38. Orford STP

38.1 Activity and report details

Activity name	Orford STP		
Activity address	Rheban Rd, Orford		
Permit number	Licence to Operate – 2840	**Date of issue**	8/03/1991
EPN	8949/1	**Date of issue**	17/03/2014
Treatment level	Secondary Treatment		
Authorised dry weather flows	473 kL/day		
Key influent source	Residential		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

Figure 38-1: Orford Sewage Treatment Plant

38.2 Monitoring and compliance summary

38.2.1 Flow data

Table 38-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	Mercury Passage off Quarry Point	No reuse scheme
Coordinates	E 572846 N 5285940	E 5747357 N 5286646	NA
Method of measurement	In line meter	Estimate based on influent	NA
Date of last calibration/validation (if applicable).	05/09/2022	NA – to be installed	NA

Table 38-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 92028	Discharge to waters total effluent Volume (ML)	Discharge to reuse total effluent Volume (ML)
July 2023	242	4.8	7.52	--
August 2023	150	21.0	4.64	--
September 2023	149	18.6	4.46	--
October 2023	188	68.2	5.82	--
November 2023	163	66.3	4.87	--
December 2023	230	56.6	7.13	--
January 2024	267	56.4	8.27	--
February 2024	165	1.3	4.78	--
March 2024	185	13.6	5.72	--
April 2024	192	30.0	5.77	--
May 2024	176	36.8	5.46	--
June 2024	182	20.8	5.46	--
Annual 2023-24	192	394.4	69.90	--
% of total discharge	--	--	100.0%	--

2023-24 monthly flow data was submitted directly to the EPA.

38.3 Bypass events

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

38.4 Discharge compliance with permit limits

Table 38-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	25.0	30	--	40.0	10.0	8.5	10.0	1000	40.0
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	12	12	12	12
Statistical summary									
Maximum	22.1	70	--	32.7	1.8	9.5	9.5	2755	92.0
90th percentile	21.4	58	--	29.6	1.3	9.3	8.9	485	75.4
50th percentile	4.2	36	--	16.4	1.0	7.9	6.9	288	19.0
Minimum	0.5	5	--	9.3	1.0	7.3	4.7	10	4.0
EPN limit compliance									
% compliance with maximum	100%	42%	--	100%	100%	--	100%	92%	58%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	58%	--	--	--

Table 38-D: Mass loads to the environment

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen (kg)	--	Annual	1238.1
Phosphorous (kg)	--	Annual	476.7
Method	Time weighted/grab sample method		

Table 38-E: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance		Reasons for non-compliance	Actions to improve performance
BOD	13/12/2023 24/01/2024 8/02/2024 4/03/2024	3/04/2024 20/05/2024 13/06/2024	Algae is believed to be the primary reason for elevated pH, BOD, and suspended solids. Algae is a source of oxygen and is fundamental to lagoon treatment. Most of the non-compliant results were in warmer months when algal blooms occur. Increased loading in the summer months from tourist populations compounds this issue.	No specific actions undertaken
pH	13/12/2023 24/01/2024 8/02/2024	4/03/2024 3/04/2024		
TSS	13/12/2023 24/01/2024 8/02/2024	4/03/2024 3/04/2024		
E. coli	3/04/2024			

No other parameters have had exceedances in reporting period.

38.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

38.6 Ambient monitoring program

Table 38-F: Program details

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

38.7 Groundwater monitoring

No groundwater monitoring program associated with the STP.

38.8 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 2024 to prioritise I&I investigation and works state-wide. This catchment was ranked 6 out of 108 in priority. Actions in the period included:

- Manhole inspections and remediation
- CCTV of 6,600m sewer mains
- Relined 1,540m of sewer mains

38.9 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 is fully compliant with the 2023-24 SSMP.

No stockpiling occurs at this site.

Table 38-G: Desludging status and comments

Desludging status	Comments
Low priority	Desludging is outside of the current prioritisation planning schedule.

38.10 Non-compliance with other permit requirements

Table 38-H: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
EF3 Effluent quality limits for discharge to water	Discharge compliance with permit limits.	See section 38.4 Discharge compliance with permit limits and Performance Analysis.
M2 Flow meters	No recent flow meter validations.	Scheduled for rectification

38.11 Complaints and incident reporting

No complaints were reported during the FY2023-24 reporting period.

Table 38-I: Incident reporting

Date	Category	Details	Mitigation actions
18/04/2023	Lagoon	Overtopping of the final lagoon resulted in discharge to East Shelly Beach.	Project underway to install a new pump station and pipework at the STP, this will prevent overtopping.

38.12 Any other relevant information

Table 38-J: Projects or significant operational events that occurred in FY 2023-24:

Project or significant operational event	Progress
Sewage Pump Station (SPS) upgrades and reconfiguring the sewerage network into two discrete networks. SPS upgrades involve new emergency storage tanks, pumps, wet wells, and electrical switchboards to reduce the frequency and volume of sewage overflows and allow for a greater holding capacity of wet weather flows within the network.	Project completed.

For further information on the Orford STP please contact TasWater on 13 6992

www.taswater.com.au