

## 64. St Marys STP

### 64.1 Activity and report details

Activity name	St Marys STP		
Activity address	Harefield Rd and Esk Main Road, St Marys		
Permit number	License to Operate - 2847	Date of issue	26/07/1983
EPN	7362/2	Date of issue	16/08/2022
Treatment level	Secondary Treatment		
Authorised dry weather flows	190 kL/day		
Key influent source	Residential		
Contact person	Kate Westgate		
Report author	Luisa Romero (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

**Figure 64-1: St Marys Sewage Treatment Plant**



## 64.2 Monitoring and compliance summary

### 64.2.1 Flow data

**Table 64-A: Flow monitoring summary**

	Influent	Effluent	Reuse
Location name	Inlet	St Mary's Rivulet	Effluent Reuse Scheme – Ag Irrigation (Top Marches Property)
Coordinates	E 598310 N 5396100	E5 97814 N 5395786	E 597219 N 5396410
Method of measurement	In line meter	Flow based on inflow and EPA calculations using rainfall and lagoon area	Pump Run Hours
Date of last calibration/validation (if applicable).	14/06/24	NA – meter to be installed	NA – meter to be installed

**Table 64-B: Annual flow and rainfall data**

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 92064	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	100	18.2	0.00	3.10
August 2023	90	46.6	0.00	2.80
September 2023	92	13.2	0.00	2.75
October 2023	96	56.4	0.00	2.98
November 2023	99	56.2	0.00	2.98
December 2023	95	111.4	0.00	2.95
January 2024	95	29.6	0.00	2.94
February 2024	93	57.8	0.00	2.70
March 2024	93	64.8	0.00	2.90
April 2024	81	60.0	0.00	2.42
May 2024	93	106.6	0.00	2.88
June 2024	96	60.4	0.00	2.89
Annual 2023–24	94	681.2	0.00	34.28
% of total discharge	--	--	0.0%	100.0%

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

### 64.3 Bypass events

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

## 64.4 Discharge compliance with permit limits

**Table 64-C: 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	15.0	50	--	30.0	10.0	9.0	9.0	2000	50.0
90th percentile	--	--	--	--	--	--	--	--	--
50th percentile	--	--	--	--	--	--	--	--	--
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	15.1	106	--	26.4	4.2	8.5	3.9	24196	143.0
90th percentile	10.1	90	--	23.8	2.5	8.4	3.2	18338	103.2
50th percentile	1.1	56	--	13.8	1.0	8.0	2.9	526	72.0
Minimum	0.1	22	--	10.9	1.0	7.0	1.0	52	22.2
EPN limit compliance									
% compliance with maximum	92%	25%	--	100%	100%	--	100%	67%	17%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

**Table 64-D: Mass loads to the environment**

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen (kg)	--	Annual	0.0
Phosphorous (kg)	--	Annual	0.0
Method	Time weighted/grab sample method		

No parameters had exceedances in the reporting period.

## 64.5 Reuse annual reporting

St Marys STP supplies the treated effluent to the recycled water scheme (RWS) located at one property Top Marshes.

**Table 64-E: 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	13	12
Statistical summary			
Maximum	106	8.5	24196
90th percentile	90	8.4	18338
50th percentile	56	8.0	526
Minimum	22	7.0	52
Summary of results			
% compliance with maximum	25%	--	83%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	58%
% compliance with pH range	--	100%	--

**Table 64-F: Performance analysis (discharge to reuse)**

Reuse compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	18/07/2023 10/08/2023 23/10/2023 16/11/2023 12/12/2023	24/01/2024 8/02/2024 7/03/2024 16/04/2024	No specific actions.
E. coli	20/05/2024 17/06/2024	Algae is believed to be the primary reason for elevated BOD. Most non-compliant results were in warmer months when algal blooms occur.  Algae is a source of oxygen and is fundamental to lagoon treatment.	

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

Annual soil sampling was completed at four sampling sites (ID's CP A, CP B East, CPB West and CP C) in April 2024. The annual compliance audit was completed in conjunction with the soil sampling. A summary of the findings of the programs are provided in the table below.

**Table 64-H: Annual recycled water scheme compliance audit and soil monitoring summary**

Program	Compliance audit	Soil monitoring
Compliance status	Compliant	Soil salinity and sodicity remained within recommended levels at all sites with exception for site CP B East which shows excessive sodicity levels but is consistent with previous years.  Soil nutrient levels are within or below recommended ranges. Exception being potassium levels at site C PC which increased in 2024 and is slightly elevated above recommended range.

RWS groundwater site status: Green

ST Marys RWS groundwater monitoring network consists of three bores, ID numbers SMGW3-5. One round of sampling (6-monthly) was completed at all three bores in December 2023. The second (annual) sampling round was not completed. TasWater has put measures in place for the 2024-25 sampling program to address scheduling and resourcing delays experienced in recent years.

The 2023-24 RWS groundwater monitoring continued to report that overall groundwater chemistry appears stable. Total phosphorous concentrations continue to be above the adopted ANZECC LTV (Irrigation) guideline criteria limits though no impact of RWS irrigation on groundwater apparent. The report recommends development of an additional groundwater monitoring bore to expand network.

Biannual sampling is scheduled across the network during the 2024-25 groundwater monitoring program.

## 64.6 Ambient monitoring program

**Table 64-I: Program details**

Program	Ambient monitoring required under EPA permit variation 23/64 D23-322305.
Status	Ambient monitoring required under EPA permit variation from May -December each year.
Update	Ambient monitoring required under EPA permit variation from May -December each year completed during the reporting period. Biennial, seasonal (spring and autumn) biological monitoring (AusRivAS) completed during the reporting period.
Comments	Ambient water quality monitoring was conducted in St Marys Rivulet during the reporting period from July – December 2023 and again from April -June 2024, however no effluent discharges to environment occurred during the reporting period. Biological monitoring was also conducted in spring (October) 2023 and autumn (May) 2024 and a Biological Monitoring Report was submitted to the EPA during the reporting period.  As no effluent discharges occurred during the reporting period no ambient water quality assessment was conducted to assess what impact the effluent discharge has on the St Marys Rivulet receiving environment.

## 64.7 Groundwater monitoring

Site status: Green – (2022-23 report)

St Marys STP groundwater monitoring network consist of two groundwater monitoring bores, ID numbers SMGW1 and SMGW2. One round of sampling (6-monthly) was completed at both bores in December 2023. The second (annual) sampling round was not completed. TasWater has put measures in place for the 2024–25 sampling program to address scheduling and resourcing delays experienced in recent years.

Following delays, the 2023–24 report will be finalised and available in October 2024. Any actions to address identified potential issues will be determined following the hydrogeological review. Biannual sampling is scheduled across the monitoring network in 2024–25 monitoring program.

#### 64.8 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 95 out of 108 in priority.

#### 64.9 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 2023–24 SSMP.

No stockpiling occurred at this site.

**Table 64–J: Desludging status and comments**

Desludging status	Comments
Low Priority	Desludging is outside of the current prioritisation planning schedule

#### 64.10 Non-compliance with other permit requirements

**Table 64–K: EPN non-compliances**

EPN condition	Description of non-conformance	Future actions to be taken
EF3 Effluent Quality Limits for discharge to wastewater reuse scheme	Discharge compliance with reuse permit limits	See table 64–F Reuse Annual Reporting and Performance Analysis

#### 64.11 Complaints and incident reporting

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

#### 64.12 Any other relevant information

For further information on the St Marys STP please contact TasWater on 13 6992

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