

20. Dover STP

20.1 Activity and report details

Activity name	Dover STP		
Activity address	Station Road, Dover		
Permit number	Licence to Operate – 3198	Date of issue	9/12/1986
EPN	Permit Conditions Environmental – 6228 EPN 11379/1		21/04/2023
Treatment level	Secondary Treatment		
Authorised dry weather flows	360 kL/day		
Key influent source	Residential/Industrial (no Cat 3 or 4 customers)		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 20–1: Dover Sewage Treatment Plant



20.2 Monitoring and compliance summary

20.2.1. Flow data

Table 20-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Inlet	Port Esperance Bay	No reuse scheme
Coordinates	E 501620 N 5204372	E 502708 N 5204109	NA
Method of Measurement	In line	Estimate based on influent	NA
Date of last Calibration/Validation (if applicable)	23/07/2024	NA – to be installed	NA

Table 20-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 94020	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2024	379	161	11.76	--
August 2024	274	152.5	8.80	--
September 2024	582	151.8	17.47	--
October 2024	359	82.4	11.14	--
November 2024	255	24.8	7.66	--
December 2024	360	106.4	11.15	--
January 2025	213	8.8	6.61	--
February 2025	134	31.2	3.74	--
March 2025	119	26	3.68	--
April 2025	142	50.4	4.25	--
May 2025	186	88	5.78	--
June 2025	301	76	9.04	--
Annual 2024-25	276	959.3	101.1	0.00
% of total discharge	--	--	100.0%	0.0%

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

20.3 Bypass events

Table 11-C: Bypass events summary

Bypass ID:	DOVST01-BPSD-1				
Bypass description:	Inlet pump station overflow to settling lagoon				
Treatment bypassed:	Secondary Treatment				
Treatment level of impacted effluent:	Screened, Disinfection (Chlorine)				
Flows exceeding:	12 L/s (Approximate)				
Discharge location:	Port Esperance: 502708E, 5204109N (GDA94)				
Start date / time	End date / time	Duration	Volume estimate	Cause	Response actions
09/09/24 16:31	09/09/24 19:49	3.3 h	27 kL	Rainfall Event	<p>To help reduce bypass events state-wide, during FY2024-25 TasWater has spent \$1.2 million on the identification, reification and monitoring of inflow and infiltration (I&I) within our systems. During FY2025 -26 we will be spending a further \$0.8 million on I&I works.</p> <p>A Multi Criteria Assessment was undertaken by TasWater in 2024 to prioritise I&I investigation and works state-wide. This catchment was ranked 16 out of 108 in priority (high). Works this period included:</p> <ul style="list-style-type: none"> Monitoring performance of previous I&I actions for effectiveness and network storage upgrades in shellfish lease areas.
09/09/24 23:21	10/09/24 09:41	10.3 h	47 kL	Rainfall Event	
10/09/24 13:21	10/09/24 18:41	5.3 h	25 kL	Rainfall Event	
11/09/24 13:55	11/09/24 18:39	4.7 h	20 kL	Rainfall Event	
14/09/24 04:53	15/09/24 03:38	22.8 h	72 kL	Rainfall Event	
15/09/24 08:08	16/09/24 00:28	16.3 h	54 kL	Rainfall Event	
16/09/24 03:34	17/09/24 00:58	21.4 h	69 kL	Rainfall Event	
18/09/24 10:19	22/09/24 00:18	86.0 h	325 kL	Rainfall Event	
22/09/24 07:50	23/09/24 01:58	18.1 h	47 kL	Rainfall Event	
25/09/24 13:19	26/09/24 06:18	17.0 h	44 kL	Rainfall Event	
28/09/24 00:48	28/09/24 08:48	8.0 h	20 kL	Rainfall Event	
07/10/24 18:44	08/10/24 11:00	16.3 h	24 kL	Rainfall Event	
09/10/24 01:03	09/10/24 12:32	11.5 h	30 kL	Rainfall Event	

Start date / time	End date / time	Duration	Volume estimate	Cause	Response actions
10/10/24 04:40	10/10/24 18:30	13.8 h	24 kL	Rainfall Event	
11/10/24 05:40	11/10/24 18:10	12.5 h	24 kL	Rainfall Event	
18/10/24 06:26	19/10/24 10:43	28.3 h	146 kL	Rainfall Event	
25/10/24 04:01	25/10/24 04:38	0.6 h	28 kL	Rainfall Event	
27/10/24 16:34	27/10/24 18:28	1.9 h	113 kL	Rainfall Event	
01/12/24 00:09	01/12/24 20:05	19.9 h	145 kL	Rainfall Event	
02/12/24 08:52	02/12/24 16:41	7.8 h	20 kL	Rainfall Event	
07/12/24 06:27	08/12/24 14:46	32.3 h	190 kL	Rainfall Event	
16/12/24 04:56	17/12/24 09:38	28.7 h	564 kL	Rainfall Event	
23/12/24 08:53	23/12/24 13:33	4.7 h	150 kL	Rainfall Event	
20/01/25 08:42	20/01/25 09:19	0.6 h	30 kL	Rainfall Event	
07/05/25 08:10	07/05/25 20:09	12.0 h	23 kL	Rainfall Event	
17/05/25 02:48	17/05/25 10:32	7.7 h	81 kL	Rainfall Event	
17/05/25 15:46	17/05/25 19:25	3.7 h	21 kL	Rainfall Event	
24/05/25 05:44	25/05/25 01:12	19.5 h	364 kL	Rainfall Event	
25/05/25 04:35	25/05/25 15:03	10.5 h	34 kL	Rainfall Event	
27/05/25 15:04	27/05/25 22:02	7.0 h	22 kL	Rainfall Event	
03/06/25 20:59	04/06/25 01:09	4.2 h	37 kL	Rainfall Event	
06/06/25 06:44	06/06/25 10:50	4.1 h	22 kL	Rainfall Event	
09/06/25 02:25	09/06/25 17:40	15.3 h	35 kL	Rainfall Event	
09/06/25 23:22	11/06/25 02:09	26.8 h	123 kL	Rainfall Event	
15/06/25 04:37	15/06/25 12:49	8.2 h	52 kL	Rainfall Event	
16/06/25 08:01	17/06/25 00:19	16.3 h	42 kL	Rainfall Event	
24/06/25 13:02	24/06/25 20:08	7.1 h	110 kL	Rainfall Event	
26/06/25 08:01	26/06/25 21:00	13.0 h	35 kL	Rainfall Event	

26/06/25 08:01	26/06/25 21:00	13.0 h	35 kL	Rainfall Event	
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20.4 Discharge compliance with permit limits

Table 20-D: Discharge compliance with permit limits

	Ammonia as N	BOD ₅	Chlorine	Nitrogen	Oil and Grease	pH	Phosphorus	E coli	Enterococci	Total suspended solids
Permit/EPN limit	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L	MPN/100mL	MPN/100mL	mg/L
Maximum	5	--	1.0	40	--	8.5	10	750	3,200	--
90th Percentile	--	15	--	15	--	--	8	500	--	20
50th Percentile	--	10	--	7	--	--	5	200	--	10
Minimum	--	--	--	--	--	6.5	--	--	--	--
Samples analysed										
Number required	12	12	12	12	12	12	12	12	12	12
Number analysed	12	12	13	12	12	12	12	12	12	12
Statistical summary										
Maximum	14.7	29.0	1.5	20.3	1.0	7.8	11.9	12,033	275	30
90th percentile	13.0	23.7	1.3	18.1	1.0	7.8	9.9	609	60.8	23
50th percentile	3.7	6.0	0.5	9.1	1.0	7.4	3.8	10	10	13
Minimum	0.4	5.0	0.1	4.4	1.0	6.8	1.4	10	10	4.3
EPN Limit Compliance										
% compliance with Maximum	58%	--	69%	100%	--	100%	92%	92%	100%	--
% compliance with 90th percentile	--	67%	--	83%	--	--	75%	83%	--	75%
% compliance with 50th percentile	--	67%	--	25%	--	--	67%	83%	--	33%
% compliance with pH range	--	--	--	--	--	100%	--	--	--	--

Table 20-E: Mass loads to the environment

Mass Loads	EPN Limit	Frequency	2024-25 result
Nitrogen	--	Annual	1,070.4
Phosphorous (kg)	--	Annual	382.2
Method	Time weighted/Grab sample method		

Table 20-F: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
pH	20/03/2025	Failure on high pH, correlating with algae bloom in lagoon.	Upgrades to the aeration system undertaken in 2020 have increased the STPs capacity to treat the incoming organic load and the effluent quality has shown improved performance. Desludging of the Polishing Lagoon is scheduled to occur in 2025-26, as per the current prioritisation planning schedule. This will increase hydraulic retention time – potentially resulting in further improved treatment performance.
Chlorine	12/12/2024 16/01/2025 17/04/2025 22/05/2025	Poor chlorine control.	
Ammonia	19/09/2024 21/11/2024 17/10/2024 12/12/2024 17/04/2025	Lagoon system not specifically designed to remove ammonia.	
E.coli	18/07/2024	Failure correlating with algae bloom in lagoon.	

No other parameters had exceedances in the reporting period.

20.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

20.6 Ambient monitoring program

Table 20-G: Program details

Program	Dover STP Post New Outfall Commissioning – Ambient Monitoring Program (PNOC-AMP).
Status	An Ambient Monitoring Report (AMR) was submitted to the EPA during the reporting period for monitoring undertaken during the 2024-25 period.
Update	The AMR documented the outcomes of the 12-month monitoring program which included ambient water quality, sediment and biological sampling and surveys.
Comments	<p>An AMR was submitted on 29th April 2025 to comply with condition EM4 of EPN 11379/1. Notable findings of the study include:</p> <ul style="list-style-type: none"> • Effluent discharges had minimal impact on field-measured and physico-chemical parameters. Nutrient concentrations were low and comparable to reference sites. • Elevated concentrations of pathogens were recorded in the effluent in September 2024, with <i>E. coli</i> exceeding the EPN maximum limit. Increased levels were also observed in the ambient environment during this time. September also experienced high amounts of rainfall, likely contributing to increased runoff and elevated enterococci levels observed at the western reference site. • Overall, water quality in the vicinity of the Dover STP outfall is considered low risk for recreational water use. • In June 2024, one of the outfall samples recorded declining infauna counts and diversity as distance from the outfall increased. However, there was also substantial variation between duplicate samples at the outfall in June, suggesting that these differences may be influenced by other factors e.g. sampling method. While it is evident that infaunal composition varies across sites, there is no clear indication that this variation is directly linked to the distance from the Dover STP outfall. • Results of the Plume Dilution Study suggest that there is a relatively small mixing zone ~15 m surrounding the Dover STP outfall. • In summary, Dover STP has minimal impact on water quality, the marine ecosystem and PEVs in the receiving environment surrounding the outfall. Ongoing ambient monitoring is recommended on a biannual, seasonal basis, incorporating both water quality and benthic infauna assessments, next due in 2026/27.

20.7 Groundwater monitoring

Site status: Green

Dover STP groundwater monitoring network consists of three monitoring bores ID numbers DOGW1-3. Bore ID# DOGW1 is located to the south of the STP, bore ID# DOGW2 to the north, and bore ID# DOGW3 is located immediately east of the STP.

6-monthly sampling at the standard analytical suite was completed at all three groundwater monitoring bores in October 2024 and February 2025 as scheduled.

The 2024-25 groundwater monitoring event continue to record no signs of impacts to groundwater from STP.

Bi-annual sampling at the standard analytical suite is scheduled to continue at all three bores during the 2025-26 monitoring program.

20.8. 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 16 out of 108 in priority (high). Works this period included:

- Monitoring performance of previous I&I actions for effectiveness and network storage upgrades in shellfish lease areas.

20.9. 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 assessed as compliant with the 2024–25 SSMP.

The majority of sludge at this STP is contained within the aeration tank with frequent liquid sludge transfers to Macquarie Point, Prince of Wales Bay and Sells Point STPs. The total volume removed during the reporting period was 634kL.

Some sludge is also captured within the large polishing lagoon which has been scheduled in for desludging in FY2025–26.

No stockpiling occurs at this site.

Table 20–H: Liquid sludge transfers from Dover STP

Receiving STP	Volume (kL)
Macquarie Point STP	203
Prince of Wales STP	22
Sells Point STP	409
TOTAL	634

Table 20–I: Desludging status and comments

Desludging status	Comments
High Priority	Desludging of the Polishing Lagoon is scheduled to occur in 2025–26, as per the current prioritisation planning schedule.

20.10. Non-compliance with other permit requirements

Table 20–J: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
EF3 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 20.4 Discharge compliance with permit limits and Performance Analysis
F1 Flow Monitoring	No effluent flow meter installed	On flow meter program to be installed

20.11. Complaints and incident reporting

No complaints or incidents in the period.

20.12. Any other relevant information

None.

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

www.taswater.com.au