SA Water

Date: 1 March 2019

Our Ref: SN908 and SN909

Mr Michael Brown MP
Member for Playford
Unit 1, 3 Wilkinson Road
PARA HILLS SA 5096

Via email: playford@parliament.sa.gov.au

Dear Mr Brown

Freedom of Information – Determination

I refer to your two applications pursuant to the South Australian *Freedom of Information Act, 1991* ("the Act") received by SA Water on 13 December 2018, seeking access to:

- *SN908 – "All documents (including but not limited to reports, briefings, emails, notes, minutes, plans and other documents) mentioning or related to water pressure in Mawson Lakes."*
- *SN909 – "All documents (including but not limited to reports, briefings, emails, notes, minutes, plans and other documents) mentioning or related to water quality in Mawson Lakes."*

You have indicated that the date range of the documents you seek is 19/03/2018 to 13/12/2018.

Due to similar nature of your requests, I have elected to provide you with this combined determination.

On 1 February 2019, Ms Julie Woodman of your office confirmed that Australian Water Quality Centre reports containing water quality results for the Northern Metro Drinking Water System which includes Mawson Lakes, could be omitted from your request.

Following the discovery process, SA Water has identified 29 documents that fall within the scope of your requests. Based on my assessment of the documents, I have determined to provide you with access to 24 documents and partial access to four documents. I have determined to refuse you access to one document, as listed in the attached document schedule. Please note that numerous documents determined for release contain redacted information which does not relate to water quality or pressure in Mawson Lakes.

Section 20(1)(b) of the Act provides that an agency may refuse access to a document that is available for inspection as part of a public register (or otherwise). Therefore, access to document 1 has been refused based on its availability at: https://www.epa.sa.gov.au/files/4771365_protocol_ww.pdf.

Section 20(1)(a) also provides that an agency may refuse access to a document, or sections of a document, if the information is considered exempt pursuant to the provisions listed under Schedule 1 to the Act. The documents to which I consider exempt and the reasons for the exemption are explained in more detail below.

Clause 6(1)(a) of Schedule 1 to the Act states that:

6—Documents affecting personal affairs

(1) A document is an exempt document if it contains matter the disclosure of which would involve the unreasonable disclosure of information concerning the personal affairs of any person (living or dead).

Document 10, 15 and 17 contain the personal details of SA Water customers, including their name, phone number, email address and SA Water account number. Given the unrestricted public access that is afforded to a document once determined for release under the Act, I consider the disclosure of SA Water customer information to be unreasonable. Therefore, this information has been redacted pursuant to clause 6(1) of Schedule 1 to the Act.

Clause 7(1)(c) of Schedule 1 to the Act states that:

7—Documents affecting business affairs

(1) A document is an exempt document—

...

(c) if it contains matter—

(i) consisting of information (other than trade secrets or information referred to in paragraph (b)) concerning the business, professional, commercial or financial affairs of any agency or any other person; and

(ii) the disclosure of which—

(A) could reasonably be expected to have an adverse effect on those affairs or to prejudice the future supply of such information to the Government or to an agency; and

(B) would, on balance, be contrary to the public interest.

Document 27 is an email exchange between SA Water staff relating to total dissolved solid (TDS) water quality levels delivered to Mawson Lakes. This document contains a strategic discussion relating to a contractual agreement with City of Salisbury council. I understand that the contract arrangement is currently being discussed to minimise SA Water operational costs associated with the current agreement. Disclosure of SA Water's strategic intent, at this point, would compromise SA Water's position in future negotiations.

Clause 7(1)(c) requires that I consider the balance of public interest factors when determining the release of this information. I have weighed the public interest factors in favour of disclosure, including the objects of the Act which promote openness and accountability of agencies. I have also considered the effect disclosure would have on future contract negotiations when it is in the interests of SA Water customers, and therefore the public interest, for SA Water to reduce operational expenditure which then contributes to keeping water and wastewater charges as low as possible. It is for this reason that I consider disclosure of this section of document 27 is, on balance, contrary to any public interest factors in favour of release. Therefore, I have determined that this section is exempt pursuant to clause 7(1)(c) of Schedule 1 to the Act.

If you are dissatisfied with this determination, you are entitled to exercise your rights to internal review and appeal as outlined under Section 29 of the Act. To apply for an internal review you must lodge an internal review application form with SA Water within 30 days from the date of this determination. Internal review applications should be addressed to the Principal Officer, GPO Box 1751, Adelaide SA 5001.

In accordance with the requirements of the Premier and Cabinet Circular PC045, details of your FOI application, a copy of this notice of determination, a schedule of documents and the documents to which you have been given access, will be published on the SA Water website FOI disclosure log. A copy of PC045 can be found at http://dpc.sa.gov.au/what-we-do/services-for-government/premier-and-cabinet-circulars.

If you have any queries in relation to the above, if you object to publication of your application on the disclosure log, or if you wish to obtain a copy of the internal review application form, please contact me on telephone (08) 7424 1777 or via email at freedomofinformation@sawater.com.au.

Yours sincerely

Ben Roberts
ACCREDITED FREEDOM OF INFORMATION OFFICER

Freedom of Information application: SN908 and SN909 - Michael Brown MP - Water pressure and water quality in Mawson Lakes

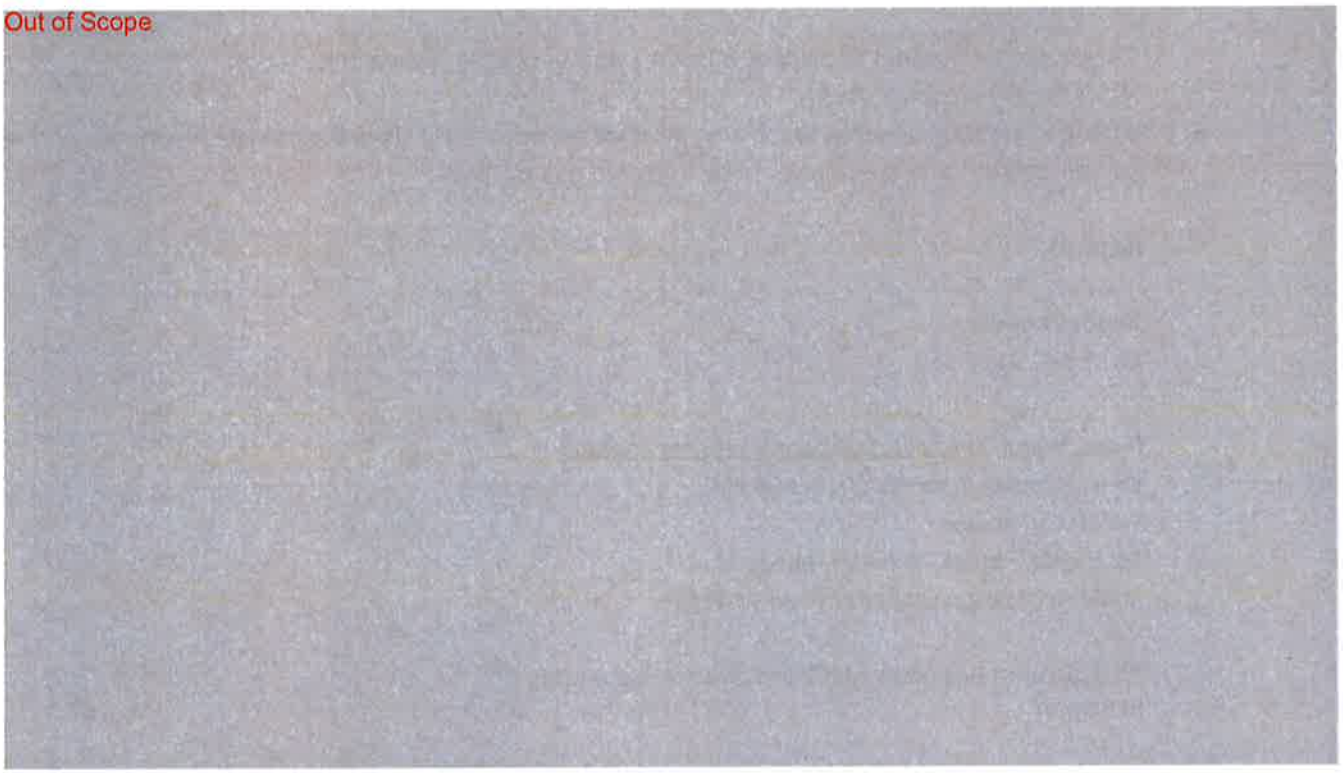
SN908 – "All documents (including but not limited to reports, briefings, emails, notes, minutes, plans and other documents) mentioning or related to water pressure in Mawson Lakes." - Date range: 19/03/2018 - 13/12/2018

SN909 – "All documents (including but not limited to reports, briefings, emails, notes, minutes, plans and other documents) mentioning or related to water quality in Mawson Lakes." - Date range: 19/03/2018 - 13/12/2018

No	Date	Author	Document Description	Determination	Clause	Reason
1	01/06/2018	SA Health	Water/Wastewater Incident Notification and Communication Protocol (Table 10 - Mawson Lakes Recycling Scheme)	Refuse access	Section 20(1)(b)	Available at: https://www.epa.sa.gov.au/files/4771365_protocol_ww.pdf
2	05/06/2018	SA Water	Email chain concerning Mawson Lakes recycled water quality	Full release		Out of scope information
3	12/06/2018	SA Water	Memo concerning Third Ave Mawson Lakes - Water Pressure	Full release		
4	26/06/2018	SA Water	Email chain concerning recycled water index	Full release		Out of scope information
5	27/06/2018	SA Water	Mawson Lakes recycled water quality data	Full release		
6	27/07/2018	SA Water	Memo concerning Lot 50 Bennett Road Mawson Lakes (Parafield Airport) - Water Pressure	Full release		Out of scope information
7	01/08/2018	SA Water	Memo concerning Lot 50 Bennett Road Mawson Lakes (Parafield Airport) - Water Pressure (additional content)	Full release		Out of scope information
8	01/09/2018	Allwater	Mawson Lakes Recycled Water Scheme - results and compliance 2017-18 report	Full release		
9	04/09/2018	SA Water	Email and associated notes relating to Mawson Lakes Recycled Water Scheme	Full release		Out of scope information
10	19/09/2018	SA Water	SA Water work low pressure waster flow work order	Partial release	Clause 6(1)	Personal affairs information
11	25/09/52018	Allwater	Email and greenfield meeting notes	Full release		
12	26/09/2018	Allwater	Reply regarding Greenfield meeting notes	Full release		
13	26/09/2018	SA Water	Email chain concerning stormwater contract with Salisbury Council	Full release		
14	04/10/2018	Allwater	Email change containing reference to Mawson Lakes water quality	Full release		Out of scope information
15	08/10/2018	SA Water	Email chain concerning a Mawson Lakes customer query	Partial release	Clause 6(1)	Personal affairs information
16	09/10/2018	SA Water	Mawson Lakes Greenfields Pump Stn Outlet (Recycled Water Supply), 01/07/2016 - 08/10/2018	Full release		
17	23/10/2018	SA Water	Response to Mawson Lakes customer query	Partial release	Clause 6(1)	Personal affairs information
18	25/10/2018	SA Water	Email concerning potable and stormwater blending at Greenfields tank	Full release		

No	Date	Author	Document Description	Determination	Clause	Reason
19	29/10/2018	SA Water	Response to the email concerning potable and stormwater blending at Greenfields tank	Full release		Out of scope information
20	31/10/2018	SA Water	Meeting request to discuss the Mawson Lakes recycled water supply	Full release		Out of scope information
21	08/11/2018	SA Water	Mawson Lakes Recycled Water Scheme meeting minutes	Full release		Out of scope information
22	08/11/2018	Cardno	SA Water National Urban Water Utility Performance Reporting Framework Audit	Full release		Out of scope information
23	14/11/2018	SA Water	Email chain concerning minutes of a meeting with Salisbury Council	Full release		Out of scope information
24	21/11/2018	Salisbury Council	Email to SA Water concerning TDS levels	Full release		
25	28/11/2018	Allwater	Email chain concerning Potable vs recycled water network pressure	Full release		
26	03/12/2018	Allwater	Email concerning the Greenfields tank	Full release		
27	11/12/2018	SA Water	Email concerning water quality data in Mawson Lakes	Partial release	Clause 7(1)(c)	Adverse effect on business affairs and out of scope information
28	13/12/2018	SA Water	Internal email concerning Mawson Lakes customer query	Full release		Out of scope information
29	n/a	SA Water	Incident Notification Table regarding Mawson Lakes	Full release		

Out of Scope



From: Wang, XJ
Sent: Tuesday, 5 June 2018 4:58 PM
To: Thonder, James (All Water) <james.thonder@allwater.net.au>; Steele, Rowan <Rowan.Steele@sawater.com.au>
Cc: Hayde, Patrick <Patrick.Hayde@sawater.com.au>; Bressan, Flavio <Flavio.Bressan@sawater.com.au>
Subject: RE: Mawson Lakes Recycled Water

Hi James
Thanks. There is 800 lots development proposal at Globe Debby Park. We are asked to evaluate the recycled water supply to this development from Mawson Lakes network. Based on modelling, this is probably OK. The peak flow at Greenfield PS is around 120 L/s and is below the original design flow of 155 L/s. Not sure if there is any other constrain from Bolivar DAFF and Stormwater/Mains water.

Regards
XJ

From: Thonder, James [mailto:James.Thonder@allwater.net.au]
Sent: Tuesday, 5 June 2018 4:44 PM
To: Wang, XJ; Steele, Rowan
Cc: Hayde, Patrick
Subject: RE: Mawson Lakes Recycled Water

Hi XJ

If stormwater is unavailable, the potable is used as dilution targeting a TDS. It only operates if the Bolivar to Mawson Lakes pumps are running which are triggered by the Greenfields tank level.

The ratio of DAFF water to dilution water is a flow paced calculation only. Target TDS is usually around 850mg/L
If DAFF water is unavailable, there is an override mode that will allow the potable (or stormwater valve if available) to be triggered on tank level.

Regards,

James Thonder
M: +61 419 805 550

From: Wang, XJ [mailto:XJ.Wang@sawater.com.au]
Sent: Tuesday, June 05, 2018 3:54 PM
To: Steele, Rowan
Cc: Hayde, Patrick; Thonder, James
Subject: Mawson Lakes Recycled Water

** This mail has been sent from an external source **
Hi Rowan

Mawson Lakes recycled water network also has been using mains water. Because there is no SPN meter associated with this "consumption", it is probably not included in the ILI calculation.

Hi James, do you know what is the control for mains water. Is this trigged by the Greenfields tank level, or there are TDS triggers?

Fin Year	DAFF supply (ML/a)	Stormwater (ML/a)	Mains Water (ML/a)	Product Water (ML/a)	Balance Check
13/14	476	69	159	631	12%
14/15	498	35	151	641	7%
15/16	604	15	115	699	5%
16/17	320	21	207	544	1%
17/18 (to 1/6/2018)	507	0	226	733	0%

XJ WANG Ph.D CPEng
Principal Engineer, Treatment & Networks Planning
Business Service Group, SA WATER
T: 08 7424 2014
F: 08 7003 2014
M: 0457 545 648
Level 5, 250 Victoria Square, Adelaide SA 5000
GPO Box 1751, Adelaide SA 5001

LD201805_03 5 Third Ave Mawson Lakes

SA Water

To	majorld@sawater.com.au		
CC	Rowan Steele: Asset Planner Jack Nelson: Water Network Retic Asset Planner Murat Aksoy: Mgr Eng Tech Services		
From	Patrick Hayde : Mgr. Water Treatment and Network Planning		
Phone	+61 8 7424 2006	**Email**	patrick.hayde@sawater.com.au
Date	12/06/2018	**SA Water Ref**	H0071820
Subject	LD201805_03 5 Third Ave Mawson Lakes - Water		

I refer to your email dated 4th May 2018 seeking comments on the capacity of our water network to supply a proposed development at MAWSON LAKES.

1.0 BACKGROUND

Existing Parcel

- Allotment numbers: 78
- Proposed development site is currently zoned: Commercial (proposed Residential)
- Elevation of this site is approximately: EL 13 m according to GIS 5m contours

Existing Network

- The parcel is contained within the EL76 water pressure zone sourced from the EL76 Para Hills Tank.
- Abutting mains available for supply for:
    - Ex.150 AC main in Third Avenue Road

2.0 ANALYSIS

Model

The following hydraulic model and *scenario* was used to analyse the water supply system:

- **OMCModel66XJ-Update.wtg**
- *Scenario: LD201805_03 5 Third Ave Mawson Lakes - 78 lots*

Demand

Assessing the demand allocation impact on the network

Water supply was investigated by allocating the following demands to assess the capacity of the existing water network to supply the proposed development in accordance with SA Water standards.
The following peak day average water demands for the proposed 78 allotments as listed below in Table 1 were adopted for assessing the impact on the network.

Table 1. Peak Day Average water demands for the impact of the proposed development on the network were as follows:

Location	Existing main	Proposed dwellings	PDA demand	Model Node	Base pressure	Minimum pressure
Third Ave	Ex.150 AC	78	2.0 L/s	10500a	53.29 mH	52.48 mH

3.0 CONCLUSION

Model Results

Modelling results indicates there is sufficient capacity in the existing network to supply the proposed 78 allotment development, ***as shown in Figure 2***

4.0 RECOMMENDATIONS

Based on TNP investigation, the network has sufficient capacity to support the 78 allotment development subject to:

- Extend a DN100 main into development from the Ex.150 AC branch main in Third Avenue, ***shown at A on Figure 1.***
- Extend a second DN100 main into development off the Ex.150 AC main in Third Avenue, ***shown at B on Figure 1*** and link up internally.
- Infrastructure is to be constructed in accordance with SA Water networks Infrastructure Standards

Regards

Patrick Hayde
Mgr. Water Treatment and Network Planning

MAB 12th June 2018

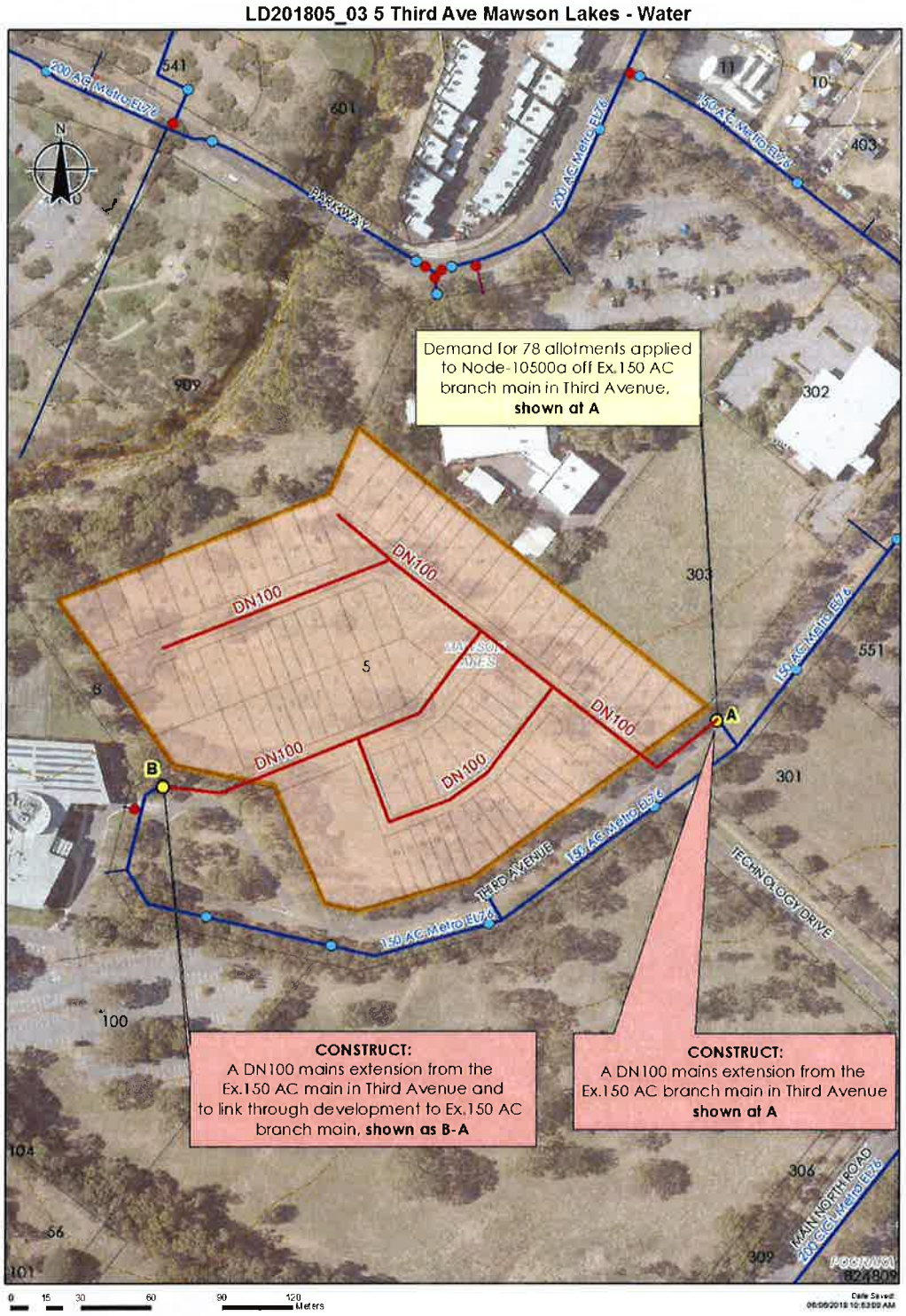


Figure 1. Location map of development

"Disclaimer - The pressures and flows provided are indicative only and have been derived by theoretical network analysis for normal summer operating conditions. SA Water cannot guarantee that these pressures and flows will be available from the system at all times and accepts no responsibility for any loss or damage that may result from reduced flow or pressure in the mains".

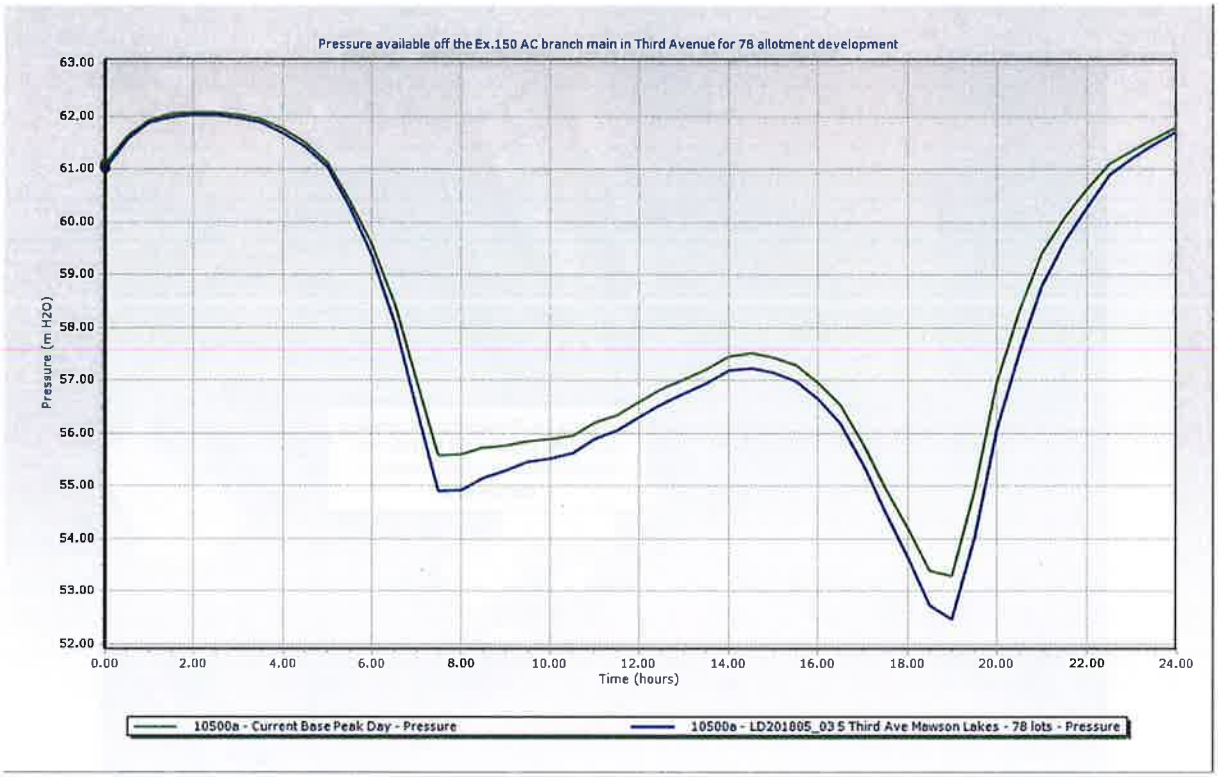


Figure 2. Graph showing pressure available at Node-10500a off Ex.150 AC branch main in Third Avenue, shown at A on Figure 1, **pre/post demand for 78 allotment development**

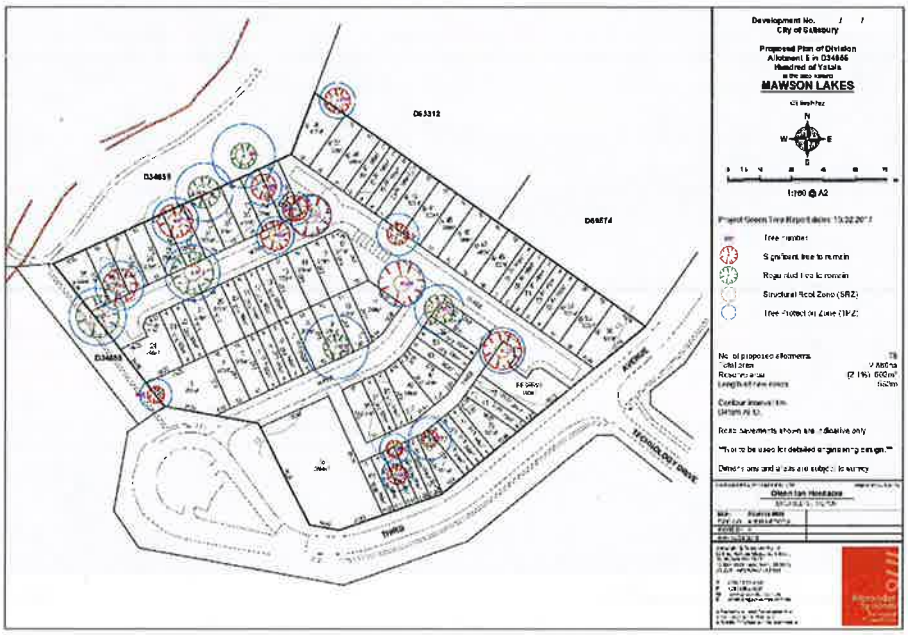


Figure 3. Concept layout plan provided by consultant

"Disclaimer - The pressures and flows provided are indicative only and have been derived by theoretical network analysis for normal summer operating conditions. SA Water cannot guarantee that these pressures and flows will be available from the system at all times and accepts no responsibility for any loss or damage that may result from reduced flow or pressure in the mains".

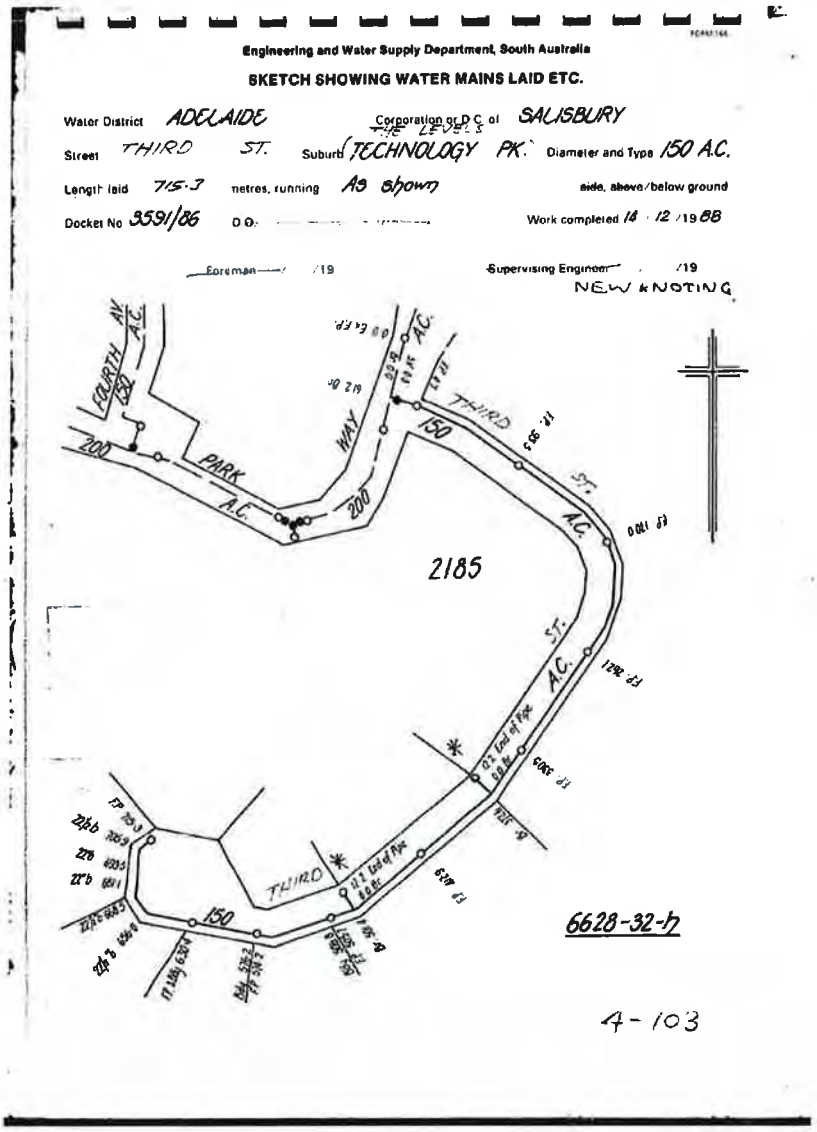


Figure 4. As-constructed plan showing Ex.150 AC branch main in Third Avenue

4.

Donald, Alex

From: Swain, Nick
Sent: Tuesday, 26 June 2018 5:14 PM
To: Shailer, Gabby
Cc: Pelekani, Con; Donald, Alex; West, Jason (Water Expertise)
Subject: Allwater Recycled Water Quality Index

Hi Gabby,

Sorry for the delay, I have now had a chance to look into this.

Out of Scope

Cheers,

Nick

Parameter	Sample Location	Type	Frequency	Criteria
Out of Scope				
TDS	Mawson Lakes ex Greenfields Tank	On-line	Weekly 86%ile	≤ 900 mg/L
TDS	Mawson Lakes ex Greenfields Tank	On-line	Weekly 99%ile	≤1500 mg/L
Out of Scope				

Total

Parameters
Chlorine - Free
Chlorine - Total
Colour - True (456nm)
Conductivity
E.coli
E.coli - Presumptive
Iron - Soluble
Iron - Total
Manganese - Soluble
Monochloramine
Temperature
Total Dissolved Solids (by EC)
Turbidity

Mawson Lakes																																
Result Value	Componen	Sample Loc	Sample Loc	Unit Of Measure																												
	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Chlorine - I	Colour - Tr	Colour - Tr	Colour - Tr	Colour - Tr				
	14023	14024	14025	14026	14027	14028	14029	14030	14032	14037	14039	14023	14024	14025	14026	14027	14028	14029	14030	14032	14037	14039	14023	14024	14025	14026				
	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La				
Sampled Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	HU	HU	HU	HU				
2017-03-21		0.7	0.5		0.05	1.2			0.2	0.05	0.05		0.9	0.7		0.2	1.4			0.4	0.2	0.2				40				
2017-03-28		0.5	0.2		0.05	0.7			0.05	0.05	0.05		0.7	0.4			1			0.2	0.2	0.2				38				
2017-04-04		1.1	0.3		0.1	1.5			0.1	0.1	0.1		1.2	0.4		0.2	1.6			0.2	0.2	0.2				20				
2017-04-10		0.1	0.1		0.05	1.1			0.1	0.05	0.05		0.2	0.2		0.1	1.2			0.2	0.1	0.1				13				
2017-04-20		0.4	0.1		0.1	0.7			0.05	0.05	0.1		0.5	0.2		0.2	0.8			0.1	0.1	0.2				7				
2017-04-24		0.1	0.05		0.1	0.8			0.05	0.05	0.05		0.2	0.1		0.2	0.9			1	0.1	0.1				8				
2017-05-02		1.4	0.1		0.05	1.5			0.05	0.1	0.1		1.5	0.2		0.1	1.7			0.1	0.2	0.2				6				
2017-05-09		0.1	0.05		0.1	1.2			0.05	0.05	0.1		0.2	0.1		0.2	1.3			0.1	0.1	0.2				4				
2017-05-16		1.1	0.2		0.05	1.4			0.05	0.05	0.1		1.2	0.5		0.1	1.6			0.2	0.1	0.2				25				
2017-05-23		0.5	0.1		0.1	0.8			0.05	0.1	0.05		0.6	0.2		0.2	1			0.1	0.2	0.1				24				
2017-05-31		0.7	0.05		0.05	0.9			0.05	0.05	0.05		1	0.3		0.2	1.1			0.1	0.1	0.1				32				
2017-06-07		0.2	0.05		0.05	0.6			0.05	0.05	0.1		0.5	0.2		0.1	1			0.1	0.1	0.2				29				
2017-06-15		1.8	0.2		0.05	1.8			0.1	0.1	0.1		1.9	0.3		0.2	2.2			0.2	0.2	0.2				20				
2017-06-19		0.8	0.2		0.05	0.9			0.05	0.05	0.05		1.2	0.6		0.2	1.3			0.4	0.1	0.2				29				
2017-06-27			0.6			2.1								1			2.5									32				
2017-07-04						2											2.3									28				
2017-07-13						0.9											1.3									8				
2017-07-18						1.1											1.4									6				
2017-07-25						2.3											2.6									8				
2017-08-01						1.3			0.1								1.7			0.3						5				
2017-08-08	0.3					0.8						0.5					1.2									9				
2017-08-17						1.3											1.4									10				
2017-08-22						0.7											1									19				
2017-08-29		1.1				1.8							1.2				1.9									31				
2017-09-05						1											1.1									32				
2017-09-12						1.1											1.2									31				
2017-09-19						1.5											1.6									27				
2017-09-25						1.8											2.1									15				
2017-10-04			1			1.5								1.1			1.7									14				
2017-10-10						0.5											0.9									12				
2017-10-17						3.5											3.7									16				
2017-10-23						2											2.4									17				
2017-10-31	0.5					0.8			0.1			0.6					1.1			0.3						14				
2017-11-07						0.6											0.9									8				
2017-11-15						0.8											1.2									9				
2017-11-21						0.8											0.9									8				
2017-11-28		0.6				1.5							0.9				1.7									8				
2017-12-05						1.4											1.6									5				
2017-12-12						1.4											1.7									5				
2017-12-19						0.9											1									7				
2017-12-27						2											2.3									2				
2018-01-02						1.7											2									3				
2018-01-09			0.4			1.2								0.7			1.5									3				
2018-01-16						1.6											2									4				
2018-01-23						1.4											1.7									4				
2018-01-30						1.2											1.5									2				
2018-02-06	0.6					1.4						0.9					1.9									1				
2018-02-07									0.05											0 05										
2018-02-13						0.6											0.9									3				
2018-02-20						1											1.4									2				
2018-02-27						1.4											1.6									4				
2018-03-06		1.5				2							1.7				2.4									4				
2018-03-15						1.4											1.8									5				
2018-03-19						2											2.6									6				
2018-03-27						1.4											1.5									6				
2018-04-03						3.9											4.7									7				
2018-04-11			1.5			2.5								1.8			2.8									7				
2018-04-17						1.3											1.6									8				
2018-04-26						1.4											1.8									8				
2018-05-03						1.9											2.3									8				
2018-05-10	1.6					1.6			0 3			1.9					1.6			0.4						8				
2018-05-17						1.9											2									8				
2018-05-24						1.2											1.3									8				
2018-05-31						0.7											0.8									8				
2018-06-05		1.7				1.7							1.8				1.8									8				
2018-06-12						1.2											1.7									7				
2018-06-21						2.5											2.5									6				
2018-06-27						1.3											1.6									17				

Colour - Tr	Colour - Tr	Colour - Tr	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	Conductivi	E coli	E coli	E coli	E coli	E coli	E.coli	E.coli	E coli	E coli	E coli	E coli
14028	14030	14032	14023	14023	14024	14024	14025	14026	14026	14027	14028	14028	14029	14030	14032	14032	14037	14039	14023	14023	14024	14024	14025	14025	14026	14026	14027	14027	14028	14028
Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La
HU	HU	HU	µS/cm	µScm	µS/cm	µScm	µScm	µS/cm	µScm	µScm	µS/cm	µScm	µScm	µScm	µS/cm	µScm	µScm	µScm	cfu/100mL	MPN/100n	cfu/100mL	MPN/100n	cfu/100mL	MPN/100n	cfu/100mL	MPN/100n	cfu/100mL	MPN/100n	cfu/100mL	MPN/100n
2										1060	572		1480					565	570					0	0		3		0	
2										1070	533		1470											0	0		0		0	
2										883	604		1480											0	0		0		0	
1										702	602		1480											0	0		0		0	
2										617	630		1510					610	560					0	0		0		0	
2										630	630		1430											0	0		0		0	
1										960	605		1510											0	0		0		0	
1										1110	610		1540											0	0		0		0	
0.5										1210	586		1520					570	583					0	0		12		0	
0.5										1310	625		1370											0	0		10		0	
1										920	578		1460											0	0		5		0	
2										673	577		1580											0	0		14		0	
0.5										442	536		1550					541	559					0	0		6		0	
0.5										441	555		1550											0	0		6		0	
0.5										432			1530												0		1		0	
0.5										446			1560														0		0	
1										693			1580														0		0	
0.5										787			1550														0		0	
0.5										754			1590														0		0	
0.5										700			1620														0		0	
1					1600					583			1600								0						0		0	
0.5										683			1690														0		0	
0.5										534			1550														0		0	
0.5							1560			477			1560											0			0		0	
1										418			1570														0		0	
0.5										397			1560														0		0	
0.5										441			1450														0		0	
2										337			1580														1		0	
2								560		365			1580														0		0	
2										367			1600														0		0	
0.5										404			1620														0		0	
1										402			1570														0		0	
1					1600					426			1590				1610				0						0		0	
2										526			1620														0		0	
2										694			1630														0		0	
3										700			1590														0		0	
2							1630			649			1630											0			0		0	
1										889			1580														0		0	
2										909			1640														0		0	
0.5										1090			1630														0		0	
0.5										1010			1700														0		0	
1										1220			1680														0		0	
1								1650		1300			1630												0		0		0	
0.5										1290			1580														0		0	
0.5										1300			1640														0		0	
0.5										1180			1600														0		0	
0.5					1630					1420			1620								0						0		0	
																	1600													
1										1470			1540														0		0	
2										1600			1620														0		0	
1										1740			1610														0		0	
1							1530			1720			1560											0			0		0	
0.5										1770			1820														0		0	
0.5										1690			1530														0		0	
0.5										1620			1520														0		0	
0.5										1700			1550														0		0	
0.5								1500		1720			1550												0		0		0	
1										1670			1560														0		0	
0.5										1680			1540														0		0	
0.5									1670			1530															0		0	
0.5			1460						1590			1530				1540				0							0		0	
0.5									1680			1550															0		0	
0.5									960			1460															0		0	
1									1650			1530															0		0	
0.5						1580			1620			1560											0				0		0	
0.5									1720			1620															0		0	
0.5									1660			1620															0		0	
0.5									1700			1620															0		0	

E.coli	E coli	E.coli	E coli	E.coli	E.coli	E.coli	E coli	E coli - Pres	E.coli - Pres	E coli - Pres	E.coli - Pres	E coli - Pres	E.coli - Pres	E.coli - Pres	E coli - Pres	E.coli - Pres	E.coli - Pres	E.coli - Pres	E coli - Pres	Iron - Solut	Iron - Solut	Iron - Solut	Iron - Solut	Iron - Solut	Iron - Solut	Iron - Solut	Iron - Solut	Iron - Solut	Iron - Solut	Iron - Total	Iron - Total	Iron - Total
14029	14030	14032	14032	14037	14037	14039	14039	14023	14024	14025	14026	14027	14028	14029	14030	14032	14037	14039	14023	14024	14025	14026	14028	14030	14032	14037	14039	14023	14024	14025
Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La
cfu/100mL	cfu/100mL	cfu/100mL	MPN/100n	cfu/100mL	MPN/160n	cfu/100mL	MPN/100n	cfu/100mL	cfu/100mL	cfu/100mL	cfu/100mL	cfu/100mL	cfu/100mL	cfu/100mL	cfu/100mL	cfu/100mL	cfu/100mL	cfu/100mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			0		0		0															0.2538	0.0039									
			0		0		0															0.2536										
			0		0		0															0.3973										
			0		0		0															0.1869										
			0		0		0															0.0336	0.0078									
			0		0		0															0.065										
			0		0		0															0.0641										
			0		0		0															0.0381										
			0		0		0															0.1393	0.0043									
			0		0		0															0.1012										
			0		0		0															0.1611										
			0		0		0															0.1091										
			0		0		0															0.121	0.0057									
			0		0		0															0.2414										
																						0.1477	0.0065									
																						0.1291										
																						0.1196										
																						0.0731										
																						0.0256										
			0																			0.0808	0.0064									
																						0.09										
																						0.1086										
																						0.078										
																						0.0879	0.0063									
																						0.0752										
																						0.0806										
																						0.0747										
																						0.0529										
																						0.0417	0.0028									
																						0.0801										
																						0.0302										
																						0.1079										
			0																			0.1732	0.006									
																						0.1432										
																						0.0473										
																						0.0421										
																						0.0777	0.002									
																						0.0093										
																						0.0193										
																						0.0146										
																						0.0063										
																						0.0033										
																						0.0022	0.0036									
																						0.0049										
																						0.0231										
																						0.0056										
																						0.0084	0.0062									
			0																													
																						0.0046										
																						0.0033										
																						0.0109										
																						0.0327	0.0009									
																						0.052										
																						0.0394										
																						0.0447										
																						0.0492										
																						0.007	0.0025									
																						0.0388										
																						0.0251										
																						0.0282										
			0																			0.0204	0.0083									
																						0.0222										
																						0.0306										
																						0.0273										
																						0.0213	0.0054									
																						0.0296										
																						0.043										
																						0.0359										

Iron - Total	Iron - Total	Iron - Total	Iron - Total	Iron - Total	Iron - Total	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Monochlor	Monochlor	Monochlor	Monochlor	Monochlor	Monochlor	Monochlor
14026	14028	14030	14032	14037	14039	14023	14024	14025	14026	14028	14030	14032	14037	14039	14023	14024	14025	14026	14028	14030	14032	14037	14039	14023	14024	14025	14026	14027	14028	14029
Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
0.3935	0.0041								0.1021	0.0025								0.1093	0.0043						0.05	0.05		0.05	0.05	
0.4425									0.1014									0.106							0.05	0.05		0.2	0.05	
0.4132									0.0814									0.0833							0.05	0.05		0.05	0.05	
0.2604									0.0592									0.0591							0.05	0.05		0.05	0.05	
0.2297	0.0073								0.0524	0.0026								0.0552	0.0086						0.05	0.05		0.05	0.05	
0.0782									0.0482									0.0445							0.05	0.05		0.05	0.05	
0.2137									0.0486									0.0524							0.05	0.05		0.05	0.05	
0.2149									0.0456									0.0507							0.05	0.05		0.05	0.05	
0.3527	0.0563								0.095	0.0015								0.0903	0.0081						0.05	0.05		0.05	0.05	
0.3507									0.0848									0.0894							0.05	0.05		0.05	0.05	
0.3986									0.0563									0.0627							0.05	0.05		0.05	0.05	
0.3229									0.0478									0.0577							0.05	0.05		0.05	0.05	
0.2824	0.0078								0.019	0.0014								0.0386	0.0046						0.05	0.05		0.05	0.05	
0.3259									0.0373									0.0362							0.05	0.05		0.05	0.05	
0.2055	0.007								0.0276	0.001								0.0277	0.004							0.05			0.05	
0.1834									0.0275									0.0296											0.05	
0.2748									0.0441									0.0427											0.05	
0.2885									0.0414									0.0447											0.05	
0.2333									0.0421									0.0465											0.05	
0.2043	0.0089								0.0427	0.003								0.0439	0.0086										0.05	
0.1273									0.0452									0.0451						0.05					0.05	
0.1478									0.0682									0.0738											0.05	
0.118									0.0441									0.0453											0.05	
0.1089	0.0116								0.026	0.0013								0.0304	0.0077						0.05				0.05	
0.0853									0.0217									0.0229											0.05	
0.1087									0.0236									0.0246											0.05	
0.1321									0.0201									0.0243											0.05	
0.1281									0.0185									0.0218											0.05	
0.1347	0.0049								0.0335	0.0019								0.0356	0.0063							0.05			0.05	
0.1172									0.0295									0.0302											0.05	
0.0618									0.0254									0.0308											0.05	
0.1648									0.0292									0.0316											0.05	
0.3509	0.0087								0.0501	0.0026								0.0596	0.0222					0.05					0.05	
0.3619									0.0371									0.0397											0.05	
0.4241									0.0435									0.0455											0.05	
0.4152									0.0393									0.0418											0.05	
0.2237	0.0026								0.0319	0.0056								0.037	0.0083						0.05				0.05	
0.0852									0.03									0.0388											0.05	
0.0548									0.0377									0.0544											0.05	
0.2503									0.0526									0.055											0.05	
0.0494									0.0192									0.0208											0.05	
0.0249									0.0311									0.0291											0.05	
0.0169	0.0057								0.028	0.0017								0.0316	0.0033							0.05			0.05	
0.0396									0.0406									0.0392											0.05	
0.0545									0.0426									0.0431											0.05	
0.0723									0.0468									0.0497											0.05	
0.043	0.0088								0.0249	0.0017								0.0263	0.0123					0.05					0.05	
0.0663									0.0402									0.0423											0.05	
0.0425									0.0209									0.0232											0.05	
0.1111									0.0446									0.0477											0.05	
0.0913	0.0018								0.0469	0.0012								0.0527	0.0074						0.05				0.05	
0.1062									0.0416									0.0463											0.05	
0.0664									0.0351									0.0363											0.05	
0.0804									0.0316									0.0331											0.05	
0.0686									0.0271									0.0282											0.05	
0.0694	0.003								0.0243	0.0008								0.0258	0.0037							0.05			0.05	
0.0571									0.0224									0.0231											0.05	
0.0418									0.0182									0.0182											0.05	
0.0423									0.0175									0.0167											0.05	
0.0484	0.0076								0.0154	0.0006								0.0168	0.0072					0.05					0.05	
0.0464									0.0159									0.0196											0.05	
0.0508									0.0153									0.0152											0.05	
0.0414									0.0146									0.0149											0.05	
0.0293	0.0062								0.0139	0.0009								0.0138	0.0029						0.05				0.05	
0.044									0.0185									0.0186											0.05	
0.0523									0.0191									0.0213											0.05	
0.0573									0.0206									0.0206											0.05	

Monochlor	Monochlor	Monochlor	Monochlor	Temperatu	Temperatu	Temperatu	Temperatu	Temperatu	Temperatu	Temperatu	Temperatu	Temperatu	Temperatu	Temperatu	Total Diss	Total Diss	Total Diss	Total Diss	Total Diss	Total Diss	Total Diss	Total Diss	Total Diss	Total Diss	Total Diss	Turbidity	Turbidity
14030	14032	14037	14039	14023	14024	14025	14026	14027	14028	14029	14030	14032	14037	14039	14023	14024	14025	14026	14027	14028	14029	14030	14032	14037	14039	14026	14028
Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson La	Mawson Lakes Greenfields Pump Stn Outlet (R
mg/L	mg/L	mg/L	mg/L	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	NTU
	0.05	0.05	0.05		23	27	23	21	22			27	26	22				580	310	820				310	310	0.88	0.29
	0.05	0.05	0.05		22	25	21	21	21			26	25	21				590	290	810							
	0.05	0.05	0.05		23	26	22	21	21			24	25	23				490	330	820							
	0.05	0.05	0.05		21	26	21	21	21			24	25	24				390	330	820							
	0.05	0.05	0.05		21	19	22	22	22			25	24	21				340	350	830				340	310	0.88	0.24
	0.05	0.05	0.05		21	24	22	22	22			22	22	21				350	350	790							
	0.05	0.05	0.05		20	22	20	20	19			22	21	18				530	330	830							
	0.05	0.05	0.05		18	20	16	16	16			18	19	17				610	340	850							
	0.05	0.05	0.05		18	20	19	17	17			19	19	18				670	320	840				310	320	2.4	0.18
	0.05	0.05	0.05		18	19	18	18	18			18	18	18				720	340	750							
	0.05	0.05	0.05		17	18	16	16	16			18	18	17				510	320	800							
	0.05	0.05	0.05		16	17	16	15	14			16	16	15				370	320	870							
	0.05	0.05	0.05		14	16	16	16	15			16	16	14				240	290	850				300	310	0.74	0.2
	0.05	0.05	0.05		16	16	15	14	14			16	16	15				240	300	850							
						16	15		15									240		840						0.88	0.27
							15		14									240		860							
							15		14									380		870							
							14		13									430		850							
							14		13									410		880							
	0.05						15		15			16						380		890						0.38	0.23
				14			14		13						880			320		880							
							14		14									380		930							
							15		14									290		850							
					14		14		13							860		260		860						0.38	0.29
							15		14									230		870							
							16		15									220		860							
							16		15									240		800							
							16		15									180		870							
						17	17		18								310	200		870						0.86	0.26
							18		16									200		880							
							20		19									220		890							
							17		17									220		870							
	0.05			23			19		19			22			880			230		880			890			0.86	0.45
							20		19									290		890							
							21		20									380		900							
							23		23									380		880							
					23		22		23							900		360		900						1.3	0.18
							19		19									490		870							
							21		21									500		900							
							22		24									600		900							
							24		25									560		940							
							24		25									670		930							
						28	24		23								910	720		900						0.2	0.16
							25		23									710		870							
							26		26									720		900							
							24		24									650		880							
				29			25		25						900			780		890						0.15	0.26
	0.05											31											880				
							25		24									810		850							
							26		25									880		890							
							24		24									960		890							
					25		26		23							840		950		860						0.33	0.18
							25		23									980		1000							
							23		21									930		840							
							24		21									890		840							
							24		21									940		850							
						27	26		23								830	950		850						0.2	0.16
							23		20									920		860							
							22		21									930		850							
							22		19									920		840							
	0.05			17			18		17			19			800			880		840			850			0.26	0.19
							18		17									930		850							
							17		17									530		800							
							18		16									910		840							
					17		16		16							870		890		860						0.13	0.14
							17		15									950		890							
							15		14									920		890							
							16		15									940		890							

Memo

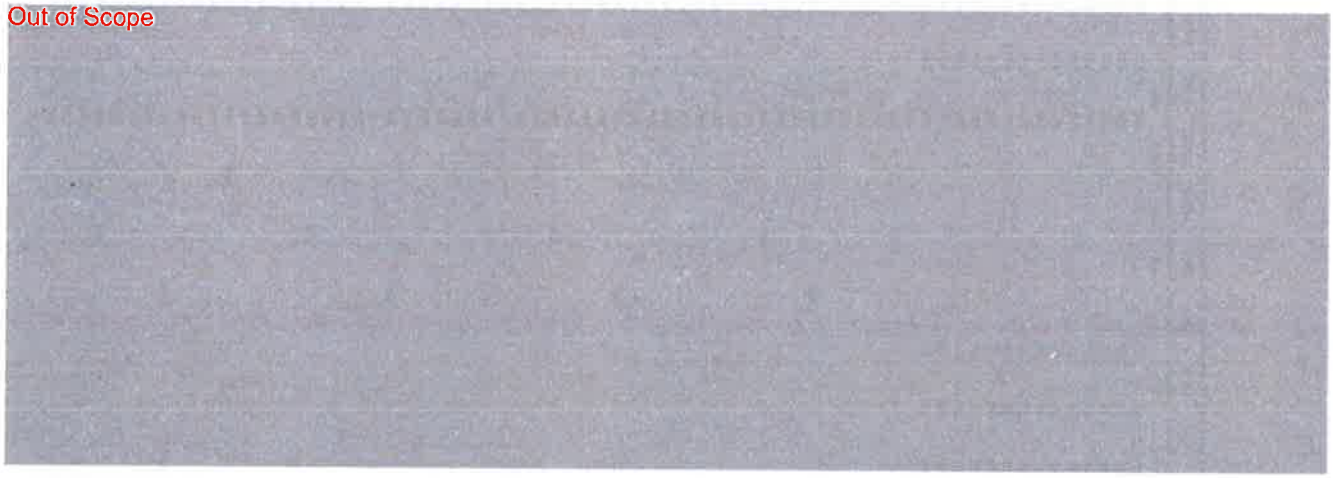
SA Water

To	majorld@sawater.com.au		
CC	Rowan Steele: Asset Planner Jack Nelson: Water Network Retic Asset Planner Tom Galek: Principal Engineer Reticulation Networks		
From	Patrick Hayde : Mgr. Water Treatment and Network Planning		
Phone	+61 8 7424 2006	**Email**	patrick.hayde@sawater.com.au
Date	27/07/2018	**SA Water Ref**	H0041822
Subject	LD201807_07 Lot 50 Bennett Road Mawson Lakes (Parafield Airport) - Water		

I refer to your email dated 29th June 2018 seeking comments on the capacity of our water network to supply a proposed FOOD PARK development at Mawson Lakes.

1.0 BACKGROUND

Out of Scope



Existing Parcel

- Allotment numbers: 1
- Proposed development site is currently zoned: Infrastructure
- Elevation of this site is approximately: EL8 – 10 m according to GIS 5m contours

Existing Network

- The parcel is contained within the EL76 water pressure zone sourced from the Para Hills EL76 Tank.

- Abutting mains available for supply for:
  - Ex.525 AC main in Bennett Road

2.0 ANALYSIS

Model

"Disclaimer - The pressures and flows provided are indicative only and have been derived by theoretical network analysis for normal summer operating conditions. SA Water cannot guarantee that these pressures and flows will be available from the system at all times and accepts no responsibility for any loss or damage that may result from reduced flow or pressure in the mains".

The following hydraulic model and *scenario* was used to analyse the water supply system:

- **Barossa and Little Para_2018_Connection.wtg**
- *Scenario: LD201807_07 Lot 50 Bennett Road Mawson Lakes (Parafield Airport)*

Demand

Assessing the demand allocation impact on the network

Water supply was investigated by allocating the following demands to assess the capacity of the existing water network to supply the proposed development in accordance with SA Water standards.
The following peak day average water demands for the proposed Food Park as listed below in Table 1 were adopted for assessing the impact on the network.

Table 1. Peak day Average water demands for the impact of the proposed development on the network were as follows:

Location	Existing main	Proposed development	PDA demand	Model Node	Base pressure	Minimum pressure
Bennett Rd	Ex.525 AC	Food Park	16.6 L/s	J-16961	61.95 mH	61.42 mH

The following peak instantaneous water demands for the proposed Food Park as listed below in Table 2 were adopted for assessing the sizing of connection as well as impact on the network.

Table 2. Peak instantaneous water demands for the impact of the proposed development on the network were as follows:

Location	Existing main	Proposed development	PDA demand	Model Node	Base pressure	Minimum pressure
Bennett Rd	Ex.525 AC	Food Park	35 L/s	J-16961	61.95 mH	60.98 mH

3.0 CONCLUSION

Model Results

Modelling results indicates there is sufficient capacity in the existing network to supply the proposed Food Park development, ***as shown in Figure 2 and 3***

4.0 RECOMMENDATIONS

Based on TNP investigation, the network has sufficient capacity to support the proposed Northern Adelaide Food Park precinct subject to:

- Installation of a suitably sized meter to accommodate a peak instantaneous flow of 35 L/s.
- Standard SA Water connection details for selected meter.
- Standard SA Water backflow prevention for meter.
- The required water meter shall be selected and installed to accommodate a connection of a Microspider and remote data (flow and pressure) collection capability to permit monitoring of water consumption, trouble shooting and leakage detection.

"Disclaimer - The pressures and flows provided are indicative only and have been derived by theoretical network analysis for normal summer operating conditions. SA Water cannot guarantee that these pressures and flows will be available from the system at all times and accepts no responsibility for any loss or damage that may result from reduced flow or pressure in the mains".

- Infrastructure is to be constructed in accordance with SA Water networks Infrastructure Standards

Regards

Patrick Hayde
Mgr. Water Treatment and Network Planning

MAB 27th July 2018

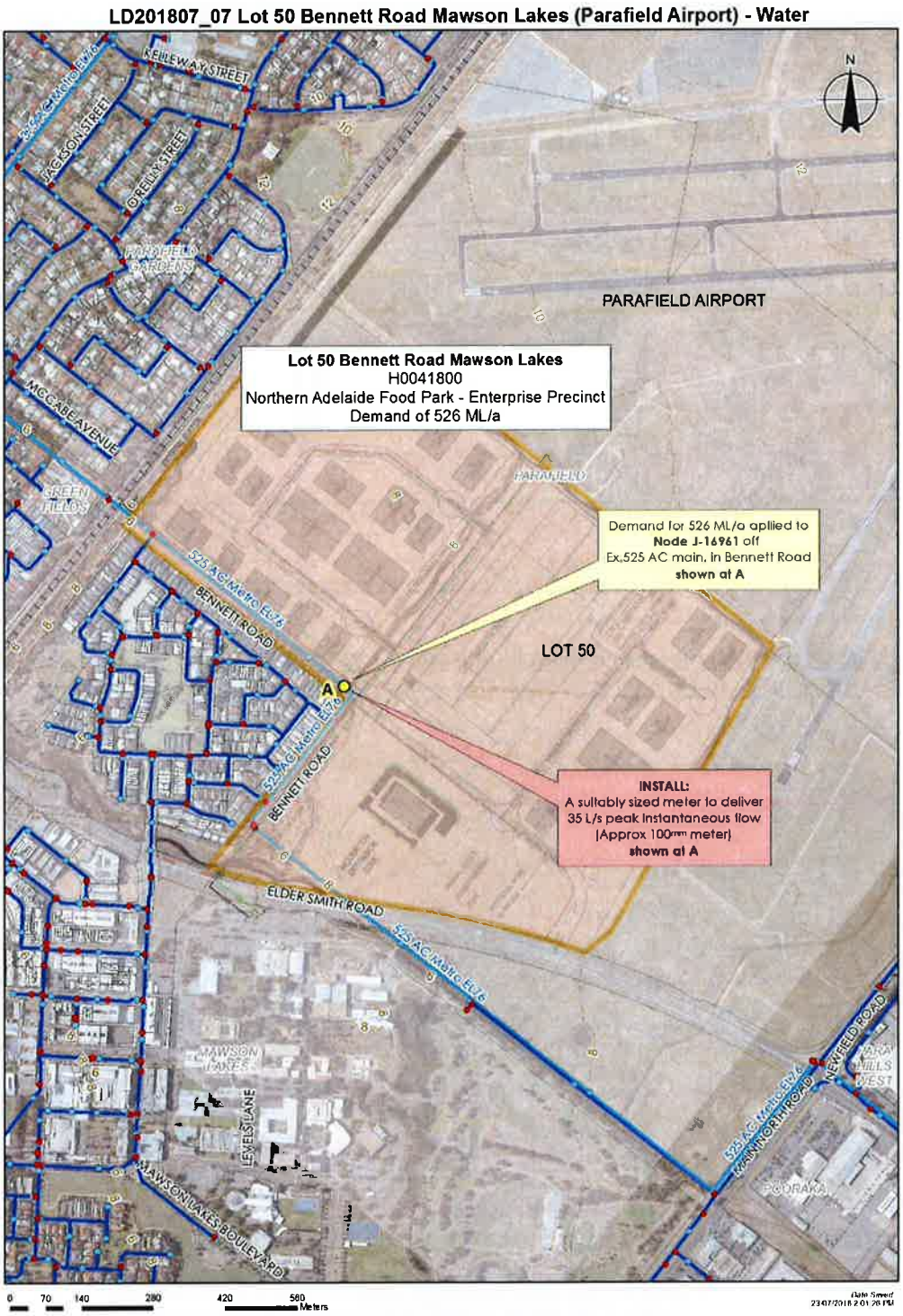


Figure 1. Location map of development

"Disclaimer - The pressures and flows provided are indicative only and have been derived by theoretical network analysis for normal summer operating conditions. SA Water cannot guarantee that these pressures and flows will be available from the system at all times and accepts no responsibility for any loss or damage that may result from reduced flow or pressure in the mains".

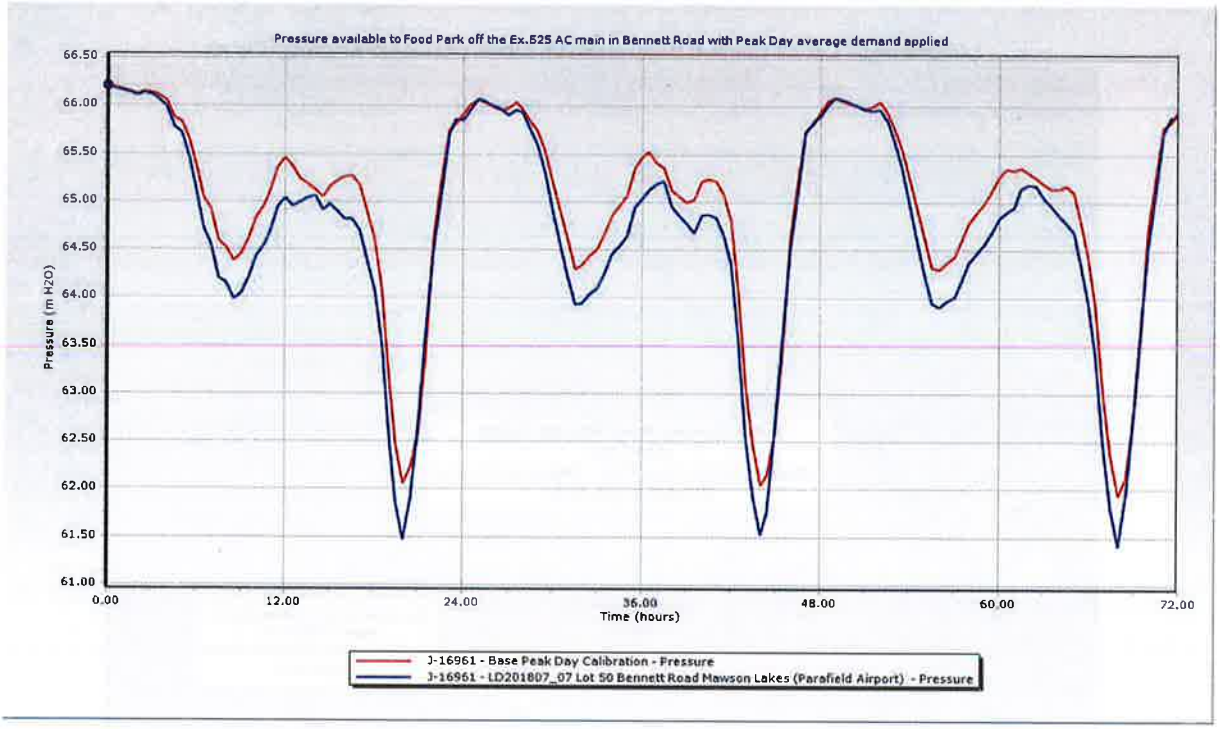


Figure 2. Graph showing pressure available at Node J-16961 off Ex.525 AC main in Bennett Road, shown at A on Figure 1 with Peak Day average demand of 16.6 L/s applied.

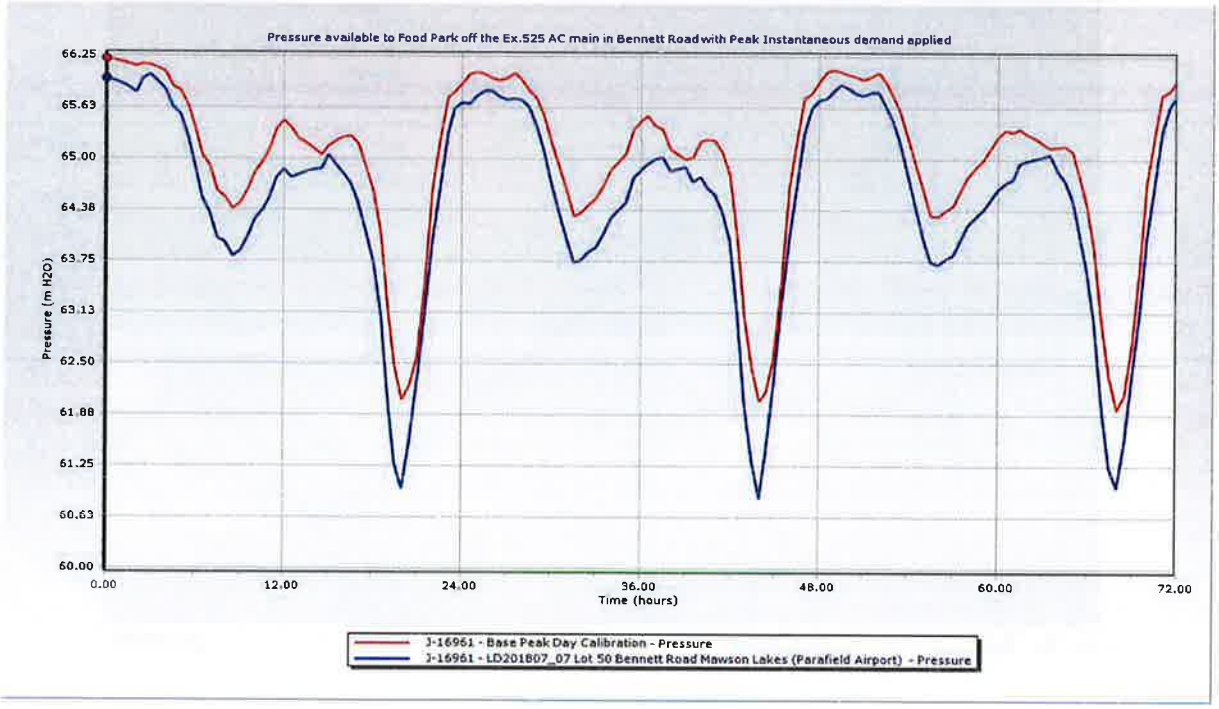


Figure 3. Graph showing pressure available at Node J-16961 off Ex.525 AC main, *shown at A on Figure 1* **in Bennett Road with Peak instantaneous demand of 35 L/s applied**

"Disclaimer - The pressures and flows provided are indicative only and have been derived by theoretical network analysis for normal summer operating conditions. SA Water cannot guarantee that these pressures and flows will be available from the system at all times and accepts no responsibility for any loss or damage that may result from reduced flow or pressure in the mains".

Figure 4. Concept layout plan provided by consultant

"Disclaimer - The pressures and flows provided are indicative only and have been derived by theoretical network analysis for normal summer operating conditions. SA Water cannot guarantee that these pressures and flows will be available from the system at all times and accepts no responsibility for any loss or damage that may result from reduced flow or pressure in the mains".

Memo

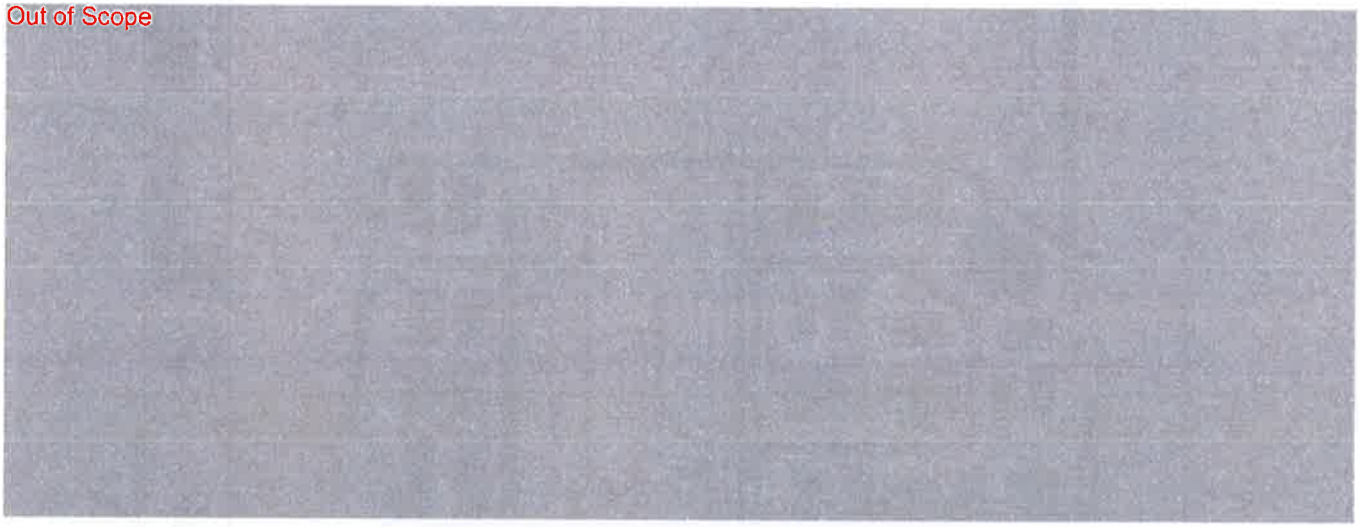
SA Water

To	majorld@sawater.com.au		
CC	Kylie Cleere: Senior Major Development Officer Olaf Richter - Senior Asset Planner (wastewater)		
From	Flavio Bressan: Mgr. Wastewater Design, Standards and Planning		
Phone	+61 8 7424 1993	**Email**	Flavio.Bressan@sawater.com.au
Date	1/08/2018	**SA Water Ref**	H0041822
Subject	LD201807_07 Lot 50 Bennett Road Mawson Lakes (Parafield Airport) - RecWater		

I refer to your email dated 29th June 2018 seeking comments on the capacity of our Recycle water network to supply a proposed FOOD PARK development at Mawson Lakes.

1.0 BACKGROUND

Out of Scope



Existing Parcel

- Allotment numbers: 1
- Proposed development site is currently zoned: Infrastructure
- Elevation of this site is approximately: EL8 – 10 m according to GIS 2m contours

Existing Network

- The parcel is contained within Mawson Lake Recycled Water Network sourced from the Greenfields Class A Tank.

- Abutting mains available for supply for:
  - Ex.100 AC main in Nelson Crescent

2.0 ANALYSIS

Model

The following hydraulic model and *scenario* was used to analyse the water supply system:

- **Model:** MawsonLake_Recycled2009.wtg
- ***Scenario:*** *Food Park Bennett Road Mawson Lakes (Parafield Airport)-H0041822*

Demand

Assessing the demand allocation impact on the network

Recycled Water (Recwater) supply was investigated by allocating the following demands to assess the capacity of the existing Recwater network to supply the proposed development in accordance standard recycled water guidelines and standards.

Table 1. Peak Recwater demands for the impact of the proposed development on the network were as follows:

Location	Existing main	PDA demand	Peak Instantaneous	Model Node	Base pressure	Minimum pressure
Nelson CR	Ex.100 PVC	3 L/s	8.4 L/s	J-1519	37.1 mH	34.4 mH

Model Results

Modelling results indicates there is sufficient capacity in the existing network to supply the proposed Food Park development, ***as shown in Figure 2.***

- *Value-add network design*
  In order to provide redundancy in the recycled water network, consideration should be given to a second connection point into the existing RW network within "The Bridges" existing network. This will not only provide a second supply source for the proposed network, it will also provide a slightly higher network pressure experienced within the network. With this in mind, the DN100mm PVC recycled water main in Grenada Court would be an ideal second connection point.

3.0 CONCLUSION

- The supplied recycled water demand has an estimated 8 L/s peak instantaneous recycled water demand.
- The adjoining Mawson Lakes recycled water network (located in "The Bridges" residential precinct was modelled as the supply point for the proposed Food Park development.
- Using the end of the existing DN100mm recycled water along Nelson Crescent as the connection point for the proposed Food Park development, a minimum pressure of some 34 m would be experienced.
- At this early concept stage of the recycled water network, that a second connection point be considered to provide increased redundancy measures for the proposed network. A second connection into the DN100mm PVC recycled water main in Grenada Court would achieve this.

"Disclaimer - The pressures and flows provided are indicative only and have been derived by theoretical network analysis for normal recycled water peak operating conditions, which are normally experienced during the summer period. SA Water cannot guarantee that these pressures and flows will be available from the system at all times and accepts no responsibility for any loss or damage that may result from reduced flow or pressure in the mains".

4.0 RECOMMENDATIONS

Based on the investigation carried out herein, the network has sufficient capacity to support the proposed Northern Adelaide Food Park precinct (95 ML/a - 3 L/s) subject to:

- Infrastructure is to be constructed in accordance with SA Water Network Infrastructure Standards.

Note:
The developer should strongly consider a second connection point for the proposed recycled water network. This not only provides increased redundancy measures to the network it will also provide some slight increase in available recycled water pressures for the network.

Regards

Flavio Bressan
Mgr. Wastewater Design, Standards and Planning

SHP Aug 2018

Memo

SA Water

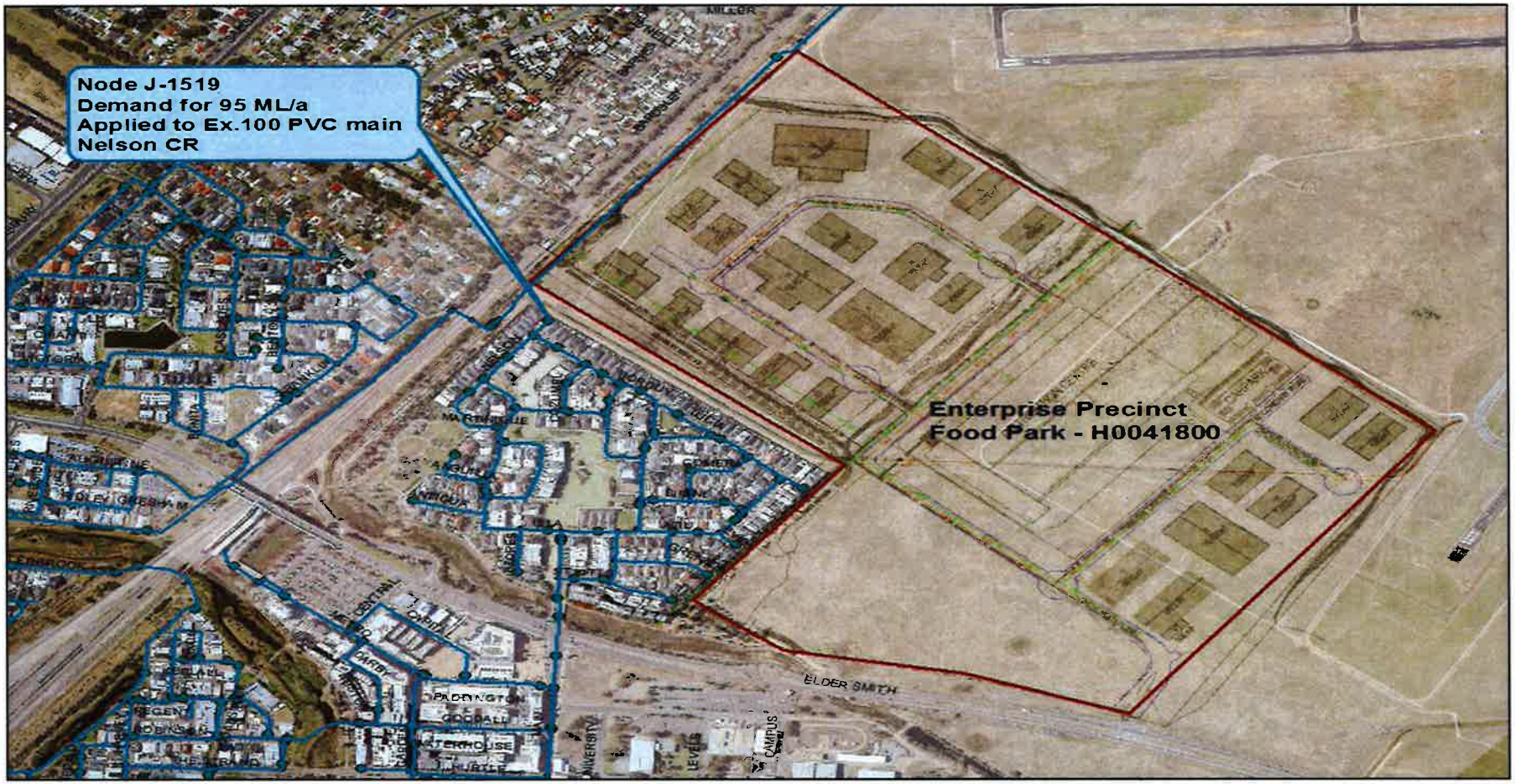


Figure 1. Location map of development & Existing recycle water network

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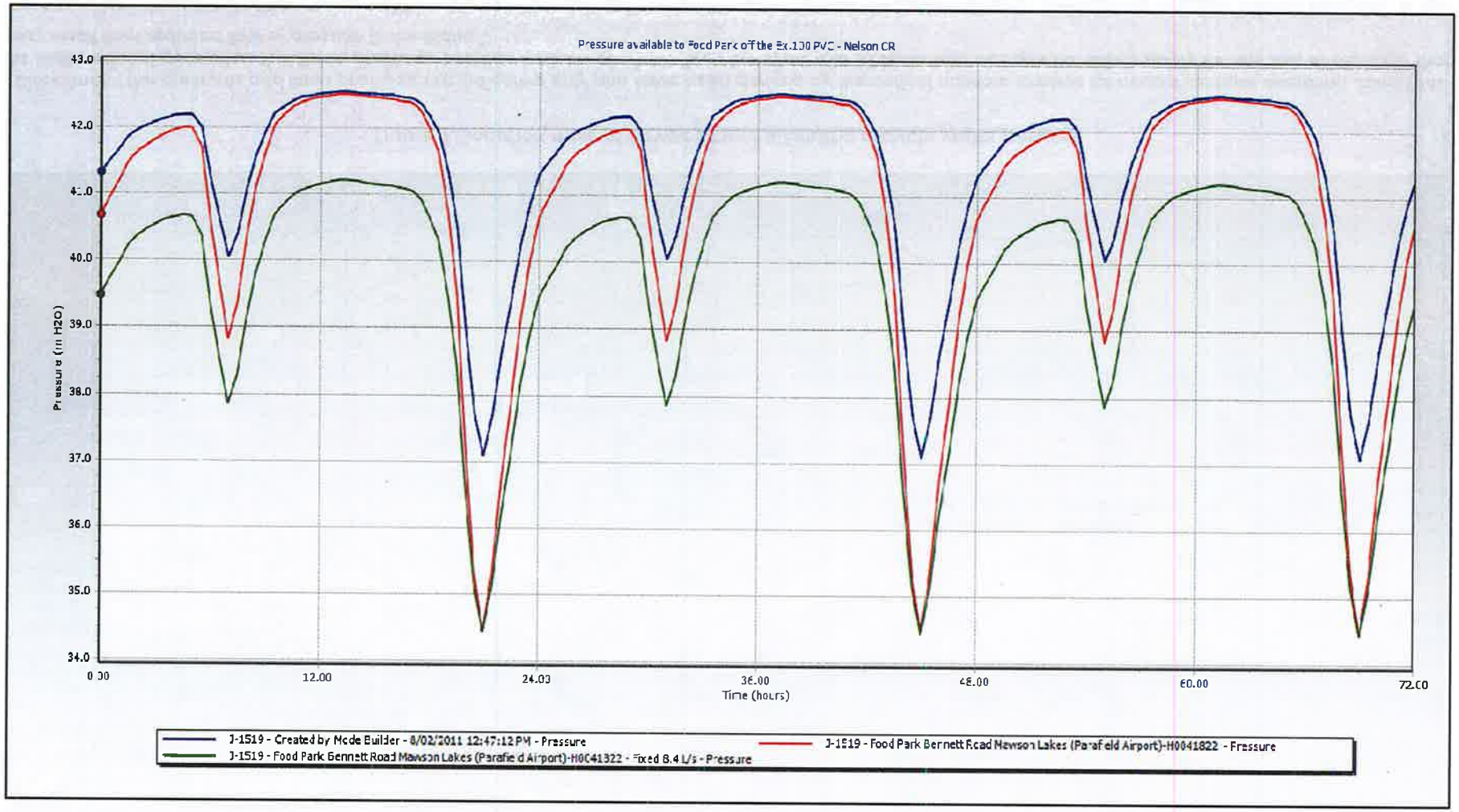

Figure 2. Graph showing pressure available at Node J-1519 off Ex.100 PVC main in Nelson CR

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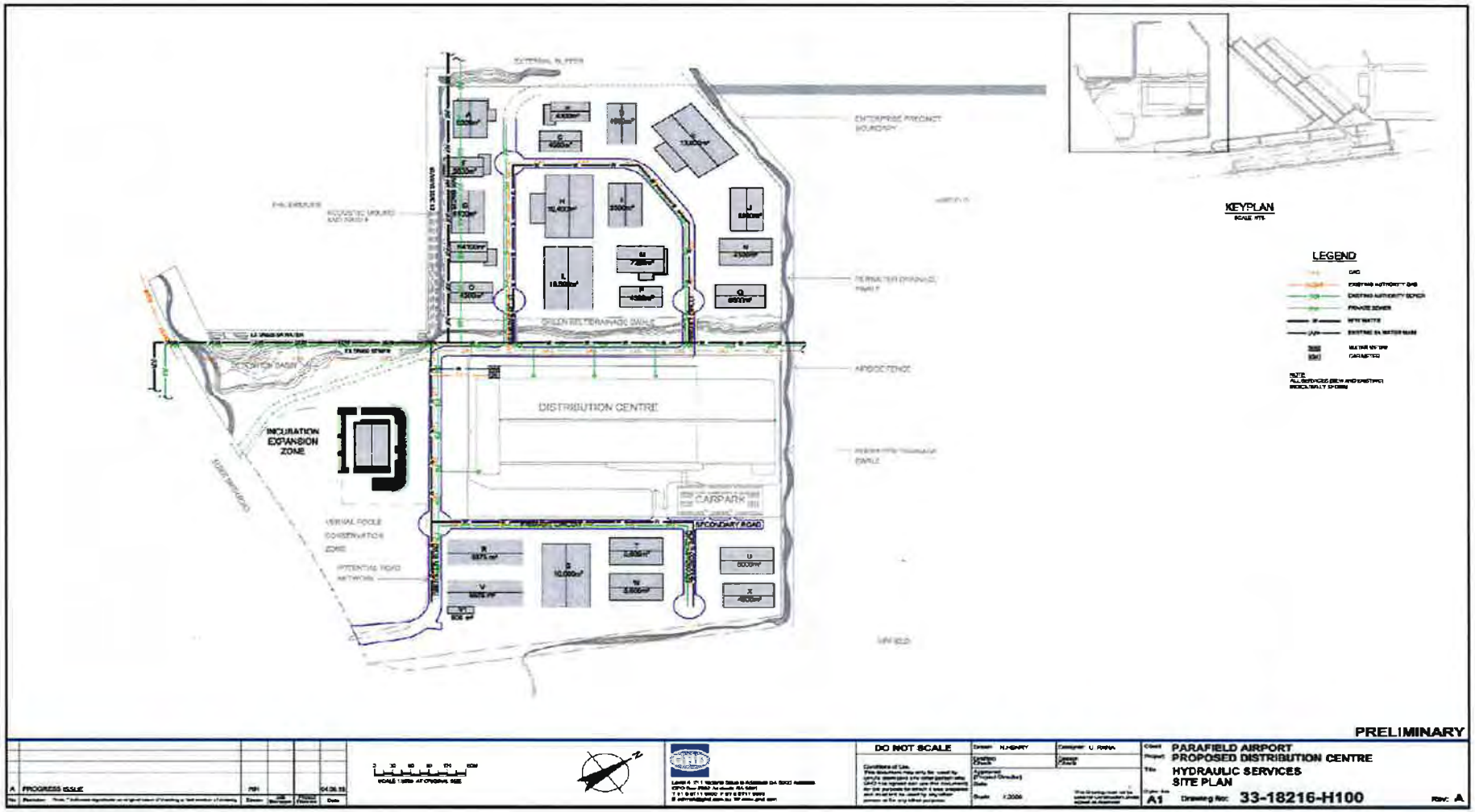


Figure 3. Concept layout plan provided by consultant

"Disclaimer - The pressures and flows provided are indicative only and have been derived by theoretical network analysis for normal recycled water peak operating conditions, which are normally experienced during the summer period. SA Water cannot guarantee that these pressures and flows will be available from the system at all times and accepts no responsibility for any loss or damage that may result from reduced flow or pressure in the mains".

Adelaide Services Alliance

Mawson Lakes Recycled Water Scheme

Results and Compliance for July 2017 to June 2018

This report was prepared by Allwater on SA Water's behalf, specifically for the information of the South Australian Department for Health and Wellbeing and is provided to the City of Salisbury. If you are not one of these parties and wish to rely on any of the information contained in this report you should independently verify its accuracy, currency, completeness and suitability for your purpose. If you choose to rely on the information in this report you do so at your own risk.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

PART 1 Mawson Lakes Recycled Water Scheme (MLRWS)

1.1 Introduction

Mawson Lakes is a residential, commercial, educational and technical development north of Adelaide which will have 3,900 allotments and cater for approximately 10,000 residents when fully developed. A central feature of the development is the provision of a recycled water system that complements the potable drinking water supply. The management, operation and maintenance of the Mawson Lakes Recycled Water Scheme (MLRWS) is undertaken by Allwater (AW) on behalf of SA Water (SAW), the asset owners. This includes maintenance of the storm water pipeline from the Parafield Stormwater Harvesting Facility to the Greenfield's Recycled Water Facility. The management, operation and maintenance of the Parafield Stormwater Harvesting Facility and all other aspects of the reclaimed storm water infrastructure is undertaken by the City of Salisbury (CoS).

In accordance with the South Australian Department for Health and Wellbeing (DHW) approval (26/712, eA540537), the recycled water supplied to Mawson Lakes may only be used for municipal irrigation, residential landscape irrigation, car washing and toilet flushing.

1.2 Description of Operation

The MLRWS is monitored and managed by a Metropolitan SCADA system, the system is integrated with the operation and maintenance of critical points within the MLWRS. The control system is designed to maintain water in the balance tank at Mawson Lakes to a required water quality and to distribute this water to consumers. The SCADA system is used to monitor the alarms and ensure normal operation of the plant, monitoring of the alarms from Greenfields Recycled Water Facility telemetry occurs continuously at the SA Water Operations Centre.

Mawson Lakes recycled water is produced by mixing reclaimed wastewater; supplied from the Bolivar Dissolved Air Flotation Filtration (DAFF) Plant (operated by AW) with reclaimed storm water treated at the Parafield Stormwater Harvesting Facility and or mains water.

A proportion of the reclaimed wastewater is diverted from the Bolivar DAFF/VPS chlorine contact channel into the Bolivar-Mawson Lakes Pump Station (BMLPS) sump. Chlorination of the reclaimed wastewater is essential and is covered by chlorination at the Bolivar DAFF plant. The reclaimed wastewater is then transferred via the Bolivar-Greenfields pipeline to the Greenfield's Recycled Water Facility.

Low salinity storm water is delivered via the Parafield-Greenfields pipeline to the Greenfields Recycled Water Facility. Allwater controls the supply and chlorination of the reclaimed storm water providing a minimum pressure is maintained in the storm water system.

The 'reclaimed wastewater" has a salinity of 1,000 mg/L Total Dissolved Solids (TDS) and is blended with "reclaimed storm" water with a TDS of less than 400 mg/L to produce a mixed recycled water of less than 900 mg/L TDS. The water is mixed prior to the Balance Tank at the Greenfield's Recycled Water Facility from where it is pumped to consumers. There is also potable water as a backup supply, although its limited capacity doesn't allow a full backup of the system during summer.

Figure 1 provides detail of the Mawson Lakes Recycled Water process. Infrastructure constructed for the recycled water project includes:

- Bolivar Mawson Lakes Pump Station- a below ground pumping station;
- 8.7 km of treated wastewater pipeline (Bolivar – Greenfields);
- 2.8 km of storm water pipeline from the Parafield Storm water Facility to Greenfields;
- Greenfields Recycled Water Facility- includes chlorination of storm water and reclaimed wastewater blend. A 2.6 ML Balance Tank with mains water backup supply & a distribution pumping station to transfer the recycled water to the Mawson Lakes reticulation network;

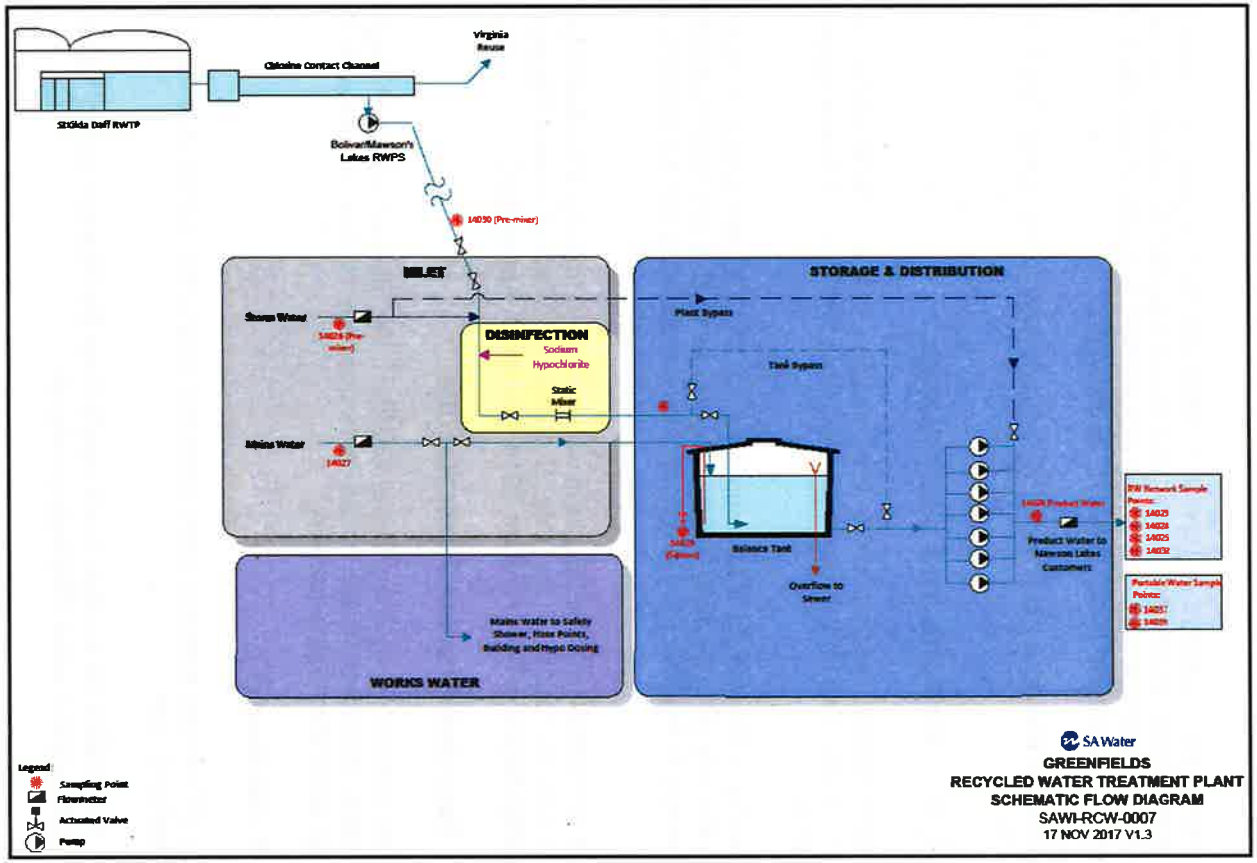


Figure 1: Schematic of water flows into and out of the Greenfields Recycled Water

PART 2 Performance Summary

The operation of the Greenfields/Mawson Lakes system was stable during the 2017/18 year.

The Mawson Lakes volume supplied was a blend of DAFF water at 69% and potable water at 31%. Minimal stormwater was used (3ML only) due to high salinity content.

All E-coli, chlorine and salinity compliance criteria were met.

A telemetry issue caused a Type 1 incident due to chlorination failure. However, this was downgraded later as no stormwater was being supplied for dilution at the time. This incident started discussions around the actual requirement to re-chlorinate DAFF water and currently a review of the system by all parties is under way.

For incidents relating to the Bolivar DAFF Plant, refer to the Bolivar DAFF Plant Annual Report, 2017-18.

PART 3 Results and Compliance

This report details compliance with the conditions of the Department for Health and Wellbeing (DHW) use approval for the Mawson Lakes Recycled Water Scheme (approval eA540537, 26th July 2012).

A summary of the results and compliance for the Mawson Lakes recycled product water for the period July 2017 to June 2018, analysed as part of SA Water's monitoring program, are summarised in Section 3.1. Monthly results and statistics can be found in Appendix A (Tables 3-5).

Results and compliance for the storm water sourced from the Parafield Stormwater Harvesting Facility can be found in the City of Salisbury Mawson Lakes Recycled Water Scheme Monitoring Report July 2017-June 2018, located in Appendix C.

3.1 Recycled Product Water Results

Recycled product water is monitored weekly at the Mawson Lakes Pump Station outlet at the Greenfields Recycled Water Facility and quarterly at four locations in the Mawson Lakes recycled water distribution network.

3.1.1 *E. coli* Results

In total, 67 routine samples were collected during the period July 2017 to June 2018 and analysed for *E. coli.*

- There were no positive *E.coli* results from the Mawson Lakes Pump Station outlet or in the recycled water distribution network.

3.1.2 Total Dissolved Solids Results (TDS)

In total, 52 routine samples were collected during the period July 2017 to June 2018 and analysed for TDS on the product water from the GRWF (SP14028).

- Annual results: Minimum TDS = 800 mg/L
  Maximum TDS = 1,000 mg/L
  Average TDS = 875 mg/L

- 98% of the TDS results were under the required maximum TDS concentration of 900 mg/L.
- The minimum, maximum and average monthly results from the online TDS meter at the GRWF are shown in Table 5, Appendix A.

3.2 Conclusion

The results achieved as part of SA Water's monitoring program have met all the DHW approval requirements.

PART 4 Chlorination

Table 1 shows the monthly minimum, maximum and average online free chlorine residuals downstream of the mixing chamber at the Greenfields Recycled Water Facility (GRWF)

Table 1: Online chlorine

	Free chlorine residual minimum mg/L	Free chlorine residual maximum mg/L	Free chlorine residual average mg/L
July-17	1.9	3.9	2.8
August-17	1.3	2.5	2.2
September-17	1.2	4.2	2.2
October-17	0.9	3.5	2.2
November-17	1.3	3.7	2.5
December-17	2.3	3.3	2.8
January-18	2.2	3.1	2.7
February-18	2.1	3.1	2.5
March-18	1.9	2.8	2.5
April-18	1.8	2.5	2.3
May-18	1.2	3.4	2.3
June-18	1.9	2.7	2.1
Annual Reporting	0.9	4.2	2.4

PART 5 Recycled Water Flow

Table 2 shows the recycled water flow for the period June 2017 to July 2018.

Table 2: Mawson Lakes Flows

	Flow (ML)
Potable water	220
Bolivar DAFF reclaimed water	497
Parafield Storm water	2.8
Total water sent to Greenfield's Facility	720
Greenfield's product water	720
Average Daily Use	2.0
Average Monthly Use	60

% Stormwater supplied when Stormwater/ DAFF in use	0.6%

PART 6 Incident Notifications

Incident Notifications are issued when the trigger levels or criteria for key parameters are exceeded. Trigger levels for health and environmental incidents are defined in the Water/Wastewater Incident Notification and Communication Protocol (DHW) along with reporting time frames and those agencies to be notified.

Table 3: Incidents reported for the Mawson Lakes Recycled Water Scheme for the period July 2017- June 2018.

INCIDENT NUMBER	Incident Type	DATE	INCIDENT	DETAILS	ROOT CAUSE and CORRECTIVE ACTION TAKEN
040137	1	31/12/2017	Failure of Chlorination system for more than 30 minutes to the Greenfields Mixing Tank.	Telemetry failure at Greenfields site caused chlorination system to shut down. Incident later downgraded to a Type 3	Operator attended site immediately and reset telemetry. Chlorination restarted. Residual in mixing tank was tested, residual of 0.25mg/l. Chlorination was shut down from 08:12 until 08:58. Contact DHW who confirmed no further action required due to residual chlorine level.
041072	2	8/1/2018	DAFF flow to Greenfields tank manually stopped due to chlorination system not working/interlocked at Mawson Lakes	DAFF flow to Greenfields tank manually stopped due to chlorination system not working/interlocked at Mawson Lakes	Telemetry fault between DAFF Mawson Lakes pumps and Greenfields tank kicked in at 9:36pm on Saturday night, stopping all flow into the Greenfields tank. Process technician attended Mawson Lakes PS to reset the fault, which restarted the MLPS, however, noticed on SCADA at 11:35pm that the chlorination system at Greenfields had not kicked in, hence stopped the pumps again. The PT then attended Greenfields site for a reset of the station which restarted the chlorination system.
041269	2	3/2/2018	Telemetry issue between Greenfields site and Bolivar Mawson Lakes Pump station resulted in 25 mins of DAFF flow into Greenfields tank before chlorination started.	Telemetry issues resulted in SAGE attending Bolivar Mawson Lakes pump station site on Saturday 3rd Feb18. Once the fault was diagnosed and fixed the system was re-started. On re-start at 14:40 the Greenfield's tank entered a fill cycle and the DAFF water started to be pumped into the reuse tank. The chlorine dosing system did not re-start until 15:05 when manually reset by the operator 25 mins later.	Manual reset of chlorine dosing system by operator. SCADA trends analysed

APPENDIX A

Results July-17 to June-18 for SA Water Monitoring Program

Table 4: *E. coli* and chlorine residual results for Greenfields Recycled Water Facility, July 2017- June 2018.

2017-2018		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Location: 14026	***Greenfields Stormwater***												
E.coli	Max	0	0	1	0	0	0	0	0	0	0	0	0
	Min	0	0	0	0	0	0	0	0	0	0	0	0
	Median	0	0	0	0	0	0	0	0	0	0	0	0
	# Samples	4	5	4	5	4	4	5	4	4	4	5	4

2017-2018		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Location: 14028	***Greenfields P/Stn outlet***												
E.coli	Max	0	0	0	0	0	0	0	0	0	0	0	0
	Min	0	0	0	0	0	0	0	0	0	0	0	0
	Median	0	0	0	0	0	0	0	0	0	0	0	0
	# Samples	4	5	4	5	4	4	5	4	4	4	5	4
Total Chlorine (mg/L)	Max	2.6	1.9	2.1	3.7	1.7	2.3	2.0	1.9	2.6	4.7	2.3	2.5
	Min	1.3	1.0	1.1	0.9	0.9	1.0	1.5	0.9	1.5	1.6	0.8	1.6
	Average	1.9	1.4	1.5	2.0	1.2	1.7	1.7	1.5	2.1	2.7	1.6	1.9
	# Samples	4	5	4	5	4	4	5	4	4	4	5	4
Free Chlorine (mg/L)	Max	2.3	1.8	1.8	3.5	1.5	2.0	1.7	1.4	2.0	3.9	1.9	2.5
	Min	0.9	0.7	1.0	0.5	0.6	0.9	1.2	0.6	1.4	1.3	0.7	1.2
	Average	1.6	1.2	1.4	1.7	0.9	1.4	1.4	1.1	1.7	2.3	1.5	1.7
	# Samples	4	5	4	5	4	4	5	4	4	4	5	4

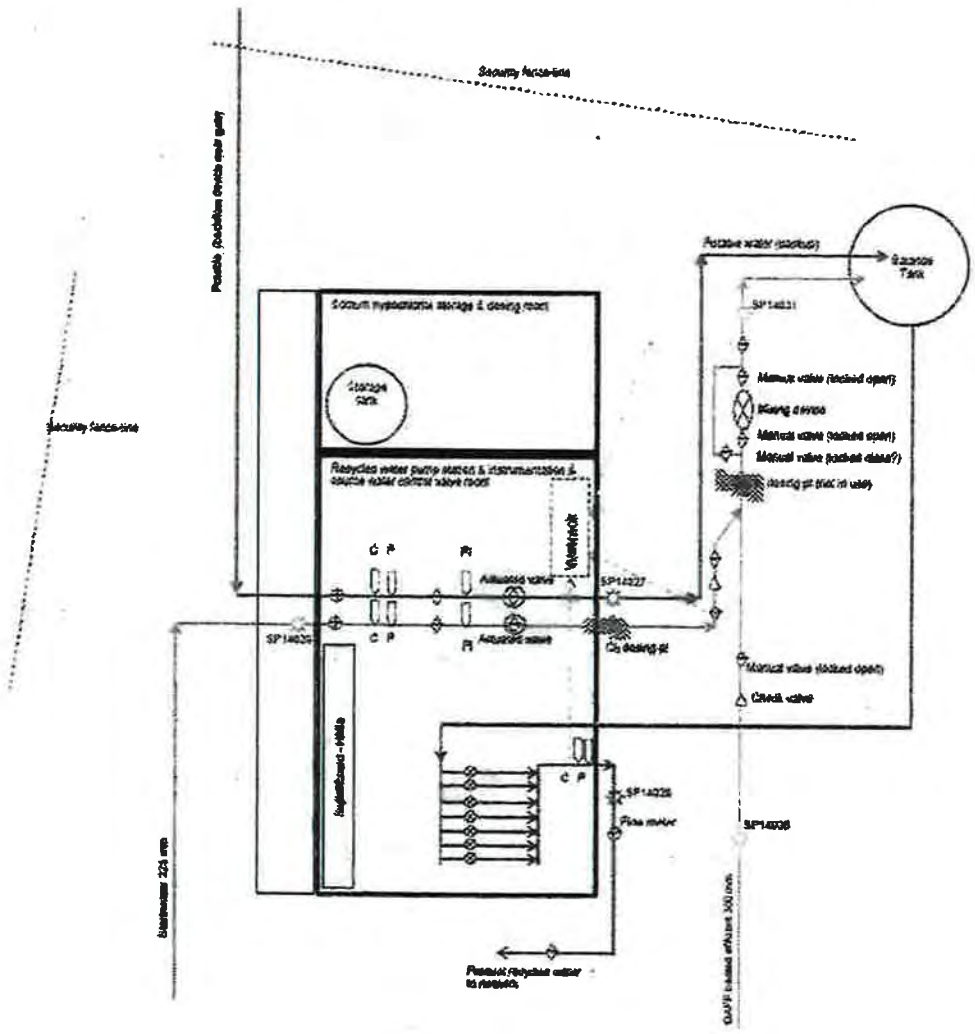
Table 4: *E. coli* and chlorine residual results for locations in the Mawson Lakes recycled water network July 2017- June 2018

2017-2018		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Location: 14023	***(Opposite No.9 Carnegie)***												
E.coli	Max		0		0				0			0	
	Min		0		0				0			0	
	Median		0		0				0			0	
	# Samples	0	1	0	1	0	0	0	1	0	0	1	0
Total Chlorine (mg/L)	Max		0.5		0.6				0.9			1.9	
	Min		0.5		0.6				0.9			1.9	
	Average		0.5		0.6				0.9			1.9	
	# Samples	0	1	0	1	0	0	0	1	0	0	1	0
Free Chlorine (mg/L)	Max		0.3		0.5				0.6			1.6	
	Min		0.3		0.5				0.6			1.6	
	Average		0.3		0.5				0.6			1.6	
	# Samples	0	1	0	1	0	0	0	1	0	0	1	0
Location: 14024	***(Reserve opposite No.2A Trinity)***												
E.coli	Max		0			0				0			0
	Min		0			0				0			0
	Median		0			0				0			0
	# Samples	0	1	0	0	1	0	0	0	1	0	0	1
Total Chlorine (mg/L)	Max		1.2			0.9				1.7			1.8
	Min		1.2			0.9				1.7			1.8
	Average		1.2			0.9				1.7			1.8
	# Samples	0	1	0	0	1	0	0	0	1	0	0	1
Free Chlorine (mg/L)	Max		1.1			0.6				1.5			1.7
	Min		1.1			0.6				1.5			1.7
	Average		1.1			0.6				1.5			1.7
	# Samples	0	1	0	0	1	0	0	0	1	0	0	1

2017-2018		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Location: 14025	***(Res. opposite No.53 Shearwater)***												
E.coli	Max				0			0			0		
	Min				0			0			0		
	Median				0			0			0		
	# Samples	0	0	0	1	0	0	1	0	0	1	0	0
Total Chlorine (mg/L)	Max				1.1			0.7			1.8		
	Min				1.1			0.7			1.8		
	Average				1.1			0.7			1.8		
	# Samples	0	0	0	1	0	0	1	0	0	1	0	0
Free Chlorine (mg/L)	Max				1			0.4			1.5		
	Min				1			0.4			1.5		
	Average				1.0			0.4			1.5		
	# Samples	0	0	0	1	0	0	1	0	0	1	0	0
Location: 14032	***Reserve Opposite Peppercorn Circuit***												
E.coli	Max		0		0				0			0	
	Min		0		0				0			0	
	Median		0		0				0			0	
	# Samples	0	1	0	1	0	0	0	1	0	0	1	0
Total Chlorine (mg/L)	Max		0.3		0.3				0.1			0.4	
	Min		0.3		0.3				0.1			0.4	
	Average		0.3		0.3				0.1			0.4	
	# Samples	0	1	0	1	0	0	0	1	0	0	1	0
Free Chlorine (mg/L)	Max		0.1		0.1				0.1			0.3	
	Min		0.1		0.1				0.1			0.3	
	Average		0.1		0.1				0.1			0.3	
	# Samples	0	1	0	1	0	0	0	1	0	0	1	0

Table 5: Total Dissolved Solids (TDS) results from Greenfields Recycled Water Facility online TDS meter

Online TDS Meter	Minimum TDS mg/L	Maximum TDS mg/L	Average TDS mg/L
July-17	845	867	855
August-17	843	859	850
September-17	792	861	848
October-17	837	864	852
November-17	414	876	805
December-17	562	833	792
January-18	766	876	844
February-18	750	885	844
March-18	797	865	836
April-18	797	834	819
May-18	832	856	847
June-18	829	897	859
Annual Reporting	414	897	838



Marshall, Gretchen at 4/09/2018 12:44 PM
ACTIONS for Mawson Lakes supply:
RWMP - send out to Helen, Stuart and Aude for review
Discuss city of Salisbury contract with Venessa Loveder re TDS and volume.

- Do they want to supply us with stormwater?
- Does SAW pay for the water?
- Do we have environmental obligations to use the stormwater?
- Is the source supplied always stormwater or lagoon or groundwater

ACTION:
VN confirm if this align our usage
GM to provide 6 monthly volume of stormwater use

Updated RWMP they can use

SAW position:

1.) 27th meet with VL
VL to assess contract stuff
GM to assess TDS limits and get CP agreement
GM to notify assets -

1.) Lift TDS

Subject	**Mawson Lakes Recycled Water Supply**
Date and Location	Wednesday, 31 October 2018 1:15 PM - 2:00 PM, SAWH 6.020 Mtg Rm (4 seats, AV)
Attendees	Marshall, Gretchen; Eggers, David; Loveder, Vanessa; Regel, Rudi (Rudi.Regel@sawater.com.au); Glossop, Aaron; SAWH 1.045 Mtg Rm (4 seats, AV); SAWH 2.038 Mtg Rm (4 seats, AV); SAWH 2.039 Mtg Rm (4 seats, AV); SAWH 4.018 Mtg Rm (4 seats, AV); SAWH 4.033 Mtg Rm (4 seats, AV); SAWH 5.018 Mtg Rm (4 seats, AV); SAWH 5.033 Mtg Rm (4 seats, AV); SAWH 6.020 Mtg Rm (4 seats, AV); Lian, Paul; SAWH 6.034 Mtg Rm (4 seats, AV); SAWH 7.020 Mtg Rm (4 seats, AV); SAWH 7.033 Mtg Rm (4 seats, AV); SAWH 8.021 Mtg Rm (4 seats, AV); SAWH 8.022 Mtg Rm (4 seats, AV); SAWH 8.03 Mtg Rm (Operations Room); SAWH Level 3: Kurlanaintyerlo (large space);
Message	Hi all, Can we please get together to discuss the blending of stormwater, potable and Bolivar DAFF water at Greenfields tank for supply to Mawson Lakes? As per the emails going around there has been a significant amount of potable water used over the past couple of years (instead of stormwater) in order to reduce the salinity of the recycled water supplied to Mawson Lakes to a TDS target of 900mg/L Out of Scope Out of Scope The other big ticket item to discuss is the possibility of increasing the salinity levels of water supplied to Mawson Lakes customers. Do we need to engage customers when we haven't got a formal agreement in place to supply a defined salinity level? Please read through this email for background: Thanks, Gretchen Marshall RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT gretchen.marshall@sawater.com.au • 7424 2194 • 0459 824 301 250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

Marshall, Gretchen at 25/10/2018 3:07 PM
Pressure:
Allwater (via Bolivar WWTP plant operations) has the ability to control the supply and disinfection of the reclaimed stormwater as long as a minimum pressure is maintained in the stormwater system.

Located within the Greenfields Recycled Water Facility, the Mawson Lakes Reticulation Pump Station delivers recycled water to the Mawson Lakes network. The recycled water pressure (high setpoint = 45 mH) is lower than static potable water mains pressure to minimise contamination of the potable water mains if a cross connection occurs. The high setpoint for flow is 300 L/s. Figure 7 demonstrates that discharge pressures are ~45 mH. A schematic plan showing the interrelationship between the MLRWS and the Little Para–Anstey Hill mains (drinking) water distribution system, was developed by United Water (see United Water WQMP Little Para – Anstey Hill Distribution System, Drawing No. UW 08-4292).

Protection and plumbing controls including cross-connection management & operating recycled water system at a lower pressure than drinking;

Ben Seal, phone call notes 25/10/2018 : Mawson Lakes Recycled Water Supply

- 100pKa , reduced 50kPa

Reduced risk of water flowing from recycled into drinking

Subsequent schemes not a requirement

Other utilities aren't required to maintain a pressure

We have 5 year self audit

Face to face audit every time the property is sold.

Certificate of charge, every account has a letter of advice, conveyor to contacts SAW, then we do a separation audit, now involves TDS testing (Lights View action), contractors that activate meters they need to TDS testing equipment so they can verify the source water.

Review other approvals. Not a requirement.

Allwater:

Operational supply issues - provide enough flow, nearing capacity, more multistorey than originally planned for.

Maintaining min flow, at lower pressure, want to boost the pressure.

Risks - increased risk of cross connection ? Risk control measures , dual check valves and audit is sufficient.

FW Potable
and Storm...

Marshall, Gretchen at 31/10/2018 1:27 PM

Notes
SAW must take 200ML
Take or pay -

VL/DE - Consider billing as the water quality

CoS contract has both a supply TDS limit of 900mg/L as well as a stormwater limit of 300 mg/L

Rudi - Check the meter usage for Mawson Lakes reserves

Issues:
- If CoS don't supply stormwater then they shouldn't dictate our supply TDS levels
- Negotiate

Aaron - Involve in the stakeholder perspective

Subject	**FW: Stormwater Supply to SA Water**
Date and Location	Thursday, 8 November 2018 2:00 PM - 3:00 PM, Salisbury Council
Attendees	Paul Carter; Marshall, Gretchen; Eggers, David; Naumann, Bruce (SALISBURY.SA.GOV.AU); Roseanne Irvine; Loveder, Vanessa;
Message	-----Original Appointment----- From: Paul Carter [mailto:PCarter@salisbury.sa.gov.au] Sent: Thursday, 1 November 2018 12:18 PM To: Paul Carter; Naumann, Bruce (SALISBURY.SA.GOV.AU); Roseanne Irvine; Loveder, Vanessa Subject: Stormwater Supply to SA Water When: Thursday, 8 November 2018 2:00 PM-3:00 PM (UTC+09:30) Adelaide. Where: Salisbury Council Points for discussion Available volumes and TDS ranges Recycled Management Plan

Notes

CoS - commented that they haven't been invoicing SAW for stormwater supplied.
VL to check invoices to confirm this

BN - commented that the scheme volumes were never set up right and originally injection was planned for 150 days of the year but in reality is more like 70 days.
- Issues with chlorine demand when supplying SAW direct from the wetland
- SAW asked CoS to stabilise. Got CSIRO involved and water had to be injected into aquifer with 10 days detention before supplying. The water supplied is pre-chlorinated.
- This process resulted in saline groundwater mixing and now they rarely meet the TDS target of 300mg/L

ACTION:
CoS to check with Parks and Gardens regarding receiving a higher TDS level (1200 - 1500 mg/L)
Cos to supply updated Parafied treatment schematic. If dosning chlorine, Saw should need to.

End thoughts:
- If the contract is null and void, then we have no obligation to reduce the TDS to Mawson Lakes supply. We get rid of our individual Mawson Lakes supply approval and include Mawson Lakes supply into the Bolivar DAFF supply approval.

PROS - No more chlorination or potable water blending
- Reduced OPEX and operator involvement
- Reduced instrumentation
- Reduced DH approvals and RWMP to update
- Increase Recycled water usage (dual reticulation is year round use)

CONS - Higher TDS water to Mawson Lakes customers

Work Order: 06558628 - Low Water Flow at 300 MAWSON LAKES BVD, MAWSON LAKES – Reported 19/09/18 12:54 PM

Service Requests

Query

List | Service Request | Related Records | Log | Specifications

Service Request: 00875728

Name: DAVID

Changed Date: 26/09/18 10:06 PM

Changed By: Murphy, Brodie

Reported Date: 19/09/18 12:54 PM

Reported By: Maier, Louise

Source:

Classification: FAULT \ WATER \ SUPPLY \ LOWPRESSURE

Quick Capture › Detailed Questions › Response

Customer Details

Title:

Name: Clause 6 (1) - Personal Affairs

Address Owner:

Account No:

Meter No:

Phone:

Mobile:

Email:

Not all Details Provided?

Contact Details

Advise on Resolution:
- ○ Email
- ○ Email & SMS (Both)
- ○ None
- ○ Phone
- ◉ SMS

Customer Type:
- ○ Employee
- ○ Land Agent
- ○ Local
- ○ None
- ○ Non-Local
- ◉ Owner
- ○ Plumber
- ○ Tenant

Address Type:
- ○ Hundred
- ○ Lot
- ○ Other
- ◉ Street

Affected Property Details

Unit Number:

House Number: Clause 6 (1) - Personal Affairs

Street Name:

Street Type:

Suburb:

Postcode:

Address Code:

Meter No:

Workgroup: METRONET

Open Address Open SR Clear Address Open Google Open Aqu

Additional Details

3rd Party Damage?: 3rd Party Details: Approximate Address?: Further Details: only occurring since mains burst approx. three months ago

Critical Customer Identification

Critical Customer Self-Identified?: Critical Customer at Address? Critical Customer on Water Shut-off Block? Unable to Determine Criticality? Land Use: RESIDENTIAL

Service Type Information

SA Water Easement? Water: Service Connected Sewer: Service in Vicinity Recycled Water: Service Connected

Problem Definition

What Service is Affected?:
- ○ Recycled Water
- ◉ Water
- ○ Sewer
- ○ Other

What is Affected?:
- ○ Disinfect
- ○ Yellow Plate (Fireplug)
- ○ Metal Plate (Valve)
- ○ Meter & Pipework
- ◉ Supply
- ○ Above Ground Main
- ○ Road

What's the Nature of the Problem?:
- ○ Remove Restrictor
- ○ No Water (Vacant or Unoccupied Land)
- ○ Apply Restrictor (Regional Only)
- ○ No Water (Occupied Land)
- ◉ Low Water Flow
- ○ High Water Flow
- ○ Quality

How Bad is the Problem?:

Classification: FAULT \ WATER \ SUPPLY \ LOWPRESSURE »

Quick Capture » Detailed Questions » Response

Questions Filter 1 - 3 of 3

Question	Answer	Hint	Qu
Have you tried turning your meter tap up slightly?	yes	It is possible that the meter tap was only partially open.	
Is it only the inside taps or are the outside taps affected also?	all taps, outside taps, recycled water		
Are there any problems accessing the property we need to know about e.g. loose dog or locked gate?	easy access	Record any information that would help the field crews access the property to perform the work.	

Details

Back Continue

Classification: FAULT \ WATER \ SUPPLY \ LOWPRESSURE

Quick Capture › Detailed Questions › Response

Dates

BCP Backdate? Reported Date: 19/09/18 12:54 PM Target Contact: Target Start: 19/09/18 12:54 PM

Affected Date: 19/09/18 12:50 PM Target Attendance: Target Finish: 21/09/18 12:54 PM

Related Work Orders

Filter 1 - 1 of 1

Work Order	Description	Status
06558628	Low Water Flow DAVID.	COMP

Back Create Work Order Publish Work Order to Web Priority WO Alert Add to Bulletin Board

Labor

Filter 1 - 3 of 3

Labor	Name	Description	Approved?	Start Date	Start Time	End Time	Regular Hours
MU7676	Murphy, Brodie	Work at Job	✔	26/09/18	9:43 PM	10:06 PM	0:23
MU7676	Murphy, Brodie	Travel to Job	✔	26/09/18	9:28 PM	9:43 PM	0:15
MU7676	Murphy, Brodie	Work at Job	✔	26/09/18	9:28 PM	9:28 PM	0:00

Failure Codes

1 - 3 of 3

Type	Failure Code	Description	Remark
PROBLEM	LF	Low Flow	
CAUSE	PRIV	Private Pipework	
REMEDY	PIA	Provide Information/Advice	No fault found at the meter.

Select Failure Codes

11.

Marshall, Gretchen

From: Fumex, Aude <Aude.Fumex@allwater.net.au>
Sent: Tuesday, 25 September 2018 10:00 AM
To: Marshall, Gretchen
Cc: Walsh, Stuart (Allwater); Beard, Helen (Allwater)
Subject: Notes from Greenfields meeting
Attachments: Notes Greenfields 040918.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Gretchen,
Thanks for your time couple of weeks ago to discuss the Mawson Lakes chlorination system.
Notes of the meeting attached, can you please review/comment back to me as required. Feel free to adjust dates for action.
Have you had your meeting with Contract/Customer service/council yet, any feedback?
Thanks
Aude

Aude Fumex
Bolivar Plant Manager | **Allwater**
Adelaide Services Alliance
Hodgson Rd | Bolivar SA 5110
GPO Box 1977 | Adelaide SA 5001
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E: aude.fumex@allwater.net.au
One Team. Growing People. Creating the Future.

Notes Meeting Greenfields (GF) operation (Chlorination and TDS)

Date: 04/09/2018

Attendees: Gretchen Marshall (GM), Helen Beard (HB), Stuart Walsh (SW), Aude Fumex (AF)

Notes:

Chlorination:

- Current system: DAFF to GF:
  - DAFF at min Ct of 10mg.min/L (2 log removal). Note that considering pH range (and temp/NTU), Ct could be as low as 4. Action: AF to provide costs savings/business case to GM if simply lowering from Ct10 to Ct4 (no code change), discussions could then start with DH.
  - No rechlorination at Bolivar as per DH agreement from 2012 (since Ct in place) Action: GM to seek approval in writing from DH to not rechlorinate in this location. Action: AF to log OIR/seek decommissioning of that station (PM removal, dismantling of infrastructure, etc)
  - Chlorination of mixed water (DAFF, or stormwater, or DAFF + stormwater) as per current DH approval.
  - Flow paced, residual trim on the tank inlet at 1.8mg/L. Type 1 incident if non chlorinated water (chlorination failure or <0.2) entering the tank for >30min. Type 2 if E-coli in the network.

- Proposed system:
  - Rechlorination for DAFF water not required, only required on the stormwater line. Ct10/disinfection is achieved at the DAFF, no source of contamination between DAFF and tank therefore no need to rechlorinate (even if chlorine decay along the pipeline/tank).
  - Target:
    - Dosing stormwater line
    - Measure on current point before tank
    - Min 0.2mg/L free chlorine into tank and only when stormwater is in use. Comment: How will AWQC know if SW in use or not? Will that generate a Type 1 that will need to be downgraded? Or would allwater sample instead of AWQC and only when stormwater is active?
    - No target on tank outlet
  - Incidents: Note no more incident on detection of E-coli in network, only if repetitive (Type 3).

Salinity:

- Current targets:
  - Allwater SPI1: TDS <900mg/L for 86% of the time and <1500mg/L for 99% of the time on a weekly basis

- Allwater SPI2: Blend of DAFF water in the total volume must be >60% over the year (aim = minimise potable use)
- SAW contract: yearly volume of stormwater to be used 202ML/year (AF: can't find copy of the contract). Note not achievable due to stormwater not available.
- Stormwater max acceptable TDS 300mg/L. Automatic shutdown if >400.

- Current operation:
  - DAFF water in tank at all time (unless constraint on DAFF Plant) to meet volume (roughly 5Ml/d in summer, up to 80l/s instantaneous for night irrigation. Note max potable flow approx. 25l/s (if min network pressure in summer, restricted potable to sustain a min of 45m), max stormwater flow approx. 20-30l/s)
  - To meet SPI1:
    - Dilution with stormwater if available (typically May to Oct, high salinity outside that period). Note that nothing taken this year due to high salinity.
    - Dilution with potable, within the limit of SPI2. Note volume restricted during emergency situations (if DAFF down) since required to keep potable pressure >45m at all time as per DH/SAW design guidelines requirement. Action: GM to confirm requirements with DH; AF to confirm requirements with Networks.

- Proposed operation:
  - Salinity target to be lifted to 1500mg/L for the stormwater line
  - Salinity target to be lifted to 1500mg/L at all time for the distribution line, assuming acceptance from Council/residents. Action: GM to discuss with SAW customer service and Salisbury council.
  - Strategy to be confirmed regarding stormwater usage. Action: GM to discuss with SAW contract/SAW customer service/Salisbury council strategy for stormwater usage. Does the council have any? Does SAW want any? If none available: could possibly decommission the chlorine station.

<u>System review required once salinity strategy is confirmed:</u>

- GM to update Recycled water management plan/send to Allwater for review. Dpt of Health can then endorse, amend letter of approval for chlorine.
- AF/SW/HB to go through Management of Change process:
  - Infrastructure change: Should be minimal. Valve locking required.
  - PM: Review requirement
  - Code change: Log as an OIR for funding. See if includes coms issue.
  - Review of ERP, procedures, operating plan, ops manual, training
  - Review initial RA when Mawson Lakes station was taken OOS

<u>Action summary:</u>

Action #	Action details	By who?	Date
1	AF to provide costs savings/business case to GM if simply lowering from Ct10 to Ct4 (no code change)	AF with HB	Mid Oct
2	GM to seek approval in writing from DH to not rechlorinate at the old bolivar/Mawson Lakes PS	GM	Mid Oct?

3	Upon completion of action above: AF to log OIR/seek decommissioning of that station (PM removal, dismantling of infrastructure, etc)	AF	End of Oct
4	Action: GM to confirm requirements for differential pressure between potable and recycled water with DH (currently condition 15 of the approval).	GM	Mid Oct?
5	Action: AF to confirm requirements for differential pressure between potable and recycled water with Allwater Networks	AF	Mid Oct
6	GM to discuss with SAW customer service and Salisbury council target of increasing TDS to 1500mg/L on the distribution at all time (impact on grass, impact on residential pipework, etc)	GM	?
7	GM to discuss with SAW customer service and Salisbury council target of increasing TDS to 1500mg/L on the stormwater line	GM	?
8	GM to discuss with SAW Contract/SAW customer service/Salisbury Council strategy and contract for their stormwater usage. Does the council have any stormwater to distribute? Does SAW want any, at what TDS, what volume?	GM	?
9	Once TDS strategy is confirmed: GM to update Recycled water management plan/send to Allwater for review	GM, review SW/HB/AF	?
10	Once TDS strategy is confirmed: AF/SW/HB to go through Management of Change process	SW/HB/AF	End of Oct?

12.

Marshall, Gretchen

From: Marshall, Gretchen
Sent: Wednesday, 26 September 2018 4:46 PM
To: Fumex, Aude (All Water)
Cc: Walsh, Stuart (Allwater); Beard, Helen (Allwater)
Subject: RE: Notes from Greenfields meeting

Hi Aude,

I've had a meeting with our City of Salisbury contract officer (Vanessa Loveder) to discuss the issues and to get her to engage with CoS to determine some of the questions relating to TDS and volume.

I did find out that SAW does pay an annual bill for stormwater and it appears that this doesn't align with usage.

I have another meeting with her planned for 2 weeks' time (I'm on leave next week) and I'm hoping she will be able to shed some light on CoS's needs regarding stormwater supply to Greenfields.

I will try to make the deadlines but may need a week or 2 extra as I'm up to my eyeballs is RMWPs.

Thanks,

Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT
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250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

From: Fumex, Aude [mailto:Aude.Fumex@allwater.net.au]
Sent: Tuesday, 25 September 2018 10:00 AM
To: Marshall, Gretchen
Cc: Walsh, Stuart (Allwater); Beard, Helen (Allwater)
Subject: Notes from Greenfields meeting

Hi Gretchen,
Thanks for your time couple of weeks ago to discuss the Mawson Lakes chlorination system.
Notes of the meeting attached, can you please review/comment back to me as required. Feel free to adjust dates for action.
Have you had your meeting with Contract/Customer service/council yet, any feedback?
Thanks
Aude

Aude Fumex
Bolivar Plant Manager | **Allwater**
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GPO Box 1977 | Adelaide SA 5001
T: +61 8 8259 0250 | **F:** +61 8 8285 8860 | **M:** +61 427 844 588
E: aude.fumex@allwater.net.au

From: Marshall, Gretchen
Sent: Thursday, 13 September 2018 4:04 PM
To: Loveder, Vanessa
Subject: FW: Contract with City of Salisbury for stormwater supply to Greenfiled Tank (Mawson Lakes)

Hi Vanessa,

Thanks for meeting me to discuss CoS contract.

Actions from the meeting are below:

Gretchen:
- Discuss TDS limits and potable usage with Con Pelekani and Olaf Richter
- Consider if increases to discharge TDS limits is an option as well as increases to TDS limits for stormwater usage

Vanessa:
- Review contract with CoS and SAW regarding supply of stormwater to Greenfields Tank and check the following:
  - Do they want to supply SAW with stormwater?
  - If so, how much volume is available? What is the TDS range of available water?
  - Is water solely stormwater or are they supplying groundwater also?
  - SAW/Allwater currently has no insight into when water is available for use. If supply is to continue, a communication protocol should be developed or a schedule of when water can be supplied
  - Review bills charged to SAW for use and check if this aligns with stormwater usage (noting very little use in recent years)
- Also note that DH want to split the current SAW supply and use approval to separate supply (SAW) and use approvals (CoS – municipal irrigation) + (SAW – domestic supply). In order for this to occur CoS will need to submit an update RWMP. Here is a link to their current RWMP http://river.sawater.sa.gov.au/applications/bms/Recycled%20Water/Bolivar-Safety%20Plan-Supply-Use-Parafield%20Stormwater%20Harvesting%20System.pdf

I will schedule another meeting to catch up on these actions on 27th of Sep.

Thanks,

Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT
gretchen.marshall@sawater.com.au • **7424 2194** • **0459 824 301**
250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

From: Marshall, Gretchen
Sent: Tuesday, 4 September 2018 11:40 PM
To: Loveder, Vanessa
Subject: Contract with City of Salisbury for stormwater supply to Greenfiled Tank (Mawson Lakes)

Hi Vanessa,

I'm currently reviewing the Mawson Lakes RWMP and I would like to understand our contractual obligations to take stormwater from the City of Salisbury (CoS) for blending at the Greenfields

Balance tank before supplying to Mawson Lakes for dual reticulation. The last 10 year shows a significant decline in stormwater use at this site.

Currently there is a very tight TDS limit on the stormwater supply (

Your help with the following would be greatly appreciated:

- In the event that we increased that TDS limit would CoS be keen to supply us with more stormwater or do they have other users that they would prefer to supply to e.g. Lights View and Michell's Wool Processing?
- Do we have a contract agreement that details a specific quantity or quality that we should be using?
- Does SAW pay for the use of stormwater?
- Do we have environmental obligations to use the stormwater?
- Is the source supplied always stormwater or could it also be lagoon or groundwater?
- Do CoS report quantity or quality to SAW?

I'll let you consider this and then perhaps we can catch up to discuss?

Thanks,

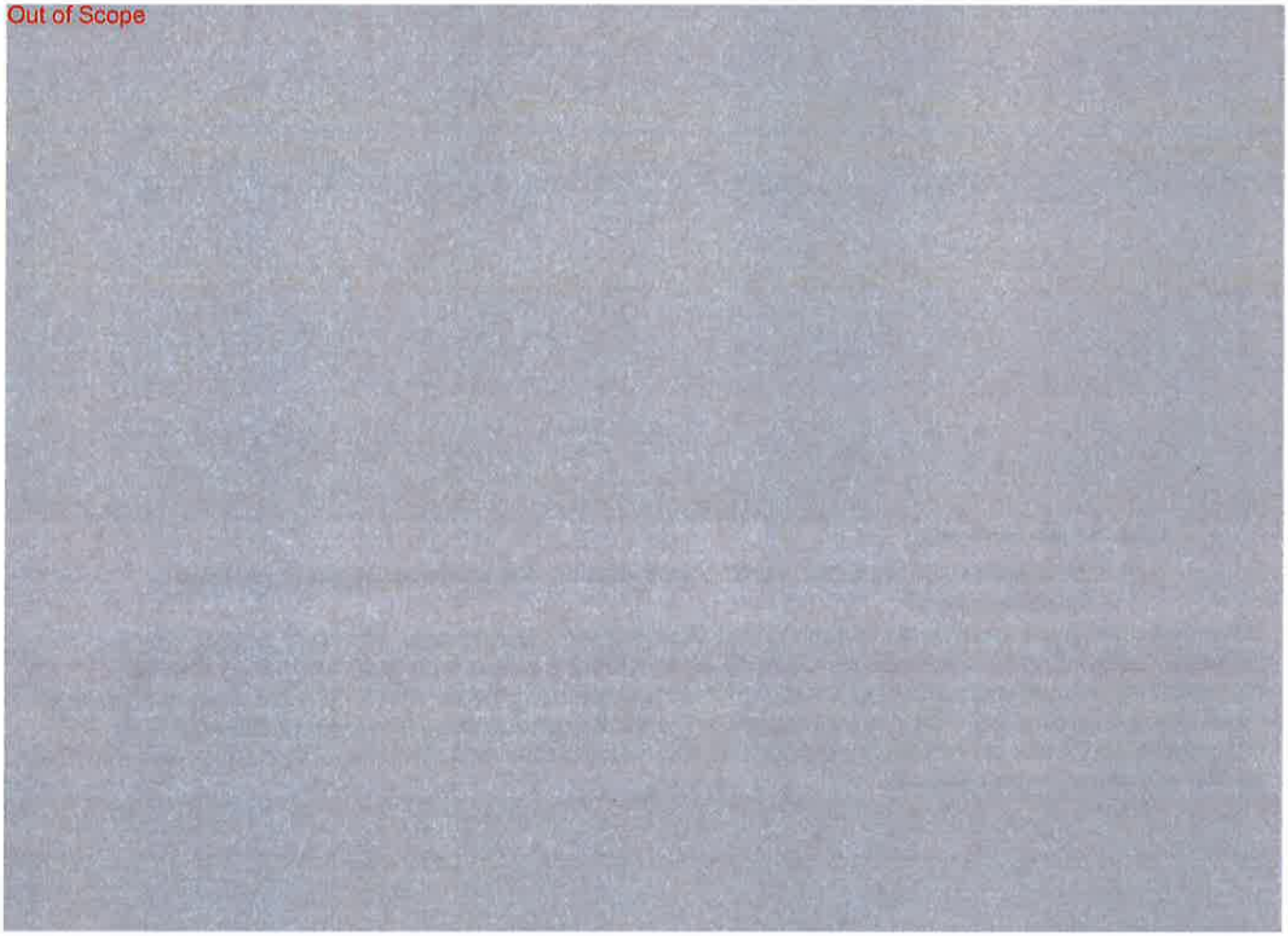
Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT
gretchen.marshall@sawater.com.au • **7424 2194** • **0459 824 301**
250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

14.

Marshall, Gretchen

From: Fumex, Aude <Aude.Fumex@allwater.net.au>
Sent: Thursday, 4 October 2018 1:09 PM
To: Marshall, Gretchen
Subject: FW: W/WW Incident Protocol - Version 18 for review.

Out of Scope

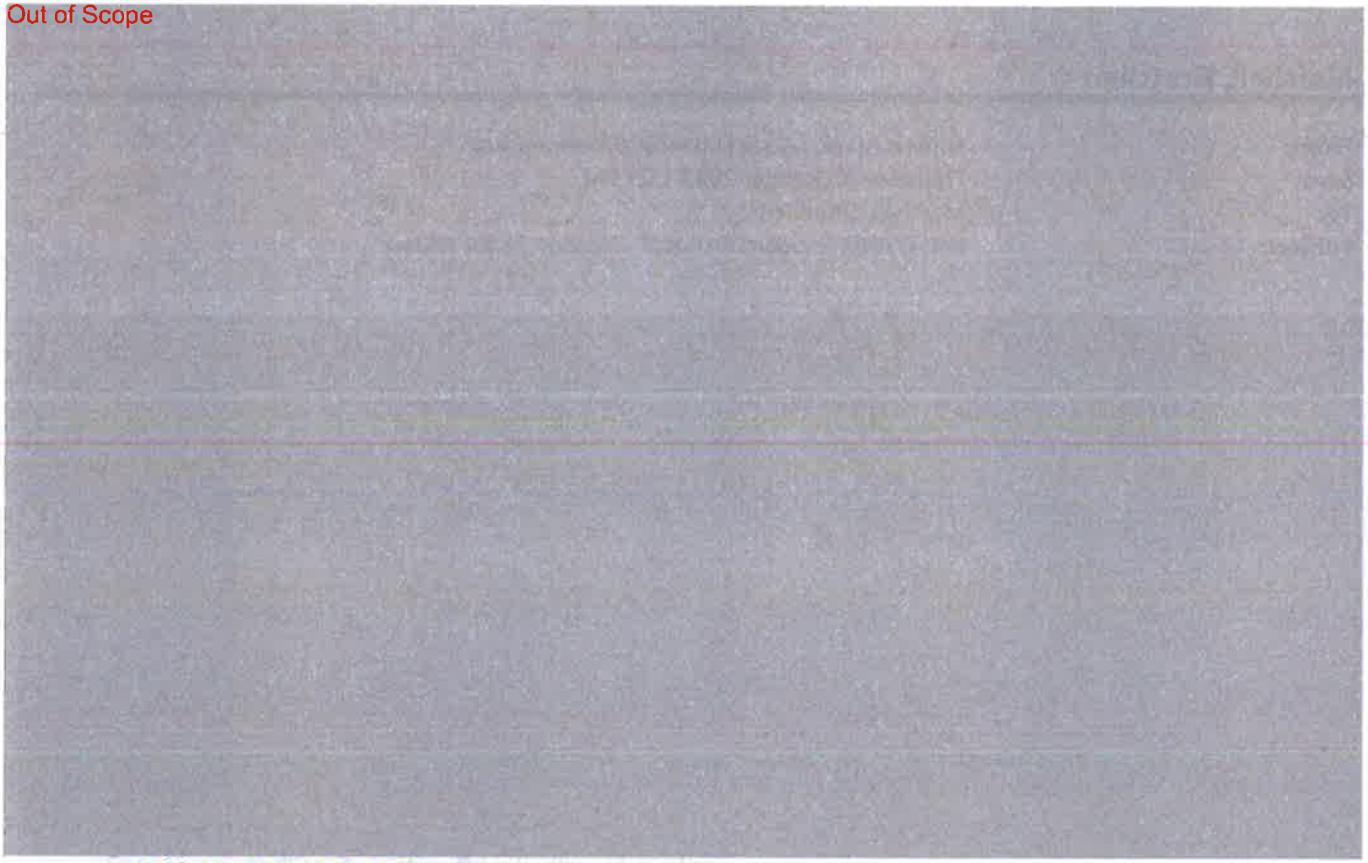


From: Fumex, Aude [mailto:Aude.Fumex@allwater.net.au]
Sent: Tuesday, 15 May 2018 12:24 PM
To: Kaeding, Uwe; Marshall, Gretchen
Subject: RE: W/WW Incident Protocol - Version 18 for review.

Hi Uwe/Gretchen,
I have the following comments:

Out of Scope

Out of Scope



- **Table 10: Mawson Lakes:**
  - **I don't understand the E-coli criteria. Which location, and what does consecutive samples mean/frequency?**

This is new. DHA have recommended that for all dual reticulation networks, instead of having 'any' detection of E.coli as a T1, now we have consecutive detections as a type 2. So this means, that a detection >0 will trigger a type 3 first, then the IM will repeat the analysis (AWQC sends out an auto-repeat label with a comment with the incident number). Then if the second sample detects E.coli >0 a type 2 is triggered. If no E.coli is detected, the type 3 is close and no further action required. This aligns with how they do it in water treatment networks.

Out of Scope

Aude Fumex
Bolivar Plant Manager | **Allwater**
Adelaide Services Alliance
Hodgson Rd | Bolivar SA 5110
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E: aude.fumex@allwater.net.au
One Team. Growing People. Creating the Future.

Out of Scope

15.

Seal, Ben

From: Marshall, Gretchen
Sent: Monday, 8 October 2018 9:45 PM
To: Seal, Ben
Cc: Minagall, Matthew; Lazzaro, Joe; Coulson, Andrew
Subject: RE: Customer questions

Hi Ben,

The table below provides a summary of the parameters tested in the supply to Mawson Lakes:

Mawson Lakes Greenfields Pump Stn Outlet (Recycled Water Supply), 01/07/2016 - 08/10/2018							
Parameter	Conductivity	E.coli	Iron - Soluble	Iron - Total	Manganese - Soluble	Manganese - Total	Total Dissolved Solids (by EC)
Unit	µScm	MPN/100mL	mg/L	mg/L	mg/L	mg/L	mg/L
Average	1516.78	0.00	0.01	0.04	0.00	0.01	835
Min	399.00	0.00	0.00	0.00	0.00	0.00	220
Max	1820.00	0.00	0.05	0.33	0.02	0.14	1000

Post blending, we don't actually sample any other parameters that the customer may be interested in such as nutrients and metals. We do sample for these at the Bolivar DAFF however the Mawson Lakes supply is significantly blended with potable water. Last year the blend ratio was 40% potable water, 60% DAFF. This potable water percentage is significantly higher than previous years and is no doubt costing SAW quite a bit of money (still trying to get the actual costings on this).

I'm interested in reducing the blended water usage at this site by increasing the TDS target for this scheme. Currently this target is 900mg/L which is quite a bit lower than our other dual reticulation schemes. The average TDS supplied to all our other dual reticulation networks in 2017/18 is detailed in the table below:

TDS (mg/L) Supplied to Dual Retic 2017/18			
	MAX	MIN	AVE
SURS	1110	710	905
GARWS	1200	760	934
Mawson	897	414	838

Lakes

For Mawson Lakes the water is used for toilet flushing and also for home gardens. According to the SA Reclaimed water guidelines, TDS that we currently supply (838 mg/L) is already higher than the threshold for salt sensitive plants like almonds, most vegetables, grapes etc.(0-500mg/L). The next category is 500 – 1500mg/L so by increasing the TDS limit to 1200 we would still be in this range. While I suspect that some gardeners may not appreciate a higher TDS I'm keen to explore if an increase from 900 to 1200mg/L would have an impact and how we would go about making a change such as this that would have a big positive for SAW in terms of reduced OPEX but could also have a negative customer impact.

I'm also keen to discuss the requirement for a pressure differential in this scheme. This is currently in the DH approval to supply and can be limiting for Allwater operation of the Greenfields tank.

Quite a bit of info there. I'll arrange a meeting to work through this.

Thanks,

Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT
gretchen.marshall@sawater.com.au • **7424 2194** • **0459 824 301**
250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

From: Seal, Ben
Sent: Monday, 8 October 2018 12:36 PM
To: Marshall, Gretchen
Cc: Minagall, Matthew; Lazzaro, Joe; Coulson, Andrew
Subject: RE: Customer questions

Hi Gretchen,

Can you please assist me by providing some data on typical recycled water mineral content at Mawson Lakes?

FYI – I have spoken with the Clause 6 (1) - today who states is not too concerned with infrequent outages, however expressed concern regarding the use of recycled water on the garden and difficulty he is experiencing in keeping certain plants alive.

I promised we would get back to him with more detail on the typical mineral content of recycled water.

Regards,

Ben Seal
Customer Technical Services Coordinator
0428 819 404

From: Coulson, Andrew
Sent: Monday, 8 October 2018 11:52 AM
To: Seal, Ben
Cc: Minagall, Matthew; Lazzaro, Joe
Subject: RE: Customer questions

Thanks Ben

He's a nice guy and has just been part of our Customer Working Group for RBP, so is well versed in what we are trying to achieve in SA Water.

Cheers
Andrew

Andrew Coulson
RBP Engagement Lead
08 7424 1748

SA Water respects and acknowledges the deep spiritual connection, knowledge and relationship Aboriginal and Torres Strait Islander people have to land and water.

From: Seal, Ben
Sent: Monday, 8 October 2018 11:50 AM
To: Coulson, Andrew
Cc: Minagall, Matthew ; Lazzaro, Joe
Subject: RE: Customer questions

Ok thanks, I will call him for the address.

Ben Seal
Customer Technical Services Coordinator
0428 819 404

From: Coulson, Andrew
Sent: Monday, 8 October 2018 11:47 AM
To: Seal, Ben
Cc: Minagall, Matthew; Lazzaro, Joe
Subject: RE: Customer questions

HI Ben

Sorry no, we only have Clause 6 (1) - Personal Affairs However he is definitely a residential customer at Mawson Lakes - Clause 6 (1) - Personal Affairs

Kind Regards
Andrew

Andrew Coulson
RBP Engagement Lead
08 7424 1748

SA Water respects and acknowledges the deep spiritual connection, knowledge and relationship Aboriginal and Torres Strait Islander people have to land and water.

From: Seal, Ben
Sent: Monday, 8 October 2018 11:23 AM
To: Coulson, Andrew <Andrew.Coulson@sawater.com.au>
Cc: Minagall, Matthew <Matt.Minagall@sawater.com.au>; Lazzaro, Joe <Joe.Lazzaro@sawater.com.au>
Subject: FW: Customer questions

Hi Andrew,

Do you have the customers address details in Mawson Lakes?

Clause 6 (1) - Personal Affairs

Regards,

Ben Seal
Customer Technical Services Coordinator
0428 819 404

From: Minagall, Matthew
Sent: Monday, 8 October 2018 11:08 AM
To: Seal, Ben
Subject: FW: Customer questions

Sorry missed you off.

Matt Minagall
SENIOR MANAGER CUSTOMER GROWTH
0437 289 762

From: Minagall, Matthew
Sent: Monday, 8 October 2018 11:07 AM
To: Lazzaro, Joe <Joe.Lazzaro@sawater.com.au>
Subject: FW: Customer questions

Hi Joe/Ben

Can you please have a bit of a look at the address below (see Roch's email) to see if there is an outage history or any issues with this property?

Regards

Matt Minagall

SENIOR MANAGER CUSTOMER GROWTH

0437 289 762

From: Coulson, Andrew
Sent: Monday, 8 October 2018 10:55 AM
To: Minagall, Matthew <Matt.Minagall@sawater.com.au>
Subject: FW: Customer questions

Hi Matthew

See email below.

Cheers
Andrew

Andrew Coulson
RBP Engagement Lead
08 7424 1748

SA Water respects and acknowledges the deep spiritual connection, knowledge and relationship Aboriginal and Torres Strait Islander people have to land and water.

From: Coulson, Andrew
Sent: Monday, 8 October 2018 10:54 AM
To: Cheroux, Roch <Roch.Cheroux@sawater.com.au>; Rowlands, Kerry <Kerry.Rowlands@sawater.com.au>
Subject: RE: Customer questions

Hello Kelly

The customer Roch is referring to is:

Clause 6 (1) - Personal Affairs

Clause 6 (1) - Personal Affairs and is also a business owner Clause 6 (1) - Personal Affairs attended all five sessions of the Customer Working Group and was fully engaged with the process.

Kind Regards
Andrew

Andrew Coulson
RBP Engagement Lead
08 7424 1748

SA Water respects and acknowledges the deep spiritual connection, knowledge and relationship Aboriginal and Torres Strait Islander people have to land and water.

From: Cheroux, Roch
Sent: Monday, 8 October 2018 10:08 AM
To: Rowlands, Kerry <Kerry.Rowlands@sawater.com.au>
Cc: Coulson, Andrew <Andrew.Coulson@sawater.com.au>
Subject: Customer questions

Hi Kerry,

On Saturday, Clause 6 (1) - Personal Affairs asked questions about his recycled water services.

- From time to time, there is no water: why
- When it comes back it's very black for some time: why
- Who is the operator of Recycled water services at his place and who should he contact when something like this happens

Andrew will be able to provide the full name and details of the customer.

Could you please ask someone from your team to investigate and respond to his questions.

Many thanks,
Roch

Roch Cheroux
CHIEF EXECUTIVE

roch.cheroux@sawater.com.au • T +61 (0)8 7424 1821
250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

sawater.com.au

Mawson Lakes Greenfields Pump Stn Outlet (Recycled Water Supply), 01/07/2016 - 08/10/2018							
Parameter	Conductivity	E.coli	Iron - Soluble	Iron - Total	Manganese - Soluble	Manganese - Total	Total Dissolved Solids (by EC)
Unit	µScm	00mL	mg/L	mg/L	mg/L	mg/L	mg/L
Average	1516.78	0.00	0.01	0.04	0.00	0.01	835
Min	399.00	0.00	0.00	0.00	0.00	0.00	220
Max	1820.00	0.00	0.05	0.33	0.02	0.14	1000
2016-07-05	1470	0					810
2016-07-12	1470	0	0.0054	0.0062	0.002	0.0058	810
2016-07-19	1580	0					870
2016-07-26	1560	0					860
2016-08-01	1480	0					820
2016-08-09	1460	0	0.0154	0.1425	0.0054	0.0141	800
2016-08-16	1500	0					830
2016-08-25	781	0					430
2016-08-30	1020	0					560
2016-09-06	1540	0	0.0499	0.3327	0.0026	0.0149	850
2016-09-15	1510	0					830
2016-09-20	1540	0					850
2016-09-27	1410	0					780
2016-10-06	399	0	0.0057	0.0154	0.0009	0.003	220
2016-10-11	1400	0					770
2016-10-18	1420	0					780
2016-10-25	1350	0					740
2016-11-01	1600	0	0.0225	0.2987	0.0228	0.1408	880
2016-11-08	1470	0					810
2016-11-15	1350	0					740
2016-11-24	1420	0					780
2016-11-29	1490	0	0.0051	0.0118	0.0091	0.0145	820
2016-12-06	1420	0					780
2016-12-12	1600	0					880
2016-12-20	1480	0					820
2016-12-29	1460	0	0.0043	0.0088	0.0074	0.0141	800
2017-01-05	1510	0					830
2017-01-10	1500	0					830
2017-01-17	1520	0					840
2017-01-24	1460	0	0.0053	0.02	0.0058	0.0084	800
2017-01-31	1410	0					780
2017-02-07	1380	0					760
2017-02-14	1400	0					770
2017-02-23	1460	0	0.0047	0.0068	0.004	0.0081	800
2017-02-28	1500	0					830
2017-03-07	1460	0					800
2017-03-16	1460	0					800
2017-03-21	1480	0	0.0039	0.0041	0.0025	0.0043	820
2017-03-28	1470	0					810

2017-04-04	1480	0					820
2017-04-10	1480	0					820
2017-04-20	1510	0	0.0078	0.0073	0.0026	0.0086	830
2017-04-24	1430	0					790
2017-05-02	1510	0					830
2017-05-09	1540	0					850
2017-05-16	1520	0	0.0043	0.0563	0.0015	0.0081	840
2017-05-23	1370	0					750
2017-05-31	1460	0					800
2017-06-07	1580	0					870
2017-06-15	1550	0	0.0057	0.0078	0.0014	0.0046	850
2017-06-19	1550	0					850
2017-06-27	1530	0	0.0065	0.007	0.001	0.004	840
2017-07-04	1560	0					860
2017-07-13	1580	0					870
2017-07-18	1550	0					850
2017-07-25	1590	0					880
2017-08-01	1620	0	0.0064	0.0089	0.003	0.0086	890
2017-08-08	1600	0					880
2017-08-17	1690	0					930
2017-08-22	1550	0					850
2017-08-29	1560	0	0.0063	0.0116	0.0013	0.0077	860
2017-09-05	1570	0					870
2017-09-12	1560	0					860
2017-09-19	1450	0					800
2017-09-25	1580	0					870
2017-10-04	1580	0	0.0028	0.0049	0.0019	0.0063	870
2017-10-10	1600	0					880
2017-10-17	1620	0					890
2017-10-23	1570	0					870
2017-10-31	1590	0	0.006	0.0087	0.0026	0.0222	880
2017-11-07	1620	0					890
2017-11-15	1630	0					900
2017-11-21	1590	0					880
2017-11-28	1630	0	0.002	0.0026	0.0056	0.0083	900
2017-12-05	1580	0					870
2017-12-12	1640	0					900
2017-12-19	1630	0					900
2017-12-27	1700	0					940
2018-01-02	1680	0					930
2018-01-09	1630	0	0.0036	0.0057	0.0017	0.0033	900
2018-01-16	1580	0					870
2018-01-23	1640	0					900
2018-01-30	1600	0					880
2018-02-06	1620	0	0.0062	0.0088	0.0017	0.0123	890
2018-02-13	1540	0					850
2018-02-20	1620	0					890
2018-02-27	1610	0					890

2018-03-06	1560	0	0.0009	0.0018	0.0012	0.0074	860
2018-03-15	1820	0					1000
2018-03-19	1530	0					840
2018-03-27	1520	0					840
2018-04-03	1550	0					850
2018-04-11	1550	0	0.0025	0.003	0.0008	0.0037	850
2018-04-17	1560	0					860
2018-04-26	1540	0					850
2018-05-03	1530	0					840
2018-05-10	1530	0	0.0083	0.0076	0.0006	0.0072	840
2018-05-17	1550	0					850
2018-05-24	1460	0					800
2018-05-31	1530	0					840
2018-06-05	1560	0	0.0054	0.0062	0.0009	0.0029	860
2018-06-12	1620	0					890
2018-06-21	1620	0					890
2018-06-27	1620	0					890
2018-07-05	1620	0	0.004	0.0048	0.0013	0.003	890
2018-07-12	1550	0					850
2018-07-18	1590	0					880
2018-07-23	1590	0					880
2018-08-02	1590	0					880
2018-08-09	1570	0	0.0077	0.0076	0.0046	0.0048	870
2018-08-14	1590	0					880
2018-08-21	1030	0					570
2018-08-28	1620	0					890
2018-09-04	1580	0	0.0044	0.0066	0.0059	0.0084	870
2018-09-11	1620	0					890
2018-09-17	1440	0					790
2018-09-25	1660	0					920
2018-10-02	1620	0					890

17.

Seal, Ben

From: Seal, Ben
Sent: Tuesday, 23 October 2018 9:14 AM
To: Minagall, Matthew
Subject: FW: Recycled Water enquiry

Hi Matt,
This is the email that was sent to Clause 6 (1) - Persona There has been no further communication from Clause 6 (1) - Person on this matter.

Regards,
Ben Seal
Customer Technical Services Coordinator
0428 819 404

From: Seal, Ben
Sent: Thursday, 11 October 2018 11:30 AM
Clause 6 (1) - Personal Affairs

Thank you for your enquiry regarding typical mineral content for recycled water at Mawson Lakes.
As discussed I am forwarding you some information which I hope you find useful when considering plant species for your garden.
The table below shows the mineral content in the recycled water that SA Water measures.

Mawson Lakes Greenfields Pump Stn Outlet (Recycled Water Supply), 01/07/2016 - 08/10/2018							
Parameter	Conductivity	E.coli	Iron - Soluble	Iron - Total	Manganese - Soluble	Manganese - Total	Total Dissolved Solids (by EC)
Unit	µScm	MPN/100mL	mg/L	mg/L	mg/L	mg/L	mg/L
Average	1516.78	0.00	0.01	0.04	0.00	0.01	835
Min	399.00	0.00	0.00	0.00	0.00	0.00	220
Max	1820.00	0.00	0.05	0.33	0.02	0.14	1000

I hope this information is useful to you.
Regards,
Ben Seal
Customer Technical Services Coordinator

Ben.seal@sawater.com.au • **0428 819 404**
250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

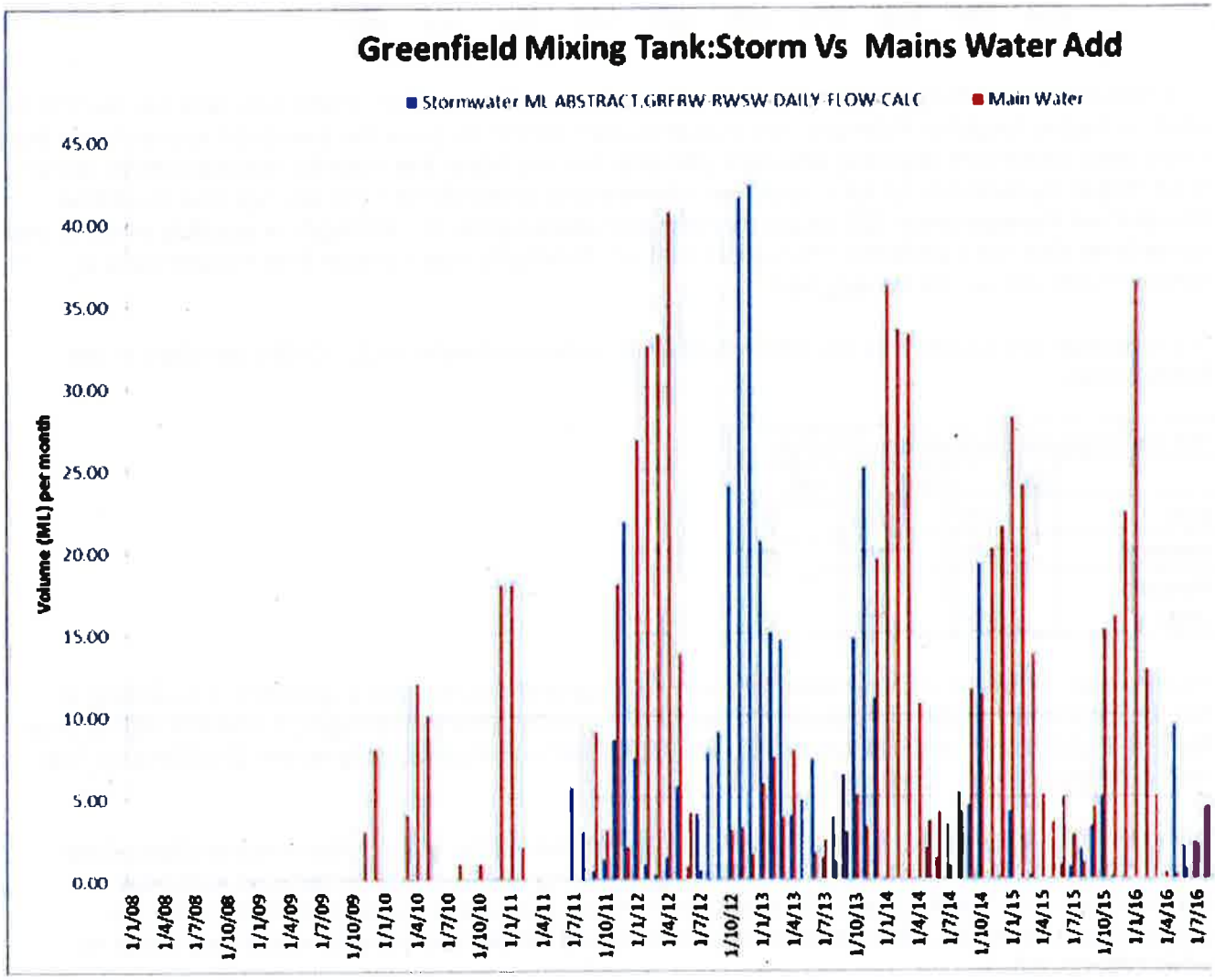
Marshall, Gretchen

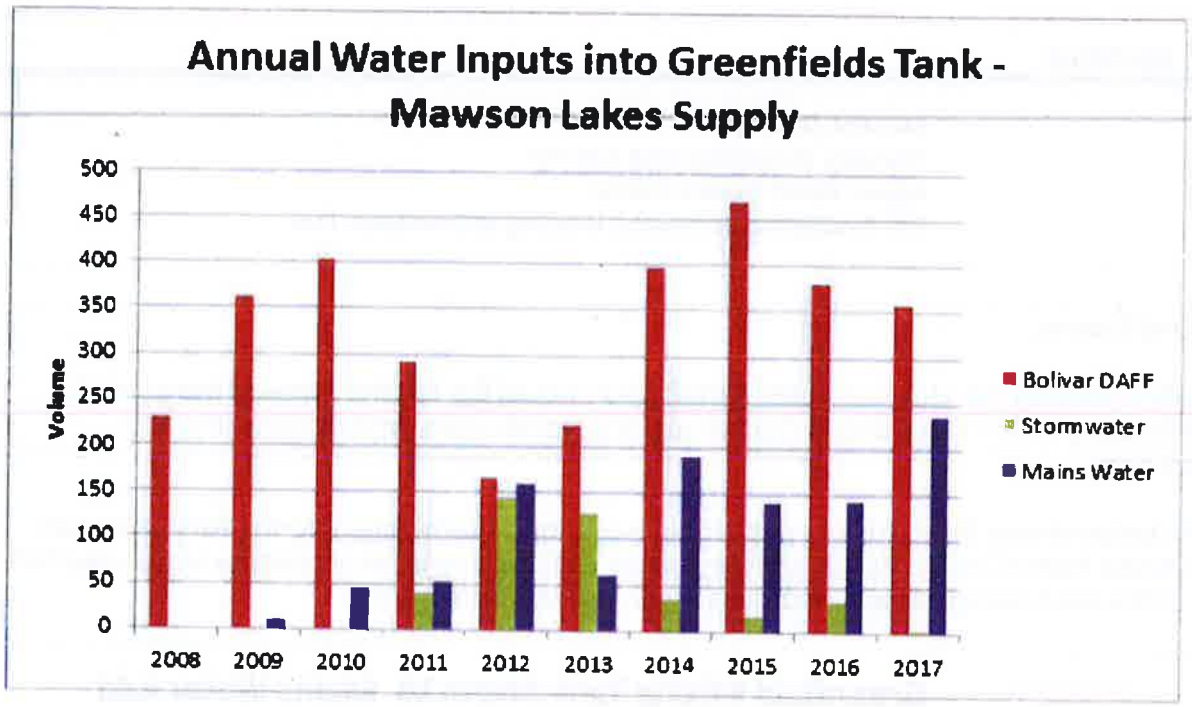
From: Marshall, Gretchen
Sent: Thursday, 25 October 2018 3:48 PM
To: Eggers, David; Troiano, Danny
Subject: FW: Potable and Stormwater blending at Greenfields Tank

Hi David and Danny,

I'm currently updating the Mawson Lakes RWMP and I would like to alter some of the current control philosophy which is causing excessive use of potable water and chlorine into the Greenfields tank.

The graphs below shows the additions of potable water and stormwater into the tank since Jan 2008 (extracted from SCADA). As you can see, since ~2013 the volume of potable water used for blending at this site had significantly increased with 240 ML used in 2017.





The reason for blending other water (less salty) sources with the DAFF water is to reduce the TDS to meet a supply target of 900mg/L. My thoughts are this TDS target is too low and I suspect that the costs associated with blending are considerable. Do you have the costs for potable/storm water blending at Greenfields Tank? I would be interested to understand if the savings that could be made if we increased our TDS target for Mawson Lakes supply to 1200mg/L or possibly even to the same level that we supply the VPS (upper limit of 1500mg/L) which mean that no blending or further treatment would be required.

The average TDS supplied to our other Dual Reticulation networks in 2017/18 is detailed in the table below:

TDS (mg/L) Supplied to Dual Retic 2017/18			
	MAX	MIN	AVE
SURS	1110	710	905
GARWS	1200	760	934
Mawson Lakes	897	414	838

For Mawson Lakes the water is used for toilet flushing and also for home gardens. According to the SA Reclaimed water guidelines, TDS that we currently supply (838 mg/L) is already higher than the threshold for salt sensitive plants like almonds, most vegetables, grapes etc.(0-500mg/L). The next category is 500 – 1500mg/L.

I've met with Allwater (Aude and Stuart Walsh) and also had a quite a few internal discussions about this. Linda Hamden thought it was a legacy thing and that the target was set to be conservative with the first dual retic scheme. Vanessa Loveder is currently investigating the contract between CoS stormwater supply and us and we are planning to meet next week to work through this.

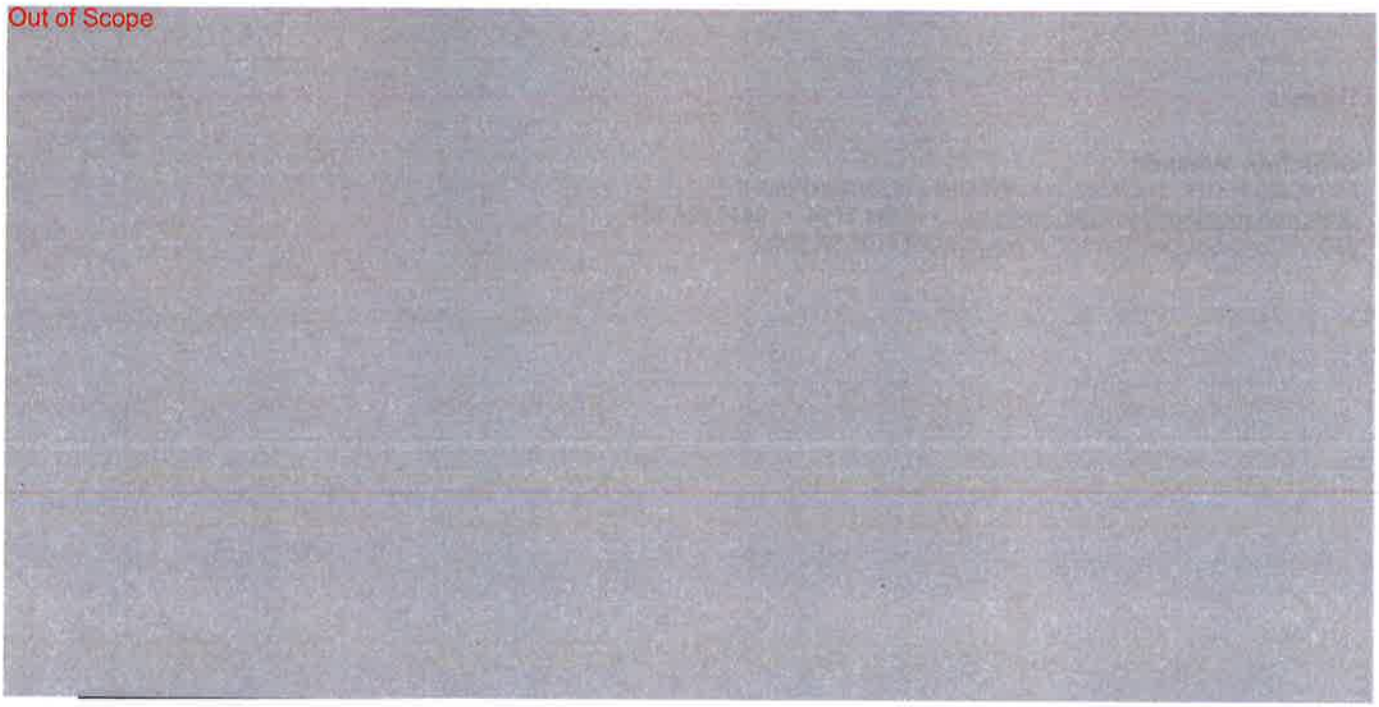
Could you please advise your thoughts on increasing the TDS limit for Mawson Lakes customers. Do you expect that this would cause any significant issues with our customers? This change would be slightly negative for customers, but hugely beneficial for SA Water in terms of OPEX and reduced potable water usage.

Thanks,

Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT
gretchen.marshall@sawater.com.au • **7424 2194** • **0459 824 301**
250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

Out of Scope

19.



From: Marshall, Gretchen
Sent: Monday, 29 October 2018 10:17 AM
To: Eggers, David; Troiano, Danny
Cc: Loveder, Vanessa; Wilson, Jane
Subject: RE: Potable and Stormwater blending at Greenfields Tank

Hi David,

I have caught up with Vanessa Loveder to discuss this and we're planning to meet with CoS in the coming couple of weeks to discuss some of this.

From my discussions with Allwater, we haven't been taking stormwater because the system is currently setup to accept stormwater with <300mg/L TDS. This is a ridiculously low TDS target and the stormwater fails regularly and is totally out of spec during certain seasons (depending on rainfall). We can easily increase the acceptable TDS target for stormwater supply up higher pending where we land with this discussion on the acceptable TDS limit for Mawson Lakes Supply.

If it's decided that we want to keep 900mg/L TDS for the Mawson Lakes Supply, then could increase the stormwater TDS to at least 500mg/L to ensure that blending lowers the Bolivar DAFF TDS to meet the target.

You're question regarding the TDS of potable water is a good one, and you can see in the graph below that potable water ranges between 300 - 800mg/L. The results show that it is hasn't been <300mg/L from 2012 - 2018 which is what we're currently expecting of the stormwater in order for it to be acceptable. Please note the that the stormwater TDS results below are not very accurate as I haven't filtered out the data to show when the stormwater is online or offline so could be showing the results when it is sitting in the pipework offline.

<< OLE Object: Picture (Device Independent Bitmap) >>

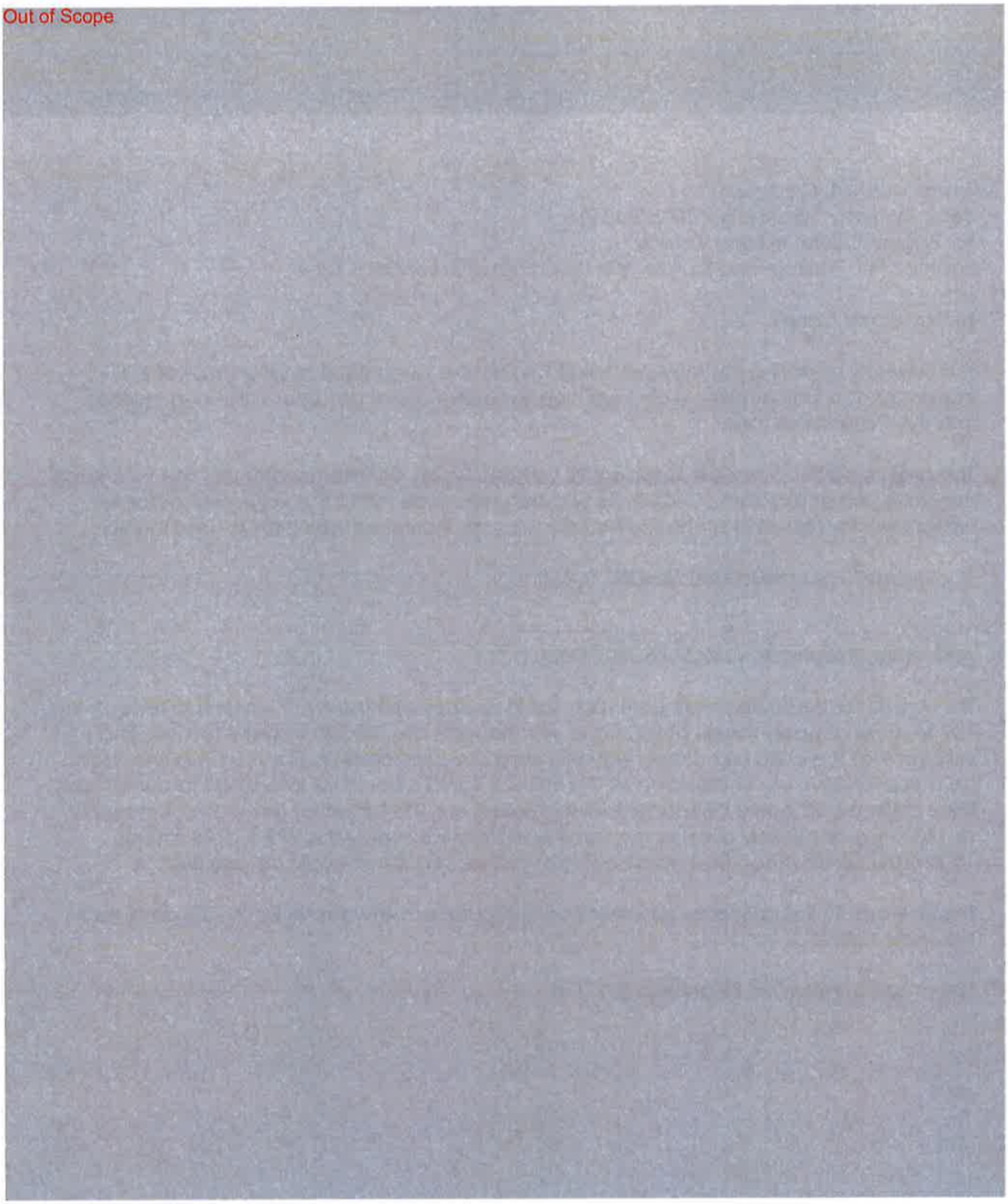
I have been in touch with Matt Green from Stakeholder relations and he has forwarded my enquiry to Jane Wilson.

It may be best to have a meeting with this group so we can work through the next steps....

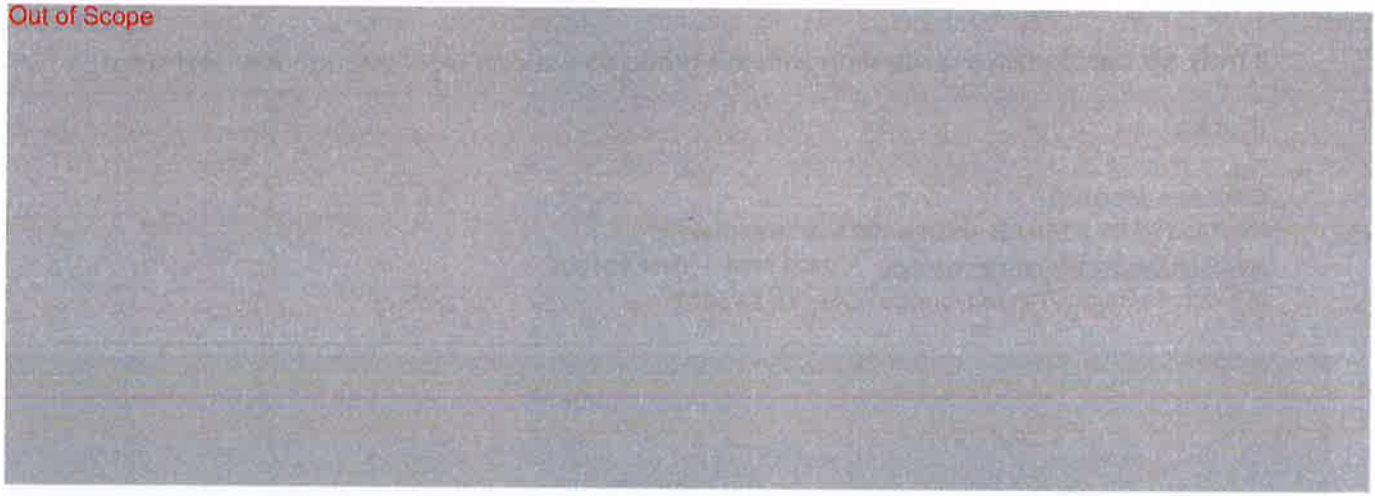
Thanks,

Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT
gretchen.marshall@sawater.com.au • **7424 2194** • **0459 824 301**
250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

Out of Scope



Out of Scope



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To: Eggers, David; Troiano, Danny
Subject: FW: Potable and Stormwater blending at Greenfields Tank

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[cid:image001.png@01D46C7B.8DBC1D80]

[cid:image002.png@01D46C7B.8DBC1D80]

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GARWS

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934

Mawson Lakes

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414

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Thanks,

Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT
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250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

20.

Marshall, Gretchen

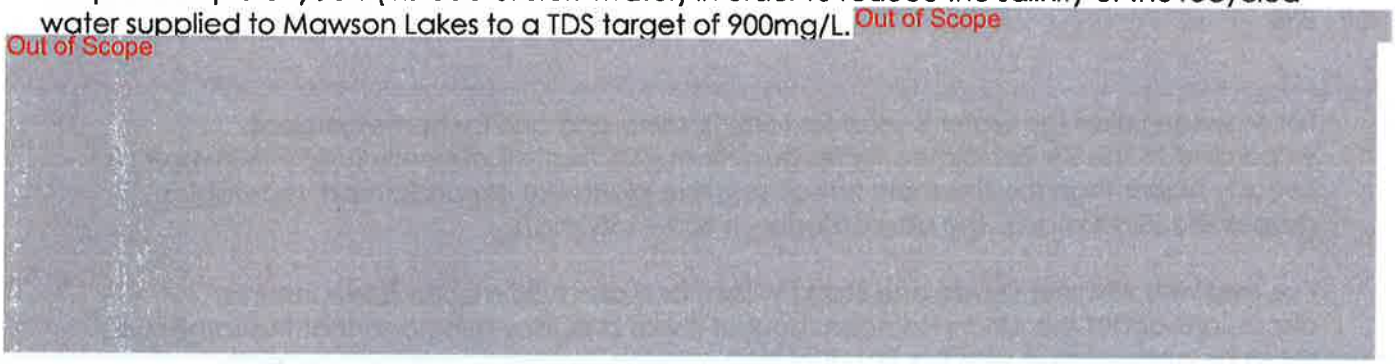
Subject:	Mawson Lakes Recycled Water Supply
Location:	SAWH 6.020 Mtg Rm (4 seats, AV)
Start:	Wed 31/10/2018 1:15 PM
End:	Wed 31/10/2018 2:00 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Marshall, Gretchen
Required Attendees:	Eggers, David; Loveder, Vanessa; Regel, Rudi (Rudi.Regel@sawater.com.au); Glossop, Aaron
Resources:	SAWH 6.020 Mtg Rm (4 seats, AV)

Hi all,

Can we please get together to discuss the blending of stormwater, potable and Bolivar DAFF water at Greenfields tank for supply to Mawson Lakes?

As per the emails going around there has been a significant amount of potable water used over the past couple of years (instead of stormwater) in order to reduce the salinity of the recycled water supplied to Mawson Lakes to a TDS target of 900mg/L. Out of Scope

Out of Scope



The other big ticket item to discuss is the possibility of increasing the salinity levels of water supplied to Mawson Lakes customers.

- Do we need to engage customers when we haven't got a formal agreement in place to supply a defined salinity level?

Please read through this email for background:

FW: Potable and Stormwater ble...

Thanks,

Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT

Minutes

SA Water

World class water services for a better life

Mawson Lakes Recycled Water Scheme

Project Name	Mawson Lakes Recycled Water Scheme					
Purpose	To discuss issues relating to the routine operation of the Mawson Lakes Recycled Water Scheme - stormwater supply.					
Date	8/11/2018		**Time**	14:00		
Meeting No.	1		**Frequency**	As required		
Chairperson	-		**Minute Taker**	Vanessa Loveder		
Venue	Salisbury Council					
Attendance Ab = Absent Ap = Apologies P = Present	Paul Carter (PC)	P	Bruce Naumann (BN)	P	Roseanne Irvine (RI)	P
	David Eggers (DE)	P	Gretchen Marshall	P	Vanessa Loveder	P
Distribution Excluding invitees	Chris Gouletsas (CG)					

1 Water Quality

1.1 Total Dissolved Solids

- SA Water (SAW) wants to take more stormwater volume from City of Salisbury (CoS) via Parafield wetlands.
- SAW are currently taking very little volume due to the tight TDS level of 300 mg/L. SAW proposes to lift this in line with end user requirements.
- SAW also proposed requested for the TDS limits for the Mawson Lakes end users to be lifted above 900 mg/L as all other recycled water customers of SA Water are receiving higher TDS levels (1200 - 1500 mg/L).
- CoS to discuss proposed increase with Parks and Gardens Department and report back to SAW.
- SA Water to supply information on TDS levels at other schemes.

ACTION 1.1 CoS to discuss increased TDS of 1200-1500mg/L with Parks and Gardens Dept.

ACTION 1.2 SAW to supply information on TDS levels.

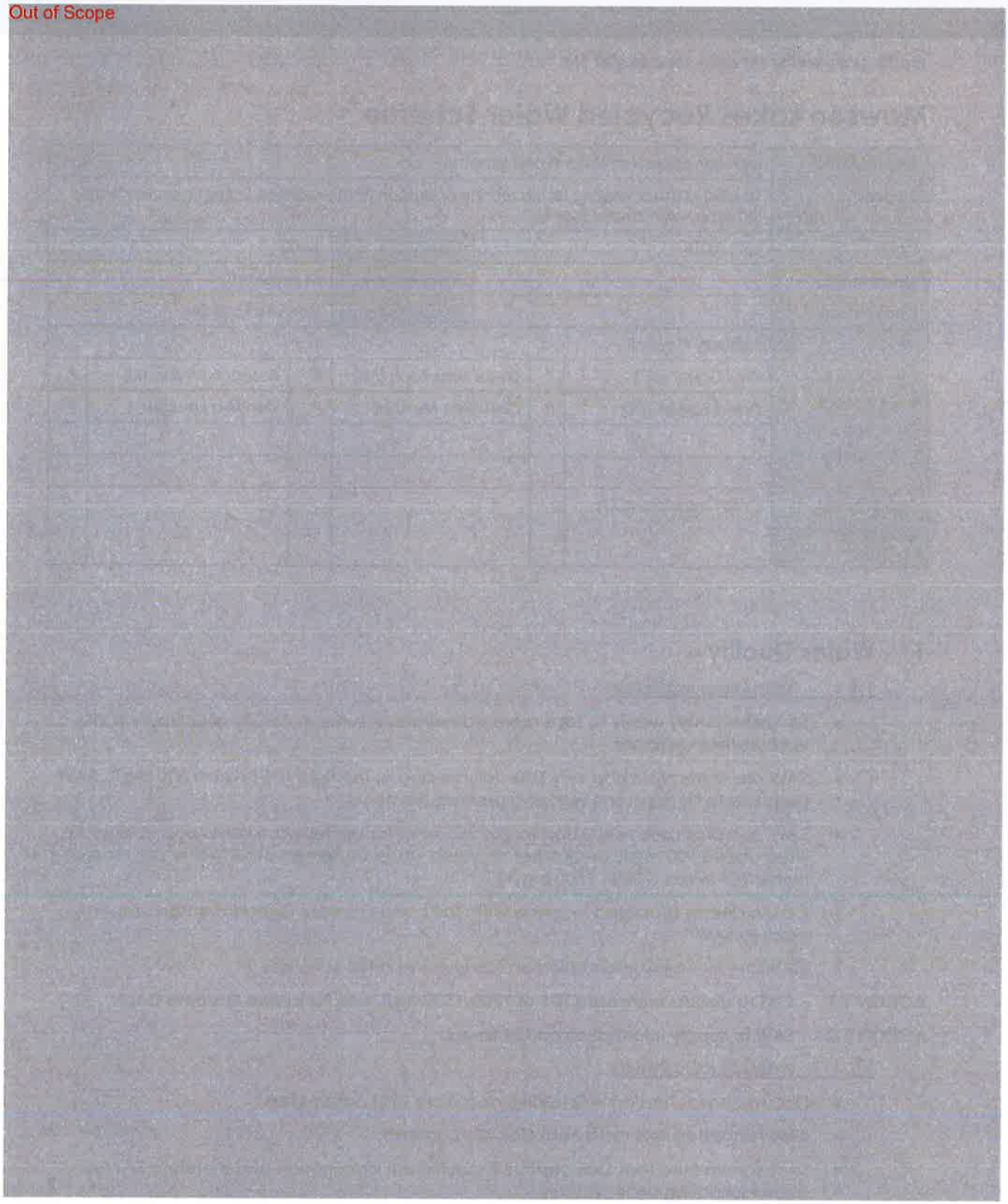
1.2 Water Quality Results

- Discussion was had on WQ testing - locations and parameters
- SAW requested WQ data from CoS. CoS agreed.
- SAW determined that CoS conducting sufficient chlorination and therefore SAW are also chlorinating unnecessarily.
- SAW requested schematic that includes CoS chlorination point. CoS confirmed Rudi Regal has a copy of this. If not, CoS can supply if requested.

ACTION 1.3 CoS to supply WQ data to CoS.

ACTION 1.4 SAW to request schematic from CoS if copy not located in-house.

Out of Scope



Open Action Items Register

No.	Action	By Whom	Date Raised	Date Due	Status
1.1	Total Dissolved Solids CoS to discuss increased TDS of 1200-1500mg/L with Parks and Gardens Dept.	CoS	8/11/18	31/12/18	In progress
1.2	Total Dissolved Solids SAW to supply information on TDS levels.	SAW	8/11/18	31/12/18	In progress
1.3	Water Quality Results CoS to supply WQ data to CoS.	CoS	8/11/18	31/12/18	In progress
1.4	Water Quality Results SAW to request schematic from CoS if copy not located in-house.	SAW	8/11/18	31/12/18	In progress

Out of Scope

No.	Description	Data	Audit result				Staff Interviewed	Procedure	Comments
			Thresholds	Grading	Result				
Out of Scope									
W20	Volume of recycled water supplied to residential customers (ML)	495	A2	B2	**A1**	**Y**	Grant Sharp	Confirm end water use. Confirm metering records. Check meter calibration.	SA Water supplies recycled water to two third pipe schemes – Mawson Lakes and the Southern Urban Reuse Scheme (SURS). Previously SA Water has used stormwater to reduce the salinity of the recycled water supplied to Mawson Lakes but as a result of low quality stormwater is now using potable water to top up the recycled supply and provide the required dilution in the supply tank. In 2017/18, SA Water has supplied 78 ML to its SURS customers and 414 ML to its Mawson Lakes customers. 1 ML of stormwater was used to top up the Mawson Lakes supply during the year and this has been excluded from the derived total. The volumes used are reported by Customer Services based on customer meter readings. We reviewed the billing data and confirmed that SA Water correctly reported the volume of recycled water to residential customers in accordance with the definition.

Roberts, Ben

From: Loveder, Vanessa
Sent: Wednesday, 14 November 2018 1:20 PM
To: Paul Carter
Cc: Eggers, David; Marshall, Gretchen
Subject: Minutes from meeting
Attachments: MLRWS Minutes 081108.pdf

Hi Paul,
Attached are the minutes from the meeting held on 8 November - please forward to Bruce and Roseanne.

Could you please accept the minutes if you are happy that they are correct and carry out the assigned actions.

We will address SAW's actions in due course.
Any questions, please let me know.
Ta,
Vanessa

Vanessa Loveder
CONTRACT MANAGER

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Minutes

SA Water

World class water services for a better life

Mawson Lakes Recycled Water Scheme

Project Name	Mawson Lakes Recycled Water Scheme					
Purpose	To discuss issues relating to the routine operation of the Mawson Lakes Recycled Water Scheme - stormwater supply.					
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Venue	Salisbury Council					
Attendance Ab = Absent Ap = Apologies P = Present	Paul Carter (PC)	P	Bruce Naumann (BN)	P	Roseanne Irvine (RI)	P
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- SA Water (SAW) wants to take more stormwater volume from City of Salisbury (CoS) via Parafield wetlands.
- SAW are currently taking very little volume due to the tight TDS level of 300 mg/L. SAW proposes to lift this in line with end user requirements.
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- CoS to discuss proposed increase with Parks and Gardens Department and report back to SAW.
- SA Water to supply information on TDS levels at other schemes.

ACTION 1.1 CoS to discuss increased TDS of 1200-1500mg/L with Parks and Gardens Dept.

ACTION 1.2 SAW to supply information on TDS levels.

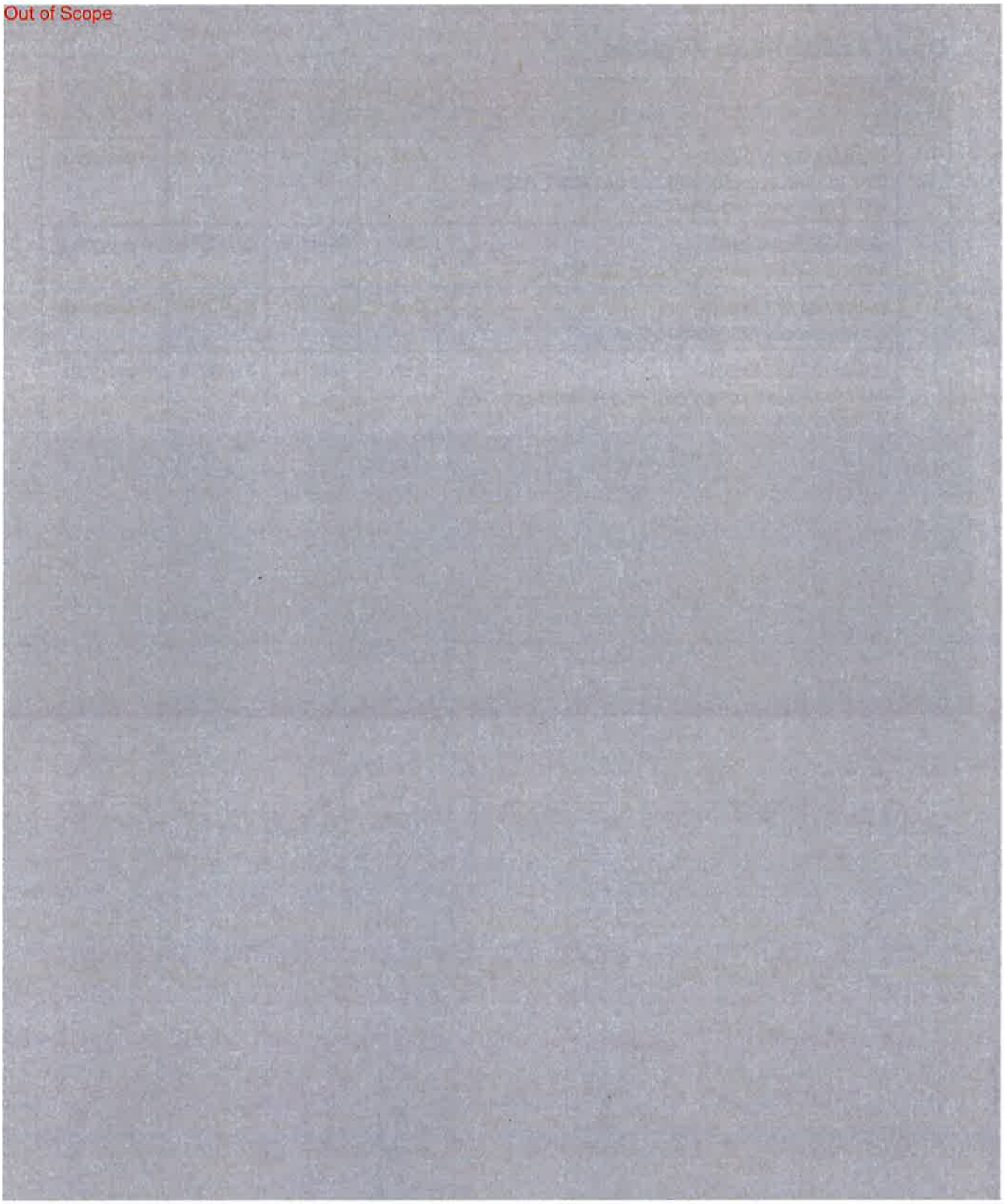
1.2 Water Quality Results

- Discussion was had on WQ testing - locations and parameters.
- SAW requested WQ data from CoS. CoS agreed.
- SAW queried that because CoS are conducting sufficient chlorination SAW may be chlorinating unnecessarily.
- SAW requested schematic and RWMP that includes CoS chlorination point. CoS suggested Rudi Regal may copy of this. If not, CoS can supply.

ACTION 1.3 CoS to supply WQ data to CoS.

ACTION 1.4 SAW to request schematic and RWMP from CoS if copy not located in-house.

Out of Scope



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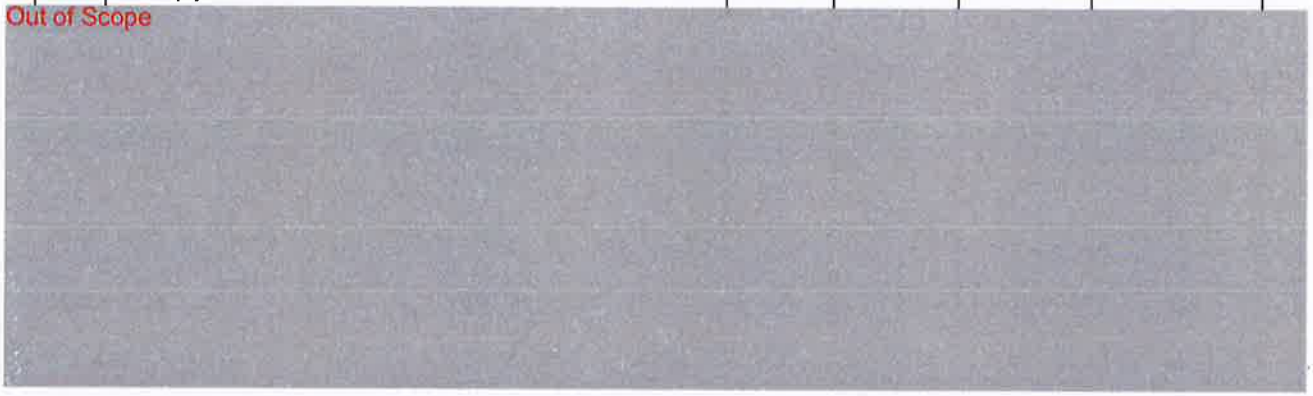

Roberts, Ben

From: Paul Carter <PCarter@salisbury.sa.gov.au>
Sent: Wednesday, 21 November 2018 11:11 AM
To: Loveder, Vanessa
Cc: Roseanne Irvine
Subject: TDS Data

Hi Vanessa, we have had a discussion with Field Services (Parks and Gardens), moving forward they will be looking into updating the IMP and potential impacts of higher TDS levels at Mawson Lakes, are you able to forward data from other schemes with higher minimum TDS ranges as discussed.
Thanks Paul.

Paul Carter
Salisbury Water Operations Coordinator
Salisbury Water
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E: pcarter@salisbury.sa.gov.au

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F: 08 8281 5466
TTY: 08 8406 8596
W: www.salisbury.sa.gov.au

25.

Roberts, Ben

From: Marshall, Gretchen
Sent: Wednesday, 28 November 2018 11:15 AM
To: Fumex, Aude (All Water); Holloway, Kym (Allwater); Nicholas, Michael
Subject: RE: Potable vs recycled water network pressure

Follow Up Flag: Follow up
Flag Status: Completed

Hi Aude,

It's likely that this requirement for a pressure differential will be removed with the next submission of the RWMP to DHW. Speaking with SAW Technical service, a pressure differential is not required in the other dual reticulation networks and was implemented at Mawson Lakes as a conservative measure that is no longer required.

I will discuss this and some other key changes for Greenfields tank with you this afternoon.

Thanks,

Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT
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250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

From: Fumex, Aude [mailto:Aude.Fumex@allwater.net.au]
Sent: Wednesday, 28 November 2018 9:39 AM
To: Holloway, Kym (Allwater); Nicholas, Michael
Cc: Marshall, Gretchen
Subject: Potable vs recycled water network pressure

Hi Michael/Kym,
Our DH approval for Mawson Lakes stipulates that "the recycled water system will be operated at an average pressure that is lower than that in the drinking water system".
This restricts our capability of potable water top up for Greenfields tank should there be a shortage of capacity at the DAFF Plant.
In line with current practices, my understanding is that there are air gaps/RPZ/dual network on possible interconnections between recycled and potable.
Can you please confirm if the DH requirement is therefore still valid and if it is best practice/recommendation only or if it is needed at all time in line with drinking water standards or others.
Thanks
Aude

Aude Fumex
Bolivar Plant Manager | **Allwater**
Adelaide Services Alliance
Hodgson Rd | Bolivar SA 5110
GPO Box 1977 | Adelaide SA 5001
T: +61 8 8259 0250 | **F:** +61 8 8285 8860 | **M:** +61 427 844 588
E: aude.fumex@allwater.net.au
One Team. Growing People. Creating the Future.

Marshall, Gretchen

From: Fumex, Aude <Aude.Fumex@allwater.net.au>
Sent: Monday, 3 December 2018 2:41 PM
To: Marshall, Gretchen
Cc: Richter, Olaf
Subject: Greenfields system

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Gretchen,
Thanks for the catch up last week to review the Mawson Lakes/Greenfields system.
Following your discussion with Dpt of Health and Salisbury Council, I noted that:

- The Council has over committed its stormwater distribution and the contract with SAW will therefore cease. We will not use stormwater on this site any longer. The stormwater connection can therefore be decommissioned.
- Given the above, there is no longer any need to rechlorinate at Greenfields as the DAFF provides the required barrier and as potable is already treated. The chlorination station can therefore be decommissioned.
- DH has confirmed that there is no longer a requirement to maintain a differential pressure between potable and recycled, we will therefore have more potable available for dilution/supply if required
- Current TDS target will be increased in a first step from 900 to 1200mg/L, and possibly to 1500mg/L later on following feedback from customers.

I let you come back to me with the modified DH approval that would reflect the above and I will start to proceed with SAW for code changes to reflect the above. I will also put FYI some expected cost savings (chemical costs, PM costs). It is a great work on the outcome, well done.
Olaf FYI.
Thanks
Aude

Aude Fumex
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Adelaide Services Alliance
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E: aude.fumex@allwater.net.au
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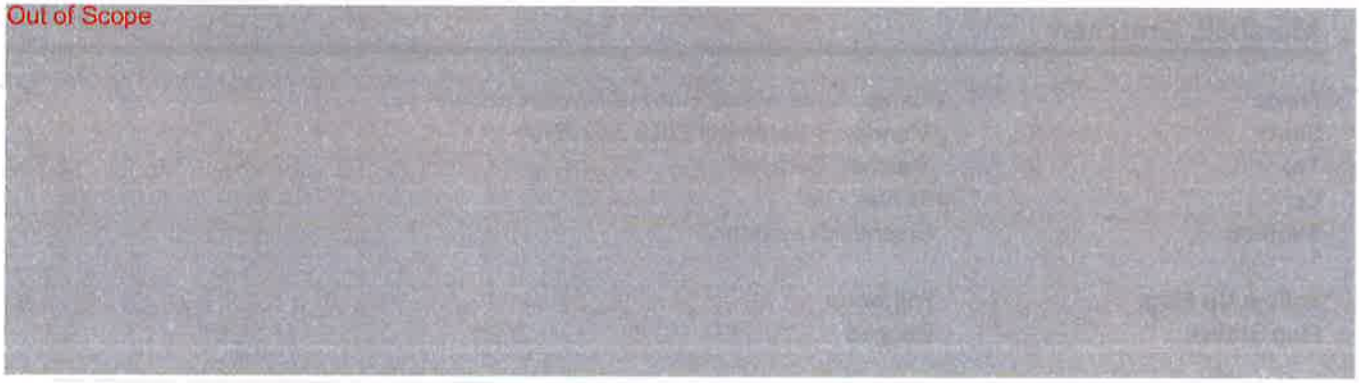
Out of Scope



From: Marshall, Gretchen
Sent: Tuesday, 11 December 2018 7:33 AM
To: Loveder, Vanessa
Subject: RE: TDS Data

Hey Vanessa,

Yep fair enough. Sorry about the delay. Table below. I've excluded Christies as this water mostly goes to Willunga Basin rather that dual reticulation.

	TDS (mg/L) for SAW Dual Reticulation Schemes - Tested by AWQC in routine analysis	
	Glenelg RWTP (SP40550) - GARWS	Aldinga RWTP (SP41815) - SURS
	mg/L	mg/L
Min	740	710
Max	1300	1200
Average	937	905

This second version of the table also includes the data for Bolivar (no blending). This give the expected range if we don't do any blending which shows the average TDS would increase from 839 to 1073.

	Mawson Lakes (SP14028)	Bolivar RW (no blending)
	mg/L	mg/L
Min	220	137
Max	900	1500
Average	839	1073

Let me know your thoughts.

Thanks,

Gretchen Marshall
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250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

From: Loveder, Vanessa
Sent: Monday, 10 December 2018 10:01 PM
To: Marshall, Gretchen
Subject: RE: TDS Data

Hi Gretchen,
Just wondering if you have any thoughts on my comments below before I send to CoS?
Ta,
Vanessa

Vanessa Loveder
CONTRACT MANAGER
7424 2093 • 0477 349 545

From: Loveder, Vanessa
Sent: Friday, 23 November 2018 2:35 PM
To: Marshall, Gretchen
Cc: Eggers, David
Subject: RE: TDS Data

Clause 7 (1) (c) - Business Affairs

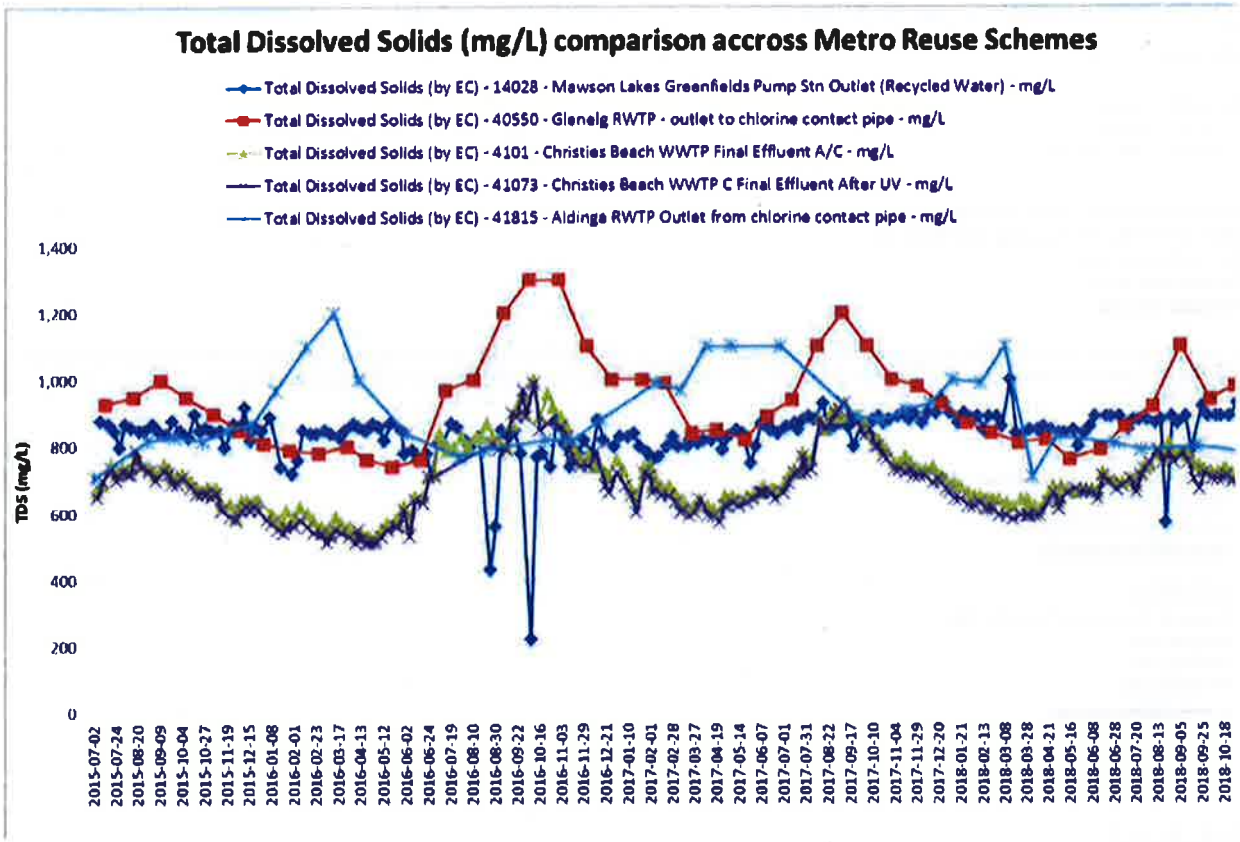
Clause 7 (1) (c) - Business Affairs

Vanessa Loveder
CONTRACT MANAGER
7424 2093 • 0477 349 545

From: Marshall, Gretchen
Sent: Thursday, 22 November 2018 4:04 PM
To: Loveder, Vanessa
Cc: Eggers, David
Subject: RE: TDS Data

Hi Vanessa,

Please see the graph below which shows the last 5 year TDS results (tested by AWQC) supplied to Mawson Lakes compared with the recycled water supply from GARWS, Christies Beach and Aldinga WWTPs.



Please keep me in the loop re the contract. It would be good to let Allwater know as soon as possible as we are wasting chlorine and potable water currently.

I met with DH today and we discussed the prospects of us removing the stormwater blending at Greenfileds tank and they are comfortable with this and they're happy for us to include this use into the Bolivar DAFF supply RWMP.

Thanks,

Gretchen Marshall
RECYCLED WATER SPECIALIST, WASTEWATER AND ENVIRONMENT
gretchen.marshall@sawater.com.au • **7424 2194** • **0459 824 301**
250 Victoria Square/Tarntanyangga ADELAIDE SA 5000

From: Loveder, Vanessa
Sent: Wednesday, 21 November 2018 1:29 PM
To: Marshall, Gretchen
Subject: RE: TDS Data

No, but ill try and get that answer this afternoon.

Vanessa Loveder
CONTRACT MANAGER
7424 2093 • 0477 349 545

From: Marshall, Gretchen
Sent: Wednesday, 21 November 2018 11:40 AM
To: Loveder, Vanessa
Subject: RE: TDS Data

Yes, I can send it through shortly. Does that mean they're accepted the minutes and we can stop blending and chlorinating?

I have a meeting with DH tomorrow to discuss this and some other Bolivar related matters....

From: Loveder, Vanessa
Sent: Wednesday, 21 November 2018 11:12 AM
To: Marshall, Gretchen
Subject: FW: TDS Data

Hi Gretchen,
Can you please pull something together on this?
Ta,
Vanessa

Vanessa Loveder
CONTRACT MANAGER
7424 2093 • 0477 349 545

From: Paul Carter [mailto:PCarter@salisbury.sa.gov.au]
Sent: Wednesday, 21 November 2018 11:11 AM
To: Loveder, Vanessa
Cc: Roseanne Irvine
Subject: TDS Data

Hi Vanessa, we have had a discussion with Field Services (Parks and Gardens), moving forward they will be looking into updating the IMP and potential impacts of higher TDS levels at Mawson Lakes, are you able to forward data from other schemes with higher minimum TDS ranges as discussed.
Thanks Paul.

Paul Carter
Salisbury Water Operations Coordinator
Salisbury Water
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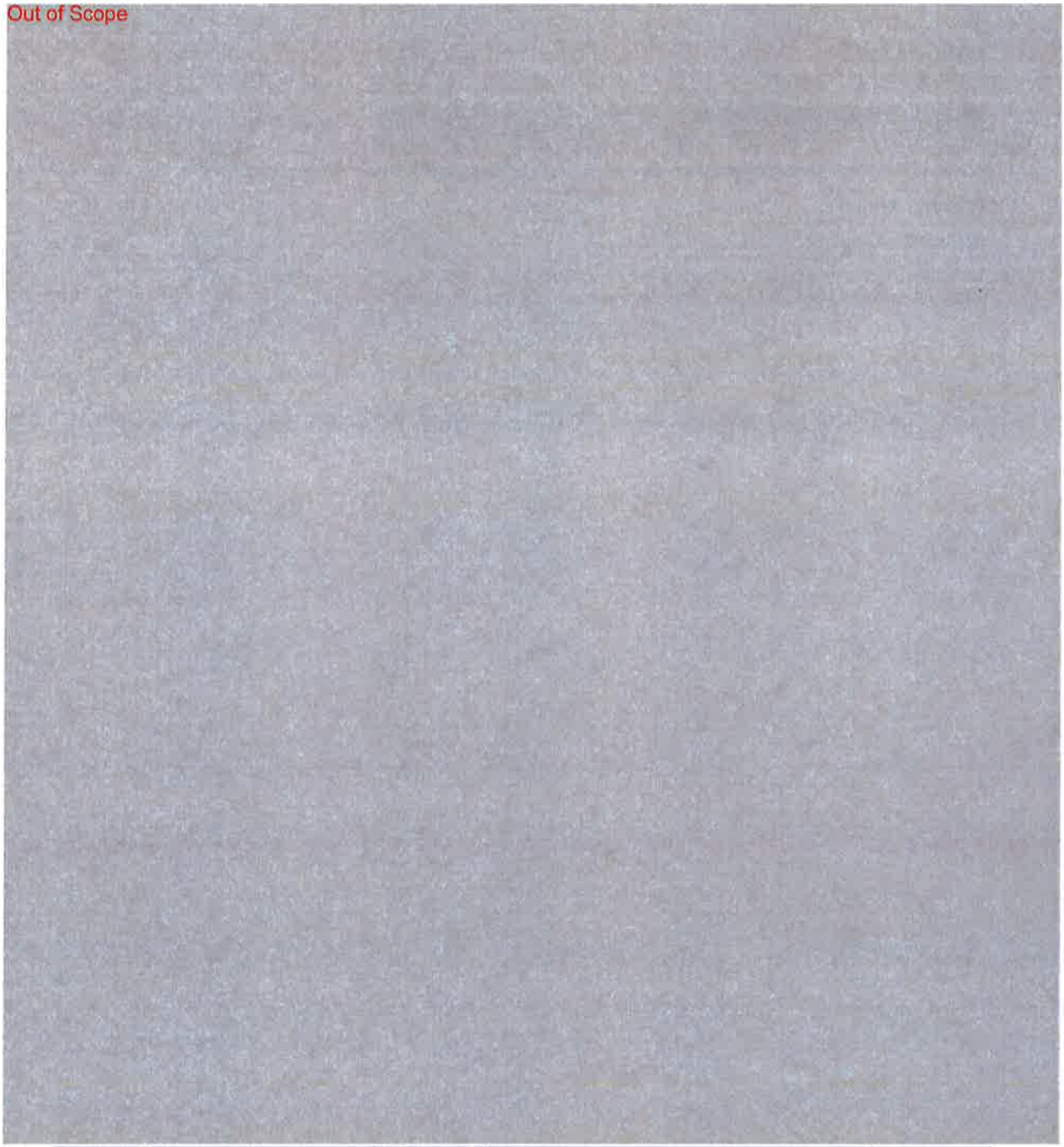
Out of Scope



From: Russo, Elizabeth
Sent: Thursday, 13 December 2018 9:39 AM
To: Mason, Darren
Subject: Mawson Lakes

Hi,

When you return from Pt Elliot, can you please proved me with an update on where we are at with the customers from Mawson Lakes. What has come from the water tested and have we sent the results to health.

Can you please find out where Frances is with the customer, if they still want to meet with us and what their expectations are next?

Thanks

Elizabeth Russo
Manager Service Continuity

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SA Water respects and acknowledges the deep spiritual connection, knowledge and relationship Aboriginal and Torres Strait Islander people have to land and water.

SAWR-WQ-

Incident Notification Table (FULL VERSION)

												this column is only available in the "(full version)"	this column is only available in the "(full version)"	full version only	
1	2	3	4	5	5a	5b	5c	6 - NOTIFICATION (Click here for CONTACT				7	8	9	10
Product Specification/ Location Type *(previously called Barrier/ Location)*	**Hazard CATEGORY** *(previously called Hazard Grouping)*	**Hazard TYPE** *(previously called Critical Parameter)*	**CRITERIA** (values in blue text and in brackets are rounded ADWG health levels that trigger the incident) (also see Protocol Explanatory Notes TAB)	**Type**	**Notification Type** (for WQ incidents only)	**Impact:**	**Water Type**	**Telephone within 1 hour** and state if **PT1* or T1** *PT1 must be reported by direct voice contact, not via phone message	**Telephone within 3 hours**	**Email/hardcopy within 24* hours** or Telephone within 24 hours (if not a Type 1) * Note: Email is sent as soon as incident is logged and saved	**Ministerial Briefing Note by 3 pm* next business day** *timeframes: *1 pm to SLT, 2 pm to MLU, 3 pm to Minister*	RECOMMENDED RESPONSE (also see Protocol Explanatory Notes TAB - click this link)	RULES FOR CLOSING THE INCIDENT (also see Protocol Explanatory Notes TAB - click this link)	***Usually*** **Detected in:**	**INTEREST**

10. Mawson Lakes Recycling Scheme	**Discharges**	Sewage spills *Parafield stormwater catchment*	Sewage spills of ≥ 100 kilolitres discharged to a natural watercourse or wetland either directly or through Parafield stormwater catchment	**T1**	DHW	Water Quality	Recycled Water	DHW, EPA		DHW, EPA, OTR, SAW	check with relevant Level 3 Senior Mgr if BN is required			Field	E, R
10. Mawson Lakes Recycling Scheme	**Discharges**	Sewage spills *Parafield stormwater catchment*	Sewage spills of < 100 kilolitres discharged to a natural watercourse or wetland either directly or through Parafield stormwater catchment	**T2**	DHW	Water Quality	Recycled Water			DHW, EPA, OTR, SAW				Field	E, R

10. Mawson Lakes Recycling Scheme	**Disinfection**	Chlorination *Reclaimed stormwater*	Chlorination fails for more than 30 minutes before flow to the Greenfields Mixing Tank is stopped	**T1**	DHW	Water Quality	Recycled Water	DHW		DHW, OTR, SAW	check with relevant Level 3 Senior Mgr if BN is required			Field	E, R
10. Mawson Lakes Recycling Scheme	**Disinfection**	Chlorination *Reclaimed stormwater*	Free chlorine residual in the stormwater < 0.2 mg/L for more than 60 minutes before flow to the Greenfields Mixing Tank is stopped	**T1**	DHW	Water Quality	Recycled Water	DHW		DHW, OTR, SAW	check with relevant Level 3 Senior Mgr if BN is required			field	E, R

10. Mawson Lakes Recycling Scheme	**Disinfection**	Chlorination *Reclaimed stormwater*	Flow to the tank stopped due to interruption to chlorination or low free chlorine residual detected on the stormwater line	**T2**	DHW	Water Quality	Recycled Water			DHW, OTR, SAW				Field	E, R
10. Mawson Lakes Recycling Scheme	**Health Related INORGANIC Chemicals**	Chemical and physical quality	Any exceedance of requirements specified by EPA for the ASR scheme	**T2**	DHW	Water Quality	Recycled Water			DHW, EPA, OTR, SAW				Laboratory	R
10. Mawson Lakes Recycling Scheme	**Other**	Cross Connections *Mawson Lakes*	Detection of any cross connection with potential to contaminate the drinking water network or drinking water supply of a third party	**PT1**	DHW	Water Quality	Recycled Water	DHW		DHW, OTR, SAW	yes (interchange ministerial briefing notes with DHW)			Field	D, E, R

10. Mawson Lakes Recycling Scheme	**Other**	Customer complaints	Evidence of clustered complaints (5 or more within a 48 hour period) regarding recycled water quality	**T1**	DHW	Water Quality	Recycled Water	DHW		DHW, OTR, SAW	check with relevant Level 3 Senior Mgr if BN is required			Field	D, E, R