

Annual Environmental Report 2017

Agglomeration Name:	Passage/Monkstown
Licence Register No.	D0129-01



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Section 1. Executive Summary and Introduction to the 2017 AER

1.1 Summary Report on 2017

This Annual Environmental Report has been prepared for **D0129-01, Passage/Monkstown**, in County **Cork**, in accordance with the requirements of the wastewater discharge licence for the agglomeration.

There is no waste water treatment plant in Passage West / Monkstown and waste water discharges untreated to Lough Mahon through three outfall points. The largest flow is discharged through Pembroke outfall (primary discharge) in Passage West. There are two other secondary discharges of untreated waste water from the agglomeration. There are five pumping stations and four of these have emergency overflows which also act as combined storm water overflows. There is evidence of seawater and rainfall infiltration. The current load from the agglomeration is estimated at a population equivalent (p.e.) of 7,600 which includes an estimated load of 10% for pending development. The waste water is predominantly domestic with 10% attributed to commercial and institutional waste water.

As the agglomeration is between 2,000 and 10,000 p.e., a secondary treatment was required under the Urban Waste Water Regulations, 2001 (S.I. No 254 of 2001) (UWW Regulations) by 31/12/05 but such treatment has not been provided. It is proposed to upgrade the Passage West / Monkstown sewer network and pump waste water to the proposed urban waste water treatment plant at Shanbally which has been operational since late 2016. This proposal forms part of the Cork Lower Harbour Sewerage Scheme (also known as Cork Harbour Main Drainage Scheme). It is proposed that storm water overflows will be designed in accordance with the DoECLG 'Procedures and Criteria in relation to storm water overflows', 1995. The network upgrade to transfer sewage to this WWTP from the Passage-Monkstown Agglomeration commenced in 2017.

There were no major capital or operational changes undertaken in 2017.

An Annual Statement of Measures is included in **Appendix 7.1**

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 Influent Monitoring Summary

2.1.1 Monthly Influent Monitoring	BOD (mg / l)	COD (mg / l)	SS (mg / l)	TP (mg / l)	TN (mg / l)	Hydraulic Loading (m3/d)
Number of Samples	0	0	0	0	0	
Annual Max.	0	0	0	0	0	0
Annual Mean						

Other inputs in the form of sludge/leachate are added to the WWTP after the influent monitoring point and are therefore not represented by influent monitoring. Other inputs, where relevant, are detailed in Section 3.6.

Significance of results

The annual mean hydraulic loading is greater 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

No monitoring of primary or secondary wastewater discharges is required, in accordance with the licence.

Table 2.2 - Effluent Monitoring

2.2.1 Effluent Monitoring Summary	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	Total P (mg/l)	Ortho P / MRP (mg/l)	Total N (mg/l)	Ammonia N (mg/l)	pH (Range)	Kjeldahl Nitrogen
WWDL ELV (Schedule A) where applicable	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ELV with Condition 2 Interpretation included	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
% Reduction (Schedule A)									
Number of sample results									
Number of sample results above WWDL ELV									
Number of sample results above ELV with Condition 2 Interpretation									
Annual Mean (for parameters where a mean ELV applies)									
Overall Compliance (Pass/Fail)									

Table 2.3. Ambient Monitoring Report Summary Table

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Bathing Water	Drinking Water	FWPM	Shellfish
Upstream Monitoring Point		LE330				
Downstream Monitoring Point		LE380	No	No	No	No
Downstream Monitoring Point #2		LE630	No	No	No	No

Table 2.3.2 Ambient Impact Assessment Table

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Current WFD Status	cBOD	0-Phosphate (as P)	Ammonia (as N)	Nitrogen
Upstream Monitoring Point	Moderate	2.66	9.633	0.062	
Downstream Monitoring Point	Moderate				
Downstream Monitoring Point #2	Moderate	0.5	9	0.02	
Difference between Upstream and Downstream					
Difference between Upstream and Downstream #2		-2.16	-0.633	-0.042	
EQS		2.6	0.075	0.075	
% of Eqs		-102.31%	-12844.00%	-82.67%	
% of Eqs #2		-83.08%	-844.00%	-56.00%	

The results for the upstream and downstream monitoring and/or additional monitoring data sets from the EPA are included in the Appendix 7.2.

Significance of results

- The receiving waters do not meet the EQS required.
- The discharge from the wastewater treatment plant may be causing an impact on the receiving water .
- A deterioration in water quality has been identified however it is not known if it is or is not caused by the WWTP.
- The discharge from the WWTP has no observable negative impact on the Water Framework Directive status.

2.4 Pollutant Release and Transfer Register (PRTR) - report for previous year

A PRTR is not required as the PE is < 100000

Section 3. Operational Reports Summary

. No monitoring of primary or secondary wastewater discharges is required, in accordance with the licence.

3.1 Treatment Efficiency Report

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)
Influent mass loading (kg/year)			
Effluent mass emission (kg/year)			
% Efficiency (% reduction of influent load)			

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/day)	0
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/day)	0
Hydraulic Capacity – Current loading (m3/day)	0
Hydraulic Capacity – Remaining (m3/day)	0
Organic Capacity - Design / As Constructed (PE)	0
Organic Capacity - Collected Load (PE)	0
Organic Capacity – Remaining (PE)	0
Will the capacity be exceeded in the next three years? (Yes / No)	0

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and created in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended).

Table 3.3 - Extent of Agglomeration Summary Report

	% of P.E. load generated in the agglomeration	Estimated / Measured
Load generated in the agglomeration that is collected in the sewer network	100%	Estimated
Load collected in the agglomerations that enters treatment plant	0%	Estimated
Load collected in the sewer network but discharges without treatment (includes SWO, EO, and any discharges that are not treated)	100%	Estimated

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant.

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment.

3.4 Complaints Summary

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

Table 3.4 - Complaints Summary Table

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
1	Sewer Blockages	0	1

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

3.5.1 Incident Type (e.g. Non-compliance, Emission, spillage, pollution incident)	Incident Description	Cause	No. of Incidents	Recurring Incident (Yes/No)	Corrective Action	Authorities Contacted. Note 1	Reported to EPA (Yes/No)	Closed (Yes/No)
None								

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2017	0
Number of Incidents reported to the EPA via EDEN in 2017	
Explanation of any discrepancies between the two numbers above	

Section 4. Infrastructure Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

A summary of the significance and operation is included below. Storm Water Overflows have not yet been assessed as direct discharge is in operation.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High/Med/Low)	Compliance with DoEHLG criteria	No. of times activated in 2017 (No. of events)	Total volume discharged in 2017 (m3)	Total volume discharged in 2017 (P.E.)	Estimated / Measured data
SW04PASS	175621, 69656	Yes	Low	Non-Compliant	Unknown	Unknown	Unknown	Estimated
SW05PASS	176987, 68831	Yes	Low	Non-Compliant	Unknown	Unknown	Unknown	Estimated
SW06PASS	177166, 67734	Yes	Low	Non-Compliant	Unknown	Unknown	Unknown	Estimated
SW07PASS	177114, 66095	Yes	Low	Non-Compliant	Unknown	Unknown	Unknown	Estimated

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Unknown
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2017?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	No
The SWO assessment includes the requirements of relevant WWDL Schedules (Yes/No)	No

Have the EPA been advised of any additional SWOs / changes to Schedules A/C under Condition 1 ?	N/A
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4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

The Improvement Programme report addresses the **Specified Improvement Programmes** as detailed in Schedules A3 and C of the WWDL. It should detail other improvements identified through assessments required under the licence.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes	Licence Schedule	Licence Completion Date	Date Expired	Status of Works	% Construction Work Completed	Expected Completion Date	Comments
Discharges from SW01PASS (primary discharge) to cease	A	01/01/2015	Yes	Work ongoing on-site		TBC	
Discharges from SW02PASS to cease	A	01/01/2015	Yes	Work ongoing on-site		TBC	
Discharges from SW03PASS to cease	A	01/01/2015	Yes	Work ongoing on-site		TBC	
Discharges from SW04PASS to cease	A	01/01/2015	Yes	Work ongoing on-site		TBC	
Discharges from SW05PASS to cease	A	01/01/2015	Yes	Work ongoing on-site		TBC	
Discharges from SW06PASS to cease	A	01/01/2015	Yes	Work ongoing on-site		TBC	
Discharges from SW07PASS to cease	A	01/01/2015	Yes	Work ongoing on-site		TBC	
Infrastructural works as necessary to cease discharges	C	01/01/2015	Yes	Work ongoing on-site		TBC	

Upgrade collecting system: reduce infiltration, remediate structural damage, separate storm water and install major pumping station	C	01/01/2015	Yes	Work ongoing on-site		TBC	
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A summary of the status of any improvements identified by under Condition 5.2 is included below.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier / Name	Improvement Description	Improvement Source	Progress (% complete)	Expected Completion Date	Comments
None					

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	Risk Assessment Rating (High, Medium, Low)	Risk Assessment Score	Reference to relevant section of AER (e.g. Appendix 2 Section 4.	Specified improvements	Comment
Hydraulic Risk Assessment Score	Medium	78	AER 2014	Lower Harbour Scheme	N/A
Environmental Risk Assessment Score	High	435	AER 2014	Lower Harbour Scheme	N/A
Structural Risk Assessment Score	High	125	AER 2014	Lower Harbour Scheme	N/A
Operation & Maintenance Risk Assessment Score	Medium	140	AER 2014	Lower Harbour Scheme	N/A
Overall Risk Score for the agglomeration	High	778	AER 2014	Lower Harbour Scheme	N/A

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required by Condition 5 in Licence	Required in this AER or outstanding from previous AER?	Included in this AER?	Reference to previous AER containing report or relevant section of this AER
Priority Substances Assessment	Not Required	No	No	
Drinking Water Abstraction Point Risk Assessment	Not Required	No	No	
Shellfish Impact Assessment	Not Required	No	No	
Pearl Mussel Report	Not Required	No	No	
Toxicity/Leachate Management	Not Required	No	No	
Toxicity of Final Effluent Report	Not Required	No	No	
Small Stream Risk Score Assessment	Not Required	No	No	
Habitats Impact Assessment	Not Required	No	No	

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	N/A	N/A
Drinking Water Abstraction Point Risk Assessment	N/A	N/A
Shellfish Impact Assessment	N/A	N/A
Pearl Mussel Report	N/A	N/A
Toxicity/Leachate Management	N/A	N/A
Toxicity of Final Effluent Report	N/A	N/A
Habitats Impact Assessment	N/A	N/A

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

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)?	N/A
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? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	No
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements	N/A
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	N/A
Ensure the following reports are included	N/A

Declaration by Irish Water

The AER contains the following:

- Introduction and background to 2017 AER.
- Monitoring Reports Summary.
- Operational Reports Summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports
- Certification and Sign Off
- Appendices

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

Signed:  Date: 23/02/2018

Michael O'Leary
Acting Head of Environmental Regulation

Section 7. Appendices

Appendix 7.1 Statement of Measures / Improvement Programme

There is no waste water treatment plant in Passage West / Monkstown and waste water discharges untreated to Lough Mahon through three outfall points. The largest flow is discharged through Pembroke outfall (primary discharge) in Passage West. There are two other secondary discharges of untreated waste water from the agglomeration. There are five pumping stations and four of these have emergency overflows which also act as combined storm water overflows. There is evidence of seawater and rainfall infiltration. The current load from the agglomeration is estimated at a population equivalent (p.e.) of 7,600 which includes an estimated load of 10% for pending development. The waste water is predominantly domestic with 10% attributed to commercial and institutional waste water.

As the agglomeration is between 2,000 and 10,000 p.e., a secondary treatment was required under the Urban Waste Water Regulations, 2001 (S.I. No 254 of 2001) (UWW Regulations) by 31/12/05 but such treatment has not been provided. It is proposed to upgrade the Passage West / Monkstown sewer network and pump waste water to the proposed urban waste water treatment plant at Shanbally which has been operational since late 2016. This proposal forms part of the Cork Lower Harbour Sewerage Scheme (also known as Cork Harbour Main Drainage Scheme). It is proposed that storm water overflows will be designed in accordance with the DoECLG 'Procedures and Criteria in relation to storm water overflows', 1995. The network upgrade to transfer sewage to this WWTP from the Passage-Monkstown Agglomeration commenced in 2017.

There were no major capital or operational changes undertaken in 2017.

Appendix 7.2 Ambient Monitoring

Upstream

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)
31/05/2016	0.10	12.00	1.60		125.70		8.20
31/05/2016	0.07	7.00	2.00		130.90		8.30
31/05/2016	0.03	8.50	2.70		144.40		8.30
31/05/2016	0.02	8.10	3.20		177.30		8.50
12/07/2016	0.13	19.00	1.20		97.10		8.10
12/07/2016	0.13	19.00			97.40		8.10
12/07/2016	0.12	18.00	1.50		103.60		8.10
12/07/2016	0.08	14.00			110.70		8.20
08/08/2016	0.01	2.50	4.00		106.00		8.20
08/08/2016	0.03	2.50			113.70		8.20
08/08/2016	0.01	2.50	5.10		114.90		8.30
08/08/2016	0.03	2.50			153.60		8.20
Mean	0.06	9.63	2.66		122.94		8.23
95%ile	0.13	19.00	4.72		164.27		8.39

Downstream

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)
01/03/2016	0.02	19.00			101.90		8.00
01/03/2016	0.06	25.00			101.00		8.00
31/05/2016	0.01	2.50	0.50		114.60		8.20
31/05/2016	0.01	2.50	0.50		119.50		8.20
08/08/2016	0.01	2.50	0.50		90.70		8.00
08/08/2016	0.01	2.50	0.50		100.60		8.00
Mean	0.02	9.00	0.50		104.72		8.07
95%ile	0.05	23.50	0.50		118.28		8.20