

62 Sorell STP

62.1 Activity and report details

Activity name	Sorell STP		
Activity address	Giblin Drive, Sorell		
Permit number	Licence to Operate - 3299	Date of issue	23/02/1993
EPN	8551/2	Date of issue	14/02/2019
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	810 kL/day		
Key Influent Source	Residential/Industrial 1 x Category 3 Customer		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 62-1: Sorell Sewage Treatment Plant



62.2 Monitoring and compliance summary

62.2.1 Flow data

Table 62-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Inlet	Pitt Water	Effluent Reuse Scheme - Penna Reuse
Coordinates	E 546023 N 5262134	E 546102 N 526002	E 546060 N 5262122
Method of Measurement	Online Flow Meter	Online Flow Meter	Online Flow Meter
Date of last Calibration/Validation (if applicable).	12/06/2023	12/06/2023	12/06/2023

Table 62-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 94248	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML) *
July 2022	659	22.6	20.41	0.00
August 2022	842	76.6	26.17	0.00
September 2022	712	56.4	21.37	0.00
October 2022	763	84.9	23.65	0.00
November 2022	690	83.1	20.71	0.00
December 2022	652	68.0	0.00	20.22
January 2023	554	4.6	0.00	17.18
February 2023	569	36.0	0.00	15.93
March 2023	568	24.2	0.00	17.61
April 2023	605	40.7	0.00	18.14
May 2023	583	20.5	15.82	2.24
June 2023	701	36.0	21.04	0.00
Annual 2022-23	659	553.6	149.17	91.31
% of Total Discharge	--	--	62.0%	38.0%

* BGA inhibited ability to reuse from Penna STP which caused effluent discharge via Sorell STP outfall

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

62.2.2 Bypass events

There were no bypasses reported during the period.

62.3 Discharge compliance with permit limits

Table 62-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	36	45	--	47	4	8.5	8	750	24
90th percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	12	12	12	12	12	12	12
Number analysed	9	9	9	9	9	9	9	9	9
Statistical summary									
Max	7.4	32	1.79	12.9	2.5	7.2	7.9	24196	39.0
90th percentile	3.7	23	1.74	12.8	1.6	7.1	7.7	24196	20.9
50th percentile	1.3	16	1.17	5.8	1.3	6.9	3.1	109	12.6
Min	0.1	5	0.30	3.6	1.0	6.9	1.8	10	6.9
EPN Limit Compliance									
% compliance with Maximum	100%	100%	--	100%	100%	--	100%	67%	89%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Note: Percentages reflective of complete data set for the year. Sampling only undertaken when discharging to environment.

Table 62-D: Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	--	Annual	1080.4
Phosphorous (kg)	--	Annual	632.9
Method	Time weighted/Grab sample method		

Table 62-E: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
TSS	9/05/2023	Reason unknown. It is suspected that a control issue may have resulted in poor performance in the solids separation process.	No specific actions undertaken in reporting period.
E. coli	14/07/2022 22/11/2022	High plant inflows due to wet weather were the likely cause of inadequate disinfection for 14/7/22 and 22/11/22.	
	9/05/2023	The E. coli failure on the 9/5/23 is related to the solids carry over issues that occurred on the day.	

Note: Non-compliances only identified for the times STP has discharged to water

No other parameters had exceedances in the reporting period.

62.4 Reuse Annual Reporting

As this site discharges to Penna Recycled Water Scheme no compliance samples are taken. See Penna STP AER for details on recycled water quality and scheme performance.

62.5 Ambient monitoring program

Table 62-F: Program details

Program	None
Status	NA
Update	NA
Comments	Discharges to Sorell Rivulet from Sorell (& Midway Point) occurred in July – November 2022 and in May and June 2023. No ambient monitoring conducted in the reporting period.

62.6 Groundwater monitoring

Site Status: Amber - Likely STP Impacts

Sorell STP groundwater monitoring network consists of two monitoring bores, bore ID SOGW1 located south of the main STP lagoon, and SOGW2, located south-east of the sludge pond. One round of sampling was completed across the monitoring network in October 2022. Second sampling round was not completed due to timing and resource constraints.

Impacts primarily at SOGW2, which may be linked to the sludge lagoon leaking. Impact at SOGW1 not as evident due to its location adjacent to the river floodplain. Elevated total nitrogen, ammonia, nitrate and total phosphorus concentrations in groundwater. Increasing concentration trends of total phosphorus and total nitrogen at both bores.

Biannual sampling at the standard suite is scheduled for the 2023-24 groundwater monitoring program. A review of the report recommendations of additional ambient sampling requirements and required remedial work will be completed in 2023-24.

62.7 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 39 out of 79 in priority.

62.8 Sludge and Biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period, the most recent sludge profiling results, and upcoming annual desludging program.

One instance of non-compliance against biosolids disposal was recorded during the year (see Section 62.10). This STP was compliant with all other aspects of the 2022-23 SSMP.

Biosolids are removed regularly from site, no stockpiling occurs.

Table 62-G: Biosolids sludge classification summary

Month	Number of Samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant Classification
Arsenic	12	2.4	2.0	1.2	2.8	A
Cadmium	12	1.1	0.7	0.4	1.1	B
Chromium	12	40.4	25.6	10.7	46.1	A
Copper	12	282.0	194.8	135.0	274.8	B
Lead	12	22.3	12.2	7.0	20.5	A
Mercury	12	2.4	1.1	0.52	2.2	B
Nickel	12	30.4	20.2	10.4	33.7	A
Zinc	12	749.0	531.3	337.0	758.4	B

Table 62-H: Volume and disposal destination

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation Grade	Contamination Grade	Biosolids Classification	End use destination
11.24	15.3%	None	U/C	B	U/C	Plenty
8.49	15.3%	None	U/C	B	U/C	Copping Landfill
1.36	15.3%	None	U/C	B	U/C	Coronation Farm, Runnymede

Notes: DST = Dry solid tonne. U/C = Unclassified

62.9 Non-compliance with other permit requirements

Table 62-I: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
A1 Odour management	Odour complaints	See Section 62.10 for odour complaints related to this condition
EF2 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 62.3 Discharge compliance with permit limits and Performance Analysis
OP2 Operational Procedures and Maintenance Manual	No contemporary Operational Procedures Manual	New SharePoint based solution for OPMMs currently being developed. First version to be implemented in FY24

62.10 Complaints and incident reporting

Table 62-J: Complaints Reporting

Date	Category	Details	Mitigation actions
6/03/2023	Odour	Strong odour coming from treatment plant	Sludge is de-watered using a fan press to reduce odour
8/08/2023	Odour	Strong odour coming from treatment plant	As above

Table 62-K: Incident Reporting

Date	Category	Details	Mitigation actions
26/05/2023	Biosolids	1.36 dry solid tonnes of unstabilised, contaminant grade B biosolids were incorrectly transferred to the land spreading site and mixed with other Class 2 biosolids prior to spreading. EPA formal warning received in August 2023 regarding the event.	Re-training implemented to ensure disposal requirements are adhered to.

62.11 Any other relevant information

Table 62-L: Projects or significant operational events that occurred in FY 2022-23:

Project or significant operational event	Progress
Penna Reuse Expansion Project Expansion of the current recycled water scheme to full reuse with no discharge to the marine environment via the Sorell outfall.	A Detailed Business Case has completed during the reporting period. The Penna Reuse Expansion Project has been prioritised to expand the Penna recycled water scheme (RWS) to Flexmore Park and to facilitate cessation of effluent discharges into Sorell Rivulet & Pittwater. The Irrigation Environmental Management Plan update to include Flexmore Park is being finalised and detailed design, costings and procurement activities are being progressed in line with TasWater commitments to cease discharges by October 2023.
Inflow and Infiltration work	Smoke testing and manhole audit of the catchment Ongoing rectifications of TW defects found in the investigations. Ongoing discussions with Sorell council and private property owners to address cross-connections.

For further information on the Sorell STP please contact TasWater on 13 6992.

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