Approved form

Environmental Protection Act 1994

Transitional environmental program

This form must be used when proposing a transitional environmental program (TEP) to the administering authority pursuant to section 331 of the Environmental Protection Act 1994. *For further information on TEPs refer to the Transitional Environmental Programs Guideline (ESR/2016/2277) and Annual return for a transitional environmental program form (ESR/2016/2139).*

TRANSITIONAL ENVIRONMENTAL PROGRAM FOR [Clifton WWTP
Section 330 of the *Environmental Protection Act 1994*

Individual or Company Responsible:	Toowoomba Regional Council 4 LITTLE STREET TOOWOOMBA QLD 4350] ABN 99 788 305 360
Environmental Authority number (if relevant)	EPPR00852813
Environmental Authority holder names (if relevant)	Toowoomba Regional Council
Development Approval number (If relevant)	WT0076 Amendment 2
Title:	Transitional Environmental Program Clifton WWTP January 2017
Date:	**23-12-2016**
Reason for TEP:	Section 330(a): Reduce environmental harm caused by the activity: Compliance with effluent quality criteria (above) will have the desired effect of reducing potential environmental harm by decreasing the loads of BOD5 and Suspended Solids discharged to King's Creek. Section 330(c): *Comply with a condition of an environmental authority (EA)/development condition:* WT0076 Amendment 2 Schedule C Table 1-Release Quality Characteristic Limits for BOD_5 and Suspended Solids.
Site details:	Lot 1 SP106958 formally Lot 1 RP125666 74 McOscar Road Kings Creek
Period of TEP:	**17 January 2017 to 30 October 2019**
Start date:	**17 January 2017**
Finish date:	**30 October 2019**

Queensland Government

Content of Program:

This Transitional Environmental Program is designed to limit environmental harm to sustainable levels as a result of the activity of Sewage Treatment at Clifton WWTP (Section 330(1) (a)). This will be achieved by transitioning to compliance with with Condition C9 of Environmental Authority (EA) EPPR00852813, DA WT0076 Amendment 2 Schedule C Table 1 release quality characteristics limits. (Section 331(e))

Description of the relevant event:

The relevant event is non-compliance with DA EPPR00852813 Condition C9 of Environmental Authority (EA) WT007 Schedule C Table 1 release quality characteristics limits 5 day BOD5 maximum, 5 day BOD5 85th %ile, Suspended Solids maximum and Suspended Solids 85 th %ile for the period 1 July 2015 to June 30 2016 and for the period 1 July 2016 to date. See Attachment #1 for details of limits.

Description of the nature and extent of environmental harm caused or Threatened as a direct or indirect result of the relevant event

The Clifton plant is licenced to achieve a long term BOD5 85%ile of 20 mg/l and a long term SS 85%ile of 30 mg/l. The results for the 2015-2016 financial year were, BOD5 85%ile of 73 mg/l and a SS 85%ile of 94 mg/l. The plant discharges to King's Creek an average of 212 kl per day. This equates to an increased BOD_5 load of 11.2 kg/day and an increased SS load of 14.628 kg/day.

The increased BOD_5 and SS loads discharged to Kings Creek have the potential to deplete oxygen levels downstream of the outfall and also to contribute to increased suspended solids load, total nitrogen and total phosphorous loads.

TRC has commenced monitoring 50 metres upstream and 50 metres downstream of the outfall to determine potential impacts on Kings Creek. These results will be reported on as part of this program. As the increased daily load to King's Creek is relatively small and the creek system upstream of the outfall has moderately impacted ecological values (AquaBAMM), it is expected that measurable impacts will quickly dissipate as you move downstream of the outfall.

What action has been taken to contain, clean up, rehabilitate and restore the environmental impact in relation to the relevant event?

TRC has attempted to contain the increased loads to King's Creek by the installation of a floating wetland system designed to reduce BOD_5 and SS at the outfall and bring the plant into licence compliance. As the wetland became established, monitoring results showed a measurable improvement in these parameters. (Refer **Graph 1** and **Graph 2** - Attachment 2).

Performance deteriorated from March 2016 onwards. It is thought the loss in performance is due to a combination of algal blooms, unseasonable weather impacts, wildlife impacts and loss of plantings in the floating wetland system. This has resulted in the failure of the plant to meet licence compliance targets.

TABLE 1

Objective(s) [section 331(a)]

State the objectives to be achieved and maintained under the TEP for the activity. The objectives must be **specific** and **clear** and **relate to achieving compliance** with the Act, the *Environmental Protection Regulation 2008*, environmental protection policies, or if relevant, the conditions of approval.

1. **Prevention of Harm:** (section 331(c)):
   The objective of the TEP is to reduce the concentration of BOD_5 and Suspended Solids discharged to waters at King's Creek at Release Point W1 to sustainable levels at a location described as the downstream boundary of Portion 1454, Parish of Elphinstone at 25 Km AMTD (as described in Environmental Authority EPPR00852813) and to prevent potential environmental harm being caused to waters from the elevated load of BOD5 and Suspended Solids being discharged to the environment.

2. **Comply with a condition of an environmental authority:** (section 331(e)).
   Objective 1 will be achieved by transitioning effluent quality to compliance with Condition (C9) of WT0076 Amendment 2 Environmental Authority EPPR00852813. The release of contaminants to waters must comply, at the sampling and in situ measurement point specified In Schedule H, with each of the limits specified in schedule C Table 1 for each quality characteristic in EA EPPR00852813.

Actions [section 331(b)] List the actions to be taken to achieve each of the objectives. Actions must take into account: 1. Best practice environmental management for the activity (including how these measures stand against the measures currently used nationally and internationally for the activity [section 331(b)(i)]); and 2. The risks of environmental harm being caused by the activity (including the proposed actions, how the risks have been considered and how they will be treated or mitigated [section 331(b) (ii)]).	***Start date*** [section 331(b)] A start and finishing date for each action or groups of actions must be included.	**End date**
1. Desludge Lagoon 4: • Investigate Floating Wetland removal options with SPEL • Determine temporary storage options for sludge, • Options for isolation of lagoon 4 and new temporary discharge point. (Drawing for EHP) • Identify risks to effluent quality. (Application for TEL) • Assess risk of desludging to lagoon integrity. (Monitor desludging closely) • Undertake works. • Reinstate floating wetland.	January 2017	June 2017
2. Power augmentation to site: • Scope additional power requirements. (See action Item 3 and 7) • Total power requirement. (Aerators + contingency filtration depending on performance of aerators.) • Location of infrastructure. • Ergon/contractor timelines. • Installation of Infrastructure.	June 2017	December 2017

3. Installation of Aeration System Lagoon 4: • Design and implement an aeration system to treat wastewater on site and to release effluent compliant with Condition (C9) to waters at location W1. • Investigate preferred models and supply times. • Investigate fixing method and location. • Geotechnical assessment of need to reinforce embankments. • Establish site access for installation. • Undertake works.	June 2017	December 2017
4. Install baffle curtain wall • Scope requirements length/depth/materials • Source providers • Engage contractor • Undertake works	June 2017	December 2017
5. Licence Performance Monitoring (4 Seasons) • Frequency Weekly (review as program proceeds) • Analysis (As required by licence)	Pre-Aeration January 2017 Post Aeration December 2017	Pre-Aeration December 2017 Post Aeration November 2018
6. Assess seasonal process performance and need for contingency plan to meet licence discharge limits. • Review effluent data and compliance performance • Assess need for contingency plan activation (eg filter system) • Advise EHP of outcome. • If required activate contingency plan.	December 2018	January 2019
7. Contingency Plan (Filtration System) • Installation • Monitor for 3 months	Installation January 2019 Monitor April 2019	Installation March 2019 Monitor June 2019
8. TEP Progress reports against Action plan • Evaluate Performance against licence. (EHP Report) • TEP Annual Return • Final Report to EHP (Includes Contingency Timeframe)	Ongoing Ongoing End of program	3 monthly 12 monthly October 2019
Performance indicators [section 331(g)] Detail how and when each action will be measured to indicate that the action was completed successfully and that the objective of the TEP is being achieved. Performance indicators must not be measured more than six months apart [section 331(g)] and must be quantitative (that is, able to be measured, assessed and audited in a consistent, objective and repeatable manner).	**Start date**	**End date**
1. The design and installation of treatment system infrastructure is supervised by a Registered Professional Engineer.	January 2017	September 2019
2. Regular performance reviews which include a statement of achievement against the Action Plan to be submitted to EHP.	3 Monthly	September 2019
3. Each performance review will include Table(s) and Graph(s) of all water quality in-situ monitoring results and laboratory results.	3 Monthly	September 2019

4. Each performance review will include a compliance statement for Condition (C9).The release of contaminants to waters, at the sampling and in situ measurement point specified In Schedule H, with each of the limits specified in schedule C Table 1 for each quality characteristic in Environmental Authority EPPR00852813 of WT0076 Amendment 2.	3 Monthly	September 2019
Monitoring [section 331(h)] Provide details of the monitoring activities required to ensure compliance with the proposed TEP actions and dates. This includes details of who will conduct the activities, how monitoring needs to occur and the environmental and scientific testing that may be required.	**Start date**	**End date**
1. All monitoring will be undertaken by suitably qualified Water Operations staff and water quality samples are to be analysed by TRC's NATA accredited laboratory.	January 2017	August 2019
2. All water quality sampling will be undertaken by Water Operations staff under the guidance of TRC's NATA certified Laboratory and with reference to the Queensland's Government Monitoring and Sampling Manual.	January 2017	August 2019
3. Monitor the release of contaminants to waters which is to comply, at the sampling and in situ measurement point W1 specified in Schedule H, with each of the limits specified in Schedule C Table 1 for each quality characteristic in Environmental Authority EPPR00852813.	Frequency Weekly	August 2019
4. Monitor Kings Creek 50m upstream and 50m downstream of Release Point W1 for each quality characteristic specified in schedule C Table 1 Environmental Authority EPPR00852813.	Frequency Weekly	August 2019
Reporting [section 331(h)] Regular progress reports are to be provided to EHP on specified dates including monitoring results, a description of activities and issues from the previous month and any proposed activities for the next month. Failure to carry out prescribed actions must be reported.	**Start date**	**End date**
1. A three (3) monthly progress report will be prepared and submitted to EHP by the Principal Management Systems detailing the actions taken, milestones achieved and the forecasted actions to be undertaken for the following three (3) months. Three (3) monthly progress reports will also include tables and graphs of water quality monitoring results taken at the sampling and in situ measurement point W1 and 50m upstream and 50m downstream of W1.	Ongoing	March 2017 June 2017 September 2017 December 2017 March 2018 June 2018 September 2018 December 2018 March 2019 June 2019 September 2019
2. A final report describing how the objectives of the TEP have been achieved will be provided to EHP within one (1) month after completion of the actions of the TEP and prior to the end date of the TEP.	September 2019	October 2019

Declaration

As per section 481 of the *Environmental Protection Act 1994*, it is an offence to state anything to an authorised person that you know is false or misleading in a material particular or omit from a statement made to an authorised person anything without which the statement is, to your knowledge, misleading in a material particular.

I declare that:

- I do solemnly and sincerely declare that the information provided is true and correct to the best of my knowledge. I understand that it is an offence under section 480 of the *Environmental Protection Act*
  1994 to give to the administering authority, or an authorised person, a document containing information that I know is false, misleading or incomplete in a material particular[1].
- I understand that information supplied on or with this application form may be disclosed publicly in accordance with the *Right to Information Act 2009* and the *Evidence Act 1977.*

INDIVIDUAL OR IF COMPANY, EXECUTIVE OFFICER NAME
Kevin Flanagan
SIGNATURE
POSITION OF SIGNATORY (IF RELEVANT)
General Manager Water and Waste Services
DATE 23 December 2016

Please return your completed application to

Post:
Department of Environment and Heritage Protection
GPO Box 2454
BRISBANE QLD 4001

Courier or hand delivery:
Permit and Licence Management
Department of Environment and Heritage Protection
Level 3, 400 George Street
BRISBANE QLD 4000
Business hours: 8:30am–4:30pm business days

Enquiries:
Permit and Licence Management
Phone: 1300 130 372
Fax: (07) 3330 5875
Email: **palm@ehp.qld.gov.au**

Attachment #1

Permit number: EPPR00852813
Env Auth WT0076
Clifton WWTP
Condition C9

Quality Characteristics Of Release to Waters

(C9) The release of contaminants to waters must comply, at the sampling and in situ measurement point specified in Schedule H, with each of the limits specified in schedule C Table 1 for each quality characteristic.

SCHEDULE C TABLE 1 - RELEASE QUALITY CHARACTERISTIC LIMITS

QUALITY CHARACTERISTICS	RELEASE POINT NUMBER	RELEASE LIMIT	LIMIT TYPE
5-day Biochemical Oxygen Demand. (mg/l)	W1	60	maximum
5-day Biochemical Oxygen Demand. (mg/l)	W1	20 *	long term 85 percentile compliance
Suspended Solids. (mg/l)	W1	90 **	maximum
Suspended Solids. (mg/l)	W1	30 **	long term 85 percentile compliance
pH. (pH Units)	W1	6.5-9.3	range
Dissolved Oxygen (mg/L)	W1	2	minimum
Faecal Coliforms (organisms/100ml)	W1	1000 organisms per 100 millilitres as a median value, with 4 out of 5 consecutive water samples containing less than 4000 organisms per 100 millilitres.	

* This release limit is applicable after 1 March 2001
** These release limits are applicable after 1 March 2002

Attachment #2

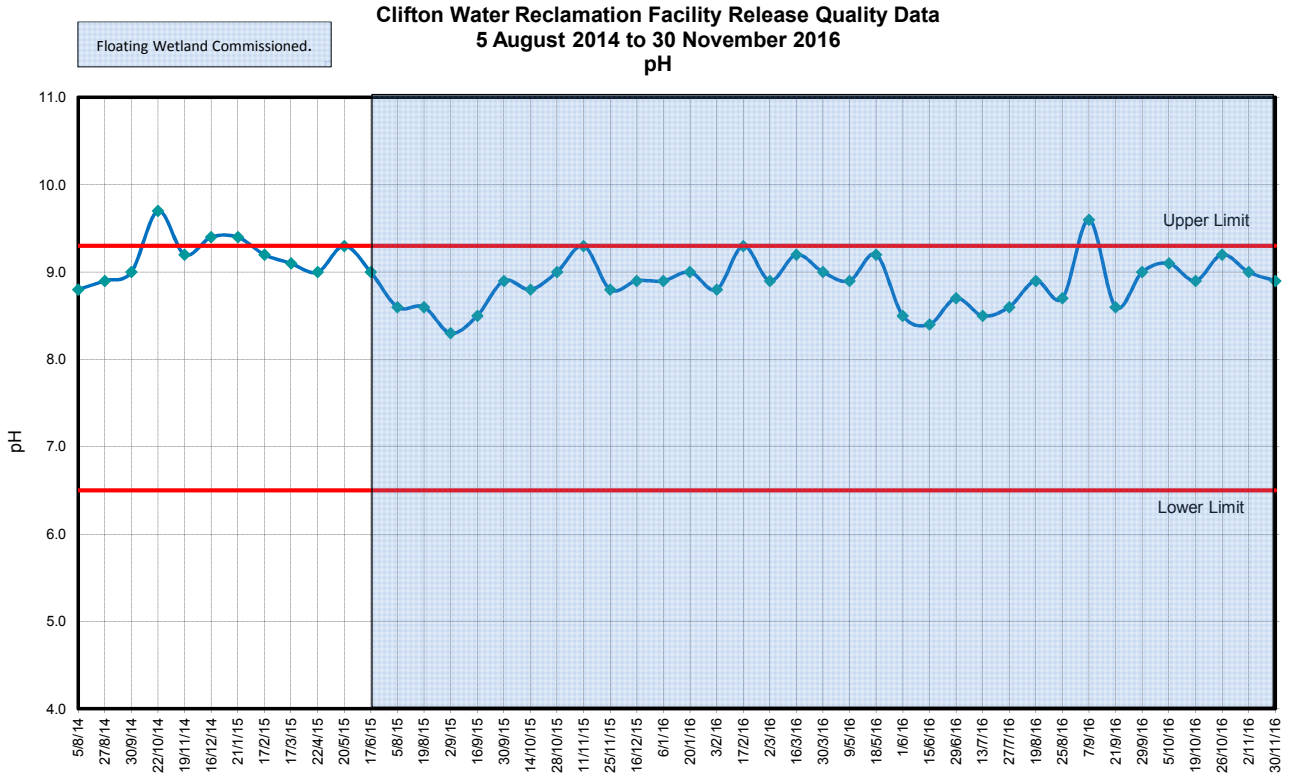
Table 1.0 - *Clifton Water Reclamation Facility Final Effluent Raw Data*

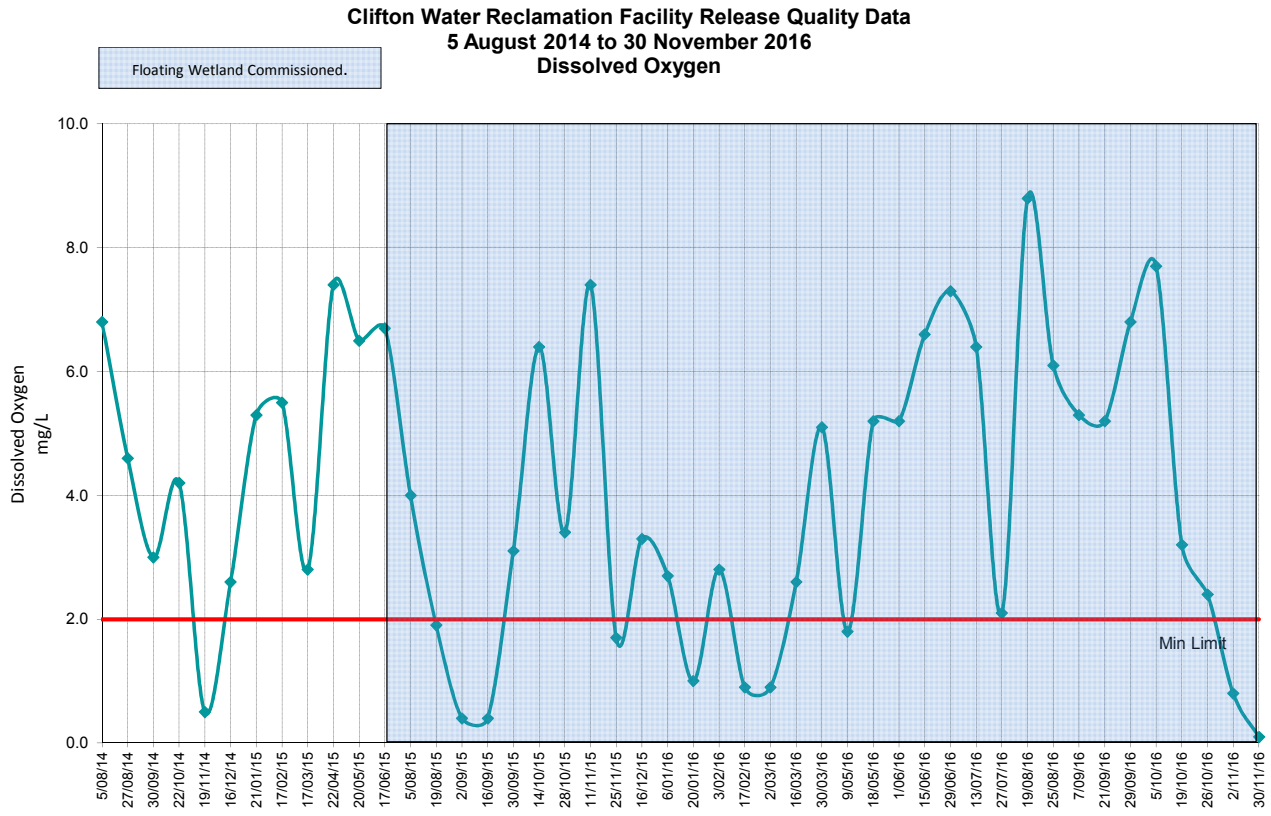
Annual Return Monitoring Results Clifton STP Release Quality Data 5th August 2015 to 30th June 2016											
Parameter	**pH**	**DO**	**BOD_5**	**SS**	**Faecal Coliforms 1**	**Faecal Coliforms 2**	**Faecal Coliforms 3**	**Faecal Coliforms 4**	**Faecal Coliforms 5**	**FC Median**	**4 samples 4000/100mL**
	units	mg/L	mg/L	mg/L	CFU/100mL	CFU/100mL	CFU/100mL	CFU/100mL	CFU/100mL	CFU/100mL	Yes/No
Limit	6.5-9.3	≥2	60 max 20 (85%ile)	90 max 30 (85%ile)	1000 org / 100ml (median value) 4 out of 5 consecutive samples of less than 4000 org / 100ml						
5/08/2014	8.8	6.8	48	129	490	440	660	460	490	490	Y
27/08/2014	8.9	4.6	53	113	300	100	200	500	100	200	Y
30/09/2014	9.0	3.0	67	155	100	100	100	100	100	100	Y
22/10/2014	9.7	4.2	49	137	100	100	100	100	200	100	Y
19/11/2014	9.2	0.5	91	313	1000	1000	100	100	1000	1000	Y
16/12/2014	9.4	2.6	60	207	100	100	100	100	100	100	Y
21/01/2015	9.4	5.3	29	109	1000	1000	1000	1000	1000	1000	Y
17/02/2015	9.2	5.5	21	95	100	100	100	100	100	100	Y
17/03/2015	9.1	2.8	19	96	100	100	100	100	100	100	Y
22/04/2015	9.0	7.4	25	92	200	200	100	100	100	100	Y
20/05/2015	9.3	6.5	45	115	200	200	100	200	200	200	Y
17/06/2015	9.0	6.7	80	85	500	1300	1300	1200	720	1200	Y
5/08/2015	8.6	4.0	72	55	12000	15000	11000	24000	14000	14000	N
19/08/2015	8.6	1.9	43	63	5200	5600	7000	6200	6300	6200	N
2/09/2015	8.3	0.4	73	81	6500	7200	7500	6900	7400	7200	N
16/09/2015	8.5	0.4	67	96	100	1000	100	100	100	100	Y
30/09/2015	8.9	3.1	29	66	2900	3000	3900	3100	3100	3100	Y
14/10/2015	8.8	6.4	41	90	1000	1000	1000	1000	1000	1000	Y
28/10/2015	9.0	3.4	32	100	5000	2500	1700	2300	2200	2300	Y
11/11/2015	9.3	7.4	58	116	300	960	960	300	800	800	Y
25/11/2015	8.8	1.7	49	115	400	700	600	500	300	500	Y
16/12/2015	8.9	3.3	20	82	100	700	100	300	100	100	Y
6/01/2016	8.9	2.7	21	44	700	1000	900	400	100	700	Y
20/01/2016	9.0	1.0	19	58	1000	1000	1000	1000	1000	1000	Y
3/02/2016	8.8	2.8	15	29	1000	1000	1000	1000	1000	1000	Y
17/02/2016	9.3	0.9	17	32	1000	1000	1000	1000	1000	1000	Y
2/03/2016	8.9	0.9	16	50	100	100	100	100	100	100	Y
16/03/2016	9.2	2.6	11	25	200	100	100	100	100	100	Y
30/03/2016	9.0	5.1	10	26	400	1000	400	1000	400	400	Y
9/05/2016	8.9	1.8	20	52	1400	1200	600	700	600	700	Y
18/05/2016	9.2	5.2	34	71	200	800	800	300	600	600	Y
1/06/2016	8.5	5.2	64	43	1800	1400	1800	2500	1700	1800	Y
15/06/2016	8.4	6.6	83	51	1100	800	1300	1300	1100	1100	Y
29/06/2016	8.7	7.3	79	58	1000	1700	1400	600	1100	1100	Y
13/07/2016	8.5	6.4	61	37	480	1200	480	400	700	480	Y
27/07/2016	8.6	2.1	89	78	1400	960	200	720	500	720	Y
19/08/2016	8.9	8.8	125	86	200	720	200	100	200	200	Y
25/08/2016	8.7	6.1		71	1000	600	500	400	1000	600	Y
7/09/2016	9.6	5.3	93	130	300	10	10	300	300	300	Y
21/09/2016	8.6	5.2	74	97	800	600	400	5000	700	700	Y
29/09/2016	9.0	6.8	76	126	100	1000	100	100	200	100	Y
5/10/2016	9.1	7.7	136	96	2200	1200	2000	2000	2300	2000	Y
19/10/2016	8.9	3.2	56	89	100	100	100	100	1000	100	Y
26/10/2016	9.2	2.4	65	131	1000	1000	1000	1000	1000	1000	Y
2/11/2016	9.0	0.8	31	116	1000	1000	1000	1000	1000	1000	Y
30/11/2016	8.9	0.1	24	65	100	100	100	100	100	100	Y

Note 1: All < designations have been removed for calculation purposes. A printout of data with < designations is available if required.

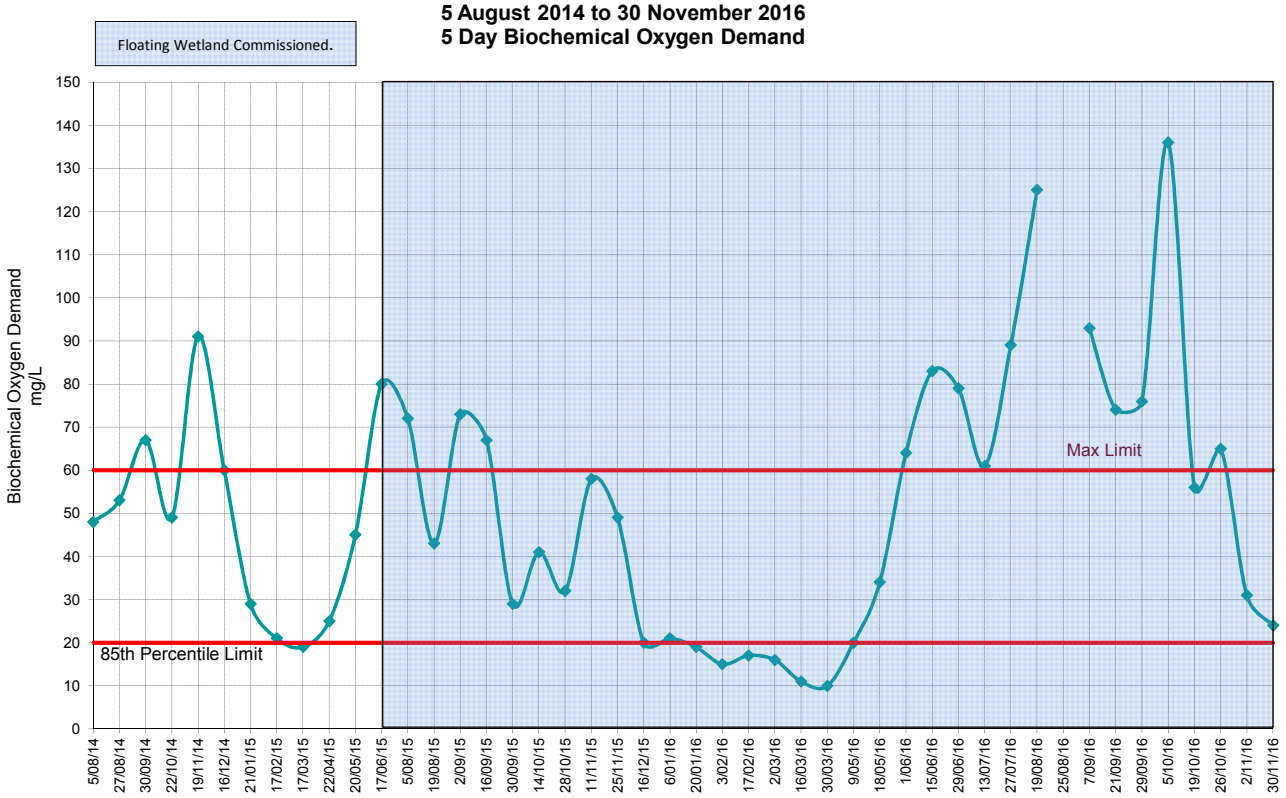
Note 2: Schedule H - Table 1 of licence, sampling is required to be quarterly. TRC sample monthly.

Licence WT0076 DM# 3570924

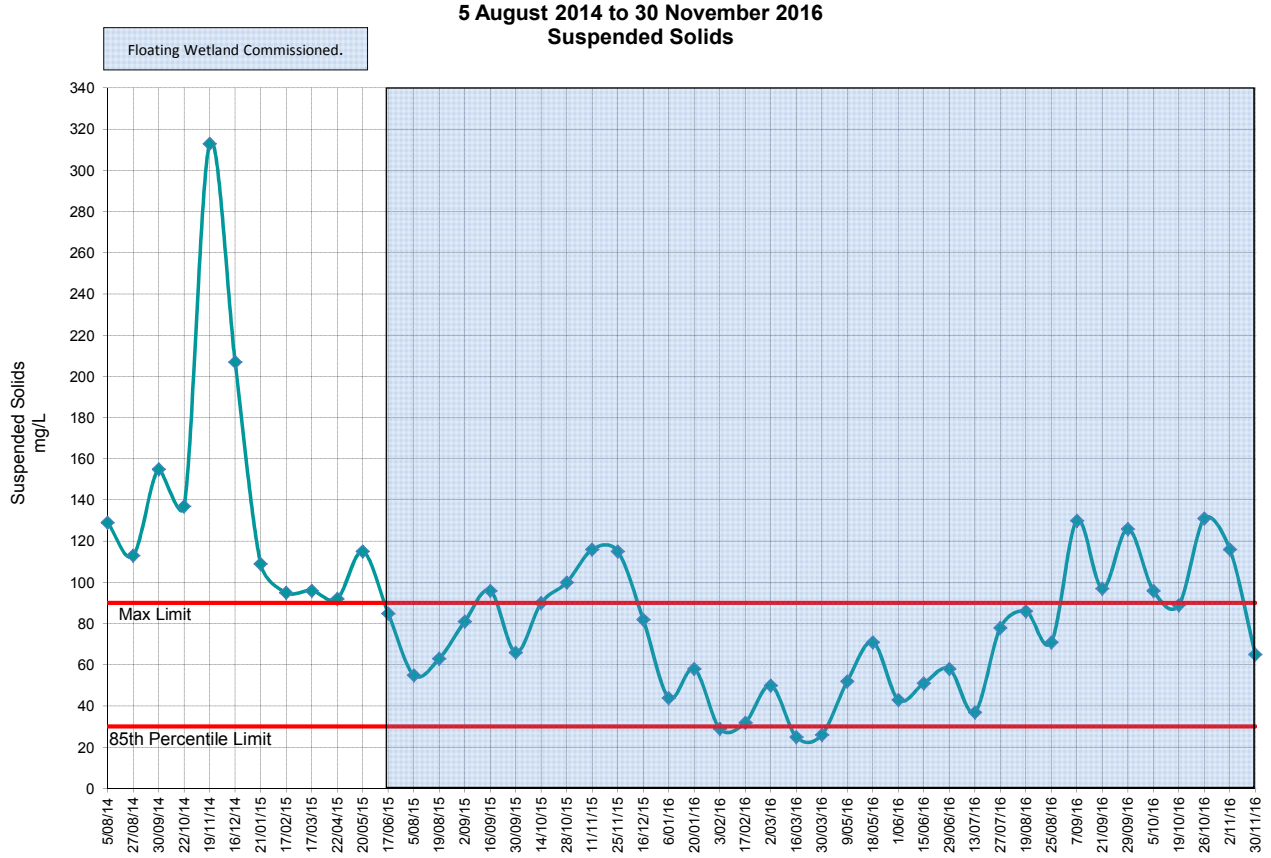

Clifton Water Reclamation Facility Release Quality Data
5 August 2014 to 30 November 2016
pH
Floating Wetland Commissioned.
Upper Limit
Lower Limit
pH
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
5/8/14
27/8/14
30/9/14
22/10/14
19/11/14
16/12/14
21/1/15
17/2/15
17/3/15
22/4/15
20/5/15
17/6/15
5/8/15
19/8/15
2/9/15
16/9/15
30/9/15
14/10/15
28/10/15
11/11/15
25/11/15
16/12/15
6/1/16
20/1/16
3/2/16
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9/5/16
18/5/16
1/6/16
15/6/16
29/6/16
13/7/16
27/7/16
19/8/16
25/8/16
7/9/16
21/9/16
29/9/16
5/10/16
19/10/16
26/10/16
2/11/16
30/11/16


Clifton Water Reclamation Facility Release Quality Data
5 August 2014 to 30 November 2016
Dissolved Oxygen
Floating Wetland Commissioned.
Min Limit
Dissolved Oxygen
mg/L
10.0
8.0
6.0
4.0
2.0
0.0
5/08/14
27/08/14
30/09/14
22/10/14
19/11/14
16/12/14
21/01/15
17/02/15
17/03/15
22/04/15
20/05/15
17/06/15
5/08/15
19/08/15
2/09/15
16/09/15
30/09/15
14/10/15
28/10/15
11/11/15
25/11/15
16/12/15
6/01/16
20/01/16
3/02/16
17/02/16
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18/05/16
1/06/16
15/06/16
29/06/16
13/07/16
27/07/16
19/08/16
25/08/16
7/09/16
21/09/16
29/09/16
5/10/16
19/10/16
26/10/16
2/11/16
30/11/16

Clifton Water Reclamation Facility Release Quality Data
5 August 2014 to 30 November 2016
5 Day Biochemical Oxygen Demand



Clifton Reclamation Facility Release Quality Data
5 August 2014 to 30 November 2016
Suspended Solids



Clifton Water Reclamation Facility Release Quality Data
5 August 2014 30 November 2016
Faecal Coliform Samples

