

36 Norwood STP

36.1 Activity and report details

Activity name	Norwood STP		
Activity address	Brookdale Street, Norwood, Launceston		
Permit number	Licence to Operate - 3176	Date of issue	25/01/1990
EPN	8104/1	Date of issue	12/06/2013
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	4050 kL/day		
Key Influent Source	Residential/Industrial 1 x Category 3 Customer		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 36-1: Norwood Sewage Treatment Plant



36.2 Monitoring and compliance summary

36.2.1 Flow data

Table 36-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Inlet	North Esk River	No reuse scheme
Coordinates	E 515509 N 5410515	E 515780 N 5410687	NA
Method of Measurement	In line meter	In line meter	NA
Date of last Calibration/Validation (if applicable).	13/07/2022	23/05/2022	NA

Table 36-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 91072	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	2,383	27.8	73.88	--
August 2022	2,383	88.9	113.39	--
September 2022	3,336	62.5	100.09	--
October 2022	2,763	120.4	85.64	--
November 2022	3,246	59.8	97.37	--
December 2022	2,600	49.7	80.59	--
January 2023	1,948	31.2	60.39	--
February 2023	1,961	24.8	54.91	--
March 2023	2,284	69.9	70.81	--
April 2023	2,757	57.6	82.71	--
May 2023	2,893	25.2	89.68	--
June 2023	5,026	117.6	150.78	--
Annual 2022-23	2,797	735.4	1,060.25	--
% of Total Discharge	--	--	100.0%	--

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

36.2.2 Bypass events

Table 36-C: Bypass events summary

Bypass ID:	NORST01-OND				
Bypass description:	Stormwater storage lagoon overflow to chlorine contact tank				
Treatment bypassed:	Secondary Treatment				
Treatment level of impacted effluent:	Screened, Disinfection (Chlorine)				
Flows exceeding:	80L/s (Approximate)				
Discharge location:	North Esk River: 515780E, 5410687N (GDA94)				
Start date / time	End date / time	Duration	Volume estimate	Cause	Response actions
04/08/22 10:55	06/08/22 02:40	39.8 h	6834 kL	Rainfall Event	No specific actions undertaken
17/09/22 14:28	20/09/22 00:59	58.5 h	9042 kL	Rainfall Event	No specific actions undertaken
14/11/22 22:26	15/11/22 02:27	4.0 h	192 kL	Rainfall Event	No specific actions undertaken
16/04/23 12:15	16/04/23 23:49	11.6 h	464 kL	Rainfall Event	No specific actions undertaken
01/06/23 00:57	02/06/23 07:41	30.7 h	3456 kL	Rainfall Event	No specific actions undertaken
02/06/23 22:23	04/06/23 05:32	31.2 h	87 kL	Rainfall Event	No specific actions undertaken
04/06/23 10:02	04/06/23 11:42	1.7 h	1 kL	Rainfall Event	No specific actions undertaken
09/06/23 14:17	10/06/23 00:32	10.3 h	651 kL	Rainfall Event	No specific actions undertaken
19/06/23 03:26	20/06/23 00:39	21.2 h	3121 kL	Rainfall Event	No specific actions undertaken

20/06/23 12:21	20/06/23 15:06	2.8 h	44 kL	Rainfall Event	No specific actions undertaken
20/06/23 19:02	21/06/23 00:09	5.1 h	101 kL	Rainfall Event	No specific actions undertaken
23/06/23 10:11	24/06/23 01:23	15.2 h	1711 kL	Rainfall Event	No specific actions undertaken
25/06/23 02:02	27/06/23 00:28	46.4 h	13507 kL	Rainfall Event	No specific actions undertaken
27/06/23 19:28	28/06/23 00:42	5.2 h	139 kL	Rainfall Event	No specific actions undertaken

36.3 Discharge compliance with permit limits

Table 36-D: 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	30	22	1.5	40	10	8.5	15	200	30
90th percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	12	12	12	12	12	12	12
Number analysed	12	12	12	12	12	12	12	12	12
Statistical summary									
Max	24.8	91	1.31	38.9	14.6	7.8	7.5	24196	47.0
90th percentile	3.3	7	0.93	18.7	1.0	7.6	6.8	11711	7.5
50th percentile	0.2	5	0.58	9.9	1.0	7.3	5.0	21	4.1
Min	0.1	5	0.00	4.6	1.0	6.7	2.4	10	4.0

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	Total suspended solids
EPN Limit Compliance									
% compliance with Maximum	100%	92%	100%	100%	92%	--	100%	83%	92%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 36-E: Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	--	Annual	12802.3
Phosphorous (kg)	--	Annual	4884.8
Method	Flow weighted/Composite method		

Table 36-F: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	19/10/2022	Plant shutdown due to flooding	LSIP Strategy
TSS	19/10/2022		
E. coli	19/10/2022 14/12/2022		
Oil and Grease	19/10/2022		

No other parameters had exceedances in the reporting period.

36.4 Reuse Annual Reporting

No recycled water scheme associated with this STP.

36.5 Ambient monitoring program

Table 36-G: Program details

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

36.6 Groundwater monitoring

Site status: Amber – Potential STP impacts (2022 Report)

Norwood STP groundwater monitoring network consists of four groundwater bores, ID numbers NWGW1-4. Annual sampling was completed at all four STP monitoring bores in June 2023. Biannual sampling was unable to be completed due to time and resourcing constraints.

Following delays, the 2022-23 report will be finalised and available by October 2023. Any actions to address identified potential issues will be determined following the hydrogeological review.

Biannual monitoring at the extended analytical suite is scheduled at all four bores during the 2023-24 groundwater monitoring program. Annual sampling at the the STP lagoons and the North Esk River (likely receiving environment) is also scheduled to allow for further groundwater characterisation assessment.

36.7 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 25 out of 79 in priority.

36.8 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.

Table 36-H: Desludging status and comments

Desludging Status	Comments
Annual program	Biosolids are removed from the sedimentation basin and are pumped to the drying bed where they are then gradually de-watered through windrowing and turned to dry prior to being moved off site by the end of April each year.

Table 36-I: Stockpile Comments

Stockpile onsite	Volume of stockpile (estimated dst)
Short-term stockpile in summer.	Sludge is windrowed to dry over summer and is removed each year prior to the end of April, is tested and if compliant is sent for land application on farms.

36.9 Non-compliance with other permit requirements

Table 36-J: EPN non-compliance

EPN Condition	Description of non-conformance	Future Actions to be taken
OP2 Operational Procedures Manual	No contemporary Operational Procedures Manual	New SharePoint based solution for OPMMs currently being developed. First version to be implemented in FY24
EM3 Discharge Management Plan	Discharge Management Plan overdue.	Submission timeframe TBC. Plan in development for DMP submission dates following on from agreed format between TasWater and EPA.
EM2 Effluent Reuse Feasibility Study	Effluent Reuse Feasibility Study overdue.	To be considered under LSIP strategy.
EF3 Effluent quality limits for discharge	Discharge compliance with permit limits	See section 36.3 Discharge Compliance with Permit Limits.

36.10 Complaints and incident reporting

Table 36K: Incidents Reporting

Date	Category	Details	Mitigation actions
28/10/2022	Odour	Reported odour from STP	Norwood affected from flooding impacts. When STP was restored again on 25/10/2023, odour impacts were expected from restarting aerators and RAS pumps. To help mitigate this impact, operators placed masking agent around the STP.

Table 36-L: Incidents Reporting

Date	Category	Details	Mitigation Actions
October 2022	Biosolids	Biosolids stockpiles swept away in significant flood event; high flood levels carried sludge from Norwood STP to farmland	TasWater liaised with EPA, Biosecurity Tasmania, EHO, and Public Health to deliver safe outcomes for Old Mac's Farm

36.11 Any other relevant information

Table 36-M: Projects or significant operational events that occurred in FY 2022-23:

Project or significant operational event	Progress
Launceston Sewerage Improvement Program (LSIP).	Norwood is currently being investigated for rationalisation to Ti-Tree Bend within LSIP.
Chlorine System Safety Upgrade	Completed

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

www.taswater.com.au