

61 Somerset STP

61.1 Activity and report details

Activity name	Somerset		
Activity address	Bass Highway, Somerset		
Permit number	Licence to Operate - 3301	Date of issue	8/08/1988
EPN	9186/1	Date of issue	21/07/2015
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	1200 kL/day		
Key Influent Source	Residential/Industrial		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 61-1: Somerset Sewage Treatment Plant



61.2 Monitoring and compliance summary

61.2.1 Flow data

Table 61-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Plant Influent	Bass Strait	No reuse scheme
Coordinates	E 399599 N 5457534	NA	NA
Method of Measurement	In line meter	NA	NA
Date of last Calibration/Validation (if applicable).	1/08/2023	NA	NA

Table 61-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 91355	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	1,070	47.0	33.16	--
August 2022	1,070	134.2	33.16	--
September 2022	1,314	74.6	39.43	--
October 2022	1,681	195.4	52.10	--
November 2022	1,589	105.4	47.68	--
December 2022	995	17.6	30.83	--
January 2023	833	35.8	25.83	--
February 2023	788	30.4	22.06	--
March 2023	1,226	75.8	38.00	--
April 2023	844	44.4	25.32	--
May 2023	875	43.8	27.14	--
June 2023	1,528	169.4	45.84	--
Annual 2022-23	1,152	973.8	420.55	--
% of Total Discharge	--	--	100.0%	--

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

61.2.2 Bypass events

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

61.3 Discharge compliance with permit limits

Table 61-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	11	80	--	19	3	8.5	6	1000	60
90th percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	--	12	12	12	12	12	12
Number analysed	12	12	--	12	12	13	12	12	12
Statistical summary									
Max	8.0	35	--	16.8	6.5	7.2	8.8	24916	124.0
90th percentile	7.5	25	--	13.2	1.0	7.0	8.2	24196	32.2
50th percentile	2.1	8	--	6.1	1.0	6.9	5.1	24196	4.0
Min	0.3	5	--	2.9	1.0	6.5	2.7	41	4.0
EPN Limit Compliance									
% compliance with Maximum	100%	100%	--	100%	92%	--	58%	8%	92%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 61-D: Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	--	Annual	3367.7
Phosphorous (kg)	--	Annual	2321.7
Method	Time weighted/Grab sample method		

Table 61-E: Performance Analysis (Discharge to environment)

Effluent Compliance Parameter	Date(s) of non-compliance		Reasons for non-compliance	Actions to improve performance
E. coli	26/07/2022	8/12/2022	Somerset STP does not have disinfection and phosphorus removal processes, which results in regular non-compliance with the E. coli and Phosphorus limits.	No specific actions undertaken in reporting period. Strategic planning to be undertaken to inform the future plant upgrade requirements and potential rationalisation of the site to Wynyard STP.
	30/08/2022	19/01/2023		
	29/09/2022	2/02/2023		
	26/10/2022	16/03/2023		
	17/11/2022	19/04/2023		
Phosphorus	19/01/2023	19/04/2023		
	2/02/2023	25/05/2023		
	16/03/2023			
TSS	17/11/2022		High effluent solids likely caused elevated TSS in the aeration basin sludge process. Operational reduction of solids content in the aeration basin rectified this exceedance.	
Oil and Grease	8/06/2023		The reason for this isolated exceedance is not fully understood.	

No other parameters had exceedances in the reporting period.

61.4 Reuse Annual Reporting

No Recycled Water Scheme associated with this STP.

61.5 Ambient monitoring program

Table 61-F: Program details

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

61.6 Groundwater monitoring

No groundwater monitoring program associated with the STP.

61.7 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.

61.8 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.

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

There are no sludge/biosolids dewatering facilities at this site, with sludge transferred via liquid sludge transport to the Wynyard STP for additional treatment. Sludge volume produced for this site is captured as part of the production from the Wynyard STP.

No stockpiling occurs at this site.

61.9 Non-compliance with other permit requirements

Table 61-G: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 61.3 Discharge compliance with permit limits and Performance Analysis

EPN Condition	Description of non-conformance	Future Actions to be taken
Discharge Management Plan	Discharge Management Plan overdue.	Plan in development for DMP submission dates following on from agreed format between TasWater and EPA.
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.
M2 Groundwater Monitoring	Groundwater Monitoring not as per specific requirements	Improve monitoring program for FY23/24 to meet compliance

61.10 Complaints and incident reporting

No complaints recorded during the reporting period.

Table 61H: Incident Reporting

Date	Category	Details	Mitigation Actions
13/12/2022	Aerator failure	Aerator failed in one of two pasveer ditches	Diverted flow 1/3 flow to affected ditch and 2/3 to normal functioning ditch. Reduced MLSS levels in the affected ditch to assist with oxygen transfer efficiency. Contractor engaged to repair aerator.
4/10/2022	Aerator failure	Aerator failed in one of two pasveer ditches	Diverted flow 1/3 flow to affected ditch and 2/3 to normal functioning ditch. Reduced MLSS levels in the affected ditch to assist with oxygen transfer efficiency. Contractor engaged to repair aerator.

61.11 Any other relevant information

Table 61-I: Projects or significant operational events that occurred in FY 2022-23

Project or significant operational event	Progress
Wynyard and Somerset Rationalisation Strategy	The development of a Strategic Options Report investigating the current sewerage system configurations for Wynyard and Somerset is currently in progress.

For further information on Somerset STP please contact TasWater on 13 6992

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