

77. Wynyard STP

77.1 Activity and report details

Activity name	Wynyard STP		
Activity address	Walker Street, Wynyard		
Permit number	Licence to Operate - 3653	Date of issue	29/09/1986
EPN	9535/1	Date of issue	26/11/2014
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	2900 KL		
Key Influent Source	Residential/Industrial 1 x Category 4 Customer		
Contact person	Kate Westgate (Manager Environmental Performance)		
Report author	Jake Crisp (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

Figure 77-1: Wynyard Sewage Treatment Plant



77.2 Monitoring and compliance summary

77.2.1 Flow data

Table 77-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Plant Inlet	Bass Strait	No reuse scheme
Coordinates	E 395351 N 5460296	E 395605 N 5461614	NA
Method of measurement	In line meter	In line meter	NA
Date of last calibration/validation (if applicable).	8/08/2023	8/08/2023	NA

Table 77-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 91107	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	2,933	103.4	90.93	--
August 2023	4,038	77.6	125.16	--
September 2023	4,381	44.2	131.44	--
October 2023	4,097	36.6	127.01	--
November 2023	3,984	55.8	119.52	--
December 2023	4,167	85.0	129.19	--
January 2024	4,081	73.8	126.50	--
February 2024	3,806	4.6	110.36	--
March 2024	3,591	15.2	111.31	--
April 2024	3,496	59.2	104.89	--
May 2024	3,424	41.2	106.14	--
June 2024	2,484	75.2	74.52	--
Annual 2023–24	3,718	671.8	1,356.98	--
% of total discharge	--	--	100.0%	--

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

77.3 Bypass events

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

77.4 Discharge compliance with permit limits

Table 77-C: Discharge compliance with permit limits

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	5.0	25	1.0	40.0	10.0	8.5	20.0	1000	35.0
90th percentile	--	--	--	--	--	--	--	--	--
50th percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	0	52	52	52	52	52	52
Number analysed	52	52	0	52	52	52	52	52	52
Statistical summary									
Maximum	45.3	24	--	61.4	1.1	7.8	88.3	24196	18.0
90th percentile	2.4	8	--	22.2	1.0	7.6	29.4	24196	7.0
50th percentile	0.2	5	--	5.6	1.0	7.4	10.7	8664	4.0
Minimum	0.1	5	--	1.1	1.0	6.9	0.1	373	4.0
EPN limit compliance									
% compliance with maximum	92%	100%	--	96%	100%	--	67%	6%	100%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 77–D: Mass loads to the environment

Parameter	EPN limit	Frequency	2023–24 result
Nitrogen (kg)	--	Annual	11600.3
Phosphorous (kg)	--	Annual	19302.7
Method	Flow weighted/composite method		

Table 77–E: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
Ammonia	27/03/2024 3/04/2024 10/04/2024 17/04/2024			Peak organic load from trade waste load intermittently exceeds the aeration capacity of the plant, resulting in elevated ammonia and nitrogen.	No specific actions undertaken in reporting period
Nitrogen	10/04/2024 17/04/2024				
E. coli	5/07/2023 12/07/2023 19/07/2023 26/07/2023 2/08/2023 9/08/2023 16/08/2023 23/08/2023 30/08/2023 6/09/2023 13/09/2023	15/11/2023 22/11/2023 29/11/2023 6/12/2023 13/12/2023 20/12/2023 27/12/2023 3/01/2024 10/01/2024 17/01/2024 24/01/2024	6/03/2024 13/03/2024 20/03/2024 27/03/2024 3/04/2024 10/04/2024 17/04/2024 1/05/2024 8/05/2024 15/05/2024 22/05/2024	Wynyard STP does not have disinfection nor phosphorus removal processes, which results in regular non-compliance with the E. coli and Phosphorus limits.	Future disinfection at the site is being investigated during the PSP 4 period. Refer to Section 77.12 for further information.

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
	27/09/2023	31/01/2024	29/05/2024		
	4/10/2023	7/02/2024	5/06/2024		
	11/10/2023	14/02/2024	12/06/2024		
	18/10/2023	21/02/2024	19/06/2024		
	25/10/2023	28/02/2024	26/06/2024		
	8/11/2023				
Phosphorus	18/10/2023	10/04/2024	29/05/2024		
	8/11/2023	24/04/2024	5/06/2024		
	17/01/2024	1/05/2024	12/06/2024		
	28/02/2024	8/05/2024	19/06/2024		
	6/03/2024	15/05/2024	26/06/2024		
	20/03/2024	22/05/2024			

No other parameters had exceedances in the reporting period.

77.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP

77.6 Ambient Monitoring Program

Table 77-F: Program details

Program	Wynyard Ambient Monitoring Program
Status	Scheduled for 2024-2025
Update	NA
Comments	NA

77.7 Groundwater monitoring

Site status: Red

Wynyard STP groundwater monitoring network consists of four monitoring bores, ID numbers WNGW1-4. Bore ID WNGW1 is located south of STP Lagoon 1. Bore ID WNGW2 is located on the south-western boundary of sludge treatment lagoon 2 with bore ID WNGW3 situated on the northern boundary of sludge treatment lagoon 1. Bore ID WNGW4 is located on the northern boundary of Lagoon 2. Bi-annual sampling was completed across the network in March and June 2024. Microbiological sampling has been consecutively completed at all three bores over the past two groundwater monitoring events.

The groundwater monitoring report for the 2023-24 sampling event continued to report elevated concentrations of adopted guideline values across the network although levels remained consistent with analysis showing no trend, stable or decreasing trends for all analytes of concern across the network. Bore ID WNGW3 continued to record elevated levels of several nutrients compared to the rest of the network and suggest ongoing leakage. Bore ID WNGW4 showed no evidence of STP impact during the 2023-24 sampling event. The installation of a background bore downgradient of the STP is recommended to assess potential downstream impacts.

Biannual sampling at the extended analytical suite is scheduled to continue at all bores during the 2024-25 groundwater monitoring program.

77.8 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 44 out of 108 in priority.

Works this FY:

- Targeted field investigation completed
- CCTV 9,900m of sewer mains

77.9 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 deemed non-compliant with the 2023-24 SSMP due to further clarification required regarding inputs, stabilisation grade and contaminant grade.

Biosolids are removed regularly from site, no stockpiling occurred at this site.

Table 77-G: Biosolids sludge classification

Parameter	Number of samples*	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant classification
Arsenic	10	25.0	10.6	3.1	24.5	A
Cadmium	10	1.1	0.9	0.7	1.1	B
Chromium	10	76.0	56.9	44.8	77.2	B
Copper	10	169.0	124.9	93.1	171.8	B
Lead	10	30.7	22.2	16.1	32.6	A
Mercury	10	0.9	0.3	0.1	0.8	A
Nickel	10	47.9	33.7	22.7	48.8	A
Zinc	10	854.0	609.1	493.0	848.2	B

* Monitoring data incomplete for the 2023-24 reporting period due to the outsourcing laboratory making an error in the analysis and not having enough sample remaining to repeat the testing.

Table 77-H: Volume and disposal destination

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
215.7	15.28%	None	U/C	B	U/C	Dulverton Compost

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

77.10 Non-compliance with other permit requirements

Table 77-I: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
Q1 Regulatory limits	ADWF limit exceeded during FY2023-24	TasWater provided an update to the EPA on 27 March 2024 regarding this ongoing non-compliance. In the update, TasWater indicated continuing development of the WWRMP commitment for PSP4 for the Master Plan/Strategy for Wynyard STP and that plans to address treatment capacity issues would be contained therein. Further, such upgrades would be subject to an EPA assessment process and would inform a DMP.
EF2 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 77.4 Discharge compliance with permit limits and Performance Analysis.
EM1 Effluent Management	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.
EM3 Discharge Management Plan	Discharge Management Plan overdue.	
M6 Installation of Automated Treated Effluent Composite Sampling Equipment	Overdue for the installation of a treated effluent composite sampler	A composite sampler is situated at the STP but it is currently not installed due to difficulties with accessing a representative location. A project has been initiated to design, where necessary; platforms, pipe reconfiguration and electrical works to install the sampler at an appropriate location.
WM2 Sewage Sludge Management Plan	This STP was deemed non-compliant with the 2023-24 SSMP due to further clarification required regarding inputs, stabilisation grade and contaminant grade.	Ensure details on inputs, stabilisation grade and contaminant grade are included in 2024-24 SSMP.

77.11 Complaints and incident reporting

Table 77-J: Complaints reporting

Date	Category	Details	Mitigation actions
4/12/2023	Odour	Elevated odour reported to TasWater regarding Wynyard network or STP.	TasWater investigated and found no process upsets attributable to the elevated odour. There were no mitigation actions implemented in this case.

There were no incidents during 2023-24 reporting period.

77.12 Any other relevant information

Table 77-K: Projects or significant operational events that occurred in FY2023-24.

Project or significant operational event	Progress
Proposed Wynyard STP Disinfection Project	In line with the Wastewater Risk Management Plan 2022-2026, TasWater is investigating options to install disinfection at the Wynyard STP.

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

www.taswater.com.au