

4 Blackmans Bay STP

4.1 Activity and report details

Activity name	Blackmans Bay		
Activity address	Tinderbox Rd, Blackmans Bay		
Permit number	Licence to Operate - 3326	Date of issue	18/11/1997
EPN	10231/1	Date of issue	12/08/2021
	9057	Date of issue	14/02/2017
Treatment level	Tertiary Treatment		
Authorised Dry Weather Flows	8530 kL/day		
Key Influent Source	Residential/Industrial 3 x Category 3 Customers		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 4- 1: Blackmans Bay Sewage Treatment Plant



4.2 Monitoring and compliance summary

4.2.1 Flow data

Table 4-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Inlet	Derwent River	No reuse scheme
Coordinates	E 526706 N 5237417	E 526762 N 5237322	NA
Method of Measurement	In line meter	In line meter	NA
Date of last Calibration/Validation (if applicable).	29/03/23	29/03/23	NA

Table 4-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 94222	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	6,256	44.0	213.15	--
August 2022	7,146	75.6	245.24	--
September 2022	6,374	77.0	207.77	--
October 2022	8,168	127.6	273.53	--
November 2022	7,008	67.8	231.27	--
December 2022	6,253	72.8	210.34	--
January 2023	5,174	13.2	176.39	--
February 2023	5,397	60.6	159.92	--
March 2023	5,267	35.8	177.05	--
April 2023	5,262	34.6	171.34	--
May 2023	5,134	27.6	177.05	--
June 2023	5,906	69.2	171.34	--
Annual 2022-23	6,118	705.8	2,414.37	0.00
% of Total Discharge	--	--	100.0%	0.0%

2022-23 monthly flow data was submitted directly to the EPA.

4.2.2 Bypass events

There were no bypass events associated with the STP during the reporting period.

4.3 Discharge compliance with permit limits

Table 4-C Compliance Summary

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	Total suspended solids
Permit/EPN limit*	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L	MPN/100ml	mg/L
Maximum	5	--	1.0	--	--	8.5	--	750	--
90th percentile	2	15	--	10	--	--	12	500	20
50th Percentile	1	10	--	7	--	--	10	200	10
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	52	52	52	52	52	52	52
Number analysed	52	52	0	52	52	52	52	52	52
Statistical summary									
Max	13.4	62	--	16.8	2.2	7.9	9.7	24196	110.0
90th percentile	0.7	5	--	5.6	1.0	7.6	4.5	476	4.0
50th percentile	0.2	5	--	4.3	1.0	7.1	3.4	20	4.0
Min	0.1	5	--	3.0	1.0	6.6	0.1	10	4.0
EPN Limit Compliance									
% compliance with Maximum	98%	--	--	--	--	--	--	96%	--
% compliance with 90th percentile	96%	96%	--	96%	--	--	100%	92%	98%
% compliance with 50th percentile	90%	96%	--	94%	--	--	100%	73%	98%
% compliance with pH range	--	--	--	--	--	100%	--	--	--

* EPN 10231/1 came into effect on 12/08/2022. These limits have been applied for the entire reporting period.

Table 4-D Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	--	Annual	11810.6
Phosphorous (kg)	--	Annual	8036.1
Method	Flow weighted/Composite method		

Table 4-E Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
E. coli	01/11/2022 03/01/2023	Significant rainfall >70mm in the week leading up to the sample (26/10/23-1/11/23) reduced the UVT in the effluent. This combined with the particularly high flow caused the UV dose to not meet requirements for disinfection.	No specific actions
Ammonia	03/01/2023	A control system issue resulted in reduced treatment quality in one of the two process trains, resulting in high effluent ammonia.	The control system issue was promptly rectified, and effluent quality returned to normal.

No other parameters had exceedances in the reporting period.

4.4 Reuse Annual Reporting

No Recycled Water Scheme associated with this STP.

4.5 Ambient monitoring program

Table 4-F Program details

Program Required	NA – No requirement for ambient monitoring in the reporting period
Status	NA
Update	NA
Comments	NA

4.6 Groundwater monitoring

There are no groundwater monitoring programs in place for Blackmans Bay STP.

4.7 Inflow and infiltration (I&I)

The latest revision to the TasWater Inflow and Infiltration Management Plan includes details of the actions undertaken statewide to address I&I issues. Update to the actions completed will be provided in the next revision due September 2024.

A Multi Criteria Assessment was undertaken by TasWater in 2022 to prioritise I&I investigation and works state-wide. This catchment was ranked 57 out of 79 in priority.

4.8 Sludge and Biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period.

This STP is fully compliant with the 2022-23 SSMP.

Biosolids are removed regularly from site, no stockpiling occurs.

Table 4-G Biosolids and sludge classification summary

Month	Number of Samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant Classification
Arsenic	12	3.8	2.6	1.8	3.9	A
Cadmium	12	1.1	0.8	0.6	1.1	B
Chromium	12	28.6	22.0	14.8	32.5	A
Copper	12	700	549.4	504	653.1	B
Lead	12	16.2	14.3	11.9	17.3	A
Mercury	12	1.62	0.5	0.22	1.3	B
Nickel	12	34.3	27.9	23.4	34.5	A
Zinc	12	666	540.0	448	694.6	B

Table 4-H Volume and disposal destination

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation Grade	Contamination Grade	Biosolids Classification	End use destination
453.32	17.3%	Anaerobic digestion	B	B	2	Richmond Farm. Flexmore Park Farm. Coronation Hotel Farm-Runnymede. Whitemarsh Farm-Runnymede. Delmore Farm.

Notes: DST = Dry solid tonne.

4.9 Non-compliance with other permit requirements

Table 4-I EPN Non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
OP2 Operational Procedures Manual	No contemporary Operational Procedures Manual	New SharePoint based solution for OPMMS currently being developed. First version to be implemented in FY 2024.
EF1 Effluent quality limits for discharge to water	See section 4.3 Discharge compliance with permit limits	See section 4.3 Discharge compliance with permit limits

4.10 Complaints and incident reporting

Table 4-J Complaints Reporting

Date	Category	Details	Mitigation actions
29/03/2023	Odour	Strong sewer odour coming from STP. Investigated with the site operators - the recent odour complaints coincided with a mains power outage on 29/03/2023 at the STP due to a TasNetworks power supply incident.	Power failure did not impact effluent quality but when the aeration cycle recommenced this was identified as the likely cause of elevated odours. The TasWater electrical team rectified this issue
3/01/2023	Odour	Strong sewer odour coming from STP	Investigation occurred and rectified
3/01/2023	Odour	As above	As above

Table 4-K Incident Reporting

Date	Category	Details	Mitigation Actions
7/09/2022	Mechanical	The on-site generator suffered a major mechanical defect and was removed from service to avoid further damage.	A temporary generator was installed. A longer-term replacement was then put in place.

4.11 Any other relevant information

For further information on the Blackmans Bay STP please contact TasWater on 13 6992

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