

# Annual Environmental Report

2018



Ardfert

D0282-01

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# 1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0282-01, Ardfert, in Kerry 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 Ardfert WWTP with a Plant Capacity PE of 1200. The treatment process includes the following:

### 1.2.1 Ardfert WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Screening and Grit Removal
Primary Treatment	No	
Secondary Treatment	Yes	Two diffused aeration tanks and two final clarifiers
Nutrient Removal	No	
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 Ardfert WWTP

Compliance Status	
Were all parameters compliant for Ardfert WWTP treatment plant	Yes (New WWTP)
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
Ardfert WWTP	Liquid Sludge	552	Volume (m3)	3	ENVA
Ardfert WWTP	Liquid Sludge	144	Volume (m3)	3	Tralee WWTP

### Annual Statement of Measures

A new WWTP was constructed in Ardfert in 2018. Flows were diverted to the new WWTP on the 1st May 2018. The new WWTP provides secondary treatment with two diffused aeration tanks and two final clarifiers.

## 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 - Ardfert WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
<b>BOD, 5 days with Inhibition (Carbonaceous BOD)</b>	6	3861	834.3
<b>COD-Cr</b>	6	14980	5863.56
<b>Suspended Solids</b>	6	11715	3989.19
<b>Hydraulic Capacity</b>	0	226.5	182

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 - Ardfert WWTP

Parameter	WWDL ELV (Schedule A) (Applicable from 01 <sup>st</sup> May 2018)	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) For New WWTP
<b>COD-Cr</b>	125	250	0	6	0	0	70.39	Pass
<b>Ammonia-Total (as N)</b>	10	12	0	6	0	0	5.03	Pass
<b>Total Oxidised Nitrogen (as N)</b>	15	18	0	5	0	0	7.8	Pass
<b>ortho-Phosphate (as P) - unspecified</b>	8	9.6	0	6	0	0	2.42	Pass
<b>BOD, 5 days with Inhibition (Carbonaceous BOD)</b>	25	50	20 (applicable until May 2018)	6	0	0	14.35	Pass
<b>pH</b>	6-9	6-9	0	6	0	0	7.58	Pass
<b>Visual Inspection</b>				6				Pass
<b>Suspended Solids</b>	35	87.5	50 (applicable until May 2018)	6	0	0	17.6	Pass

Notes:

1– This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied - (Applicable from 01<sup>st</sup> May 2018)

2 – Interim ELVs applied until May 2018.

#### Cause of Exceedance(s):

The ELVs specified above are pertaining to the new WWTP which was commissioned in May 2018. The new WWTP is fully compliant with licence ELVs.

### Significance of Results:

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

A percentage reduction for BOD and SS was required under the licence for the original WWTP. These ELVs applied until May 2018. The original WWTP failed to meet the percentage reduction for SS in 2018.

## 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 - Ardfert 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 Monitoring	79037, 121329	RS23TO20400	No	No	No	No	Poor
Downstream Monitoring	76005, 122427	RS23T020500	No	No	No	No	Unassigned

### 2.3.2 Ambient Monitoring Parameter Summary - Ardfert 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 New 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 do not have an observable impact on the water quality.

The discharge from the wastewater treatment plant do 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 - Ardfert WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TN				
SS	329539.09	1562.51	99.53	
TP				
cBOD	68920.21	1061.57	98.46	
COD	484377.38	5206.59	98.93	

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.

Ardfert WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	864

<b>DWF to the Treatment Plant (m3/day)</b>	270
<b>Current Hydraulic Loading - annual max (m3/day)</b>	226.5
<b>Average Hydraulic loading to the Treatment Plant (m3/day)</b>	182
<b>Organic Capacity (PE) - As Constructed</b>	1200
<b>Organic Capacity (PE) - Collected Load (peak week)</b>	920
<b>Organic Capacity (PE) - Remaining</b>	280
<b>Will the capacity be exceeded in the next three years? (Yes/No)</b>	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
9	Blocked Sewer	0	9

### 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	WWTP operating above capacity	2	Yes	No

### 3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	1
Number of Incidents reported to the EPA via EDEN in 2018	1
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)? <sup>3</sup>	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? <sup>2</sup> (Y/N)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

## 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
<b>TPEFF3900D0282SW004</b>	E76555 N121680	Yes	Unknown	Unknown			Not Monitored
<b>TPEFF1300D0282SW002 - Decommissioned</b>	78102, 121187	Yes – Associated with original WWTP. SW002 is now decommissioned followign network and WWTP upgrade in 2018.	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)?	
Is each SWO identified as non meeting DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO Assessment included the requirements of relevant of WWDL schedules?	N/A

Have the EPA been advised of any additional SWOs / charges to Schedule C3 and A4 under Condition 1.7?	No
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## 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
<b>Build and commission a new wastewater treatment plant to ensure compliance with the ELVs specified in Schedule A: Discharges and Discharge Monitoring of this licence.</b>	C	01/05/2018	Yes	Works Completed		The new WWTP was commissioned in Ardfert in May 2018
<b>Improvement works to ensure compliance with Condition 1.7</b>	C	01/05/2018	Yes	Not Started		The new WWTP was commissioned in Ardfert in May 2018
<b>Primary Discharge Point SW001 to be Discontinued</b>	C	01/05/2018	Yes	Not Started		The new WWTP was commissioned in Ardfert in May 2018, with a new outfall location
<b>Storm Water Overflow SW002 to be discontinued</b>	C	01/05/2018	Yes	Not Started		SW002 Decommissioned

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
<b>There are no Improvements Programme for this Agglomeration.</b>				

#### 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).
<b>There is no Licence Specific Report Required in this AER Annual Review.</b>				

## 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?	
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	No



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

Signed:    Date: 27/03/2019

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

In the appendix include all the detailed or site specific reports that are relevant to the AER. Reports omitted from previous AERs should also be appended here.

### Appendix

#### Appendix 7.1 - Ambient monitoring summary

Station Name	Name of Receiving Water	EDEN Code	Monitoring Location Easting/ Northing	Upstream/ Downstream	Sampling Method	Sample ID No.	Sample Date	Visual Inspection	pH	BOD (mg/l)	SS (mg/l)	Ortho P as P (mg/l)	NH3-N (mg/l)	TON as N (mg/l)	Faecal Coli (MPN/ 100ml)	E. coli (MPN/ 100ml)	Enterococci (MPN/ 100ml)	Temperature (degree C)	Comments
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20400	E79037 N121329	Upstream	GRAB	2018/0126	17/01/2018	Clear	7.4	1.7	6	0.06	0.1	3.28				7.4	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20500	E76005 N122427	Downstream	GRAB	2018/0127	17/01/2018	Clear	7.7	1.9	4	0.12	0.14	2.79				6.5	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20400	E79037 N121329	Upstream	GRAB	C18-Mar 165	08/03/2018	Clear	7.7	1.11	5	0.04	0.13	4.51	374	309	20	8.2	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20500	E76005 N122427	Downstream	GRAB	C18-Mar 166	08/03/2018	Clear	7.8	1.36	<2	0.05	0.14	4.11	1789	1723	98	7.1	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20400	E79037 N121329	Upstream	GRAB	C18-May 181	09/05/2018	Clear	7.6	<1.0	15.2	0.02	0.04	4.64	910	708	10	10.7	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20500	E76005 N122427	Downstream	GRAB	C18-May 182	09/05/2018	Clear	7.7	<1.0	<2	0.03	0.02	3.84	<10	<10	<10	11.9	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20400	E79037 N121329	Upstream	GRAB	2018/1908	04/07/2018	Clear	7.9	<1.3	3	0.01	<0.05	3.94				15.1	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20500	E76005 N122427	Downstream	GRAB	2018/1909	04/07/2018	Clear	8.1	1.9	3	0.06	<0.05	3.03				17.2	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20400	E79037 N121329	Upstream	GRAB	C18-Sep 197	11/09/2018	Clear	7.7	<1.0	<2	0.02	0.04	4.37				13	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20500	E76005 N122427	Downstream	GRAB	C18-Sep 198	11/09/2018	Clear	7.9	<1.0	<2	0.07	0.07	3.7				13.9	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20400	E79037 N121329	Upstream	GRAB	2018/3378	08/11/2018	Yellow colour	7.7	1.7	11	0.14	0.57	4.26				10.1	
Ardfert WWTP Ambient Monitoring	River Tyshe	RS23TO20500	E76005 N122427	Downstream	GRAB	2018/3379	08/11/2018	Yellow colour	7.7	2.6	2	0.24	0.42	4.93				9	