

35. Newnham STP

35.1 Activity and report details

Activity name	Newnham STP		
Activity address	Newnham Drive, Newnham, Launceston		
Permit number	Licence to Operate - 3565	Date of issue	12/10/1988
EPN	8105/1	Date of issue	12/06/2013
Treatment level	Secondary Treatment		
Authorised dry weather flows	3920 kL/day		
Key influent source	Residential/Industrial/Tankered 3 x Category 3 Customers		
Contact person	Kate Westgate		
Report author	Luisa Romero (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

Figure 35-1: Newnham Sewage Treatment Plant



35.2 Monitoring and compliance summary

35.2.2 Flow data

Table 35-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	Newnham Creek then Tamar River	No reuse scheme
Coordinates	E 509793 N 5417209	E 509542 N 5417098	NA
Method of measurement	In line meter	Level Sensor	NA
Date of last calibration/validation (if applicable).	14/12/2023	15/08/2024	NA

Table 35-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 91237	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	3,885	83.4	90.68	--
August 2023	3,568	51.0	116.94	--
September 2023	2,909	29.7	99.25	--
October 2023	2,657	37.0	145.63	--
November 2023	2,658	30.5	101.32	--
December 2023	2,750	49.4	89.14	--
January 2024	2,686	57.2	86.23	--
February 2024	2,540	9.2	76.24	--
March 2024	2,583	14.4	93.04	--
April 2024	2,825	50.4	87.42	--
May 2024	2,771	34.4	91.12	--
June 2024	3,260	74.4	121.84	--
Annual 2023-24	2,934	521.0	1,198.84	--
% of total discharge	--	--	100.0%	--

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

35.3 Bypass events

Table 35-C: Bypass events summary

Bypass ID:	NEWST01-OPD				
Bypass description:	Primary effluent distribution pit overflow to chlorine contact tank				
Treatment bypassed:	Secondary Treatment				
Treatment level of impacted effluent:	Screened, Primary Treatment, Disinfection (Chlorine)				
Flows exceeding:	160 L/s (Approximate)				
Discharge location:	Tamar River: 509542E, 5417098N (GDA94)				
Start date / time	End date / time	Duration	Volume estimate	Cause	Response actions
08/07/23 10:23	08/07/23 11:02	0.7 h	10 kL	Rainfall Event	No specific actions undertaken
28/07/23 10:04	28/07/23 12:43	2.7 h	642 kL	Rainfall Event	No specific actions undertaken
30/08/23 07:01	30/08/23 07:31	0.5 h	63 kL	Rainfall Event	No specific actions undertaken
21/10/23 21:20	21/10/23 21:45	0.4 h	31 kL	Rainfall Event	No specific actions undertaken
19/12/23 01:34	19/12/23 02:16	0.7 h	77 kL	Rainfall Event	No specific actions undertaken
17/01/24 12:38	17/01/24 13:11	0.6 h	32 kL	Rainfall Event	No specific actions undertaken
11/06/24 10:22	11/06/24 13:14	2.9 h	192 kL	Rainfall Event	No specific actions undertaken
29/06/24 05:36	29/06/24 09:03	3.5 h	112 kL	Rainfall Event	No specific actions undertaken

35.4 Discharge compliance with permit limits

Table 35-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	26.0	40	1.5	36.0	10.0	8.5	10.0	1000	60.0
90th percentile	--	--	--	--	--	--	--	--	--
50th percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	52	52	52	52	52	52	52
Number analysed	52	52	52	52	52	51	52	52	52
Statistical summary									
Maximum	34.6	93	1.58	59.1	14.4	7.3	8.0	24196	46.0
90th percentile	32.8	73	1.30	48.2	10.2	7.2	7.5	399	33.0
50th percentile	28.0	53	0.91	43.1	7.5	7.1	6.9	31	19.6
Minimum	14.9	22	0.44	25.6	4.7	6.7	3.9	10	8.8
EPN limit compliance									
% compliance with maximum	29%	23%	96%	12%	88%	--	100%	92%	100%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 35-E: Mass loads to the environment

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen (kg)	--	Annual	44366.1
Phosphorous (kg)	--	Annual	6947.8
Method	Flow weighted/composite method		

Table 35-F: Data gaps

Parameter	Location	Date of sample	Frequency	Reason for gap
pH	Newnham STP Effluent	3/04/2024	W	Measurement missed in the field.

Table 35-G: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
Chlorine	4/10/2023 25/10/2023			High flows due to wet weather contributed to the non-compliant Chlorine results.	Strategic planning to be undertaken to inform the future plant upgrade requirements and potential rationalisation under Launceston Sewerage Improvement Project (LSIP)
E. coli	9/08/2023 30/08/2023 20/03/2024 19/06/2024			High flows due to wet weather contributed to the non-compliant E. coli and Chlorine results.	
BOD	5/07/2023 12/07/2023 19/07/2023 26/07/2023 2/08/2023 9/08/2023 16/08/2023	11/10/2023 18/10/2023 25/10/2023 1/11/2023 8/11/2023 15/11/2023 22/11/2023	14/02/2024 21/02/2024 28/02/2024 6/03/2024 13/03/2024 20/03/2024 17/04/2024	The trickling filter is overloaded, which is believed to contribute to elevated BOD and oil and grease concentrations. Operational sampling also identified that the carbonaceous BOD is typically below the licence limit of 40 mg/L, indicating the impact of ammonia on the BOD test result.	

Effluent compliance parameter		Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
		23/08/2023 30/08/2023 6/09/2023 13/09/2023 20/09/2023 27/09/2023 4/10/2023	29/11/2023 6/12/2023 13/12/2023 27/12/2023 3/01/2024 17/01/2024	8/05/2024 22/05/2024 29/05/2024 5/06/2024 12/06/2024 19/06/2024		
Oil and grease	5/07/2023 26/07/2023 30/08/2023	8/11/2023 15/11/2023 22/05/2024				
Ammonia		5/07/2023 19/07/2023 26/07/2023 9/08/2023 16/08/2023 30/08/2023 13/09/2023 20/09/2023 27/09/2023 11/10/2023 18/10/2023 25/10/2023 1/11/2023	8/11/2023 15/11/2023 22/11/2023 29/11/2023 6/12/2023 13/12/2023 27/12/2023 17/01/2024 7/02/2024 21/02/2024 28/02/2024 6/03/2024	27/03/2024 10/04/2024 17/04/2024 24/04/2024 1/05/2024 8/05/2024 15/05/2024 22/05/2024 29/05/2024 5/06/2024 19/06/2024 26/06/2024	The trickling filter is not designed to remove ammonia, and the compliance limits exceed the system's capability.	

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
Nitrogen	5/07/2023	8/11/2023	28/02/2024	Newnham STP is not designed to remove nitrogen. The compliance limits are above the capacity of the STP.	
	19/07/2023	15/11/2023	6/03/2024		
	26/07/2023	22/11/2023	20/03/2024		
	9/08/2023	29/11/2023	27/03/2024		
	16/08/2023	6/12/2023	10/04/2024		
	23/08/2023	13/12/2023	17/04/2024		
	30/08/2023	27/12/2023	24/04/2024		
	6/09/2023	3/01/2024	1/05/2024		
	13/09/2023	10/01/2024	8/05/2024		
	20/09/2023	17/01/2024	15/05/2024		
	27/09/2023	24/01/2024	22/05/2024		
	4/10/2023	31/01/2024	29/05/2024		
	11/10/2023	7/02/2024	5/06/2024		
	18/10/2023	14/02/2024	19/06/2024		
	25/10/2023	21/02/2024	26/06/2024		
	1/11/2023				

No other parameters had exceedances in the reporting period.

35.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

35.6 Ambient monitoring program

Table 35-H: Program details

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

35.7 Groundwater monitoring

No groundwater monitoring program for this site.

35.8 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 54 out of 108 in priority.

35.9 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 2023–24 Sewage Sludge Management Plan due to insufficient information regarding sludge transfers. The 2024–25 SSMP will include a summary of sludge transfers for the reporting period.

There are no sludge/biosolids dewatering facilities at this site, with sludge transferred via liquid sludge transport to Ti Tree Bend STP. Sludge volume produced for this site is captured at Ti Tree Bend STP. Total volume removed was 11476kL.

35.10 Non-compliance with other permit requirements

Table 35-H: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
EF2 Effluent quality limits for discharge to the Tamar River	Discharge compliance with permit limits	See section 35.3 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	Missing Biosolids Management Plan detail	Ensure BMP details are included in 2024-25 SSMP

35.11 Complaints and incident reporting

No complaints or incidents received during 2023-24 reporting period.

35.12 Any other relevant information

Table 35-I: Projects or significant operational events that occurred in FY 2023-24:

Project or significant operational event	Progress
Launceston Sewerage Improvement Program (LSIP)	Opportunities for rationalisation of Newnham STP flows are being investigated as part of LSIP.
Chlorine System Safety Upgrade	Completed

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

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