

## 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	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 35-1: Newnham Sewage Treatment Plant



## 35.2 Monitoring and compliance summary

### 35.2.1 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).	13/07/2022	23/05/2022	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 2022	2,925	27.6	90.68	--
August 2022	2,925	75.5	116.94	--
September 2022	3,308	49.2	99.25	--
October 2022	4,698	116.2	145.63	--
November 2022	3,377	59.8	101.32	--
December 2022	2,875	42.6	89.14	--
January 2023	2,782	41.2	86.23	--
February 2023	2,723	23.3	76.24	--
March 2023	3,001	72.0	93.04	--
April 2023	2,914	27.6	87.42	--
May 2023	2,939	23.5	91.12	--
June 2023	4,061	119.0	121.84	--
Annual 2022-23	3,213	677.5	1,198.84	--
% of Total Discharge	--	--	100.0%	--

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

### 35.2.2 Bypass events

Table 35-C: Bypass events summary

<b>Bypass ID:</b>	NEWST01-OPD				
<b>Bypass description:</b>	Primary effluent distribution pit overflow to chlorine contact tank				
<b>Treatment bypassed:</b>	Secondary Treatment				
<b>Treatment level of impacted effluent:</b>	Screened, Primary Treatment, Disinfection (Chlorine)				
<b>Flows exceeding:</b>	160 L/s (Approximate)				
<b>Discharge location:</b>	Tamar River: 509542E, 5417098N (GDA94)				
Start date / time	End date / time	Duration	Volume estimate	Cause	Response actions
04/08/22 03:21	04/08/22 04:40	1.3 h	212 kL	Rainfall Event	No specific actions undertaken
13/10/22 10:33	14/10/22 05:07	18.6 h	4313 kL	Rainfall Event	No specific actions undertaken
22/10/22 12:56	22/10/22 19:08	6.2 h	1616 kL	Rainfall Event	No specific actions undertaken
28/10/22 19:18	28/10/22 19:54	0.6 h	63 kL	Rainfall Event	No specific actions undertaken
14/11/22 13:25	14/11/22 14:41	1.3 h	182 kL	Rainfall Event	No specific actions undertaken
18/01/23 03:21	18/01/23 03:52	0.5 h	92 kL	Rainfall Event	No specific actions undertaken
31/05/23 22:22	31/05/23 23:04	0.7 h	85 kL	Rainfall Event	No specific actions undertaken
09/06/23 03:03	09/06/23 03:47	0.7 h	98 kL	Rainfall Event	No specific actions undertaken
18/06/23 21:22	18/06/23 23:25	2.1 h	247 kL	Rainfall Event	No specific actions undertaken
25/06/23 14:58	25/06/23 18:17	3.3 h	735 kL	Rainfall Event	No specific actions undertaken

### 35.3 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	40	1.5	36	10	8.5	10	1000	60
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	52	52	52	52
Statistical summary									
Max	36.9	92	1.86	72.1	13.5	7.8	7.4	520	43.0
90th percentile	31.7	65	1.46	45.7	10.4	7.2	6.9	211	27.2
50th percentile	25.0	51	1.18	38.3	7.4	7.1	6.2	10	17.4
Min	14.0	5	0.52	27.4	4.1	6.6	3.5	10	9.2
EPN Limit Compliance									
% compliance with Maximum	52%	23%	92%	31%	87%	--	100%	100%	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	2022-23 result
Nitrogen (kg)	--	Annual	45883.1
Phosphorous (kg)	--	Annual	6958.6
Method	Flow weighted/Composite method		

Table 35-F: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
Chlorine	16/11/2022 8/03/2023 22/03/2023 3/05/2023			High flows due to wet weather likely 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)
BOD	6/07/2022 13/07/2022 20/07/2022 27/07/2022 3/08/2022 10/08/2022 17/08/2022 24/08/2022 31/08/2022 7/09/2022 14/09/2022 21/09/2022 28/09/2022 5/10/2022	12/10/2022 19/10/2022 26/10/2022 9/11/2022 29/11/2022 7/12/2022 21/12/2022 28/12/2022 11/01/2023 18/01/2023 8/02/2023 15/02/2023 22/02/2023	1/03/2023 15/03/2023 22/03/2023 12/04/2023 19/04/2023 26/04/2023 3/05/2023 10/05/2023 17/05/2023 24/05/2023 31/05/2023 7/06/2023 14/06/2023	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
Oil and Grease	20/07/2022 27/07/2022 10/08/2022	24/08/2022 31/08/2022	31/05/2023 21/06/2023		
Ammonia	6/07/2022 10/08/2022 31/08/2022 7/09/2022 14/09/2022 5/10/2022 12/10/2022 28/12/2022 1/02/2023	8/02/2023 15/02/2023 22/02/2023 1/03/2023 15/03/2023 22/03/2023 5/04/2023 12/04/2023	19/04/2023 26/04/2023 3/05/2023 10/05/2023 17/05/2023 24/05/2023 31/05/2023 7/06/2023	The trickling filter is not designed to remove ammonia, and the compliance limits exceed the system's capability.	
Nitrogen	6/07/2022 13/07/2022 20/07/2022 10/08/2022 24/08/2022 31/08/2022 7/09/2022 14/09/2022 21/09/2022 28/09/2022 5/10/2022 12/10/2022	19/10/2022 9/11/2022 29/11/2022 7/12/2022 28/12/2022 25/01/2023 1/02/2023 8/02/2023 15/02/2023 22/02/2023 1/03/2023 15/03/2023	22/03/2023 5/04/2023 12/04/2023 19/04/2023 26/04/2023 3/05/2023 10/05/2023 17/05/2023 24/05/2023 31/05/2023 7/06/2023 21/06/2023	Newnham STP is not designed to remove nitrogen. The compliance limits are above the capacity of the STP.	

No other parameters had exceedances in the reporting period.

### 35.4 Reuse Annual Reporting

No Recycled Water Scheme associated with this STP.

### 35.5 Ambient monitoring program

Table 35-G: Program details

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

### 35.6 Groundwater monitoring

No groundwater monitoring program for this site.

### 35.7 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 30 out of 79 in priority.

### 35.8 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.

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.

### 35.9 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.	Submission timeframe TBC. Plan in development for DMP submission dates following on from agreed format between TasWater and EPA.

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.
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### 35.10 Complaints and incident reporting

No complaints or incidents received during 2022-23 reporting period.

### 35.11 Any other relevant information

Table 35-1: Projects or significant operational events that occurred in FY 2022-23:

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

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

[www.taswater.com.au](http://www.taswater.com.au)