Annual Environmental Report 2020



Sixmilebridge

D0076-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 AER

This Annual Environmental Report has been prepared for D0076-01, Sixmilebridge, in Clare in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

There are no significant changes or operational improvements undertaken this year and any planned for the next 3 years

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

• SIXMILEBRIDGE WWTP - 2020 with a Plant Capacity PE of 6000, the treatment type is 3P - Tertiary P removal

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference Treatment Plant		Discharge Type	Compliance Status	Parameters failing if relevant	
TPEFF0300D0076SW001	SIXMILEBRIDGE WWTP - 2020	Treated	Compliant	N/A	

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

Assessment / Report	Included in AER
There are no Licence Specific Reports included in the AER.	

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 SIXMILEBRIDGE WWTP - 2020 - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - SIXMILEBRIDGE WWTP - 2020

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
Suspended Solids mg/l	12	1354	231.52
COD-Cr mg/l	12	1386	301.39
BOD, 5 days with Inhibition (Carbonaceo mg/l	12	597	125.51
Total Phosphorus (as P) mg/l	12	18.4	4.94
Total Nitrogen mg/l	12	90.2	21.74
Hydraulic Capacity	N/A	7093	1258

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'. The design of the wastewater tretament plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0300D0076SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	23.37	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	8.22	Pass
BOD, 5 days with Inhibition (Carbonaceo mg/I	25	50	N/A	12	N/A	N/A	4.1	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	14.16	Pass
ortho- Phosphate (as P) - unspecified mg/l	12	14.4	N/A	12	N/A	N/A	1.7	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.57	Pass
Ammonia-Total (as N) mg/l	5	6	N/A	12	N/A	N/A	1.07	Pass
Conductivity @25°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	699.13	
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	8.57	

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	12	N/A	N/A	1.85	

Notes:

Cause of Exceedance(s):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0300D0076SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	147867, 165816	RS27O011000	No	No	No	No	Good

^{1 –} This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Downstream	148015, 164525	RS27O011100	No	No	No	No	Good

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary**

Significance of Results:

The WWTP discharge was compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

The discharge from the wastewater treatment plant does not have an observable impact on the water quality.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - SIXMILEBRIDGE WWTP - 2020

2.1.4.1 Treatment Efficiency Report - SIXMILEBRIDGE WWTP - 2020

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)		
ss	100372	3131	97		
cBOD	54414	1561	97		
COD	130661	8898	93		

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)		
ТР	2141	706	67		
TN	11309	3915	65		

Note: The above data is based on sample results for the number of dates reported

2.1.4.2 Treatment Capacity Report Summary - SIXMILEBRIDGE WWTP - 2020

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

SIXMILEBRIDGE WWTP - 2020			
Peak Hydraulic Capacity (m³/day) - As Constructed	2250		
DWF to the Treatment Plant (m³/day)	750		
Current Hydraulic Loading - annual max (m³/day)	7093		
Average Hydraulic loading to the Treatment Plant (m³/day)			
Organic Capacity (PE) - As Constructed	6000		
Organic Capacity (PE) - Collected Load (peak week)Note1	2931		
Organic Capacity (PE) - Remaining	3069		
Will the capacity be exceeded in the next three years? (Yes/No)	No		

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - SIXMILEBRIDGE WWTP - 2020

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Landfill Leachate (delivered by tanker)	2610	Weight (Tonnes)		2	Yes	Yes	Yes

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environm	ental complaints in 2020.		

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Irish Water but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Adverse Weather	1	No	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2020	1
Number of Incidents reported to the EPA via EDEN in 2020	1
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2020 (No. of events)	Total volume discharged in 2020 (m3)	Monitoring Status
SW2	147960, 164825	Yes	Low	Meeting	Unknown	Unknown	Monitored
твс	147960, 164879	No	Low	Meeting	Unknown	Unknown	Unknown

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	No
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
There are no Specified Improveme	nt Programme	s for this Agglo	omeration.				

A summary of the status of any improvements identified by under Condition 5.2 is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
There are no Improven	nents Programme for this Agglomeration.			

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Table.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	2011	No	

5.1 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report has been included in the AER 2011

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment / Review of the licence?	No
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: Date: 11/05/2021

This AER has been produced by Irish Water's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Katherine Walshe

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix

Appendix 7.1 - Ambient monitoring summary

			Receiving Wat	WFD Status			
Ambient Monitoring Point from WWDL		EPA Feature Coding	Bathing	Drinking	FWPM	Shellfish	
(or as agreed with EPA)	Irish Grid Reference	Tool code	Water	Water			
Upstream of SMB WWTP		RS270011000	No	No	No	No	Good
	147867, 165816						
Downstream of SMB WWTP	148015, 164525	RS270011100	No	No	No	No	Good

Parameter Name	Upstream Monitoring Point Location	Point Annual Mean	Monitoring Point Location	Downstream Monitoring Point Annual Mean	%EQS
cBOD mg/l	Bridge in SMB	2	Old Mill Bridge	2	0.00%
Ortho-Phosphate (as P) mg/l	Bridge in SMB	0.057	Old Mill Bridge	0.036	-28.00%
Ammonia (as N) mg/l	Bridge in SMB	0.18	Old Mill Bridge	0.09	-64.29%

			Parameter	Ammonia N	DO % SAT	DO mg/l	TEMP	TN	BOD	Ortho-Phosphate P	pН	TP	COD	SS
			Max.		120						9			
			Min.		80						6			
			Test Method											
Station Reference	Sample Date	Comments	Analyst Conclusi	mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l
RS27O011000	21-Jan-2020	-	-	< 0.06	90.4	10.69	8.4	1.1	2	< 0.2	8.02		21	6
RS27O011000	18-Mar-2020	=	-	< 0.02	94.4	11	8.8	1.5	< 2	< 0.02	7.75		13	5
RS27O011000	13-May-2020	=	-	1.5	96.3	8.89	14.3	4.7	< 2	0.06	7.57		12	10
RS27O011000	9-June-2020	-	-	0.06	106.8	10.5	16.9	1	< 2	0.08	8.1		22	6
RS27O011000	1-July-2020	-	-	< 0.02	109.2	10.57	15.9	0.5	< 2	0.02	7.98		23	7
RS27O011000	28-July-2020	-	-	< 0.02	106.1	10.33	10.9	1.3	2	< 0.02	7.73		19	9
RS270011000	24-Aug-2020	-	-	0.04	99.2	9.42	18	1.06	2	0.02	7.74	< 0.12	20	9
RS270011000	15-Sep-2020	-	-	0.05	94.5	9.21	18.8	1.17	< 2	0.15	7.79		24	8
RS270011000	6-Oct-2020	-	-	0.05	106.5	10.54	15	0.61	< 2	0.02	7.94		20	7
RS27O011000	4-Nov-2020	-	-	0.02	93.9	10.65	7.1	0.11	2	< 0.02	8.01		27	11

			Parameter	Ammonia N	DO % SAT	DO mg/l	TEMP	TN	BOD	Ortho-Phosphate P	pН	TP	COD	SS	
			Max.		120						9				
			Min.		80						6				
			Test Method												
Station Reference	Sample Date	Comments	Analyst Conclus	mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l	
RS270011100	21-Jan-2020	-	-	< 0.06	90.8	10.9	8	1.1	2	< 0.02	7.89		16	7	
RS270011100	18-Mar-2020	-	-	< 0.02	95.9	11.3	8.7	0.8	< 2	< 0.02	7.73		16	6	
RS270011100	13-May-2020	-	-	0.35	97.2	8.91	14.5	0.8	< 2	0.02	7.63		15	5	
RS27O011100	9-June-2020	-	-	0.04	103.1	10.1	16.3	0.5	< 2	0.04	8.14		20	8	
RS270011100	1-July-2020	-	-	< 0.02	110.5	11.05	16.6	0.4	< 2	< 0.02	7.69		25	5	
RS270011100	28-July-2020	-	-	< 0.02	107.3	10.4	11.5	0.5	< 2	< 0.02	7.84		23	11	
RS27O011100	24-Aug-2020	-	-	0.04	98.5	9.3	18.2	1	2	0.03	7.68	< 0.12	20	8	
RS27O011100	15-Sep-2020	-	-	0.04	95.3	9.15	18.3	0.63	< 2	0.07	7.51		18	8	
RS27O011100	6-Oct-2020	-	-	0.05	103.2	10.38	14.7	0.53	< 2	0.02	7.99		22	9	
RS27O011100	4-Nov-2020	-	-	0.02	93.1	10.73	7	0.08	2	< 0.02	8.07		23	8	