

21. Evandale STP

21.1 Activity and report details

Activity name	Evandale STP		
Activity address	Off Logan Road, Evandale		
Permit number	Licence to Operate - 3609	Date of issue	25/08/1989
EPN	481/1	Date of issue	20/01/2003
Treatment level	Secondary Treatment		
Authorised dry weather flows	375 kL/day		
Key influent source	Residential/Industrial		
Contact person	Kate Westgate		
Report author	Luisa Romero (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 21-1: Evandale Sewage Treatment Plant



21.2 Monitoring and compliance summary

21.2.1 Flow data

Table 21-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	Boyes Creek	Andora property
Coordinates	E 521316 N 5397429	E 521170 N 5397050	E 521334 N 5397207
Method of measurement	In line meter	Influent less Reuse	Level sensor
Date of last calibration/validation (if applicable).	13/07/2024	NA – to be installed	26/11/2024

Table 21-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 91311	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2024	242	84	1.69	5.15
August 2024	280	87.6	0.28	9.99
September 2024	278	63.8	0.54	11.22
October 2024	160	27.8	0.00	4.96
November 2024	240	67.6	0.00	7.20
December 2024	271	68.4	0.00	8.39
January 2025	221	43.4	0.00	6.85
February 2025	229	13	0.00	6.42
March 2025	228	18.8	0.00	7.07
April 2025	226	24	0.00	6.78
May 2025	213	42.8	0.00	6.61
June 2025	190	80.4	5.32	0.38
Annual 2024-25	231	621.6	7.83	81.01
% of total discharge	--	--	8.8%	91.2%

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

21.3 Bypass events

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

21.4 Discharge compliance with permit limits

Table 21-C: Discharge compliance with permit limits

	Ammonia as N	BOD5	Chlorine	Nitrogen	Oil and Grease	pH	Phosphorus	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	50	--	40	10	8.5	10	--	50
90th Percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	1000	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	--	12	12	12	12	12	12
Number analysed	12	12	--	12	12	12	12	12	12
Statistical summary									
Maximum	28.6	168.0	0.0	47.2	5.1	9.0	11.7	24196	113.0
90th percentile	21.3	140.9	0.0	37.2	3.0	8.7	11.6	24196	106.5
50th percentile	11.6	87.0	0.0	31.7	2.2	8.0	8.7	5483	84.0
Minimum	4.5	54.0	0.0	20.8	1.3	7.5	3.9	733	40.0
EPN Limit Compliance									
% compliance with Maximum	100%	0%	--	92%	100%	75%	58%	--	8%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	17%	--
% compliance with pH range	--	--	--	--	--	75%	--	--	--

*No chlorine disinfection used at this site

Table 21-D: Mass loads to the environment

Mass Loads	EPN limit	Frequency	2024-25 result
Nitrogen (kg)	6000	Annual	281.8
Phosphorous (kg)	1500	Annual	59.4
Method	Time weighted/Grab sample method		

21.4 Discharge compliance with permit limits

Table 21-E: EPN non-compliances

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
pH	3/07/2024	Algae is believed to be the primary reason for elevated pH. Algae is a source of oxygen and is fundamental to lagoon treatment. The non-compliant result was during a warmer month when algal blooms typically occur.	No specific actions during reporting period
TSS	3/07/2024	Algae and significant sludge accumulation in the lagoons are believed to be the primary reason for non-compliant BOD, E. coli and TSS.	The Meander Tamar Sewerage Regional Master Plan has been completed and includes the short term and long-term considerations for the Evandale STP with the ultimate decommissioning of the STP and transfer of sewage to the Longford STP.
BOD	3/07/2024	Algae contribute directly to effluent TSS and BOD. Most of the non-compliant results were in warmer months when algal blooms occur. Shading from algae can also decrease UV disinfection of pathogens.	
E. coli	25/06/2025 3/07/2024 50 th percentile limit exceeded	High sludge accumulation decreases the effective lagoon treatment capacity, resulting in high effluent BOD and E. coli. Accumulated sludge can also be carried over due to poor settling, increasing effluent TSS.	
Nitrogen	3/07/2024	Lagoon systems are not designed for total nitrogen reduction. Non-compliance likely correlating to a high-loading event (correlates with high BOD and TSS).	

21.5 Reuse annual reporting

The Evandale STP supplies treated effluent to the Evandale recycled water scheme (RWS) for irrigation purposes at the *Andora* property.

Table 21-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	12	12	12
Number analysed	12	12	12
Statistical summary			
Maximum	168.0	9.0	24196
90th percentile	140.9	8.7	24196
50th percentile	87.0	8.0	5483
Minimum	54.0	7.5	733
Summary of results			
% compliance with maximum	0%	--	58%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	17%
% compliance with pH range	--	100%	--

Table 21-G: Performance analysis (discharge to reuse)

Reuse compliance parameter	Date(s) of elevated parameter	Reasons	Actions to improve performance
BOD	25/06/2025 26/05/2025 8/04/2025 19/03/2025 18/02/2025 21/01/2025 11/12/2024 14/11/2024 14/10/2024 19/09/2024 7/08/2024 3/07/2024	Algae are likely to be the primary reason for elevated BOD, especially during warmer months when algal blooms typically occur. Non-compliant results during colder months are likely due to excessive sludge accumulation which reduces the effective lagoon treatment capacity. Accumulated sludge can also be carried over due to poor settling, increasing effluent TSS.	No specific actions during reporting period. See Section 2.4.
E. coli	8/04/2025 14/11/2024 19/09/2024 7/08/2024 3/07/2024 12-month 50 th percentile limit exceeded	High winter flows due to excessive I/I, as well as lagoon short circuiting could be the root cause of non-compliant E. coli.	

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

In response to elevated *E. coli* levels the TasWater customer notification and management framework takes a risk-based approach with scheme customer to implement management actions which can include additional sampling and increased stock withholding times

Annual soil sampling was completed at the three long-term monitoring sites (ID's ED1, ED2 and ED3) at the RWS irrigation area in June 2025. The annual compliance audit was completed in conjunction with the soil sampling. A summary of the findings of the programs are provided in 21-H.

Table 21-H: Annual recycled water scheme compliance audit and soil monitoring

Program	Compliance audit	Soil monitoring
Outcomes summary	Compliant	No soil salinity or sodicity concerns were identified during 2024-25 sampling.
Comments	Landowner noted that communication regarding BGA events ending could be improved.	Elevated levels of at least one key nutrient were recorded above recommended ranges at all three sites. Unlikely these levels are attributed to recycled water due to application rates.

RWS Groundwater Status: Amber

The Evandale RWS network consists of four groundwater monitoring bores, ID's EVGW1 and EVGW5-7. Bore EVGW1 is associated with the recycled water storage dam.

Bi-annual sampling was completed at bore ID's EVGW5-7 as scheduled in October 2024. Annual sampling was completed across all four bores in March 2025 as scheduled. All sampling was completed at the extended analytical suite except for bore ID EVGW1 which was conducted at the standard analytical suite as scheduled.

The 2024-25 groundwater monitoring event continued to record elevated concentrations of several key analytes at bore ID's EVGW5-6 above adopted guideline criterion. The report noted additional sampling is required (insufficient data) to ascertain whether there is any impact from the application of recycled water on groundwater chemistry due to low recycled water usage rates.

Bi-annual sampling at the extended analytical suite is scheduled to continue in the 2026-25 groundwater monitoring program for bores EVGW5-6 and the recycled water storage dam for further comparative analysis. Annual sampling at the standard analytical suite is to continue at bore EVGW1 and be introduced at bore ID EVGW7.

21.6 Ambient monitoring program

Table 21-I: Program details

Program	Seasonal ambient monitoring as required under EPA permit variation 18/01/2024
Status	Ambient water quality monitoring required under EPA permit variation within the Boyes Creek receiving environment.
Update	Ambient water quality monitoring from July - December 2024 and May - June 2025 was completed during the reporting period.
Comments	<p>Ambient water quality monitoring was conducted during effluent discharges into Boyes Creek and the South Esk River receiving environment. Effluent discharges occurred in July, August and September 2024 and in June 2025. The July 2024 and June 2025 discharges were related to failures associated with the RWS reuse pipeline on the adjacent property that result in discharges further upstream of the Boyes Creek upstream monitoring location and consequently affected upstream water quality. STP discharges in August - September 2024 were related to the RWS pump station power failure and flooding in Boyes Creek when the pump station was not operating. Key findings from the ambient water quality monitoring data review were:</p> <ul style="list-style-type: none"> Ammonia levels exceeded the ANZG toxicant Default Guideline Value (tDGV) at both the upstream and downstream monitoring locations within Boyes Creek in early July 2024. This was likely related to a failure in the RWS pipeline that occurred in June 2024 but also excessive rainfall. Ammonia levels were significantly lower in August and September at both monitoring locations when sampling occurred outside discharge events. Ammonia levels downstream were significantly higher than upstream levels in October - December 2024 but were unrelated to STP effluent discharges. Ammonia levels in June 2025 were well within the tDGV at both locations with levels at both locations similar, again due to a RWS pipeline leak and significant rainfall in the region. Nitrate levels were significantly elevated in July and August at both the upstream and downstream monitoring locations in Boyes Creek and exceeded the draft ANZG tDGV. This is again likely related to upstream impacts associated with the RWS pipeline break and possible nitrification of ammonia but also agricultural runoff due to rainfall. Nitrate levels downstream were elevated above upstream levels in October - December 2024 and exceeded the draft tDGV but were not directly related to STP discharges. Nitrate levels were also elevated at the draft tDGV at both the upstream and downstream locations in June 2025 likely related to the RWS pipeline break and rainfall.

- Both upstream and downstream total nitrogen levels significantly exceeded the EPA DGV for slightly to moderately disturbed ecosystems in the Meader Catchment with downstream levels generally slightly higher than upstream. Due to RWS pipeline failures, both the upstream and downstream monitoring locations were affected, especially in August 2024 and again in June 2025.
- Similarly to nitrogen, total phosphorus levels exceeded the EPA DGV at both monitoring locations within Boyes Creek with downstream levels generally higher than upstream with a significant peak observed downstream in September 2024. It is not clear why this occurred. Levels at both locations correlated in May and June 2025, with both locations affected in June 2025, likely related to the RWS pipeline break further upstream, especially during discharge events. Both upstream and downstream phosphorus levels were significantly elevated in June 2024, again related to the break in the reuse pipeline adjacent to Boyes Creek.
- Enterococci levels at both the upstream and downstream monitoring locations correlated, with significant elevations observed at both locations in August 2024 and June 2025. Both locations exceeded the EPA low risk guideline values for waters with current or potential recreational use on most occasions reflecting the likely impacts from agricultural runoff and the RWS pipeline break.
- *E. coli* levels correlated with enterococci and other parameters with significant elevations observed in August 2024 and June 2025 at both locations. Both locations generally exceeded the EPA low risk guideline values for waters with current or potential recreational use and the draft ANZG livestock drinking water guidelines.
- No potentially toxic blue-green algae were detected at either monitoring location through the reporting period.

The Boyes Creek receiving environment appears to be significantly impacted by STP effluent discharges and agricultural runoff in the catchment. Potential toxicity to aquatic ecosystems is likely due to elevated levels of ammonia and nitrate. Nutrients were also elevated at both locations within Boyes Creek. Levels of pathogen indicator organisms within Boyes Creek may pose risks to livestock drinking water supply.

21.7 Groundwater monitoring

Site status: Amber

Evandale STP groundwater monitoring network consists of two groundwater monitoring bores ID numbers, EVGW3 and EVGW4 located on the southern perimeter of the STP lagoons along the nearby Boyes Creek line.

Bi-annual sampling at the extended analytical suite was completed in October 2024 and March 2025 at both bores as scheduled.

The 2024–25 groundwater monitoring event (GME) recorded elevated concentrations of key analytes above adopted assessment values at bore ID EVGW3, consistent with previous years. The GME report identified data gaps in the monitoring network; with background ground water quality, surface waters of STP and receiving environment.

Bi-annual sampling at the extended analytical suite is scheduled to continue at both bores during the 2025–26 groundwater monitoring program, along with the surface waters to the Evandale Lagoon and Boyes Creek.

21.8 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 89 out of 108 in priority.

21.9 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 fully compliant with the 2024-25 SSMP.

Sludge at this STP is captured within the two treatment lagoons, which will be periodically desludged as required. No stockpiling occurs at this site.

Table 21-J: Desludging status and comments

Desludging status	Comments
Medium Priority	Desludging of lagoon 1 is likely to be required within next 5 to 10 years.

21.10 Non-compliance with other permit requirements

Table 21-K: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
23 Effluent quality limits	Discharge compliance with permit limits	See section 21.4 Discharge compliance with permit limits and Performance Analysis
25 Wastewater Reuse	Discharge compliance with reuse permit limits	See section 21.5 Reuse Annual Reporting and Performance Analysis

21.11 Complaints and incident reporting

No complaints reported during the FY2024-25 reporting period.

Table 21-L: Incident reporting

Date	Category	Details	Mitigation actions
03/06/2025 17/07/2024	Other	Evandale reuse line was out of service due to a break.	Reuse line repaired on 7 July 2025 Reuse line repaired on 23 July 2024
30/08/2024	Power outage	Due to a power outage reuse pump was not operational and effluent spilled into Boyes Creek	Operators isolated the reuse pump station at the isolation point on top of the lagoon wall to prevent pump shutdown during the Boyes Creek flooding. Creek levels were monitored, and the pump was reactivated once levels returned to normal.

14/12/2024	Reuse pump	Due to a reuse pump fault, treated effluent was discharged to Boyes Creek for a short period	Operators isolated the reuse pump and flow to Boyes Creek was ceased as soon as the pump fault was detected.
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21.12 Any other relevant information

Table 21-M: Projects or significant operational events that occurred in FY 2024-25:

Project or significant operational event	Progress
Meander Tamar Sewerage Regional Master Plan	The Meander Tamar Sewerage Regional Master Plan has been completed and includes the short term and long-term considerations for the Evandale STP with the ultimate decommissioning of the STP and transfer of sewage to the Longford STP.

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

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