

60. Smithton (Pelican Point) STP

60.1 Activity and report details

Activity name	Smithton STP		
Activity address	Pelican Point Rd, Smithton		
Permit number	Licence to Operate - 3656	Date of issue	2/05/1989
EPN	8596/1	Date of issue	17/12/2014
Treatment level	Secondary Treatment		
Authorised dry weather flows	5200 kL/day		
Key influent source	Residential/Industrial 1 x Category 3 Customers, 3 x Category 4 Customers		
Contact person	Kate Westgate (Manager Environmental Performance)		
Report author	Jake Crisp (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 60-1: Smithton Sewage Treatment Plant



60.2 Monitoring and compliance summary

60.2.1 Flow data

Table 60-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Plant Influent	Duck Bay	Partial Reuse scheme - Pelican Point Farm
Coordinates	E 340282 N 5478859	E 339916 N 5479057	E 340010 N 5479183
Method of measurement	In line meter	In line meter	In line meter
Date of last calibration/validation (if applicable).	27/05/2025	27/05/2025	27/05/2025

Table 60-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 91292	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2024	3,969	86.2	134.24	0.00
August 2024	4,943	167.6	163.94	0.00
September 2024	5,742	161.2	174.34	0.00
October 2024	4,962	42.4	140.60	0.00
November 2024	4,559	62.8	106.68	13.80
December 2024	3,547	60.4	79.24	35.91
January 2025	3,691	7.6	0.00	79.70
February 2025	3,092	18.4	86.58	0.00
March 2025	3,950	15	122.44	0.00
April 2025	3,598	33.2	107.93	0.00
May 2025	3,943	39.6	122.22	0.00
June 2025	3,940	70.6	118.19	0.00
Annual 2024-25	4,167	765	1,356.39	129.41
% of total discharge	--	--	91.3%	8.7%

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

60.3 Bypass events

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

60.4 Discharge compliance with permit limits

Table 60-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	20	90	--	70	10	8.5	15	2800	110
90th percentile	--	--	--	--	--	--	--	--	--
50th percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	--	52	52	52	52	52	52
Number analysed**	38	38	--	38	38	38	38	38	38
Statistical summary									
Maximum	49.7	242.0	0.0	74.7	2.6	8.3	22.0	17329.0	142.0
90th percentile	48.0	231.3	0.0	70.7	2.0	8.1	18.8	6115.9	107.5
50th percentile	29.2	183.0	0.0	59.3	1.1	7.9	12.8	2338.0	50.0
Minimum	0.2	41.0	0.0	42.1	1.0	7.3	9.0	345.0	11.8
EPN limit compliance									
% compliance with maximum	29%	5%	--	84%	100%	100%	66%	58%	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 required when discharging to environment

Table 60-D: Mass loads to the environment

Mass Loads	EPN limit	Frequency	2024-25 result
Nitrogen (kg)	--	Annual	66897.3
Phosphorous (kg)	--	Annual	15208.4
Method	Flow weighted/composite method		

Table 60-E: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance					Reasons for non-compliance	Actions to improve performance
Ammonia	2/07/2024	20/08/2024	8/10/2024	20/05/2025		The STP treats a high volume of trade waste alongside domestic input and is experiencing overloading. Due to the trade waste inputs the sludge build up within the lagoons remains high, requiring desludging. This is likely leading to elevated levels of ammonia, BOD and Nitrogen.	Desludging efforts will continue this financial year with allocated funding. TasWater is also working with a trade waste customer to add a pre-treatment step before discharge to Smithton STP. This addition could enhance the treatment process and reduce parameter non-compliances.
	9/07/2024	27/08/2024	15/10/2024	27/05/2025			
	16/07/2024	3/09/2024	22/10/2024	3/06/2025			
	23/07/2024	17/09/2024	29/10/2024	10/06/2025			
	30/07/2024	24/09/2024	5/11/2024				
	6/08/2024	10/09/2024	12/11/2024				
	13/08/2024	1/10/2024	13/05/2025				
BOD	2/07/2024	27/08/2024	15/10/2024	10/12/2024	29/04/2025		
	9/07/2024	3/09/2024	22/10/2024	17/12/2024	6/05/2025		
	16/07/2024	17/09/2024	29/10/2024	23/12/2024	13/05/2025		
	23/07/2024	24/09/2024	5/11/2024	25/03/2025	20/05/2025		
	30/07/2024	10/09/2024	12/11/2024	8/04/2025	27/05/2025		
	6/08/2024	1/10/2024	19/11/2024	15/04/2025	10/06/2025		
	20/08/2024	8/10/2024	26/11/2024	23/04/2025			
Nitrogen	2/07/2024		23/07/2024				
	9/07/2024		30/07/2024				
	16/07/2024		6/08/2024				

Effluent compliance parameter	Date(s) of non-compliance				Reasons for non-compliance	Actions to improve performance
Phosphorus	25/03/2025		13/05/2025		Non-compliance is likely caused by an increase in influent phosphorus loading due to trade waste load.	
	8/04/2025		20/05/2025			
	15/04/2025		27/05/2025			
	23/04/2025		3/06/2025			
	29/04/2025		3/06/2025			
	6/05/2025		10/06/2025			
Total suspended solids	17/12/2024		8/04/2025		High algae levels increase suspended solids by adding biomass to the lagoons, while trade waste inputs and the need for desludging also contribute to non-compliance.	
	23/12/2024		23/04/2025			
E. coli	27/08/2024	19/11/2024	25/03/2025	29/04/2025	Modelling suggests that the lagoons have sufficient disinfection capacity. However, current non-compliances can be attributed to environmental conditions such as birdlife, algae, and climatic factors.	No specific actions planned.
	3/09/2024	10/12/2024	8/04/2025	6/05/2025		
	24/09/2024	17/12/2024	15/04/2025	3/06/2025		
	10/09/2024	23/12/2024	23/04/2025			
	12/11/2024					

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

No other parameters had exceedances in the reporting period.

60.5 Reuse annual reporting

The Smithton STP supplies recycled water for irrigation purposes to the Smithton (Pelican Point) recycled water scheme located at one property.

Table 60-F: Reuse Compliance Summary

Parameter			BOD5	pH	E coli
Permit/EPN limit	mg/L	Units	MPN/100ml		
Maximum	50	9.0	10000		
90th Percentile	--	--	--		
50th Percentile	--	--	1000		
Minimum	--	5.5	--		
Samples analysed					
Number required	52	52	52		
Number analysed	14	14	14		
Statistical summary					
Maximum	170.0	9.7	10462		
90th percentile	97.9	9.5	5855		
50th percentile	73.0	9.1	547		
Minimum	34.0	7.7	10		
EPN Limit Compliance					
% compliance with Maximum	29%	--	93%		
% compliance with 90th percentile	--	--	--		
% compliance with 50th percentile	--	--	57%		
% compliance with pH range	--	43%	--		

Note: Percentages reflective of complete data set for the year; **Sampling only required when discharging to reuse

Table 60-G: Performance analysis (discharge to reuse)

Reuse compliance parameter		Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
pH	2/01/2025 7/01/2025 14/01/2025 21/01/2025 29/01/2025	11/02/2025 18/02/2025 25/02/2025	See 60.4 Performance Analysis (Discharge to environment)	See 60.4 Performance Analysis (Discharge to environment)
BOD	3/12/2024 7/01/2025 14/01/2025 21/01/2025 11/02/2025	18/02/2025 25/02/2025 4/03/2025 18/03/2025 1/04/2025	See 60.4 Performance Analysis (Discharge to environment)	See 60.4 Performance Analysis (Discharge to environment)

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

Annual soil sampling was completed at the three long-term monitoring sites (Site 1 –3) at the Smithton RWS in June 2025. The annual compliance audit was completed in conjunction with the soil sampling with a follow-up phone audit. A summary of the findings is provided in the below table.

Table 60-H: Annual recycled water scheme compliance audit and soil monitoring summary

Program	Compliance audit	Soil monitoring
Outcomes	Compliant	All sites remain classified as saline and strongly sodic. With increasing sodicity levels a concern for the continued sustainability of the scheme.
Comments		All sites recorded either high or excessive levels of one or more nutrients at levels of concern. In 2025 recycled water irrigation nutrient budget was completed following 2023–24 soil sampling results.

Smithton RWS groundwater status: Red

The Smithton RWS groundwater monitoring network consists of nine monitoring bores (PPGW14–22). Bore ID PPGW19 is located downslope of the on-farm recycled water storage which also contains dairy washdown.

Quarterly sampling at the extended analytical suite was completed across the network in August and December 2024 and April and June 2025 as scheduled.

The 2024–25 groundwater monitoring event (GME) continued to record fluctuations and exceedances in concentrations of several key analytes and across the network. The findings are generally seen to be unlikely attributed to recycled water due to the location of the bore. Two bores of note (ID’s PPGW19 and PPGW20) require additional monitoring as the cause of the fluctuations and elevated concentrations is unclear. In addition, the GME suggested that following a water characterisation assessment at bore ID PPGW17 the groundwater quality has a chemical composition similar to recycled water. This bore is unlikely to be impacted by recycled water (due to location) but may be influenced by the STP.

Quarterly sampling across the monitoring network at the extended analytical suite is scheduled to continue during the 2025–26 monitoring program to continue chemical analysis and differentiate the chemical signature of the recycled water and groundwater.

60.6 Ambient monitoring program

Table 60-I: Program details

Program	Smithton STP Ambient Monitoring Program.
Status	Biennial water quality, intertidal surveys, benthic infauna and sediment monitoring.
Update	Monitoring next due in October 2025 and April 2026.

60.7 Groundwater monitoring

Site status: Red (2023–24)

Smithton STP consists of three groundwater monitoring bores. Bore ID PPGW7, located on the northern boundary of the STP, and PPGW11 and PPGW12 located on the north-western and south-western boundary of the STP respectively.

Bi-annual sampling at the extended analytical suite was completed across the network in December 2024 and March 2025 as scheduled.

The 2024–25 groundwater monitoring event report is due in September 2025. Any actions required following a review of the report will be provided by 21 January 2026 in the groundwater Summary Actions Report (SAR).

Bi-annual sampling at the extended analytical suite is scheduled to continue at the three existing bores in the 2025–26 monitoring program. Bi-annual sampling of the surface waters of STP SDP2 and SDP3 is also scheduled.

60.8 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 3 out of 108 in priority (high). Works this period included:

- Defect rectification within the sewer network

60.9 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 was deemed non-compliant with the 2024–25 SSMP due to lack of clarity around classification of stockpiled sludge.

Sludge at this STP is captured within the three AFL treatment lagoons, which will be periodically desludged as required.

During the reporting period 408DST of stockpiled sludge was removed from drying bed 3 (contained within 5 Geobags) and applied to suitable farmland for beneficial reuse.

There are currently five Geobags stored onsite in drying beds with space for a further ten bags to be laid down as the year progresses. The aim is to have 15 Geobags filled by the end of FY26. Once suitably dewatered, this sludge will be tested, classified and applied to suitable farmland for beneficial reuse (provided it meets requirements of Class 2 biosolids).

Table 60-J: Biosolids sludge classification summaries

Parameter	Number of samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant classification
Arsenic	3	8	6	4	8.1	A
Cadmium	3	1	0	0	0.6	A
Chromium	3	57	46	32	59.3	B
Copper	3	61	41	24	59.7	A
Lead	3	6	5	3	6.4	A
Mercury	3	0	0	0	0.2	A
Nickel	3	24	20	14	24.8	A
Zinc	3	282	207	140	278.6	B

Table 60-K: Volume and disposal destination

Quantity (DST)	Average solids content (%)	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
408.0	16.1	Anaerobic digestion	B	B	2	Lester Farm

Notes:

DST = Dry solid tonne.

BACC = Biosolids Adjusted Contaminant Concentration

Table 60-L: Desludging status and comments

Desludging status	Comments
High Priority	Desludging of AFLs 1 and 3 is ongoing with sludge being captured in Geobags (stored in drying beds) for dewatering.

Table 60-M: Stockpile comments

Stockpile onsite	Volume of stockpile
Geobags contained in drying beds 1-3	Currently 5 Geobags stored onsite in drying beds with space for a further 10 bags to be laid down as the year progresses. The aim is to have 15 Geobags filled by the end of FY26. Once suitably dewatered, the sludge will be tested, classified and applied to suitable farmland for beneficial reuse (provided it meets requirements of Class 2 biosolids).

Note: DST = Dry Solid Tonne

60.10 Non-compliance with other permit requirements

Table 60-N: 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 60.4 Discharge compliance with permit limits and Performance Analysis.
EF2 Effluent quality limits for discharge to reuse	Discharge compliance with reuse permit limits.	See section 60.5 Discharge compliance with permit limits and Performance Analysis.

EM3 Discharge Management Plan	Discharge Management Plan overdue.	TasWater acknowledges the non-compliance associated with the DMP condition. We are working towards the intent of the EPN condition to prioritise discharge risk reduction projects in line with our EPA endorsed Wastewater Risk Management Plan and Price and Service Plan process.
WM2 Sewage Sludge Management Plan	Inconsistencies in sludge classification information	This was not made clear in the summary. There is a historical sludge stockpile in drying bed 2 - which had been tested and classified. The product contained within Geobags in drying beds 1 and 3 were yet to be classified at the end of the 2023/24 reporting period. The historical sludge stockpile was deemed as meeting requirements of Class 2.

60.11 Complaints and incident reporting

No complaints received during the reporting period.

Table 60-O: Incident reporting

Date	Category	Details	Mitigation actions
23/01/2025	Mechanical	Two aerators offline in AFL1	Installation of two temporary aerators. Replacement aerators installed.

60.12 Any other relevant information

Table 60-P: Projects or significant operational events that occurred in FY 2024-25

Project or significant operational event	Progress
Recycled Water Scheme Expansion	Project on hold. At the current high potassium concentrations in the effluent, the viability of the RWS expansion project with the current identified land use is uncertain. Alternative options for risk reduction are being considered including timing effluent discharge with the tide, disinfection, optimising reuse and a major desludge.

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

www.taswater.com.au