18. Cygnet STP

18.1 Activity and report details

Activity name	**Cygnet STP**		
Activity address	Channel Highway, Cygnet		
Permit number	Licence to Operate - 3489	**Date of issue**	14/10/1991
EPN	11749/1	**Date of issue**	27/03/2024
Treatment level	Secondary Treatment		
Authorised dry weather flows	400 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 2025		

Figure 18-1: Cygnet Sewage Treatment Plant

18.2 Monitoring and compliance summary

18.2.1. Flow data

Table 18-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	Port Cygnet Bay	No reuse scheme
Coordinates	E 507390 N 5220470	E 507202 N 5219319	NA
Method of measurement	Level Sensor	Estimate based on influent	NA
Date of last calibration/validation (if applicable).	16/07/2024	NA – to be installed	NA

Table 18-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 94269	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2024	506	84.8	15.68	--
August 2024	575	150.6	17.83	--
September 2024	614	126.8	21.50	--
October 2024	388	55.2	12.35	--
November 2024	333	28.6	9.88	--
December 2024	410	110.4	12.98	--
January 2025	295	17.6	9.19	--
February 2025	267	9.6	7.45	--
March 2025	257	23.4	8.37	--
April 2025	262	34.8	8.28	--
May 2025	325	80.8	10.41	--
June 2025	423	--	13.10	--
Annual 2024-25	389		147.01	0.00
% of total discharge	--	--	100.0%	0.0%

2024-25 monthly flow data was submitted directly to the EPA.

18.3 Bypass events

No events recorded.

18.4 Discharge compliance with permit limits

Table 18-C: Discharge compliance with permit limits

	Ammonia	BOD_5	Chlorine	Nitrogen	Oil and Grease	pH	Phosphorus	E coli	Enterococci	Total suspended solids
Permit/EPN limit	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**Units**	**mg/L**	**MPN/100mL**	**MPN/100mL**	**mg/L**
Maximum	10	--	1.5	--	--	8.5	--	400	--	--
90th Percentile	5	20	1.0	25	--	--	9	200	100	30
50th Percentile	3	15	--	18	--	--	6	100	50	20
Minimum	--	--	--	--	--	6.5	--	--	--	--
Samples analysed										
Number required	12	12	12	12	12	12	12	12	12	12
Number analysed	12	12	13	12	12	12	12	12	12	12
Statistical summary										
Maximum	34.2	38.0	5.7	33.9	3.6	7.4	9.5	134	1,187	36.0
90th percentile	16.9	29.3	4.4	29.8	2.9	7.3	8.0	19	367	10.9
50th percentile	4.2	14.5	1.1	10.9	1.6	7.0	3.8	10	10	8.5
Minimum	2.3	5.0	0.4	7.6	1.0	6.6	0.6	10	10	4.0
EPN Limit Compliance										
% compliance with Maximum	75%	--	69%	--	--	100%	--	100%	--	--
% compliance with 90th percentile	58%	67%	38%	83%	--	--	92%	100%	83%	92%
% compliance with 50th percentile	25%	50%	--	75%	--	--	75%	92%	75%	92%
% compliance with pH range	--	--	--	--	--	100%	--	--	--	--

Table 18-D: Mass loads to the environment

Mass Loads	EPN limit	Frequency	2024-25 result
Nitrogen	--	Annual	2,085.7
Phosphorous (kg)	--	Annual	539.2
Method	Time weighted/Grab sample method		

Table 18-E: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
Ammonia	16/01/2025 20/02/2025 20/03/2025	The treatment process is not specifically designed or capable of removing ammonia and nitrogen, in part due to aeration system limitations.	No specific action undertaken.
Chlorine	18/07/2024 21/08/2024 19/09/2024 16/01/2025	Poor chlorine control	New chlorine dosing system installed to improve the system reliability and automation. Additional sensors installed to automate chlorine dosing during high flow periods.

No other parameters had exceedances in the reporting period.

18.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

18.6. Ambient monitoring program

Table 18-F: Program details

Program	Cygnet STP Post New Outfall Commissioning – Ambient Monitoring Program (PNOC-AMP).
Status	Ambient water quality, sediment and biological monitoring was completed during the reporting period.
Update	12-month monitoring program was undertaken between May 2024 and April 2025.
Comments	An ambient monitoring report was submitted to the EPA in July 2025 to comply with condition M8 of EPN 11749. Notable findings of the study include: • Discharge from the Cygnet STP outfall had no discernible impact on physical parameters in the receiving environment. Nutrients, chlorophyll, pathogen indicator bacteria and metal contaminants were elevated at the outfall or at near field sites on very few occasions, with little correlation or consistency among parameters, effluent quality, sampling occasions or sites. • Elevations in pathogen indicator bacteria (*E. coli* and enterococci) coincided with heavy rainfall in the days prior to ambient sampling. In some cases, elevations were aligned with the timing of STP discharge (i.e., sampled during STP discharge), but not always. • The results of the AMP indicate that the new outfall is functioning effectively to disperse effluent discharges, with minimal impact on water quality, sediments and benthic communities and no compromise of the protected environmental values for the area. • It is recommended that ongoing biennial monitoring of the Cygnet STP receiving environment is conducted on a seasonal (summer and winter) basis, with the next monitoring round and an update to this recommendation in FY2026-27.

18.7. Groundwater monitoring

Site Status: Red

Cygnet STP groundwater monitoring network consists of three monitoring bores ID numbers CYGW1-3. Located between the STP and the Port Cygnet salt marsh, bore ID# CYGW1 is situated on the western boundary of the STP, with bore ID# CYGW2 on the south and bore ID# CYGW3 located on the eastern boundary of the STP.

6-Monthly sampling at the extended analytical suite was completed at all three monitoring bores (ID#'s CYGW1-3) in September 2024 and February 2025. 6-Monthly sampling of the Cygnet STP storages and the receiving environment, Port Cygnet, was also completed.

The 2024-25 groundwater monitoring event recorded evidence of STP impacts on several analytes at monitoring bore ID's CYGW1 and CYGW2 and no clear signs of STP impact on receiving environment which continue to be the tidal zone of the Huon estuary. Background bore is required to expand the monitoring network (planned for 2025-26 reporting period).

6-Monthly sampling at the extended analytical suite is planned to continue across the monitoring during the 2025-26 groundwater monitoring program. Sampling of the

surface water of the receiving environment is also scheduled. Refer to **Error! Reference source not found.** regarding future works to STP.

18.8. 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.

A Multi Criteria Assessment was undertaken by TasWater in 2024 to prioritise I&I investigation and works state-wide. This catchment was ranked 10 out of 108 in priority (high). Works this period included:

- Monitoring performance of previous I&I actions for effectiveness and network storage upgrades in shellfish lease areas.

18.9. Sludge and biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period. This STP was assessed as compliant with the 2024-25 SSMP.

Sludge at this STP is captured within the sludge holding lagoon, with sludge frequently transferred via liquid sludge transport to Macquarie Point, Prince of Wales Bay and Selfs Point STPs. The total volume of sludge removed for the reporting period was 1181.8kL.

No stockpiling occurs at this site.

Table 18-G: Liquid sludge transfers from Cygnet STP

Receiving STP	Volume (kL)
Macquarie Point STP	699.4
Prince of Wales STP	211.4
Selfs Point STP	271
TOTAL	**1,181.8**

18.10. Non-compliance with other permit requirements

Table 18-H: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
EF2 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 18-5. Discharge compliance with permit limits and Performance Analysis.
OP5 Lagoon Liner	Historical groundwater monitoring results have indicated potential leakage from Cygnet STP into local groundwater. See Annual GW Reports	TasWater has undertaken 3 levels of investigation to better understand the issues regarding leakage from the Cygnet STP site. The Ground Water Contamination Abatement Plan will address actions for future action to be taken.

18.11. Complaints and incident reporting

No complaints recorded during the period.

Table 18-I: Incident reporting

Date	Category	Details	Mitigation actions
2/09/2024	Mechanical	Due to power outages in the Cygnet region the STP discharged effluent from the emergency outfall.	When power was restored, the new outfall was again used.

18.12. Any other relevant information

Table 18-J: Projects or significant operational events that occurred in FY 2024-2025

Project or significant operational event	Progress
Chlorine Dosing Upgrade	Completed.
Development and installation of background groundwater monitoring bore.	Scheduled for FY2026.

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

www.taswater.com.au