SHIRE OF COOLGARDIE

REPORT

2012 ASSET MANAGEMENT REVIEW

OF

COOLGARDIE SEWERAGE &NON-POTABLE WATER SUPPLY SERVICES,

(Final – 29th January 2013)

EXECUTIVE SUMMARY

TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

The Shire of Coolgardie (The Shire) operates the Coolgardie Sewerage & Non-Potable Water Supply under the provisions of Water Services Operating Licence No. 13 Version OL2, dated 15th May 2009. The Licence is issued by the Economic Regulation Authority of Western Australia (ERA) - in accordance with the provisions of the Water Services Licensing Act 1995.

Section 36 of the Act and Clause 17 of the licence require that the Licensee provides and maintains an Asset Management System for the ongoing operations, maintenance, monitoring the condition of and future replacement of its assets. Also, an independent review of the asset management system is required to be undertaken not less than once in 24 months, or such longer period allowed by the Economic Regulation Authority.

OBJECTIVES AND SCOPE

The Water Services Licensing Act 1995 requires that the Shire provide for and maintain an asset management system. The system should set out the processes to be taken by the Shire to ensure the proper planning, operation, financing, maintenance, repair and renewal of its assets and for monitoring of its water services. The Act requires the Shire to provide the ERA with a report by an independent expert on the effectiveness of the system.

This review will provide the Authority with an independent opinion on whether or not the Shire has in place the appropriate systems for the planning, construction, operation and maintenance of its water services assets

A detailed description of the scope of the asset management review investigations is given in the main report

TIME FRAME AND DATE OF ASSET MANAGEMENT REVIEW

The Asset Management Review covers the period from 1st November 2011 to 31st October 2012.

The review was undertaken during a field visit to Coolgardie on 3rd and 4th December 2012

SUMMARY OF CONCLUSIONS

The Asset Management Review concluded that the recommendations of both the 2009 or 2011 reviews of its Asset Management System have not been implemented. To a large extent this failure to implement the recommendations has been due to significant turn-over of management staff responsible for the sewerage and non-potable water services. During the last 18 months, there have been two separate appointees to the position of Manager – Development Services (the department responsible for the sewerage and non-potable water services). The position has been vacant since May 2012. A new appointee to this position will be commencing his duties on 17th December 2012. The intention is that the appointee will institute a program develop an asset management system in accordance with the recommendations of this report and those of the two previous reviews.

The Manager, Technical Services, has been employed by the Shire for just eighteen months. His responsibility is primarily the construction and maintenance of roads, drainage and solid waste disposal services within the Shire. His responsibility for input to the sewerage and non-potable water system is limited to technical advice and provision of the Shire's plant and labour associated with the repair to, or installation of the system's assets.

Due to the Manager of Development Services position being mainly vacant, or only temporarily occupied since his own appointment, the Manager Technical Services, has been obliged to undertake the additional tasks of overseeing the operation of the sewerage and non-potable water services. He has not had the time or staff resources to commence the preparation of AM documentation, asset condition inspections, cost estimates, or other necessary reviews recommended by the 2009, 2011 or this current report.

Notwithstanding the foregoing comments, the Coolgardie sewerage and non-potable water services systems are being operated in a manner that satisfies the basic requirements of the system ie, the collection and treatment of sewage and disposal of effluent. Improvements have been made to operations as a result of pump reconditioning and provision of standby units, weed control, cleaning and flushing of reticulation sewers and the installation of floating aerators at the treatment plant.

Much needs to be done to address the requirements associated with development of the AMS operation and maintenance instructions and the flow and water quality monitoring and reporting requirements of its licensing Authorities – ie, the Economic Regulation Authority (ERA), Department of Environment & Conservation (DEC), and Department of Health. (DOH).

In addition, Reviewer considers the Shire should also consider the appointment of an Operator to undertake the daily operations and maintenance of the system, including undertaking / coordinating flow and water quality measurement, testing and all reporting to management .

This review is unfavourable in many areas and the large number of recommendations set out in the following (taken from Table D of this report) result mainly from the Shire's inability to implement the recommendations of the two previous reviews. As a consequence, the system and its control is at risk of disruption due to inadequacies in the areas of asset condition assessment, operations and training, maintenance, monitoring and reporting.

PREVIOUS REVIEW - 2011

The recommendations of the 2011 review and subsequent actions are as follows:

Asset Planning

- *Document and implement a process to review the Asset Management Plan (AMP) at least every 5 years or whenever major changes to the scheme are planned; including estimated operational, maintenance and capital activities and costs for the next 5 years (Post Audit Implementation Plan item 2.1)* ***Unresolved***

- *Update asset values in the AMP, including capital, operating and maintenance costs to give a life cycle cost for the system (Post Audit Implementation Plan item 2.2)* ***Unresolved***

- *Update the AMP to include a risk assessment of asset failure (Post Audit Implementation Plan item 2.3)* ***Unresolved***

- *Review the AMP(due by November 2011) and update with additional content as recommended in this report (Post Audit Implementation Plan item 2.4)* ***Unresolved***

Asset Creation / Acquisition

- *Include in the AMP and implement a process to ensure new assets are adequately commissioned and testing documentation is retained (Post Audit Implementation Plan item 2.5)* ***Unresolved***

Asset Disposal

- *Include a rolling program of condition and performance assessment of assets (at least annually). Where assets are identified for replacement within the next 5 years, replacement costs should be updated and included in a rolling 5 year plan (Post Audit Implementation Plan item 2.6)* ***Unresolved***

Environmental Analysis

- *Update the AMP for the amendments to the operating licence from the Authority in August 2008 and May 2009 (Post Audit Implementation Plan item 2.7)* ***Unresolved***

Asset Operations

- *Document and implement the operational procedures for the scheme based on the requirements of the AMP. The procedures should be based on risk assessment(Post Audit Implementation Plan item 2.8)* ***Unresolved***

- *Review the asset register for the sewerage system. The register should document asset detail, current value and predicted life. Assets in the register should be aligned with those shown on "as constructed" drawings.* ***Unresolved***

  Where assets are identified for replacement within the next 5 years, replacement costs should be updated. ***Unresolved***

  Assess assets for current physical condition and predicted time to replacement and include data in the asset register. (Post Audit Implementation Plan item 2.9) ***Unresolved***

Asset Maintenance

- *The planned and routine maintenance plans in the AMP need to be implemented by:*

  Developing a 5 year plan for maintenance works based on a risk assessment per the AMP and including costing ***Unresolved***

  Including maintenance activities in the Shire's works program and work order system so it can be scheduled and tracked to completion. (Post Audit Implementation Plan item 2.10) ***Unresolved***

Asset Management Information System

- *Obtain from the Authority the suite of Excel spread sheets and utilise these as part of the revision of the AMP and supporting procedures. Procedures for the input and validation of the data, updating of data and reporting need to be developed. Staff should be trained to use the system. (Post Audit Implementation Plan item 2.11)* ***Unresolved***

Risk Management

- *Revise the AMP to include a risk assessment process. Carry out the risk assessment and include identified risks and mitigation strategies in the AMP. (Post Audit Implementation Plan item 2.12)* ***Unresolved***

Contingency Planning

- *Following the risk assessment, a set of contingency plans or emergency procedures should be developed by the Shire to cover situations identified in the risk analysis as being a major or significant risk. For example, bushfire affecting ponds or reticulation equipment; reticulation pump or electrical failure, extreme rainfall events / water overflows from the ponds, pipeline burst or blockage etc.* ***Unresolved***

- *The contingency plans should include:*

  Detailed procedures

  Key local contact details – name number and location

  Communication protocols

  Specifications, location and availability of emergency equipment

  Authorities that need to be contacted and when

- *Once developed, the contingency plans should be reviewed and tested on at least an annual basis, or whenever major changes are required to plans to ensure they are operable and that appropriate persons are aware of their responsibilities in cases of emergency. (Post Audit Implementation Plan item 2.13)* ***Unresolved***

Capital Expenditure Planning

- *As per Post Audit Implementation Plan items 2.1 and 2.6* ***Unresolved***

Review of AMS

- *As per Post Audit Implementation Plan items 2.2* ***Unresolved***

REVIEWER'S EFFECTIVENESS TABLE

Tables 5 & 6 of ERA's "Audit Guidelines", August 2010, provided the basis of assessment of the effectiveness rating levels associated with Process and Policy Definition and Asset Management Performance during the Asset Management Review

The Reviewer's assessment, (based on the above tables) of the effectiveness of the Shire's Asset Management System for Coolgardie Sewerage and Non-Potable Water Services is summarised (overleaf) in Table A - Reviewer's Effectiveness Summary. A summary key to the assessment is provided at the foot of the table

TABLE A –REVIEWER'S EFFECTIVENESS SUMMARY

Asset Management System	Asset Management Process & Policy Definition Adequacy Rating	Asset Management Performance Rating
1 - Asset Planning	**C**	**2**
2 - Asset creation / acquisition	**C**	**2**
3 - Asset Disposal	**C**	**2**
4 - Environmental Analysis	**D**	**4**
5 - Asset Operations	**D**	**3**
6 - Asset Maintenance	**D**	**3**
7 - Asset Management Information System	**D**	**4**
8 - Risk Management	**D**	**4**
9 - Contingency Planning	**D**	**4**
10 - Financial Planning	**A**	**1**
11 - Capital Expenditure Planning	**C**	**3**
12 - Review of Asset Management Plan	**D**	**3**

Process & Policy Definition Key **A** = adequately defined. **B** = requires some improvement.

C = requires significant improvement **D** = inadequate

Performance Ratings Key **1** = performing effectively **2** = opportunity for improvement.

3 = corrective action required **4** = serious action required

SHIRE OF COOLGARDIE

REPORT

ON

2012 ASSET MANAGEMENT REVIEW

FOR

COOLGARDIE SEWERAGE & NON-POTABLE WATER SUPPLY SERVICES

TABLE OF CONTENTS

SHIRE OF COOLGARDIE

REPORT ON THE 2012 ASSET MANAGEMENT

REVIEW

COOLGARDIE SEWERAGE & NON-POTABLE WATER SUPPLY SERVICES

1.1 – INTRODUCTION

Under Licence No.13 issued by the Economic Regulation Authority of Western Australia, the Shire of Coolgardie (the Shire) operates and maintains the Sewerage and Non-Potable Water Services for the town of Coolgardie.

Coolgardie was established in 1893 - during the Australian "gold rush" period. At its peak, the population was in the order of 16,000 persons, making the town the third largest in Western Australia. after Perth and Fremantle.

Coolgardie, which now has a fairly stable population of about 1000 persons, is 570 km. east of Perth and 38 km. south-west of Kalgoorlie.

The sewerage system was established in 1984. Further extensions of the system occurred in 1988, 1992 and 1997.

Approximately half of sewage flows by gravity to the waste water treatment plant (WWTP). The other flows by gravity to a pumping station - from which it is pumped to the WWTP. The WWTP is comprised of two parallel trains each with a primary and secondary oxidation pond. Treated effluent is stored in a separate lagoon prior to pumping to two enclosed storage tanks, each of which supply non-potable water for irrigating the Coolgardie sports oval and the Coolgardie Park.

The annual sewage flow to the WWTP is approximately 73,000 kl. .Due to the 2.3 m. excess of evaporation over rainfall in the area, some 40% of the effluent flow is lost through evaporation in the treatment ponds and storage lagoon. Consequently, the volume of non-potable water available for irrigation is in the order of 29,000 kl per annum.

In addition to its water services licence issued by ERA, the Shire holds a Department of Environment and Conservation Licence No. L/994 for the WWTP and a Department of Health Recycled Water Scheme Approval Number C38/00000 - for the Sports Oval and Coolgardie Park irrigation systems

1.2 - OBJECTIVES AND SCOPE

The Water Services Licensing Act 1995 requires that the Shire provide for and maintain an asset management system. The system should set out the processes to be taken by the Shire to ensure the proper planning, operation, financing, maintenance, repair and renewal of its assets and for monitoring of its water services

The Act requires the Shire to provide the ERA with a report by an independent expert on the effectiveness of the system.

Such a review provides ERA with an independent opinion on whether or not the Shire has in place appropriate systems for the planning, construction, operation and maintenance of its water services assets

This review therefore examined;

- The adequacy or otherwise of the outputs of the system - including documentation of performance standards and statutory requirements, system opportunities and threats, preparation of operations manuals, maintenance schedules and action records, registers of the location, condition, age etc of assets.

- The extent to which the risks associated with the system environment and / or unexpected system failures have been assessed, quantified, documented as contingency plans and reduced by specific practices - such as stocking selected spare parts or, equipment items subject to extended delivery or repair periods, additional storage etc

- The existence and effectiveness of systems implemented for the assessment, planning, financing and construction of new, replacement and major maintenance works and disposal of redundant assets.

- Whether or not the system has been subject to regular internal review; with systems in place to ensure that plans are regularly updated to current status, provide for prior identification of new or replacement assets, their implementation; and initiatives to improve the overall effectiveness of the asset management system.

- The Shire's response to the recommendations made in previous reviews.

The review also identifies any aspects of the asset management system, which are considered to require correction, amendment, or improvement.

1.3 - KEY DOCUMENTS INSPECTED / RECEIVED DURING THE REVIEW

Shire of Coolgardie's Water Services Operating Licence No.13 for the Coolgardie Sewerage & Non-Potable Water Services, issued by the Economic Regulation Authority of Western Australia (ERA)

Department of Environment and Conservation – Licence No.6587/1994/10 – Coolgardie Wastewater Treatment Plant

Coolgardie Shire Recycled Water Scheme – Assessment Report and Department of Health Conditions of Approval issued by the WA Department of Health**.**

Shire of Coolgardie Annual Compliance Report to ERA for the period 1st July 2009 to 30th June 2010. Only the covering letter for the year ended July 2011 was sighted. No other reports could be located.

Proposed Budget of income and expenditure (capital works, maintenance, labour etc) for the 2012/13 financial year

Shire of Coolgardie - Asset Management Plan November 2006, which has not been updated.

Shire of Coolgardie - Operational Audit and Asset Management Review 2011

Shire of Coolgardie - Sewerage Infrastructure Asset Register – Depreciation Summary Sheet (June 2005). This document has not been updated.

Sewer Complaints, Problems Notification / Action sheet

Daily tasks list / action verification and fault reporting schedules for Coolgardie Parks & Recreation areas

1.4 - REVIEW PERIOD AND DATE OF REVIEW

This Asset Management Review covers the period from 1st November 2011 to 31st October 2012.

The review was undertaken during visits to the Shire's offices at Coolgardie 3rd & 4th December 2012.

1.5 - KEY REVIEW PARTICIPANTS

The review was undertaken by Barry Robbins – of Barry Robbins Engineering & Project Management, with the assistance of the following staff of Shire of Coolgardie

Mr P Webb – Manager, Technical Services

Ms S Cullen – Technical Administration Officer

Ms R Evans – Manager Administration Services

1.6 - REVIEW OF RECOMMENDATIONS FROM THE PREVIOUS REVIEW

Recommendations from the 2009 review and comment by this (2012) reviewer are set out in Table B below.

TABLE B REVIEW OF RECOMMENDATIONS FROM THE PREVIOUS REVIEW

Item	Recommendation	Action Taken	Further Action Required	Resolved/ Unresolved
1 - Asset Planning	*Document and implement a process to review the Asset Management Plan (AMP) at least every 5 years or whenever major changes to the scheme are planned; including estimated operational, maintenance and capital activities and costs for the next 5 years (Post Audit Implementation Plan item 2.1)* *Update asset values in the AMP,*	None	As per the previous recommendation	Unresolved

	including capital, operating and maintenance costs to give a life cycle cost for the system (Post Audit Implementation Plan item 2.2) *Update the AMP to include a risk assessment of asset failure (Post Audit Implementation Plan item 2.3)* *Review the AMP(due by November 2011) and update with additional content as recommended in this report (Post Audit Implementation Plan item 2.4)*	None None None	As per the previous recommendation As per the previous recommendation As per the previous recommendation	Unresolved Unresolved Unresolved
2 - Asset Creation / Acquisition	*Include in the AMP and implement a process to ensure new assets are adequately commissioned and testing documentation is retained (Post Audit Implementation Plan item 2.5)*	None	As per the previous recommendation	Unresolved
Asset Disposal	*Include a rolling program of condition and performance assessment of assets (at least annually). Where assets are identified for replacement within the next 5 years, replacement costs should be updated and included in a rolling 5 year plan (Post Audit Implementation Plan item 2.6)*	None	As per the previous recommendation	Unresolved
4 – Environmental Analysis	*Update the AMP for the amendments to the operating licence from the Authority in August 2008 and May 2009 (Post Audit Implementation Plan item 2.7)*	None	As per the previous recommendation	Unresolved
5 – Asset Operations	*Document and implement the operational procedures for the scheme based on the requirements of the AMP. The procedures should be based on risk assessment(Post Audit Implementation Plan item 2.8)* *Review the asset register for the sewerage system. The register should document asset detail, current value and predicted life. Assets in the register should be*	Some undocumented basic procedures have been implemented including weed control at the treatment lagoons, enzyme dosing of the treatment lagoons, the annual rotation and reconditioning of pumps at the treatment works, main pumping station and irrigation system and monthly wash-down of the main pumping station walls. None	As per the previous recommendation As per previous recommendation	Unresolved Unresolved

	aligned with those shown on "as constructed" drawings. *Where assets are identified for replacement within the next 5 years, replacement costs should be updated.* *Assess assets for current physical condition and predicted time to replacement and include data in the asset register. (Post Audit Implementation Plan item 2.9)*	None None	As per previous recommendation As per previous recommendation	Unresolved Unresolved
6 Asset Maintenance	*The planned and routine maintenance plans in the AMP need to be implemented by:* *Developing a 5 year plan for maintenance works based on a risk assessment per the AMP and including costing* *Including maintenance activities in the Shire's works program and work order system so it can be scheduled and tracked to completion. (Post Audit Implementation Plan item 2.10)*	Partly implemented but not recorded including clearing weeds at the treatment works, overhauling pumps, pumping station wash down. None None	Complete as per previous recommendation As per previous recommendation As per previous recommendation	Partly resolved Unresolved Unresolved
7 - Asset Management Information System	*Obtain from the Authority the suite of Excel spread sheets and utilise these as part of the revision of the AMP and supporting procedures. Procedures for the input and validation of the data, updating of data and reporting need to be developed. Staff should be trained to use the system. (Post Audit Implementation Plan item 2.11)*	None	As per previous recommendation	Unresolved
8 – Risk Assessment	*Revise the AMP to include a risk assessment process. Carry out the risk assessment and include identified risks and mitigation strategies in the AMP. (Post Audit Implementation Plan item 2.12)*	None	As per previous recommendation	Unresolved
9 – Contingency Planning	*Following the risk assessment, a set of contingency plans or emergency procedures should be developed by the Shire to cover situations identified in the risk analysis as being a major or significant risk. For example, bushfire affecting ponds or reticulation equipment; reticulation pump or electrical failure, extreme rainfall events / water overflows from the ponds, pipeline burst or blockage etc.* *The contingency plans should*	None	As per previous recommendation	Unresolved

	include: *Detailed procedures* *Key local contact details – name number and location* *Communication protocols* *Specifications, location and availability of emergency equipment* *Authorities that need to be contacted and when* *Once developed, the contingency plans should be reviewed and tested on at least an annual basis, or whenever major changes are required to plans to ensure they are operable and that appropriate persons are aware of their responsibilities in cases of emergency. (Post Audit Implementation Plan item 2.13)*			
11 – Capital Expenditure Planning	*As per Post Audit Implementation Plan items 2.1 and 2.6*	None The capital expenditure plan is prepared only for the forthcoming budget year. Items are selected on the basis of the perceived needs priorities rather than as stages of a broad 5 year plan	As per previous recommendation	Unresolved
12 – Review of Asset Management Plan	*As per Post Audit Implementation Plan items 2.2*	None The asset management plan remains unreviewed since its preparation in 2006	As per previous recommendation	Unresolved

1.7 - ASSET MANAGEMENT REVIEW – EFFECTIVENESS CRITERIA

The effectiveness ratings assigned to each aspect of the review are set out in the following two Tables (overleaf) - taken from ERA's "Audit Guidelines: Electricity, Gas and Water Licences – August 2010"

Asset Management Process and Policy Definition Adequacy Ratings

(ERA Guidelines - August 2010, Table No.5)

Rating	Description	Criteria
A	Adequately Defined	Process policies are documented Process & policies adequately document the required performance of assets Processes and policies are subject to regular reviews and updated where necessary. The asset management information systems(s) are adequate in relation to the assets managed
B	Requires some improvement	Process & policy documentation requires improvement. Processes & policies do not adequately document the required performance of assets. Reviews of process & policies are not conducted regularly enough. The asset management information system(s) require minor improvements (considering the assets being managed)
C	Requires significant improvement	Process & policy documentation is incomplete or requires significant improvement. Processes do not document the required performance of the assets. Processes & policies are significantly out of date. The asset management information system(s) require significant improvements (considering the assets managed)
D	Inadequate	Processes & policies are not documented. The asset management system(s) is not fit for purpose (considering the assets managed)

Asset Management Performance Ratings

(ERA Guidelines - August 2010, Table No.6)

Rating	Description	Criteria
1	Performing Effectively	The performance of the process meets or exceeds the required levels of performance. Process effectiveness is regularly assessed and corrective action taken where necessary
2	Opportunity for Improvement	The performance of the process requires some improvement to meet the required level. Process effectiveness reviews are not performed regularly enough.. Process improvement opportunities are not actioned.
3	Corrective action required	The performance of the process requires significant improvement to meet the required level. Process effectiveness reviews are performed irregularly, or not at all. Process improvement opportunities are not actioned
4	Serious action required	Process is not performed, or the performance is so poor that the process is considered ineffective.

1.8 – EFFECTIVENESS SUMMARY

Based on the criteria set out in ERA Guidelines Tables 5 and 6 above, the Table C (overleaf) summarises the reviewer's effectiveness ratings of the various areas of The Shire's asset management system

Table C –REVIEWER'S EFFECTIVENESS SUMMARY

ASSET MANAGEMENT SYSTEM	Asset Management Process & Policy Definition Adequacy Rating	Asset Management Performance Rating
1 - Asset Planning	**C**	**2**
2 - Asset creation / acquisition	**C**	**2**
3 - Asset Disposal	**C**	**2**
4 - Environmental Analysis	**D**	**4**
5 - Asset Operations	**D**	**3**
6 - Asset Maintenance	**D**	**3**
7 - Asset Management Information System	**D**	**4**
8 - Risk Management	**D**	**4**
9 - Contingency Planning	**D**	**4**
10 - Financial Planning	**A**	**1**
11 - Capital Expenditure Planning	**C**	**3**
12 - Review of Asset Management Plan	**D**	**3**

1.9 – REVIEWER'S GENERAL COMMENTS

Table D (overleaf) sets out the Reviewer's comments, recommendations for each aspect of the Shire's Asset Management Plan.

Table D – REVIEWER'S COMMENTS ON SHIRE OF COOLGARDIE ASSET MANAGEMENT SYSTEM

Key Processes & General Requirements	Reviewer's Comments	Recommendations	Process & Policy Definition Adequacy Rating	Performance Rating
1 Asset Planning Asset planning strategies should focus on meeting customer needs in an effective and efficient manner. (delivering the right service at the right price)	The Asset Management Plan (AMP) for the system was prepared in 2006 and was described as a developing plan. The document has not been reviewed or amended and is not used as a basis for managing the sewerage and non-potable water services. In 2012 terms, the document is considered inadequate The AMP sets out the Shire's strategies and goals for the services, together details of legislative requirements and levels of service. Most of the Shire's assets (with the exception of mechanical equipment – such as pumps) have a useful life of up to 100 years. Planning for their replacement within a 5 year cycle is therefore not realistic. The AMP includes an asset replacement cost forecast in the form of a graph, extending to the year 2106. - based on an assessment indicated in Appendix B of the AMP. Despite the time interval being unrealistic, Appendix B was not attached to the AMP document and could not be located elsewhere. The AMP contains a good description of the operation of the system and its prime assets associated with the collection treatment and disposal systems. An estimate of the depreciated and replacement values of the prime assets	*The AMP should be reviewed, substantially broadened in scope and re-written to reflect the legislative requirements of the water services licence and the basis of operating, maintaining and monitoring the performance of the water services.* *In particular the document should contain statements of policy and procedures regarding:* • *Asset Planning , Creation and Disposal.* • *Operations, Maintenance and performance monitoring of assets and processes* • *A secure Asset Management Information System (including staff training) for recording all legislative, operational, maintenance reports, correspondence etc* • *Operating Environment, Risk Analysis and Contingency Planning* • *A procedure for reviewing the AMP at intervals of not more than 2 years, (or if significant changes are made to assets), together with a*	**C**	**2**

	is also included, although the values are out of date, they have presumably been used to evaluate the cost estimates of the missing Appendix B	*front cover or similar recording of the review date, amendments made and sign off by the reviewer.*		
2 Asset Creation & Acquisition The provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay	The AMP, states only that assets are required to be purchased through the WA Government Supply protocols, and/or by select or public tendering in accordance with the Shire's procurement policies. As stated above, most of the assets have a useful life of 80 years. For other assets such as pumps and associated mechanical equipment, the Shire has adopted a policy of ongoing reconditioning to maintain performance and to extend useful life. To this end the Shire has a spare reconditioned unit for all duty pumps. Duty pumps are taken out of service annually for reconditioning as spare units for the following year. As the population and hence the sewage flows are expected to remain stable for the foreseeable future, the practise of reconditioning is considered appropriate. The Manager, Technical Services currently determines the need for new assets annually during budget preparation. New asset strategies are selected to improve performance, rather than to replace of existing assets. Asset selection is based on capital and operating cost and achievement of purpose of each strategy. The need to create new assets is currently minimal. Procurement and installation of floating aerators for the treatment ponds is currently being undertaken following a cost and performance evaluation against chemical dosing of the ponds. Similarly procurement and installation of flow measurement equipment is in train to allow remote monitoring of effluent irrigation. Both the above asset installations are included in the Shire's 2012/2013 budget	*The AMP should include procedures for Asset Creation Acquisition These should encompass* • *A statement of the Government and Shire's procurement / purchasing protocols.* • *Full evaluation of capital, operating and life cycle costs.* • *Comparison of competing asset and non-asset solutions including operating convenience and supplier / support availability.* • *The procured / installed assets are supplied with full specifications and operating instructions as appropriate.*	**C**	**2**

3 Asset Disposal Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms	The main assets involved (buried pipework, manholes and treatment ponds) have no ongoing value as they cannot be removed and re-used by others. If replaced, they would be left buried or excavated and carted to landfill. On the other hand, mechanical equipment such as the main pumping station and effluent pumps have an ongoing value. Rather than replace these items, the Shire has implemented a policy of carrying spare units which replace the duty units on a yearly basis. The replaced units are then re-conditioned and held as spares for replacement in the subsequent cycle. The above approach is considered appropriate. There is no documentation recording either the occurrence, or results of asset condition checks. Recommendations regarding undertaking condition checks are given in Item 6 – *Asset Maintenance*	*No Recommendation*	**C**	**2**
4 Environmental Analysis examines the asset system environment and assesses all external factors affecting the asset system	The AMP contains no environmental analysis other than a description of the town's history. The Legislative environment lists the ERA and the Licences from DEC for the treatment plant or the DOH for the effluent (non-potable water) disposal. An extensive table of Service Levels is included – but many are noted as "*to be determined*" Threats and opportunities to the system are not addressed. A copy of the Shire's annual report to ERA for the years 2009/2010 and 2010/2011 indicate that system complied with ERA requirements. A copy of the 2011/ 2012 report to ERA could not be located.	*An analysis of the environment in which the water services are operated should be included in the AMP. The analysis should include:* • *The Legislative Environment* • *Levels of service and reporting requirements* • *Threats and opportunities to the system including bush fire, electrical failure, blockage , toxic materials input, grease and other blockages, flooding and discharge, gaseous discharge (if chlorine gas disinfection adopted).* • *Protocols for monitoring, sampling testing and reporting sewage and effluent flows and quality, blockages, overflows etc.*	**D**	**4**

	A report from DOH dated 31st July 2012, indicated that although monthly sampling and testing of effluent quality should be reported to the DOH as required by its water re-use licence – only three samples were submitted in 2010 (one of which exceeded the limit for E Coli) and 2011; and one in 2012. It appears that water quality of the effluent is not being monitored. Also, the effluent is not being dis-infected before disposal to the sports oval and parks. Reports to DOH could not be located There is no record of annual sampling and analysis of effluent and determination of pH suspended solids and other criteria required to be reported to the DEC Reports to DEC could not be located Similarly, there is no flow monitoring installations to determine sewage inflow to the treatment plant or discharge to the non-potable water disposal system. Flows that are reported appear to be estimates from previous years. It is noted that the sewage flow to the treatment plant was reported to ERA as 35 Ml in 2010/2011. This figure appears to be about 40% low. Based on a population of 1000 persons and a daily discharge rate of 160 litres / person, the annual flow should be more in the order of 60Ml per annum The Manager, Technical Services advised that he is currently investigating the range and availability of disinfection methods and equipment. An automatic dry chlorinated pellet system is preferred to a chlorine gas system. The Manager, Technical Services intends the installation will be undertaken as soon as possible The Shire has a budget allowance to install flow recording and monitoring equipment on the effluent disposal system. The Shire does not have a designated operator for the water services system.	*In order to be able to comply with the monitoring and reporting requirements the Shire should also:* • *Appoint an officer to undertake the day to day inspections, reporting, recording, maintenance, sampling and monitoring of the sewerage and non-potable water system. It would be prudent to send this officer to a Water Plant Operators course conducted by the Water Corporation.* • *Investigate the options and install flow measuring equipment to measure and record flow rates and daily flows to the treatment plant and the effluent disposal systems. It was noted that some of the pumping installations already have flow meters, and / or pressure gauges and / or hours run meters. All installations should have each of the above and should be recorded daily.*		

5 Asset Operations Operations functions relate to the day to day running of assets and directly affect service levels and costs	As stated in Item 4– "*Environmental Analysis"* there is no designated officer to undertake the daily functions associated with inspection, operation ,maintenance, testing, monitoring and recording of the system. Whilst the collection, treatment and disposal elements are essentially automatic, the system is operated without any overall daily control. At present, unless a fault is reported, plant and equipment inspections occur irregularly at best. Whilst the collection, pumping treatment and disposal systems are basic, there remains a practical and licence requirement for the operation of the systems to be covered by detailed operating instructions. There are no operating instructions for the water service elements at present.	*The Shire should appoint an officer as recommended in Item 4 – Environmental Analysis* *The Shire should prepare a detailed set of instructions for the operation of the water services and their individual components.* *The instructions should include basic drawings of the system elements supported by instructions in the operation sequence of pumps, switchboards and recording of readings from flow meters, pressure gauges and reporting of faults or malfunctions.* *The operating instructions should also include a copy of the relevant safety plan for the system and a reporting procedure in the event of an emergency*	**D**	**3**
6 .Asset Maintenance Maintenance functions relate to the up keep of assets and directly affect service levels and costs	As stated, in Item 4– "*Environmental Analysis"* there is no designated officer to undertake the daily functions associated with inspection, operation ,maintenance etc of the system. Although the AMP contains a list of daily and longer period maintenance requirements, these are not implemented, or supported by check lists for completion and submission to management for recording or action. Responsibility for reporting equipment malfunctions and arrangements for correction/ repair and pro-forma reporting sheets are not documented. A register of the prime assets and their age and condition is referred to in the AMP – but has not been prepared A list of spare parts– with details of suppliers has not been prepared.	*The Shire should appoint an officer as recommended in Item 4 – Environmental Analysis* *The Shire should prepare a detailed set of instructions for the maintenance of the water services and their individual components.* • *The instructions should include basic drawings of the system elements supported by instructions for inspection and maintenance and maintenance frequency* • *The instructions should include pro-forma sheets for reporting faults and for verification that maintenance items have been executed.* • *A list of spares held and contact information for*	**D**	**3**

	Ad hoc arrangements are in place with local tradesmen to support Council in facilitating repairs and maintenance. A local pump supplier undertakes all maintenance / repairs on the pumping facilities Notwithstanding the lack of maintenance instructions, the Manager, Technical Services has instituted the following maintenance practises: • Monthly wash down of the internal walls of the main pumping station. • Regular clearing of accumulated grease from the sewage collection pipework. • Weed control at the treatment plant • Regular dosing of the treatment ponds with a mixture of enzymes, blood and bone and NPK fertilizer to enhance and increase bacteria associated with the treatment process. • Primary and secondary ponds 1 and 3 of the treatment plant have been removed from service and are being dried out pending removal of accumulated sludge. On completion, these ponds will be returned to service and ponds 2 and 4 will be similarly removed from service and de-sludged. • Weekly work / maintenance instructions and pro-forma reporting sheets for Parks and Gardens outside staff – including some elements of the sprinkler disposal system. Completed work sheets held by the Manager, Technical Services were sighted. Relatively high daily temperatures frequently result in the generation of Hydrogen Sulphide gas in stale sewage. The gas reacts with moisture in the humid atmosphere in the system resulting in the formation of a weak sulphuric acid. The acid attacks concrete surfaces, causing them to weaken and spall to expose steel reinforcement in the walls and covers of concrete manholes. Reviewer agrees with previous review recommendations that the Shire should conduct a review of the condition of	*their replacement.* • *A forward program for ongoing assessment of the condition and performance of assets.* *The Shire should* • *Implement an initial program of inspection and evaluation of the condition of manholes and pipework within the sewage collection system. Such a program could be undertaken over period of say 12 months- depending on cost and staff resources* • *From the results, identify any elements that require replacement or maintenance.* • *Prepare a program and estimates for both capital replacement and maintenance.* • *Implement the programs* *Grease blockages are not normally a factor in domestic sewers. Shire should check whether grease producing facilities connected to the sewer have properly maintained grease traps*		

	long life elements such as manholes and buried pipework to establish whether or not there is a need for maintenance on these elements or, if their condition warrants replacement over a period shorter than their theoretical useful life. The necessary inspections would require the opening of all manholes and pits in the system to check for acid attack or other problems. Although the PVC reticulation sewers would resist acid attack, it would be prudent to examine all lines with a remote television scanning system to determine their structural condition and alignment			
7. Asset Management Information Systems (MIS) A combination of processes, data and software that support the asset management functions.	There is no formal or informal asset management system in place. The local government software package, "Synergy" has recently been installed by the Shire and previous Shire documents have since been digitized and installed on the Synergy system. Unfortunately, due to a significant failure by Shire staff to note all documents with a file address, it is almost impossible to recover many digitized documents from the Synergy system. This problem was highlighted when Shire staff could not provide copies of documents requested by the Reviewer. Most of the documents which were provided were sourced from small personal hard copy files kept by the Manager, Technical Resources. Excel work sheets referred to in the 2011 AM Review were not located and are not used.	*The Shire should install a "stand-alone" basic asset management software system on its computer network and train appropriate staff in its use.* *OR* *Consider developing a suitable system on its Synergy software - which can be incorporated into the overall local government functions of the Synergy package.* *The Shire could implement and train appropriate staff in the use of a filing and record system on the Synergy software which could be developed in stages and eventually incorporate separate files for:* • *individual sewerage and non-potable water services facilities in / out correspondence eg reticulation main pumping station, treatment plant etc – with sub-files for operating and maintenance instructions, inspection reports a work / maintenance programs and work completion records* • *individual files could also be opened for correspondence to / from ERA, DCE and DOH, with sub-files for recording flow, quality and other data required for reporting performance.*	**D**	**4**

		All internally generated documents including emails could be copied to the relevant file areas. Incoming documents including correspondence and handwritten inspection reports could be scanned into the system.. *The Reviewer has recently observed two Shires where such a system is being implemented in stages on their Synergy soft ware* *Notwithstanding the type of AM software is adopted, staff member access should be restricted to the relevant area of responsibility areas and access be gained by password.*		
8. Risk Management involves the identification of risks and their management within an acceptable level of risk	The Shire has not undertaken a risk analysis for its sewerage and non-potable water service. Consequently, the Shire has not developed a formal evaluation of the risks - or strategies for their mitigation or removal, as required by its operating licence. The risk of pump failure is mitigated by the Shire's practise of annually recycling and reconditioning pumps - and holding reconditioned units as spares.	*The Shire should undertake an analysis of the risks identified as threats in Item 4 above "Environmental Analysis "* *The analysis should be undertaken in accordance with Australian Standard 4360-2004.Schedule 1Risk Management* *Depending on the risk level, existing factors mitigating the risk should be assessed and additional strategies identified and implemented as appropriate*	**D**	**4**
9. Contingency Planning Contingency plans document the steps to deal with the unexpected failure of an asset	The Shire has not prepared a contingency plan as required by its operating licence. Reviewer recognises that the relevant Shire Officer understand the relatively simple contingency actions required. However, these actions should be detailed for ongoing training purposes, possible legal defence and compliance with the requirements of its Water Services Operating Licence	*The Shire should prepare and document a contingency plan for each emergency situation identified in the Risk Analysis* *. Details should include:* • *Detailed procedures for implementing each contingency plan* • *Names and contact details for Shire and relevant Authorities affected by a given situation, eg*	**D**	**4**

		Electrical Supply Authority, Fire Brigade, Police, • *Names and contact details for support trades Plumber, Electrician, Pumping /Equipment Hire /Suppliers*		
10. Financial Planning The financial planning component of the asset management plan brings together elements of the service delivery to ensure its financial viability over the long term.	The Shire's Financial Plans (budgets) for 2011 /2012 and 2012/2013 were made available for inspection and copies of sections relevant to the sewerage and non-potable water services were provided. Income and expenditure for the sewerage system for the current year and actual cost and budget for the previous year are listed. An accompanying note stated "The budget has been prepared in accordance with applicable Australian Accounting Standards (as they apply to local government and not-for-profit entities), Australian Accounting"	*No Recommendation*	**A**	**1**
11. Capital Expenditure Planning The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years.	As stated in Item 2 - *Asset Creation and Acquisition*, the life cycle period of most elements of the Shire's sewerage and non-potable water services is in the order of 80 years – making a capital replacement plan based on a rolling 5 year cycle unrealistic. Mechanical equipment with a shorter useful life, such as pumps each have spares and are reconditioned on an annual cycle as part of the maintenance budget. The present approach of identifying specific capital expenditure items annually appears reasonable in a system that – due to an absence of growth of the population, is unlikely to require replacement of capital elements due to inadequate capacity. Capital expenditure is usually funded from a sewerage	*Conduct an Asset condition program as recommended in* Item 6 - *Asset Maintenance*	**C**	**3**

	reserve fund. At the end of 2012/2013 it is estimated the reserve will amount to $ 498,173 - following a transfer in of $48,646 and a transfer out of $ 75,000 for the treatment plant aeration system. However, as stated in Item 6 – *Asset Maintenance* the possibility of stale sewage producing a weak sulphuric acid in the collection system could result in attack and degeneration of concrete elements such as manhole walls and covers and steel step irons – resulting in a useful life significantly less than the general assumption of 80 years – and possibly the necessity to include significant capital item replacement and /or maintenance in future budgets. An asset condition program should therefore be undertaken as recommended in Item 2 - *Asset Creation and Acquisition*			
12. Review of Asset Management System The asset management system is regularly reviewed and up-dated.	The current AMP was prepared as a "developing" document in 2006. There has been no review or further development of the document or the system since that time. Also, it is appears that the document has not been used as the basis for operation of the Coolgardie sewerage and non-potable water services. The AMP should be rewritten as a fully developed and coherent document to form the basis of the management of the Coolgardie sewerage and non-potable water services assets Specific provision should be made for the AMP and its implementation to be reviewed at intervals of not more than two years	*The recommendations of Item (1) "Asset Planning," apply also to this area and are repeated below.* *The AMP should be reviewed, substantially broadened in scope and re-written to reflect the legislative requirements of the water services licence and the basis of operating, maintaining and monitoring the performance of the water services.* *In particular the document should contain statements of policy and procedures regarding:* • *Asset Planning, Creation and Disposal.* • *Operations, Maintenance and performance monitoring of assets and processes* • *A secure Asset Management Information System (including staff training) for recording all legislative, operational, maintenance reports, correspondence etc*	**D**	**3**

		• *Operating Environment, Risk Analysis and Contingency Planning* • *A procedure for reviewing the AMP at intervals of not more than 2 years, (or when significant changes are made to assets), together with a front cover or similar recording of the review date, amendments made and sign off by the reviewer.*		

1.10- CONCLUSIONS & RECOMMENDATIONS RESULTING FROM THE ASSET MANAGEMENT REVIEW

(a) – Conclusions

The Asset Management Review concluded that the recommendations of both the 2009 or 2011 reviews of its Asset Management System have not been implemented. To a large extent this failure to implement the recommendations has been due to significant turn-over of management staff responsible for the sewerage and non-potable water services. During the last 18 months, there have been two separate appointees to the position of Manager – Development Services (the department responsible for the sewerage and non-potable water services). The position has been vacant since May 2012. A new appointee to this position will be commencing his duties on 17th December 2012. The intention is that the appointee will institute a program develop an asset management system in accordance with the recommendations of this report and those of the two previous reviews.

The Manager, Technical Services, has been employed by the Shire for just eighteen months. His responsibility is primarily the construction and maintenance of roads, drainage and solid waste disposal services within the Shire. His responsibility for input to the sewerage and non-potable water system is limited to technical advice and provision of the Shire's plant and labour associated with the repair to, or installation of the system's assets.

Due to the Manager of Development Services position being mainly vacant, or only temporarily occupied since his own appointment, the Manager Technical Services, has been obliged to undertake the additional tasks of overseeing the operation of the sewerage and non-potable water services. He has not had the time or staff resources to commence the preparation of AM documentation, asset condition inspections, cost estimates, or other necessary reviews recommended by the 2009, 2011 or this current report.

Notwithstanding the foregoing comments, the Coolgardie sewerage and non-potable water services systems are being operated in a manner that satisfies the basic requirements of the system ie, the collection and treatment of sewage and disposal of effluent. Improvements have been made to operations as a result of pump reconditioning and provision of standby units, weed control, cleaning and flushing of reticulation sewers and the installation of floating aerators at the treatment plant.

Much needs to be done to address the requirements associated with development of the AMS operation and maintenance instructions and particularly the flow and water quality monitoring and reporting requirements of its licensing Authorities – ie, the Economic Regulation Authority (ERA), Department of Environment & Conservation (DEC), and Department of Health. (DOH).

Reviewer considers the Shire should also consider the appointment of an Operator to undertake the daily operations and maintenance of the system, including undertaking / coordinating flow and water quality measurement, testing and all reporting to management .

This review is unfavourable in many areas and the large number of recommendations set out in the following (taken from Table D of this report) result mainly from the Shire's inability to implement the recommendations of the two previous reviews. As a consequence, the system and its control is at risk

of disruption due to inadequacies in the areas of asset condition assessment, operations and training, maintenance, monitoring and reporting.

(b) - Recommendations

The Reviewer's comments and recommendations are set out in foregoing Table D. Due to the inter-relationship of the key processes reviewed, many of the recommendations overlap one another. The recommendations for each process are set out in the following:

1 – Asset Planning

The AMP should be reviewed, substantially broadened in scope and re-written to reflect the legislative requirements of the water services licence and the basis of operating, maintaining and monitoring the performance of the water services.

In particular the document should contain statements of policy and procedures regarding:

- *Asset Planning , Creation and Disposal.*
- *Operations, Maintenance and performance monitoring of assets and processes*
- *A secure Asset Management Information System (including staff training) for recording all legislative, operational, maintenance reports, correspondence etc*
- *Operating Environment, Risk Analysis and Contingency Planning*

A procedure for reviewing the AMP at intervals of not more than 2 years, (or if significant changes are made to assets), together with a front cover or similar recording of the review date, amendments made and sign off by the reviewer.

2 - Asset Creation and Acquisition

The AMP should include procedures for Asset Creation Acquisition These should encompass

- *A statement of the Government and Shire's procurement / purchasing protocols.*
- *Full evaluation of capital, operating and life cycle costs.*
- *Comparison of competing asset and non-asset solutions including operating convenience and supplier / support availability.*

The procured / installed assets are supplied with full specifications and operating instructions as appropriate.

3 – Asset Disposal

No Recommendation

4 – Environmental Analysis

An analysis of the environment in which the water services are operated should be included in the AMP. The analysis should include:

- *The Legislative Environment*
- *Levels of service and reporting requirements*
- *Threats and opportunities to the system including bush fire, electrical failure, blockage , toxic materials input, grease and other blockages, flooding and discharge, gaseous discharge (if chlorine gas disinfection adopted).*
- *Protocols for monitoring, sampling testing and reporting sewage and effluent flows and quality, blockages, overflows etc.*

In order to be able to comply with the monitoring and reporting requirements the Shire should also:

- *Appoint an officer to undertake the day to day inspections, reporting, recording, maintenance, sampling and monitoring of the sewerage and non-potable water system. It would be prudent to send this officer to a Water Plant Operators course conducted by the Water Corporation.*
- *Investigate the options and install flow measuring equipment to measure and record flow rates and daily flows to the treatment plant and the effluent disposal systems. It was noted that some of the pumping installations already have flow meters, and / or pressure gauges and / or hours run meters. All installations should have each of the above and should be recorded daily.*

5 – Asset Operations

The Shire should appoint an officer as recommended in Item 4 – Environmental Analysis

The Shire should prepare a detailed set of instructions for the operation of the water services and their individual components.

The instructions should include basic drawings of the system elements supported by instructions in the operation sequence of pumps, switchboards and recording of readings from flow meters, pressure gauges and reporting of faults or malfunctions.

The operating instructions should also include a copy of the relevant safety plan for the system and a reporting procedure in the event of an emergency

6 – Asset Maintenance

The Shire should appoint an officer as recommended in Item 4 – Environmental Analysis

The Shire should prepare a detailed set of instructions for the maintenance of the water services and their individual components.

- *The instructions should include basic drawings of the system elements supported by instructions for inspection and maintenance and maintenance frequency*
- *The instructions should include pro-forma sheets for reporting faults and for verification that maintenance items have been executed.*
- *A list of spares held and contact information for their replacement*

- *A forward program for ongoing assessment of the condition and performance of assets.*

The Shire should:

- *Implement an initial program of inspection and evaluation of the condition of manholes and pipework within the sewage collection system. Such a program could be undertaken over period of say 12 months- depending on cost and staff resources*
- *From the results, identify any elements that require replacement or maintenance.*
- *Prepare a program and estimates for both capital replacement and maintenance.*
- *Implement the programs*

Grease blockages are not normally a factor in domestic sewers. Shire should check whether grease producing facilities connected to the sewer have properly maintained grease traps

7 – Asset Management Information System

The Shire should install a "stand-alone" basic asset management software system on its computer network and train appropriate staff in its use.

OR

Consider developing a suitable system on its Synergy software - which can be incorporated into the overall local government functions of the Synergy package.

The Shire could implement and train appropriate staff in the use of a filing and record system on the Synergy software which could be developed in stages and eventually incorporate separate files for:

- *individual sewerage and non-potable water services facilities in / out correspondence eg reticulation main pumping station, treatment plant etc – with sub-files for operating and maintenance instructions, inspection reports a work / maintenance programs and work completion records*
- *individual files could also be opened for correspondence to / from ERA, DCE and DOH, with sub-files for recording flow, quality and other data required for reporting performance.*

All internally generated documents including emails could be copied to the relevant file areas. Incoming documents including correspondence and handwritten inspection reports could be scanned into the system..

The Reviewer has recently observed two Shires where such a system is being implemented in stages on their Synergy soft ware

Notwithstanding the type of AM software is adopted, staff member access should be restricted to the relevant area of responsibility areas and access be gained by password.

8 – Risk Management

The Shire should undertake an analysis of the risks identified as threats in Item 4 above "Environmental Analysis "

The analysis should be undertaken in accordance with Australian Standard 4360-2004.Schedule 1Risk Management

Depending on the risk level, existing factors mitigating the risk should be assessed and additional strategies identified and implemented as appropriate

9 – Contingency Planning

The Shire should prepare and document a contingency plan for each emergency situation identified in the Risk Analysis

. Details should include:

- *Detailed procedures for implementing each contingency plan*
- *Names and contact details for Shire and relevant Authorities affected by a given situation, eg*

  Electrical Supply Authority, Fire Brigade, Police,
- *Names and contact details for support trades Plumber, Electrician, Pumping /Equipment Hire /Suppliers*

10 - Financial Planning

No recommendation

11 – Capital Expenditure Planning

That the Shire

- *Conduct an Asset condition program as recommended in Item 6 - Asset Maintenance*

12 – Review of AMS

The recommendations of Item (1) "Asset Planning," apply also to this area and are repeated below.

The AMP should be reviewed, substantially broadened in scope and re-written to reflect the legislative requirements of the water services licence and the basis of operating, maintaining and monitoring the performance of the water services.

In particular the document should contain statements of policy and procedures regarding:

- *Asset Planning, Creation and Disposal.*
- *Operations, Maintenance and performance monitoring of assets and processes*

- *A secure Asset Management Information System (including staff training) for recording all legislative, operational, maintenance reports, correspondence etc*
- *Operating Environment, Risk Analysis and Contingency Planning*
- *A procedure for reviewing the AMP at intervals of not more than 2 years, (or when significant changes are made to assets), together with a front cover or similar recording of the review date, amendments made and sign off by the reviewer.*

1.11 – REVIEWER'S PROFESSIONAL TIME INPUT

Barry Robbins spent 40 hours preparing for, and conducting this review and preparing the report document

1.12 – POST REVIEW IMPLEMENTATION PLAN

A post review implementation plan prepared by the Shire is attached as Appendix A

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APPENDIX A

POST REVIEW IMPLEMENTATION PLAN

REVIEW ITEM	RECOMMENDATION	POST REVIEW IMPLEMENTATION PLAN	SHIRE OFFICER RESPONSIBLE / DATE OF IMPLEMENTATION
1 – Asset Planning	*The AMP should be reviewed, substantially broadened in scope and re-written to reflect the legislative requirements of the water services licence and the basis of operating, maintaining and monitoring the performance of the water services.* *In particular the document should contain statements of policy and procedures regarding:* • *Asset Planning , Creation and Disposal.* • *Operations, Maintenance and performance monitoring of assets and processes* • *A secure Asset Management Information System (including staff training) for recording all legislative, operational, maintenance reports, correspondence etc* • *Operating Environment, Risk Analysis and Contingency Planning* *A procedure for reviewing the AMP at intervals of not more than 2 years, (or if significant changes are made to assets), together with a front cover or similar recording of the review date, amendments made and sign off by the reviewer.*	Negotiations with two suppliers are currently underway for this and depending on availability of staff, should be completed by the 31st May 2013.	Manager Development Services (MDS)

2 – Asset Creation & Acquisition	*The AMP should include procedures for Asset Creation Acquisition These should encompass* • *A statement of the Government and Shire's procurement / purchasing protocols.* • *Full evaluation of capital, operating and life cycle costs.* • *Comparison of competing asset and non-asset solutions including operating convenience and supplier / support availability.* *The procured / installed assets are supplied with full specifications and operating instructions as appropriate.*	Negotiations with two suppliers are currently underway for this and depending on availability of staff, should be completed by the 31st May 2013.	MDS
3 - Asset Disposal	*No Recommendation*	N/A	N/A
4 – Environmental Analysis	*An analysis of the environment in which the water services are operated should be included in the AMP. The analysis should include:* • *The Legislative Environment* • *Levels of service and reporting requirements* • *Threats and opportunities to the system including bush fire, electrical failure, blockage , toxic materials input, grease and other blockages, flooding and discharge, gaseous discharge (if chlorine gas disinfection adopted).* • *Protocols for monitoring, sampling testing and reporting sewage and effluent flows and quality, blockages, overflows etc.* *In order to be able to comply with the monitoring and reporting requirements the Shire*	Negotiations with two suppliers are currently underway for this and depending on availability of staff, should be completed 31st May 2013	MDS

	should also: • *Appoint an officer to undertake the day to day inspections, reporting, recording, maintenance, sampling and monitoring of the sewerage and non-potable water system. It would be prudent to send this officer to a Water Plant Operators course conducted by the Water Corporation.* • *Investigate the options and install flow measuring equipment to measure and record flow rates and daily flows to the treatment plant and the effluent disposal systems. It was noted that some of the pumping installations already have flow meters, and / or pressure gauges and / or hours run meters. All installations should have each of the above and should be recorded daily.*	Internally, the operational monitoring and physical functions are already being carried out by Technical service staff and Manager. Consideration will be given to a staff member doing the Water Corporation course but the size of the installation does not warrant a full time employee.	Manager Technical Services (MTS)
5 – Asset Operations	*The Shire should appoint an officer as recommended in Item 4 – Environmental Analysis* *The Shire should prepare a detailed set of instructions for the operation of the water services and their individual components.* *The instructions should include basic drawings of the system elements supported by instructions in the operation sequence of pumps, switchboards and recording of readings from flow meters, pressure gauges and reporting of faults or malfunctions.* *The operating instructions should also include a copy of the relevant safety plan for the system and a reporting procedure in the event of an emergency*	Consideration will be given to a staff member doing the Water Corporation course but the size of the installation does not warrant a full time employee. An instructions manual will be prepared and would be done in house with some assistance from external advisors. Expected to be completed by June 28th 2013	MTS and MDS
6 – Asset Maintenance	*The Shire should appoint an officer as recommended in Item 4 – Environmental Analysis* *The Shire should prepare a detailed set of instructions for the maintenance of the water services and their individual components.*	As indicated this will be considered, but the size of the plant and its mode of operation does not justify a full time person.	MTS and MDS

	• *The instructions should include basic drawings of the system elements supported by instructions for inspection and maintenance and maintenance frequency* • *The instructions should include pro-forma sheets for reporting faults and for verification that maintenance items have been executed.* • *A list of spares held and contact information for their replacement.* • *A forward program for ongoing assessment of the condition and performance of assets.* *The Shire should* • *Implement an initial program of inspection and evaluation of the condition of manholes and pipework within the sewage collection system. Such a program could be undertaken over period of say 12 months- depending on cost and staff resources* • *From the results, identify any elements that require replacement or maintenance.* • *Prepare a program and estimates for both capital replacement and maintenance.* • *Implement the programs* *Grease blockages are not normally a factor in domestic sewers. Shire should check whether grease producing facilities connected to the sewer have properly maintained grease traps*	Instructions will be prepared in house with the assistance from outside advisors. Completion anticipated 28th June 2013 Negotiations will be held with a Company visiting Kalgoorlie in March and it is expected that this will be completed by 28th June 2013 with some works being done before that.	MTS and MDS MDS
7- Asset Management Information System	*The Shire should install a "stand-alone" basic asset management software system on its computer network and train appropriate staff in its use.*		

	OR *Consider developing a suitable system on its Synergy software - which can be incorporated into the overall local government functions of the Synergy package.* *The Shire could implement and train appropriate staff in the use of a filing and record system on the Synergy software which could be developed in stages and eventually incorporate separate files for:* • *individual sewerage and non-potable water services facilities in / out correspondence eg reticulation main pumping station, treatment plant etc – with sub-files for operating and maintenance instructions, inspection reports a work / maintenance programs and work completion records* • *individual files could also be opened for correspondence to / from ERA, DCE and DOH, with sub-files for recording flow, quality and other data required for reporting performance.* *All internally generated documents including emails could be copied to the relevant file areas. Incoming documents including correspondence and handwritten inspection reports could be scanned into the system..* *The Reviewer has recently observed two Shires where such a system is being implemented in stages on their Synergy soft ware* *Notwithstanding the type of AM software is adopted, staff member access should be restricted to the relevant area of responsibility areas and access be gained by password.*	It appears this may be better done one a shared resource basis and it is currently being investigated. A decision should be made and implementation commenced before the 28th June 2013.	MDS
8 – Risk Management	*The Shire should undertake an analysis of the risks identified as threats in Item 4 above "Environmental Analysis "* *The analysis should be undertaken in accordance with Australian Standard 4360-2004.Schedule 1Risk Management* *Depending on the risk level, existing factors mitigating the risk should be assessed and*	This will be assessed and outcomes evaluated, using outside advice and should be substantially completed by the 28th June 2013.	MDS

	additional strategies identified and implemented as appropriate		
9 – Contingency Planning	*The Shire should prepare and document a contingency plan for each emergency situation identified in the Risk Analysis* *. Details should include:* • *Detailed procedures for implementing each contingency plan* • *Names and contact details for Shire and relevant Authorities affected by a given situation, eg Electrical Supply Authority, Fire Brigade, Police,* • *Names and contact details for support trades Plumber, Electrician, Pumping /Equipment Hire /Suppliers*	This will be assessed and outcomes evaluated, with a completion objective of the 28th June 2013.	MDS
10 – Financial Planning	*No Recommendation*	N/A	N/A
11 – Capital Expenditure Planning	*Conduct an Asset condition program as recommended in* Item 6 - *Asset Maintenance*	This is expected to be commenced by the 28th June 2013.	MDS and MTS
11 – Review of Asset Management System	*The recommendations of Item (1) "Asset Planning," apply also to this area and are repeated below.* *The AMP should be reviewed, substantially broadened in scope and re-written to reflect the legislative requirements of the water services licence and the basis of operating, maintaining and monitoring the performance of the water services.*	Negotiations with two suppliers are currently underway for this and depending on availability of staff, should be completed by the 28th June 2013.	MDS and MTS

	In particular the document should contain statements of policy and procedures regarding: • *Asset Planning, Creation and Disposal.* • *Operations, Maintenance and performance monitoring of assets and processes* • *A secure Asset Management Information System (including staff training) for recording all legislative, operational, maintenance reports, correspondence etc* • *Operating Environment, Risk Analysis and Contingency Planning* *A procedure for reviewing the AMP at intervals of not more than 2 years, (or when significant changes are made to assets), together with a front cover or similar recording of the review date, amendments made and sign off by the reviewer.*	At this stage a shared service is being investigated with another Local Government on a fee for services basis and depending on staff availability should be completed by the 28th June 2013.	

I confirm that the above actions are already either underway or currently being actively pursued to enable a full update of the Sewerage Infrastructure Assets Register and Assets Management Plan. This work is expected to be commenced and in some cases complete before 28th June 2013. That will enable a properly budgeted action plan in the coming financial year and we will continue to make desirable immediate improvements to the physical system during the current financial year from capital reserves.

P.R. Denniston – Manager Development Services 18/02/13