Annual Environmental Report

2018

Athlone

D0007-01

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

1.1 Licence Specific Reporting Included in AER

1.2 Treatment Type

1.2.1 Athlone WWTP

1.3 ELV Overview

1.3.1 Athlone WWTP

1.4 Sludge Removal

2 MONITORING REPORTS SUMMARY

2.1 Summary Report on Monthly Influent Monitoring

2.1.1 Influent Monitoring Summary - Athlone WWTP

2.2 Discharges From The Agglomeration

2.2.1 Effluent Monitoring Summary - Athlone WWTP

2.3 Ambient Monitoring Summary

2.3.1 Ambient Monitoring Report Summary - Athlone WWTP

2.3.2 Ambient Monitoring Parameter Mean (mg/l) - Athlone WWTP

3 OPERATIONAL REPORTS SUMMARY

3.1 Treatment Efficiency Report

3.1.1 Treatment Efficiency Report Summary - Athlone WWTP

3.2 Treatment Capacity Report Summary

3.3 Complaints Summary

3.4 Reported Incidents Summary

3.4.1 Summary of Incidents

3.4.2 Summary of Overall Incidents

3.5 Sludge / Other Inputs to The WWTP

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 Storm Water Overflow Identification and Inspection Report

4.1.1 SWO Identification

4.1.2 Inspection Summary Report

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements

4.2.1 Specified Improvement Programme Summary
4.2.2 Improvement Programme Summary
4.2.3 Sewer Integrity Risk Assessment Summary
5 LICENCE SPECIFIC REPORTS
6 CERTIFICATION AND SIGN OFF
6.1 Summary of AER Contents
6.2 Declaration by Irish Water
7 APPENDIX

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0007-01, Athlone, in Westmeath 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 Athlone WWTP with a Plant Capacity PE of 30000. The treatment process includes the following:

1.2.1 Athlone WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Screening
Primary Treatment	No	
Secondary Treatment	Yes	Extended Aeration with Anoxic Zone
Nutrient Removal	Yes	Alum Dosing
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 Athlone WWTP

Compliance Status	
Were all parameters compliant for Athlone WWTP treatment plant	No
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
Athlone WWTP	Cake Sludge	3077.4	Weight (Tonnes)	19	Owens Quarry, Mullingar

Annual Statement of Measures

The outstanding SIP items above will be completed as part of the Abbey Road to Golden Island tunnel sewer scheme. This scheme is currently at tender stage.

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 - Athlone WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	220	120.07
Total Nitrogen mg/l	12	64.2	37.7
BOD - 5 days (Total) mg/l	12	366	137.5
Suspended Solids mg/l	12	363	181.34
COD-Cr mg/l	12	1035	625.32
Total Phosphorus (as P) mg/l	12	10	5.74
Hydraulic Capacity	0	24712	8106

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 greater 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 - Athlone 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)
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	12	0	0	3.39	Pass
Temperature °C	0	0	0	3	0	0	6.99	Pass
Nitrite (as N) mg/l	0	0	0	12	0	0	0.09	Pass
Nitrate (as N) mg/l	0	0	0	12	0	0	6.68	Pass
Dissolved Oxygen % Saturation	0	0	0	1	0	0	78.8	Pass
COD-Cr mg/l	125	250	0	12	0	0	43.69	Pass
Total Phosphorus (as P) mg/l	2	2.4	0	12	0	0	0.25	Pass
Suspended Solids mg/l	35	87.5	0	12	0	0	7.5	Pass
Total Oxidised Nitrogen (as N) mg/l	0	0	0	12	0	0	6.76	Pass
pH pH units	0	0	0	12	0	0	7.26	Pass
Conductivity 20 C µS/cm	0	0	0	12	0	0	641.69	Pass

Dissolved Oxygen mg/l	0	0	0	1	0	0	7.24	Pass
Ammonia-Total (as N) mg/l	5	6	0	12	1	1	1.37	Fail
Total Nitrogen mg/l	0	0	0	12	0	0	9.39	Pass
Kjeldahl Nitrogen mg/l	0	0	0	4	0	0	4.37	Pass
ortho-Phosphate (as P) - unspecified mg/l	0	0	0	12	0	0	0.06	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):

At the time of the ELV breach, the plant was undergoing upgrade works and was in the process of being commissioned.

Significance of Results:

The WWTP was non-compliant with the ELV's set in the Wastewater Discharge Licence. There was one Ammonia-N Condition 2 ELV breach. The impact on the receiving water is addressed in Section 2.3.

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 - Athlone 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	204117, 240948	TPEFF3200D0007SW001	No	No	No	No	Poor
Downstream	204008, 240237	TPEFF3200D0007SW001	No	Yes	No	No	Poor

2.3.2 Ambient Monitoring Parameter Summary - Athlone WWTP

No Appendix Included.

It should be noted that Irish Water is unable to access the downstream sampling location as prescribed under Schedule B.3 Ambient Monitoring. The lands adjacent to all the sample locations are underwater for at least a period of 6-8 months of the year. Westmeath County Council/Irish Water are in the process of selecting a suitable alternative downstream monitoring point.

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

Based on the effluent compliant results for 2018, it is considered that the discharge is not impacting on water quality.

The discharge from the WWTP has no observable negative impact on the Water Framework Directive status.

It is not considered that the WWTP is impacting upon the downstream drinking water abstraction point at Banagher, circa 36 km downstream.

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 - Athlone WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TP	13467.09	604.88	95.51	
cBOD	281816.93	8240.15	97.08	
SS	425605.91	18252.34	95.71	
TN	88479.5	22838.24	74.19	
COD	1467653.75	106311.48	92.76	

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.

Athlone WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	20250

DWF to the Treatment Plant (m3/day)	6750
Current Hydraulic Loading - annual max (m3/day)	24712
Average Hydraulic loading to the Treatment Plant (m3/day)	8106
Organic Capacity (PE) - As Constructed	30000
Organic Capacity (PE) - Collected Load (peak week)	22200
Organic Capacity (PE) - Remaining	7800
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
53	Blocked Sewer	1	52

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)
Non-compliance	Inadequate Operational Procedures	1	No	Yes
Uncontrolled release	EO caused by power failure	1	No	Yes

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	2
Number of Incidents reported to the EPA via EDEN in 2018	2
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)
Landfill Leachate (delivered by tanker)	7392	Volume (m3)	90	0.25	Yes	Yes	Yes
Waterworks Sludge	23328	Volume (m3)	284	0.8	Yes	Yes	Yes

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
S.O.1	204156, 241041	Yes	Unknown	Meeting			Not Monitored
S.O.10	203111, 241984	Yes	Unknown	Meeting			Not Monitored
S.O.11	203390, 241990	Yes	Unknown	Meeting			Not Monitored
S.O.12	203903, 241098	Yes	Unknown	Meeting			Not Monitored
S.O.13	203968, 241688	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.14	203716, 242200	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.15	204040, 240941	Yes	Unknown	Not yet Assessed			Not Monitored

S.O.16	204627, 241342	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.17	204719, 241347	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.18	204824, 241254	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.19	204156, 241041	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.2	204828, 241689	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.3	203943, 241685	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.4	204328, 242655	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.5	203685, 242655	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.6	202670, 241883	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.7	203984, 241226	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.8	203629, 240854	Yes	Unknown	Not yet Assessed			Not Monitored
S.O.9	203198, 241781	Yes	Unknown	Not yet Assessed			Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	
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
Installation of Abbey Road to Golden Island tunnel sewer	C	30/05/2011	Yes	At Planning Stage	30/06/2022	
Installation of new Coosan pumping station and installation of new rising main and new sewer to Abbey Road	C	30/05/2011	Yes	Not Started	30/06/2022	
nstallation of storm water storage tank at Golden Island pumping station and associated rising main to WWTP	C	30/05/2011	Yes	At Planning Stage	30/06/2022	

Rehabilitation of sewers including installation of Roslevin Lawns surface water culvert , completion of A1 river improvement scheme and installation of Retreat Road surface water sewer	C	31/12/2014	Yes	At Planning Stage	30/06/2022	
SW019 (204156E, 241041N) (formerly S.O.1)	C	30/05/2011	Yes	At Planning Stage	30/06/2022	
Discharge to discontinue: SW010, Location 203111E 241984N (Athlone Canal)	A	30/11/2011	Yes	At Planning Stage	30/06/2022	
Discharge to discontinue: SW014, Location 203716E 242200N (River Shannon)	A	30/11/2011	Yes	At Planning Stage	30/06/2022	
SW015 (204040E, 240941N) formerly (S.O.15)	C	30/11/2011	Yes	At Planning Stage	30/06/2022	
Discharge to discontinue: SW003, Location - 203943E 241685N (River Shannon)	A	30/05/2011	Yes	At Planning Stage	30/06/2022	
Discharge to discontinue: SW004, Location - 204328E 242628N (River Shannon)	A	30/05/2011	Yes	At Planning Stage	30/06/2022	
Discharge to discontinue: SW005, Location 203685E 242655N (River Shannon)	A	30/05/2011	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.

SW007 (203984E, 241226N) formerly S.O.7	C	30/11/2011	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.
Discharge to discontinue: SW009, Location 203198E 241781N (Athlone Canal)	A	30/11/2011	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.
Upgrade and replacement of West Bank, West Side, Canal and Siphon sewers, upgrade of sewer connection to Golden Island pumping station and installation of sewer across The Meadows	C	30/11/2011	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.
Upgrade of Golden Island pumping station	C	31/12/2014	Yes	Not Started		
Upgrade of WWTP and ancillary works	C	31/12/2014	Yes	Works Completed		

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
Drinking Water Abstraction Point Risk Assessment	No	2010	No	
Priority Substances Assessment	Yes	2010	No	
Toxicity of Final Effluent	Yes	2010	No	
Toxicity/Leachate Management	Yes	2010	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?	Yes
List reason e.g. changes to monitoring requirements	Downstream monitoring point in licence is inaccessible 6-8 months of the year.
Have these processes commenced?	No
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:

Signed: 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

There are no Appendices included.