Annual Environmental Report

2018

Monksland

D0042-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0042-01, Monksland, in Roscommon 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 MONKSLAND WWTP with a Plant Capacity PE of 14381. The treatment process includes the following:

1.2.1 MONKSLAND WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Screening & Grit Removal
Primary Treatment	Yes	Primary Tank
Secondary Treatment	Yes	Conventional Activated Sludge
Nutrient Removal	Yes	Chemical dosing for phosphorous 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 MONKSLAND WWTP

Compliance Status	
Were all parameters compliant for MONKSLAND WWTP treatment plant	Yes
Where noncompliant 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
MONKSLAND WWTP	Cake Sludge	1350.3	Weight (Tonnes)	14	Tibohine, Ballaghaderreen, Co Roscommon

Annual Statement of Measures

Tender competition for the proposed inlet works and storm tank at Monksland WWTP was closed in September 2018 with Glen Agua securing the contract. The contract has been signed with works commencing in March 2019. The works is expected to be complete by December 2019.

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 - MONKSLAND WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	13	523	416.19
Total Nitrogen mg/l	13	79	62.88
Suspended Solids mg/l	13	448	232.42
Total Phosphorus (as P) mg/l	13	9.09	6.92
COD-Cr mg/l	13	1139	942.85
Hydraulic Capacity	0	1941	1164.19

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. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - MONKSLAND 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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
ortho-Phosphate (as P) - unspecified mg/l	0.5	0.6	0	13	0	0	0.1	Pass
pH pH units	0	0	0	13	0	0	7.41	Pass
Conductivity 20 C µS/cm	0	0	0	13	0	0	1653.05	Pass
Ammonia-Total (as N) mg/l	2.5	3	0	13	0	0	0.22	Pass
Total Phosphorus (as P) mg/l	0	0	0	13	0	0	0.31	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	13	0	0	5.58	Pass
Suspended Solids mg/l	35	87.5	0	13	0	0	16.35	Pass
COD-Cr mg/l	125	250	0	13	0	0	34.46	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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Total Nitrogen mg/l	0	0	0	13	0	0	29.57	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 - MONKSLAND 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	199439, 242010	TPEFF2600D0042SW001	No	No	No	No	Moderate
Downstream	201085, 240179	TPEFF2600D0042SW001	No	No	No	No	Good

2.3.2 Ambient Monitoring Parameter Summary - MONKSLAND 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 meet the required EQS.

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 - MONKSLAND WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TP	2890.09	141.17	95.12	
cBOD	173852.34	2544.59	98.54	
SS	97088.03	7459.06	92.32	
TN	26268.38	13488.4	48.65	
COD	393854.12	15722.99	96.01	

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.

MONKSLAND WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	3477

MONKSLAND WWTP	
DWF to the Treatment Plant (m3/day)	1159
Current Hydraulic Loading - annual max (m3/day)	1941
Average Hydraulic loading to the Treatment Plant (m3/day)	1164.19
Organic Capacity (PE) - As Constructed	14381
Organic Capacity (PE) - Collected Load (peak week)	11675
Organic Capacity (PE) - Remaining	2706
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
3	Blocked Sewer	1	2

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	Plant or equipment breakdown at WWTP	1	No	Yes
Other	Other	1	No	No
Uncontrolled release	Plant or equipment breakdown at WWTP	1	No	Yes

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	3
Number of Incidents reported to the EPA via EDEN in 2018	3
Explanation of any discrepancies between the two numbers above	

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	511	Volume (m3)	6	0.12	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
SW005	2004043, 240560	Yes	Low	Not Meeting			Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	0.00
Is each SWO identified as non 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 / 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
There are no Specified Improvement Programmes for this Agglomeration.						

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 (e.g. Appendix X).
There is no Licence Specific Report Required in this AER Annual Review.				

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	
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	
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: 27/02/2019

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

D0042-01 Monksland Agglomeration:-Ambient Monitoring Upstream 2018- River Cross – (26C10-0200 – Bridge at Burnbrook)									
Sample Type	Date	code	Ammonia (mg/l)	BOD (mg/l)	Dissolved Oxygen (% Saturation)	pH (unit)	Temperature (deg C)	Ortho-p (PO4-P) (mg/l)	Total Nitrogen (mg/l)
Upstream	10/01/2018	18440087	0.039	1.4	67.8	7.45	6.6	0.019	
Upstream	20/02/2018	18440555	0.031	< 1	92.9	7.57	8	0.011	
Upstream	28/03/2018	18441038	0.021	< 1	77.5	7.41	7.6	< 0.005	
Upstream	10/04/2018	18441194	0.073	< 1	71.3	7.33	8.5	0.007	
Upstream	03/05/2018	18441498	0.033	1.1	65.1	7.39	9.5	< 0.006	
Upstream	19/06/2018	18442068	0.041	< 1	73	7.04	12.9	0.011	
Upstream	26/07/2018	18442536	0.051	1.6	46.3	7.72	15.8	0.007	
Upstream	29/08/2018	18442908	< 0.02	< 1	67.8	7.4	16.2	0.01	
Upstream	27/09/2018	18443316	0.06	< 1	83.2	7.63	13.4	0.015	
Upstream	23/10/2018	18443701	0.214	< 1	83.9	7.54	13.1	0.02	
Upstream	20/11/2018	18444130	< 0.02	< 1	71.4	7.47	8.6	0.01	
Upstream	11/12/2018	18444494	0.128	1.1	75.9	7.42	9.1	0.017	
Ambient Monitoring Result (Mean)			0.06	0.77	73	7.45	10.77	0.013	
Surface Water Regulation 2009 Good Status (mean) Table 9 (Note 1)			≤0.065	≤1.50		Soft 4.5 <pH<6.0 Hard 6.0<pH<9.0		≤0.035	
Ambient Monitoring Result (95 Percentile)			0.167	1.49	87.95	7.67	15.98	0.0245	
Surface Water Regulation 2009 Good Status (95%ile) Table 9 (Note 2)			≤0.14	≤2.6	80<95%ile<120			≤0.075	
Status Upstream (Note 3)			Fail	Good	Good	Hard		Good	

Note 1: Limit (mean) for good status waters as per Table 9, Part A, schedule 4 of the European Communities Environmental Objectives (Surface Water) Regulations, 2009 S.I. No. 272 of 2009. Note – calculated figures for Ammonia as N do not consider variants in temperature or pH.

Note 2: Limit (95%ile) for good status waters as per Table 9, Part A, Schedule 4 of The European Communities Environmental Objectives (Surface Water) Regulations, 2009) S.I. No. 272 of 2009.

Note 3: Limit (mean) for good status waters as per Table 9, Part A, Schedule 4 of The European Communities Environmental Objectives (Surface Water) Regulations, 2009) S.I. No. 272 of 2009.

D0042-01 Monksland Agglomeration:-Ambient Monitoring Downstream 2018- River Cross – (26C10-0300 – Bridge S. Of Doyles Bridge)									
Sample Type	**Date**	**code**	**Ammonia (mg/l)**	**BOD (mg/l)**	**Dissolved Oxygen (% Saturation)**	**pH (unit)**	**Temperature (deg C)**	**Ortho-p (PO4-P) (mg/l)**	**Total Nitrogen (mg/l)**
Downstream	10/01/2018	18440088	0.083	2.1	76.2	7.52	6.4	0.025	
Downstream	20/02/2018	18440556	0.026	< 1	94.4	7.61	7.8	0.007	
Downstream	28/03/2018	18441039	0.023	< 1	77.3	7.54	8.2	0.007	
Downstream	10/04/2018	18441195	0.08	< 1	69.3	7.37		0.008	
Downstream	03/05/2018	18441499	0.077	1.4	73.5	7.72	9.8	0.086	
Downstream	19/06/2018	18442069	< 0.03	1.2	96.4	7.17	13.3	0.01	
Downstream	26/07/2018	18442537	0.043	2.4	59.3	7.74	16.4	0.008	
Downstream	29/08/2018	18442909	< 0.02	< 1	85.2	7.54	14	0.01	
Downstream	27/09/2018	18443317	0.039	< 1	69.6	7.47	13.2	0.015	
Downstream	23/10/2018	18443702	0.091	< 1	81.1	7.66	13.4	0.014	
Downstream	20/11/2018	18444131	0.025	< 1	89.6	7.58	7.9	0.013	
Downstream	11/12/2018	18444495	0.291	1.4	81.5	7.49	8.9	0.015	
Ambient Monitoring Result (Mean)			0.06	1	79.45	7.53	10.84	0.018	
Surface Water Regulation 2009 Good Status (mean) Table 9 (Note 1)			≤0.065	≤1.50		Soft 4.5 <pH<6.0 Hard 6.0<pH<9.0		≤0.035	
Ambient Monitoring Result (95 Percentile)			0.181	2.35	95.3	7.729	15.2	0.05245	
Surface Water Regulation 2009 Good Status (95%ile) Table 9 (Note 2)			≤0.14	≤2.6	80<95%ile<120			≤0.075	
Status Upstream (Note 3)			Fail	Good	Good	Hard		Good	

Note 1: Limit (mean) for good status waters as per Table 9, Part A, schedule 4 of the European Communities Environmental Objectives (Surface Water) Regulations, 2009 S.I. No. 272 of 2009. Note – calculated figures for Ammonia as N do not consider variants in temperature or pH.

Note 2: Limit (95%ile) for good status waters as per Table 9, Part A, Schedule 4 of The European Communities Environmental Objectives (Surface Water) Regulations, 2009) S.I. No. 272 of 2009.

Note 3: Limit (mean) for good status waters as per Table 9, Part A, Schedule 4 of The European Communities Environmental Objectives (Surface Water) Regulations, 2009) S.I. No. 272 of 2009.

			Receiving Waters Designation (Yes/No)					Mean (mg/l)		
Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish National Grid Reference (Easting, Northing)	EPA Feature Coding Tool code	Bathing Water	Drinking Water	FWPM	Shellfish	Current WFD Status	cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	199389, 241736	IE_SH_26C100300					Good	0.770	0.013	0.060
Downstream Monitoring Point	201067, 240186	IE_SH_26C100300	No	No	No	No	Good	1.000	0.018	0.060
EQS								2.600	0.075	0.140
% of EQS								8.846%	6.667%	0.000%