ASSET CONDITION REPORT MARVEL LOCH TOWNSITE

FOR THE SHIRE OF YILGARN April 2017





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1 INTRODUCTION

1.1 Background

In 1985, the Shire of Yilgarn installed a semi-deep sewer scheme in the Marvel Loch townsite. This enabled most properties to connect to the scheme while also using on-site septic tanks on each property. The effluent disposal scheme consists of 5.691 km of combined gravity and rising mains reticulated sewage pipes, two collection and pump stations (one located on Lenneberg Street and the other on Overington Street), plus a series of three evaporation ponds located north of the townsite off the Old Marvel Loch Road.

There are several mining camps connected to the sewage system ranging from 24 beds up to 96 beds, as well a pub, corner store, commercial and residential properties.

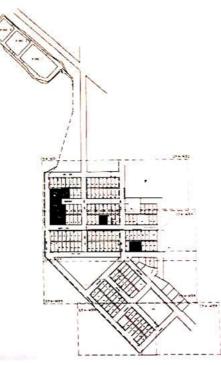


Figure 1: Marvel Loch townsite sewer scheme

1.2 Document Purpose

The Shire seeks to obtain the following:

- A detailed condition report on all aspects of the Marvel Loch sewer system, including:
 - Access chambers
 - Gravity mains
 - Pressure mains
 - Sewerage pump stations
- An updated asset register and financial plan taking into consideration the condition report
- A report detailing any improvements or changes that may be made to the sewer system and an explanation as to the efficiencies in operation and expenditure the improvements will bring
- Comments on alternate options, if any, to the current semi-deep sewer system, including onsite treatment (leach drain) systems or other options within the townsite.





1.3 Location

Marvel Loch is a small mining townsite some 33 km south-east of Southern Cross, with Southern Cross being approximately a 370 km drive from Perth.

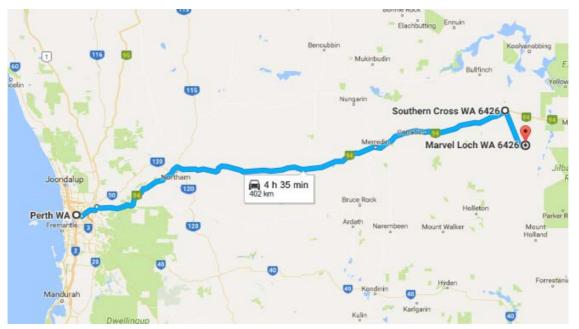


Figure 2: Location of Marvel Loch from Perth





2 CONDITION ASSESSMENT

2.1 General

The Standard Asset Condition Ranking table (refer Table 1) will be used as the condition ranking system of all assets.

Table 1: Standard asset condition rankings

Ranking	Description of Condition				
1	Very Good Condition				
	Only normal maintenance required				
2	Minor Defects Only				
	Minor maintenance required (5%)				
3	Maintenance Required to Return to Accepted Level of Service				
	Significant maintenance required (10% to 20%)				
4	Requires Renewal				
	Significant renewal/upgrade required (20% to 40%)				
5	Asset Unserviceable				
	Over 50% of asset requires replacement				

2.2 Sewer Gravity Network

River Engineering have undertaken a site inspection and document investigation to determine the condition of the Marvel Loch town sewer network, pumping stations and wastewater treatment ponds (WWTP) to compile a detailed Asset Condition Report.

The investigation was comprised visual inspection of all assets and the flow path. During the site visit, the access chamber manholes could not be lifted and inspection openings could not be found, therefore access to the gravity sewers and access chambers could not be achieved.

2.2.1 Gravity Sewer

From the gravity sewer route walk, there is no evidence of any blockage resulting in the overflow of sewage. There may have been some evidence of infiltration around Access Chamber 1A18 which will need further investigation (refer to Figure 6 below).

2.2.2 Access Chambers

Each access chamber was inspected and recorded with the overall visual inspection of the access chamber lid. Generally, each lid appeared to be in good condition with the exception of a small number of damaged chambers as shown in Table 2 below.





		Dimensions		Condition	
Asset No	Street/Lot Location	Diameter mm	Photo Ref *	Ranking	Comment
AC1A1	At Pump Station PW001 on	1040	1896 to		
	Lenneberg Street		1818	1	
AC1A2	Directly E of 1A1 on Clough Street	1040	1945		
			1946	1	
AC1A3	Directly N of 1A2 on Clough Street	1040	1947		
			1948	1	
AC1A4	Directly N of 1A3 on Clough Street	1040	1949		
			1950	1	
AC1A5	Directly N of 1A4 on Clough Street	1040	1951		Cover surround damaged
			1952	3	
AC1A6	In ROW S of L110 Horan Street	1040	1953		
			1954	1	
AC1A7	In middle of L203 Lenneberg	1040	1955		Manhole inside camp site
	Street W of A8		1956		with discharge directly
			1957		into manhole
			1958	1	
AC1A8	In ROW E of A7 S of L75/74	1040	1960		
	Williamson Street		1961	1	
AC1A9	E of A8 in line with ROW in Aurum	1040	1962		Unable to locate
	Street		1963	1	
AC1A10	Corner Aurum and Williamson	1040	1965		
	Streets outside L89		1966	1	
AC1A11	N of A10 in line with ROW in	1040	1967		
	Aurum Street		1968	1	
AC1A12	Corner Aurum and Horan Streets	1040	1969		
	outside L104 Horan St		1970	1	
AC1A13	E of A11 in ROW N of L91	1040	1971		
	Williamson Street		1972	1	
AC1A14	Corner Argent and Williamson	1040	1973		
	Streets outside L196 Argent St		1974	1	
AC1A15	Directly S of 1A14 in line with	1040	1975		Not able to locate
	ROW in Argent Street		1976		
AC1A16	S of 1A15 corner Lenneberg and	1040	1977		Not able to locate
	Argent Streets o/side L129		1978		
AC1A17	Directly S of A9 in line with ROW	1040	1980	3	Cover surround damaged
	o/side L152 King Street		1981		
AC1A18	E of A17 in ROW N of L147	1040	1982	4	Not able to locate
	King Street		1983		Suspect chamber
			1986		collapsed
			1987		
			1988		
			1989		
AC1A19	E of A18 in ROW N of 143	1040	1984		Not able to locate
	King Street	1040	1985		
AC1A20	E of A9 in ROW N of L58	1040			Not able to locate
	Lenneberg Street				
AC1A21	E of A9 in ROW N of L63	1040			Not able to locate
	Lenneberg Street	1040			
AC1A22	S of 1A2 in Clough Street in line	1040		1	
	with ROW				

Table 2: Condition of asset chambers





Shire of Yilgarn Assessment of the Marvel Loch Sewage Scheme

		Dimensions		Condition		
Asset No	Street/Lot Location	Diameter mm	Photo Ref *	Ranking	Comment	
AC1A23	N of 1A12 in Aurum Street N of Horan Street	1040	1892 1893 1894 1895	1	The previous asset register does not match the access chamber drawing (drawing number 0214/ACE1). The access chamber drawing takes precedence.	
AC1B1	At Pump Station PS2 corner Overington and Lee Streets	1040	1922 to 1939 1991 1992	1		
AC1B2	NE of PS2 on corner Overington and Lee Streets o/side L185	1040	1993 1994	1		
AC1B3	NW of B2 corner Overington and Ronchi Streets o/side L25	1040	1995 1996	1		
AC1B4	NW of 1B3 on Overington Street outside L28	1040	1997 1998	1		
AC1B5	W of 1B4 on Overington Street outside L29	1040	1999 2000	1		
AC1B6	NE of B2 on Lee Street in line with ROW o/side L185	1040	2001 2002	2	Minor erosion	
AC1B7	NW of B6 on Ronchi Street in line with ROW o/side L25	1040	2003 2004	1		
AC1B8	NW of 1B7 in ROW N or L30 Overington Street	1040	2005 2006	1		
AC1B9	NE of 1B7 corner Ronchi and Oxide Streets o/side L9	1040	2007 2008	2	Minor damage	
AC1B10	NW of 1B9 corner Cheney and Oxide Streets o/side L16	1040	2009 2010	1		
AC1B11	NE of 1B10 on Cheney Street in line with ROW o/side L1	1040	2011 2012	1		
AC1B12	NE of 1B9 on Ronchi Street in line with ROW o/side L8	1040	2013 2014	3	Minor erosion	
AC0B13	NE of B6 corner Lee and Oxide Streets o/side L200	1040	2015 to 2019	2	Potential erosion	
AC1B14	NE of 1B11 corner Burbidge and Cheney Streets o/side L1	1040	2021 2022	1		
AC1B15	E of 1B14 N side of Burbidge St o/side L207	1040	2023 2024	1		
AC1B16	SE of 1B15 on Burbidge Street o/side L207/217	1040	2025 2026	1		
AC1B17	NE of 1B16 at side of L207 Burbidge Street	1040	2027	1		
AC1B18	EES of 1B17 at rear of L215 Burbidge Street	1040	2028	1		

* Photos of each asset will be submitted to the Shire as a separate folder and will not be incorporated into this report.







Figure 3: Access Chamber AC1A5 needs replacing



Figure 4: Evidence of no pretreatment (i.e. septic tanks) of waste within camp at AC1A7



Figure 5: Overflow from camp water tank eroding around AC1B13





Figure 6: AC1A18 could not be found. Evidence of erosion in area

2.3 Pump Stations and Pressure Main

A visual inspection of the pumping station structure, pressure main and overflow tanks was completed. Where possible, the flow, pressure, pump flow characteristics and motor details were noted. Operational data of motor current and voltage was recorded enabling the operational condition of the pumps to be determined.

The following instrumentation is used for the testing the pumps:

- FLUKE 83 III Multimeter Voltage
- FLUKE 39 Power Meter Running Current
- FLUKE 80i-500s AC Current Probe
- TECLOCK Tachometer "H".

Some of the information for the pumps was no longer available due to the age of the installation. In this instance, the information for the current model of the same size was used for the analysis.

With respect to the pressure main and overflow tanks, a visual investigation was completed from the surface with no apparent damage to the system encountered.





2.3.1 Pump Station

Operational data of motor current and voltage was recorded enabling the operational condition of the pumps to be determined. Pump details and operating points are contained in Appendix A4 below.

From this, we determined the pumps are operating at their respective design duties and are in good condition.

The pumping stations photograph reference as follows (note these will be provided as a separate folder to this report):

- IMG 1896 to 1918 PS1 (PW001)
- IMG 1822 to 1936 PS2 (PW002).

Findings from these inspections are described in the tables below.

Table 3:	Wet well	inspection	findinas
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	Street/Lot	Dimensions		
Asset No	Location	Diameter m	Depth m	Volume
PW001	Lot 1	1.5	4.0	7.069 m ³
	Lenneberg Street			
PW002	UCL	1.5	4.0	7.069 m ³
	Overington Street			

Table 4: Pump set inspection findings

Asset No	Туре	Make	Model	KW Rating	Flow Capacity
PS001	Pump 1 PW001	Flygt	NP3127.160 SH246	7.4 Kw	19Lts/sec
PS002	Pump 2 PW001	Flygt	NP3127.160 SH246	7.4 Kw	19Lts/sec
PS003	Pump 1 PW002	Flygt	3102-170 HT	4.4 Kw	4.1Lts/sec *
PS004	Pump 2 PW002	Flygt	3102-170 HT	4.4 Kw	4.1Lts/sec *

* This differs from the flowrate provide in the previous asset report but after further investigation is deemed correct based on the pump curve provided in figure 7 below.





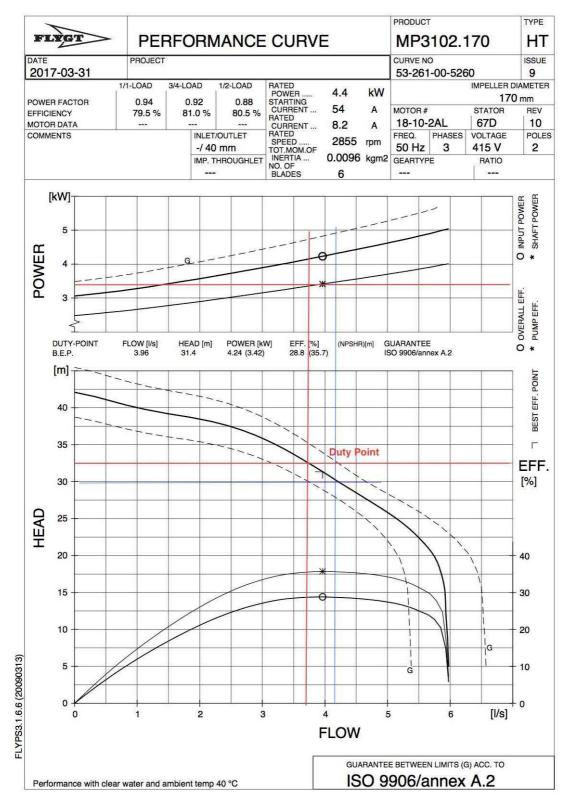


Figure 7: Pump curve of PW002 (PS2)



Table 5: Motor controls inspection findings

Asset No	Туре	Make	Model
MC001	Auto/Manual	James Reid Electric Controls Pty Ltd	Standard Duplex Control Panel
MC002	Auto/Manual	James Reid Electric Controls Pty Ltd	Standard Duplex Control Panel

2.3.1.1 Pumping Station PW001

This pumping station is in good condition and structurally sound. Minor repairs to the fence are required. Comments on this inspection are provided in Table 6 below.

Table 6: Pumping	Station PW001	inspection	findinas
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ltem	Description	Condition	Comments				
1	Pump chamber	1	Good condition				
2	Pump chamber covers	1	Good condition				
3	Guide rails	1	Good condition				
4	4 Pumps		Pump 1 is running current well with no excessive vibration. Pump 2 is currently out of services with a tag stating it is due for replacement of a check valve. It is assumed that Pump 2 is functioning correctly. This can be reviewed once the check valve is replaced				
5	Pipework and valves	2	Appears in good condition. Pump 2 check valve needs replacing				
6	Control panel	2	Isolator door interlock needs replacing. High level alarm not functioning				
7	Fence	2	Good condition Needs minor maintenance and tightening				
8	Potable water supply	1	Good condition. Backflow prevention device needs servicing (last stamped June 2015)				
9	Access	1	Good condition and sound				





2.3.1.2 Pumping Station PW002

PW002 is currently being upgraded. The pumping station requires the following work to be completed, as commented in Table 7 below.

Item	Description	Condition	Comments
1	Pump chamber	1	Good condition
2	Pump chamber covers	Works in progress	Wet well cover to be replaced with wooden board currently secured
3	Guide rails	Works in progress	Both pumps need new guide rails. Currently operating with one submersible pump hanging from a chain
4	Pumps	1	Please note that according to the pump curves in Appendix A5, the pump flow rate is 3.7l/sec not 15l/sec as stated
5	Pumps	1	Pump 1 is running well with no excessive vibration
6	Pipework and valves	Works in progress	Pressure main discharge temporary main to be reconfigured once new guide rails installed and pumps operating again. Currently the pressure main area is within an open trench which will need backfilling
7	Control panel	2	Operational. Isolator door interlock needs replacing. Internal wiring needs to be tidied up. High level alarm not functioning
8	Fence	1	Good condition
9	Potable water supply	1	Good condition. Backflow prevention device needs servicing (last stamped June 2015)
10	Access	1	Good condition and sound

Table 7: Pumping Station PW002 inspection findings

2.3.2 Pressure Main

The Pressure Mains is in good condition.

The pressure main from PW001 (PS1) entering the wastewater treatment ponds has been upgraded with two pipe materials now installed. To identify both pipe materials, we have added asset no RM0004A to Table 8 below.







Figure 8: Pressure main entering wastewater treatment ponds

There is currently work being undertaken at PW002 (PS2) where a temporary bypass has been installed externally to the wet well. Once this work is complete, the bypass should be removed reverting back to the original set-up with the trench backfilled.



Figure 9: Temporary pressure main bypass at PW002 (PS2)

Table 8: Condition of pressure main

		Dimension	S		Condition		
Asset No	Street/Lot Location	Diameter Length mm m		Material	Ranking	Comments	
RM0001	From Pump Station No 1 to W end of Horan Street	110	251.0	HDPE	1		
RM0002	From W end of Horan Street new to N of IS.2 W of 1A21 (P1)	110	102.5	HDPE	1		
RM0003	From N of IS.2 W of 1A21 to just E of sewage ponds	100	~ 530.0	UPVC	1		
RM0004	From just E of sewage ponds new to pond fence	110	100.5	HDPE	1		
RM0004a	From sewage ponds fence to Pond No 1	100	20	uPVC	2	Inadequate pipe supports. Flowmeter should be installed at a lower part of the pressure main to ensure that 100% of the pipe is flooded	





		Dimension	S		Condition	
Asset No	Street/Lot Location	Diameter mm	Length m	Material	Ranking	Comments
RM0005	From Pump Station No 2 to Pump Station No 1	63	841.0	HDPE	1	Bypass to be removed and reverted back to the original design with backfilling of the trench
RM0006	Within Pump Station No 1 new P1 between P2 and RM0001	110	14.4	HDPE	1	
RM0007	Within Pump Station No 1 new P2 between P1 and RM0005	63	15.3	HDPE	1	

2.4 Wastewater Treatment Ponds

The Wastewater Treatment Ponds (WWTP), comprising primary, secondary and tertiary ponds and reuse system, were visually inspected. Where available, operational data was collected and OH&S requirements checked. A visual inspection of the reuse equipment and pumping system was undertaken. Where possible the flow, pressure, pump flow characteristics and motor details were noted.

Before we can assess the condition of the asset, it is necessary to determine basic data on the system. The Marvel Loch townsite semi-deep sewer scheme enables most properties to connect to the scheme, while also using onsite septic tanks to remove solids.

The WWTP comprises a series of three evaporation ponds which appear to be working satisfactorily. There is no evidence of wastewater overflowing any of the three ponds, with the tertiary pond appearing to be less than half full on the day of inspection. We therefore assume that the evaporation and infiltration volume of the WWTP is in excess of the incoming sewerage flow from the Marvel Loch townsite.

The ponds were inspected and detailed in photos IMG 1829 to 1891 and described in the following tables.

Primary Treatment Pond										
Asset	[Dimensions		Valuesa	Material					
No	Length m	Width m	Depth m	Volume	Embankments	Liner				
WT 001	85.0	42.5	1.35	4,876.9m ³	Clay earth	Nil				

Table 9: Pond inspection findings

Seconda	Secondary Pond										
Asset	Asset Dimensions				Material						
No	Length m	Width m	Depth m	Volume	Embankments	Liner					
WT 002	51.0	50.0	1.1	2,805.0m ³	Clay earth	Nil					

Tertiary	Tertiary Pond										
Asset	[Dimensions		Volume	Material						
No	Length m	Width m	Depth m	volume	Embankments	Liner					
WT 003	44.5	44.5	1.1	2,178.2 m ³	Clay earth	Nil					





Table 10: Fence inspection findings

Asset No	Туре	Height	Gates Width	Lock Type	
WT 004	Linkmesh	2.2 m	3.6 m	Padlock	

The asset is generally operational and in fair condition. Some maintenance is required to ensure it remains in a good and safe working condition, as commented in Table 11.

ltem	Description	Condition	Comments
1	Primary treatment pond inlet pipework	2	Inadequate pipe supports. Flowmeter should be installed at a lower part of the pressure main to ensure that 100% of the pipe is flooded
2	Primary Treatment Pond (1)	2	Good condition Trees and scrub needs removal and tank wall compacted
3	Pond 1/2 interconnecting pipework	4	Needs unblocking / replacement.
4	Pond 1/ 2 intermediate wall	4	Erosion due to overflowing- needs repair and compaction
5	Secondary Treatment Pond (2)	2	Good condition Trees and scrub needs removal and tank wall compacted
6	Pond 2/3 interconnecting pipework	4	Needs unblocking / replacement See below
7	Pond 2/3 intermediate wall	4	Needs repair and compaction See below
8	Tertiary Treatment Pond (3)	2	Good condition Trees and scrub needs removal and tank wall compacted
9	Tertiary treatment pond overflow	4	No overflow provided. Recommended to install overflow pipe or channel
10	Fence	2	Needs fallen trees removed, and minor maintenance and tightening
11	Gate	1	Good condition and locked
12	Access	2	Road good condition Access around tank needs compaction
13	Signage	4	No hazard signs on main gate or asset signage installed







Figure 10: Broken interconnecting pipe between primary and secondary ponds



Figure 11: Erosion between primary and secondary ponds



Figure 12: Blocked pipes between secondary and tertiary ponds







Figure 13: Access around all ponds need compacting/grading



Figure 14: Damage to pond fencing

2.5 Effluent Reuse

The effluent reuse system has been abandoned and much of the equipment removed.

Item	Description	Condition	Comments
1	Reuse chlorine storage shed	1	Shed in good condition
2	Reuse chlorine storage shed equipment	5	Equipment missing
3	Reuse filtration shed	2	Shed in good condition Door needs replacing Lighting functioning
4	Reuse chlorine dosing equipment	5	Equipment missing
5	Reuse pumping equipment	5	Equipment not operational
6	Access	1	Road good condition
7	Signage	2	Faded and needs replacing

Table 12: Effluent reuse inspection findings and comments







Figure 15: Reuse filtration shed





3 LIST OF IMPROVEMENTS

The township has adopted a Septic Tank Effluent Disposal (STED) scheme where each lot has a septic tank (owned and maintained by the lot owner/resident) with the leachate from each tank discharging into the Local Authorities Sewer scheme where it is pumped to evaporation ponds.

We have considered several alternative options to this STED scheme as follows;

3.1 Individual Leach Drains

The first option considered was for each lot installed with a septic tank, together with any future lots, would require their own leach drains system installed. This will enable the current gravity sewers, pump stations and evaporation ponds to be decommissioned and the responsibility of the system maintenance to transfer to the lot owners/residents.

There will be considerable opposition from the lot owners with such a proposal due to the cost and inconvenience associated with the installation of the leach drain system. Due to the poor infiltration of the soils in the region the size of the leach drains will be quite excessive and may not be achievable on some lots or even if this is possible, the removal of structures (i.e. sheds) may be required.

The individual leach drain option is not recommended.

3.2 Combined Leach Drains

The second option considered is similar to the individual leach drain option above with the exception that the leach drains will be combined for the whole townsite and therefore, be the responsibility of the Local Authority.

There will be two combined leach drains located in the vicinity of the current pump stations. Therefore, the current gravity sewer network is still required whereas the pump stations and evaporation ponds can be decommissioned.

A large area will be required for each leach drain due to the poor infiltration rate of the soil. This will increase the capital cost for the construction of such a system.

The advantage is that the sewer scheme infrastructure is reduced which will present a reduction in operation and maintenance costs, for instance the proposed system will not require any power.

The risk of the proposed system is that the resident do not maintain their septic tank system. It could be said that this risk is also present with the current system, however, the current system has more ability to cope with solids within the evaporation ponds whereas the proposed system will be susceptible to leach drain blockages with a build up of solids.

Although there will be a reduced operation and maintenance cost of the combined leach drain option, the high capital cost associated with changing the system makes this option cost prohibitive. Therefore, this option is not recommended.





3.3 Preferred Option

Based on the two alternative options considered above we recommend the current STED system installed is the preferred way to treat Marvel Loch's wastewater.

3.4 Long Term Expenditure

Refer to Appendix B Financial Plan.

3.5 Most Efficient and Cost Effective System

3.5.1 Gravity Sewer and Access Chambers

There are a number of access chambers and inspection openings that have been covered over during the regrading of roads and laneways. It is recommended that these are located and readjusted so they are accessible in the future to reduce maintenance time if future blockages occur.

The access chamber covers are rusted to a point where it is very difficult to remove them without a crane. There is a benefit to remove all covers and grease the lid frames to make access easier. During this exercise, it will be worth inspection of the chambers and amending this report accordingly.

Damaged access chamber lids and erosion can be a problem for vehicles and pedestrians. Damaged lids should be replaced with erosion eradicated, and lid levels adjusted to mitigate the risk of damage to vehicles or pedestrians.

If access chambers need replacing, it will be more cost effective to replace these with maintenance shafts providing the following recommendations are not exceeded:

Three consecutive maintenance shafts can be used on DN150 or DN225 sewer, providing the distance between access chambers of not greater than 400 m.

3.5.2 Pump Stations and Pressure Main

Warning signs should be installed on each pump station gate.

Refurbishment of pump station PW002 is to be completed as soon as possible to mitigate the risk of falling through the wooden wet well cover or closure of the open trench.

When the PW002 submersible pumps are scheduled for replacement, it is recommended these are changed to grinder/macerator type submersible pumps. This will mitigate the risk of blockage by pumping into the DN63 pressure main. This risk is increased with the camps appearing to be discharging raw sewerage into the sewer network (i.e. no septic tank pre-treatment), together with possible risk from the lack of septic tank maintenance within the township.

The two pump station pressure mains combine into one as it runs to the WWTP. Just before the DN63 pressure main from PW002 it connects into the main DN150 pressure main. It is recommended that a DN63 check valve is installed to provide greater security to the system as follows:

- Reduce the risk of PW001 pumping to PW002 in the event of the check valve within PW002 not operating correctly
- Reduce this risk of PW002 pump solids into the DN63 pressure main and blocking the pipe





Reduce the risk of PW001 excessive sewerage contamination should the DN63 pressure main malfunction.

3.5.3 Wastewater Treatment Ponds

Warning signs to be installed at the access gates around the WWTP.

The balancing pipe between the ponds is eroded and should be repaired before serious erosion occurs which will undermine the pond structure.

Further grading and compaction is required around the site to reduce erosion risk and enable safe vehicle access around the ponds.

Vegetation should be removed around the balancing pipes and access tracks.

An overflow on the tertiary pond should be provided to enable the control of waste overflow should the pond become full. This can be done by either pipe or overland channel.

3.5.4 Effluent Reuse

The warning signs at the reuse plant location should be upgraded.

The current system is not in use as there does not seem to be a public open space within Marvel Loch that justifies the operational and maintenance expenditure of this infrastructure. Therefore, it is recommended that the equipment is removed, cleaned and stored for future local authority use. The power feed to the shed can then be disconnected.

If there is a need to improve public open spaces within Marvel Loch, then the system will need a complete overhaul including the installation of chlorination equipment to achieve the necessary approvals of using the reuse water.







APPENDIX A Asset Management Register

Return to Main Menu

Sewer Pipes

			Dimensions	;			1	GPS L	ocation				
Asset No	Street/Lot Location	Diameter mm	Length from Centre to Centre of Access Chamber m	Depth m	Material	Pressure Rating	Grade 1:X	East	North	Construction Date	Replacement Value (\$) (2007)	Drawing No	Comments
	Gravity Mains									1	1	I	1
GP0001	Pump Station No 1 pump pit to 1A1	150	1.8		PVC					pre-Oct 93	\$1,000	16109A Diag 5 of 6	0-214 - ACE3
GP0002	from 1A1 to 1A2	150	30.2		PVC		27			Feb-95	\$6,000	16109A Diag 3 of 6	0-214 - ACE3
GP0003	from 1A2 to 1A3	150	28.1		PVC		26			Feb-95	\$6,000	16109A Diag 3 of 6	0-214 - ACE3
GP0004	from 1A3 to 1A4	150	87.2		PVC		35			Feb-95	\$13,000	16109A Diag 3 of 6	0-214 - ACE1
GP0005	from 1A4 to 1A5	150	57.3		PVC		115			Feb-95	\$6,000	16109A Diag 3 of 6	0-214 - ACE1
	from 1A5 to 1A6	100	61.8		PVC		269			Feb-95	\$3,000		0-214 - ACE1
	from 1A6 to IS.2 N of L86	100			PVC		94			Feb-95	\$7,500	16109A Diag 3 of 6	0-214 - ACE1
	from A7 to A8	150	76.5		PVC					pre-Oct 93	\$13,000	16109A Diag 3 of 6	0-214 - ACE3
	from A8 to A9	150			PVC					pre-Oct 93		16109A Diag 3 of 6	
	from A9 to end pipe N of L64	150	149.5		PVC					pre-Oct 93			0-214 - ACE3
	from A9 to A10	150	77.4		PVC				ļ	pre-Oct 93		16109A Diag 3 of 6	
	from A10 to A11	150	54.4		PVC					pre-Oct 93			0-214 - ACE1
	from A11 to 1A12	150	58.5		PVC		366			Feb-95			0-214 - ACE1
	from 1A12 to IS.1 N of L101	150	75.4		PVC		397			Feb-95		16109A Diag 3 of 6	0-214 - ACE1
	from IS.1 N of L101 to IS.2 N of L97	150	73.0		PVC		384			Feb-95			0-214 - ACE1
	from 1A12 to 1A23	100	77.5		PVC		298			Feb-95		16109A Diag 3 of 6	0-214 - ACE1
	from A11 to A13	150	49.3		PVC				-	pre-Oct 93		16109A Diag 3 of 6	0-214 - ACE1
	from A13 to pipe junction in ROW N of L96	150	98.0		PVC				-	pre-Oct 93		16109A Diag 3 of 6	0-214 - ACE1
	from pipe junction to just N of 1A14 Argent St	100	92.2		PVC		00.4			pre-Oct 93		16109A Diag 3 of 6	0-214 - ACE2
	from 1A14 to IS.1 heading W	100	97.1		PVC		294			Feb-95			0-214 - ACE1
	from IS.1 W of 1A14 to A10	100	95.5		PVC		298			Feb-95			0-214 - ACE1
	from 1A14 to 1A15	100	79.8		PVC		59			Feb-95			0-214 - ACE2,4
	from 1A15 to 1A16	100	79.0		PVC		46			Feb-95		16109A Diag 3 of 6	0-214 - ACE4
	from 1A16 to IS.2 N of L136	100			PVC		295			Feb-95			0-214 - ACE4
	from A9 to A17 from A17 to A18	150 150	133.7 109.8		PVC PVC					pre-Oct 93 pre-Oct 93		16109A Diag 3 of 6 16109A Diag 3 of 6	0-214 - ACE3 0-214 - ACE3
	from A18 to 1A19	100	116.1		PVC		44.8			Feb-95		16109A Diag 3 of 6	0-214 - ACE3 0-214 - ACE3,4
	from 1A19 to IS.2	100	113.7		PVC		292			Feb-95			0-214 - ACE3,4
	from A9 to 1A20	100	10.2		PVC		292			Feb-95			0-214 - ACE4
	from 1A20 to 1A3	150	46.2		PVC		92			Feb-95			0-214 - ACE3
	from 1A21 to IS.2 N of Horan St	100	169.2		PVC		151			Feb-95		16109A Diag 3 of 6	0-214 - ACE3
	from 1A2 to 1A22	100	97.0		PVC		180			Feb-95		16109A Diag 3 of 6	0-214 - ACE3
	from 1A22 to IS.2 N of L153	100			PVC		38		-	Feb-95		16109A Diag 3 of 6	0-214 - ACE3
	from A11 across Aurum St to nowhere	150	22.0		PVC		00			pre-Oct 93		16109A Diag 3 of 6	
01 000 1		100	22.0								\$0,000	TO TOOL Didg of or o	
GP0035	Pump Station No 2 pump pit to B1	100	1.8		PVC				t	pre-Oct 93	\$1,000	16109A Diag 5 of 6	0-214 - ACE7
	from B1 to B2	100	28.8		PVC	1			İ	pre-Oct 93			0-214 - ACE7
	from B2 to IS.1 S of L189 heading NW	100	94.1		PVC	1	42		İ	Feb-95			0-214 - ACE7
	from IS.1 S of L189 to 1B3	100	99.0		PVC	1	45		İ	Feb-95		16109A Diag 2 of 6	
	from 1B3 to 1B4	100	83.0		PVC	1	231		1	Feb-95		16109A Diag 2 of 6	0-214 - ACE7
	from 1B4 to 1B5	100			PVC				İ	pre-Oct 93			0-214 - ACE7
	from 1B5 to end of pipe S of L32	100			PVC				İ	pre-Oct 93		16109A Diag 2 of 6	0-214 - ACE7
	from B2 to B6	100	55.2		PVC				İ	pre-Oct 93			0-214 - ACE7
	from B6 to IS.1 N of L189 heading NW	100	94.1		PVC		41		İ	Feb-95		16109A Diag 2 of 6	0-214 - ACE7
	from IS.1 N of L189 to 1B7	100	97.0		PVC		50		l	Feb-95		16109A Diag 2 of 6	0-214 - ACE7
	from 1B7 to 1B8	100			PVC		275		l	Feb-95		16109A Diag 2 of 6	0-214 - ACE7
	from 1B8 to IS.2	100	40.2		PVC		22		İ	Feb-95		16109A Diag 2 of 6	0-214 - ACE5
	from 1B7 to 1B9	100	81.3		PVC		26		İ	Feb-95		16109A Diag 2 of 6	0-214 - ACE7
	from 1B9 to IS.1 S of L13 heading NW	100	94.1		PVC		276		l	Feb-95		16109A Diag 2 of 6	0-214 - ACE6
	from IS.1 S of L13 to 1B10	100			PVC		273		1	Feb-95			0-214 - ACE5

		[Dimensions	;				GPS L	ocation				
Asset No	Street/Lot Location	Diameter mm	Length from Centre to Centre of Access Chamber m	Depth m	Material	Pressure Rating	Grade 1:X	East	North	Construction Date	Replacement Value (\$) (2007)	Drawing No	Comments
GP0050	from 1B10 to 1B11	100	56.8		PVC		284			Feb-95	\$3.000	16109A Diag 2 of 6	0-214 - ACE5
	from 1B11 to IS.2	100	87.0		PVC		32			Feb-95		16109A Diag 2 of 6	
	from 1B9 to 1B12 heading NE	100	56.8		PVC		19			Feb-95		16109A Diag 2 of 6	
GP0053	from 1B12 to IS.2 S of L6 heading NW	100	46.8		PVC		94			Feb-95	\$3,000	16109A Diag 2 of 6	0-214 - ACE6
	from B6 to B13 heading NE	100	79.8		PVC					pre-Oct 93	\$6,500	16109A Diag 2 of 6	0-214 - ACE7
GP0055	from B13 to IS.2 S of L200 heading NW	100	29.2		PVC					pre-Oct 93	\$3,000	16109A Diag 2 of 6	0-214 - ACE7
GP0056	from 1B11 to 1B14	100	55.3		PVC		66			Feb-95	\$3,000	16109A Diag 2 of 6	0-214 - ACE6
GP0057	from 1B14 to 1B15	100	33.0		PVC		66			Feb-95	\$3,000	16109A Diag 2 of 6	0-214 - ACE6
	from 1B15 to 1B16	100	34.0		PVC		67			Feb-95	\$3,000	16109A Diag 2 of 6	0-214 - ACE6
	from 1B16 to 1B17	100	24.9		PVC		36			Feb-95		16109A Diag 2 of 6	
GP0060	from 1B17 to 1B18	100	63.2		PVC		36			Feb-95	\$3,000	16109A Diag 2 of 6	0-214 - ACE6
GP0061	from 1B18 to IS.2 at the rear of L	100	23.5		PVC		36			Feb-95	\$3,000	16109A Diag 2 of 6	0-214 - ACE6
GP0062													
GP0063	TOTAL LENGTH GRAVITY MAINS =		4366.3										
GP0064													
GP0065													
GP0066													
					Rising M	/ ains							
RM0001	From Pump Station No 1 to W end of Horan St	110	251.0		HDPE	Class 9				pre-Oct 93	\$17,000	16109A Diag 3 of 6	0-214 - ACE3
													0314-AC06 SHT 6
RM0002	from W end of Horan St new to N of IS.2 W of 1A21 (P1)	110	102.5		HDPE	Class 9				Feb-95	\$13,000	16109A Diag 3 of 6	
													0314-AC06 SHT 6
RM0003	from N of IS.2 W of 1A21 to just E of Sewage Ponds	100	~ 530.0		UPVC	Class 6				pre-Oct 93	\$30,000	16109A Diag 3 & 4 o	
													0314-AC06 SHT 6
	from just E of Sewage Ponds new to Pond No 1	110	100.5		UPVC	Class 9				Feb-95		16109A Diag 4 of 6	
	from Pump Station No 2 to Pump Station No 1	63	841.0		HDPE	Class 9				pre-Oct 93		16109A Diag 2 & 3 o	
	Within Pump Station No 1 new P1 between P2 & RM0001	110	14.4		HDPE	Class 9				Feb-95		16109A Diag 5 of 6	
	Within Pump Station No 1 new P2 between P1 & RM0005	63	15.3		HDPE	Class 9				Feb-95	\$1,000	16109A Diag 5 of 6	0-214 - ACE3
RM0008											ļ		
	TOTAL LENGTH OF RISING MAINS =		1324.7										
											<u> </u>		

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Access Chamber

Asset		Dimen	sions	Cons	truction Ma	terials	GPS L	ocation	Construction	Replacement	Durania a Ma	Revised
No	Street/Lot Location	Diameter mm	Depth m	Base	Liner	Cover	East	North	Date	Value (\$) (2007)	Drawing No	Drawing No
C01A1	At Pump Station PS1 on Lenneberg St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE3
	Directly E of 1A1 on Clough St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	Directly N of 1A2 on Clough St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE3
C01A4	Directly N of 1A3 on Clough St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE1
C01A5	Directly N of 1A4 on Clough St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE1
	In ROW S of L110 Horan St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE1
C00A7	In middle of L203 Lenneberg St W of A8	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE3
	In ROW E of A7 S of L75/74 Williamson St	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE3
C00A9	E of A8 in line with ROW in Aurum St	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE3
C0A10	Cnr Aurum & Williamson Sts outside L89	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE1
C0A11	N of A10 in line with ROW in Aurum St	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE1
	Cnr Aurum & Horan Sts outside L104 Horan St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE1
	E of A11 in ROW N of L91 Williamson St	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE1
C1A14	Cnr Argent & Williamson Sts outside L196 Argent St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE2
	Directly S of 1A14 in line with ROW in Argent St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE4
C1A16	S of 1A15 cnr Lenneberg & Argent Sts o/side L129	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE4
C0A17	Directly S of A9 in line with ROW o/side L152 King St	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE3
C0A18	E of A17 in ROW N of L147 King St	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE3
C1A19	E of A18 in ROW N of 143 King St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE4
C1A20	S of A7 in L203 Lenneberg St & E of 1A3	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE3
C1A21	E of A20 in ROW N of L63 Lenneberg St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE3
C1A22	S of 1A2 in Clough St in line with ROW	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE3
C1A23	N of 1A12 in Aurum St N of Horan St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE1
	At Pump Station PS2 cnr Overington & Lee Sts	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE7
C00B2	NE of PS2 on cnr Overington & Lee Sts o/side L185	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	0-214 - ACE7
	NW of B2 cnr Overington & Ronchi Sts o/side L25	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
C01B4	NW of 1B3 on Overington St outside L28	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE7
	W of 1B4 on Overington St outside L29	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	NE of B2 on Lee St in line with ROW o/side L185	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	
	NW of B6 on Ronchi St in line with ROW o/side L25	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE7
	NW of 1B7 in ROW N or L30 Overington St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	NE of 1B7 cnr Ronchi & Oxide Sts o/side L9	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	NW of 1B9 cnr Cheney & Oxide Sts o/side L16	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	NE of 1B10 on Cheney St in line with ROW o/side L1	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	NE of 1B9 on Ronchi St in line with ROW o/side L8	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	NE of B6 cnr Lee & Oxide Sts o/side L200	1040		Concrete	Concrete	Concrete			pre-Oct-93	\$2,500	16109A Drg 6	
	NE of 1B11 cnr Burbidge & Cheney Sts o/side L1	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	E of 1B14 N side of Burbidge St o/side L207	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	SE of 1B15 on Burbidge St o/side L207/217	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
	NE of 1B16 at side of L207 Burbidge St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	
C1B18	EES of 1B17 at rear of L215 Burbidge St	1040		Concrete	Concrete	Concrete			Feb-95	\$2,500	16109A Drg 6	0-214 - ACE6
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Pump Station

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Wet Well																
	Street/Lot	Dimen	sions			Set Point		Cons	struction Ma	terials	GPS Lo	ocation		Bonlooomont Volue (*)		
Asset No	Asset No Location	Diameter mm	Depth m		High Level	Pump On	Pump Off	Base	Liner	Cover	East	North	Construction Date	Replacement Value (\$) (2007)	Drawing No	Comments
PW001	Lot 1	1500	4.0	7.069 m3	1.15 m	0.800 m	0.300 m	Concrete	Concrete	Concrete			pre-Oct 93	\$2,000.00	16109A Diag 5 of 6	
	Lenneberg St														0214-ACE3	
	Marvel Loch															
PW002	UCL	1500	4.0	7.069 m3	1.15 m	0.800 m	0.300 m	Concrete	Concrete	Concrete			pre-Oct 93	\$2,000.00	0214-ACE7	
	Overington St															
	Marvel Loch															

Pump Sets

Asset No	Туре	Make	Model	KW Rating	Flow Capacity	Construction Date/ Installation Date	Replacement Value (\$) (2007)	Drawing No	Comments	
PS001	Pump Motor 1	Flygt	3127			pre-Oct 93	\$5,000.00	16109A Diag 5 of 6	Non-grinding pumps	
PS002	Pump 1	Flygt	3127		20Lts/sec	pre-Oct 93	\$5,000.00	16109A Diag 5 of 6	Non-grinding pumps	
PS001	Pump Motor 1	Flygt	NP3127.160 SH246	7.4 Kw	19Lts/sec	Oct-15	\$6,250.00	0214-ACE3	Non-grinding self-cleaning pur	nps 415 V; 50 Hz; 13 A; Rated Speed 2895 1/min; Pump 19L/sec
PS002	Pump 1	Flygt	NP3127.160 SH246	7.4 Kw	19Lts/sec	Oct-15	\$6,250.00	0314-AC05 SHT 6 OF 7	Non-grinding self-cleaning pur	nps 415 V; 50 Hz; 13 A; Rated Speed 2895 1/min; Pump 19L/sec
PS003	Pump Motor 2	Flygt	3102			pre-Oct 93	\$5,000.00			
PS004	Pump 2	Flygt	3102-170 HT	4.4Kw	4.1 Lts/sec	pre-Oct 93	\$5,000.00	0214-ACE7		
PS005	Pump 2 Spare	Flygt	3102-170 HT	4.4Kw	4.1 Lts/sec	2009	\$6,666.00	0314-AC05 SHT 6 OF 7	Non-grinding pump purchased Dec 09	

Motor Controls

Asset No	Туре	Make	Model	Rating	Construction Date/ Installation Date	Replacement Value (\$) (2007)	Drawing No	Comments
MC001	Auto/Manual	James Reid Electric Conctrols Pty Ltd	Standard Duplex Pump	415V/240V	pre-Oct 93	\$2,000.00		4 Floats (Alarm Top, Start Pump 2, Start Pump 1, Pumps Off
MC002	Auto/Manual	James Reid Electric Conctrols Pty Ltd	Standard Duplex Pump	415V/240V	pre-Oct 93	\$2,000.00		4 Floats (Alarm Top, Start Pump 2, Start Pump 1, Pumps Off

Appurtenances

			Pipe Details	s	Construction Date/	Bankagement Value (\$)		
Asset Type	Description	Size mm	Material	Pressure Rating	Installation Date	(2007)	Drawing No	Comments
Valve	100 Diam Cl 'John' Gate Valve	100	Cast Iron		pre-Oct 93	\$1,500.00		
Valve	100 Diam Ball Valve	100	PVC		04/4/08	\$	0314-AC05 SHT 6 OF 8	Gate valves (2) were replaced as brass ones considered leaky. Barrel
NRV	100 Diam Cl 'John' Check Valve	100	CI		pre-Oct 93	\$1,500.00	0314-AC05 SHT 6 OF 9	
Valve	100 Diam Cl 'John' Gate Valve	100	CI		pre-Oct 93	\$1,500.00	0314-AC05 SHT 6 OF 10	
NRV	100 Diam Cl 'John' Check Valve	100	CI		pre-Oct 93	\$1,500.00	0314-AC05 SHT 6 OF 11	
	Valve Valve NRV Valve	Valve 100 Diam Cl 'John' Gate Valve Valve 100 Diam Ball Valve NRV 100 Diam Cl 'John' Check Valve Valve 100 Diam Cl 'John' Gate Valve	Asset Type Description Size mm Valve 100 Diam Cl 'John' Gate Valve 100 Valve 100 Diam Ball Valve 100 NRV 100 Diam Cl 'John' Check Valve 100 Valve 100 Diam Cl 'John' Gate Valve 100	Asset Type Description Size mm Material Valve 100 Diam Cl 'John' Gate Valve 100 Cast Iron Valve 100 Diam Ball Valve 100 PVC NRV 100 Diam Cl 'John' Check Valve 100 CI Valve 100 Diam Cl 'John' Gate Valve 100 CI	Size mm Material Rating Valve 100 Diam Cl'John' Gate Valve 100 Cast Iron Valve 100 Diam Ball Valve 100 PVC NRV 100 Diam Cl'John' Gate Valve 100 Cl Valve 100 Diam Cl'John' Gate Valve 100 Cl	Asset Type Description Size mm Material Pressure Rating Construction Date/ Installation Date valve 100 Diam Cl 'John' Gate Valve 100 Cast Iron pre-Oct 93 valve 100 Diam Ball Valve 100 PVC 04/4/08 NRV 100 Diam Cl 'John' Check Valve 100 Cl pre-Oct 93 valve 100 Diam Cl 'John' Gate Valve 100 Cl pre-Oct 93	Asset Type Description Size mm Material Pressure Rating Construction Date/ Installation Date Replacement value (s) (2007) valve 100 Diam Cl 'John' Gate Valve 100 Cast Iron pre-Oct 93 \$1,500.00 valve 100 Diam Ball Valve 100 PVC 04/4/08 \$ VRV 100 Diam Cl 'John' Check Valve 100 Cl pre-Oct 93 \$1,500.00 valve 100 Diam Cl 'John' Gate Valve 100 Cl pre-Oct 93 \$1,500.00	Asset Type Description Size mm Material Pressure Rating Construction Date/ Installation Date Replacement value (s) (2007) Drawing No valve 100 Diam Cl 'John' Gate Valve 100 Cast Iron pre-Oct 93 \$1,500.00 valve 100 Diam Ball Valve 100 PVC 04/4/08 \$ 0314-AC05 SHT 6 OF 8 NRV 100 Diam Cl 'John' Gate Valve 100 Cl pre-Oct 93 \$1,500.00 0314-AC05 SHT 6 OF 9 valve 100 Diam Cl 'John' Gate Valve 100 Cl pre-Oct 93 \$1,500.00 0314-AC05 SHT 6 OF 10 valve 100 Diam Cl 'John' Gate Valve 100 Cl pre-Oct 93 \$1,500.00 0314-AC05 SHT 6 OF 10

Waste Water Treatment Plant

Street/Lot Location

Reserve 40746 Lot 201 Old Marvel Loch Road, Marvel Loch

Land Title Marvel Loch Sewer Ponds **Primary Treatment Ponds** Dimensions Material Inlet Pipe Outlet Pipe Replacement Construction Asset No Volume Value (\$) Drawing No Comments Date Length m Width m Depth m Embankments Liner Size Туре Size Туре (2007) WT001 85.0 42.5 1.35 4,876.9m3 Clay earth Nil 110 HDPE 100 HDPE \$250,000 pre-Oct 93 16109A Diag 4 of 6 0314-AC06 SHT 6 OF 6

Primary Treatment Imhoff Tank - Nil

	Dimer	nsions			Construction Mat	terial	Inlet	Pipe	Outle	t Pipe	Replacement	Construction		
Asset No	Diameter m	Depth m	Volume	Outer Tank	Inner Tank	Walkways	Size	Туре	Size	Туре	Value (\$) (2007)	Date	Drawing No	Comments
WT001	None													
WT002	None													

Secondary Ponds

		Dimensions	6		Mate	rial	Inlet	Pipe	Outle	t Pipe	Replacement	Construction		
Asset No	Length m	Width m	Depth m	Volume	Embankments	Liner	Size	Туре	Size	Туре	Value (\$) (2007)	Date	Drawing No	Comments
WT002	51.0	50.0	1.1	2,805.0m3	Clay earth	Nil	100	HDPE	100	HDPE	\$100,000	pre-Oct 93	16109A Diag 4 of 6	
													0314-AC06 SHT 6 OF 6	5

Tertiary Ponds

		Dimension	S		Mate	rial	Inlet	Pipe	Outlet	t Pipe	Replacement	Construction		
Asset No	Length m	Width m	Depth m	Volume	Embankments	Liner	Size	Туре	Size	Туре	Value (\$) (2007)	Date	Drawing No	Comments
WT003	44.5	44.5	1.1	2178.2 m3	Clay earth	Nil	100	HDPE	100	HDPE	\$100,000	pre-Oct 93	16109A Diag 4 of 6	
													0314-AC06 SHT 6 OF 6	

Fencing

Asset No	Туре	Height	Gates Width	Lock Type	Replacement Value (\$) (2007)	Construction Date	Drawing No	Comments
WT004	Linkmesh	2.2 m	3.6 m	Padlock	\$10,000		0314- AC06 SHT 6 OF 6	

Return to Main Men

Effluent Reuse

Storage																	
Asset No	Dir	nensions		Con	struction N	laterial	Inlet	Pipe	Outle	t Pipe	GPS Lo	ocation	Street/Location	Construction Date	Replacement Value	Drawing	Comments
ASSELNO	Diameter m	Depth m	Volume	Floor	Walls	Roof	Size	Type	Size	Type	East	North	Street/Location	Construction Date	(\$)	No	Comments
ER001	5.0	~ 2.5	45,460Lts	PVC	PVC	PVC	50mm	Blueline Pol	50mm	Flexi/Bluelin	e		Reserve 12591 King St				
													Marvel Loch				

Pumping

Asset No	Туре	Make	Model	KW Rating	Flow Capacity	Street/Location	Construction Date	Replacement Value (\$)	Drawing No		Comment
ER005	Pump Motor 1	ERARA	2CDX 120/	2.2		Res 40746 Lot 201		\$5,000.00			Onga Pressure & recharge unit on top of pump -	Serial No B04019567; Manuftr 2002; 435kPa 2.0 Bar 24Lts
ER006	Pump Filter 1	Amiad	2 x Pods		24 Lts	Old Marvel Loch Rd					2 sand pods in	series with own Amiad control system
ER007	Pump Motor 2	Stalker	COMP3 CC	1.0		Reserve 12591 King St		\$3,000.00			Serial No 10207	792 240V/12.3A Impeller Diam 163mm
ER008	Pump Filter 2	None				Marvel Loch						
							ASS	FT .				
							755					
Control and	Control and Monitoring							SSIONED				_
Asset No	Туре	Make	Mo	del	Rating	Street/Location	202	16	\$)	Drawing No	Comment	
ER011	Sprinkler Timber	Superior Controls Co	Stirli	ng 4		Res 40746 Lot 201	20.	-0				
						Old Marvel Loch Rd		_				
ER012	Springler Timber	Netafim Quality Works				Reserve 12591 King St		\$1,000.00				
						Marvel Loch						
Disinfection												-

Disinfection	l							
Asset No	Туре	Make	Model	Street/Location	Construction Date	Replacement Value (\$)	Drawing No	Comment
ER015	CI Gas Injection	Wallace & Tiernan	Regulator& RotaMeter	ML Sewer Ponds	1986	\$1,600.00		CI gas dosing occurrs when effluent
			combined on cylinder					pump is on causing a vaccum to
			& Injector anit					pull gas into effluent feed line
								it is a manual system

Reticulation	1											
	Street/Lot	Dimensions					GPS Location					
Asset No	Location	Diameter	Lenght	Depth	Material	Grade	East	North	Construction Date	Replacement Value (\$)	Drawing No	
		m	m	m			Lust	Nortai				Comments
ER019	Reserve 12591	25-50mm		0.30-0.50	PVC	Highpress				\$8,000.00		
	King Street											
	Marvel Loch											
/												



APPENDIX B Financial Plan

Annual Operations and Maintenance Budget

Return to Main Menu																				
Output \			Year No	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NPV Annuity	\$ 1,174,356 -\$ 79,755		Year Escalation	2017 1.1475	2018 1.1877	2019 1.2293	2020 1.2723	2021 1.3168	2022 1.3629	2023 1.4106	2024 1.4600	2025 1.5111	2026 1.5640	2027 1.6187	2028 1.6753	2029 1.7340	2030 1.7947	2031 1.8575	2032 1.9225	2033 1.9898
Annuary	-φ 13,155		Discount	0.7773	0.7299	0.6853	0.6435	0.6042	0.5674	0.5327	0.5002	0.4697	0.4410	0.4141	0.3888	0.3651	0.3428	0.3219	0.3022	0.2838
Asset	Maintenance Type	Frequency		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Access Chambers		\$5,200																		
Access Chambers - Type 1	Routine & Breakdown Preventative	Annual 5 yearly	\$2,200 \$3,000	\$2,525 \$0	\$2,613 \$3,563	\$3,000 \$0	\$3,075	\$3,152 \$0	\$3,231 \$0	\$3,312 \$4,232	\$3,395 \$0	\$3,480 \$ 0	\$3,567 \$0	\$3,656 \$0	\$3,747 \$5.026	\$3,815 \$0	\$3,948 \$0	\$4,086 \$0	\$4,230 \$0	\$4,378 \$5,969
Access chambers - Type 1	Restorative	None	\$3,000	\$0 \$0	\$3,563 \$0	\$0 \$0	<u>\$0</u> \$0	\$0 \$0	\$0 \$0	\$4,232 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$5,020 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	30,909 \$0
	Routine & Breakdown		φ.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Access Chambers - Type 2	Preventative			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gravity Mains	Restorative	¢15 700		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gravity mains	Routine & Breakdown	Annual	\$1,100	\$1,262	\$1,306	\$1,500	\$1,537	\$1,575	\$1,614	\$1,654	\$1,695	\$1,737	\$1,780	\$1,824	\$1,870	\$1,907	\$1,974	\$2,043	\$2,115	\$2,189
Gravity Mains - Code A	Preventative	5 yearly	\$1,500	\$0	\$0	\$1,844	\$0	\$0	\$0	\$0	\$2,190	\$0	\$0	\$0	\$0	\$2,601	\$0	\$0	\$0	\$0
	Restorative Routine & Breakdown	10 yearly	\$2,000 \$1,100	\$0 \$1.262	\$0 \$1 306	\$0 \$1.500	\$0 \$1.537	\$0 \$1.575	\$0 \$1.614	\$0 \$1.654	\$2,920 \$1.695	\$0 \$1.737	\$0 \$1.780	\$0 \$1.824	\$0 \$1.870	\$0 \$1.907	\$0 \$1.974	\$0 \$2.043	\$0 \$2.115	\$0 \$2,189
Gravity Mains - Code B	Preventative	Annual 5 yearly	\$1,100	\$1,262	\$1,306 \$0	\$1,500	\$1,537	\$1,575	\$1,614 \$0	\$1,654	\$1,695	\$1,737	\$1,780	\$1,824	\$1,870	\$1,907 \$2,601	\$1,974	\$2,043 \$0	\$2,115 \$0	\$2,189
	Restorative	10 yearly	\$2,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,920	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Routine & Breakdown			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gravity Mains - Code C	Preventative Restorative			\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0		\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
	Routine & Breakdown			\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
Gravity Mains - Code D	Preventative			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Restorative Routine & Breakdown	Appuel	\$1,500	\$0 \$1,721	\$0 \$1,782	\$0 \$2,000	\$0 \$2,050	\$0 \$2,101	\$0 \$2,153	\$0 \$2,207	\$0 \$2,262	\$0 \$2,318	\$0 \$2,376	\$0 \$2,435	\$0 \$2,496	\$0 \$2,601	\$0 \$2,692	\$0 \$2,786	\$0 \$2,884	\$0 \$2,985
Pressure Mains	Preventative	Annual 5 yearly	\$1,500	\$1,721	\$1,782 \$0	\$2,000	\$2,050 \$0	\$2,101	\$2,153 \$0	\$2,207	\$2,262	\$2,318 \$0	\$2,376 \$0	\$2,435 \$0	\$2,496 \$0	\$2,601	\$2,692 \$0	\$2,786 \$0	\$∠,884 \$0	\$2,985 \$0
	Restorative	10 yearly	\$3,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,380	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sewerage Pump Station	Dautia a 8 Das aludaura	\$83,700	\$15,000	£47.040	647.045	£00.000	¢00 500	£04.040	604 500	£00.070	£00.000	£00.400	£00 700	CO4 050	CO 4 000	¢00.040	£00.000	¢07.000	600.000	£00.047
Pumps	Routine & Breakdown Preventative	Annual 5 yearly	\$15,000 \$20,000	\$17,213 \$0	\$17,815 \$0	\$20,000 \$24,585	\$20,500 \$0	\$21,010 \$0	\$21,530 \$0	\$22,070 \$0	\$22,620 \$29,199	\$23,180 \$0	\$23,760 \$0	\$24,350 \$0	\$24,960 \$0	\$26,010 \$34,680	\$26,920 \$0	\$27,862 \$0	\$28,838 \$0	\$29,847 \$0
i unpo	Restorative	10 yearly	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$43,799	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0
	Routine & Breakdown	Annual	\$2,500	\$2,869	\$2,969	\$3,500	\$3,587	\$3,677	\$3,769	\$3,863	\$3,959	\$4,058	\$4,159	\$4,263	\$4,369	\$4,335	\$4,487	\$4,644	\$4,806	\$4,974
Controls	Preventative Restorative	5 yearly 10 yearly	\$3,000 \$4,000	\$0 \$0	\$0 \$0	\$3,688 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$4,380 \$5,840	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$5,202 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
	Routine & Breakdown	Annual	\$2,200	\$2.525	\$2,613	\$3.000	\$3.075	\$3.152	\$3.231	\$3.312	\$3,395	\$3,480	\$3.567	\$3.656	\$3.747	\$3.815	\$3.948	\$4.086	\$4,230	\$4.378
Wet Well	Preventative	5 yearly	\$3,000	\$0	\$0	\$3,688	\$0		\$0	\$0	\$4,380	\$0	\$0	\$0	\$0	\$5,202	\$0	\$0	\$0	\$0
Waste Water Treatment Plant	Restorative	10 yearly	\$4,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,840	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
waste water freatment Flant	Routine & Breakdown	Annual	\$2,000	\$2,295	\$2,375	\$2,500	\$2,562	\$2,626	\$2,692	\$2,759	\$2,828	\$2,899	\$2.971	\$3.045	\$3,121	\$3,468	\$3,589	\$3,715	\$3,845	\$3.980
Primary	Preventative	10 yearly	\$3,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,380	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Restorative Routine & Breakdown	30 yearly	\$5,000 \$1,200	\$0 \$1,377	\$0 \$1,425	\$0 \$1,600	\$0 \$1,640	\$0 \$1,681	\$0 \$1,723	\$0 \$1,766	\$0 \$1,810	\$0 \$1,855	\$0 \$1,901	\$0 \$1.948	\$0 \$1,997	\$0 \$2,081	\$0 \$2,154	\$0 \$2,229	\$0 \$2,307	\$0 \$2,388
Secondary	Preventative	10 yearly	\$2,000	\$1,377	\$1,425 \$0	\$1,000 \$0	\$1,040 \$0	\$1,001 \$0	\$1,723	\$1,700	\$2,920	\$1,855 \$0	\$1,901 \$0	φ1,940 \$0	\$1,997 \$0	\$2,081	\$2,154 \$0	φ <u>2,229</u> \$0	\$2,307 \$0	\$2,300 \$0
	Restorative	30 yearly	\$5,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Routine & Breakdown	Annual	\$1,200	\$1,377	\$1,425	\$1,475	\$1,527	\$1,580	\$1,635	\$1,693	\$1,752	\$1,813	\$1,877	\$1,942	\$2,010	\$2,081	\$2,154	\$2,229	\$2,307	\$2,388
Tertiary	Preventative Restorative	10 yearly 30 yearly	\$2,000 \$5,000	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$2,920 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
	Routine & Breakdown	Annual	\$2,200	\$2,525	\$2,613	\$3,000	\$3,075	\$3,152	\$3,231	\$3,312	\$3,395	\$3,480	\$3,567	\$3,656	\$3,747	\$3,815	\$3,948	\$4,086	\$4,230	\$4,378
Appurtenances - Fencing	Preventative	5 yearly	\$3,000	\$0	\$0	\$3,688	\$0		\$0	\$0	\$4,380	\$0	\$0	\$0	\$0	\$5,202	\$0	\$0	\$0	\$0
Effluent Re-use	Restorative	10 yearly	\$5,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,300	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lindent Ne-use	Routine & Breakdown	Annual	-	-	-	-		-	-			-	-	-	-	-	-	-	· ·	-
Storage	Preventative	5 yearly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Restorative Routine & Breakdown	10 yearly Annual	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Pressure Mains	Preventative	5 yearly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Restorative	10 yearly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Duration	Routine & Breakdown Preventative	Annual	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumping	Restorative	5 yearly 10 yearly	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-		-
	Routine & Breakdown	Annual	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Controls	Preventative	5 yearly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	Restorative Routine & Breakdown	10 yearly Annual	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Reticulation	Preventative	5 yearly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Restorative	10 yearly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
Appurtenances - Disinfecting Unit	Routine & Breakdown Preventative	Annual 5 yearly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	Restorative	10 yearly	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-		
								A												
Totals	Future Value Net Present Value		\$ 12,803,352 \$ 1,174,356	\$36,950 \$28,722	\$36,950 \$26,969	\$41,807 \$28,651	\$84,870 \$54,614	\$44,165 \$26,686	\$45,281 \$25,690	\$46,423 \$24,731	\$51,834 \$25,928	\$181,663 \$85,324	\$50,037 \$22,067	\$51,305 \$21,245	\$52,599 \$20,452	\$58,960 \$21,526	\$114,790 \$39,351	\$57,789 \$18,602	\$59,811 \$18,078	\$61,905 \$17,568
	Annuity		-\$ 79,755	φ20,122	φ20,909	φ∠0,05T	φ04,014	φ20,000	¢∠0,090	φ 24 ,731	¢∠0,920	φ00,024	φ22,007	φ 21,24 0	920, 4 02	φ21,520	409,00T	φ10,00Z	φ10,070	φ17,000
(- 10,100																	

Modified JPH 2017

Annual Capital Investment Budget

Return to Main Menu

Input Values			Outp	put Values																			
Interest	6.50%		NPV	\$ 168,354																			
Valuation Date			Annuity	-\$ 11,434		Year No	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Current Date	30-Jun-13					Year	2017		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029		2031	2032	2033
Escalation	3.50%					Escalation	1.1475	1.1877	1.2293	1.2723	1.3168	1.3629	1.4106	1.4600	1.5111	1.5640	1.6187	1.6753	1.7340	1.7947	1.8575	1.9225	1.9898
						Discount	0.7773	0.7299	0.6853	0.6435	0.6042	0.5674	0.5327	0.5002	0.4697	0.4410	0.4141	0.3888	0.3651	0.3428	0.3219	0.3022	0.2838
				Replacement		_																	
Asset No	Description/Location	Instal Date	Effective	Value (RV)	Planned	Current RV	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
7.0001110	Boothpitoin200alloin	motal Bato	Life	(2013)	Replacement	(2013)		2010	-0.0	2020			2020		2020	2020		2020	2020	2000	2001		2000
Access Chamba	¥0			(2010)	-																		
Access Chambe	At Duran Otation DO4 on Langeborn Ot	1005	00	5 105,000	0075	0.500	<u>~</u>	^	<u>^</u>	<u>^</u>	¢	¢	<u>^</u>			¢	<u> </u>	<u>^</u>	<u>_</u>	<u> </u>	<u>^</u>	¢	<u> </u>
AC01A1	At Pump Station PS1 on Lenneberg St	1995	80	\$ 2,500	2075	\$ 2,500	<u> </u>	5 -	5 -	5 -	5 -	s -	5 -	5 - 3	- 0	5 -	s -	5 -	\$ -	5 -	5 -	5 -	3 -
AC01A2	Directly E of 1A1 on Clough St	1995	80	\$ 2,500	2075	\$ 2,500	ş -	\$ -		\$ -	\$ -	\$-		ş - ş	ş -	\$ -	ş -	\$ -	\$-	\$ -	\$ -	\$ -	\$ -
AC01A3	Directly N of 1A2 on Clough St	1995	80	\$ 2,500	2075	\$ 2,500	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	ş - S	\$ -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC01A4	Directly N of 1A3 on Clough St	1995	80	\$ 2,500 \$ 2,500	2075	\$ 2,500	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	\$ - 5	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC01A5	Directly N of 1A4 on Clough St	1995	80	\$ 2,500	2075	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	s - s	<u> -</u>	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC01A6	In ROW S of L110 Horan St	1995	80	\$ 2,500	2075	\$ 2,500	s -	s -	\$ -	\$ -	\$ -	s -	s -	S - 5	s -	s -	s -	s -	s -	s -	\$ -	\$ -	\$ -
AC01A6 AC00A7	In middle of L203 Lenneberg St W of A8	1993	80	\$ 2,500	2073	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	š -	\$ - 5		\$ -	\$ -	\$ -	\$ -	Š -	\$ -	\$ -	\$ -
AC00A8	In ROW E of A7 S of L75/74 Williamson St	1993	80	\$ 2,500	2073	\$ 2,500	¢ ¢	¢			\$ -	\$-		\$ - \$	2	¢	ç	¢	¢	¢	¢	¢	¢
	E of A8 in line with ROW in Aurum St	1002	00	\$ 2,500	2073	\$ 2,500	9 - 0	ф -	φ - ¢			ф -	3 -		-	ф -		φ - ¢	÷ •	9 - 0			
AC00A9		1993	80			\$ 2,500	<u> </u>	5 -	5 -	5 -	5 -	s -	5 -	5 - 3	- 0	5 -	s -	5 -	\$ -	5 -	5 -	5 -	5 -
AC0A10	Cnr Aurum & Williamson Sts outside L89	1993	80	\$ 2,500	2073	\$ 2,500		\$ -	Ŷ	\$ -	-	\$ -	Ŷ	\$ - \$	ş -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC0A11	N of A10 in line with ROW in Aurum St	1993	80	\$ 2,500	2073	\$ 2,500	\$-	\$ -		Ψ	\$ -	\$ -	ş -	Ş - S	\$ -	\$-	ş -	\$ -	ş -	ş -	\$ -	\$ -	\$ -
AC1A12	Cnr Aurum & Horan Sts outside L104 Horan St	1995	80	\$ 2,500	2075	\$ 2,500	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	\$ - 5	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC0A13	E of A11 in ROW N of L91 Williamson St	1993	80	\$ 2,500	2073	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	s - s	<u> -</u>	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC1A14	Cnr Argent & Williamson Sts outside L196 Argent St	1995	80	\$ 2,500	2075	\$ 2,500	s -	s -	\$ -	\$ -	\$ -	s -	s -	S - 5	s -	s -	s -	s -	s -	s -	\$ -	\$ -	\$ -
AC1A14 AC1A15	Directly S of 1A14 in line with ROW in Argent St	1995	80	\$ 2,500	2075	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ - 5	5 -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC1A16	S of 1A15 cnr Lenneberg & Argent Sts o/side L129	1995	80	\$ 2,500	2075			\$ -	\$ -	\$ -	\$ -	\$-		\$ - \$	s -	\$ -	\$ -	\$ -	\$-	\$ -	\$ -	\$ -	\$ -
	Directly S of A9 in line with ROW o/side L152 King St	1003	20	\$ 2,500	2073	\$ 2,500	ŝ	ŝ	¢.	¢.	÷.	\$	ŝ	\$ 8		ŝ	s.	¢.	ŝ	s.	¢.	÷.	¢.
AC0A17 AC0A18	E of A17 in ROW N of L147 King St (replace)	1993	25	\$ 2,500	2073	\$ 2,500	¢ -	\$ 2,969	ę -	ş - \$ -	÷ ÷	¢ -		s - s	-	ę -	e -	ę -	÷ ·	ę -	ę -	÷ ÷	÷ -
AC0A18 AC0A18	E of A17 in DOW N of L147 King Ot		25		2018		φ - ¢	\$ 2,909 ¢	φ - ¢	φ -	φ -	φ - ¢	÷ -		-	φ - ¢		Ψ -	φ - ¢	φ - ¢	Ψ - ¢	φ -	φ - ¢
ACUAIS	E of A17 in ROW N of L147 King St	2018	80	\$ 2,500	2098	\$ 2,500	ə -	э -	φ -	φ -	φ -	а -	3 -	3 - 5		ə -	ə -	φ -	ə -	э -	φ -	φ -	ə -
AC1A19	E of A18 in ROW N of 143 King St	1995	80	\$ 2,500	2075	\$ 2,500		\$ -		\$ -		ş -		\$ - \$	<u> -</u>	\$ -	5 -	5 -	Ŷ	\$ -	Ŷ	<u>\$</u> -	5 -
AC1A20	S of A7 in L203 Lenneberg St & E of 1A3	1995	80	\$ 2,500	2075	\$ 2,500		\$ -		\$ -		\$ -		\$ - \$					\$ -	ş -	\$ -		\$ -
AC1A21 AC1A22	N of 1A12 in Aurum St N of Horan St	1995	80	\$ 2,500	2075	\$ 2,500	\$ -	\$ -				\$ -		ş - s			ş -		\$ -	\$ -	ψ -	\$ -	\$ -
AC1A22	S of 1A2 in Clough St in line with ROW	1995	80	\$ 2,500	2075	\$ 2,500	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	ş - S	ş -	ş -	ş -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -
								1			1			1			1	1			1	1	
AC00B1	At Pump Station PS2 cnr Overington & Lee Sts	1993	80	\$ 2,500	2073	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -	s -	S -	S - 5	<u> </u>	\$ -	S -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC00B2	NE of PS2 on cnr Overington & Lee Sts o/side L185	1993	80	\$ 2,500	2073	\$ 2,500		\$ -	\$ -	\$ -	\$ -	š -	Ŷ	s - 5	- I	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC01B3	NW of B2 cnr Overington & Ronchi Sts o/side L105	1005	90	\$ 2,500	2075	\$ 2,500	φ - ¢	φ -	Ŧ	ş -	φ -	φ - ¢	-	s - s	-	φ - ¢	÷ •	φ -	φ - ¢	¢ -	φ -	φ -	ф –
ACUID3	NW of B2 chill Overlington & Ronchill Sts O/side L25	1995	00	\$ 2,500	2073	\$ 2,500	<u>ə -</u>	а - С	3 -	ə -	3 -	3 - 0		s - s	- 0	ə -	3 -	3 -	а - С	3 - 0	3 -	3 -	3 -
AC01B4	NW of 1B3 on Overington St outside L28		80	\$ 2,500	2075	\$ 2,500	<u>s</u> -	\$ -	\$ -	<u>s</u> -	\$ -	\$ -	s -	5 - 3	5 -	\$ -	S -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC01B5	W of 1B4 on Overington St outside L29	1995	80	\$ 2,500 \$ 2,500	2075	\$ 2,500	ş -	ş -	ş -	ş -	ş -	\$ -	ş -	ş - s	ş -	ş -	ş -	\$ -	ş -	ş -	\$ -	ş -	\$ -
AC00B6	NE of B2 on Lee St in line with ROW o/side L185	1993	80		2073	\$ 2,500		\$ -		\$ -	\$ -	\$ -		\$ - S	\$ -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC01B7	NW of B6 on Ronchi St in line with ROW o/side L25	1995	80	\$ 2,500	2075	\$ 2,500	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	\$ - 5	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC01B8	NW of 1B7 in ROW N or L30 Overington St	1995	80	\$ 2,500	2075	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	s - s	<u> -</u>	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC01B9	NE of 1B7 cnr Ronchi & Oxide Sts o/side L9 (replaced)	1995	21	\$ 2,500	2016	\$ 2,500	s -	s -	\$ -	\$ -	\$ -	s -	s -	S - 5	s -	s -	s -	s -	s -	s -	\$ -	\$ -	\$ -
AC01B9	NE of 1B7 cnr Ronchi & Oxide Sts o/side L9	2016	80	\$ 2,500	2096	\$ 2,500		\$ -	\$ -	\$ -	\$ -	\$ -	š -	š - 9		\$ -	\$ -	\$ -	\$ -	Š -	\$ -	\$ -	\$ -
AC1B10	NW of 1B9 cnr Cheney & Oxide Sts o/side L16	1995	80	\$ 2.500	2075	\$ 2,500	\$	ŝ.	\$ _	\$ -	\$ -	\$ -	ŝ.	\$ - 5		\$ _	ŝ.	\$ _	Ś.	ŝ .	Ś.	\$ -	\$.
		1995	80	\$ 2,500	2075			¢ -	Ŷ	Ψ	\$ - \$ -	φ - ¢	Ŷ	s - s	-	¢ -	ç -	¢ -	ę –	¢ -	¢ -	¢ -	¢ -
AC1B11 AC1B12	NE of 1B10 on Cheney St in line with ROW o/side L1 NE of 1B9 on Ronchi St in line with ROW o/side L8	1995	80	\$ 2,500	2075	\$ 2,500	¢ -	φ - ¢		\$ -	\$ - ¢	φ - ¢	9 - e			φ - ¢	9 - e	φ - ¢	φ - ¢	9 - 6	φ - ¢	\$ - ¢	φ - ¢
AC1012	NE of TB9 off Konchi St in the with KOW o/side Ed	1993	80	\$ 2,500		\$ 2,500	9 - 0	ф -			ş -	s -	3 -	s - s	· ·	ф -		φ - ¢	÷ •	9 - 0		3 - 0	3 -
AC0B13	NE of B6 cnr Lee & Oxide Sts o/side L200	1993	00		2073		ş -	э -	3 -	ə -	ð -	э -	3 -	3 - 3	- 0	ş -	3 -	3 -	э -	3 - 0	3 -	ð -	3 -
AC1B14	NE of 1B11 cnr Burbidge & Cheney Sts o/side L1	1995	08	\$ 2,500	2075	\$ 2,500	<u> </u>	\$ -	\$ -	\$ -	\$ -	\$ -	s -	5 - 3	5 -	ş -	S -	\$ -	ş -	\$ -	\$ -	\$ -	<u>s</u> -
AC1B15	E of 1B14 N side of Burbidge St o/side L207	1995	80	\$ 2,500	2075	\$ 2,500		ş -	Ψ	Ψ	Ŷ	\$ -	Ŷ	\$ - S	5 -	ş -	ş -	\$ -	ş -	ş -	\$ -	\$ -	\$ -
AC1B16 AC1B17	SE of 1B15 on Burbidge St o/side L207/217 NE of 1B16 at side of L207 Burbidge St	1995	80	\$ 2,500	2075			\$ -	\$ -	\$ -	\$ -	\$ -	ş -	\$ - 5	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	NE of 1B16 at side of L207 Burbidge St	1995	80	\$ 2,500	2075	\$ 2,500	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	\$ - 5	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC1B18	EES of 1B17 at rear of L215 Burbidge St	1995	80	\$ 2,500	2075	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	s - s	<u> -</u>	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AC0043					0	S -	\$ -	s -	\$ -	\$ -	\$ -	s -	S -	S - 5	S -	\$ -	S -	\$ -	s -	s -	\$ -	\$ -	\$ -
Gravity Mains				\$ 382.000			•																_
GP0001	Pump Station No 1 pump pit to 1A1	1993	80	\$ 1,000	2073	\$ 1,000	s -	s -	s -	s -	s -	s -	s -	s - 5	s _	s -	s -	s -	s -	s -	s -	s -	s -
GP0002	from 1A1 to 1A2	1995	80	\$ 6,000	2075	\$ 6,000	<u> </u>	\$	ŝ.	\$ -	\$ _	¢ •	Š.	\$ - S	,	\$	ŝ.	Š.	\$ -	\$ _	\$ _	\$ _	\$ -
GP0002	from 1A2 to 1A3	1995	80	\$ 6,000	2075	\$ 6,000	¢ -	¢			\$ - \$ -	¢ -		s - 5	s -	¢ -	e -	¢ -	\$ -	¢ -	¢ -	¢ -	e -
GF0003		1005	00	\$ 0,000				ф -	φ - ¢			ф -	3 -		-	ф -		φ - ¢	÷ •	9 - 0			
GP0004	from 1A3 to 1A4 from 1A4 to 1A5	1995	80	\$ 13,000 \$ 6,000	2075	\$ 13,000	ə -	ф -	р -	φ -	ф -	а - С	3 -	3 - 5	- 0	ə -	ə -	ар - С	ə -	ə -	ф -	ф -	ф -
GP0005		1995	80		2075	\$ 6,000		ə -	ъ-	ъ -	ə -	3 -	-	<u>s</u> - s	- (ə -	ə -	ъ -	ə -	ə -	ъ -	ə -	ə -
GP0006	from 1A5 to 1A6	1995	80	\$ 3,000	2075	\$ 3,000	\$ -	\$ -		\$ -	\$ -	ş -		\$ - \$	ş -	\$ -	S -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0007	from 1A6 to IS.2 N of L86	1995	80	\$ 7,500	2075	\$ 7,500	\$ -	\$ -		\$ -	\$ -	\$ -		\$ - \$	S -	\$ -	Ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0008	from A7 to A8	1993	80	\$ 13,000	2073	\$ 13,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Ş -	ş - ş	ş -	\$ -	Ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0009	from A8 to A9	1993	80	\$ 6,000	2073	\$ 6,000	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$	s -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0010	from A9 to end pipe N of L64	1993	80	\$ 17,000	2073	\$ 17,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0011	from A9 to A10	1993	80	\$ 13,000	2073	\$ 13,000		\$ -		\$-	\$ -	\$ -		š - š	Š -	\$ -	S -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0012	from A10 to A11	1993	80	\$ 6,000	2073	\$ 6,000	\$ -	\$ -	Ŧ	\$ -	\$ -	\$ -	-	\$ - \$	s -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0013	from A11 to 1A12	1995	80	\$ 6,000	2075	\$ 6,000	\$ -	\$ -		\$ -	\$ -	\$ -		\$ - 5	6	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0014	from 1A12 to IS.1 N of L101	1005	20	\$ 6,000	2075	\$ 6,000	s -	ŝ	¢ -	¢ -	š -	\$ -	š -	š - 2	-	ŝ	s -	š -	š -	ŝ -	¢ -	š -	¢ -
CD0014	from IP 12 to 10.1 N of L 101	1995	80	\$ 13,000	2075	\$ 13,000	φ - ¢	φ - ¢	φ - ¢	\$ - \$ -	\$ - \$ -	φ - ¢	÷ -	s - 3	- 6	φ - ¢		φ -	φ - ¢	φ - ¢	Ψ - ¢	\$ - \$ -	Ψ -
GP0015	from IS.1 N of L101 to IS.2 N of L97							ф -	Ŷ	Ψ	ф -	а - С	Ŷ	Ŷ,	·	ə -	ə -	ар - С	ə -	ə -	ф -	ф -	ə -
GP0016	from 1A12 to 1A21	1995	80	\$ 6,500	2075	\$ 6,500	ə -	ə -	Ŧ	\$ -	ə -	3 -	-	\$ - \$	s -	ə -	ə -	ъ -	ə -	ə -	ъ -	ə -	ъ -
GP0017	from A11 to A13	1993	80	\$ 6,000	2073	\$ 6,000	\$-	\$ -		\$ -	\$ -	ş -		\$ - \$	5 -	\$ -	S -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0018	from A13 to pipe junction in ROW N of L96	1993	80	\$ 13,000	2073	\$ 13,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Ş -	ş - s	§ -	\$ -	Ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0019	from pipe junction to just N of 1A14 Argent St	1993	80	\$ 6,500	2073	\$ 6,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Ş -	\$ - \$	ŝ -	\$ -	Ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0020	from 1A14 to IS.1 heading W	1995	80	\$ 6,500	2075	\$ 6,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$	s -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0021	from IS.1 W of 1A14 to A10	1995	80	\$ 6,500	2075	\$ 6,500		\$ -	\$ -	\$ -	\$ -	\$ -	S -	\$ - \$	s -	\$ -	S -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0022	from 1A14 to 1A15	1995	80	\$ 6,500	2075	\$ 6,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	S -	Š - 5	<u> </u>	\$ -	S -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0023	from 1A15 to 1A16	1995	00	\$ 6,500	2075	\$ 6,500	s -	\$ -		ş -	\$ -	\$ -		s - s	s -	\$ -	s -	\$ -	\$ -	s -	\$ -	\$ -	\$ -
GP0024	from 1A16 to IS.2 N of L136	1995	80	\$ 7,500	2075	\$ 7,500	\$ -	Š.	\$ -	\$	\$ -	\$ -	Š.	š - c		\$	s -	\$	\$ -	\$	\$ -	\$ -	\$
CP0024	from A9 to A17	1995	80	\$ 17,000	2073	\$ 17,000	¢ -	e -	÷ ·	÷ ·	÷ -	¢ -	e -	s - s		ę -	e -	ę -	¢ -	ę -	¢ -	÷ -	÷ ·
GP0020		1993	80	\$ 17,000				φ - ¢	ф -	\$ - \$ -	φ - ¢	ф - ¢	Ŷ	Ŷ,		φ - ¢	9 -	9 - 6	φ - ¢	9 - 6	÷ •	φ - ¢	÷ ÷
GP0020	from A17 to A18	1993	80	9 13,000	2073		а - С	ф -	р -	φ -	\$ -	а - С	3 -	\$ - 5		ə -	- s	ф -	\$ -	\$ -	ф -	ф -	ə -
GP0027	from A18 to 1A19	1995	80	\$ 6,500	2075	\$ 6,500	ə -	ð -	ð -	ð -	ð -	ð -	ð -	3 - 5	- 0	ð -	ð -	ð -	ə -	ð -	ð -	ð -	ð -
GP0028	from 1A19 to IS.2	1995	80	\$ 6,500	2075	\$ 6,500	ş -	\$ -	\$ -	\$ -	\$ -	ş -	ş -	\$ - \$	ş -	\$ -	\$ -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -
GP0029	from A7 to 1A20	1995	80	\$ 2,000	2075	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$	S -	\$ -	Ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0030	from 1A20 to 1A3	1995	80	\$ 6,000	2075	\$ 6,000	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$	ş -	\$ -	Ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0031	from 1A21 to IS.2 N of Horan St	1995	80	\$ 7,500	2075	\$ 7,500		\$ -	\$ -	\$ -	\$ -	\$ -	S -	\$ - \$	s -	\$ -	S -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0032	from 1A2 to 1A22	1995	80	\$ 6,500	2075	\$ 6,500		\$ -	\$ -	\$ -	\$ -	s -	s -	\$ - 0	s -	\$ -	s -	\$ -	\$ -	s -	\$ -	\$ -	s -
GP0033	from 1A22 to IS.2 N of L153	1995	80	\$ 7,500	2075	\$ 7,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s - 5		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0034	from A11 across Aurum St to nowhere	1993	80	\$ 6,000	2073	\$ 6,000	ŝ	ŝ	¢.	¢.	÷.	\$	-	s - s		ŝ	s.	¢.	ŝ	s.	¢.	÷.	¢.
510004			30	+ 0,000	2013	÷ 0,000	Ψ -	<i>.</i>	ψ -	Ψ ·	Ψ -	¥ -	÷ -	÷ - 3		÷ -	J -	¥ -	Ψ -	<i>~</i> -	Ψ -	Ψ -	¥ -
CD0025	Pump Station No.2 nump pit to B4	1993	00	¢ 4.000	2073	\$ 1.000	¢	¢	¢	¢	¢	¢	~		,	¢	e	¢	¢	¢	¢	¢	¢
GP0035	Pump Station No 2 pump pit to B1	1993	80	\$ 1,000			ə -	\$ -	ş -	\$ -	φ -	\$ -	ş -	\$ - \$		\$ -	ə -	φ -	\$ -	ф -	φ -	φ -	φ -
GP0036	from B1 to B2	1993	80	৯ 3,000	2073	\$ 3,000	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	Ş -	5 - 5	5 -	\$ -	Ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Asset No	Description/Location	Instal Date	Effective Life	Replacement Value (RV)	Planned Replacement	Current RV (2013)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
CP0037	from B2 to IS.1 S of L189 heading NW	1005	Life	(2013) \$ 6,500	2075		s -	\$ -	s -	s -	s -	¢	s -	e	e	s -	s -	s -	s -	s -	\$ -	s -	¢
GP0037 GP0038	from IS.1 S of L189 to 1B3	1995	80	\$ 6,500	2075			\$- \$-			\$ - \$ -				s -	ş - \$ -	s - s -			\$ - \$ -		ş - \$ -	3 - \$ -
GP0039	from 1B3 to 1B4	1995	80	\$ 6,500	2075			\$-		\$ -		\$ -		ş -		\$ -		\$ -				\$ -	\$ -
GP0040 GP0041	from 1B4 to 1B5 from 1B5 to end of pipe S of L32	1993	80	\$ 1,000 \$ 3,000	2073 2073		\$ - \$ -	\$- \$-			<u>\$</u> -	\$ - \$ -	\$ - \$ -		s - s -	-	ş - s -	\$ - \$ -		+	-	\$ - \$ -	\$ - \$ -
GP0042	from B2 to B6	1993	80	\$ 3,000	2073			φ - \$ -			\$ -		\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0043	from B6 to IS.1 N of L189 heading NW	1995	80	\$ 6,500 \$ 6,500	2075			\$ -	\$ -		\$ -	\$ -			ş -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0044 GP0045	from IS.1 N of L189 to 1B7 from 1B7 to 1B8	1995 1995	80 80	\$ 6,500 \$ 6,500	2075 2075	\$ 6,500 \$ 6,500	\$ - \$ -	\$- \$-	\$ - \$ -	\$ - \$ -	<u>\$</u> -	\$ - \$ -	\$ - \$ -		\$ - \$ -	\$ -	ş - ş -	<u>s</u> -		\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
GP0046	from 1B8 to IS.2	1995	80	\$ 3,000	2075			\$-		\$ -		\$-		-	\$ -	\$-	\$ -	\$ -	\$-	\$ -		-	\$ -
GP0047	from 1B7 to 1B9	1995 1995	80 80	\$ 6,500 \$ 6,500	2075	\$ 6,500	ş -	\$ -	ş -		\$ -	ş -	ş -	ş -	ş -	ş -	ş -	ş -	ş -	ş -	ş -	\$ -	\$ -
GP0048 GP0049	from 1B9 to IS.1 S of L13 heading NW from IS.1 S of L13 to 1B10	1995	80	\$ 6,500 \$ 6,500	2075 2075			\$- \$-		\$ - \$ -	<u>\$ -</u> \$ -	Ψ	\$ - \$ -	\$ - \$ -	s -	\$ - \$ -	s -	\$ - \$ -	\$ - \$ -	\$ ·	Ŷ	\$ - \$ -	<u>s</u> -
GP0050	from 1B10 to 1B11	1995	80	\$ 3,000	2075	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0051	from 1B11 to IS.2	1995 1995		\$ 6,500 \$ 3,000	2075			\$- \$-	+	\$ -	-	ş -		Ŧ	-	ş -	ş -	\$ -	ş -	-	\$ -	\$ -	\$ -
GP0052 GP0053	from 1B9 to 1B12 heading NE from 1B12 to IS.2 S of L6 heading NW	1995	80 80	\$ 3,000	2075 2075		\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	<u>\$</u> - \$-	\$ - \$ -	s - s -	s - s -	\$ - \$ -	\$ - \$ -	s - s -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
GP0054	from B6 to B13 heading NE	1993	00	\$ 6,500	2073	\$ 6,500		\$ -	\$ -	\$ -	\$ -	\$ -	Ŷ	ş -	\$ -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0055	from B13 to IS.2 S of L200 heading NW from 1B11 to 1B14	1993	80	\$ 3,000 \$ 3,000	2073 2075	\$ 3,000 \$ 3,000		\$ -	\$ -	\$ -	<u>\$</u> -	-	ş -	ş -	ş -	\$ -	Ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0056 GP0057	from 1B14 to 1B15	1995	80	\$ 3,000	2075		\$ - \$ -	\$- \$-	\$ - \$ -	\$ - \$ -	<u> </u>	\$ - \$ -		ş - ş -	s -	ə - S -	s -	s -	5 - 5 -	\$ - \$ -	\$ - \$ -	\$ - \$ -	s -
GP0058	from 1B15 to 1B16	1995	80	\$ 3,000	2075			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	\$ -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GP0059	from 1B16 to 1B17 from 1B17 to 1B18	1995	80 80	\$ 3,000 \$ 3,000	2075 2075		\$ - \$ -	\$ - ¢		\$ - ¢			\$ - \$ -	\$ - ¢		s -	\$ - \$ -		\$ - \$ -		\$ - \$ -	\$ - ¢	\$ - ¢
GP0060	from 1B17 to 1B18 from 1B18 to IS.2 at the rear of L	1995	80	\$ 3,000	2075			φ - \$ -	φ - \$ -		<u>\$</u> - \$-	\$ - \$ -		s -	s -	ş - \$ -	s -	φ - \$ -	ş - \$ -	φ - \$ -	ş - \$ -	φ - \$ -	φ - \$ -
GP0062					0		\$ -	\$-				\$ -	\$ -			\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Rising Mains	From Pump Station No 1 to W end of Horan St	1003	80	\$ 120,000 \$ 17,000	2073	\$ 17.000		\$ - \$ -	\$ - \$ -		<u>\$</u> -	\$ - \$ -	\$ - \$ -		\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
RM0002	from W end of Horan St new to N of IS.2 W of 1A21 (P1)	1995	80	\$ 13,000	2075			\$- \$-	+	Ŧ	-	ş - \$ -	-	-	ş - Ş -	\$ -	\$ -	\$ -	\$ -	ş - \$ -	+	ş - \$ -	\$ -
RM0003	from N of IS.2 W of 1A21 to just E of Sewage Ponds	1993	80	\$ 30,000	2073	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	ş -	\$ -	ş -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RM0004	from just E of Sewage Ponds new to Pond No 1 from Pump Station No 2 to Pump Station No 1	1995 1993	80 80	\$ 13,000 \$ 45,000	2075 2073			\$- \$-			<u>\$ -</u> \$ -		\$ - \$ -	s -	\$ - ¢	\$ - ¢	\$ - ¢	\$ - ¢	\$ - ¢		-	\$ - \$ -	\$ - ¢
RM0006	Within Pump Station No 1 new P1 between P2 & RM0001	1995	80	\$ 1,000	2075	\$ 1.000	\$ -	\$ -	\$ -	\$ - \$ -	\$ -	ş - \$ -	s -	ş - S -	ş - S -	ş - S -	ş - S -	ş - \$ -	ş - \$ -	ş - \$ -	ş - \$ -	ş - \$ -	ş - S -
RM0007	Within Pump Station No 1 new P2 between P1 & RM0005	1995	80	\$ 1,000	2075			\$-		\$ -			Ŷ	ş -	÷	\$ -	ş -	\$ -	\$ -	\$ -	Ŷ	Ψ	\$ -
RM0008 WWTP				\$ 470,000	0	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	ş -	ş -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WT001	Primary Treatment Ponds	1993	100	\$ 250,000	2093	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -	s -	s -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
					0		\$ -	\$-	\$ -	\$ -	\$ -	\$ -	ş -	ş -	ş -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
W1001	Primary Treatment Imhoff Tank - None				0		\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	<u>\$</u> -	ş - s -	\$ - \$ -	ş -	ş -	\$ - \$ -	ş -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
WT003	Secondary Ponds	1993	100	\$ 100,000	2093			\$- \$-	Ψ	\$ -	Ψ	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
					0	ş -	\$ -	\$ -				\$ -				\$ -	ş -		\$ -	\$ -	\$ -	\$ -	\$ -
W1003	Tertiary Ponds	1993	100	\$ 100,000	2093				\$ - \$ -			\$ - \$ -			\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	<u>s</u> -
WT007	Fencing	1993	20	\$ 10,000	2013			\$ -		\$ -		\$ -		\$ -	•	\$ -	\$ -	\$ -	\$ -	\$ -	Ŷ	\$ -	\$ -
WT007	Fencing	2013	20	\$ 10,000 \$ 56,700	2033	\$ 10,000	\$ -	\$-	\$-	\$-	\$ -	\$ -	ş -	ş -	\$ -	\$ -	ş -	\$ -	\$ -	\$-	\$-	\$-	\$ 19,898
Pump Station PW001	Wet Well - PS No 1 Lenneberg Street	1993	80	\$ 2.000	2073	\$ 2.000	\$ -	\$ -	\$ -	s -	\$ -	s -	s -	s -	s -	\$ -	s -	s -	s -	\$ -	\$ -	\$ -	s -
PW002	Wet Well - PS No 2 Overington Street	1993	80	\$ 2,000	2073	\$ 2,000		\$ -			\$ -	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PS001	Pump Motor 1 - Lenneberg Street Pump 1	1993 1993	25 25	\$ 10,000 \$ 10,000	2018 2018			\$ 11,877 \$ 11,877		\$ - \$ -	-	s -	\$ - ¢	-	- ·	\$ - ¢	s -	\$ - ¢	\$ - ¢	\$ - \$ -	\$ - ¢	\$ - \$ -	\$ - ¢
PS003	Pump Motor 2 - Overington Street	1993	25	\$ 8,000	2018	\$ 8,000	\$ -	\$ 9,501	\$ -	ş - \$ -	\$ -	\$ -	s -	ş - Ş -	ş - Ş -	ş - \$ -	ş - Ş -	ş - \$ -	\$ -	\$ -	\$ -	\$ -	ş - \$ -
PS004	Pump 2	1993	16	\$ 8,000	2009	\$ 8,000		\$ -		\$ -		\$ -		ş -		\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PS004 MC001	Pump 2 Motor Controls - Lenneberg Street	2009 1993	25	\$ 6,700 \$ 2,000	2034 2018	\$ 6,700 \$ 2,000	\$ - \$ -	\$ - \$ 2,375	\$ - \$ -	\$ - \$ -	<u>\$</u> -	\$ - \$ -	\$ - \$ -	ş -	<u>s</u> -	s -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
MC002	Motor Controls - Overington Street	1993	25	\$ 2,000	2018	\$ 2,000	\$ -	\$ 2,375	\$ -	ş - \$ -		\$ -	\$ -		ş - Ş -	\$ -	ş -	\$ -	\$ -	ş - \$ -	ş - \$ -	ş - \$ -	ş - Ş -
AP001	Appurtenances Gate Valve PS No 1 x 2 - Lenneberg St	1993	30	\$ 1,500	2023 2023	\$ 1,500 \$ 1,500	\$ -	\$ -	\$ -	\$ -	\$ -		\$ 2,116		s -	ş -	ş -	ş -	\$ -	\$ ·	\$ -	\$ -	\$ -
AP002 AP003	Appurtenances NRV x 2 Appurtenances Gate Valve PS No 2 x 2 - Overington St	1993	30	\$ 1,500 \$ 1,500	2023		\$ - \$ -	\$- \$-	φ - \$ -	\$ - \$ -	<u>\$</u> - \$-		\$ 2,116 \$ 2,116		\$ - \$ -	\$ - \$ -	s - s -	\$ - \$ -	ş - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
AP004	Appurtenances NRV x 2	1993		\$ 1,500	2023			\$-		\$-			\$ 2,116		\$ -		\$ -	\$ -		\$-			\$ -
Effluent Reuse	Storage - ML Old School Block King Street	1993	30	\$ 30,600 \$ 4,000	Decommissioned	\$	\$.	\$-	\$ -	s -	s -	\$	s -	\$.	s -	\$	\$	\$.	\$.	s -	\$ -	s -	\$
EROOT		1353	30	÷ +,000	Decommissioned	\$ <u>-</u>		ş - \$ -	\$ -	Ψ	ş - Ş -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
ER005	Pump Motor 1 - ML Sewer Ponds	1993 1993	25	\$ 5,000 \$ 5,000	Decommissioned	s -		\$ -			\$ -				ş -	ş -	ş -	\$ -	\$ -	\$ -		\$ -	\$ -
ER006 FR007	Pump Filter 1 x 2 Sand Filters Pump Motor 2 - ML Old School Block King St	1993 1993	25 25	\$ 5,000 \$ 5,000	Decommissioned Decommissioned	ş - S -	\$ - \$ -	\$ - \$ -			<u>\$</u> -		\$ - \$ -		\$ - \$ -		\$ - \$ -		\$ - \$ -		\$ - \$ -	\$ - \$ -	\$ -
ER011	Control and Monitoring - ML Sewer Ponds	1993	25	\$ 1,000	Decommissioned		\$ -	\$-	\$ -	\$ -	\$ -	\$ -	ş -	ş -	\$ -	\$ -	ş -	\$-	\$ -	\$ -	\$ -	\$ -	\$ -
ER012	Control and Monitoring - ML Old School Block King St Disinfection - ML Sewer Ponds	1993 1993	25	\$ 1,000 \$ 1,600	Decommissioned	\$ -		\$- \$-			\$ - \$ -		s - s -	\$ - ¢	\$ - ¢	\$ - ¢	\$ - ¢	\$ - ¢	\$ - ¢	\$- \$-	\$ - ¢	\$ - ¢	\$ - \$
ER015	Reticulation - ML Sewer Ponds	1993	25 50	\$ 1,600 \$ 8,000	Decommissioned Decommissioned				\$ - \$ -			\$ - \$ -		s - s -	<u>s</u> -	\$ - \$ -	s - s -	\$ - \$ -	\$ - \$ -		\$ - \$ -	\$ - \$ -	ş - \$ -
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New Assets and	Growth	0	0	<u> </u>		e la la la la la la la la la la la la la	s -	\$ -	s -	\$ -	s -	\$ -	s -	s	s -	s	s -	s	s	s -	s -	\$ -	¢
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		0	0	5 -	0		\$ - \$ -	\$- \$-	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	s - s -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	s -
					Future Value	\$ 5,029,769	\$ -	\$ 40,975	\$ -	\$ -	\$ -	\$-	\$ 8,464	\$ -	ş - Ş -	\$ -	ş -	\$ -		ş - \$ -			\$ 19,898
			Total	\$ 1,164,300	Net Present Value	\$ 168,354	\$ -	\$ 29,907	\$ -	\$ -	\$ -	\$ -	\$ 4,509	\$ -	ş -	\$ -	ş -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,647
L					Annuity	\$ 11,434																	

As the model calculated one replacement cycle within the 50 year forecast, short term life assets may need to be manually calculated or insert additional rows for each replacement cycle insert information into yellow cells. Light blue cells are automatically calculated, do not enter information in these cells. Notes

Capital and Maintenance Expenditure

