

39 Pardoe STP

39.1 Activity and report details

Activity name	Pardoe STP		
Activity address	Brooke St, East Devonport		
Permit number	Permit Conditions Environmental - 6084	Date of issue	18/02/1998
EPN	8857/1	Date of issue	13/03/2013
Treatment level	Primary Treatment		
Authorised Dry Weather Flows	14000 kL/day		
Key Influent Source	Residential/Industrial/Tankerred 2 x Category 3 Customers, 7 x Category 4 Customers		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 39-1: Pardoe STP



39.2 Monitoring and compliance summary

39.2.1 Flow data

Table 39-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Inlet	Bass Strait	No reuse scheme
Coordinates	E 449715 N 5441883	E449255 N5443071	NA
Method of Measurement	In line meter	NA	NA
Date of last Calibration/Validation (if applicable).	3/11/2022	NA	NA

Table 39-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 91126	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	11,945	26.0	370.30	--
August 2022	17,318	95.9	536.86	--
September 2022	12,667	46.4	380.00	--
October 2022	15,167	147.0	470.17	--
November 2022	16,767	79.8	503.00	--
December 2022	12,065	10.8	374.00	--
January 2023	11,759	22.6	364.52	--
February 2023	9,571	24.0	268.00	--
March 2023	14,233	54.7	441.23	--
April 2023	14,039	44.9	421.17	--
May 2023	10,906	21.7	338.09	--
June 2023	14,773	116.8	443.18	--
Annual 2022-23	13,453	690.6	4,910.53	--
% of Total Discharge	--	--	100.0%	--

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

39.2.2 Bypass events

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

39.3 Discharge compliance with permit limits

Table 39-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	--	700	--	--	70	--	--	--	450
90th percentile	--	550	--	--	40	--	--	--	300
50th Percentile	--	400	--	--	20	--	--	--	200
Minimum	--	--	--	--	--	--	--	--	--
Samples analysed									
Number required	0	52	--	0	52	0	0	0	0
Number analysed	52	52	--	52	52	52	52	52	52
Statistical summary									
Max	28.3	1162	--	60.7	53.8	8.2	11.6	241960	223.0
90th percentile	21.4	751	--	49.5	41.4	7.3	8.6	241960	116.0
50th percentile	13.7	350	--	29.6	26.6	6.7	5.6	241960	85.5
Min	7.4	120	--	17.2	15.6	5.1	2.4	101120	48.5
EPN Limit Compliance									
% compliance with Maximum	--	87%	--	--	100%	--	--	--	100%
% compliance with 90th percentile	--	81%	--	--	87%	--	--	--	100%
% compliance with 50th percentile	--	56%	--	--	13%	--	--	--	98%
% compliance with pH range	--	--	--	--	--	--	--	--	--

Table 39-D: Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	--	Annual	154493.8
Phosphorous (kg)	--	Annual	28407.5
Method	Flow weighted/Composite method		

Table 39-E: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	21/12/2022 28/12/2022 4/01/2023 11/01/2023	25/01/2023 1/02/2023 8/02/2023	<p>There is a base level concentration of soluble BOD due to trade waste discharges that cannot be removed by the installed treatment process (i.e. primary sedimentation). This means even if all solids were filtered from the effluent, the effluent would not comply with the licence conditions.</p> <p>TasWater has engaged with trade waste customers to drive improvements in trade waste quality. A trade waste improvement plan has been developed to discuss and drive operational plans to reduce impact from contributing customers.</p> <p>A strategic business case is under development which includes rationalisation of a number of treatment plants to Pardoe STP and some upgrades to the plant.</p>
		12 months 90 th percentile limit exceedance	
Oil and Grease		12 months 90 th percentile limit exceedance	
		12 months 50 th percentile limit exceedance	

No other parameters had exceedances in the reporting period.

39.4 Reuse Annual Reporting

No Recycled Water Scheme associated with this STP.

39.5 Ambient monitoring program

Table 39-F: Program details

Program	Pardoe AMP.
Status	Ongoing biennial, biannual (seasonal) water quality and biological monitoring.
Update	Ambient water quality and biological monitoring completed in July 2022, September 2022, January 2023, and February 2023 during the reporting period.
Comments	<p>An Ambient Monitoring Report (AMR) has been prepared during the reporting period and submitted separately to the EPA. Key findings of the AMR were:</p> <ul style="list-style-type: none"> • Ambient water quality monitoring indicated an elevation in total phosphorus and dissolved reactive phosphorus within 200 m of the outfall. Water quality impacts were not observed beyond the 200 m monitoring sites. • Elevations in pathogen levels were observed during both the July 2022 and January 2023 sampling events, with elevated concentrations of <i>E. coli</i> and enterococcus extending to the 600 m monitoring sites. This poses a potential risk to recreational activities and/or the taking of edible fish, shellfish and crustaceans around the outfall and receiving environment. • The benthic habitat surrounding the outfall continues to be comprised of loose rock and cobble, with intermittent ascidian, sponge, and algal coverage. A dense coverage of common kelp <i>Ecklonia radiata</i> persists surrounding the diffuser ports. The benthic community structure was consistent with previous monitoring events with minimal impact from the effluent discharge was observed. <p>The results of the AMR suggest that the Pardoe (and Latrobe STP) effluent discharge is having minimal long-term impacts on the marine environment. Except for pathogens, water quality impacts were not observed beyond the 200 m monitoring sites. Elevations in pathogen levels surrounding the outfall are likely impacting the protected environmental values (PEVs) for primary/secondary contact and the harvesting of marine organisms within a 600 m radius of the outfall. Habitat surrounding the outfall maintains ecological stability, with no notable changes observed over the present and past ambient monitoring programs.</p>

39.6 Groundwater monitoring

No groundwater monitoring program associated with this STP.

39.7 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 21 out of 79 in priority.

39.8 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.

No stockpiling occurs at this site.

Table 39-G: Biosolids sludge classification

Month	Number of Samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant Classification
Arsenic	12	5.6	1.9	1.3	4.2	A
Cadmium	12	0.7	0.4	0.2	0.7	A
Chromium	12	147.0	83.6	23.9	143.2	B
Copper	12	168.0	81.3	50	150.9	B
Lead	12	20.1	11.3	8.1	18.3	A
Mercury	12	0.3	0.2	0.03	0.4	A
Nickel	12	28.2	18.7	13.2	27.4	A
Zinc	12	540.0	344.3	259	517.0	B

Table 39-H: Volume and disposal destination

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation Grade	Contamination Grade	Biosolids Classification	End use destination
688.09	23.4%	None	U/C	B	U/C	Dulverton compost

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

39.9 Non-compliance with other permit requirements

Table 39-I: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
E1 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 39.3 Discharge compliance with permit limits and Performance Analysis
Discharge Management Plan	Discharge Management Plan overdue.	Submission timeframe TBC. DMP submission date to be finalised on agreement with EPA on path forwards.
G16 Operational Procedures and Maintenance Manual	No contemporary Operational Procedures Manual	New SharePoint based solution for OPMs currently being developed. First version to be implemented in FY24.

39.10 Complaints and incident reporting

Table 39-J: Complaints Reporting

Date	Category	Details	Mitigation Actions
22/06/2023 5/06/2023 17/05/2023 4/05/2023 2/05/2023	14/03/2023 20/02/2023 10/02/2023 30/09/2022	Odour Strong odour emanating from the STP	TasWater has considered trade waste quality and has requested further pH correction in fish waste before receipt at Pardoe STP. Odour bed biofilter media being explored for replacement this FY2023-24. There are no other known process upsets attributable to odour at the STP.

No incidents reported during the FY2022-23 reporting period.

39.11 Any other relevant information

Table 39-K: Projects or significant operational events that occurred in FY 2022-23:

Project or significant operational event	Progress
Pardoe Sewer Improvement Plan (PARSIP)	Pardoe is currently being investigated as a future rationalised central STP with incorporation of effluent flows from a number of other STPs including Latrobe, Port Sorell, Railton & Sheffield under PARSIP. A PARSIP Strategic Business Case and Strategic Options Report will be completed in FY 2023-24.

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

www.taswater.com.au