



**Irrigation Infrastructure Renewal
Projections - 2013/14 to 2046/47**
Report - Logan Tariff Group

September 2012

© Queensland Bulk Water Authority 2012

This document is and shall remain the property of Queensland Bulk Water Authority. The document may only be used for the purposes for which it was prepared. Unauthorised use of this document in any form whatsoever is prohibited.

Document Status

Version	Date	Author	Reviewed	PCG Approval
1	20/4/12	AL/GH	MD	
2	19/9/12	GH	MD	

Contents

1.	Introduction	4
2.	Asset Information	5
2.1	Irrigation Infrastructure	5
2.2	Relevant Asset Information	5
3.	Projections	6
3.1	Summary	6
3.2	Significant Projects	6
3.3	Additional Commentary	8

Table Index

Table 1	Summary of Irrigation Infrastructure	5
Table 2	Significant Projects	6

Appendices

- A Water Supply Scheme Schematic
- B Renewal Projections

1. Introduction

Seqwater owns and operates the following seven irrigation schemes:

- ▶ Central Lockyer WSS;
- ▶ Lower Lockyer WSS;
- ▶ Logan River WSS;
- ▶ Mary River WSS;
- ▶ Cedar Pocket WSS;
- ▶ Warrill Valley WSS; and
- ▶ Central-Brisbane WSS.

Seqwater also owns and operates a distribution system, the Morton Vale Pipeline.

There are nine tariff groups associated with these schemes.

To assist with the determination of price paths, a forecast of future renewal expenditure is required at the individual tariff group level.

The renewal projections have been developed, in accordance with the scope and methodology separately documented in the Methodology report. The projections have been developed in separate reports, one for each tariff group.

This report outlines the projections for the Logan Tariff group. It should be read in conjunction with the Methodology report.

2. Asset Information

2.1 Irrigation Infrastructure

A summary of Seqwater's irrigation infrastructure facilities and assets is provided in **Table 1** below.

Table 1 Summary of Irrigation Infrastructure

WSS Scheme	Tariff Group	Dams	Weirs	Off-Stream Storage	Other Key Assets
Logan	Logan	Maroon Dam	Bromelton Weir	NA	Gauging Stations, Flowmeters

A schematic drawing of the scheme is provided in Appendix A.

2.2 Relevant Asset Information

The following existing information was reviewed and where relevant, utilised to develop the renewal projections:

- ▶ Asset Register;
- ▶ Annual, 5 Year and Comprehensive Dam Safety Reviews and Assessments;
- ▶ Draft WSS 20 Year Programme of Work 2008/09 – 2028/29;
- ▶ 2011 Site Safety Assessments;
- ▶ Extracts from Financial Asset Register;
- ▶ 2009 Asset Valuation – Cardnos;
- ▶ 2010 Asset Valuation – Dams & Weirs – Cardnos;
- ▶ Maroon Dam Facility Asset Management Plan 2012; and
- ▶ Business Case - Irrigation Customer Meters Renewal (SM 12/13 02).

3. Projections

3.1 Summary

A summary of the renewal and refurbishment projections for the period 2013/14 – 2046/47 is provided in **Error! Reference source not found.**

Further details are provided in Appendix B.

It should be noted that all values are in \$2012-13.

3.2 Significant Projects

A list of projects that come under one of the following categories is provided in Table 2 below:

- ▶ Scheduled between 2013/14 and 2016/17 financial years and having a project value greater than the average project value for that period; and
- ▶ A project that has an impact on the annuity of greater than 10%¹.

Table 2 Significant Projects

Asset	Description of Work	Timing of Work	Project Value	Signif.*
Maroon Dam	Refurbishment of gantry and hoist	2013/14	\$40k	HAV
Maroon Dam	Replenishment of rip rap on dam wall embankment	2013/14	\$40k	HAV
Water Meters	Water Meter Renewal Program	Annually, commencing 2013/14	\$645k over 33 years	HAV Ref. Footnote 1

Notes: *Significance: HAV – Higher than Average Value (for period from 2013/14 to 2016/17) IA – Project was assessed in April 2012 (refer Footnote 1 below) as having an impact on the annuity of greater than 10% (refer Section 3.3 for commentary).

¹ The impact on annuity was assessed in April 2012 when version 1 of this report was produced. At that time, the water meter renewal program had not been fully developed and included in the assessment. An updated assessment of impact has not been undertaken in updating this current version 3 of the report.

Table 3 Summary of Renewal Projections

Parent Asset	Expenditure Forecast Each Year (\$k)																	
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	
Bromelton Weir	-	5	-	-	15	-	-	-	-	50	10	-	-	-	22	-	5	
Logan Gauging Station	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	
Maroon Dam	130	10	-	-	70	-	15	15	20	20	-	45	20	-	-	-	75	
Water Flowmeters	66	66	34	34	34	34	34	34	34	11	11	11	11	11	11	11	11	
Total	196	81	34	34	119	34	49	49	54	133	21	56	31	11	33	11	91	

Parent Asset	Expenditure Forecast Each Year (\$k)																	
	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47	
Bromelton Weir	-	-	50	-	-	-	-	15	-	-	-	-	50	10	5	-	-	
Burnett Creek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Logan Gauging Station	-	-	52	-	-	-	-	-	-	-	-	-	52	-	-	-	-	
Maroon Dam	-	10	177	40	-	-	-	-	35	15	-	10	822	5	67	-	-	
Water Flowmeters	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	
Total	11	21	290	51	11	11	11	26	46	26	11	21	935	26	83	11	11	

3.3 Additional Commentary

For some assets, the available asset data indicated the theoretical asset life was either expired or due to expire within the first four years. Where a site assessment was not able to verify the need to renew an asset within the first four years, the timing of the renewal was updated to occur beyond 2016/17 financial year. This was the case for the following assets:

- ▶ Maroon Dam electrical cables and cableways – useful life was extended based on assessment in FAMP.
- ▶ Maroon Dam electrical control and switchboard – renewals scheduled in FAMP after 2016/2017.
- ▶ Maroon Dam fences and gates - useful life was extended based on assessment in FAMP.
- ▶ Maroon Dam ventilation ducting, fan and motor - useful lives were extended based on assessment in FAMP.

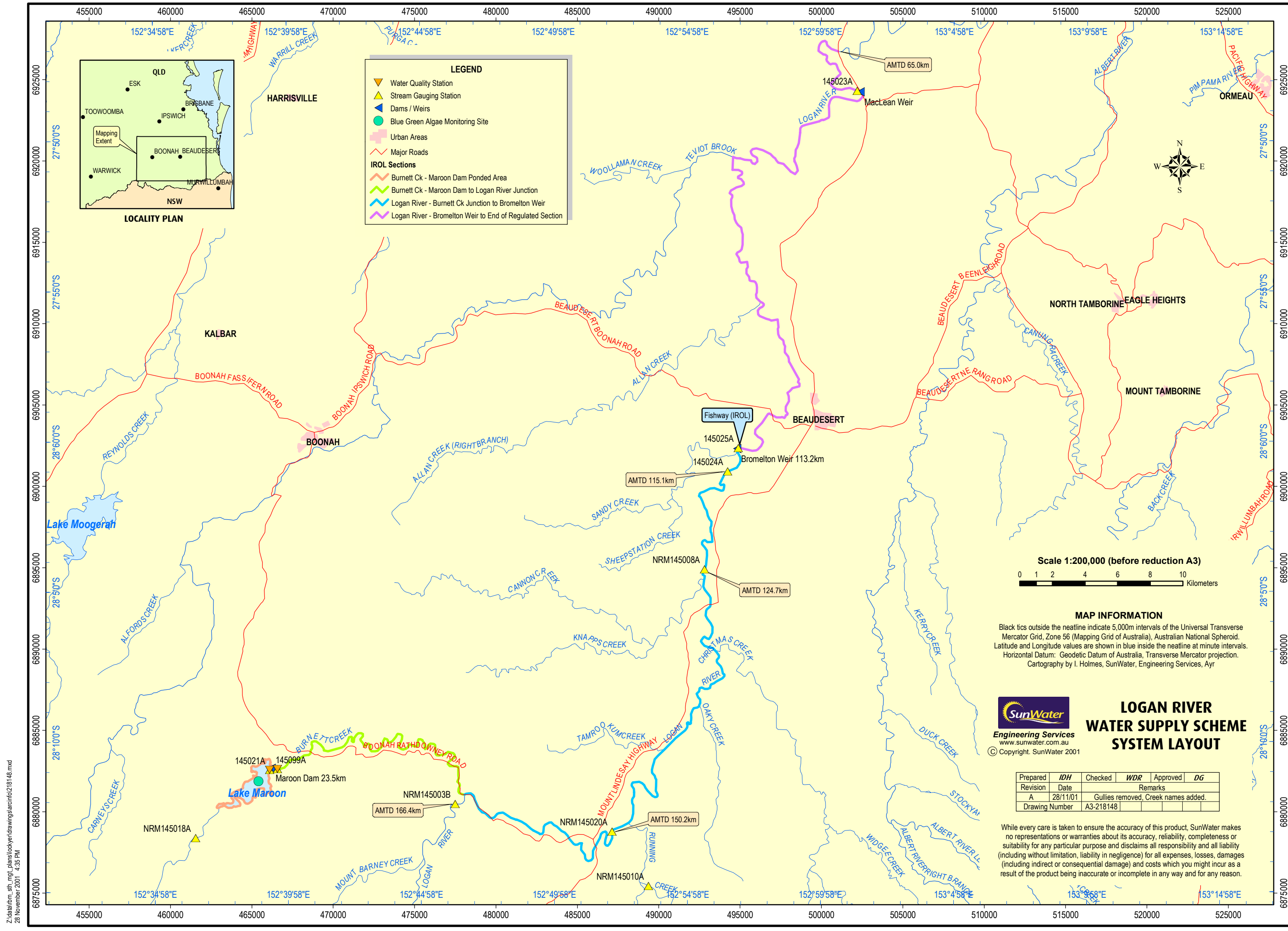
Commentary on projects that have a higher than average project value includes:

- ▶ Refurbishment of gantry and hoist at Maroon Dam according to condition and criticality assessment completed as part of the FAMP development process.
- ▶ Replenishment of rock rip rap on Maroon Dam embankment as assessed in Draft WSS 20 Year Programme of Work 2008/09 – 2028/29.

For the forecasted renewal expenditure between 2013/14 and 2016/17, values were compared with Sunwater's renewals projections which were the basis of the SunWater irrigation prices for 2006/07 to 2010/11. When excluding the water meter upgrade costs which will be excluded from the annuity, it was noted the total value of Seqwater's renewal forecast was approximately 57% of Sunwaters. The difference is believed to be primarily due to:

- ▶ Seqwater projections being based on more up-to-date information.
- ▶ Seqwater projections include low expenditures in the period 2015/16 to 2016/17.

Appendix A
Water Supply Scheme Schematic

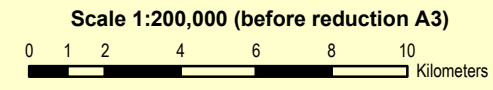


LEGEND

- ▼ Water Quality Station
- ▲ Stream Gauging Station
- ▲ Dams / Weirs
- Blue Green Algae Monitoring Site
- Urban Areas
- Major Roads

IROL Sections

- Burnett Ck - Maroon Dam Poned Area
- Burnett Ck - Maroon Dam to Logan River Junction
- Logan River - Burnett Ck Junction to Bromelton Weir
- Logan River - Bromelton Weir to End of Regulated Section



MAP INFORMATION

Black ticks outside the neatline indicate 5,000m intervals of the Universal Transverse Mercator Grid, Zone 56 (Mapping Grid of Australia), Australian National Spheroid. Latitude and Longitude values are shown in blue inside the neatline at minute intervals. Horizontal Datum: Geodetic Datum of Australia, Transverse Mercator projection. Cartography by I. Holmes, SunWater, Engineering Services, Ayr



LOGAN RIVER WATER SUPPLY SCHEME SYSTEM LAYOUT

Prepared	IDH	Checked	WDR	Approved	DG
Revision	Date	Remarks			
A	28/11/01	Gullies removed, Creek names added.			
Drawing Number	A3-218148				

While every care is taken to ensure the accuracy of this product, SunWater makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Z:\data\msh_mgt_plans\lockyer\drawings\arcinfo\218148.mxd
28 November 2001 4:35 PM

Appendix B

Renewal Projections

Parent Asset	Asset Details		Renewal Details		Expenditure Forecast Each Year (\$k)																																	
	Asset Description	Works Description	Comments	Costing Source	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47
Bromelton Weir	Bromelton Weir Amtd 113.2km	Refurbish	Refurbish: Regrade Bromelton access road ; 3KM access in easment	20yr WP	-	-	-	-	15	-	-	-	-	15	-	-	-	-	15	-	-	-	-	15	-	-	-	-	15	-	-	-	-	15	-	-	-	-
Bromelton Weir	Outlet Works	Refurbish	Refurbish Valve - OWKS2	20yr WP	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	
Bromelton Weir	Valve, 600Mm Gate John	Refurbish	Refurbish: Refurbish Valve	20yr WP	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	
Bromelton Weir	Telemetry	Replace	-	DW VAL 2010	-	-	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bromelton Weir	Water Level Recorder	Replace	-	DW VAL 2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Logan Gauging Station	Gauging Stations-Logan River	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Piezometer Hut	Replace	-	FAMP	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Cables & Cableways	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maroon Dam	Control	Replace	-	FAMP	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Switchboard	Replace	-	FAMP	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	
Maroon Dam	Fencing	Replace	-	Buss Case	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Gates	Replace	-	Est from site visit - 200212	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maroon Dam	Float Well Recorder	Replace	-	FAMP	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	
Maroon Dam	Instrumentation	Replace	-	FAMP	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Telemetry	-	-	FAMP	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	
Maroon Dam	Intake & Outlet Works	Refurbish	Maroon Dam - refurbish concrete structure (outlet dissipator)	20yr WP	-	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Intake & Outlet Works	Refurbish	Regulating Valve 1 Assembly - Actuator - Orins to be replaced	FAMP	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Intake & Outlet Works	Refurbish	Guard valve refurbish	FAMP	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Intake & Outlet Works	Refurbish	Regulation valve refurbish	FAMP	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Intake & Outlet Works	Refurbish	Conduit scour Valve - Refurbish	FAMP	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Sump Pump, 0.37Kw Lowara	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	
Maroon Dam	Valve, 305Mm Cone General Electric	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	
Maroon Dam	Valve, 1067Mm Cone General Electric	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	216	-	
Maroon Dam	Right Outlet Cone Valve & Act 1.067M	Refurbish	Refurbish Cone Valve Guides (PM)	20yr WP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Valve, 1067Mm Cone General Electric	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	216	-	
Maroon Dam	Intake Trash Screens (12 Off)	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	-	
Maroon Dam	Intake Trash Screens (12 Off)	Refurbish	Refurbish Screens - 12 of - fitted to submerged inlet tower - Program to clean and paint 3 screens per year, rotating the screens	20yr WP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Concrete Structure	Refurbish	Refurbish Metalwork - Identified in Dam Safety report. Metalwork upstream of conduit, discinator chamber etc	20yr WP	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Fan, 380Mm Axial Flow Motor, 440V Nilson	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Maroon Dam	Valve, 1220Mm Butf General Electric	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Maroon Dam	Actuator, Elec Auma	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	
Maroon Dam	Valve, 1220Mm Butf General Electric	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	
Maroon Dam	Actuator, Elec Auma	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	-	
Maroon Dam	Gantry And Hoist	Refurbish	Tunnel Upper Chamber	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	-	
Maroon Dam	Roads	Refurbish	Reseal roads	FAMP	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Maroon Dam	Main Wall Embankment	Refurbish	Refurbish Pwks - rip rap on U/S face - reinstatement/major repairs.	20yr WP	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	-	-	-	
Maroon Dam	Building-Instrumentation	Replace	-	Static Asset Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	
Maroon Dam	Instrumentation	Refurbish	Improvement of water level recorder and piezometers	FAMP	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	
Water Flowmeters	Water Meters	Replace	Water Meter Renewal Program	-	66	66	34	34	34	34	34	34	34	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	
Total					196	81	34	34	119	34	49	49	54	133	21	56	31	11	33	11	91	11	21	290	51	11	11	11	26	46	26	11	21	935	26	83	11	11