Annual Environmental Report

2018

Longford

D0060-01

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0060-01, Longford, in Longford in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports are included as an appendix to the AER as follows:

1.1 Licence specific reporting included in AER

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

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant LONGFORD WWTP with a Plant Capacity PE of 20000. The treatment process includes the following:

1.2.1 LONGFORD WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Screen
Primary Treatment	No	
Secondary Treatment	Yes	Aeration
Nutrient Removal	Yes	Time shut down ANOXIC, Alum sludge PHOSPHATE removal
Tertiary Treatment	No	

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 2.2 Discharges from the agglomeration.

1.3 ELV Overview

1.3.1 LONGFORD WWTP

Compliance Status	
Were all parameters compliant for LONGFORD WWTP treatment plant	Yes
Where non compliant see Table 2.2.1 for details of parameters	

1.4 Sludge Removal

The amount of sludge removed from the wastewater treatment plant is shown below along with the transported destination of the sludge from the treatment plant.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
LONGFORD WWTP	Cake Sludge	1705.03	Weight (Tonnes)	19.8	Ballivor, Co. Meath
LONGFORD WWTP	Cake Sludge	4886.11	Weight (Tonnes)	21.5	Tulsk, Co. Roscommon (Lime Stabilisation)
LONGFORD WWTP	Cake Sludge	663.93	Weight (Tonnes)	21.5	Biocore Environmental Ltd, Bray, Co. Wicklow
LONGFORD WWTP	Cake Sludge	1368.57	Weight (Tonnes)	22.5	Unknown

Annual Statement of Measures

There were no major capital or operational changes undertaken.

2 MONITORING REPORTS SUMMARY

2.1 Summary report on monthly influent monitoring

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

2.1.1 Influent Monitoring Summary - LONGFORD WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD)	12	445	120.24
Total Phosphorus (as P)	12	11.26	2.96
COD-Cr	12	1196	314.77
Total Nitrogen	12	69	21.41
Suspended Solids	12	690	168.49
Hydraulic Capacity	0	11027	5345

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 3.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - LONGFORD WWTP

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)
Suspended Solids	35	87.5	0	12	0	0	11.08	Pass
Total Phosphorus (as P)	1	1.2	0	12	0	0	0.16	Pass
Fats, Oils & Greases	15	18	0	4	0	0	2.98	Pass
Total Nitrogen	0	0	0	12	0	0	10.16	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD)	20	30	0	12	0	0	4.02	Pass
Temperature	25	0	0	12	0	0	13.5	Pass
ortho-Phosphate (as P) - unspecified	0	0.53	0	12	0	0	0.03	Pass
COD-Cr	125	250	0	12	0	0	32.33	Pass
Visual Inspection	0	0	0	12	0	0	0	Pass
Nitrite (as N)	0	0	0	11	0	0	0.21	Pass

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)
Ammonia-Total (as N)	5	6	0	12	1	0	1.85	Pass
Conductivity 20 C	0	0	0	12	0	0	643.68	Pass
Nitrate (as NO3)	0	0	0	12	0	0	26.2	Pass
pH	0	0	0	12	0	0	7.27	Pass
Nitrate (as N)	0	0	0	12	0	0	5.92	Pass

Notes:
1– This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 - For parameters where a mean ELV applies

Cause of Exceedance(s):

Not Applicable.

Significance of Results:

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

2.3 Ambient monitoring summary

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.

2.3.1 Ambient Monitoring Report Summary - LONGFORD WWTP

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	Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	212028, 275631	TPEFF2000D0060SW001	No	No	No	No	Unassigned
Downstream	211645, 275909	TPEFF2000D0060SW001	No	No	No	No	Unassigned

2.3.2 Ambient Monitoring Parameter Summary - LONGFORD WWTP

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 did not meet the required EQS for Ammonia. Where the ambient monitoring results do not meet the EQS this relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on the 2018 ambient monitoring results, a deterioration in water quality in terms of Ammonia downstream of the WWTP was observed. It isnot considered that this deterioration is attributable to the discharge from the plant as the plant was compliant with the Ammonia ELV in 2018. It should also be noted that the EQS for Ammonia was not met u/s or d/s of the WWTP discharge. Other causes of deterioration in water quality in the area are unknown.

Based on the above it is considered that 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.

3 OPERATIONAL REPORTS SUMMARY

3.1 Treatment Efficiency Report

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:

3.1.1 Treatment Efficiency Report Summary - LONGFORD WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TN	42063.38	21176.71	49.66	
SS	331083.26	23100.14	93.02	
COD	618528.48	67382.53	89.11	
TP	5812.47	337.12	94.2	
cBOD	236273.41	8387.43	96.45	

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

3.2 Treatment Capacity Report Summary

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.

LONGFORD WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	12000

DWF to the Treatment Plant (m3/day)	4000
Current Hydraulic Loading - annual max (m3/day)	11027
Average Hydraulic loading to the Treatment Plant (m3/day)	5345
Organic Capacity (PE) - As Constructed	20000
Organic Capacity (PE) - Collected Load (peak week)	17623
Organic Capacity (PE) - Remaining	2377
Will the capacity be exceeded in the next three years? (Yes/No)	No

3.3 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
20	Blocked Sewer	1	19

3.4 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.

3.4.1 Summary of Incidents

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Other	Other	1	No	Yes
Other	Plant or equipment breakdown at WWTP	1	No	Yes
Other	Other	1	No	Yes
Other	Plant or equipment breakdown at WWTP	1	No	No

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	4
Number of Incidents reported to the EPA via EDEN in 2018	4
Explanation of any discrepancies between the two numbers above	N/A

3.5 Sludge / Other inputs to the WWTP

'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)
Domestic /Septic Tank Sludge	5495	Volume (m3)	67	0.28	No	Yes	No

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)
Industrial / Commercial Sludge	11380	Volume (m3)	139	0.58	No	Yes	No
Waterworks Sludge	23018	Volume (m3)	280	1.18	No	Yes	No
Waterworks Sludge	6205	Volume (m3)	75	0.32	No	Yes	No
Other	2344	Volume (m3)	29	0.12	No	Yes	No
Other	2545	Volume (m3)	31	0.13	No	Yes	No
Other	2333	Volume (m3)	28	0.12	No	Yes	No
Other	2687	Volume (m3)	33	0.13	No	Yes	No

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:

No Appendix Included.

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 2018 (No. of events)	Total volume discharged in 2018 (m3)	Monitoring Status
SW002	212684, 275691	Yes	Low	Meeting	49	66080	Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	66080
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?	No
Have the EPA been advised of any additional SWOs / charges 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)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
Discharge from SW2 shall comply with the definition of a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs', by 30/06/11	A	29/06/2011	Yes	Completed		
WWTP and Ancillary works Phase Note 1(Increased plant capacity to 30,000p.e.)	C	29/06/2011	Yes	Completed		
WWTP and Ancillary works Phase Note 1(Pipeline to the R. Shannon to convey treated effluent)	C	29/03/2011	Yes	Not Started		The improvement programme will be reviewed by IW to assess the works required to comply with the licence condition on a prioritised basis.

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	Improvement Source	Expected Completion Date	Comments
There are no Improvements 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	2013	No	
Toxicity of Final Effluent	Yes	2016	No	

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 modifications to the existing WWDL?	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	N/A

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

Date: 26/02/2019

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,

Eleanor Roche

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Longford Ambient Monitoring Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish National Grid Reference (Easting, Northing)	EPA Feature Coding Tool code	Receiving Waters Designation (Yes/No)			
			Bathing Water	Drinking Water	FWPM	Shellfish
Upstream Monitoring Point	212028, 275631	RS26C010857				
Downstream Monitoring Point	211645, 275909	RS26C010900	No	No	No	No

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Current WFD Status	cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	Unassigned	1.145	0.034	0.146
Downstream Monitoring Point	Unassigned	1.608	0.032	0.339
Difference		*0.463*	*-0.002*	*0.193*
EQS		2.600	0.075	0.140
% of EQS		17.803%	-3.162%	138.155%

Ambient Monitoring Data

Upstream Results								
Date		Ammonia (mg/l) *	Ortho P (mg/l) *	BOD (mg/l) *	Total N (mg/l)	D.O (% Sat)	D.O (mg/l)	pH (mg/l)
14/02/18	U/S	0.809	0.05	2.100	1.9	91.6	10.95	7.74
14/03/18	U/S	0.057	0.032	1.200	1.2	103.7	10.22	7.53
11/04/18	U/S	0.064	0.022	0.500	1.3	104.2	10.59	7.64
09/05/18	U/S	0.035	0.02	0.500	0.8	100.1	10.18	7.8
13/06/18	U/S	0.180	0.052	1.700	0.8	73.7	7.13	7.96
11/07/18	U/S	0.015	0.011	1.400	0.3	87.5	8.02	8.02
08/08/18	U/S	0.046	0.027	1.100	0.8	85	8.79	7.44
12/09/2018	U/S	0.184	0.064	1.100	0.5	78.7	7.92	7.52
10/10/2018	U/S	0.087	0.02	0.500	0.7	101.1	8.79	7.93
14/11/2018	U/S	0.045	0.047	1.300	1.8	95.1	9.21	7.55
12/12/2018	U/S	0.084	0.034	1.200	1.9	102.9	10.78	7.64
Mean		**0.146**	**0.034**	**1.145**	1.1	93.1	9.33	7.71
95%ile		**0.497**	**0.058**	**1.900**	1.9	104.0	10.87	7.99

Downstream Results								
Date		Ammonia (mg/l) *	Ortho P (mg/l)	BOD (mg/l) *	Total N (mg/l)	D.O (% Sat)	D.O (mg/l)	pH (mg/l)
14/02/18	D/S	0.737	0.048	1.400	1.9	92.9	11.15	7.72
14/03/18	D/S	0.250	0.030	1.100	1.6	103.4	10.19	7.53
11/04/18	D/S	0.054	0.021	0.500	1.7	104.5	10.59	7.63
09/05/18	D/S	0.037	0.020	0.500	1.1	101.6	10.07	7.79
13/06/18	D/S	0.257	0.051	1.600	1.8	71.2	7.04	7.9
11/07/18	D/S	0.015	0.012	1.700	1.9	93.1	8.62	7.98
08/09/18	D/S	0.815	0.021	2.800	2.2	84.2	8.61	7.39
08/08/18	D/S	0.815	0.021	2.800	2.2	84.2	8.61	7.39
12/09/2018	D/S	0.429	0.054	2.400	2.2	77.1	7.52	7.5
10/10/2018	D/S	0.534	0.025	2.000	2.8	93.7	8.26	7.8
14/11/2018	D/S	0.042	0.048	1.300	1.6	98.4	9.33	7.59
12/12/2018	D/S	0.088	0.034	1.200	2.3	102.1	10.57	7.62
Mean		**0.339**	**0.032**	**1.608**	1.9	92.2	9.21	7.65
95%ile		**0.815**	**0.052**	**2.800**	2.5	103.9	10.84	7.94

* Where the concentration in the result is less than the limit of detection (LOD), a value of 50% of the LOD was used in calculating the mean and 95%ile concentrations.