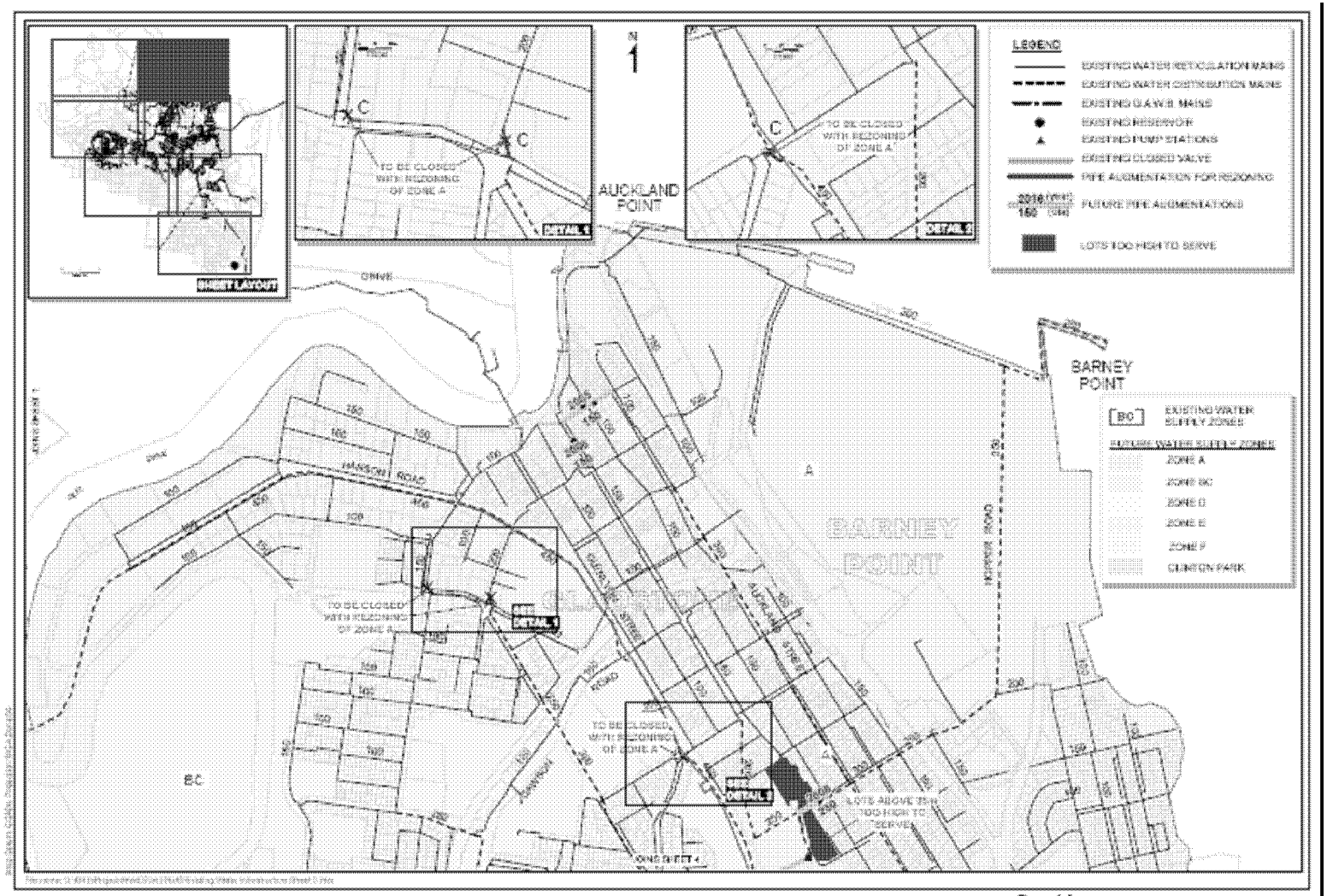


Figure A.2
EXISTING WATER SUPPLY INFRASTRUCTURE
AND PROPOSED AUGMENTATIONS - SHEET 2 OF 7

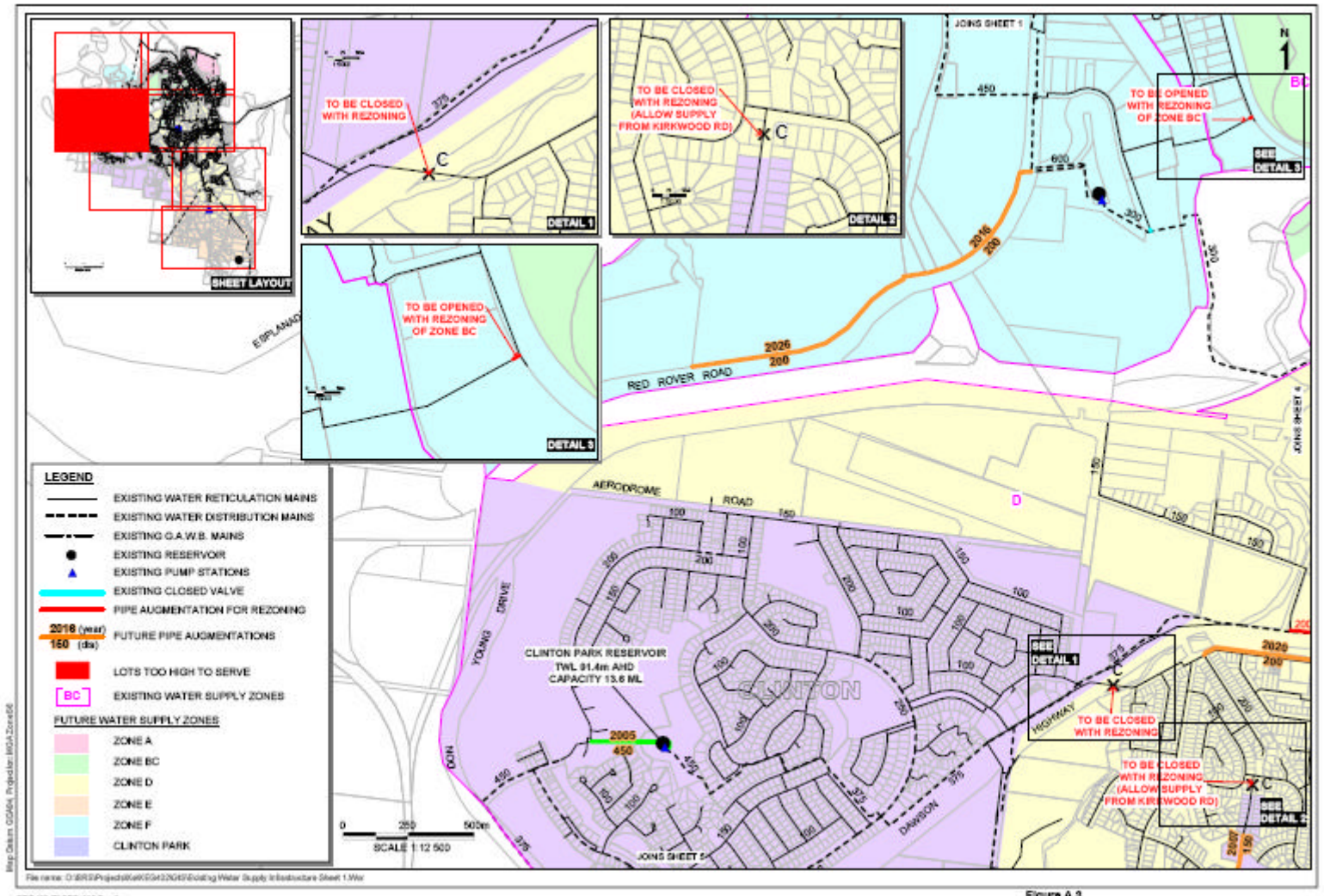


Figure A.3
EXISTING WATER SUPPLY INFRASTRUCTURE
AND PROPOSED AUGMENTATIONS - SHEET 3 OF 7

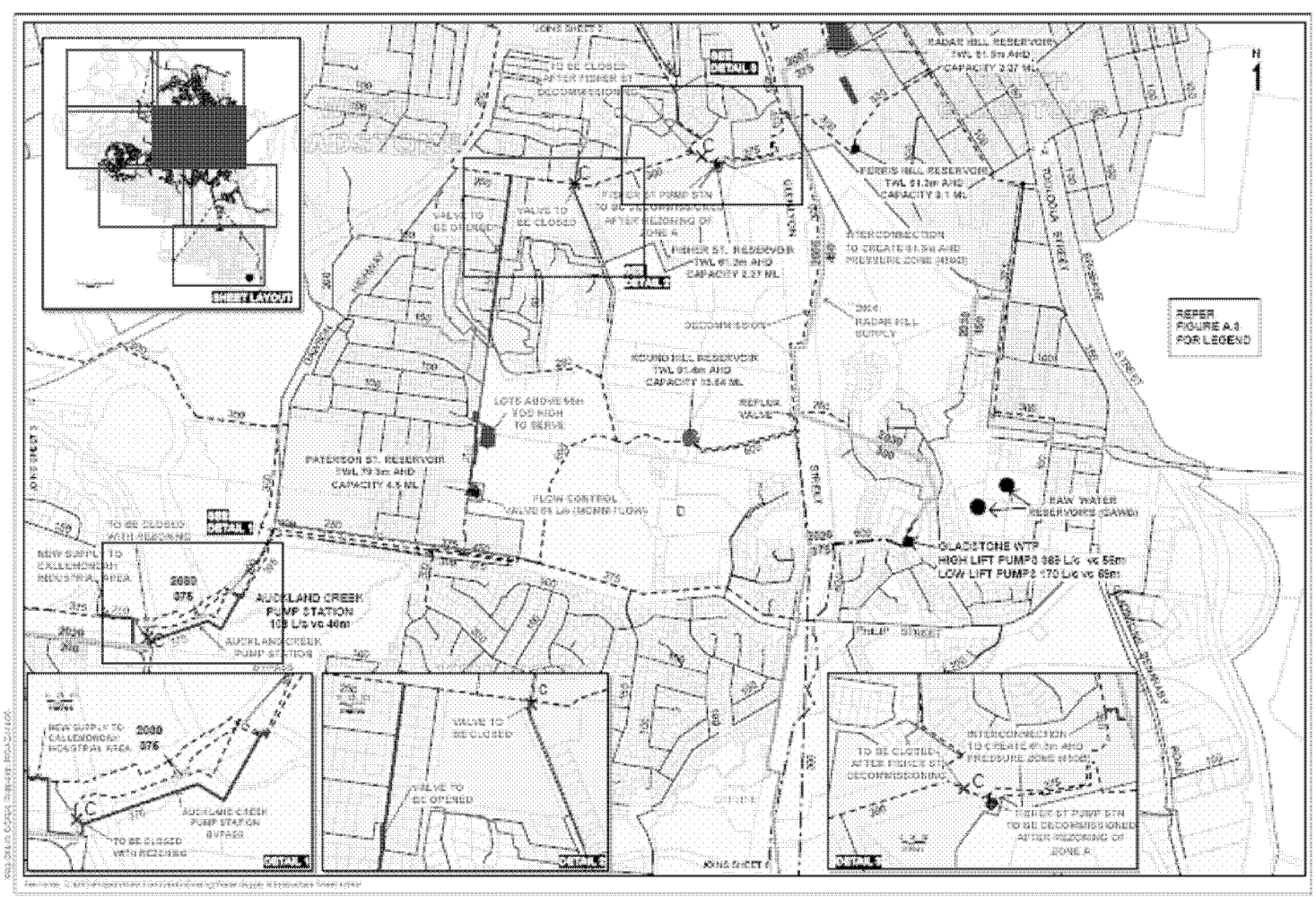


Figure A.4
EXISTING WATER SUPPLY INFRASTRUCTURE AND PROPOSED AUGMENTATIONS - SHEET 4 OF 7

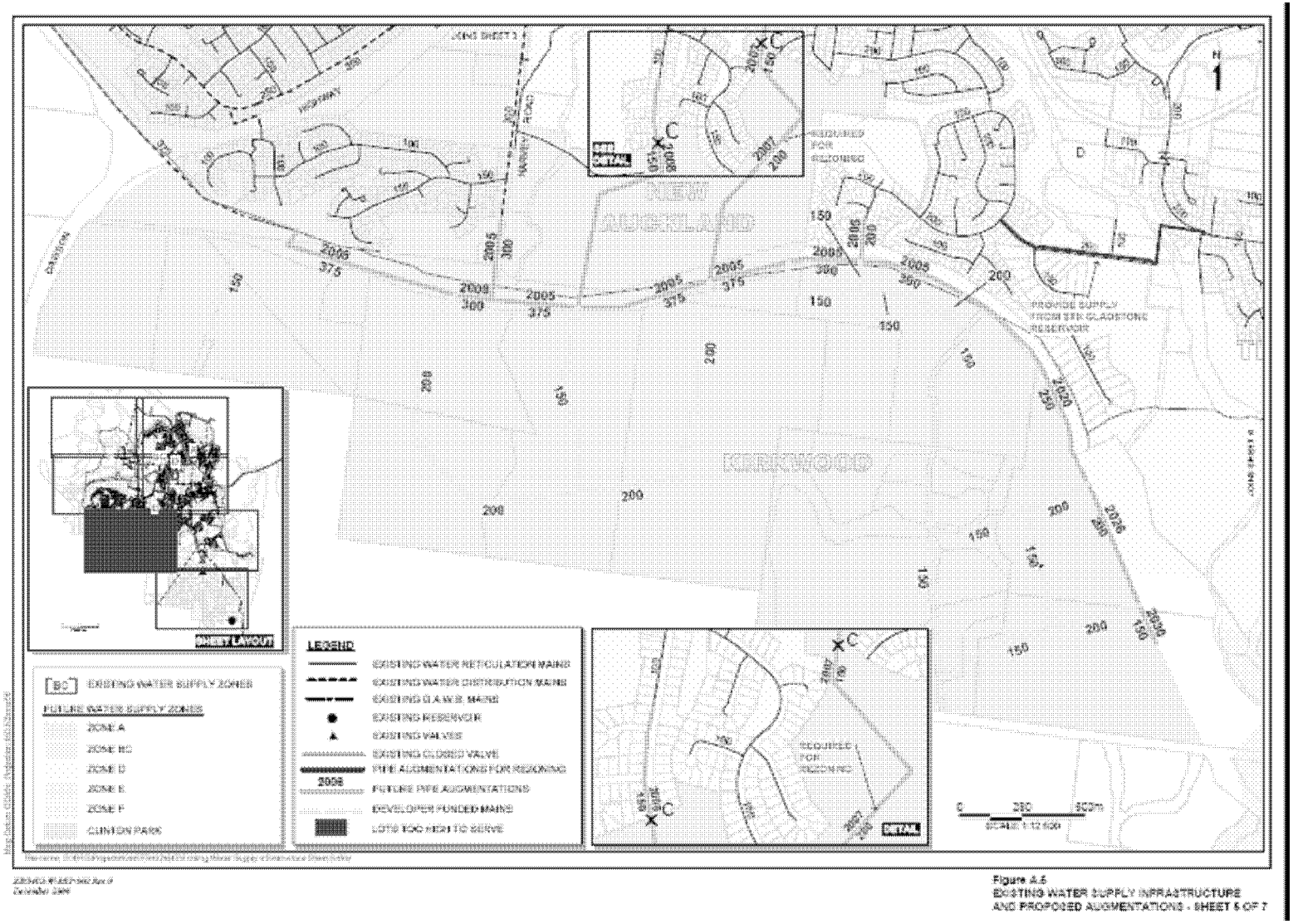


Figure 4.5
EXISTING WATER SUPPLY INFRASTRUCTURE
AND PROPOSED AUGMENTATIONS - SHEET 5 OF 7

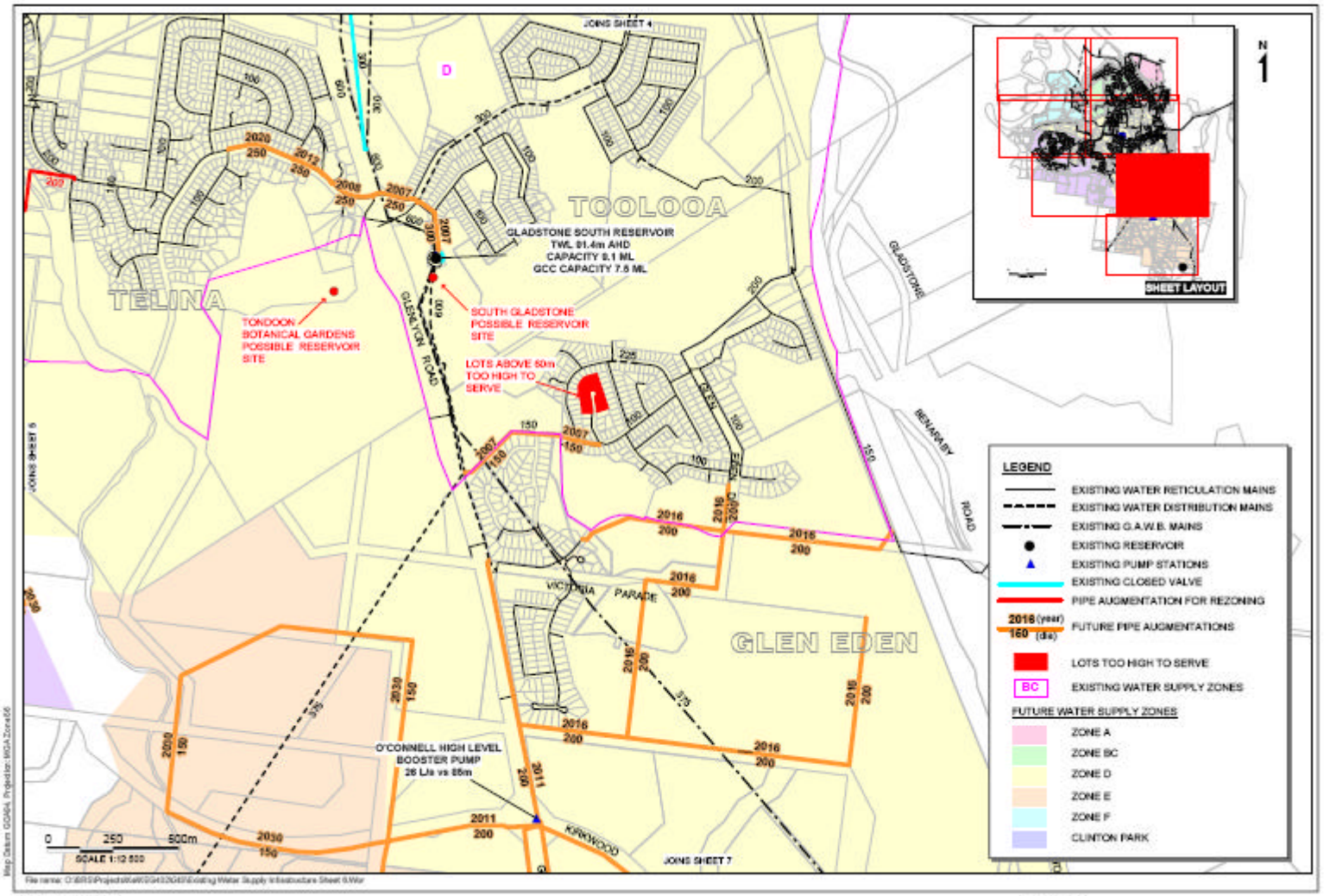


Figure A.8
EXISTING WATER SUPPLY INFRASTRUCTURE
AND PROPOSED AUGMENTATIONS - SHEET 6 OF 7

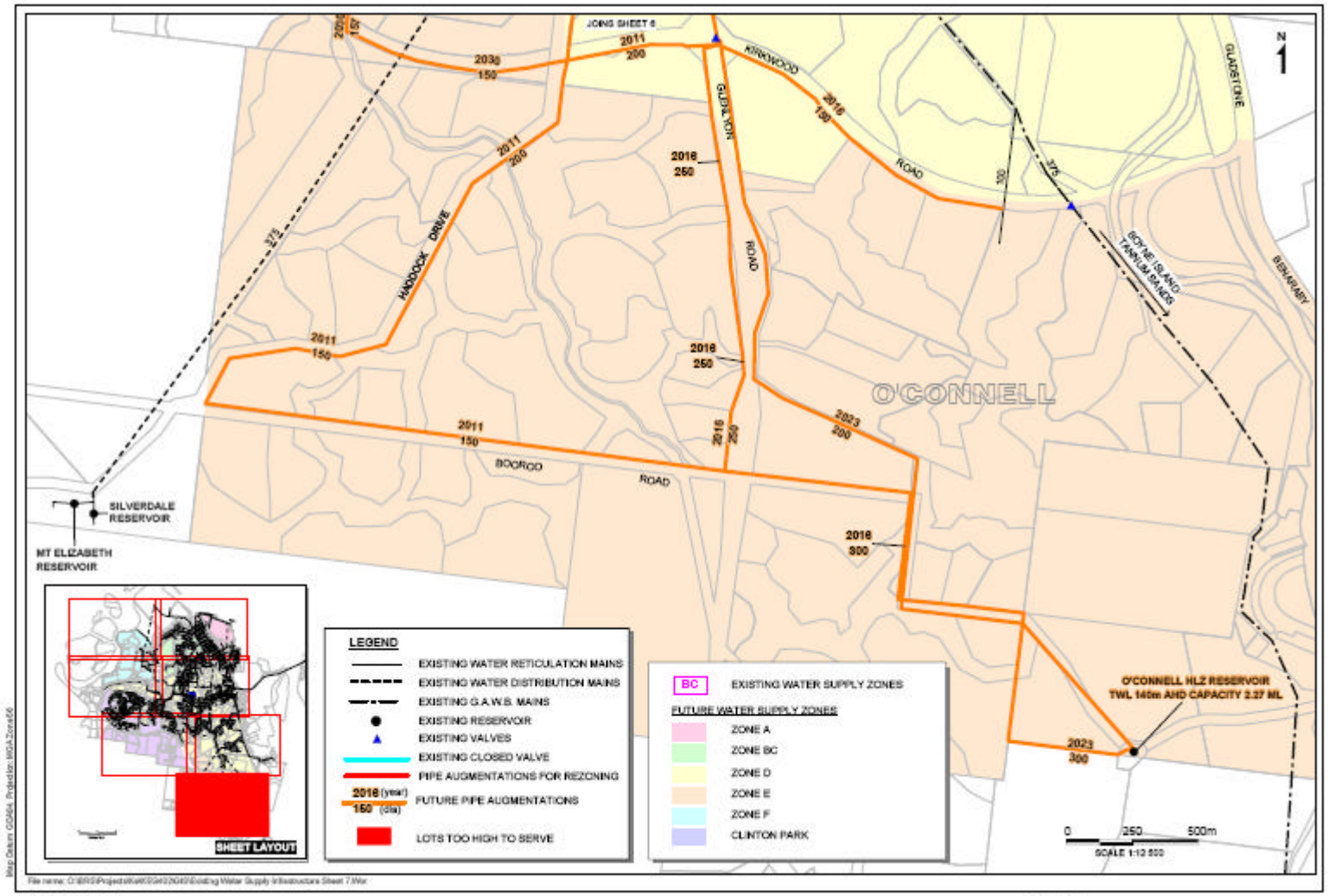
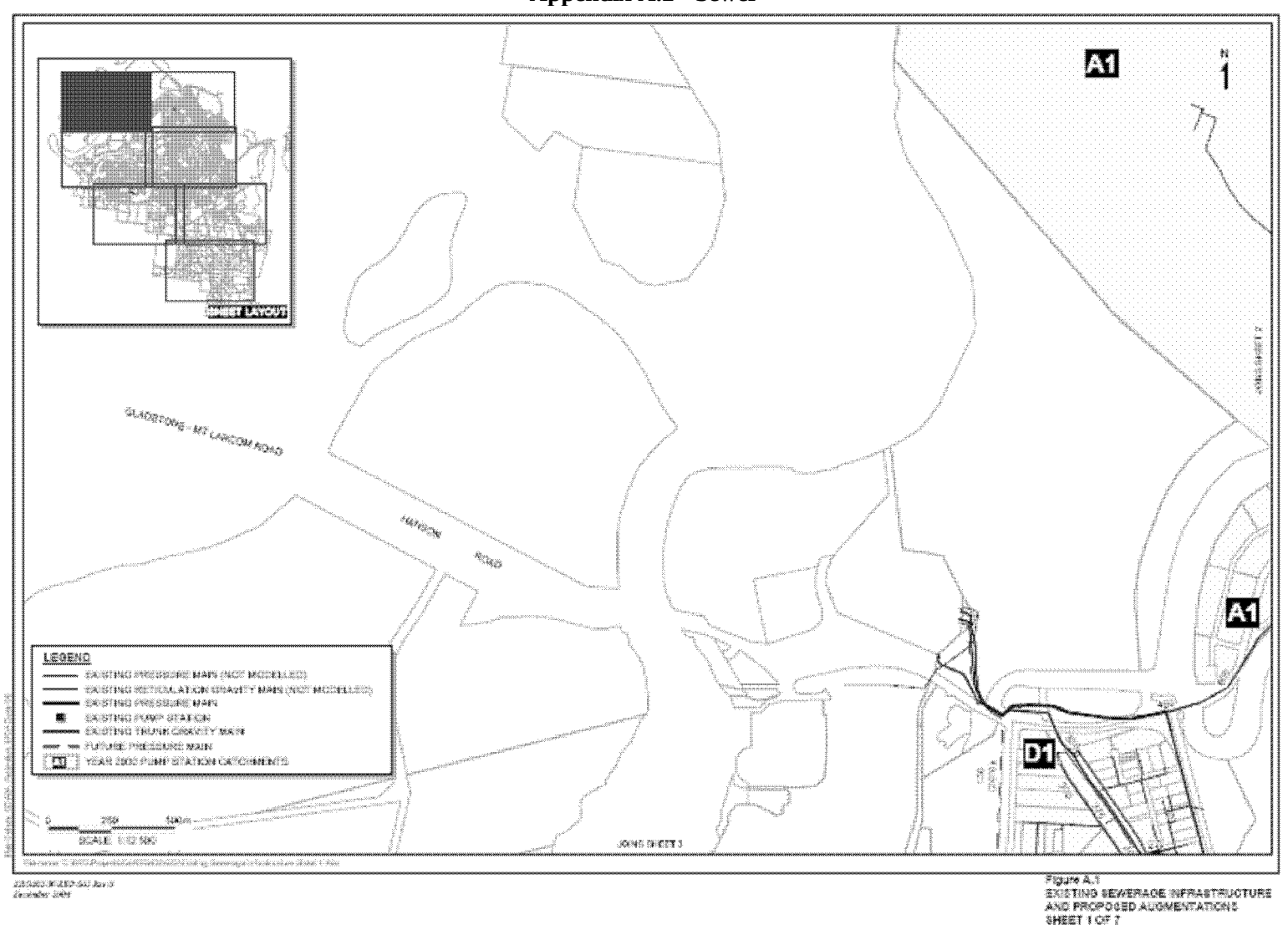


Figure A.7
EXISTING WATER SUPPLY INFRASTRUCTURE
AND PROPOSED AUGMENTATIONS - SHEET 7 OF 7

Appendix A.2 - Sewer



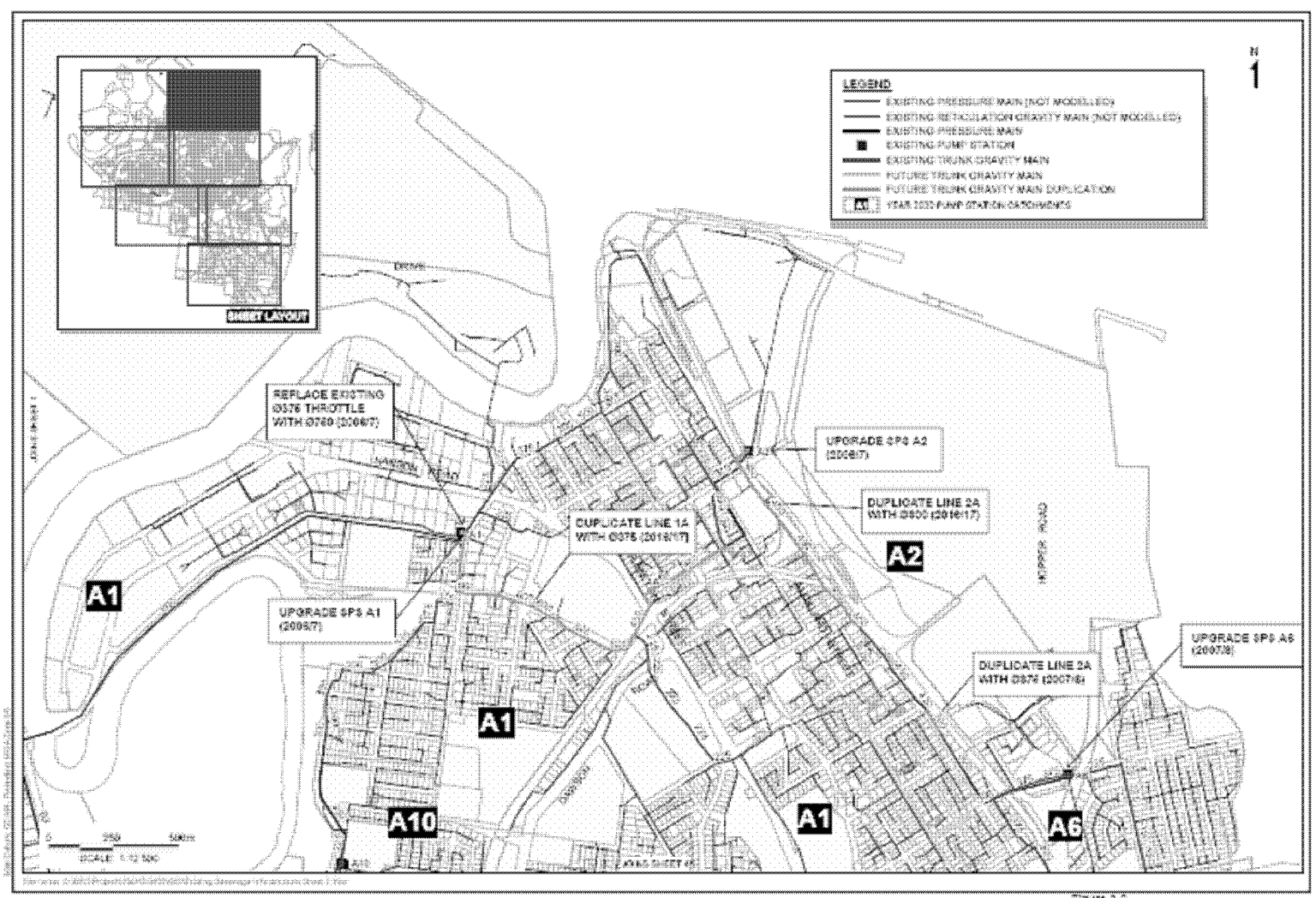


Figure A.2
EXISTING SEWERAGE INFRASTRUCTURE AND PROPOSED AUGMENTATIONS
SHEET 2 OF 7

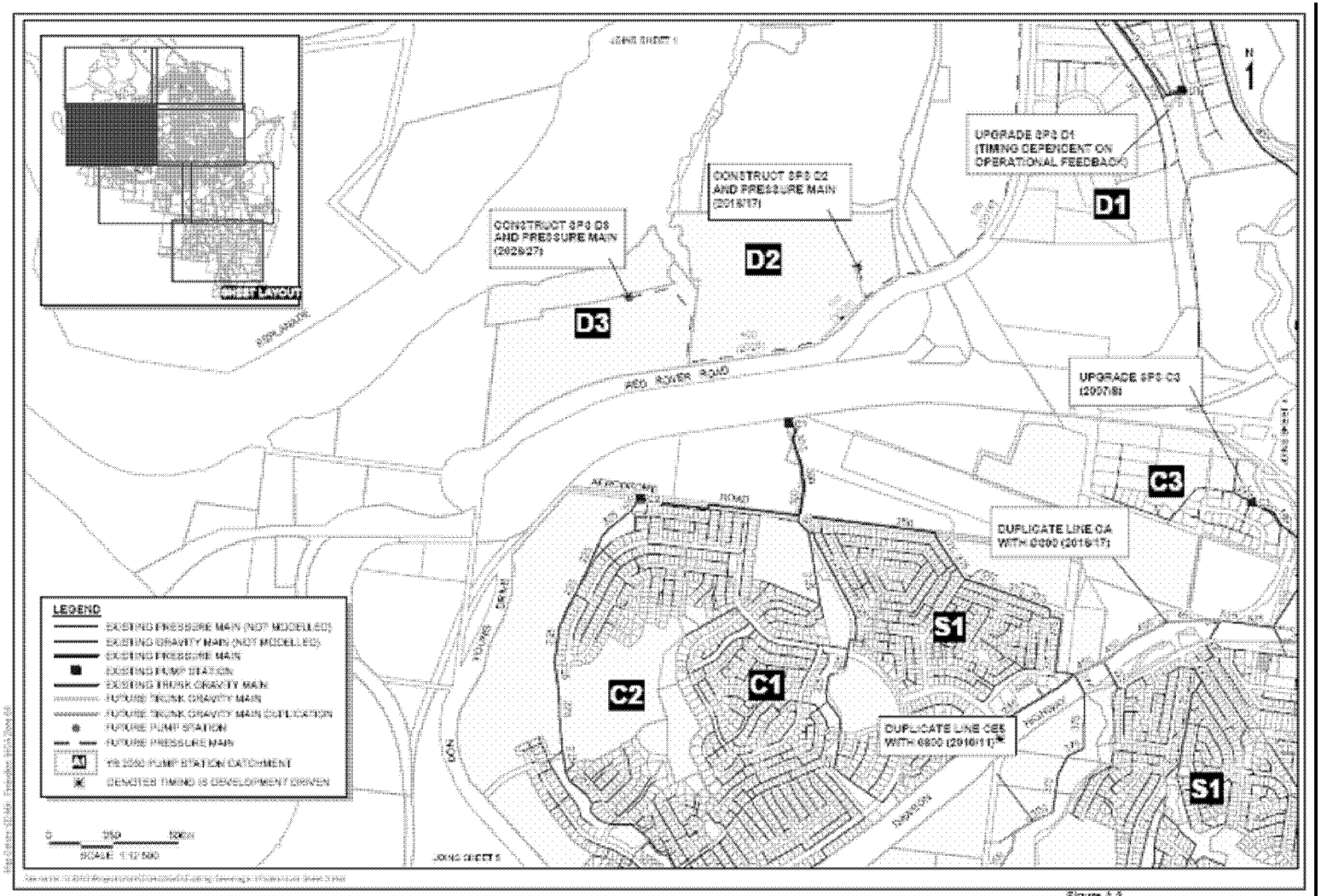


Figure A.3
EXISTING SEWERAGE INFRASTRUCTURE AND PROPOSED AUGMENTATIONS
SHEET 3 OF 7

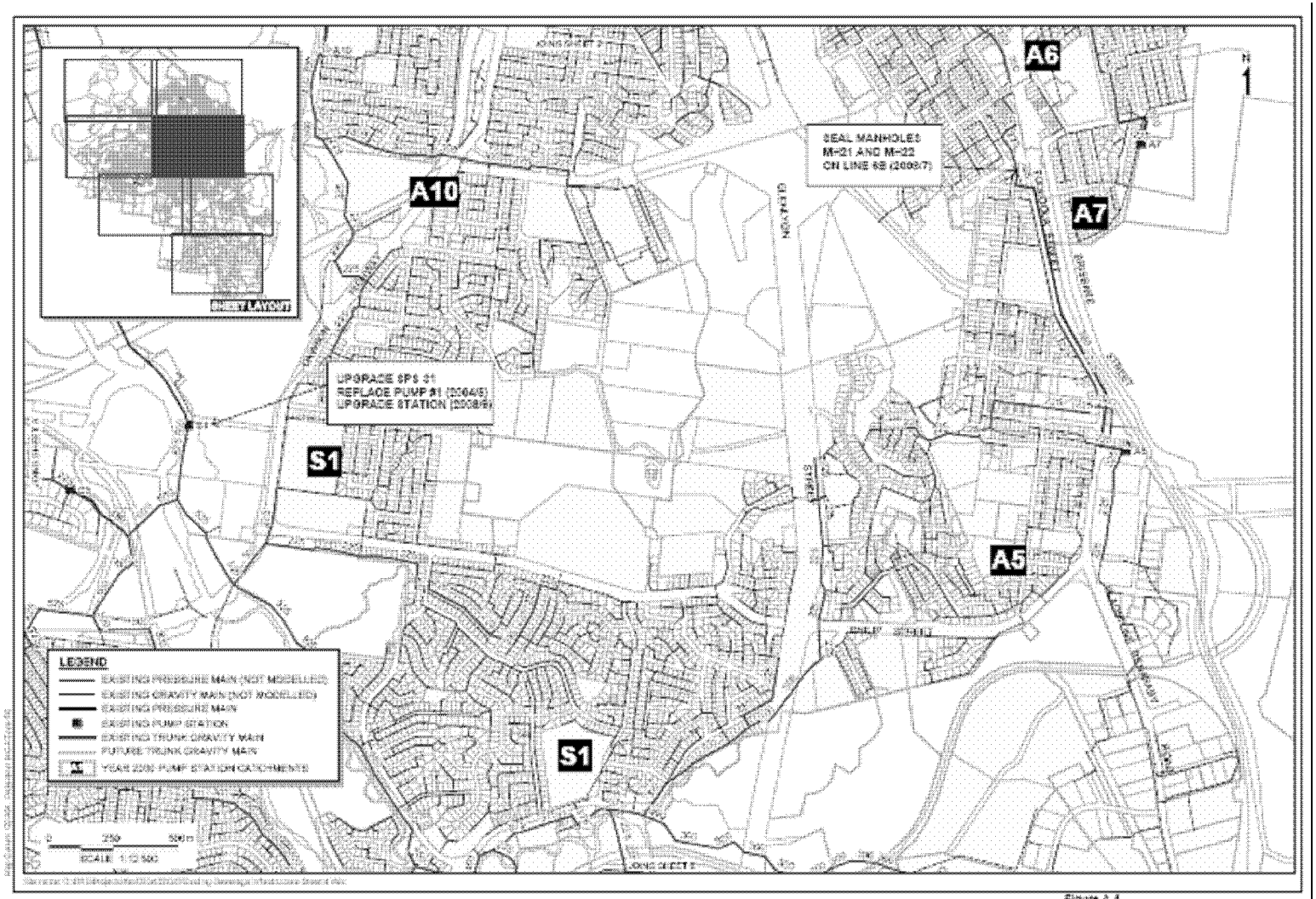


Figure A.4
EXISTING SEWERAGE INFRASTRUCTURE
AND PROPOSED AUGMENTATION
SHEET 4 OF 7

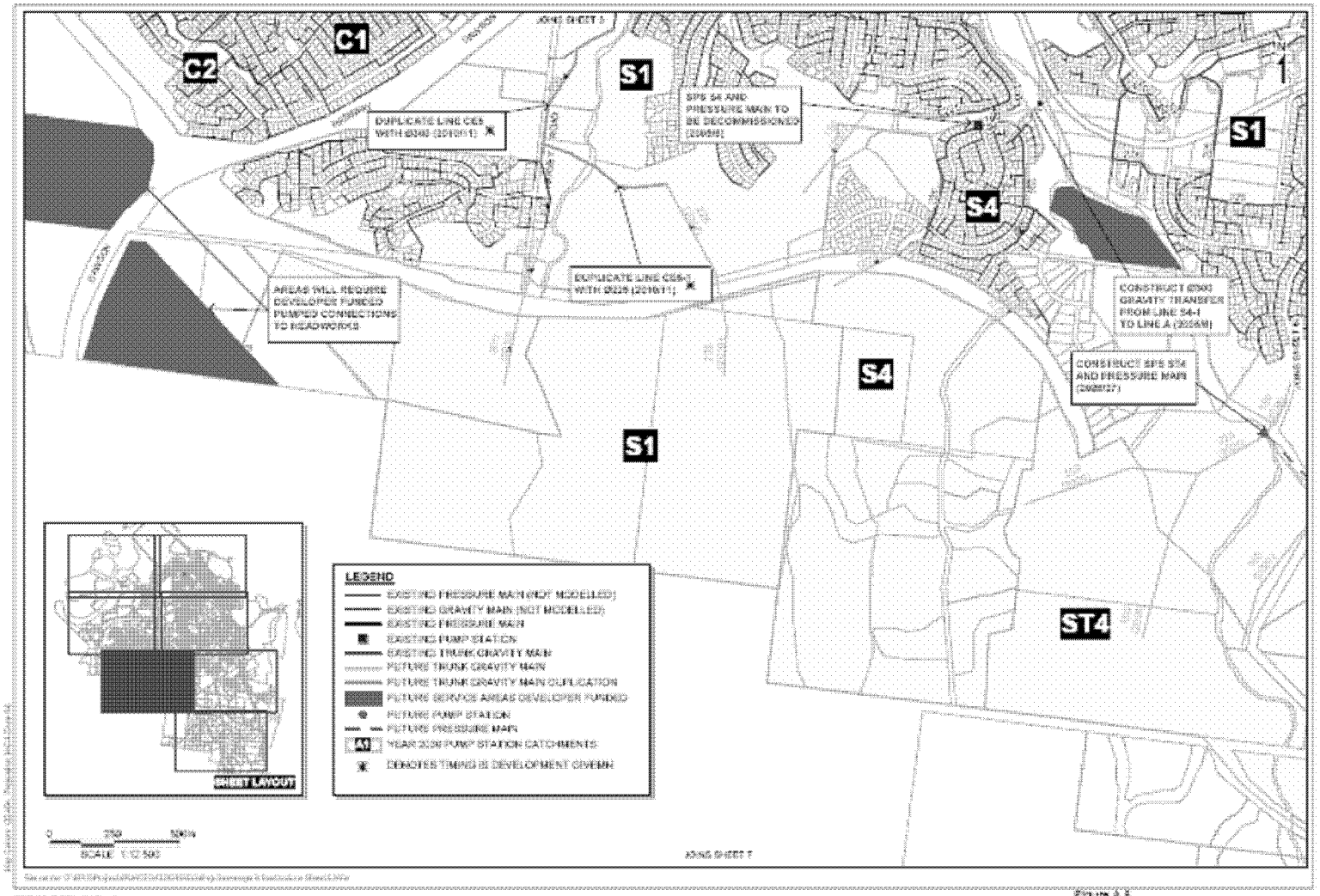


Figure A.3
EXISTING SEWERAGE INFRASTRUCTURE AND PROPOSED AUGMENTATIONS SHEET 5 OF 7

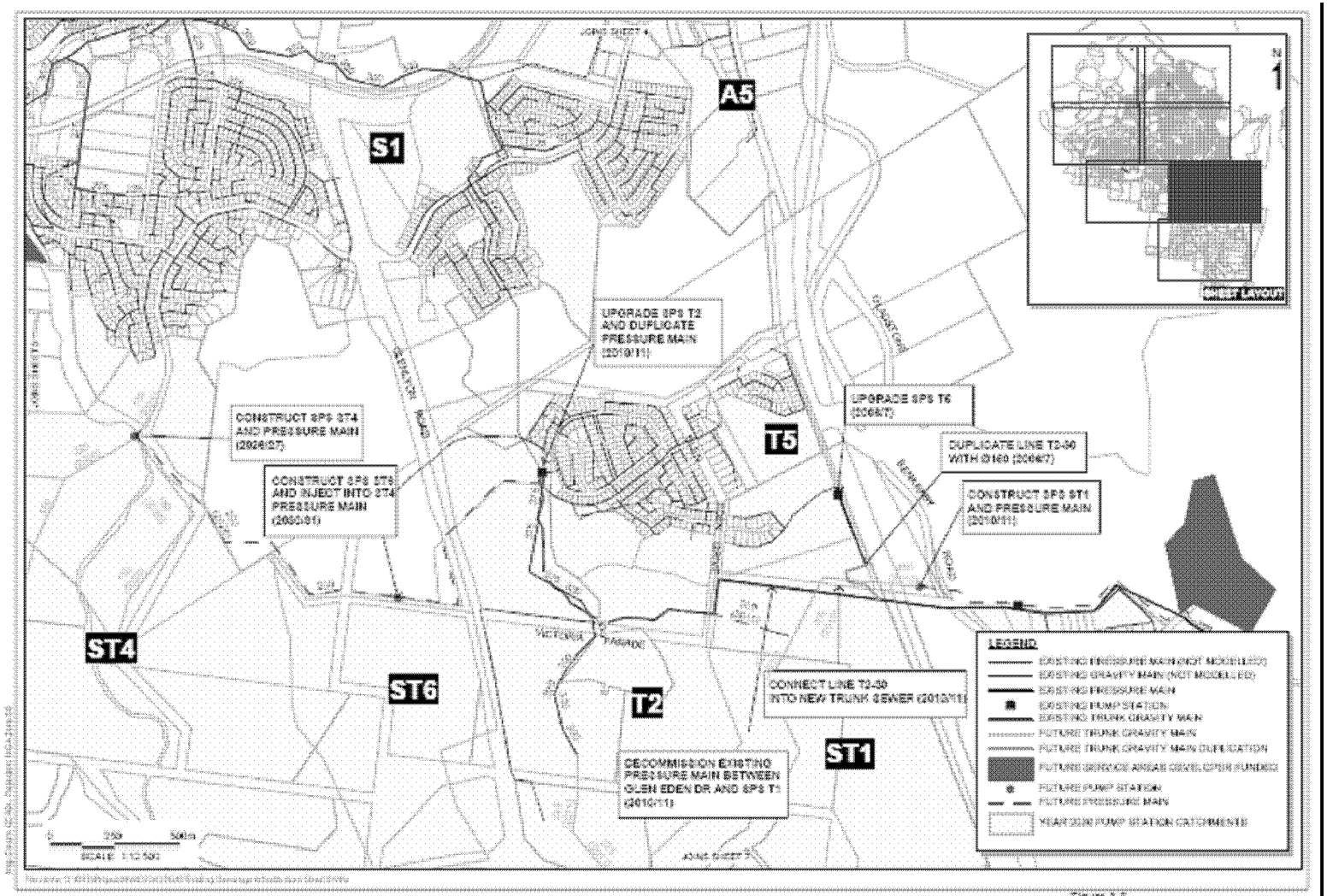


Figure A.5
EXISTING SEWERAGE INFRASTRUCTURE AND PROPOSED AUGMENTATIONS SHEET 6 OF 7

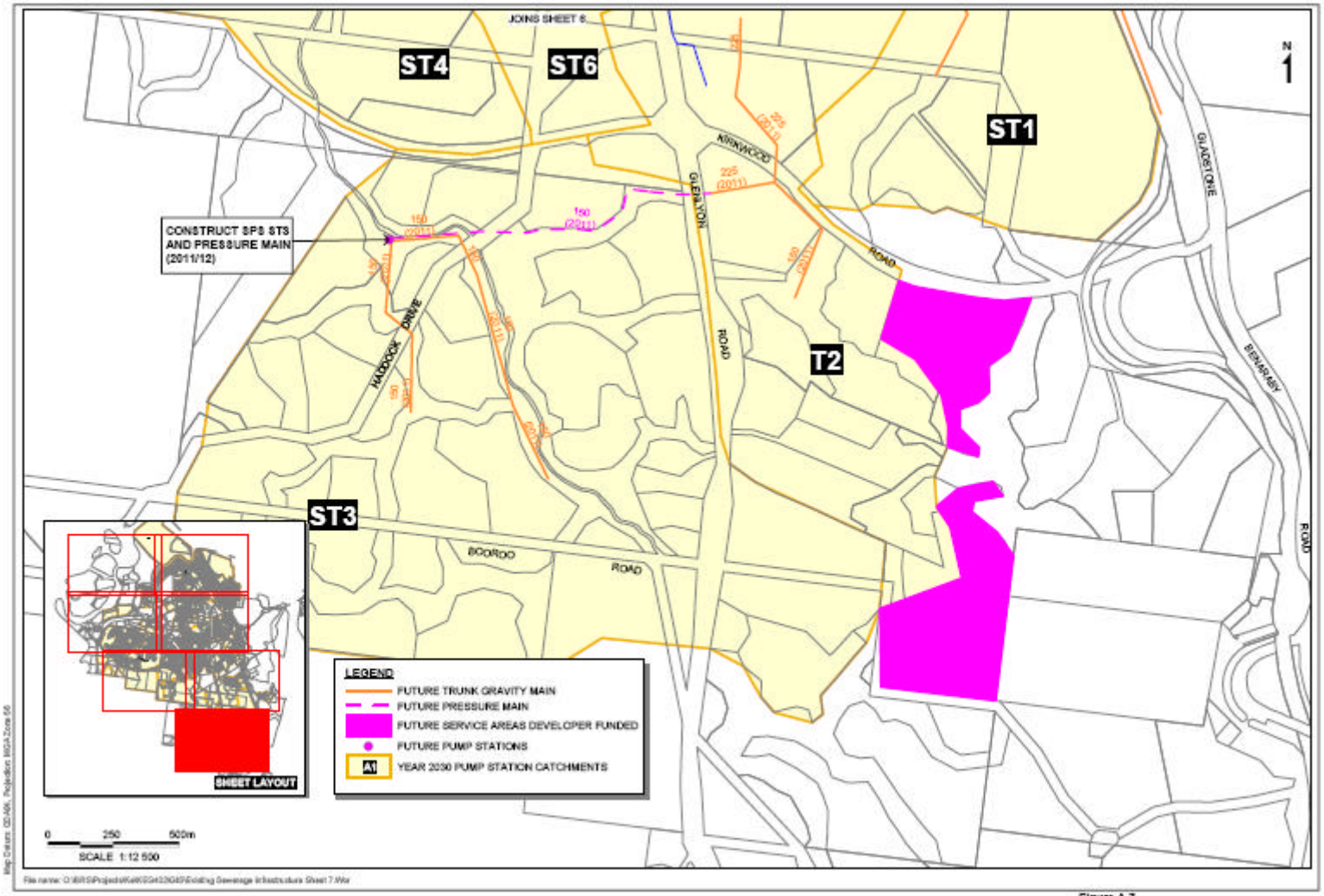


Figure A.7
EXISTING SEWERAGE INFRASTRUCTURE AND PROPOSED AUGMENTATIONS SHEET 7 OF 7

TOTAL MANAGEMENT PLAN

FOR

WATER SUPPLY SERVICES

CUSTOMER SERVICE/COMMUNITY RELATIONS PLAN

KRA – Customer Service

TABLE OF CONTENTS

1 PURPOSE OF PLAN

Customer Service standards are the primary driver of any water service provider. The overall objective of the Total Management Plan is to show how Gladstone City Councils Water Service business will achieve its nominated standards.

The purpose of the Customer Service Plan is to:

- Provide an overview of the businesses existing Customer Service Standards (CSS);
- Provide an outline of proposed strategies for further developing the businesses customer focus; and
- ensure that the business complies with legislative requirements regarding customer service standards.

One of the objectives of this plan is to establish appropriate customer service standards, which reflect the community's expectations and which will be used to drive the development of the business. In addition, the plan aims to develop and maintain the trust and cooperation of the local community.

2 EXTERAL INFLUENCES

Councils Customer Service Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

Table 2.1 : Summary Operating Environment

Influence Factor	Description

Key relevant statutory provisions	• Under the Water Act, unless a contract exists with each customer, all of the states Water Service Providers must develop a Customer Service Standard (CSS). A combined CSS may be prepared if the Water Service Provider provides both water supply and wastewater services.
	• Section 425 of the Water Act 2000 requires that the CSS identifies :
	  • the services to which the standards apply ;
	  • the level of service to be provided by the Water Service Provider; and
	  • the process for service connections, billing, metering, accounting, customer consultation, complaints and dispute resolution.
	• The 'Guidelines for Preparing Customer Service Standards' requires the Water Service Provider to provide statements (either quantitative or qualitative) on :
	  • the extent of interruptions to water supply;
	  • maximum allowable time to restore water services;
	  • average interruption duration;
	  • minimum pressure/flow;
	  • drinking water quality, complaints and incidents;
	  • total wastewater overflows;
	  • wastewater overflows to customer property;
	  • odour complaints; and
	  • response/reaction time to incidents for water and wastewater.
	• Standards for customer interruption frequency and connections with deficient pressure/flow will not become mandatory until 1st October 2007.

Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject to completion of an approved TMP.
Community perceptions/ aspirations	• Customers increasingly expect defined levels of service and input to related Water Service Provider decisions. A CSS ensures customers are adequately informed regarding the services they are receiving, the level of service they can expect to receive and how they interact with the Water Service Provider.
Industry practice/trends	• Water industry response to reform has raised the profile of customer service as being central to Water Service Provider functions.

3 CURRENT STATUS

3.1 Overview:

The Councils Water Services business has developed a comprehensive Customer Service Standard[1] (CSS). This document includes a variety of Key Performance Indicators (KPI's), which are designed to ensure that "the standards set (by the business) are consistent with industry levels and intended to provide a measure that will test our service and encourage continual improvement". Key performance indicators have also been selected to reflect the businesses statutory reporting obligations under the Water Act. In addition to the businesses responsibilities to its customer base, the CSS also outlines the responsibilities of its customers. Finally, the document also contains a detailed process for handling complaints and dispute resolution procedures.

The Customer Service Standard was approved by the Department of Natural Resources on the 15th December 2003. The first review (and annual report) on the customer service standards was undertaken in 2004.

The content of the Customer Service Standards are summarised in a brochure to Customers. This document provides a succinct summary of key customer service information including contact details, select performance measures and an overview of customer service and complaint handling procedures.

3.2 Customer profile:

The water supply component of the business serves a total of 11,321 connections (including 1,662 commercial connections). These users consume 17,000Kl of potable water per day (Average Day). The wastewater component of the business serves a total of 11,336 connections of which 1,662 are commercial premises and 21 are listed Trade Waste customers. These customers generate an average dry weather flow of around 7,400kL/day of wastewater.

Some of the main individual customers of the business include:

- The Gladstone Area Water Board (for whom the business provides Water treatment Operations and Maintenance services); and
- NRG and Queensland Alumina Ltd who are key users of treated effluent

In addition, to these direct customers, the business provides a range of other services to;

- Developers/contractors/private certifiers;
- Other Directorates of Council;
- Councillors (advisory role);
- Other statutory bodies (eg, State Government bodies); and
- Other Councils;

3.3 Our Service Standards

Council's high service standards ensure a reliable supply of potable water with a quality exceeding the National Health and Medical Research Council (NHMRC) guidelines, to its customers at a pressure and flow to meet their needs (Refer Appendix A). Both the water and wastewater systems have been designed with sufficient spare capacity to handle normal domestic, commercial and industrial usage as well as industries requiring major use of treated water and effluent.

The business has developed and issued comprehensive Customer Service Standards, which include a range of performance indicators in respect of each service characteristic. A complete list of KPIs is attached as Appendix A.

[1] GCC, "Gladstone City Council, Customer Service Standards, Water Supply and Sewerage Services", Nov 2003

3.4 Performance Measurement:

Recognising the central importance of customer service to its business, Gladstone City Council has implemented a range of measures to ensure that service standards are measured, managed and reported effectively. The first of these tools is the regular reporting framework employed by the business. Under current arrangements, the business reports to Council on all SAMP related performance criteria on a monthly basis. This ensures that the business closely monitors its compliance against its statutory obligations. In addition, the business provides a quarterly report to Council on its Annual Operation Plan. Many of the initiatives contained within the Annual Operation Plan are drawn from the TMP and are designed to improve or maintain customer service standards.

Finally, the Council periodically undertakes a detailed satisfaction survey to determine which services require improvement. From the most recent survey, the water services business scored amongst one of the highest scores for all activities undertaken by the Council. Tis survey has also been undertaken by a range of medium sized councils (thereby allowing some external comparison of results). On this measure, the performance of Gladstone's water services business is well above the average for the state.

3.5 Customer Complaint Monitoring Program/Information System:

The business has recently reviewed and updated its customer complaint management system. Complaints are now recorded on the Councils PATHWAYS system. A request form is logged for all calls and urgent requests (i.e. almost all responsive requests) are immediately relayed to the relevant field manager (water or wastewater). Once complete, the job is signed off and completed forms are logged electronically into the GIS. This last step allows the business to track reactive maintenance works against assets.

After hours calls are relayed to the treatment plant which offers a 24 hour call centre. Calls received after hours are handled in the same manner as above (specifically, logged in PATHWAYS).

The predominant causes for complaint are leaking water mains and sewer blockages.

For planned maintenance activities, formal notices are provided to customers through a standard letter drop. The management of these notices (i.e. recording when letters were issued in relation to when the work is undertaken) has recently been improved.

3.6 Community Consultation:

The business has undertaken extensive consultation with key industrial customers in the development and implementation of its effluent management strategy. This consultation has been designed to ensure that the quality of the recycled effluent provided to end users is consistent with their specific needs. The outcomes of this consultation have been the development of a contract for supply of treated effluent. In some cases (eg QAL), the agreement covers standards for both influent and effluent to ensure that high dissolved salts are identified at their source.

The Council has undertaken broader community consultation in the form of customer satisfaction surveys. However, these works have been undertaken across all of Councils functions, not just water and wastewater services. The water business intends to undertake a customer survey to identify water specific issues of concern to customers. The business may also consider establishing an Advisory Committee as part of phase II of its service improvement strategy (Phase I based on Operational strategies as outlined in the Operations and Maintenance sub plan).

3.7 Process Issues:

Key process issues (eg billing, dispute resolution, metering etc) are outlined in Councils Customer Service Standard (copy attached in Appendix B) and are summarised below:

- **Charges and Billing:**

Customers are billed a pedestal based charge for sewer services and a combined access/volumetric tariff is applied for water services. An annual charge is applied for vacant land. Interest is charged on overdue accounts.

- **Dispute Resolution:**
  All customers' complaints are investigated. If a customer wishes to pursue the matter independently, then, under the process outlined in the Customer Service Standards, the customer is free to contact the Parliamentary Commissioner for Administrative Investigations for resolution.

- **Metering:**
  All water consumption in Gladstone is metered. Details of customer usage and charges are provided in a "Consumption Notice" which is provided with the rate notice.

- **Councils responsibilities:**
  Council is responsible for the water service up to and including the water meter. The service form the meter to the house is the responsibility of the owner. For the connection to the sewer, Council is responsible from the jump-up connection near the property boundary. The owner is responsible for all house drains to the jump up.

4 FUTURE CHALLENGES:

4.1 Challenges facing the Business:

Major challenges facing the business over the next few years will be to:

- Ensure that its Customer Service Standards comply with all requirements of the Water Act.
- maintain the relatively low level of customer complaints and good relationship between the business and its customer base;
- ensure that the drought management initiatives of GAWB (specifically application of water restrictions) are consistent with those of the Council as a whole;

5 STRATEGIC BASIS OF PLAN

Key Result Area : Customer Service **Objective:** To provide quality services which customer's value.	
Management Strategy	**Performance Targets**
Develop and maintain the existing customer service monitoring and response program.	• Comply with the KPI's nominated in the customer service standard. • Compare customer service KPIs with those used by other water service providers by June 2008; • Undertake further customer service surveys by Oct 2008 and every two years thereafter. • Achieve ongoing improvement in business services (as measured by positive customer service responses).

Action Plan

Outcomes : Attainment of nominated customer service standard KPI's
Improved customer satisfaction
Ensure existing systems are effective.

Accountable Officer : Manager, Water

Action	Target Date	Responsibility
1.0 Maintain nominated service standards : • Monitor and report to Council on KPI's outlined in the SAMP • Monitor and report to Council on KPI's outlined in the Annual Operations Plan • Compare Councils customer service KPI's with those used by other (comparable) service providers	Monthly Quarterly June 2008	Manager, Water Services
2. Undertake further customer satisfaction survey : • Build on 2005 survey results with follow up surveys scheduled for 2008 and every 2 years thereafter. • Use outcomes of customer satisfaction survey to modify service procedures and KPI's (as appropriate).	Oct 2008, then every 2 years Ongoing	Manager, Water Services

3. Achieve improvement in customer service standards :
• Assess changes in customer satisfaction from ;
  • Pathways data;
  • Changes (i.e. increase/decrease) in complaints
  • Responses from customer satisfaction surveys.
• Develop/document a flow chart for responding to customer complaints.
	June 2006, then every 2 years
	Dec 2005
		Manager, Water Services, Water Engineer, Operations Coordinator

Required Budget

Item	05/06	06/07	07/08	Ongoing
Maintain nominated service standards	(*)	(*)	(*)	
Undertake regular customer satisfaction survey	(*)	(*)	(*)	
Achieve improvement in service standards	(*)	(*)	TBA	

Footnotes: (*)Cost of these items are included in recurrent budgets.

APPENDIX A

Key Performance Indicators (KPI's)

Table A.1- Annual Operations Plan Indicators:

Ref No.	Performance Indicators	Target
Internal Processes:		
OP 2	Level of implementation of action items listed in TMP	100% of action plans by June 2006
OP3	Compliance with EPA Licences	100%
OP4.1	Evidence of Pre start meeting for Capital Works projects	
OP4.2	Cap X program completed within Budget	100%
Day to day continuity		
6	Response time to all water supply events (95 percentile)	4 hours
Adequacy and quality of normal supply (water supply only)		
10	Compliance with NHMRC Guidelines for water supplied from Gladstone Water Treatment Plant - microbiological - pH 6.5 – 8.5 - Iron 0.3mg/L - colour 15 HU - turbidity 5 NTU Manganese 0.1mg/L Aluminium 0.2mg/L	 95% 95% 95% 95% 95% 95% 95%
11	Number of drinking water quality complaints per 1000 rateable properties per year	5
12	Number of drinking water quality incidents per year	5
Effective transport of waste effluent (wastewater only)		
14	Number of sewage overflows to customer property per 1000 rateable properties per year	10
15	Number of odour complaints per 1000 rateable properties per year	4
16	Response time to all events (95 percentile)	6 hours
Continuity in the long term (a) water supply		
17	Number of water main breaks and leaks per 100 km of main per year	30
Continuity in the long term (b) wastewater		
19	Number of sewer main breaks and chokes per 100 km of main per year	40

Table A.2- Customer Service Standards Indicators

Ref No.	Performance Indicators	Target
Day to day continuity (water supply only)		
1	Number of rateable properties experiencing an unplanned interruption per 1000 rateable properties per year	100
2	Restoration of services due to unplanned	95% Restored within 5 hrs.
3	Number of rateable properties experiencing more than: 1 interruption per year 2 interruptions per year 3 interruptions per year 4 interruptions per year 5 or more interruptions per year	To be reported by 01/10/2007
4	Relative incidence of planned and unplanned interruption incidents	Ratio: 10:1
5	Average duration of all interruptions (planned and unplanned)	To be reported by 01/10/2007
Adequacy and quality of normal supply (water supply only)		
7	Minimum flow expectation at boundary	24 l/Min
8	Minimum water pressure expectation at boundary	22m
9	Percentage of rateable properties experiencing low pressure and/or flow at any one time	To be reported by 01/10/2007
Effective transport of waste effluent (wastewater only)		
13	Total sewage overflows per 100km of main per year	30
Continuity in the long term (a) water supply		
18	Rate of system water loss per rateable property per day	140 litres
Continuity in the long term (b) wastewater		
20	Sewer inflow / infiltration – ratio of peak day flow to average day flow	5

APPENDIX B

Customer Service Standards Brochure

APPENDIX C

Supporting Documentation

Title

Gladstone City Council Customer Service Standards for Water Supply and Wastewater Services
Gladstone City Council Annual Performance Plan

*

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

FINANCIAL MANAGEMENT PLAN

KRA – Financial Sustainability

TABLE OF CONTENTS

*** Registered Service Provider No. SP54 – Water Act**

APPENDICES

APPENDIX A Financial Model Forecasts

1.0 PURPOSE OF THIS PLAN

The overall objective of the Total Management Plan is to ensure that the business remains commercially viable over the long term.

The purpose of this plan is to:

- ensure that the business complies with legislative requirements regarding financial sustainability;
- provide an overview of current financial projections for the business;
- provide an outline of alternative financial strategies including capital funding and revenue policies; and
- present the financial management strategy as a key input into Councils budgetary processes;

2.0 EXTERNAL INFLUENCES:

Councils Financial Management Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description
Key relevant statutory provisions	• Local governments are subject to the Local Government Act 1993 and Local Government Finance Standard in respect of financial administration and audit. • Local governments are subject to the Statutory Bodies Financial Arrangements Act 1982, regarding powers to enter into financial arrangements. • Under Chapter 7 of the Local Government Act 1993, a local government's budget must contain general revenue and expenditure projections for the ensuing 2 years, but otherwise there is no requirement for financial planning to extend beyond this. • Chapter 10 of the Local Government Act imposes certain requirements on local governments undertaking significant business activities (as defined), regarding water charging, service cost recovery and cross subsidisation. • Under the Integrated Planning Act 1998, local governments wishing to levy up-front charges on developers for providing water and wastewater infrastructure must have an infrastructure charges plan in place by March 2006. Prior to this date, charges can be levied under the transitional provisions of the Act. • Apart from some limited specific provisions in respect of statutory water authorities, the Water Act 2000 contains no provisions regarding Water Service Providers financial management.
Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject completion of an approved TMP.
Government policy	• TMP guidelines recommend that affected Water Service Providers maintain current 10-20 year financial projections for water supply services, as applicable.
Community perceptions/ aspirations	• Customers increasingly expect financial accountability on the part of Water Service Providers, as well as fair value in service pricing and full justification of price increases.
Industry practice/trends	• Water Service Providers increasingly are funding at least part of their depreciation allowance. • The renewals annuity approach is gaining favour as a realistic basis for funding depreciation.

3.0 CURRENT STATUS

3.1 Financial Modelling

The business has developed an advanced 10-year financial model for both the water supply and wastewater component of Councils operations. The outcomes from this model (together with key assumptions used in the development of the models) are provided in Appendix A. Adoption of these strategies in the financial management process should assist in ensuring that the business remains financially viable over the long-term.

3.2 Councils Revenue Policy (Water Supply and Wastewater)

Gladstone City Councils Revenue Policy identifies Councils intention to develop rates and charges that are consistent with those commercial objectives being promoted by the water industry reform agenda. These include:

- Development and application of **charges based on User Pays principles**. (i.e. structuring water and wastewater charges in direct proportion to the costs involved in delivery of those services);
- compliance with the requirements of the Local Government Act for **Full Cost Pricing** ;
- **Identification of cross-subsidies**; and
- Ensuring that charges remain **easy to understand and transparent** in their application.

3.3 QCA Pricing Determination (Bulk Water Supply only)

The Queensland Competition Authority (QCA) is the economic regulator for the larger water services providers in the state. The QCA recently undertook a detailed assessment of prices charges by the Gladstone Area Water Board (GAWB). The outcomes of this determination (published in March 2005) suggest significant increases in the maximum price which GAWB would be entitled to charge Gladstone City for the supply of bulk treated water. Table 11.3 of the QCA report suggests increases in the cost of water supplied by GAWB to be in the order of CPI + 20%. From recent correspondence[1], GAWB have advised that the nominated price increases will be phased in over a period of three years to assist the Council absorb the increased cost.

Historically, Council has not charged the full cost for water services. This legacy, combined with the proposed increase in GAWB charges mean that the increase in the required water rates and charges will be well above the 14-19% suggested above. Preliminary modelling suggests that, in order for the water business to meet all of its costs, price increases in the order of 30-40% are required. Whilst the QCA make the point in their report that the Council "have the discretion under the Local Government Act 1993 to set and raise charges as they see fit", in reality there are few options for the Council other than to pass these costs on to customers.

3.4 Price Equalisation:

Historically, the price of supply of bulk water by the Gladstone Area Water Board (GAWB) to Calliope Shire and Gladstone City Councils have been equalised, i.e. an average price has been applied to both Councils. This pricing structure is inconsistent with NCP objectives and does not reflect QCAs objective for "prices (to) be differentiated for all customers according to their utilisation of specific components of GAWBs infrastructure network". Under the current 'equalised pricing' regime, the cost of water provided to

[1] Refer Letter of 15h July 2005

Gladstone City Council is higher than it should be. GAWB has estimated that the extent of equalisation could add as much as $733,000 to Gladstone's cost base. Application of differentiated pricing which met the objectives of QCA would deliver lower prices to Gladstone City Council[2]. This issue was referred to the QCA as part of its recent pricing determination. Whilst QCA noted that "differential pricing meets the objective of economic efficiency by providing appropriate pricing signals to different groups and ensures that costs related to other customers are not imposed by others" and concluded that "the Authority recommends that prices be differentiated for all customers according to their utilisation of specific components of GAWBs infrastructure network", QCA declined to make a specific determination on the issue of price equalisation between the Councils. Indeed, the QCA suggested that "the pooling of Council treated water prices are a matter for the relevant parties to agree".

Gladstone City Council will now renew its negotiations with GAWB and Calliope on this issue. From preliminary discussions, all parties have agreed to maintain the equalised price for the next 12 months to accommodate the negotiations.

3.5 Asset Valuation

The water and wastewater business intends to undertake a staged asset revaluation. This revaluation is required to ensure that the business continues to meet its statutory obligations. The first stage in this process will be for the business to undertake a desktop review of its asset values. This may incorporate application of an indexation factor to the value of the businesses assets. The second stage will require the business to undertake a more comprehensive revaluation.

Recent increases in costs in the industry may mean that the value of the businesses assets is likely to increase significantly. Such a change could have an impact on the businesses operating expenses (specifically depreciation) and water tariff structure (specifically the access component). The financial modelling attached assumes that the value of the existing assets has been increased in line with the Building Price Indicator between 1999 and 2004 (assumed to be a 30% increase).

3.6 Overview of Revenues and Expenses:

A fundamental measure of the businesses financial viability is its ability to earn revenue, which at least covers its operating expenses. At present, neither the water or wastewater component of the business earns enough revenue to fully cover its total operating costs (i.e. including increased depreciation expenses resulting from the asset valuation). The situation from the wastewater component of the business improves if capital revenues are included in the assessment. Under these conditions, this component of the business does return an overall operating surplus.

To address the shortfall between operating revenue and expenses, the business has proposed an increase in rates of:

- Water – +10% in the 05/06 year. Future increases are anticipated but will depend on the outcomes of negotiations with GAWB and Calliope Shire Council on price equalisation; and
- Wastewater - proposed increases of CPI +2.5% in the 06/07and 07/08 years and CPI + 3%in the 08/09 year.
-

A comprehensive summary of the revenue and expenses for both the water supply and wastewater components of the business is provided in Appendix A. Key assumptions underpinning these outcomes are also provided in the Appendix.

3.7 Capital Works Program and Capital Funding:

- Both the water and wastewater components of the business are facing a period of significant capital investment over the coming years. The water business is scheduled to spend $5m on new

[2] QCA" Gladstone Area Water Board Investigation of Pricing Principles, March 2005, p58

capital items whilst the Wastewater business will spend a total of $15m over the 10-year duration modelled. In addition, the water business will spend $11m and the wastewater business $9.8m on replacement capital works over the next 10 years.

-
- Part of these capital works will be funded through long-term debt. From forecasts, the wastewater business may raise around $3m in debt and the water business is likely to raise around $9m of additional debt.

Under the Integrated Planning Act (IPA), 1997, the business will ultimately have to replace its Headwork's Contribution policies with an Infrastructure Charges Schedule, which meets the requirements the new Act.

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key financial challenges facing the business are:

- To ensure that the water businesses operating revenues increase to cover proposed increase in operating expenses;
- Managing the proposed price increase (in the water component of the business) from the Gladstone Area Water Bord (GAWB). This will include negotiation of an unequalised tariff between GCC and CSC;
- To review the value of the existing assets and develop a strategy for accommodating any increases in asset valuation in the businesses reporting and pricing frameworks.
- To ensure that the business meets the intent of the Councils revenue policy for recovering the full cost of its services.

4.2 Future Direction and Business Improvement Opportunities

The Councils water business's immediate focus will be to:

- Undertake a review of revenue and tariff structures to ensure that the business remains commercially viable;
- Maintain detailed financial modelling and develop financial management systems which facilitate informed decision making and optimisation of financial strategies; and
- develop Infrastructure Charges Schedules which comply with the Integrated Planning Act (as amended).

5.0 STRATEGIC BASIS OF PLAN

Key Result Area:	Financial Sustainability
Objective:	To develop a commercially viable business.

Management Strategy	**Performance Targets**
Ensure that the financing of water services reflects statutory requirements and COAG/NCP water reforms.	• Compliance with financial requirements as set out in the Councils Revenue Policy; • Develop Discussion Paper on key financial issues by June 05 • Review pricing for 05/06 year by Aug 05. • Review long term pricing strategies by June 06 • Negotiate with CSC on price equalisation by June 06 • Undertake initial asset revaluation by Nov 05 • Undertake detailed asset revaluation by June 06 • Review Headwork's charges by Dec 05 • Develop ICS by March 2006

Action Plan

Outcome:
- Ability to financially sustain services in the short, medium and long term.
- Ability to fund future capital works programs (both new and renewal)

Accountable Manager: Manager, Water Services

Action	Target Date	Responsibility
1.0 Develop an Issues Paper		
1. Develop an Issues paper which summarises the combined effect of: a) Current revenue position (specifically the operating deficits) b) The potential impact of the QCA pricing determination on the water business c) The potential financial impact of an asset revaluation The Issues paper will provide a broad strategy for managing these various financial considerations.	June 2005	Manager, Water Services
2.0 Review Pricing:		
1. Recommend to Council increases in water charges in 05/06 by 10%	June 2005	CEO/ Manager, Water Services
2. Engage AEC to re-run the tariff model to assess the impact of the proposed changes on the tariff structure and develop an appropriate pricing policy response.	July 2005	Manager, Financial Services
3. Participate in least cost option study with GAWB, CSC and GCC.	June 06	CEO/Manager, Water Services
4. Develop strategy for staged increase of water and wastewater tariffs to meet the businesses commercial requirements and policy obligations	June 06	CEO/Manager, Water Services

Action	Target Date	Responsibility
3.0 Review Asset Valuation		
1. Undertake a desktop review of asset values (incorporating indexation of existing assets) for inclusion in the Councils 2004/05 accounts	Nov 2005	Manager, Financial Services
2. Undertake a full asset revaluation	June 06	Manager, Water Services
3. Develop strategies for management of issues related to depreciation and Full Cost Recovery.	April 07	Manager, Water Services
4.0 Maintain Detailed Financial Modelling		
1. Update 10-year financial projections compatible with business objectives for water supply to: • confirm infrastructure investment program; • confirm required charges; • refine estimates/entitlements for State Government subsidy; and • Optimise revenues and expenditures.	March each year April each year	Manager, Water Services
2. Provide financial forecasts for the next financial year as an input into Councils Budget processes.	April each year	Manager, Water Services
3. Submit 10 year financial projections (including requests for capital subsidy) to NR&M.	Annually	Manager, Water Services
5.0 Maximise Capital Subsidy		
1. Review eligibility criteria for State subsidies and identify appropriate works from capital works program.	Annually in March	Manager, Water Services
2. Review capital works funding requirements and evaluate most cost-effective funding options.	Annually (January – March)	Manager, Water Services
3. Program works and apply for subsidies.	Annually	Manager, Water Services
6.0 Ensure Infrastructure Charges Comply with Legislation		
1. Review the businesses developer contribution policy with a view to developing an ICS in accordance with States Guidelines	Dec 2005	Manager, Water Services
2. Submit charges (and ICS text) to Council for incorporation into the statutory approval process under IPA.	March 2006	Manager, Water Services
3. Target date for applying the new charges (existing headwork's policy to remain in place until then).	March 2007	Manager, Water Services

Required Budget

Item	05/06	06/07	07/08	Ongoing
Develop Issues Paper and pricing strategy	$15,000			
Undertake Asset Revaluation	$50,000			
Develop Infrastructure Charges Schedule	$20,000	$5,000		

APPENDIX A.1 – Water

Financial Model Forecasts

Gladstone City Council - Water Supply

Profit and Loss (Operating) Statement

Return to Start

	Year	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
Operating Revenues Expenses	**REVENUE**											
	Water/Sewer Rates and Charges	$ 5,443,196	$ 5,606,516	$ 6,166,615	$ 6,946,167	$ 7,661,627	$ 8,448,323	$ 9,143,262	$ 9,615,349	$ 10,151,405	$ 10,813,294	$ 11,096,199
	Income from other commercial services	$ 664,245	$ 664,245	$ 664,245	$ 664,245	$ 664,245	$ 664,245	$ 664,245	$ 664,245	$ 664,245	$ 664,245	$ 664,245
	Interest Revenue	$ -	$ 63,540	$ 39,977	$ 14,807	$ 7,566	$ 3,414	$ 117	$ 139	$ 100	$ 79	$ 2,966
	Community Service Obligations	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Capital Grants and Subsidies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Other Revenue	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Operating Revenue	$ 6,107,443	$ 6,236,302	$ 6,890,837	$ 7,627,239	$ 8,333,438	$ 9,115,981	$ 9,807,643	$ 10,279,733	$ 10,815,750	$ 11,477,619	$ 11,763,408
	EXPENDITURE											
	Operations Expense	$ 1,105,870	$ 1,116,929	$ 1,128,098	$ 1,139,379	$ 1,150,773	$ 1,162,280	$ 1,173,903	$ 1,185,642	$ 1,197,499	$ 1,209,474	$ 1,221,568
	Maintenance Cost	(incl above)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Management and Administration	$ 928,544	$ 937,829	$ 947,208	$ 956,680	$ 966,247	$ 975,909	$ 985,668	$ 995,525	$ 1,005,480	$ 1,015,535	$ 1,025,690
	Depreciation	$ 904,847	$ 1,176,801	$ 1,176,801	$ 1,193,935	$ 1,209,872	$ 1,219,691	$ 1,225,816	$ 1,225,816	$ 1,226,372	$ 1,243,772	$ 1,243,772
	Other operating expenses (GA/WB Charges)	$ 4,623,494	$ 4,678,976	$ 5,254,958	$ 5,365,312	$ 5,845,008	$ 6,116,947	$ 6,401,538	$ 6,535,971	$ 6,699,370	$ 6,866,854	$ 7,038,526
	Total Operating Expenditure	$ 7,562,755	$ 7,912,535	$ 8,509,065	$ 8,655,306	$ 9,171,900	$ 9,474,828	$ 9,786,926	$ 9,842,954	$ 10,130,721	$ 10,335,635	$ 10,529,556
	EBIT (Excl Capital adj)	-$1,455,312	-$1,676,234	-$1,618,228	-$1,028,066	-$838,462	-$358,847	$20,717	$336,778	$685,030	$841,984	$1,233,852
	Interest Expense	$ 99,348	$ 75,848	$ 275,959	$ 460,973	$ 598,520	$ 695,814	$ 717,723	$ 726,350	$ 815,680	$ 790,422	$ 762,652
	Net Operating Profit (Loss)	-$1,554,660	-$1,752,082	-$1,894,186	-$1,489,040	-$1,436,982	-$1,054,661	-$697,005	-$389,571	-$130,650	$151,562	$471,200
Abnormal (Capital) Adjustments	**ABNORMAL/CAPITAL RELATED REVENUE**											
	Capital Grants and Subsidies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Developer Contributions (Infrastructure charges)	$ 692,412	$ 346,206	$ 346,206	$ 346,206	$ 346,206	$ 346,206	$ 346,206	$ 346,206	$ 346,206	$ 346,206	$ 346,206
	Donated assets	$ 725,149	$ 362,575	$ 362,575	$ 362,575	$ 362,575	$ 362,575	$ 362,575	$ 362,575	$ 362,575	$ 362,575	$ 362,575
	Funds from Disposal of Non current assets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Abnormal/Capital related Revenue	$ 1,417,561	$ 708,781	$ 708,781	$ 708,781	$ 708,781	$ 708,781	$ 708,781	$ 708,781	$ 708,781	$ 708,781	$ 708,781
	ABNORMAL/CAPITAL RELATED EXPENSE											
	Abnormal and Extraordinary Items	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Abnormal/Capital Related Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
PROFIT	**Total Operating Profit (EBIT + Inf Charges)**	-$ 762,900	-$ 1,330,026	-$ 1,272,022	-$ 661,860	-$ 492,256	-$ 12,641	$ 366,923	$ 662,966	$ 1,031,236	$ 1,288,190	$ 1,680,058
	Taxable Income(excl abnormals)	-$ 1,554,660	-$ 1,752,082	-$ 1,894,186	-$ 1,489,040	-$ 1,436,982	-$ 1,054,661	-$ 697,005	-$ 389,571	-$ 130,650	$ 151,562	$ 471,200
	Income Tax Payable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 45,468	$ 141,360
	Operating Profit (After Tax, before abnormals)	-$ 1,554,660	-$ 1,752,082	-$ 1,894,186	-$ 1,489,040	-$ 1,436,982	-$ 1,054,661	-$ 697,005	-$ 389,571	-$ 130,650	$ 106,093	$ 329,840
	Profit (Loss) after tax and incl. abnormals	-$ 137,099	-$ 1,043,301	-$ 1,185,406	-$ 780,259	-$ 728,202	-$ 345,880	$ 11,775	$ 319,210	$ 577,930	$ 814,874	$ 1,038,621
	Distributed Profit (Dividend Paid from Operating Profit)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Return to Start

Gladstone City Council - Water Supply
Cashflow Statement

Cash Flow

Year		2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
Opening Balance		$2,278,484	$1,957,530	$707,632	$279,520	$224,903	$2,665	$5,118	$4,155	$2,536	$2,762	$194,874
Operating Revenue												
	Water/Sewer Rates and Charges	$5,443,198	$5,508,516	$6,186,615	$6,948,187	$7,661,627	$8,448,323	$9,143,282	$9,616,349	$10,151,405	$10,613,294	$11,096,199
	Income from other commercial sources	$664,245	$664,245	$664,245	$664,245	$664,245	$664,245	$664,245	$664,245	$664,245	$664,245	$664,245
	Interest Revenue	$0	$63,540	$39,977	$14,807	$7,566	$3,414	$117	$139	$100	$79	$2,965
	Community Service Obligations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Non-Capital Grants and Subsidies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Other Revenue	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Total Operating Revenue	$6,107,443	$6,236,302	$6,890,837	$7,627,239	$8,333,438	$9,115,981	$9,807,643	$10,279,733	$10,815,750	$11,277,619	$11,763,408
Operating Expenses:												
	Operations Expense	$1,105,870	$1,116,929	$1,128,098	$1,139,379	$1,150,773	$1,162,280	$1,173,903	$1,185,642	$1,197,499	$1,209,474	$1,221,568
	Maintenance Cost	(incl above)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Management and Administration	$928,544	$937,829	$947,208	$956,680	$966,247	$975,909	$985,668	$995,525	$1,005,480	$1,015,535	$1,025,690
	Interest Expense (Loans)	$99,348	$75,848	$275,969	$460,973	$598,520	$695,814	$717,723	$726,350	$815,880	$790,422	$762,652
	Other operating expense	$4,623,494	$4,678,976	$5,254,999	$5,365,312	$5,845,008	$6,116,947	$6,401,538	$6,535,971	$6,699,370	$6,866,854	$7,038,526
	Income Tax Paid	$0	$0	$0	$0	$0	$0	$0	$0	$0	$45,468	$141,360
	Dividend Paid	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Total Operating Cost	$6,757,256	$6,809,582	$7,606,222	$7,922,344	$8,560,548	$8,950,951	$9,278,833	$9,443,488	$9,718,229	$9,927,753	$10,189,796
	Operating Cash Surplus/Deficiency	-$649,813	-$573,281	-$715,385	-$295,105	-$227,110	$165,030	$528,811	$836,246	$1,097,522	$1,349,865	$1,573,612
Capital Revenue:												
	Developer Contributions (Infrastructure Charges)	$692,412	$346,206	$346,206	$346,206	$346,206	$346,206	$346,206	$346,206	$346,206	$346,206	$346,206
	Funds from Disposal of Non Current Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Loans for Capital Expenditure	$200,000	$0	$2,238,500	$2,116,000	$1,635,500	$1,230,000	$430,000	$307,800	$1,232,000	$0	$0
	Capital Subsidies/Grants	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Total Capital Revenue	$892,412	$346,206	$2,584,706	$2,462,206	$1,981,706	$1,576,206	$776,206	$654,006	$1,578,206	$346,206	$346,206
Capital Expenses												
	New Capital Works Expenditure	$200,000	$0	$1,215,500	$1,083,000	$785,500	$490,000	$0	$127,800	$1,232,000	$0	$0
	Replacement Capital Works Expenditure	$0	$1,009,000	$1,023,000	$1,033,000	$1,044,000	$1,054,000	$1,096,000	$1,129,000	$1,163,000	$1,198,000	$1,198,000
	Redemption on Loans	$363,553	$13,823	$58,933	$105,718	$147,335	$184,783	$209,979	$236,070	$280,502	$305,960	$333,730
	Total Capital Expense	$563,553	$1,022,823	$2,297,433	$2,221,718	$1,976,835	$1,738,783	$1,305,979	$1,491,870	$2,675,502	$1,503,960	$1,531,730
	Cash Movement in year	-$320,954	-$1,249,898	-$428,112	-$54,617	-$222,239	$2,453	-$963	-$1,619	$226	$192,111	$388,088
Closing Balance		$1,957,530	$707,632	$279,520	$224,903	$2,665	$5,118	$4,155	$2,536	$2,762	$194,874	$582,962

Return to Start

Gladstone City Council - Water Supply

Balance Sheet

Year	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
Current Assets											
Cash & investments	$1,957,530	$707,632	$279,520	$224,903	$2,665	$5,118	$4,155	$2,536	$2,762	$194,874	$582,962
Non-Current Assets											
Non-current assets at current replacement cost	$ 55,287,973	$ 72,345,712	$ 73,923,786	$ 75,369,361	$ 76,517,435	$ 77,370,010	$ 77,732,584	$ 78,222,959	$ 79,817,533	$ 80,180,108	$ 80,542,682
Accumulated depreciation	$ 17,209,156	$ 22,592,644	$ 22,748,445	$ 22,909,380	$ 23,075,253	$ 23,230,944	$ 23,360,760	$ 23,457,576	$ 23,522,948	$ 23,568,720	$ 23,614,492
Net book value	$ 38,078,817	$ 49,753,068	$ 51,175,341	$ 52,459,981	$ 53,442,183	$ 54,139,066	$ 54,371,825	$ 54,765,383	$ 56,294,585	$ 56,611,388	$ 56,928,190
TOTAL ASSETS	$ 40,036,347	$ 50,460,699	$ 51,454,861	$ 52,684,884	$ 53,444,847	$ 54,144,184	$ 54,375,980	$ 54,767,919	$ 56,297,347	$ 56,806,261	$ 57,511,152
Non-Current Liabilities											
Long Term Loans	$ 773,963	$ 760,140	$ 2,939,707	$ 4,949,989	$ 6,438,154	$ 7,483,371	$ 7,703,392	$ 7,776,121	$ 8,727,619	$ 8,421,659	$ 8,087,930
TOTAL LIABILITIES	$ 773,963	$ 760,140	$ 2,939,707	$ 4,949,989	$ 6,438,154	$ 7,483,371	$ 7,703,392	$ 7,776,121	$ 8,727,619	$ 8,421,659	$ 8,087,930
Net Assets	$ 39,262,384	$ 49,700,560	$ 48,515,154	$ 47,734,895	$ 47,006,693	$ 46,660,813	$ 46,672,588	$ 46,991,798	$ 47,569,728	$ 48,384,602	$ 49,423,222
Shareholder Equity:											
Capital account	$ 39,839,192	$ 51,683,244	$ 52,045,818	$ 52,408,393	$ 52,770,967	$ 53,133,542	$ 53,496,116	$ 53,858,691	$ 54,221,265	$ 54,583,840	$ 54,946,414
Constrained Works Reserve	$977,852	$1,324,058	$1,670,264	$2,016,470	$2,362,676	$2,708,882	$3,055,088	$3,401,294	$3,747,500	$4,093,706	$4,439,912
Other reserves	-$1,554,660	-$3,306,742	-$5,200,928	-$6,689,968	-$8,126,950	-$9,181,611	-$9,878,616	-$10,268,187	-$10,399,037	-$10,292,944	-$9,963,104
TOTAL EQUITY	$ 39,262,384	$ 49,700,560	$ 48,515,154	$ 47,734,895	$ 47,006,693	$ 46,660,813	$ 46,672,588	$ 46,991,798	$ 47,569,728	$ 48,384,602	$ 49,423,222

Assumptions Underpinning the Financial Modelling (Water)

Notes to Financial Model

1.0 Basic Inputs:

In general, the 2003/04 financial accounts have been used as the base data for the analysis. In accordance with requirements of the Local Government Finance Standard, the Appropriation Statement is balanced to zero.

2.0 Revenue Growth:

The model assumes that the business will increase its water rates and charges by 10% in 2005/06 and comparable increases in 06/07. This is required to overcome the current shortfall of revenues against expenses as well as to accommodate the proposed staged increases in charges from the Gladstone Area Water Board.

The model assumes that the proposed increases in GAWB charges of 10% for the 06/07 year will be offset by introduction of an unequalised charge.

These increases are in addition to growth in total revenue that will result from increases in the overall population of the City. This growth is assumed to occur at a compound rate of around 2.2-2.4% per annum over the next 10 years.

3.0 Operating Expenses:

The model assumes that operating expenses will increase at around CPI plus 1%. This assumption reflects historical data, which indicate that maintenance and building prices generally increase at a faster rate than CPI.

4.0 Scope of the Capital Works Program:

The business has undertaken a comprehensive review of its Water Supply and Transportation Network[3]. This review clearly outlines the scope of future capital works required to meet the growing needs of the City and maintain nominated service standards to existing customers. The scope of future capital works required in the next 10 years is a relatively modest $5m.

In addition, the business has undertaken a broad assessment of its asset renewal liabilities and has identified the potential for $11m in renewal works that may be required over the next 10 years.

5.0 Funding of the Capital Works Program:

The above capital works program will be partly funded through additional debt. Around $9m of new and replacement capital works programs will be debt funded. It is worth noting that the businesses projected constrained works reserves and depreciation reserves at the end of 10 years would add to $4m. However, debt funding in the interim period is required to ensure that the business can retain a positive cash flow.

6.0 Debt and Capital Structure:

The water component of the business has around $700k in existing debt. This results in a capital structure of around 2% at present. As the business takes on additional debt, the capital structure will exceed 19% debt. This is considered conservative and within the businesses ability to mange.

[3] KBR, "Water Supply Planning Report", March 2005

7.0 Interest Revenue:

The model assumes that interest earned on outstanding cash balances are retained by the business. The interest rate used in the model for cash balances is 3% p.a

8.0 Taxation Equivalence:

Taxation equivalent (TER) payments are only applied in years where the business makes an operating surplus. The TER has been calculated using the following formula:

TER = Rate x (Operating Earnings including interest + Infrastructure Charges + Donated Assets – Abnormals)

This formula is consistent with one of two alternative calculation methodology used within the state. Inclusion of donated assets in the taxable income affords the opportunity for the business to claim depreciation against these assets in subsequent years. The "Rate" of taxation equivalent has been established as 30%.

9.0 Infrastructure Charges

The model assumes that the rate of development experienced in the 2003/04 year will reduce by 50% in the 2004/05 year but will then remain stable for the 10 year period modelled. This assumption is based on general perceptions that the industry in Gladstone will continue to grow over he next decade.

10.0 Donated Assets:

The model assumes that the level of assets donated by developers will reflect the decreasing rate of development discussed in item 9 above.

11.0 Cash Flow

Cash flow forecasts for the business are maintained at a consistently positive level by virtue of capital funding decisions made (specifically increasing levels of debt). Cash balances throughout the 10-year period are modest which means that this will be a challenge for management in the coming years

12.0 Rate of Return on Physical Assets

The rate of return (measured as the Operating surplus/net assets), whilst improving, remains negative for much of the next 10years. This reflects the issues of revenues not keeping pace with expenses as discussed above. However, if the business adopts the revenue and capital funding strategies suggested above, we anticipate that the business may start to make an operating surplus toward the end of the 10-year period.

13.0 Dividend Payment

Whilst the model includes provision for the business to pay a dividend, the model assumes that the business will not pay a dividend to Council. Funds generated by the business will be used to maintain a positive forecast cashflow.

14.0 Private Works

Private Work's activities include a range of services undertaken on behalf of local businesses or members of the community. These activities are generally undertaken on a "cost plus" basis. It is difficult to predict the scope of these works in successive years. The assumption underpinning the model is that the revenue/expenses for Private Works within the 2003/04 year will be broadly representative of what will occur in later years.

15.0 **Asset Values:**

The model assumes that a revaluation of the businesses assets will be undertaken in the 2004/05 year and that the resultant increase in the value of the asset base (and corresponding depreciation charge) is consistent with increases in the Building Price Indicator since the last valuation was undertaken (1999).

APPENDIX A.2 – Wastewater

Financial Model Forecasts

Gladstone City Council - Sewerage Services

Profit and Loss (Operating) Statement

Return to Start

	Year	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
Operating Revenues Expenses	**REVENUE**											
	Water/Sewer Rates and Charges	$ 3,662,782	$ 3,929,375	$ 4,011,692	$ 4,196,546	$ 4,393,883	$ 4,620,739	$ 4,806,466	$ 5,109,712	$ 5,237,455	$ 5,368,391	$ 5,502,601
	Income from other commercial services	$ 96,414	$ 96,414	$ 96,414	$ 96,414	$ 96,414	$ 96,414	$ 96,414	$ 96,414	$ 96,414	$ 96,414	$ 96,414
	Interest Revenue	$ -	$ 36,675	$ 77,684	$ 84,069	$ 64,966	$ 61,751	$ 49,695	$ 27,201	$ 11,968	$ 170	$ 18,632
	Community Service Obligations	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Capital Grants and Subsidies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Other Revenue	$ 465,562	$ 465,562	$ 465,562	$ 465,562	$ 465,562	$ 465,562	$ 465,562	$ 465,562	$ 465,562	$ 465,562	$ 465,562
	Total Operating Revenue	$ 4,444,758	$ 4,530,226	$ 4,651,353	$ 4,844,591	$ 5,020,825	$ 5,244,466	$ 5,518,157	$ 5,698,889	$ 5,811,419	$ 5,930,538	$ 6,083,209
	EXPENDITURE											
	Operations Expense	$ 1,989,087	$ 2,008,978	$ 2,029,068	$ 2,049,358	$ 2,069,852	$ 2,090,550	$ 2,111,456	$ 2,132,570	$ 2,153,896	$ 2,175,435	$ 2,197,190
	Maintenance Cost	incl above		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Management and Administration	$ 519,260	$ 524,443	$ 529,687	$ 534,984	$ 540,334	$ 545,737	$ 551,194	$ 556,706	$ 562,273	$ 567,896	$ 573,575
	Depreciation	$ 1,361,031	$ 1,795,340	$ 1,801,007	$ 1,824,307	$ 1,855,064	$ 1,864,078	$ 1,926,676	$ 1,949,764	$ 2,059,207	$ 2,080,790	$ 2,080,790
	Other operating expenses (QAWB Charges)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Operating Expenditure	$ 3,869,378	$ 4,328,761	$ 4,359,762	$ 4,408,649	$ 4,465,250	$ 4,500,366	$ 4,589,329	$ 4,639,061	$ 4,775,377	$ 4,824,121	$ 4,851,554
	EBIT (Excl Capital adj)	$555,380	$201,466	$291,801	$435,942	$555,575	$744,100	$928,828	$1,059,828	$1,036,043	$1,106,417	$1,231,655
	Interest Expense	$ 586,476	$ 588,910	$ 574,855	$ 559,789	$ 543,638	$ 526,324	$ 507,763	$ 720,966	$ 719,830	$ 691,515	$ 661,062
	Net Operating Profit (Loss)	-$31,096	-$387,444	-$283,054	-$123,847	$11,937	$217,777	$421,065	$338,863	$316,212	$414,902	$570,593
Abnormal (Capital) Adjustments	**ABNORMAL/CAPITAL RELATED REVENUE**											
	Capital Grants and Subsidies	$ -	$ -	$ 216,000	$ -	$ -	$ 816,000	$ -	$ 1,460,000	$ -	$ -	$ -
	Developer Contributions (Infrastructure charges)	$ 596,597	$ 298,299	$ 298,299	$ 298,299	$ 298,299	$ 298,299	$ 298,299	$ 298,299	$ 298,299	$ 298,299	$ 298,299
	Donated assets	$ 881,305	$ 440,653	$ 440,653	$ 440,653	$ 440,653	$ 440,653	$ 440,653	$ 440,653	$ 440,653	$ 440,653	$ 440,653
	Funds from Disposal of Non current assets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Abnormal/Capital related Revenue	$ 1,477,902	$ 738,951	$ 956,951	$ 738,951	$ 738,951	$ 1,556,951	$ 738,951	$ 2,218,951	$ 738,951	$ 738,951	$ 738,951
	ABNORMAL/CAPITAL RELATED EXPENSE											
	Abnormal and Extraordinary Items	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Abnormal/Capital Related Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
PROFIT	**Total Operating Profit (EBIT + Inf Charges)**	$ 1,151,967	$ 499,764	$ 590,100	$ 734,240	$ 853,873	$ 1,042,399	$ 1,227,126	$ 1,358,127	$ 1,334,341	$ 1,404,715	$ 1,529,953
	Taxable Income(excl abnormals)	-$ 31,096	-$ 387,444	-$ 283,054	-$ 123,847	$ 11,937	$ 217,777	$ 421,065	$ 338,863	$ 316,212	$ 414,902	$ 570,593
	Income Tax Payable	$ -	$ -	$ -	$ -	$ 3,581	$ 65,333	$ 126,319	$ 101,659	$ 94,864	$ 124,471	$ 171,178
	Operating Profit (After Tax, before abnormals)	-$ 31,096	-$ 387,444	-$ 283,054	-$ 123,847	$ 8,356	$ 152,444	$ 294,745	$ 237,204	$ 221,349	$ 290,431	$ 399,415
	Profit (Loss) after tax and incl. abnormals	$ 1,446,816	$ 351,507	$ 673,897	$ 615,104	$ 747,307	$ 1,709,395	$ 1,033,696	$ 2,456,155	$ 960,300	$ 1,029,382	$ 1,138,366
	Distributed Profit (Dividend Paid from Operating Profit)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Return to Start

Cash Flow

Gladstone City Council - Sewerage Services
Cashflow Statement

Year		2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
Opening Balance		**$504,325**	**$2,087,314**	**$3,092,308**	**$2,512,304**	**$1,818,740**	**$2,297,986**	**$1,015,020**	**$798,395**	**$811**	**$10,535**	**$1,231,608**
Operating Revenue												
	Water/Sewer Rates and Charges	$3,882,782	$3,929,375	$4,011,892	$4,198,546	$4,393,883	$4,620,739	$4,906,486	$5,109,712	$5,237,455	$5,368,391	$5,502,601
	Income from other commercial sources	$96,414	$96,414	$96,414	$96,414	$96,414	$96,414	$96,414	$96,414	$96,414	$96,414	$96,414
	Interest Revenue	$0	$38,875	$77,694	$84,069	$64,966	$81,751	$49,895	$27,201	$11,988	$170	$18,632
	Community Service Obligations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Non-Capital Grants and Subsidies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Other Revenue	$465,562	$465,562	$465,562	$465,562	$465,562	$465,562	$465,562	$465,562	$465,562	$465,562	$465,562
	Total Operating Revenue	$4,444,758	$4,530,226	$4,651,563	$4,844,591	$5,020,825	$5,244,466	$5,518,157	$5,698,889	$5,811,419	$5,930,538	$6,083,209
Operating Expenses:												
	Operations Expense	$1,989,087	$2,008,978	$2,029,068	$2,049,358	$2,069,852	$2,090,560	$2,111,456	$2,132,570	$2,153,896	$2,175,435	$2,197,190
	Maintenance Cost	incl above	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Management and Administration	$519,250	$524,443	$529,687	$534,984	$540,334	$545,737	$551,194	$556,706	$562,273	$567,896	$573,575
	Interest Expense (Loans)	$586,476	$588,910	$574,855	$559,789	$543,638	$526,324	$507,763	$720,956	$719,830	$691,515	$661,052
	Other operating expense	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Income Tax Paid	$0	$0	$0	$0	$3,581	$65,333	$126,319	$101,659	$94,864	$124,471	$171,178
	Dividend Paid	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Total Operating Cost	$3,094,813	$3,122,330	$3,133,610	$3,144,131	$3,157,404	$3,227,944	$3,296,733	$3,511,902	$3,530,863	$3,559,316	$3,603,005
	Operating Cash Surplus/Deficiency	$1,349,946	$1,407,896	$1,517,953	$1,700,460	$1,863,420	$2,016,522	$2,221,424	$2,186,988	$2,280,556	$2,371,221	$2,480,205
Capital Revenue:												
	Developer Contributions (Infrastructure Charges)	$596,597	$298,299	$298,299	$298,299	$298,299	$298,299	$298,299	$298,299	$298,299	$298,299	$298,299
	Funds from Disposal of Non Current Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Loans for Capital Expenditure	$0	$0	$0	$0	$0	$0	$0	$2,590,000	$275,000	$0	$0
	Capital Subsidies/Grants	$0	$0	$218,000	$0	$0	$818,000	$0	$1,480,000	$0	$0	$0
	Total Capital Revenue	$596,597	$298,299	$516,299	$298,299	$298,299	$1,116,299	$298,299	$4,368,299	$573,299	$298,299	$298,299
Capital Expenses												
	New Capital Works Expenditure	$0	$170,000	$1,373,000	$1,555,000	$523,000	$3,232,000	$1,507,000	$6,024,000	$1,454,000	$0	$0
	Replacement Capital Works Expenditure	$0	$336,000	$1,032,000	$913,000	$919,000	$926,000	$963,000	$982,000	$1,012,000	$1,042,000	$1,042,000
	Redemption on Loans	$363,553	$195,201	$209,255	$224,322	$240,473	$257,787	$276,347	$346,870	$378,131	$406,446	$436,899
	Total Capital Expense	$363,553	$701,201	$2,614,255	$2,692,322	$1,682,473	$4,415,787	$2,736,347	$7,352,870	$2,844,131	$1,448,446	$1,478,899
	Cash Movement in year	$1,582,989	$1,004,994	-$680,004	-$693,563	$479,246	-$1,282,965	-$216,625	-$797,583	$9,723	$1,221,073	$1,299,604
Closing Balance		**$2,087,314**	**$3,092,308**	**$2,512,304**	**$1,818,740**	**$2,297,986**	**$1,015,020**	**$798,395**	**$811**	**$10,535**	**$1,231,608**	**$2,531,212**

Gladstone City Council - Sewerage Services

Balance Sheet

Return to Start

Year	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
Current Assets											
Cash & investments	$2,087,314	$3,092,308	$2,512,304	$1,818,740	$2,297,986	$1,015,020	$798,395	$811	$10,535	$1,231,608	$2,531,212
Non-Current Assets											
Non-current assets at current replacement cost	$ 72,330,369	$ 94,823,328	$ 96,636,980	$ 98,632,633	$ 99,596,285	$103,268,938	$ 105,216,590	$ 111,681,243	$ 113,575,895	$ 114,016,548	$ 114,457,200
Accumulated depreciation	$ 26,283,959	$ 36,066,289	$ 36,835,296	$ 37,746,603	$ 38,682,667	$ 39,620,746	$ 40,594,424	$ 41,562,208	$ 42,609,415	$ 43,648,205	$ 44,686,995
Net book value	$ 46,046,410	$ 58,757,039	$ 59,801,684	$ 60,886,030	$ 60,913,618	$ 63,648,192	$ 64,622,167	$ 70,119,035	$ 70,966,480	$ 70,368,343	$ 69,770,206
TOTAL ASSETS	$ 48,133,724	$ 61,849,347	$ 62,313,988	$ 62,704,770	$ 63,211,605	$ 64,663,212	$ 65,420,561	$ 70,119,846	$ 70,977,015	$ 71,599,951	$ 72,301,418
Non-Current Liabilities											
Long Term Loans	$ 8,179,301	$ 7,984,100	$ 7,774,845	$ 7,550,523	$ 7,310,051	$ 7,052,264	$ 6,775,916	$ 9,019,047	$ 8,915,916	$ 8,509,469	$ 8,072,570
TOTAL LIABILITIES	$ 8,179,301	$ 7,984,100	$ 7,774,845	$ 7,550,523	$ 7,310,051	$ 7,052,264	$ 6,775,916	$ 9,019,047	$ 8,915,916	$ 8,509,469	$ 8,072,570
Net Assets	$ 39,954,423	$ 53,865,246	$ 54,539,143	$ 55,154,247	$ 55,901,554	$ 57,610,949	$ 58,644,645	$ 61,100,800	$ 62,061,100	$ 63,090,482	$ 64,228,848
Shareholder Equity:											
Capital account	$ 38,860,673	$ 53,030,642	$ 54,844,294	$ 56,839,947	$ 57,803,599	$ 61,476,252	$ 63,423,904	$ 67,298,557	$ 68,918,209	$ 69,358,862	$ 69,799,514
Constrained Works Reserve	$1,124,836	$1,253,135	$396,433	-$360,268	-$61,970	$236,329	-$972,373	-$674,074	-$375,776	-$77,477	$220,821
Other reserves	-$31,086	-$418,530	-$701,585	-$1,325,432	-$1,840,076	-$4,101,632	-$3,806,887	-$5,523,683	-$6,481,334	-$6,190,903	-$5,791,488
TOTAL EQUITY	$ 39,954,423	$ 53,865,246	$ 54,539,143	$ 55,154,247	$ 55,901,554	$ 57,610,949	$ 58,644,645	$ 61,100,800	$ 62,061,100	$ 63,090,482	$ 64,228,848

Assumptions Underpinning the Financial Modelling (Wastewater)

Notes to Financial Model

1.1 Basic Inputs:

In general, the 2003/04 financial accounts have been used as the base data for the analysis. In accordance with requirements of the Local Government Finance Standard, the Appropriation Statement is balanced to zero.

16.0 Revenue Growth:

The model assumes that the business will increase its wastewater charges by CPI plus 2.5% in each of the following years – 06/07, 07/08 and will increase by 3% in 08/09. The financial forecasts produced by the modelling suggest that the wastewater rates may need to increase at a similar rate for several years thereafter. However, these increases are seen as modest. In contrast to the water business, the increases suggested for the wastewater component of the business are designed to ensure that the business produces a positive operating surplus in future years.

These increases are in addition to growth in total revenue that will result from increases in the overall population of the Shire. This growth is assumed to occur at a compound rate of around 2.2-2.4% per annum over the next 10 years.

17.0 Operating Expenses:

The model assumes that operating expenses will increase at around CPI plus 1%. This assumption reflects historical data, which indicate that maintenance and building prices generally increase at a faster rate than CPI.

18.0 Scope of the Capital Works Program:

The business has undertaken a comprehensive review of its Wastewater Treatment and Transportation Network[4]. This review clearly outlines the scope of future capital works required to meet the growing needs of the City and maintain nominated service standards to existing customers. The scope of future capital works required in the next 10 years is a significant sum ($15m).

In addition, the business has undertaken a broad assessment of its asset renewal liabilities and has identified the potential for a further $9.8m in renewal works that may be required over the next 10 years.

19.0 Funding of the Capital Works Program:

Whilst the wastewater business appears to be in a stronger financial position than the water component of the business, the business nevertheless needs to partly fund the above capital works program through debt. Around $3m of the new capital works programs will be debt funded.

20.0 Debt and Capital Structure:

The wastewater component of the business has around $8m in existing debt. This results in a capital structure of around 20% at present. The capital structure will reduce to around 15% debt over the next 10 years. This level of debt is considered manageable given that the wastewater component of the business is in a stronger financial position.

21.0 Interest Revenue:

The model assumes that interest earned on outstanding cash balances are retained by the business. The interest rate used in the model for cash balances is 3% p.a

[4] KBR, "Waste water Planning Report", March 2005

22.0 Taxation Equivalence:

Taxation equivalent payments have been calculated using the following formula:

TER = Rate x (Operating Earnings including interest + Infrastructure Charges + Donated Assets – Abnormals)

This formula is consistent with one of two alternative calculation methodology used within the state. Inclusion of donated assets in the taxable income affords the opportunity for the business to claim depreciation against these assets in subsequent years.

The "Rate" of taxation equivalent has been established as 30%.

23.0 Infrastructure Charges

The model assumes that the rate of development experienced in the 2003/04 year will reduce by 50% in the 2004/05 year but will then remain stable for the 10 year period modelled. This assumption is based on general perceptions that the industry in Gladstone will continue to grow over he next decade.

24.0 Donated Assets:

The model assumes that the level of assets donated by developers will reflect the decreasing rate of development discussed in item 23 above.

25.0 Cash Flow

Cash flow forecasts for the business are maintained at a consistently positive level by virtue of capital funding decisions made (specifically increasing levels of debt). Cash balances start to build at toward the end of the 10-year period and these additional funds could be used to pay down debt at this time.

26.0 Rate of Return on Physical Assets

The rate of return (measured as the Operating surplus/total net assets), is a relatively modest 1-3%. This is consistent with the COAG objective of attaining a positive real rate of return on funds invested.

27.0 Dividend Payment

Whilst the model includes provision for the business to pay a dividend, the model assumes that the business will not pay a dividend to Council. Funds generated by the business will be used to maintain a positive forecast cashflow.

28.0 Private Works

Private Work's activities include a range of services undertaken on behalf of local businesses or members of the community. These activities are generally undertaken on a "cost plus" basis. It is difficult to predict the scope of these works in successive years. The assumption underpinning the model is that the revenue/expenses for Private Works within the 2003/04 year will be broadly representative of what will occur in later year.

29.0 Asset Values:

The model assumes that a revaluation of the businesses assets will be undertaken in the 2004/05 year and that the resultant increase in the value of the asset base (and corresponding depreciation charge) will be consistent with increases in the Building Price Indicator since the last valuation was undertaken (1999).

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

WATER LOSS AND DEMAND MANAGEMENT PLAN

KRA – Asset Management

TABLE OF CONTENTS

APPENDICES

1.0 PURPOSE OF PLAN

The purpose of this plan is to provide an overview of:

- how Council currently manages demand;
- future initiatives in demand management and water conservation generally; and
- detection and control of leaks in the business water supply system

In addition, this plan has been designed to meet the Councils obligations within Section 43 of the Environmental Protection (Water) Policy 1997 for the preparation of an environmental plan for water conservation.

2.0 EXTERNAL INFLUENCES:

Councils Demand Management Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description
Key relevant statutory provisions	• Under the Environmental Protection (Water) Policy 1997, local governments operating a water supply system must develop and implement an environmental plan (such as a TMP sub-plan) about water conservation which considers alternative pricing policies and related measures. • Chapter 10 of the Local Government Act requires local governments undertaking significant business activities (as defined) to consider applying a 2 part water tariff if found to be cost-effective. • A local government Water Service Provider instituting a 2-part tariff and consumption-based charging is consequently obliged to implement universal metering. • Changes to the Water Act require medium to large water service providers to develop a Leakage Management Plan by October 2007.
Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject to an approved TMP including Demand Management Plan.
Government policy	• NR&M promotes demand management via community education under the Water Wise program. • The recent Council of Australian Governments (COAG's) National Water Initiative seeks improved integration of urban water services to reduce demand for water. • TMP guidelines encourage affected Water Service Providers to implement appropriate demand management practices/strategies.
Community perceptions/ aspirations	• Pay-for-use water charging and Water Wise initiatives have changed community perceptions of the value of water. Queensland consumers are now more cognisant of the benefits of conserving water.
Industry practice/trends	• There has been a consistent trend towards universal water metering by Queensland Water Service Providers. More than 90% of Queensland urban water consumers are now metered. • In several instances, the introduction of consumption-based charging has resulted in significant demand reductions and deferral of some capital works. • Future efforts on reducing demand are likely to focus increasingly on outdoor use.

3.0 CURRENT STATUS

3.1 Overview:

The business has implemented a range of water demand managment practices including:

- Implementation of a two-part tariff structure with 3 tiers of volumetric charging (introduced in July 2002)
- Participation in the NRMs "Water wise" program. This includes:
    - Pricing school education program
    - Water wise school poster competition
    - Workshop for secondary school teachers
    - Information evening for Headmasters and business
    - Information evening for plumbers

Importantly, traditional demand management practices are focussed in residential demand. However, in case, demand by commercial/industrial consumer is considerable. The business has successfully implemented beneficial wastewater reuse as a means of reducing potable water demand.

3.2 Water Quality Objectives:

The principal source of water supply is from the Awoonga Dam on the Boyne River. The dam has an estimated total capacity of 77,000 ML (to FSL) with an annual safe yield of 78,000ML. Water is transferred from the dam by the Awoonga Dam Pump Station, which has a capacity to deliver up to 2800l/s.

Water used by Gladstone City Council is treated to potable standards at the Gladstone Water Treatment Plant (WTP). The treatment plant consists of two independently operating plants and includes a Dissolved Air Flotation (DAF) plant and a settlement filter plant. The treatment process uses alum dosing, dual media filtration, disinfection by sodium hypochlorite and pH correction using soda ash. The WTP is owned and controlled by GAWB but operated and maintained under contract by the Gladstone City Council.

Water Quality objectives for potable water provided to customers are summarised in Table 3.1

Table 3.1 Water Quality Objectives

Performance Indicators	Target
Adequacy and quality of normal supply	
Compliance with NHMRC Guidelines for water supplied from Gladstone Water Treatment Plant - microbiological - pH 6.5 – 8.5 - Iron 0.3mg/L - colour 5 HU - turbidity 1 NTU Manganese 0.1mg/L Aluminium 0.2mg/L	 95% 95% 95% 95% 95% 95% 95%
Number of drinking water quality complaints per 1000 rateable properties per year	5
Number of drinking water quality incidents per year	5

A more complete overview of Water Quality is provided in the Water Source and Drinking Water Quality sub plan.

Residential Service Standards have been developed by the business, which includes specific targets for flow (24L/min at the boundary) and targeted rate of water system losses of 140 litres per rateable property. In addition, the business has also developed criteria for the design of the water supply network on the basis that average day demand ranges from 1200 to 1400L/ET/day with pressures maintained in the range of 22 – 80m[1] in most cases.

Targeted Fire fighting requirements for commercial areas are for supply of 30L/s with the residual pressure in the system not falling below 12m at maximum hour. Comparable fire flow in residential areas is 15L/s with the residual pressure in the system not falling blow 12m at maximum hour.

3.3 System Losses:

System losses (which result primarily through leakage and theft) can account for a substantial proportion of the water delivered to urban schemes. The Gladstone City Council's water business has been monitoring its water losses and intends to develop a leakage management strategy. Given the relatively young age of the infrastructure, current levels of system losses are considered acceptable.

3.4 Water Charging

As mentioned above, the business has developed and applied a 2 part tariff (i.e. incorporating both an access and volumetric component) with the volumetric component of the tariff structured into the following three 'tiers";

- $0.60/kl for the first 400kL per annum;
- $0.90/kl for 401-1000kL per annum;
- $1.20 for annual consumption in excess of 1000kL

As outlined in the Financial Management Plan, the tariff is likely to be increased further in the 2006/07 years. The structure and quantum of the tariff provides support to the Councils broader demand management strategies.

1 The minimum allowable pressure of 16m is designed for small, isolated and/or highly elevated areas. In general, the business will try and achieve the standard 22m head at max hour.

3.5 Effluent Reuse:

Beneficial reuse of wastewater can reduce the demand for potable water supplies. Gladstone City Council has established long-term contracts for beneficial reuse with Queensland Alumina and NRGs Gladstone Power Plant. Under these agreements, the business intends to maintain its current performance of 100% beneficial reuse. Refer to the Effluent Reuse Management Plan for further detail.

3.6 Use of Rainwater Tanks:

The industry is divided on the advantages and disadvantages of rainwater tanks as a water conservation strategy. At this point in time, Council has no formal policy on the issue. However, Council does allow rainwater tanks on properties connected to town water.

3.7 Proposed Strategies:

As part of the recent review of water management practices (undertaken by KBR), the business has begun to develop further, more advanced strategies for management of potable water demand. This includes the following initiatives:

- **Development of a Pressure Reduction/Leak detection Strategy**
  At present, losses in the water business amount to around 15% of total water provided. This level is broadly comparable with similar businesses. However, Gladstone intends to focus more on pressure management and leak detection to increase the volume of saleable water.

- **Further Development of the Demand Management Strategy:**
  Further development of the demand management strategy will include the following initiatives:
  - more targeted community awareness campaigns
  - Water audits of Council facilities and application of charges to parks, gardens and other parts of Council;
  - Undertake a review of the standpipe hire arrangements (including a possible reduction in the numbers of businesses eligible for standpipe permits).
  - Review of local laws relating to dump and flush urinals
  - Review of Council's development design guidelines to incorporate mandatory 6/3 litre dual flush toilets in new and replacement installations, and infra red water savers installed in public toilet urinals

- **Development of a Regional Drought Response Plan:**
  Development of a Regional Drought Management Plan (in consultation with both Gladstone Area Water Board and Calliope Shire Council) will also be a feature of the business's commitment toward demand management (Also refer to the Water Source and Drinking Water Quality Management Plan).

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key Water Loss and Demand Management challenges facing the business are:

- To ensure that the water usage of the business remains sustainable (i.e. can meet future demand requirements from both commercial and domestic users);
- To increase awareness of the issues within the community
- To ensure that the business is well positioned to manage an extended period of drought.

4.2 Future Direction and Business Improvement Opportunities

The immediate focus of the business will be to:

- Develop and undertake a pressure reduction/leak detection strategy;
- Further develop the Demand Management Strategy;
- Participate in the development of a Regional Drought Response Plan (undertaken as part of the Water Source and Drinking Water Quality Management Plan); and;
- Review and further develop a tariff structure, which supports the Demand Management initiatives.

5.0 STRATEGIC BASIS OF PLAN

Key Result Area:	Asset Management
Objective:	To manage water infrastructure to meet agreed customer service standards.

Management Strategy	*Performance Targets*
• Effectively manage water consumption; • Defer the need for augmentation works.	• Develop pressure reduction and leakage detection strategy by June 2007; • Implement pressure reduction strategy by June 08 • Develop and implement water education program for schools. • Investigate and report to Council on feasibility of rainwater tanks by Dec 08.

Action Plan

Outcomes:

- Reduced system losses and lower peaking factors;
- Reduced levels of consumption;
- Improved financial performance through deferment of infrastructure investment and reduced operational costs; and
- Greater awareness by consumers of the financial and environmental value of water.

Accountable Officer: Manager, Water Services

Action	Target Date	Responsibility
1. Development of a Pressure Reduction/Leak Detection Strategy:		
• Undertake a pressure reduction and leak detection strategy for the business.	June 07	Manager, Water Services
• Implement outcomes of the pressure reduction and leak detection strategy	June 08	
• Review the success of the strategy and modify	June 09	
2. Further Development of the Demand Management Strategy:		
• Develop and implement water education program for schools.		Water Engineer
• Develop, Review and update the Demand Management Business Plan including: evaluate need for customer awareness survey more targeted community awareness campaigns; Assess need for water audits of Council facilities;	Ongoing Ongoing	Water Engineer
• Review standpipe hire arrangements (including possible reduction in the	March 06	Manager Water Services

numbers of businesses eligible for standpipe permits). • Investigate locations for Bulk Water delivery stations • Install Bulk Water delivery stations • Review/Update Council design guidelines to accommodate water sensitive fittings	June 06 June 07 June 07	Operations Coordinator Operations Coordinator Water Engineer
3. Develop a Regional Drought response Plan: • Work with GAWB and Calliope to develop a regional Drought Reponses Plan including agreed program and scope of restrictions. **4. Undertake a review of the existing water tariff structure** **5. Rainwater Tanks** • Investigate and report to Council on feasibility and options for installations of rainwater tanks	*Refer Water Source and Drinking Water Quality Management Plan* *Refer Financial Management Plan* Dec 08	Manager, Water

Required Budget

Item	05/06	06/07	07/08	Ongoing
Develop Pressure Reduction/Leakage Strategy		$80,000	$40,000	
Further Development of Demand Management Strategy	(*)	(*)	(*)	
Develop a Regional Drought Response Plan	Refer to the Water Source and Drinking Water Quality Plan			
Undertake a review of existing water tariff structure	Refer to Financial Management Plan			
Bulk Water Delivery Stations	(*)	$70,000		
Undertake a review of Rainwater Tanks	$0	$0	(*)	

Footnotes: (*) Costs are incorporated into existing annual budgeting processes

APPENDIX A
SUPPORTING DOCUMENTS

Title	Date	By Whom

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

INFRASTRUCTURE PLANNING AND ASSET PROCUREMENT

KRA – Asset Management

TABLE OF CONTENTS

APPENDICES

1.0 PURPOSE OF PLAN

The purpose of this plan is to:

- provide an overview of the businesses current status in development of long term infrastructure planning and procurement to accommodate growth and ensure continuity of service provision;
- outline issues that are required to be addressed in the planning and procurement process (including capital works requirements to cater for future population growth); and
- Outline future infrastructure planning and procurement challenges and initiatives.

2.0 EXTERNAL INFLUENCES

Councils Infrastructure Planning and Procurement Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description
Key relevant statutory provisions	• The Integrated Planning Act (IPA) requires a local government to develop detailed Plans for Trunk Infrastructure (PFTI) as a key document supporting implementation of infrastructure charges under the provisions of Chapter 5 of the Act. This requires a rigorous approach to the planning of the Local Governments trunk infrastructure. • The Water Act requires proposed infrastructure for ensuring continuity of services, as well as an infrastructure renewals strategy, to be defined in an approved Strategic Asset Management Plan for each registered service.
Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject to an approved TMP including approved planning reports. • Up to 50% subsidy is available for effluent reuse schemes.
Government policy	• TMP guidelines encourage affected Water Service Provider's to maintain current 10 year capital works programs for water supply and wastewater services, as applicable.
Community perceptions/ aspirations	• Developers subject to infrastructure charges may expect greater certainty in the scope and timing of infrastructure provision by local government, following implementation of the charges provisions of the integrated Planing Act. • The community generally expects its service providers to procure assets in as cost effective manner as possible

Industry practice/trends	• The trend towards commercialised provision of water services and financial returns on capital investment has highlighted the need to optimise:
	  • The utilisation of existing infrastructure;
	  • The scope, timing and cost-effectiveness of future infrastructure investment; and
	  • The evaluation and prioritisation of competing projects
	• Increasing emphasis is being placed on regional considerations in planning infrastructure.
	• Less reliance is being placed on guideline design parameters, in favour of operationally-based ones.
	• More consideration is being given to non-asset solutions (eg demand management, inflow/infiltration management) in meeting growth pressures.
	• There is an increasing trend in the industry in favour of the use of alliancing or other relationship based contracts for project delivery.

3.0 CURRENT STATUS

3.1 Current Approach

The business has just completed an extensive review of its water and wastewater infrastructure planning and developed an up-to-date network analysis model for both systems. The objectives of these reviews (and associated reports[1]) are to:

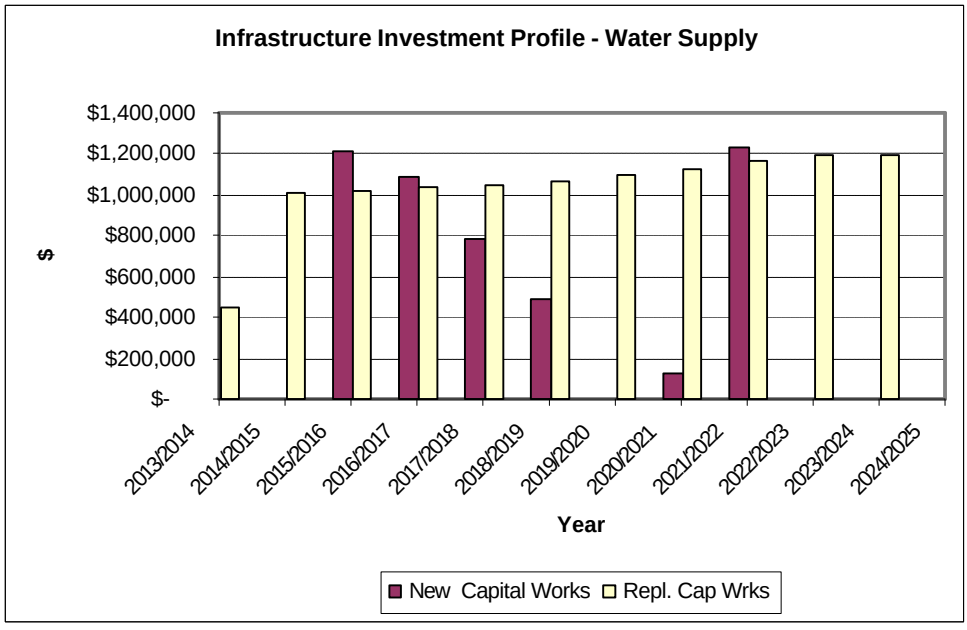
- Identify any existing problem areas in which nominated service standards are not being achieved;
- Ensure that the business can effectively plan for the future development of the City in accordance with local and State Government Planning requirements; and
- Identify current constraints to development which limit the potential capacity of the area to accommodate the growth of the city.

Key outcomes from the review are summarised below:

Water Supply report[1]:

- A total of $12m in proposed capital works has been identified as required by the business to ensure that service standards are maintained and growth accommodated in the area;
- The report has identified the need for detailed investigation into an appropriate site for the second South Gladstone Reservoir (including preliminary geotechnical investigation and preliminary survey);
- The report indicated the need to rezone various areas in Gladstone to assist with operational strategies;
- Fire flow is an issue in some areas.

The proposed 10 year capital works program for Water Supply Infrastructure is summarised in the Financial Model and can be illustrated in the following figure:

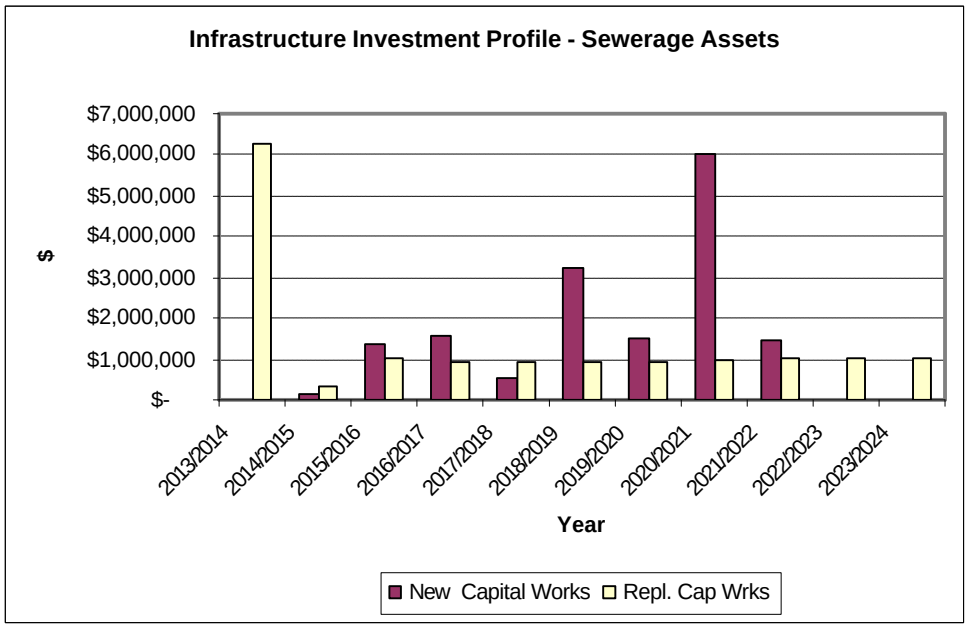


1 KBR, "Water and Wastewater Planning Studies -2030" 17th December 2004 (Water); 20th December 2004 (Wastewater)

Wastewater Report[2]

- A total of $33m in proposed capital works has been identified as required by the business to ensure that service standards are maintained and growth accommodated in the area;
- Further review of dry weather and peak flow is required to fully calibrate the network analysis model;
- The report has highlighted the need for the business to identify all existing wastewater overflow points;
- The report has identified the need for the business to develop a Trade Waste Management plan to meet its obligations under the Environmental Protection (Water) Policy (refer separate Trade Water Management Plan);
- Continue to examine opportunities for beneficial reuse of wastewater.

The proposed 10 year capital works program for Sewerage Infrastructure is summarised in the Financial Model and can be illustrated in the following figure:



These reports ensure that the businesses infrastructure planning is up to date. This provides the necessary foundation for the business to further develop its infrastructure management strategies

3.2 Liaison with Councils Planning Department

Councils Planning and Development group are responsible for management and acceptance of reticulation assets which are provided by developers as part of the cost of developing new lots within the City. Historically, the business has had problems with the standard of works donated to Council. To address this problem, the business is developing design guidelines for water and wastewater assets. Upon completion, these guidelines will be provided to Councils Development Application group as a checklist for donated water services assets.

3.3 Overview of the Asset Procurement Process:

The Councils procurement process varies depending on the size and complexity of the project. For large or highly technical projects, the water service business typically undertakes the development of a business case which considers a range of issues including risk, impact on service standards, system capacity and trigger points (i.e. can the procurement be delayed), environmental implications and funding options. These reports are typically undertaken by industry experts (eg consulting engineers)

and the outcome of the assessment is summarised in a report to Council for approval of the expenditure. At this stage, the business does not foresee the need for alternative project delivery methodologies (eg DBO, BOO(T) etc) to be used in the implementation of the capital work program.

The asset procurement process for smaller projects is less formalised. These projects are typically identified in the businesses Annual Operations Plan and management provides a report to Council at the appropriate time, requesting formal approval of the nominated expenditure.

At present, the Council does not have a formalised asset procurement process in place however, all procurement is undertaken in accordance with the provisions of Councils Procurement policy and relevant financial policies (specifically the debt policy).

Outcomes of the asset procurement effort (specifically asset handover and “as constructed” information) is managed at all stages by the Councils Water Services business. Systems are in place to ensure that the businesses information is up to date and acquisition processes for donated assets ensure that the business obtains assets of an appropriate standard.

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key challenges facing the business are:

- To build on the foundation provided by the completion of the comprehensive infrastructure planning reports and associated network models. These documents will be a cornerstone for the business in development of a range of network improvement strategies
- Ensure that planning remains up to date (and reflects potential future changes in industry or residential development);
- Ensure that the business meets its obligations under the Integrated Planning Act (IPA) in the development of a Priority Infrastructure Plan and Infrastructure Charges Schedules which encompass the water and wastewater networks.
- Develop a standardised outline of the procurement processes for both large/complex projects and simple/routine works.

4.2 Future Direction and Business Improvement Opportunities

The Councils business's immediate focus will be to:

- Upgrade the SCADA software as the first step in further calibrating the wastewater network modelling. Flow monitoring of key individual catchments may be undertaken once the results form the SCADA upgrade are assessed;
- Identify opportunities for subsidy funding and apply to NRM/DLGP for such funding as required;
- Maintain and progressively update the capital works program developed for the business;
- Ensure that the Councils Planning and Development group understand the standards required by the business for donated assets; and
- Use the reports (and associated capital works program) in the development of the Councils Priority Infrastructure Plan and Infrastructure Charges Schedules.

5.0 STRATEGIC BASIS OF PLAN

Key result area: Asset Management **Objective:** To met the cities growth projections and optimise the long-term investment in its water and wastewater infrastructure.	
Management Strategy	*Performance Targets*
Maintain and enhance the businesses infrastructure planning process	• Upgrade the SCADA software as the first step in calibrating the Wastewater network model by Sept 05; • Undertake initial calibration of the wastewater network model by Dec 05 • Identify the need for further flow monitoring of specific catchments by June 06 • Manage the Capital Works program • Develop design guidelines by Dec 05 • Update Councils headwork Charges Planning Scheme Policy by Dec 05 • Develop IPA compliant charging regime by March 06.

Action Plan

Outcomes:

- An accurate SCADA system;
- Effective water and wastewater network models;
- A cost-effective infrastructure investment program
- Robust Infrastructure Charges Schedules;
- Lifecycle costs minimised;
- Lower costs to customers; and
- Continued achievement of service standards.

;

Accountable Manager : Manager, Water Services

Action	Target Date	Responsibility
1.0 Calibrate Wastewater Model:		
• Upgrade the wastewater SCADA software to provide more accurate flow data	July 05	Manager, Water Services
• Use the updated SCADA data to undertake a preliminary calibration of the wastewater model. Use the calibrated model to identify (or confirm) deficiencies in the network both under current loading and projected demand.	Dec 05	Manager, Water Services
• Identify key catchments and undertake flow monitoring (as required) over an extended period of time. Use the results of the modelling to further refine the wastewater network model;	June 06	Manager, Water Services
• Develop appropriate responses (including non asset solutions) to the		

issues identified.	Dec 06	Manager, Water Services
2.0 Ongoing Modelling (Water and Wastewater): • Maintain/enhance population and demand forecasting model and review impact of growth, demand, on infrastructure networks.	Ongoing	Manager, Water Services
3.0 Manage/update capital works program: • Review recommendations from forward planning and draft 10-year program of works and estimates. • Submit draft program to Council. • Adopt 10-year capital works plan. • Submit to DNR/DCILGP for subsidy approvals.	Feb annually Mar annually May annually May annually	Manager, Water Services Manager, Water Services Manager, Water Services Manager, Water Services
4.0 Develop Design Guidelines: • Develop design guidelines for water supply assets • Develop design guidelines for wastewater assets • Undertake training of Development application (DA) personnel to ensure that donated assets meet design criteria.	Sept 05 Dec 05 Dec 05	Manager, Water Services Manager, Water Services Manager, Water Services
4.0 Develop Procurement Processes • Develop process flowchart for asset acquisition of both large/complex projects and mall/routine projects. • Review/update process for selection of consultants/contractors. • Review asset acquisition procedures for DONATED assets	Dec 08 Dec 08 Dec 09	Manager, Water Services Manager, Water Services Manager, Water Services
5.0 IPA Compliant charging regime: • Use the outcomes of asset revaluation and recent planning reports to update the Councils Water and Wastewater Headwork's Planning Scheme Policy (to be developed in a manner consistent with the future PIP/ICs structure); • Provide Councils Planning group with input into Councils Priority Infrastructure Plan and Infrastructure Charges Schedule[2]. • Undertake statutory consultation on the PIP/ICS. • Finalise and implement Infrastructure Charges Schedule.	Dec 2005 March 2006 March 2007 April 07	Manager, Water Services Manager, Water Services Manager, Water Services Manager, Water Services

2 Councils Planning Scheme is forecast to be completed (i.e. fully IPA compliant) by March 2006. The integration of the PIP and ICS into the planning scheme will be undertaken as a first round amendment.

Required Budget

Item	05/06	06/07	07/08	Ongoing
Undertake Flow Monitoring	$50,000	$50,000		
Ongoing modelling (Water and Wastewater)		TBA	TBA	
Manage/Update Capital Works		(*)	(*)	
Develop Process Flowchart			(*)	
IPA Compliant Charging	$40,000			

Footnotes: (*) Costs already covered in recurrent budgeting

APPENDIX A

Supporting Documents

Title	Date	By Whom
Water Supply Planning Study	17th Dec 2004	KBR
Wastewater Planning Study	20th Dec 2004	KBR

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

ASSET EVALUATION PLAN

KRA – Asset Management

TABLE OF CONTENTS

1.0 PURPOSE OF PLAN

The purpose of the plan is to provide an overview of:

- The scope of infrastructure networks managed by Gladstone City Councils water business including its extent, location, value, condition and performance;
- Provide an overview of current and proposed asset evaluation strategies;
- Summarise actions for updating asset registers, reviewing asset values, refining useful life estimation and estimates of depreciation.

2.0 EXTERNAL INFLUENCES

The Business has to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1

Table 2.1 – Summary Operating Environment

Influence Factor	Description

Key relevant statutory provisions	• In the case of local government water service providers, the registration, revaluation and depreciation of non-current assets are regulated under the Local Government Finance Standard 1994. Nominally and for practical purposes the legislation requires:
	  • a register of non-current assets to be kept;
	  • Assets to be valued to comply with the requirements of the Queensland Local Government Standard, QLD Treasury Guidelines and relevant Accounting Standards. Assets are valued at 'fair value'. For the public sector, deprival valuation can be used as an appropriate surrogate for fair value; and
	  • Depreciation of non-current assets for financial reporting purposes to be based on their deprival value allocated over their useful lives. However, for funding asset replacements, depreciation may be estimated using other methods as appropriate, eg renewals annuity.
	• The Water Act an asset renewals strategy to be defined in a Strategic Asset Management Plan for each registered service, unless the Water Service Provider is exempted.

Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject to an approved TMP (incorporating an asset evaluation strategy)
Government policy	• TMP guidelines encourage affected Water Service Providers to develop an asset renewals strategy and take anticipated asset replacement/rehabilitation costs into account in financial planning.
Community perceptions/ aspirations	• Asset evaluation/renewal is often not recognised by the community as an issue unless or until the Water Service Provider fails to plan adequately in this regard and consequently represents a significant potential concern through service interruption or breach of service standards.
Industry practice/trends	• Many Water Service Provider's are making operational and financial provision for evaluating and reviewing their ageing assets, as the increasing frequency of failures highlights the issue. • Accurate information on asset condition and value has become an essential prerequisite to evaluating Water Service Provider performance.

3.0 CURRENT STATUS

3.1 Overview of the Existing Infrastructure Networks:

3.1.1 Water Supply:

Council's water supply operations encompass both raw and treated water supply systems.

The Gladstone Area Water Board (GAWB) owns and manages the **bulk water** infrastructure which supplies both Gladstone and Calliope Councils. However, Gladstone City Councils water business has a partnering agreement with GAWB to operate and maintain the treatment facilities.

In addition to undertaking operations and maintenance on the bulk water assets, Council owns, manages, operates and maintains all infrastructure required to provide a **reticulated potable water supply** to the city of Gladstone. The scope of water supply assets are summarised in Table 3.1 below.

Table 3.1 – Summary of Water Supply Infrastructure

Scheme Name	Gladstone City Council Water Supply
Technical Specification	
Source **G.A.W.B. Infrastructure**	Name: Awoonga Dam Capacity: 777,000 Megalitres
Treatment Plant **G.A.W.B. Infrastructure**	Process: Coagulation, Flocculation, Sedimentation, filtration, pH correction and disinfection Capacity = 694 L/S (50.4 ML/20hr day)
Reservoirs Name and Capacity Total capacity	Round Hill 13.6ML Clinton Park 13.6ML N.R.G. 13.6ML Paterson St 4.5ML Ferris Hill 9.1ML Radar Hill 2.27ML Fisher St 2.27ML = 58.94 Megalitres
Pump Stations	2.
Length of Mains	273.82 kms
Population Serviced1	28,000
Annual Water Consumption	6,044,414KL (2004/05)
Per Capita Water Consumption	215KL /per annum or 591l/p/d (2004/05)
Financial Overview	
Asset Network Current Replacement Cost ($)	$72.345m
Written Down Value	$49.753m
Accumulated Depreciation	$22.592m
Annual Depreciation (04/05)	$1.178m

3.1.2 Wastewater Transportation and Treatment Network:

1 Actual population as at 04/05 excluding NRG

The scope of wastewater infrastructure owned, operated and maintained by Gladstone City Council is summarised contained in Table 3.2 below:

Table 3.2 – Summary of Wastewater Infrastructure:

Scheme Name	Gladstone City Council Calliope River and South Trees Wastewater Treatment Plants.
Technical Specification	
Population served	27,000
Treatment Plant Capacity/ Process	41,000Ep - biological/Filtration and Activated Sludge (oxidation Ditch)
Average day flow (kL/d)	7,500KL/d
EPA Effluent Standards for The Calliope River and South Trees Plants	Suspended Solids 30mg/L Five Day B.O.D. 20mg/L pH 6.6 – 8.5, D.O. 2mg/L
No. Of Pump Stations	54
Length of Mains Rising mains Gravity mains	 38.52 kms 307.58 kms
Financial Overview	
Asset Network Current Replacement Cost ($)	$94.823m
Written Down Value	$58.757m
Accumulated Depreciation	$36.066m
Annual Depreciation (04/05)	$1.795m

3.1.3 Asset Identification and Registration

The business has recently undertaken a review of its existing systems, audit of existing data sets and understands the advantages (and limitations) of existing asset registers. Information on passive assets were contained in Conquest (now being moved into the “People soft” database) with spatial information contained in the Mapinfo GIS. Active asset information is contained in Conquest. The level of detail contained within these systems includes basic asset attributes such as age, material, value (current replacement cost and written down value) and pipe diameter (for passive assets).

Following a corporate decision by Council, the business is phasing out the use of Conquest in favour of the People Soft corporate software. However, all spatial data will be retained in the businesses GIS (MapInfo).

The businesses assets were last revalued in 1999. Following completion of recent data audits and confirmation of the scope for assets controlled by the business, a desktop audit of asset value is scheduled for 2004/05 with a comprehensive revaluation of all water and wastewater assets is scheduled for the 2005/06 financial year (refer Financial Management Plan for further detail).

3.1.4 Process for identification of asset renewal:

The recent focus of the business has been on establishing sound asset data bases from which detailed hydraulic modelling can be undertaken and used to determine appropriate asset network development strategies. This goal has been largely achieved.

The next stage in the businesses asset evaluation strategy is to develop more comprehensive asset condition assessment and renewal strategies. Whilst the business has developed a basic asset renewals program, this is based on assumed asset design lives and may not reflect asset performance and condition. In this regard, the businesses strategy is to network with other agencies who have developed sophisticated AM programs (eg Ipswich Water, Gold Coast water, Noosa Council, Citiwater, and the Qld Water Directorate) to refine its own renewal strategy. This is likely to include initially undertaking macro modelling (at a network level) to identify appropriate renewal budgets prior to undertaking micro modelling (at the asset level) to identify the specific asset which should be rehabilitated/renewed.

As part of the pending asset revaluation, the business intends to undertake a broad review of estimated economic lives of key assets, and condition assessment of selected active assets. These items will be designed to ensure that the businesses replacement cost profile and deprecation expense is as accurate as practical and to provide the business with further information on the functional capability of it asset network. However, it is important to note that anecdotal evidence indicates that the passive assets are in good condition given their relatively young age.

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

Over the coming years, the main focus of the business will move its current growth orientation (i.e asset acquisition) to placing greater emphasis on a more operational approach (i.e asset condition and performance analysis and implementation of asset management strategies based on risk impacts) One of the key outcomes being sought from this asset evaluation plan is the comprehensive knowledge of assets to support effective decision-making.

In this regard, specific challenges facing the business, from an asset evaluation viewpoint include the following:

- Ensuring that the business assets are operated and maintained in a manner which maximises the value to the Council and the community;
- Ensuring that the business asset information is reliable, accessible and useful enough to allow development of effective asset maintenance and operations strategies; and
- To ensure that the Council has structures in place to manage this information (i.e. data bases remain up to date, remain relevant to different users (eg financial asset register and fixed asset registers) and are not corrupted;

4.2 Future Direction and Business Improvement Opportunities

The Councils water businesses immediate focus will be to:

- Undertake a revaluation of its asset portfolio (Refer Financial Management Plan);
- Manage the transition of data from existing systems (Conquest, and TUMMS) into the new People Soft Corporate Software. In addition, the business will need to manage the ongoing

interface between People Soft and spatial data contained within MapInfo;

- Continue to focus on the developing needs of the City and ensure that the asset network can accommodate the projected growth in service demand (Refer Infrastructure Planning Sub Plan);
- Ultimately develop a detailed asset renewal strategy;
- Review the advantages/disadvantages to the business of undertaking an Asset Management Process audit as part of a broader business improvement strategy.

5.0 ACTION PLAN

Key Result Area : Asset Management **Objective:** To ensure that the existing asset portfolio is managed in a manner which meets agreed customer service at minimum life cycle cost.	
Management Strategy	Performance Targets
• Maintain corporate asset register and deliverables. • Develop and implement a condition monitoring plan.	• Maintain/update Corporate Asset Register. • Successfully transfer of data into Peoplesoft by June 06 • Develop a detailed asset renewal/replacement strategy by dec 06

Outcomes:
- Comprehensive knowledge of assets to support effective decision making.
- Efficient operation (ultimately renewal) of plant and equipment.

Accountable Manager: Manager, Water Services.

Action	Target Rate	Responsibility
1. Undertake Asset Revaluation including : • Indexation of asset values • Review of asset replacement value and unit rates; • Review of asset design lives; • Development of locality factors and soil factors; • Review of depreciation funding	***Refer Financial Management Plan***	
2. System Integration: • Manage the transfer of data from existing systems (conquest/Tums/MapInfo) into People soft system; • Management of integration between People Soft and MapInfo • Ongoing management of asset register (including annual review of effectiveness and efficiency of asset register)	June 05- June 06 Ongoing Annual Review	Manager, Water Services
3. **Develop detailed Asset Renewal/Replacement Strategy including consideration of:** • Asset attributes (incl Condition) • Macro Analysis (balancing service standards and capital budgets) • Micro analysis s(identifying "at risk" assets) • Auditing of failure modes of critical assets	December 2006	Manager, Water Services
4. Review advantages of AM Process Audit • Monitor opportunities for participating in AM process audits (in a cost effective manner) • Consider undertaking an AM process audit to identify areas of further improvement for the business in its AM capability.	Ongoing December 06	Manager, Water Services

Required Budget

Item	05/06	06/07	07/08	Ongoing
Undertake Asset Revaluation	Refer Financial Management Plan			
System Integration	$10,000			
Asset Renewal Strategy		$20,000		
AM Process Audit			TBA	

APPENDIX A

SUPPORTING DOCUMENTS

Title	Date	By Whom

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

MAINTENANCE MANAGEMENT PLAN

KRA – Asset Management

TABLE OF CONTENTS

1.0 PURPOSE OF THIS PLAN

The purpose of the plan is to:

- Provide an overview of the businesses current maintenance practices;
- Provide an overview of existing maintenance management systems; and
- Provide an overview of the businesses proposed infrastructure maintenance strategies.

The overall objective of the Councils Maintenance Management Plan is to ensure that the water services infrastructure is maintained at an appropriate level (ie asset rehabilitation is planned as far as practical and reactive maintenance activities are managed as efficiently as possible).

2.0 EXTERNAL INFLUENCES:

The businesses Maintenance Management Strategy have been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment:

Influence Factor	Description

Key relevant statutory provisions	• The principal relevant statutes regulating maintenance activities of Water Service Providers are:
	  • Workplace Health and Safety Act 1995
	  • Industrial Relations Act 1999
	  • Environmental Protection Act 1994
	• The Water Act requires a maintenance strategy to be defined in a Strategic Asset Management Plan for each registered service, unless the Water Service Provider is exempted. This will include the development of documented procedures.

Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject to an approved TMP incorporating a Maintenance Management Plan.
Government policy	• TMP guidelines encourage affected Water Service Providers to develop systematic maintenance processes and management strategies.
Community perceptions/ aspirations	• The community expects Water Service Providers to maintain services in a manner which is environmentally sensitive, ensures public safety and amenity, and helps to minimise service costs. • The community understands the link between system maintenance and service reliability and is unsympathetic to the consequences of inadequate maintenance.
Industry practice/trends	• There is increasing recognition that effective maintenance is critical to deferring the need for asset replacement, and that this can be ensured only through systematic maintenance management. • Increased contracting-out of maintenance has magnified the need to document maintenance objectives, criteria and procedures, as a basis for contract enforcement and performance reporting by contractors. • Opportunities for improving the effectiveness of maintenance can only be identified through formalised maintenance management practices.

3.0 CURRENT STATUS

3.1 Overview:

Council's primary objectives in carrying out a regular maintenance program are to deliver a high level of service to its customers by ensuring the continued reliability of facilities and to maximise the useful service life of each asset. Its secondary objective is to ensure, through proper assessment by appropriately qualified personnel, that funding is appropriately allocated, under annual capital works budgets for replacement of assets at the end of their useful economic service life.

At present, the business is experiencing relatively few problems with the water supply and wastewater network. As much of the network is relatively 'new' and growth in the region is continuing apace, asset failures and service standard breaches are relatively uncommon. However, the business is arguably moving out of a 'growth' orientation and into a phase of more stable development, during which time the focus will move from asset acquisition toward addressing more operational and rehabilitation issues.

Preventative and corrective maintenance strategies have been developed for the Councils major critical assets (eg pump stations, key reservoirs and trunk mains). Key maintenance strategies, which are undertaken on a regular basis, are outlined in Appendix A.

The proposed condition monitoring program suggested in the Asset Evaluation Plan will provide further information which will allow the Councils Water Services group to make informed decisions on the scope of preventative maintenance programs.

3.2 Documented Procedures:

Documented procedures have been developed for a range of maintenance activities. These are listed below (together with the date on which the most recent version of the document was developed):

Water Infrastructure:

- Equipment/asset failure (procedure developed 1996)
- Operation and Maintenance of Pumps (developed/updated as new assets come on line);
- Mains Repair procedure (May 2003)
- Hydrant Maintenance (Jan 2003);
- Valve Maintenance (Jan 2003)
- Valve Repair (Jan 2003)
- Switchboard Maintenance (Jan 2003)

Sewer Infrastructure:

- Maintenance of Lagoons (Dec 2002)
- Operation and Maintenance of Pumps (developed/updated as new assets come on line);
- Wet Well maintenance (Aug 2004)
- Sewer and Manhole Inspection (May 2004)
- Manhole Raising (May 2005)
- Repairing broken sewer and rising mains (Jun 2005)
- Repair of sewer jump-ups (July 2005)
- Switchboard maintenance (Aug 2004)

These procedures will generally be reviewed and updated as required on a three (3) year basis.

Many of these activities are undertaken in accordance with the existing planned maintenance program. At present, proactive maintenance on some assets (eg pump stations) is undertaken on a time basis (eg every 6

months). However, the business intends to move toward a usage basis for active assets (eg hours run). All pump stations are examined on a rolling 12-month program.

All major assets have detailed operations and maintenance manuals. These manuals are readily available to field staff.

3.3 Workplace Health and Safety

Council has adopted the Local Government Workcare Workplace Health and Safety management system (Safe Plan). The Safe Plan system provides the opportunity to develop, evaluate, review and audit works procedures. Procedures are reviewed regularly to incorporate latest achievements in technology, improvement in treatment processes, legislative requirements, service standards and sustainability.

Development and auditing of maintenance procedures is a key component of the continuous improvement objective of Councils Safe Plan process. The Safe Plan facilitators from the relevant departments meet monthly with a member of Councils Safe Plan steering committee and bi-monthly with work teams to discuss and formulate safe work procedures. As part of this process, the business intends to undertake a comprehensive review of the above maintenance procedures and update as necessary.

3.4 Resourcing:

The organisational structure (together with resourcing levels) is provided in the Business Management Plan. A key issue for the business (from a maintenance management perspective) is to ensure that there is an appropriate balance between the businesses obligations to the Gladstone Area Water Board (GAWB) and its own maintenance functions. In theory, any significant increase in unplanned activities under the GAWB partnering agreement runs the risk of reducing the businesses capability to implement its own planned maintenance programs. This issue is a key consideration of the manger, water services.

3.5 Tools and Systems:

The preventative maintenance programs identified above have previously been monitored and scheduled utilizing the Total Utilities Maintenance Management System (TUMMS) computerised maintenance program. However, much of the functionality of the TUMMS system will be provided by new corporate software “People Soft” in future. The new software will have the ability to link maintenance costs to asset numbers. In addition, the new system will facilitate links between the financial data and spatial data (in MapInfo). This facility enables the system managers to develop thematic maps that can assist in identifying problem areas and trends.

The new customer request system caters for recoding of asset condition. This functionality will allow the business to collect more (and relevant) information on the performance of the asset base.

3.6 Unplanned Maintenance Activities

Key water and wastewater active assets are connected to the businesses SCADA system. The SCADA system gives alarms for all critical faults. During working hours these alarms are monitored by staff t the WWTP and WTP’s. Council operates a 24 hour emergency call out process and after hours calls are coordinated by the after hours service located at the Water Treatment Plant.

3.7 Advanced Asset Management Activities:

Whilst the recent Environmental Audit (undertaken by KBR) does include a broad overview of modes of system failure (for wastewater assets only), the business has not yet undertaken more advanced maintenance management activities such as Failure Mode Effects and Criticality Analysis (FMECA) or Reliability Centred Maintenance (RCM). These advanced asset management tools require detailed data before they can become effective. The business is just now beginning to reach a position where such strategies are feasible.

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key challenges facing the business from a maintenance management perspective are to:

- Further develop the businesses data collection and maintenance procedures to ensure that the business fully understands the condition, processes and performance of the asset base. Development of a sound knowledge base will be a key challenge in supporting the businesses move from a growth orientation to a more O&M approach;
- Ensuring that the contracted demands of the GAWB operations and maintenance partnering agreement do not adversely impact on the Councils own planned maintenance procedures;
- Move across to the new IT system and ensure that the business gains 'value for money' from the new system;
- Further develop the businesses advanced asset management capabilities (including improvement in planned maintenance functions).

4.2 Future Direction and Business Improvement Opportunities

The business's immediate focus will be to:

- Undertake a staged asset condition assessment project to assist the business target its planned maintenance activities;
- Undertake a review of existing maintenance procedures and develop procedures for critical maintenance activities;
- Monitor the resource demands of the GAWB O&M contract.
- Develop a detailed advanced asset management strategy initially focussed on improving maintenance procedures in areas with a high risk of failure;

5.0 STRATEGIC BASIS OF PLAN

Key Result Area : Asset Management **Objective :** To ensure that maintenance of the business assets is adequate to meet agreed customer service standards at minimum lifecycle cost.	
Management Strategy	*Performance Targets*
Minimise lifecycle costs of assets while maintaining their service capability.	• Develop detailed planned maintenance program by Dec 06 • Fully Implement new IT systems by dec 05 • Develop pilot program for more advanced AM strategies.

Action Plan

Outcomes:
- Retention of asset serviceability throughout the asset lifecycle;
- Effective use of limited resources; and
- Lifecycle costs are minimised without compromising medium/long-term service standards

Accountable Officer Manager, Water

Action	Target Date	Responsibility
1. Develop detailed planned maintenance program as part of businesses broader AM strategy.		
♦ Develop a maintenance schedule for each component of the network which has a service frequency greater than one month.	Jun 06	Operations Coordinator
♦ Develop age, performance or condition based maintenance schedules to replace time based schedules for key (or critical) active assets.	Dec 06	Operations Coordinator
♦ Undertake analysis of passive assets to identify trends in asset failure and assess optimisation strategies.	Dec 06	Operations Coordinator
♦ Develop and implement improved maintenance management schedules.	Dec 06	Operations Coordinator
♦ Commence annual review of maintenance management strategy.	Ongoing	Operations Coordinator
2. Develop/Fully implement new IT systems:		
♦ Undertake a review of the data functionality of the new People Soft software to ensure that the program can provide the necessary AM functionality required of the business (i.e. have we got the right tools?)	Dec 05	Water Engineer
♦ Undertake a review of the businesses data collection practices (i.e. have we got the right data?)	Dec 05	Water Engineer
3. Progressively monitor the resources demands of the GAWB partnering agreement	Ongoing	Manager, Water Services
4. Develop a pilot program for undertaking more		

advanced AM strategies in areas of high risk		
• Build on System Failure data identified in KBR Environmental Audit to identify areas with high risk of failure	Jun 2006	Manager, Water Services
• Develop pilot program for undertaking more advanced AM activities on these assets	Dec 06	Manager, Water Services
• Monitor pilot program. Modify program and implement improved maintenance schedules on related assets.	June 07	Manager, Water Services

Required Budget

Item	05/06	06/07	07/08	Ongoing
Developed Detailed MMP	(*)	(*)	(*)	
Develop/Implement IT systems	(*)	(*)	(*)	
Monitor Demands of GAWB O&M Contract	(*)	(*)	(*)	
Develop AAM Pilot Program		$25,000		

Footnotes: (*) Cost of these activities is already part of current budget allocations.

APPENDIX A

Frequent Planned Maintenance Activities for Water Supply and Wastewater Assets

Appendix A.1 – Water Supply Maintenance Activities:

Asset Group	Maintenance Activity	Frequency	Comments
Mains	Flushing of dead ends Repair leaks and bursts	3 monthly As required	Additional flushing program instigated for dirty water complaints
Valves, Cover box and markers	Repack Gland as required, check cover boxes and repaint location markers	Continuous	
Air Valves	Dismantle, Clean and Flush	Yearly	
Hydrants	Serviceability check	2 year continuous cycle	Also randomly checked by Q.F.R.S.
Services	Repairs	As required	
Meters (bulk)	Meter replacement is carried out if there are discrepancies in the readings or unable to be read due to damaged faces etc	As required normally after scheduled meter readings.	
Meters (domestic)	Meter replacement is carried out if there are discrepancies in the readings or unable to be read due to damaged faces etc	As required normally after scheduled meter readings.	
Reservoirs	Cleaning	Approximately every 4 Years	Cleaned online using Diving contractors
Pumps	Tested and checked for performance	Annually	
Motors	Megger checked	Annually	
Switchboards	Integrity checked and cleaned	Annually	

Appendix A.2 – Wastewater Maintenance Activities:

Asset Group	Maintenance Activity	Frequency	Comments
Gravity Mains	Clearing blockages CCTV inspection	As required Rolling program	(Refer to I/I sub plan)
House Connections	Checking for obstructions at the boundary connection	When Required	If there is a dispute where the blockage maybe located a boundary junction check is carried out.
Manholes	Condition check and report	Whenever a manhole is accessed	Part of the ongoing asset condition checks
Rising Mains	Where required pressure washed	6 months	
Valves	As for rising mains	6 months	
Air Valves	As for rising mains	6 months	
Flow Meter	Calibration checks	6 months	
Pump Station	Undertake pump check sheet including: • Noise & Vibration; • Check non-return valve • Electrodes • Scale build up • Fat build up	As required	
Wet Wells	Cleaning of screens	Weekly	
Pumps (Motors and switchboards)	Megger checks Visual Inspection	Quarterly Quarterly	
Effluent Reuse Scheme Lagoons	• Inspect Pump station and visible pipe work • Check dosing pump • Check chlorine level • Top up Chlorine storage Tank • Cut Grass on Lagoon embankment and in secondary lagoon.	Daily Weekly Monthly	Further comprehensive maintenance for civil, mechanical and electrical is found in the Effluent reuse scheme Operational Guidelines

APPENDIX B

SUPPORTING DOCUMENTS

Title	Date	By Whom

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

OPERATIONS MANAGEMENT PLAN

KRA – Asset Management

TABLE OF CONTENTS

APPENDICES

1.0 PURPOSE OF PLAN

The purpose of this plan is to:

- Provide an overview of the scope of the businesses current operational practices; and
- Outline planned initiatives in operations management.

The overall objective of the Councils Operations Management Plan is to ensure that the water services infrastructure is operated in a manner which is sustainable meets all service criteria and provides lowest lifecycle cost for a given level of service.

2.0 EXTERNAL INFLUENCES

The businesses Operational Management strategies have been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment:

Influence Factor	Description

Key relevant statutory provisions	• The principal relevant statutes regulating the operations of Water Service Provider's are:
	  • Workplace Health and Safety Act 1995
	  • Industrial Relations Act 1999
	  • Environmental Protection Act 1994
	• The Water Act 2000 requires an operational strategy to be defined in a Strategic Asset Management Plan for each registered service, unless the Water Service Provider is exempted.

Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject to an approved TMP incorporating an Operations Management Plan.
Government policy	• TMP guidelines encourage Water Service Provider's to develop systematic operational processes and strategies.
Community perceptions/ aspirations	• The community expects Water Service Provider's to operate services in a manner which is environmentally sensitive, ensures public safety and amenity, and helps to minimise service costs.
Industry practice/trends	• Recent industry reforms and increasing community resistance to rate increases have highlighted the need for improved operational efficiency and service delivery. • SCADA monitoring systems are being increasingly implemented for water supply and wastewater systems. • Because of increased community litigiousness, Water Service Provider's without adequate procedural documentation, QA and risk management systems are becoming increasingly vulnerable to legal action in the event of incidents involving the public. • There is a trend towards benchmarking of operational activities to identify opportunities for improved cost-effective service.

3.0 CURRENT STATUS

3.1 Overview of Scope of the Networks:

We provide the following brief overview of the scope of the businesses water and wastewater operations.

3.1.1 System Operations – Wastewater

The wastewater system is conventional gravity/pumped system. The network is divided into two (2) major catchment areas which collect and transport wastewater for treatment either the Calliope River or South Trees Treatment plants. The Calliope Plant treats about 99% of the cities wastewater. The plant has a design capacity of 41,000 EP and currently has an estimated connected population of 29,000 EP. The current discharge licence is based on long term 80 percentile limits for BOD and TSS of 20 and 30mg/L respectively. The facility comprises two different treatment plants. These are:

- An oxidation ditch followed by secondary clarifiers, constructed in 1991 and augmented in 1995. This component of the facility treats about three quarters of the flow, and
- A biological filter plant constructed in 1961 and duplicated in 1971 that treats about one quarter of the flow.

Under normal circumstances 100% of the effluent from this plant is recycled (Refer Effluent Management Plan).

The South Trees WWTP is an intermittently operated oxidation ditch with a design capacity of 5,000EP and current loading in the order of 1,875EP. The plant was constructed in 1988 and is licensed to produce similar quality effluent to the Calliope River Plant (i.e. 20/30 licence). The plant currently discharges to the South Trees Inlet.

The scope of operational activities undertaken by the business includes operation of treatment plants, wastewater pumping stations, wastewater mains (including rising mains), manholes, valves and house drainage, and public toilets.

3.1.2 System Operations – Water

Raw water for Gladstone is sourced from the Awoonga Dam which is managed by the Gladstone Area Water Board (GAWB). Raw water is treated at the Gladstone Water Treatment Plant prior to distribution into the Gladstone City Councils water supply network. The dam, Water Treatment Plant and associated raw water pump stations and reservoirs are owned by GAWB. However, the Gladstone City Council operates the treatment plant under a partnering agreement with the Gladstone Area Water Board (Refer below).

The Gladstone City Council water network comprises two trunk distribution systems (one High Level Zone (HLZ) and one Low Level Zone (LLZ)). The high level zone supplies potable water to Round Hill and South Gladstone Reservoirs (at 91.4m). The LLZ supplies Radar Hill, Ferris Hill and Fisher Street reservoirs (at 61m).

3.1.3 Additional Operational Activities (GAWB Contract/Partnering Agreement)

In addition to undertaking the operations of its own water and wastewater networks, the business undertakes the operation of GAWB's regional Water Treatment Plant under a partnering agreement. Whilst the existing arrangement has only just been established, recent changes in GAWB's strategy may prompt renegotiation. Specific issues to be considered in the review would include clear allocation of responsibility (and risk) and clarification on outcomes. Under the existing arrangement, the scope of the partnering agreement has increased to the point where additional personnel may be required (the need or such personnel has been incorporated into the businesses tender price to GAWB).

3.2 Documented Procedures:

One of the key challenges facing the business is the need to document its operations philosophy and procedures. Existing procedures are largely out of date. Many of these activities are undertaken in accordance with the existing planned maintenance program (Refer Maintenance Management Plan for list of documented Maintenance procedures)

The business produces a monthly report to Council on issues related to implementation of the businesses Strategic Asset Management plan (SAMP). In addition, the business reports on a quarterly basis against Councils Annual Operations Plan. Whilst the business is meeting all of its statutory requirements and nominated customer service objectives (refer separate Customer Service Sub Plan), significant increases in the data management obligations of the business mean that the business needs to develop appropriate systems which will support the increased reporting burden.

3.3 Workplace Health and Safety

Council has adopted the Local Government Workcare Workplace Health and Safety management system (Safe Plan). The Safe Plan system provides the opportunity to develop, evaluate, review and audit works procedures. Procedures are reviewed regularly to incorporate the latest achievements in technology, improvement in treatment processes, legislative requirements, service standards and sustainability.

3.4 System Monitoring and Control

Both the water and wastewater systems are operated on a demand basis and are automatically monitored using telemetry (Radtel). The Councils Telemetry monitoring facility is manned 24hours. The telemetry network has old RTU's and the business is looking at opportunities to upgrade the system to provide reports on asset performance. This may include upgrading existing analogue components to facilitate control of key active assets. The GAWB is also looking at its options for upgrading its SCADA and there may be opportunities for both Gladstone City Council and GAWB to benefit from a combined regional approach to the upgrade.

Flow monitoring within the network is currently limited

4.0 Future Direction

4.1 Challenges Facing the Business:

The key challenges facing the business from an operational management perspective are to:

- Further develop the businesses operational procedures as part of the businesses broader knowledge management strategy;
- Management and resourcing of the GAWB partnering agreement
- Upgrade of systems and processes to ensure that the operations strategy is implemented as cost effectively as possible.
- Continue to meet the businesses high level of operational efficiency;
- Ensure that KPIs set in the Councils Annual Operations Plan are measurable and targets are set; and
- Further develop the businesses contingency planning capability.

4.2 Future Direction and Business Improvement Opportunities

The business's immediate focus will be to:

- Develop/refine the businesses Operational Procedures;
- Undertake a review of the businesses SCADA (possibly done as part of a regional strategy with the GAWB);
- Update its wastewater modelling;
- Review the resource requirements of the GAWB agreement;
- Continue to met all statutory requirements (including EPA and WH&S requirements); and
- Develop Contingency Plans.

5.0 STRATEGIC BASIS OF PLAN

Key Result Area:	Asset Management
Objective:	To optimise the management of Councils infrastructure and continue to meet agreed customer service standards at minimum lifecycle costs.

Management Strategy	*Performance Targets*
Minimise the operational costs of water supply services delivery while maintaining agreed service standards.	• Review and develop Operations Procedures by dec 06 • Undertake minor SCADA upgrade (RTU's) by Jun 2006. • Examine options for a major SCADA upgrade by June 07 • Develop Operations contingency planning by june 07 • Undertake Benchmarking of Operations activities;

Action Plan

Outcomes:

- Improved levels of operational knowledge management
- Improved operational performance
- Minimise operational risks.
- Reduced operational costs

Accountable Officer Manager, Water Services.

Action	Target Date	Responsibility
1. **Development/Refinement of Operations Procedures:**		
• Undertake an audit of all exiting Operational Procedures and prioritise their review (done as part of the "Safe Plan" project)	June 07	Operations Coordinator
• Identify 'gaps' in operational procedures and prioritise development of new procedures	June 07	Operations Coordinator
• Develop outstanding operational procedures	June 08	Operations Coordinator
• Consolidate all Operations Procedures in a manner which provides ready access by field staff.	June 08	Operations Coordinator
2. Enhancement of Telemetry System :		
• Implement minor upgrades to the SCADA (RTU) software	Jun 2006	Manager, Water Services
• Discuss with GAWB opportunities for undertaking a regional SCADA upgrade program	Dec 05	Manager, Water Services
• Develop Functional Specification (i.e. what we want as an OUTCOME) and technical specification (i.e.	Dec 06	Manager, Water Services

Action	Target Date	Responsibility
HOW it delivers that outcome) for SCADA. • Undertake SCADA Update project.	Jun 07	Manager, Water Services
3. Wastewater Modelling:		
• Using the results from the recent SCADA upgrade, undertake preliminary calibration of wastewater model;	Dec 05 June 06	Manager, Water Services Manager, Water Services
• Use the model to identify problem areas;	Needs basis	Manager, Water Services
• Undertake flow monitoring (as required);	June 07	Manager, Water Services
• Further calibrate the wastewater model;	Dec 07	Manager, Water Services
• Develop overflow management strategies		
4. Review resource Requirements for GAWB Contract:		
• Monitor and review need for additional operations staff to meet the requirements of the GAWB contract/partnering agreement.	Ongoing	Manager, Water Services
5. Develop Contingency Plans:		
• Undertake further asset risk assessment and identify 'high risk' assets or events (eg cyclone).	Dec 05	Manager, Water Services
• Develop contingency plans for addressing these events	June 07	Manager, Water Services
6. Continue to meet Statutory requirements:		
<u>EPA Requirements:</u>		
• Undertake Environmental Audit of businesses activities	June 05	Manager, Water Services
• Evaluate compliance monitoring program and identify opportunities for improvement or rationalisation.	Ongoing	Manager, Water Services
• Review of all incidence of non-compliance of EPA licence and pursue modification of operational practice, if required.	Ongoing	Manager, Water Services
<u>WH&S:</u>		
• Carry out regular audits for compliance with workplace health and safety processes (Safe Plan)	Ongoing	Manager, Water Services
7. **Benchmarking**		
• Undertake benchmarking of key operational activities	Ongoing	Manager, Water Supply

Required Budget

Item	05/06	06/07	07/08	Ongoing
Develop/Refine Ops Procedures	(*)	(*)	(*)	
Upgrade Telemetry (RTU's)		$9,000	$9,000	
Review Resource Requirement for GAWB	(*)	(*)	(*)	
Develop Contingency Plans	$0	$5,000	$0	

Continue to Meet Statutory Requirements	(*)	(*)	(*)	
Benchmarking	(*)	(*)	(*)	

Footnote: (*) Cost of these activities are already incorporated into budget forecasts.

APPENDIX A

Supporting Documentation

Title	Date	By Whom

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

INFLOW/INFILTRATION (I/I) MANAGEMENT PLAN

KRA – Asset Management

Table of Contents

1 PURPOSE OF PLAN

The purpose of this plan is to provide an overview of:

- The businesses current inflow/infiltration (I/I) management practices; and
- Formulate strategies to actively manage inflow/infiltration.

2 EXTERNAL INFLUENCES:

Councils Inflow/Infiltration Management Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

Table 2.1: Summary Operating Environmental

Influence Factor	Description
Key relevant statutory provisions	• Sewage overflows resulting from I/I are subject to the licensing provisions of the Environmental Protection Act 1994 and Environmental Protection Regulation 1998. Excessive rainfall is usually cited in licences as a legitimate cause of overflow, but the Water Services Provider is usually required to investigate and mitigate the overflows • The Environmental Protection (Water) Policy 1997 requires local government Water Service Providers operating wastewater systems to begin implementing an environmental plan about sewage management that minimises unnecessary flows entering the system. The environmental plan may be in the form of a TMP sub-plan on I/I management. • The Water Act contains no specific provisions on I/I management. However, Service Standards for sewage overflows and overflows to customer properties are to be developed under the SAMP/CSS requirements of the Act.
Government administration arrangements	• Subsidy eligibility under the LGBCWSS is subject to an approved TMP including an up-to-date I/I plan. • Under the scheme local government Water Service Providers may submit for consideration proposals for subsidy on I/I studies.
Government Policy	• TMP guidelines recommend that affected Water Service Providers implement appropriate practices/strategies for managing I/I.
Community perceptions/aspirations	• The community is largely uninformed on the nature and significance of /I/I as a cost-contributing factor. • Partly as a consequence, some members of the community contribute directly to the problem of illegal inflows. This can result in sewage overflow into neighbouring property causing significant inconvenience. • Sewage overflow arising from infiltration/inflow has a potential public health as well as environmental impact.
Industry practice/trends	• I/I is a growing problem in Australia as wastewater systems come of age. • Cooperative performance comparison programs provide a base line of data on sewer overflow frequencies. • Commercial and in-house technologies and other resources available to the industry for evaluating and rectifying sewer deterioration have improved substantially in recent years.

3 Current Status

3.1 Overview of Inflow/Infiltration (I/I) Management Strategies

As outlined in the Infrastructure Planning component of the TMP, the business has recently developed comprehensive network models for the entire wastewater transportation network. These models have been broadly calibrated but additional flow monitoring will be undertaken in the 2005/06 year to ensure that the models are as accurate as possible. Once the flow monitoring is completed (and models fully calibrated), the business will have a sound data foundation from which to determine the systems short and long-term responsiveness to rainfall events as well as identify potential groundwater inflow areas.

Anecdotal evidence to date indicates that the Councils wastewater system may be quite robust in terms of its susceptibility to Inflow/Infiltration. This observation is based on the fact that peaking factors for flow at key pump stations during rainfall events is only around 2 times Average Dry Weather Flow (where the design figure is around 5 times).

Council has developed a draft Environmental Management Program for wastewater pump station overflows. This document may be used as a basis for development of a more comprehensive overflow management strategy.

3.2 Proposed I/I Management Strategies:

Following calibration of the wastewater network model, the business intends to prioritise the “A” catchment as the first to be subject to a more comprehensive I/I review. The outcomes of this review will be the development of a comprehensive I/I strategy for the business. The business is also considering source detection/catchment based strategy. This study may have an impact on the businesses proposed capital works program.

As outlined in the Asset Evaluation sub plan, the business will continue to develop its planned maintenance and rehabilitation including the use of:

- Flow monitoring at selected pump stations;
- visual inspections; and
- CCTV inspection.

The scope of the CCTV work is yet to be determined. The business is looking at opportunities to work with Fitzroy River Water who are considering undertaking an extended CCTV program to assess the condition of key buried assets. The outcomes of this inspection program may lead to relining of trunk sewers .

4 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key challenges facing the business from an Inflow/Infiltration management perspective are:

- To ensure that the business has tools available to have a full appreciation of the performance of the sewer network;
- To ensure that the business understands the condition of its passive (buried) assets;

4.2 Future Direction and Business Improvement Opportunities

The businesses immediate focus will be to:

- Upgrade the SCADA systems RTUs to provide some initial flow data;
- Use this initial flow data to undertake the first phase of calibration of the wastewater transportation model;
- Use the calibrated model to identify catchments of interest from an I/I perspective;
- Undertake flow monitoring (as required) and further calibrate the network model. Use this information to quantify levels of I/I (both short response and long duration);
- Identify the type of I/I entering system and critical catchments/asset networks;
- Develop a comprehensive I/I management strategy; and
- Provide benchmarks against which to assess the performance of future I/I management initiatives.

Under the current subsidy guidelines, the costs to implement the I/I program could attract a subsidy from the State Government as an I/I reduction initiative.

5 Strategic Basis of Plan

Key Result Area:	Asset Management
Objective:	To achieve a reduction in the volume of stormwater entering the wastewater transportation network.

Management Strategy	*Performance Targets*
Gain greater understanding of the performance of the sewer network and scope of I/I in the system	• Development of I/I strategy by Dec 06 • Undertake CCTV and sewer relining program by July 07

Action Plan

Outcomes :
- Ensure that infiltration into the sewer system is appropriately managed
- Reduce wet weather overflow events;
- Eliminate dry weather events;
- Reduced public health and environmental impacts

Accountable Manager:
- Manager, Water

Action	Target Date	Responsibility
1. Calibrate Model • Upgrade the SCADA systems RTUs to provide some initial flow data; • Use this initial flow data to undertake the first phase of calibration of the wastewater transpiration model; • Use the calibrated model to identify catchments of interest from an I/I perspective; and • Undertake flow monitoring (as required) and further calibrate the network model. Use this information to quantify levels of I/I (both short response and long duration).	Refer to Operations Management plan	
2. Develop I/I reduction Strategy: • Use the outcomes of the flow monitoring and model calibration exercise to identify possible areas of interest for I/I • Reassess and develop an I/I strategy • Update the businesses long term capital works program to reflect outcomes from the strategy • Consider source detection at a catchment level. • Monitor the effectiveness of I/I reduction strategy using data collected from existing sources.	Jun 06 Dec 06 April 07 June 07 Ongoing	Manager, Water Services
3. Undertake CCTV and Sewer Relining as a joint initiative with FRW. • Liaise with FRW to extend the CCTV program to include Gladstone's assets • Using the results of the initial CCTV program, develop and implement a trunk main relining program.	July 05 – July 06 July 06 – July 07	Manager, Water Services

Required Budget

Item	05/06	06/07	07/08	Ongoing
Calibrate Model & Flow Monitoring	Refer Ops Management plan			
Develop I/I reduction Strategy		$50,000		
Undertake CCTV and sewer relining program	TBA	TBA	TBA	

APPENDIX A

SUPPORTING DOCUMENTS

Title	Date	By Whom

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

ENERGY MANAGEMENT PLAN

KRA – Environmental Management

TABLE OF CONTENTS

1.0 PURPOSE OF PLAN

The purpose of the Energy Management Plan is to:

- Provide an overview of the businesses current energy management practices; and
- Outline future initiatives in energy management.

2.0 EXTERNAL INFLUENCES

Councils Energy Management Strategy has been developed to address a variety of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description
Key relevant statutory provisions	• Currently none applicable.
Government administrative arrangements	• Deregulation of the energy industry theoretically provides opportunities for electricity consumers (specifically those who use more than 200 megawatt-hours of electricity per annum at any one billing). However, according to the Treasury Department, Office of Energy, there will be no full retail contestability for Queensland in the foreseeable future. Sites consuming less than 200 megawatt hours must continue to purchase electricity from the franchise holder in the area. • There is some scope for 'summating' multiple sites on the one premises under one customer for purposes of contestability. • There are up to 20 electricity retailers and generators licensed to sell electricity in the Queensland contestable market. • Subsidy eligibility under the LGBCWSS is subject to an approved TMP.
Government policy	• The Government is committed to maintaining a competitive electricity market in Queensland and since 1998 has implemented deregulation reforms to this effect. • The Federal Mandatory Renewable Energy Target (MRET) aims to increase the market share of renewables (bio-gas, hydro, wind etc) by 9500 Gigawatt-hours. Electricity retailers are therefore required to source a percentage of their electricity from a renewable generator and acquit renewable energy certificates (REC's) in accordance with the Renewable Energy (Electricity) Act 2000. • To further promote renewable energy, many retailers offer premium priced "green-power". Many Council's purchase green power to reduce greenhouse gas emissions. • Under the Queensland Energy Policy, the Queensland Government has a target to achieve at least 13% market share for gas-fired electricity generation in Queensland, commencing in 2005. Under this program, electricity retailers will be required to source a percentage of their electricity from gas generators and acquit gas electricity certificates (GEC's). This program was modelled after the RECs programs. This policy is likely to increase the price of electricity. • TMP guidelines encourage affected Water Service Providers to implement appropriate practices/strategies for managing energy consumption.
Community perceptions/aspirations	• Energy management by Water Service Providers does not appear to be a significant issue for the bulk of the community.
Industry practice/trends	• Electricity prices for contestable customers in South East Queensland, including Water Service Providers, generally have fallen significantly since deregulation. Whether Water Service Providers elsewhere in Queensland realise similar savings remains to be seen, but this seems less certain especially in rural areas. • Potential now exists for Water Service Providers to sell energy (eg mini-hydro, methane powered generators) into the electricity grid. This will result in the generation of an additional revenue stream, ie RECs. • Consumers are also to nominate alternative (albeit more expensive) 'green' electricity sources (eg wind, hydro) for reducing their greenhouse gas emission contributions. • There is increasing trends to improve energy consumption as more organisations realise cost savings, through improved efficiency.

3.0 Current Status

3.1 Overview of Energy Usage

Energy consumption in the water component of the business is negligible (most of the energy intensive treatment processes are managed by the Gladstone Area Water Board). Since the business entered into the contestable market, it has saved in the order of $130,000 over each 4 year period. Where possible, the business utilises off-peak power in the transportation of potable water around the network (ie reservoirs generally filled overnight). However, off peak pumping is impractical for the wastewater part of the business. The wastewater component of the business spends around $170,000 each year in electricity.

Energy usage is recorded at each facility and used as an indicator for when equipment overhauls or mains maintenance is required. Higher than anticipated energy consumption is confirmed on site by undertaking pump tests prior to carrying out refurbishment activities. Energy costs are monitored through regular review of budgets for various facilities.

Energy costs are taken into consideration in the design of new facilities and purchase of new equipment with pumping equipment selected using efficiency and power requirements as selection criteria..

Finally, water loss and demand management strategies and inflow/infiltration strategies may reduce energy consumption by reducing the volume of pumped flows (refer separate Water Loss and Demand Management Sub plan and Inflow/Infiltration Sub plans)

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key energy management challenges facing the business are:

- To ensure that the businesses equipment is energy efficient in its operation;
- To ensure that the business stays abreast of any opportunities for electricity tariff reductions which may be available at the end of the current supply contract;

4.2 Future Direction and Business Improvement Opportunities

The Councils water business's immediate focus will be to:

- Continue to monitor energy consumption to ensure that the system remain energy efficient; and
- Undertake a periodic review of energy supply agreements.

5.0 STRATEGIC BASIS OF PLAN

Key Result Area : Asset Management	
Objective : To minimise the amount of energy used in providing the nominated standards of service to Gladstone Customers	
Management Strategy	*Performance Targets*
Minimise the 'environmental footprint' of the business.	• Monitor and benchmark energy consumption. • Ensure that proposed SCADA upgrade includes provision for energy consumption (dec 06) • Undertake energy audit by Jan 08 • Review electricity tariff structure.

5.1 Action Plan

Outcomes :
- Minimise the businesses energy consumption (and associated costs)

Accountable Officer :
- Manager, Water

Action	Target Date	Responsibility
1. Continue to Monitor Energy Consumption: • Monitor equipment hour meters and current indicators for anomalies in operation causing energy wastage. • Ensure that the proposed SCADA upgrade includes provision for electricity consumption, pump hours and flow data to be collected for all pump stations. • Undertake energy efficiency audit and benchmark energy consumption / costs.	Ongoing Dec 06 January 08	Manager, Water
2. Review Tariff Arrangements • Investigate opportunities in the contestable electricity market • Review existing tariff structures and establish economical tariffs for water pumping (where practical)	Ongoing At the cessation of existing supply contract	Manager, Water

APPENDIX A

SUPPORTING DOCUMENTS

Title	Date	By Whom
GCC Electrical Consumption Analysis Spreadsheets		

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

WATER SOURCE AND DRINKING WATER QUALITY MANAGEMENT PLAN

KRA: Asset Management

TABLE OF CONTENTS

1.0 PURPOSE OF PLAN

The purpose of this plan is to provide an overview of:

- Current water source management practices and drinking water quality practices;
- Ensure that the business continues to comply with relevant legislative requirements regarding drinking water quality; and
- Future initiatives for improving these components of the businesses operations.

2.0 EXTERNAL INFLUENCES:

Councils Water Source and Drinking Water Quality management strategies have been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description

Key relevant statutory provisions	• The Water Act (which superseded the Water Resources Act 1989) contains a range of provisions relevant to water source management specifically including:
	  • Development of Water resource plans, Resource operations plans and Resource operations licenses
	  • Transfer/leasing of water allocations and water licenses based on actual consumption.
	  • Declaration of catchment areas for preserving the quality of surface and ground water.
	  • Failure impact assessment of referable dams.
	• The Water Act also requires Water Service Providers to develop service standards on Drinking Water Quality.
	• Changes to the Water Act require medium to large water service providers to develop a Drought Management Plan by October 2006.
	• The planning provisions of the Integrated Planning Act enable local governments to control land use within surface and groundwater storage catchments, whether or not the associated water supply headworks are owned by the local government.
	• Local Government Water Service Providers may make local laws under the Local Government Act 1993 for regulating recreational activities on and around water impoundments within their jurisdiction.

Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject to an approved TMP including an up to date Water Source and Drinking Water Quality Management Plan.

Government policy	• Government policy on water source management is as reflected in the preamble to the Water Act, i.e. to advance sustainable management and efficient use of water, chiefly by:
	  • allowing for the appropriate allocation and use of water for the indefinite physical, economic and social well being of the community; and
	  • Protecting the biological diversity and health of natural ecosystems.
	• TMP guidelines encourage affected Water Service Providers, unless supplied in bulk by another WSP, to implement appropriate practices/strategies for managing water sources and recreation on and around storages.
	• Water Source providers supplying potable water are encouraged to comply with Australian Drinking Water Guidelines.

Influence Factor	Description
Community perceptions/ aspirations	• The community expects Water Service Providers to protect the quality of water sources so as to allow their sustainable use. It also favours maintaining environmental flows below water source infrastructure developments when appropriate. • As part of the growing demand for recreational opportunities, the community can be expected to seek high-quality land- and water-based recreational facilities at any new water-source development. These demands must be balanced against the demands of ensuring sustainability of the resource and associated environmental values. • There is a growing trend towards holding Water Service Providers legally accountable for drinking water quality.
Industry practice/trends	• Planning schemes increasingly recognise the need for special catchment land use controls. • More Water Service Providers are endeavouring to provide environmental flows from water storages. • Contingency plans for water catchments and major headworks are becoming more widespread. • Recreational activities on and around water storages are increasingly subject to enforceable management controls. • Contamination of eutrophying water bodies by algal toxins is now recognised as a major potential risk factor for Water Service Providers developing a water-based recreational management policy. • The Australian Drinking Water Quality Guidelines recommend Water Service Providers maintain a current drinking water quality management plan.

3.0 Current Status

3.1 Water Source Management:

The primary source of water supply for the region is from the Awoonga Dam on the Boyne River. The dam has an estimated total capacity of 777,000 ML (to FSL) with an annual safe yield of 78,000ML. Water is transferred from the dam by the Awoonga Dam Pump Station which has a capacity to deliver up to 2800l/s.

The Gladstone Area Water Board (GAWB) is responsible for the supply of raw and treated water to industrial and local government customers in the Gladstone Area, including the Gladstone City Council. GAWB controls the bulk water storage, delivery and treatment services for the region.

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Water used by Gladstone City Council is treated to potable standards at the Gladstone Water Treatment plant. The treatment plant consists of two independently operating plants and includes a Dissolved Air Flotation (DAF) plant and a settlement filter plant. The treatment process uses alum dosing, dual media filtration, disinfection by sodium hypochlorite and pH correction using soda ash. The WTP is owned and controlled by GAWB but operated and maintained under contract by the Gladstone City Council.

Key water source and bulk water management strategies are the responsibility of GAWB with any proposed changes negotiated with Gladstone City and Calliope Councils.

3.2 Drinking Water Quality Framework:

The National Heath and Medical research Council (NHMRC) have developed the “Framework for Management of Drinking Water Quality” which is used by most Water Service Providers in Queensland. The framework emphasises proactive risk management from ‘catchment to consumer’ in preference to traditional monitoring of the end product. As a result, the monitoring process becomes a tool to assist n in assuring the performance of operational processes and verification of product.

The framework leads Water Service Providers to undertake a systematic and comprehensive analysis of their drinking water supply. The analysis includes physical mapping of the system, identification of potential

hazards, assessment of risks that might arise from the hazards and the identification of processes and practices that can affect drinking water quality.

It is the responsibility of GAWB to implement this framework as a means to manage drinking water quality.

3.3 Water Quality Objectives:

Some of the key water quality criteria managed by the business are contained within the businesses Customer Service Standard and include:

Performance Indicators	Target
Adequacy and quality of normal supply	
Compliance with NHMRC Guidelines for water supplied from Gladstone Water Treatment Plant:	
- microbiological	95%
- - pH 6.5 – 8.5	95%
- - Iron 0.3mg/L	95%
- - colour 5 HU	95%
- - turbidity 1 NTU	95%
- Manganese 0.1mg/L	95%
- Aluminium 0.2mg/L	95%
Number of drinking water quality complaints per 1000 rateable properties per year	5
Number of drinking water quality incidents per year	5

The Gladstone Area Water Board (GAWB) undertakes all water quality monitoring at the Gladstone WTP. This testing and analysis is undertaken by the Boards own chemist at their NATA accredited laboratory.

Council undertakes additional microbiological testing within the network. Council has recently revised its water quality sampling program to more accurately measure the quality of water supplied to customers in accordance with the Australian Drinking Water Guidelines. Improvements to the sampling program include:

- Increasing the frequency of sampling from monthly to weekly;
- Using additional sampling locations to capture water quality data from extreme points in the system; and
- Improved sample collection points to collect water direct from the water supply mains and minimise the risk of contamination

Testing of samples is undertaken by an independent NATA laboratory. A sample report on the microbiology for a water sample is provided in Appendix A.

3.4 Drought Management

The Gladstone Area Water Board (GAWB) has developed a Regional Drought Management Plan in consultation with Gladstone City Council. This plan outlines triggers for applying restrictions and the scope of such restrictions. The harshness of restrictions is gradually increased to ensure that, under extreme drought conditions, all external water use is stopped and in-house water use is restricted to the minimum necessary to maintain public health. The Regional Drought Management Plan is currently being reviewed by GAWB.Once this is finalised Gladstone City Council will develop its own Drought Management Plan and is due for submission by October 2007.

3.5 Blue Green Algae Management

The Gladstone Area Water Board (as the party responsible for management of the catchment and dam), has developed a Blue Green Algae management plan. This plan was developed in consultation with Gladstone City Council.

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key challenges facing the business will be to:

- Ensure that the business continues to receive a reliable supply of high quality water in accordance with various environmental, social and other statutory requirements;
- Ensure that water source issues are managed cooperatively with the Gladstone Area Water Board.

4.2 Future Direction and Business Improvement Opportunities

The Councils water business's immediate focus will be to:

- Work together with GAWB in developing and managing the NHMRC Water Quality Framework and Regional Drought Response Plan;
- Monitor and advise GAWB on current and projected water demand; and
- Develop contingency plans with GAWB which address potential major supply disruption (eg in case of major asset failure)

5.0 STRATEGIC BASIS OF PLAN

Key Result Area:	Asset Management
Objective:	To manage water sources and treatment/distribution infrastructure to meet agreed customer service standards.

Management Strategy	*Performance Targets*
Sustain and enhance cost-effective water sources.	• Work cooperatively with GAWB/CSC to develop Regional Drought management strategies by Oct 2006; • Develop contingency plans

Action Plan

Outcomes:
- Knowledge of longer term water source options; and
- Availability of longer term water.

Accountable Officer: Manager, Water Services

Action	Target Date	Responsibility
1. Further review / develop the Regional Drought Management Plan: • Continue to work with GAWB (as lead agency) and Calliope Shire Council to review the Regional Drought Management Plan including agreed program and scope of restrictions and develop a Plan for Gladstone City Council.	Drought Management plan by Oct 2007	Manager, Water Services in consultation with GAWB
2. Water Allocation: • Monitor current and future water demand and advise GAWB of any changes in projected consumption.	Ongoing	Manager, Water Services in consultation with GAWB
3. Develop Contingency Plans: • In conjunction with GAWB, develop emergency action plans and event reports covering potential major supply disruption issues (eg failure of trunk mains, treatment processes or raw water source).	Ongoing	Manager, Water Services in consultation with GAWB

Required Budget

Item	05/06	06/07	07/08	Ongoing
Review/Develop Drought Management Plan	(*)	(*)	(*)	

Water Allocation	(*)	(*)	(*)	
Contingency Planning	(*)	(*)	(*)	

Footnote: (*) cost of these activities is incorporated into the annual budget cycle.

APPENDIX A
SAMPLE MICROBIOLOGY REPORT

Rx date/time 10/11/2006 15:03 10-NOV-2006(FRI) 14:54 617497 GLADSTONE COUNCIL PAGE 02/02 P.002

MICROBIOLOGY REPORT FORM – WATER SAMPLES

Keep dry – handle carefully

Page 2 of 2 Date Commenced Laboratory: 18/10 Time Commenced Laboratory: 8-30

Submitted by: Gladstone City Council
Postal Address: P.O Box 29 Gladstone 4680
Phone: (07) 49 79 29 88 Fax: (07) 49 793 219
Taken by:
Order No: (if required)

Public Health Microbiology
Queensland Health Scientific Services
39 Kessels Road
COOPERS PLAINS Q 4108
PO. Box 594
ARCHERFIELD Q 4108
Ph: 3274 9075 Fax: 3274 9022

Queensland Health Scientific Services Queensland Government

Batch Reference (Lab): W 2689/05
Billing Reference (MARS): NW

LABORATORY RESULTS (laboratory use only)

Office Use: Queensland Health Scientific Services Sample Reference	Client Sample Reference	Date and Time Taken	Sample point – source of water: provide relevant details	Treatment Details/Field Measurements: pH, Chlorine, Turbidity Free Cl2	Human Consumption	Rain Water Tank	Indicate Other Sample Types: Swimming Pool, Spa Pool, Recreational, Sewage Effluent, Other	Heterotrophic Colony Count: CFU per mL at 36°C	Coliforms: MPN per 100 mL	E. coli: MPN per 100 mL	Pseudomonas aeruginosa: CFU per 100 mL	Thermotolerant (Faecal) Coliforms: CFU per 100 mL	Interpretation/Comments/Other Tests
	6	17/10 1110	Cavinya Drive	0.1			FH/Tap		N.D	N.D			This sample MEETS the NH&MRC Australian Drinking Water Guidelines, 2004.
	7	17/10 1125	Parksville	0.6			Tap		N.D	N.D			
	8	17/10 1140	Sun Valley Road	0.5			Tap		N.D	N.D			
	9	17/10 1200	Panorama Court	0.0			Tap		N.D	N.D			
	10	17/10 0945	W.T.P Clearwater Res	1.5			Tap.		N.D	N.D			

Comments: These results relate to the samples as received. The responsibility for sampling rests with the client.

Test Methods: Method SHW 17

Date Completed in Laboratory: 19/10/05

Signed: [signature] NATA Signatory

ADDITIONAL INFORMATION (including reasons for sampling)

Signed: [signature]

ADDITIONAL INFORMATION/COMMENTS

CFU = Colony Forming Units
MPN = Most Probable Number
EST = Estimated Count
ND = Not Detected
* = Detected. No count due to confluent growth

FAXED 19 OCT 2005 L. WALLACE

NATA Accredited Laboratory Number 41. NATA endorsed test report. This document may not be reproduced except in full.

National Association of Testing Authorities, Australia

QHS 20833

APPENDIX B
SUPPORTING DOCUMENTS

Title	Date	By Whom
Draft Regional Drought Management plan		GAWB

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

ENVIRONMENTAL COORDINATION PLAN

KRA – Environmental Management

TABLE OF CONTENTS

1.0 PURPOSE OF PLAN

The purpose of this Plan is to:

- provide an overview of Council's existing environmental management practices (including licences, site based management plans and other strategies contained in the Councils Integrated Environmental Management System (IEMS));
- Provide an overview of initiatives for improving its environmental management activities in respect of its water services.

2.0 EXTERNAL INFLUENCES

Councils Environmental Coordination Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description

Key relevant statutory provisions	• The principal legislation regulating the activities of Water Service Providers is the Environmental Protection Act 1994 and related regulations and environmental policies. The Act requires environmentally relevant activities (ERAs) to be authorised by the Environmental Protection Agency and the implementation of environmental management programs for achieving compliance, and imposes a general duty on Water Service Providers and their employees to protect the environment in performing their functions.
	• The Environmental Protection (Water) Policy 1997 requires local government Water Service Providers to begin implementing plans for each of the following:
	  • sewage management
	  • trade waste management
	  • water conservation
	  • urban stormwater management
	The first three of these may be in the form of a TMP sub-plan.
	• The Integrated Planning Act obliges local government Water Service Providers to strive for ecologically-sustainable development in preparing and implementing planning schemes.
	• The Water Act provides for environmental flows to be established under resource operations plans prepared by NRM.

Government administrative arrangements	• Environmental authorities issued to Water Service Providers under the Environmental Protection Act 1994, (eg for water and sewage treatment plants), usually require the preparation of various management plans and monitoring programs, for achieving compliance with requirements of the authority and the Act generally. • Subsidy eligibility under the LGBCWSS is subject to an approved TMP including an Environmental Coordination Plan.
Government policy	• As reflected in the devolution to local government of certain regulatory powers under the Environmental Protection Act, the state favours local governments (hence local government Water Service Providers) playing a key role in managing Queensland's environment. • TMP guidelines encourage affected Water Service Providers to implement an accredited Environmental Management System (EMS)
Community perceptions/ aspirations	• The community expects Water Service Providers to exercise a degree of environmental responsibility above and beyond the limited scope of their immediate licence obligations, and to set an example in accountable environmental management.

Influence Factor	Description
Industry practice/trends	• Many Queensland local government Water Service Providers have opted to prepare an Integrated Environmental Management System (IEMS) in support of a single licence application covering multiple ERAs. Several have gone further and developed a comprehensive, accredited EMS covering all the Water Service Providers activities, in some cases integrated across all local government departments. • Comprehensive third-party accredited EMSs are usually prepared in accordance with the AS/NZS 14000 series, Environmental Management Systems.

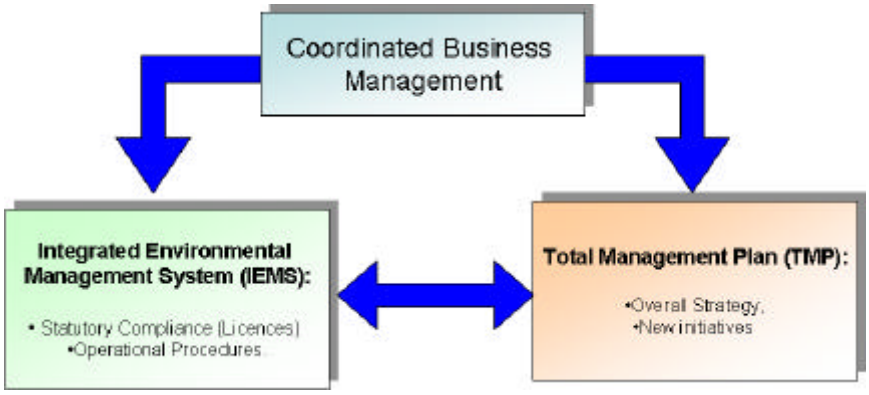
3.0 CURRENT STATUS

3.1 Councils Integrated Environmental Management System (IEMS)

Council has developed an Integrated Environmental Management System (IEMS) as a key tool for meeting its legislation requirements and managing its EPA licences and statutory obligations. The system has been successfully implemented for several years and is a relevant operational document.

The IEMS and this TMP combined provide a comprehensive system for the environmental management of the Councils water services business. The TMP provides the overall strategy for development of the businesses environmental capability (i.e. WHAT we are going to do) whilst the IEMS provides the statutory and operational aspects of the businesses environmental strategies (i.e. HOW we do it). The concept is illustrated schematically below:

Figure 1 – Relationship between the IEMS and TMP Environmental Strategies



The IEMS includes site based environment management plans for all pump stations and the two wastewater treatment facilities which are controlled by the business. Both Wastewater Treatment Plants (WWTP's) comply with their existing (30/20) licence requirements (refer Effluent Management plan for more detail).

The Gladstone Water Treatment Plant (WTP) is operated in accordance with a site based management plan developed by the owner of the facility, the Gladstone Area Water Board (GAWB). However, as operation of the WTP is classified as an environmentally relevant activity (ERA), and given that Gladstone Cit Council provides the operational expertise at the plant, broad details of the site based management plan are incorporated into the Gladstone City Councils IEMS.

Council's Environmental services branch undertakes regular (6 monthly) reviews of the IEMS to ensure that the system remains effective.

3.2 Recent Independent Environmental Audit:

The water business recently commissioned KBR to undertake a comprehensive environmental audit of its wastewater network and operational procedures. The scope of the audit was to:

- Undertake a field review of the physical elements of the wastewater network;
- Review existing management and emergency response methods;
- Undertake a broad environmental assessment of receiving environments to establish the most sensitive environmental areas; and
- Undertake a desktop risk assessment to establish those aspects of the water and wastewater system that require attention.

This audit confirmed that the wastewater network was similar to comparable networks in that, "under normal operating conditions, overflows are not likely to occur under ADWF[1], but (overflows) are likely to occur from approximately half of the major pump stations under PWWF[1]". As part of its response to the risk of overflows, Council engaged KBR to develop a comprehensive network model which will be used to identify areas of the network which may need to be modified to reduce the risk of overflow. This model is in the process of being calibrated (refer Operations Management Sub Plan).

The environmental audit also states that "Council generally has effective methods of remedying problems and has managed to avoid major extended sewerage overflows" in the past. The key area for improvement in the management of the wastewater system is in development of an overflow strategy that may incorporate physical changes to the system, such as optimisation or development of in-system storage as well as development of contingency plans.

3.3 Effluent Reuse:

Ninety-nine percent of Gladstone's treated effluent is recycled. This effluent is treated at the Calliope River Wastewater Treatment plant and is provided to QAL for use in the Alumina refining process or to NRG for power generation.. The remaining 1% of sewage is treated at South Trees treatment facility and is discharged to the South Trees Inlet. Council may apply for some financial assistance from the state government to recycle effluent from this facility.

3.4 Integrated Water Cycle Management

Finally, the business is currently looking at participating in a regional group to develop Integrated Water Cycle Management strategies. This group will provide an opportunity for individual water service providers to share their experiences (and knowledge) and may facilitate the establishment of a coordinated regional approach to issues such as stormwater reuse.

1 ADWF = Average Dry Weather Flow; PWWF = Peak Wet Weather Flow

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key environmental challenges facing the business are:

- To ensure that the business continues to meet its environmental obligations under Councils Integrated Environmental Management System (IEMS):
- Review issues associated with management of the sewer transportation network (and specifically the issue of wastewater overflow)
- To secure state funding to assist in recycling effluent from the South Trees Sewage Treatment Plant.

4.2 Future Direction and Business Improvement Opportunities

The Councils water business's immediate focus will be to:

- Review the IEMS (specifically incorporating the sewer Pump Station strategies suggested in KBRs recent Environmental Audit);
- Continue to implement the IEMS and monitor opportunities for improvement of the system;
- Develop strategies for management of sewer overflows (as required under the Council IEMS);
- Take a lead role in development of a regional forums on Integrated Water Cycle Management

5.0 STRATEGIC BASIS OF PLAN

Key Result Area:	Environmental Management
Objective:	To ensure sustainable procedures are implemented across the business which protect the environment.

Management Strategy	*Performance Targets*
Continue monitoring environmental performance and assess opportunities for improvement in environmental initiatives.	• Continued compliance with Councils IEMS and EPA requirements. • Undertake an audit of the IEMS by Nov 05 • Establish regional forum for IWCM by Dec 05

Action Plan

Outcomes :

- Compliance with relevant environmental legislation;
- Demonstration of environmental responsibility in providing services.
- Development of regional IWCM strategies

Accountable Officer Manager, Water

Action	Target Date	Responsibility
1. Review and Manage the IEMS: **Review Phase:** • Undertake an audit of the Water services components of the IEMS, identify gaps (including EMPs). • Integrate IEMS processes into operational procedures and overall environmental strategy (i.e. incorporation into TMP)	Nov 05 June 06	Manager, Water and Councils Environmental Manager
Management Phase: • Continue to implement the IEMS including all monitoring, administration and self auditing arrangements. • Report environmental results to Council and EPA. • Review and follow up on any non conformance items and assess opportunities for business improvement.	Ongoing	Manager, Water and Councils Environmental Manager
2. Develop Sewer Overflow Strategy: • Calibrate Sewer Network Model and use the network model to develop longer term sewer overflow management strategies	Refer Operations Management Plan and Inflow/Infiltration plans for details	

3. Regional Forum on IWCM • Establish forum for discussion/development of Integrated Water Cycle Management strategies suitable for the region.	Dec 05	Manager, Water
4. Extend Effluent Reuse • Apply for state government funding assistance to recycle effluent from South Trees Wastewater Treatment Plant	Refer to Effluent management Plan for Details	

Required Budget

Item	05/06	06/07	07/08	Ongoing
Manage and Review IEMS	(*)	(*)	(*)	
Develop Sewer Overflow Strategy	Refer to Operations and I/I management plans			
Regional Forum on IWCM	(*)	(*)	(*)	
Recycling from S.T. Sewage Treatment Plant	Refer to Effluent Management Plan			

Footnotes:
(*) Costs are already incorporated into current budgets

APPENDIX A

SUPPORTING DOCUMENTS

Title	Date	By Whom
Environmental Audit Report	17th December 2004	KBR
Integrated Environmental Management System (IEMS)	June 1997	GCC

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

TRADE WASTE MANAGEMENT PLAN

KRA – Environmental Management

TABLE OF CONTENTS

1 PURPOSE OF PLAN

The purpose of this plan is to provide an overview of:

- The businesses current practices for management and regulation of trade waste discharge into the wastewater transportation system ad treatment facilities; and
- The businesses future initiatives in trade waste management.

2 EXTERAL INFLUENCES

Councils Trade Waste Management Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description
Key relevant statutory provisions	▪ The discharge of trade waste to wastewater systems is regulated under the Water Act. ▪ The transportation of trade waste for disposal to a sewage treatment plant is regulated under the Environmental Protection (Waste management) Regulation. ▪ The Environmental Protection (Water) Policy 1997 requires local government Water Services Providers operating wastewater systems to implement an environmental plan about trade waste management. The environmental plan may be in the form of a TMP sub-plan on trade waste management.
Government administrative arrangements	▪ Subsidy eligibility under the Local Governing Bodies' Capital Works Subsidy Scheme is subject to an approved TMP. ▪ The scheme allows local government Water Services Providers to apply for subsidies for trade waste audits and waste minimisation programs.
Government policy	▪ NR&M recommends that local government Water Services Providers implement a uniform Trade Waste Policy, and has issued a model policy for this purpose. ▪ TMP guidelines encourage affected Water Services Providers to implement appropriate practices/strategies for managing trade waste discharges.
Community perceptions/aspirations	▪ Trade waste management is not a significant issue of concern to the general community except where this may cause obvious environmental impacts (eg odours, degradation of receiving waters). ▪ Trade waste generators generally have come to accept the 'polluter pays' principle as applied to disposal of their wastes to the wastewater transportation network
Industry practice/trends	▪ Greater emphasis is being placed on cleaner production programs, focussing on waste avoidance, reuse, recycling, etc. ▪ Administrative and surveillance systems deployed by any local government Water Services Providers for the trade waste management and enforcement have been enhanced over the past few years as a means of reducing treatment plant loading.

3 CURRENT STATUS;

3.1 Overview:

Gladstone City Council developed a comprehensive trade waste management plan in February 2005 this document has been designed to meet the requirements of the Water Act and Section 41 of the Environmental Protection Policy (Water) for the development of a comprehensive Trade Waste Management Plan. This TMP sub plan provides a brief overview of the existing policy.

3.2 Trade Waste Categories:

The Councils Trade Waste policy includes three categories of trade waste being:

- Category 1 –Low Strength/Low Volume
- Category 2 – Low Strength/High Volume
- Category 3 – High Strength/High Volume

Discharge category criteria is provided in table 3.1 below

Table 3.1 – Trade waste characteristics:

Parameter	Category 1	Category 2	Category 3
Description	Low Strength Low Volume	Low Strength High Volume	High Strength Any Volume
Biochemical Oxygen Demand (BOD_5), mg/L	< 300	< 300	>300
Chemical Oxygen Demand (COD), mg/L	< 600	< 600	> 600
Suspended Solids, mg/L	< 300	< 300	> 300
Total Kjeldahl Nitrogen, mg/L N	< 80	< 80	> 80
Total Phosphorus, mg/L P	< 15	< 15	> 15
Volume, kL/annum	<= 250	> 250	All
Trade waste approval	Permit	Permit	Agreement
Charges	Annual Charge	Annual Charge + Usage	Annual Charge + Usage

Category 1 and 2 trade waste generators are encouraged to install appropriate pre-treatment devices and develop an acceptable maintenance program which will deliver acceptable effluent quality.

Council may negotiate directly with Category 3 trade waste generators to ensure that waste provided meets the admission limits for a range of general parameters. Agreements with these Trade Waste Generators will be based on:

- A description of the effluent quality and quantity;
- Provision for monitoring and reporting waste quality and quantity
- An examination of waste prevention and recycling options; and

- An examination of options for conservation of water

3.3 Trade Waste Charging

Trade waste fees are generally determined based on the volume and concentration of the waste discharged.

Category 1 users are charges a flat annual fee. A quantity charge is applied for Category 2 (i.e. flow x rate) whilst a far more complex calculation (incorporating a range of quality and quantity parameters) is applied for Category 3 trade waste users. In all cases, penalty fees apply where flows or concentration exceed agreed limits.

3.4 Effluent and Biosolids reuse

Trade waste management is relevant to management of biosolids to the extent that trade waste may have implications for the category of biosolids and effluent reuse. This in turn may affect the options for management of these discharges.

4 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key trade waste management challenges facing the business are:

- To phase in the new Trade Waste Management Policy
- To secure sufficient resources to ensure that the Policy is adequately enforced;
- To promote greater awareness on water and wastewater related issues.

4.2 Future Direction and Business Improvement Opportunities

The immediate focus for the business will be on:

- Managing the effluent reuse contracts; and
- Developing a sulphide control strategy for the wastewater network.

5 STRATEGIC BASIS OF PLAN

Key Result Area:	Environmental Management
Objective:	To minimize the pollutant load of trade waste entering councils sewage system.

Management Strategy	*Performance Targets*
Minimize the pollutant load of trade waste entering wastewater transportation system.	• Continue staged implementation of Trade Waste Management policy • Review need for additional resources to implement Policy (Dec 05) • Invite and review comments on new policy by Dec 05 • Review policy by June 06

Action Plan

Outcomes:
- Reduced treatment plant and treatment plant impacts; and
- Trade waste generators pay the full cost of service.

Accountable officer Manager, Water

Action	Target Date	Responsibility
Implement the new Trade Waste Policy		
• Continue staged implementation of TradeWaste Management Policy.	June 2005	Manager, Water Services. Manager, Assessment and development
• Review need for additional resources to implement Trade Waste Management Policy	Dec 2005	Manager, Water Services. Manager, Assessment and development
• Invite and review industry and Council comments on new Policy	Dec 2005	Manager, Water Services. Manager, Assessment and development
• Undertake a review of the new Policy	July 2006	Manager, Water Services. Manager, Assessment and development
• Undertake trade waste generator education.	Ongoing	Trade Waste Officer

Required Budget

Item	05/06	06/07	07/08	Ongoing
Implement new Trade Waste Policy	(*)	(*)	(*)	

Footnotes:
(*) Costs incorporated as part of annual budgeting

APPENDIX A

SUPPORTING DOCUMENTS

Title	Date	By Whom
Draft Trade Waste Management Plan	Feb 2005	GCC
Integrated Environmental Management System and Associated Effluent Discharge Licences	June 1997	GCC
Effluent Reuse Agreements	Various	GCC

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

EFFLUENT MANAGEMENT PLAN

KRA – Environmental Management

TABLE OF CONTENTS

1 PURPOSE OF PLAN

The purpose of this Plan is to provide an overview of:

- The businesses current practices for management of effluent from its wastewater treatment processes; and
- Future initiatives in effluent management, in particular effluent reuse.

2 EXTERAL INFLUENCES

Council's Effluent Management Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description
Key relevant statutory provisions	• The disposal of effluent from sewage treatment plants, including effluent disposed of on land or otherwise reused, is regulated under the Environmental Protection Act 1994 and Environmental Protection Regulation 1998.
Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject to an approved TMP. • Under the scheme, establishment of new plants or augmentation works for improving effluent quality attract up to 40% capital subsidy. • Qualifying effluent reuse schemes may receive 50% subsidy. • Capital subsidies of up to 50% are also available for qualifying advanced wastewater treatment projects, including nutrient removal. Applications must involve innovative process development or pilot, demonstration or research projects.
Government policy	• The EPA is progressively introducing licensing requirements necessitating nutrient removal and/or advanced wastewater treatment for plants discharging to environmentally critical receiving waters. • The Government, through the EPA and NRM, actively encourages appropriate reuse of effluent. • NRM is developing a State Wastewater Reuse Strategy, and as part of this has promoted and facilitated the development of a number of reuse demonstration plants, including potable reuse applications. • TMP guidelines encourage affected Water Service Providers to implement appropriate practices/ strategies for managing effluent disposal and reuse. • The Queensland Water Recycling Strategy was released by the State Government in October 2001. The EPA is responsible for overall implementation of the strategy. In conjunction with this, NRM has promoted and facilitated the development of a number of reuse demonstration plants, including potable reuse applications.
Community perceptions/ aspirations	• Local communities have become very sensitive about effluent discharges to water bodies. • There is increasing community support for the concept of effluent reuse for non-potable uses.
Industry practice/trends	• Some local government Water Service Providers are opting for 'best-practice' effluent standards, which exceed EPA licence requirements. • Increasing numbers of Australian Water Service Providers are implementing long-term reuse strategies. • Cooperative performance comparison programs provide a baseline of data on current levels of reuse by local government Water Service Providers.

3 CURRENT STATUS

3.1 Effluent Characteristics

The business currently operates two Wastewater Treatment Plants (WWTPs):

The Calliope River WWTP:
This facility treats about 99% of the cities wastewater. The plant has a design capacity of 41,000 EP and currently has an estimated connected population of 29,000 EP. The current discharge licence is based on long term 80 percentile limits for BOD and TSS of 20 and 30mg/L respectively. The facility comprises two different treatment plants. These are:

- An oxidation ditch followed by secondary clarifiers, constructed in 1991 and augmented in 1995. This component of the facility treats about three quarters of the flow, and
- A biological filter plant constructed in 1961 and duplicated in 1971 that treats about one quarter of the flow.

There are no odour control facilities at the site.
Under normal circumstances 100% of the effluent from this plant is recycled (Refer 3.2 below).

South Trees WTP:
South Trees WWTP is an intermittently operated oxidation ditch with a design capacity of 5,000EP and current loading in the order of 1,875EP. The plant was constructed in 1988 and is licensed to produce similar quality effluent to the Calliope River Plant (i.e. 20/30 licence). The plant currently discharges to the South Trees Inlet.

3.2 Current Effluent Disposal/Effluent Reuse:

Council has negotiated long term agreements to supply treated effluent to QAL and NRG. These agreements provide that 100% of treated wastewater produced from the Calliope WWTP is recycled under normal circumstances. However, the agreements include provision for Council to use up to 5% of the effluent I required. The NRG agreement allows the business to take up to 2ML of treated effluent per day for inclusion in their ash waste. QAL have a 30-year agreement to use the remaining treated effluent. In both cases, the quality of secondary treated effluent is acceptable to these businesses.

At present, treated effluent from the South Trees WWTP is discharged to the environment. The business is looking at options for beneficial reuse of these flows.

3.3 Odour Control:

Odour control (and associated sulphide build up) is an issue for the Council in the wastewater transportation network as well as at the plant. Addressing the build up of sulphides in the system (and managing the associated asset degradation) is an area of interest for the business.

4 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key effluent management challenges facing the business are:

- To develop a plan to manage odour emissions in wastewater system.
- To identify recycling opportunities for effluent treated at South Trees Sewage Treatment Plant

4.2 Future Direction and Business Improvement Opportunities

The immediate focus for the business will be on:

- Managing the existing effluent reuse contracts;
- Extending effluent reuse to include treated wastewater produced at the South Trees WWTP; and
- Developing a sulphide control strategy for the sewer network.

5 STRATEGIC BASIS OF PLAN

Key Result Area :	Environmental Management
Objective :	To manage effluent to meet licence requirements, minimise the impact on the environment and facilitate beneficial reuse.

Management Strategies	**Performance Targets**
Maintain current contracts for beneficial reuseof effluent from Calliope River Sewage Treatment Plant.	• Continue to manage the existing effluent reuse contracts
Investigate recycling opportunities for effluent from the South Trees sewage treatment facility.	• Identify feasible options for recycling Soth Trees WWTP effluent by Dec 06. • Seek funding assistance from state government by June 07.
To reduce odour discharges from the wastewater system	• Develop an Odour control/management strategy by Jun 06

Action Plan

Outcomes :
- Minimise environmental impacts;
- Compliance with contractual requirements; and
- Reduced odour complaints and extended asset lives

Accountable Officer
- Manager, Water

Action	Target Date	Responsibility
1 Calliope River WWTP Effluent Reuse • Monitor existing effluent reuse contracts to ensure quality/quantity meets contracted requirements.	Ongoing	Manager, water
2. South Trees Effluent Reuse • Identify feasible options for recycling effluent from South Trees Wastewater Treatment Plant; • Apply to the state government for funding assistance for reuse of effluent from the South Trees WWTP.	Dec 06 June 07	Manager, Water
3. Odour Control/Management Strategy • Develop strategy for odour control/management within the transportation network (strategy to include consideration of dosing) • Implement outcome of odour management strategy	Jun 06 Ongoing	Manager, Water

Required Budget

Item	05/06	06/07	07/08	Ongoing
Manage Effluent Reuse from Calliope River WWTP	(*)	(*)	(*)	
Develop Effluent Reuse Strategy for South Trees WWTP		$15,000		
Develop Odour Management Strategy	$10,000	$10,000	TBA	

Footnotes: (*) Costs incorporated as part of annual budgeting

APPENDIX A

SUPPORTING DOCUMENTS

Title	Date	By Whom
Integrated Environmental Management System and Associated Effluent Discharge Licences	June 1997	GCC
Agreement for the Supply of Treated Effluent	2004	GCC & QAL

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

BIOSOLIDS MANAGEMENT PLAN

KRA – Environmental management

TABLE OF CONTENTS

1 PURPOSE OF PLAN

The purpose of this plan is to:

- Provide an overview of the current practices and future initiatives in managing the biosolids produced at Councils Wastewater treatment plants.

2 EXTERNAL INFLUENCES

Councils Biosolids Management Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary of Operating Environment

Influence Factor	Description
Key relevant statutory provisions	▪ Water treatment and sewage sludge are a 'regulated waste' under the Environmental Protection Regulation 1998. All aspects of biosolids management are classed as Level 1 Environmentally Relevant Activities which must be covered by a licence(s) under the Environmental Protection Act 1994. ▪ Biosolids are also categorised as 'trackable waste' under the Environmental Protection (Waste Management) Regulation 2000, which prescribes general regulatory requirements for biosolids management practices. ▪ Under the Environmental Protection (Waste Management) Policy 2000, each local government must start implementing a waste (including biosolids) management strategic plan, and report annually to EPA on progress.
Government administrative arrangements	▪ Subsidy eligibility under the LGBCWSS is subject to an approved TMP including a Biosolids Management Plan.
Government policy	▪ NRM and EPA encourage the beneficial use of biosolids where quality standards can be met and regulatory requirements complied with. ▪ TMP guidelines recommend that affected Water Service Providers implement appropriate practices/ strategies for managing sewage biosolids.
Community perceptions/ aspirations	▪ Increased use of biosolids as an additive in commercial soil products has created greater potential for exposure of the community to biosolids. The community's reasonable expectation is that such products will comply with applicable health and other relevant regulations.
Industry practice/trends	▪ The reuse of biosolids in composting and commercial soil manufacture is increasing. ▪ Both DNR and EPA have produced draft guidelines for the use and disposal of biosolids. National guidelines were also produced by ARMCANZ in 1995. ▪ EPA has released an Operation Policy for land application of biosolids for agricultural use.

3 Current Status

3.1 Quantity and Quality of Biosolids from Council's WWTP's

The Calliope River WWTP generates around 7,800 m3 of biosolids per anum. The smaller South Trees WWTP generates around 100m3 of sludge each year. These plants use a belt press to de-water the sludge prior to loading in sludge drying beds (where sludge is kept in windrows and turned). At present, all biosolids are stored at the WWTP sites. Storage area at the sites is not a significant issue at present.

The biosolids are not subjected to testing for dryness or chemical composition. However, this is one aspect of the WWTP operations which the business intends to update as part of its review of operating procedures (Refer Operations Management plan). Council's biosolids have recently been tested and confirmed as being suitable for restricted Use, Category 2 in accordance with the NSW Biosolids Guidelines.

3.2 Proposed Biosolids Management Initiatives:

Council has developed an Environmental Management Plan (EMP) for use of biosolids for site rehabilitation. The biosolids will be used to establish grass cover on a site which will eventually be use for public access. The EMP addresses a range of environmental and safety issues regarding this project.
Council intends to use this project as a trial for reuse of biosolids at other locations. As part of this trial, all biosolids are now being classified by production date onsite. This additional information will enable Council to track the age of its biosolids for reclassification in the future.

4 FUTURE DIRECTION

4.2 Challenges Facing the Business:

The key challenges facing the business in terms of management of its biosolids are:

- To ensure that operating and monitoring procedures are appropriate; and
- Identify further options for beneficial reuse (or disposal) of biosolids.

4.3 Future Direction and Business Improvement Opportunities

The focus of the sewage business will be to;

- Implement the Councils EMP for biosolids management;
- Review the current biosolid reuse trials with a view to expanding their application; and
- Investigate opportunities for reducing biosolids volumes

5 STRATEGIC BASIS OF PLAN

Key Result Area :	Environmental Management
Objective :	To maximise the beneficial reuse of biosolids from Council's wastewater treatment plants

Management Strategy	**Performance Targets**
Development of a comprehensive management strategy.	• Characterise Biosolids quality by June 06 • Investigate opportunities for improved biosolids reuse by Dec 06

Action Plan

Outcomes:
- Operational costs minimised
- Reduced environmental and public health risk

Accountable Officer:
- Water Engineer

Action	Target Date	Responsibility
1. Review Biosolids Management Procedures; • Continue to implement the Councils EMP for biosolids management • ~~Characterise biosolids quality.~~	Ongoing ~~June 06~~	Water Engineer
2. Further develop reuse options ; • Evaluate the outcomes of the existing trial of biosolids reuse and identify options for expansion of Councils approach. • Assess alternative options for biosolids reuse and report to Council.	Dec 07 June 08	Water Engineer

Required Budget

Item	05/06	06/07	07/08	Ongoing
Review Biosolids Management Practices	$10,000			
Evaluate reuse Options		$10,000		

APPENDIX A

SUPPORTING DOCUMENTS

Title	Date	By Whom
IEMS – Environmental Management Plan Sludge Handling	July 2000	Manager, Water Services

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

INFORMATION MANAGEMENT PLAN

KRA: Management Support

TABLE OF CONTENTS

1.0 PURPOSE OF PLAN

The purpose of this plan is to provide an overview of;

- The current status of information management systems including the integration of data collection, processing, analysis and reporting; and
- Outline strategies for improvement to achieve the required outputs.

2.0 EXTERNAL INFLUENCES

Councils Information Management Strategy has been developed to address a range of industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description
Key relevant statutory provision	▪ Whilst Statutory water authorities are required under the Financial Management Standard to develop and implement and information system strategic plan, covering relevant operational and financial information systems, Local government Water Service Providers are not subject to ay similar statutory requirement
Government administrative arrangements	▪ Subsidy eligibility under the LGBCWSS is subject to an approved TMP incorporating an Information Management Plan.
Government policy	▪ TMP guidelines encourage affected Water Service Providers to implement appropriate information management systems for their range of operations.
Community perceptions/aspirations	▪ Expectations of greater accountability on the part of elected representatives, board members, etc, dictate a need for accurate and timely information across all Water Service Provider activities.
Industry practice/trends	▪ Water Service Providers are subject to growing demands to demonstrate performance and/or accountability, as well as to record and analyse information in respect of: o Cooperative performance benchmarking and reporting: o Demonstrating statutory compliance; and o Reporting to customers and regulations ▪ The drive for increased operational efficiencies and process integration and better short-term and long-term planning has generated an increasing need for efficient, integrated management of information. ▪ Rapid advances in the development of IT systems and e-commerce will raise the status of information management to being a key function of Water Service Providers.

3.0 CURRENT STATUS

3.1 Management Reporting:

The business communicates its performance to Council (as the business owner) though development and presentation of monthly reports. These reports have been designed to reflect the statutory objectives of the business (as defined in the SAMP) as well as the corporate objectives of Council (which will be further defined in the Corporate Plan and ultimately reflected in the TMP).

The business also provides a range of performance indicators to internal stakeholders (specifically Council), a variety of state government agencies (eg Department of Natural Resources and Mines and the EPA) and industry bodies (WSAA). The scale of these reporting requirements is becoming unwieldy and needs to be rationalised.

3.2 Information Management Systems:

The Gladstone City Council has adopted "People Soft" as the primary corporate system for all businesses. As well as providing corporate finance functionality, the software includes variety of asset, service and customer management components.

Systems support is provided by the Councils IT staff. This service includes a help desk and back-up by service contracts.

Council have recently commissioned consultants KBR to develop calibrated network models for both the water supply and wastewater transportation infrastructure. These models will provide the foundation for further development and optimisation of the businesses service delivery strategies.

A listing of key systems, software and their purpose to the businesses is provided below:

System	Software Package	Purpose
Telemetry, SCADA	Radtel	Data collection at key assets within the water and wastewater network.
Geographical Information System (GIS)	MapInfo	Spatial information and some asset attribute information on water and wastewater infrastructure.
Customer complaint monitoring.	Pathways	Registers and tracks customer complaints.
Accounts management	People Soft	Windows based corporate software for management of financial flows.
Infrastructure register	MapInfo and Asset Management components of People Soft	Asset value and physical information on Council Non Current Asset register (including all pump stations, mains, reservoirs, manholes etc)
Document management	People Soft	Correspondence will soon be stored digitally.
Asset management activities	Various	Asset Management activities are undertaken using a range of data inputs from the above systems. In many cases, the asset management strategies are assessed using standards MS Office applications such as Spreadsheets, documents

		and project reporting software.
Network Modelling	Mouse 2003 (Wastewater) and H2O Net (Water)	These models provide a tool to diagnose system issues, assess system capacities and test the validity of proposed upgrade works. Outcomes from the Network modelling is interfaced with the Councils GIS.

Existing systems are generally operating well and broadly meet the needs of management. Opportunities for improvement of selected systems include upgrading of the telemetry system to provide more relevant data and control functionality and better management of system optimisation (following the completion of the 'roll out' of People Soft). This will include undertaking a review of integration of financial systems and the engineering asset register.

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key challenges facing the business in managing its information systems are to:

- Finalise the roll out of "People Soft" and ensure that the business can obtain "value for money" from the software; and
- Ensure that data is provided in a timely and accurate fashion. In particular, information on operating performance provided by the Councils telemetry system.

4.2 Future Direction and Business Improvement Opportunities

The Councils water business's immediate focus will be to:

- Rationalise the numbers of performance indicators provided to statutory authorities and industry bodies.
- Complete the roll out of 'People soft' and undertake a review of the functionality of the software, identify gaps and develop strategies for addressing these issues;
- Develop a strategy for improving operational performance through upgrading the Councils telemetry system; and
- Maintain the existing GIS.

5.0 STRATEGIC BASIS OF PLAN

Key Result Area:	Management Systems
Objective:	To continuously develop systems to achieve best practice.
Management Strategy	*Performance Targets*
Ensure that the collection, processing and reporting of all water and wastewater services information is undertaken in an efficient manner.	• Develop a strategy for rationalising external reporting by June 06. • Complete "People Soft" roll out by June 06 • Collate data sources by June 07. • Undertake a review of all KPIs by Dec 05.

Action Plan

Outcomes:
- Reliable information is readily available for management, planning and system operations; and
- Improved knowledge of business infrastructure performance

Accountable Officer
- Manager, Water Services

Action	Target Date	Responsibility
1. Rationalise External reporting: ▪ Undertake a review of all KPI's requested by statutory authorities and industry bodies. ▪ Work with the Water Directorate to rationalise these reporting requirements	Dec 05 June 06	Manager, Water Services and Qld Water Directorate
2. Complete "People Soft" roll out: ▪ Complete the migration of data across into People Soft and commence full operational application of the software ▪ Undertake a review of the softwares functionality, identify gaps and propose solutions. Review to specifically examine integration of the Finance systems and Asset Management data. ▪ Review opportunities for the Customer management System 'Pathways' to be integrated with the GIS to facilitate better asset decision making.	June 2005 June 06 June 06	Manager, Water Services Manager, Water Services Manager, Water Services
3. Undertake Review/update of Telemetry: Undertake a review and development of the businesses SCADA system	***Refer Operations Management Sub plan***	
4. Collate Information sources: ▪ Identify and document all databases, spreadsheets, and other information sources relating to the businesses assets ▪ Review the need for current data collection processes (is it providing 'value for money' for the business?	Aug 2006 Jun 07	Water Engineer

Required Budget

Item	05/06	06/07	07/08	Ongoing
Complete "Roll out" of People Soft	(*)	(*)	(*)	
Update SCADA system	Refer Ops Management Sub Plan			
Collate Information Sources	(*)	(*)	(*)	

Footnote:
(*) Costs of thee activities is already included in annual budgeting

APPENDIX A

SUPPORTING DOCUMENTATION

Title	Date	By Whom

TOTAL MANAGEMENT PLAN

FOR

WATER SERVICES

HUMAN RESOURCES DEVELOPMENT PLAN

KRA – Management Support

TABLE OF CONTENTS

1.0 PURPOSE OF PLAN

The purpose of the plan is to:

- Provide an overview of the businesses revised organisational structure and human resource management practices; and
- Provide an outline of future human resources strategies

2.0 EXTERNAL INFLUENCES:

Councils Human Resource Management (HRM) strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

TABLE 2.1: Summary Operating Environment

Influence Factor	Description
Key relevant statutory provisions	Local government Water Service Providers are subject to the following statutory provisions in respect of human resources management: ▪ Chapter 16 of the Local Government Act 1993 discusses staffing generally; ▪ The Local Government Finance Standard 1994 in respect of equal employment opportunity management; ▪ The Workplace Relations Act 1997; ▪ The Workplace Health and Safety Act 1994; and ▪ Various pieces of anti-discrimination legislation.
Government administrative arrangements	▪ Subsidy eligibility under the LGBCWSS is subject to an approved TMP including a Human Resources Management Plan. ▪ Continuing subsidy entitlements are subject to satisfactory performance in implementing an approved TMP. This implies sufficient allocation of resources by Water Service Providers to ensure effective TMP implementation
Government policy	▪ As indicated in the preliminaries to the Workplace Relations Act 1997, the Government seeks to establish a framework for cooperative workplace relations that support economic prosperity and welfare. ▪ TMP guidelines encourage affected Water Service Providers to adopt an appropriate systematic approach to human resources management, encompassing compliance with associated statutory requirements.
Community perceptions/aspirations	▪ In their dealings with Water Service Providers, customers expect, or at least aspire to, courtesy, knowledgeability and prompt and effective responses on the part of staff.
Industry practice/trends	▪ Contracting-out of services has in some cases created problems with maintaining adequate core skills and resources ▪ Successful introduction of contracting-out implies a need for prior analysis of impacts on staff, beneficial and adverse ▪ Most organisations have found it cost-effective to contract-out specialised tasks to consultants, rather than attempt those using internal resources. ▪ Commercialisation of water services has generated a need for new skills and additional training within larger Water Service Providers ▪ The advent of enterprise bargaining, workplace agreements and related reforms represents a major milestone in human resource management for Queensland Water Service Provider organisations.

3.0 CURRENT STATUS

3.1 Organisational Structure

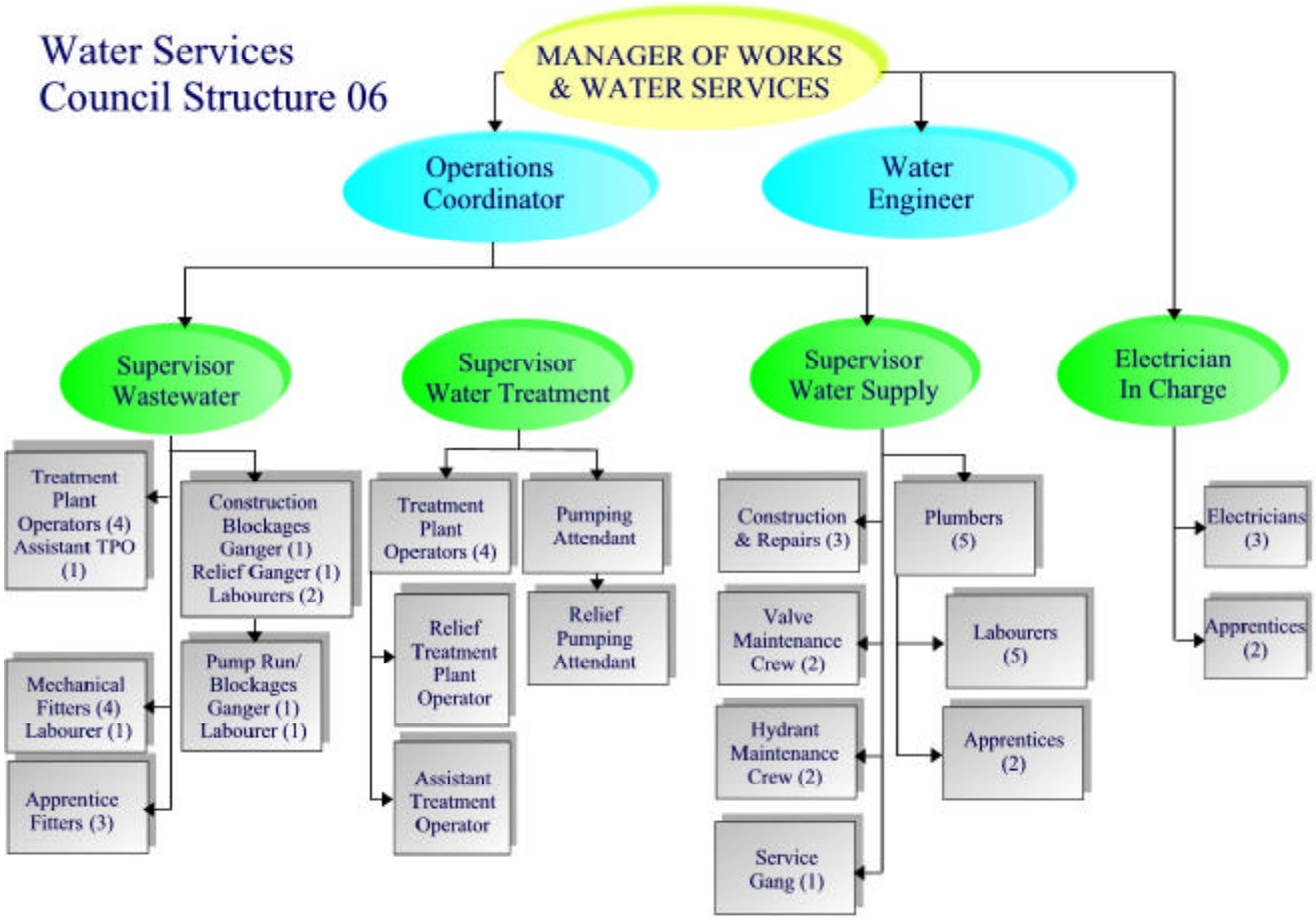
The organisation has recently undergone structural changes to improve accountability and more accurately reflect the operational functionality of the business. The business boasts a total workforce of around 60 staff who are responsible to 4 functional managers. These managers include team leaders responsible for:

- Wastewater Services
- Water treatment (including the GAWB contract)
- Water Supply (encompasses reticulation work); and
- Electrical

Almost all functional managers are responsible to the Operations Coordinator who in turn is responsible to the Manager, Water Services. The businesses Water Engineer and Electrical team leader report directly to the Manger, Water Services.

This structure enables the Manager, Water Services to establish, manage and monitor the strategic direction of the business with general, day to day, operational issues managed by the Operations Coordinator and Water Engineer.

A copy of the organisational chart is provided below:



3.2 Skills Development:

The business has undertaken a Training Needs Analysis (TNA) and established a skills matrix. This skills matrix is updated on an annual basis. The Training Needs Analysis has identified that the business has appropriate skills to deliver the services for which it is responsible. However, the business has identified the need for the industry in general to standardise its training outcomes and provide more skills based training.

3.3 Workplace Agreements and Staff satisfaction:

The business operates under a Council wide Enterprise Bargaining Agreement. The business has broadly reviewed the advantages and disadvantages of developing a separate Local Area Agreement and concluded that there is not see sufficient advantage in pursuing this approach.

The CEO undertakes staff satisfaction interviews. These interviews are supported by a basic questionnaire on staff satisfaction.

3.4 Innovation:

Regular team meetings are held with staff that provides a forum for innovative ideas to be raised, reviewed, implemented and developed.

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key challenges facing the business are:

- Implementing the new organisational structure and identifying areas for further improvement;
- Ensuring that staff remain motivated and their skills remain relevant and up-to-date;
- Continue to develop and implement the Councils HR management strategies (incorporating skills audits and satisfaction surveys).

4.2 Future Direction and Business Improvement Opportunities

The Councils water business's immediate focus will be to:

- Further develop a structured training program that is compatible with the businesses strategic direction;
- Implement competency based training for field staff; and
- Continue to implement existing HR strategies (including periodic skills audits and satisfaction surveys).

5.0 STRATEGIC BASIS OF PLAN

Key Result Area:	Management Support
Objectives:	To develop workforce skills, flexibility, satisfaction and maintain motivation to meet the needs of the business.

Management Strategy	*Performance Targets*
▪ Develop a Performance Management Framework ▪ Improve 2 way communication at all levels of the business	▪ Further develop a structured training program by Dec 06 ▪ Review wastewater operating functions to ensure that KPIs can be met (specifically in terms of blockages) by Dec 05

Action Plan

Outcomes:
- Highly skilled and motivated staff;
- An effective and efficient organisation

Accountable Officer: Manager, Water

Action	Target Date	Responsibility
1. Further Develop a Structured Training program		
• Formalise the Business Training Program	Dec 06	Operations Coordinator, Organisational Development Officer and All Team Leaders
• Undertake training needs analysis at the time of staff performance appraisals.	Annually	
• Undertake competency based training	Needs basis	
2. Continue existing HR initiatives		
• Hold regular staff meetings with Team Leaders and workers representatives.	Monthly	Manager, Water Services
• Hold regular staff meetings for all water and wastewater indoor staff.	4 per year	Manager, Water Services
• Seek suggestions of improvement from every staff member.	Ongoing	Manager, Water Services
• Undertake staff satisfaction survey	Annually	Manager, Water Services
3. Review of Wastewater Operations Area:		
• Review all operational KPIs to ensure that the business can meet the standards set.	Dec 2005	Manger, Water Services

Required Budget

Item	05/06	06/07	07/08	Ongoing
Develop Structured Training program	(*)	(*)	(*)	

Continue existing HR initiatives	(*)	(*)	(*)	

Footnotes:
(*) Costs are already incorporated in annual budgets

APPENDIX A

SUPPORTING DOCUMENTATION

Title	***Date***	***By***
Enterprise Bargaining Agreement		GCC

TOTAL MANAGEMENT PLAN

FOR

WATER SUPPLY SERVICES

RISK MANAGEMENT PLAN

KRA – Risk Management

TABLE OF CONTENTS

1.0 PURPOSE OF PLAN

The purpose of this plan is to provide an overview of:

- the risks currently faced by the business in delivering water supply and wastewater services
- provide an overview of the business current risk management pactices; and
- Overview the direction of future risk management initiatives n delivery of water and wastewater services.

2.0 External influences:

Councils Risk Management Strategy has been developed to address a range of statutory requirements and industry trends. A summary of constraints and influences impinging on all Queensland water service providers is included in Table 2.1.

Table 2.1: Summary Operating Environment

Influence Factor	Description
Key relevant statutory provisions	• Statutory water boards are required under the Financial Management Standard 1997 to maintain systems for effectively managing all relevant risks associated with their operations. Local government Water Service Providers are not subject to a similar general requirement regarding their operations. • The statutory obligations of local government Water Service Providers regarding risk management are confined to requirements under the Workplace Health and Safety Regulation 1997 to prepare and implement a Workplace Health and Safety Plan for carrying out certain construction work. • A Workplace Health and Safety Plan is essentially a limited scope risk management program as discussed in NRM's Guideline on Risk Management for the Queensland Water Industry.
Government administrative arrangements	• Subsidy eligibility under the LGBCWSS is subject to an approved TMP
Government policy	• TMP guidelines encourage affected Water Service Providers to apply an appropriate risk management process in developing a TMP
Community perceptions/aspirations	• The community is becoming more legally aware and litigious. At the same time it expects greater operational due diligence and accountability from Water Service Providers, eg. In respect of public health and safety issues.

3.0 Current Status

3.1 Existing Risk Management Strategies (General)

The water business has undertaken a broad review of technical and operational risks faced by the business. Two key outcomes of this review (and associated contingency planning) have been:

- Installation of back-up generator connections for all key pump stations;
- Identified water reservoir storage within the entire network;
- Has identified system storage capacity in the case of loss of power to the network; and
- Trailed the extent to which the existing network could service both high level and low level zones (in the event of emergency).

Both the water and wastewater networks are operated on an "on demand" basis and are automatically monitored using telemetry (radtel). The business is looking at opportunities to update its SCADA software. Once updated, the software will provide the business with greater control over the network functionality.

3.2 Workplace Health and Safety:

As outlined in the Operational Management Plan, the Council has adopted the Local Government Workcare Workplace Health and Safety Management system (Safeplan). The Safeplan system provides the opportunity for the business to develop, evaluate, review and audit works procedures. Procedures are reviewed regularly to incorporate the latest achievements in technology, improvement in treatment processes, legislative requirements, service standards and sustainability.

3.3 Emergency Management/Business Continuity Planning

Some contingency planning has been undertaken by Council as well as in consultation with GAWB. These activities have focussed on 'high risk' assets and events (eg cyclone). Further asset based contingency planning has been planned as part of the businesses operational activities (Refer Operations Management Plan). To date, no business continuity planning has been undertaken by the business.

3.4 Insurances:

One of Councils risk mitigation measures is through appropriate use of insurance. These include Public Liability, Professional Indemnity, Products Liability which are renewed annually

4.0 FUTURE DIRECTION

4.1 Challenges Facing the Business:

The key challenges facing the business are:

- To implement improved risk management practices;
- Further develop the businesses emergency management/business continuity planning;
- Further develop a Critical Infrastructure Protection program.

4.2 Future Direction and Business Improvement Opportunities

The Councils water services businesses immediate focus will be to:

- Undertake a broad Risk Assessment (including asset and non asset related risk issues) by June 06
- Develop contingency plans by June 07 (Refer Operations Management Plan)
- Implement staff training awareness in risk management by Dec 08.
- Undertake ongoing monitoring of risk plan.

5.0 STRATEGIC BASIS OF PLAN

Key Result Area : Risk Management	
Objective : To effectively manage all risks in the delivery of water services.	
Management Strategy	**Performance Targets**
Understand and appropriately manage risks associated with the range of activities undertaken by the business.	• Undertake a broad Risk Assessment by June 06 • Develop contingency plans by June 07 • Implement staff training awareness in risk management by Dec 08. • Ongoing monitoring of risk plan.

Action Plan

Outcomes:
- an agreed, documented, consistent approach to treating risks within the business
- the minimisation of risk exposure within the business
- a process whereby risk management strategies can be reviewed and updated at regular intervals to meet changing circumstances and further risk identification.

Accountable Officer:
- Manager, Water Services

Action	Target Date	Responsibility
1. Undertake a Broad Risk Assessment: ❖ Undertake an assessment of the asset and non-asset related risks facing the business and develop a water services risk profile for the business.	June 06	Manager, Water Services
2. Develop Contingency Plans: ❖ Undertake further risk assessment and identify 'high risk' asset and events (eg cyclone); ❖ Develop contingency plans for addressing these events	Refer Operations Management Plan	
3. Undertake Emergency Management/Business Continuity Planning: ❖ Implement competency based training in emergency amendment/business continuity planning for all key services staff. ❖ Consider undertaking business continuity plan live exercises.	Dec 2008 TBA	Manager, Water Services
4. Maintain Risk Plan: ❖ Maintain risk plan including annual review.	Annual review	Manager, Water Services

Required Budget

Item	05/06	06/07	07/08	Ongoing
Undertake a Broad Risk Assessment	$5,000			
Develop Contingency Plans	Refer Operations Management Plan			
Undertake Emergency Management Plan	(*)	(*)	(*)	
Maintain Risk Plan	(*)	(*)	(*)	

Footnotes: (*) Costs already incorporated as part of ongoing budget allocation