Annual Environmental Report

2019

Belgooly

D0541-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2019 AER

This Annual Environmental Report has been prepared for D0541-01, Belgooly, in Cork in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

There was no major capital or operational changes undertaken

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Belgooly Secondary Discharge (TPEFF0500D0541SW003) is a direct discharge (untreated)
- Cramers Close WWTP (TPEFF0500D0541SW002) with a Plant Capacity PE of 75, the treatment type is secondary RBC
- Belgooly - Riverbank Estate WWTP (TPEFF0500D0541SW001) with a Plant Capacity PE of 1000, the treatment type is 3P - Tertiary P removal

1.3 ELV OVERVIEW

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.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF0500D0541SW003	Belgooly Secondary Discharge	Untreated		
TPEFF0500D0541SW002	Cramers Close WWTP	Treated	Non-Compliant	BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l COD-Cr mg/l Suspended Solids mg/l
TPEFF0500D0541SW001	Belgooly - Riverbank Estate WWTP	Treated	Non-Compliant	BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l COD-Cr mg/l Suspended Solids mg/l

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

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

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 BELGOOLY - RIVERBANK ESTATE WWTP - TREATED DISCHARGE: TPEFF0500D0541SW001

2.1.1 INFLUENT MONITORING SUMMARY - BELGOOLY - RIVERBANK ESTATE WWTP

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

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	6	423	205.63
Suspended Solids mg/l	6	370	215.26
COD-Cr mg/l	6	992	514.81
Hydraulic Capacity	N/A	330	143

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'. 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.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0500D0541SW001

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)
COD-Cr mg/l	125	250	N/A	6	2	N/A	104.63	Fail
Suspended Solids mg/l	35	87.5	N/A	6	3	1	40.62	Fail
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	6	2	N/A	28.57	Fail
pH pH units	9	9	N/A	6	N/A	N/A	7.86	Pass
Faecal coliforms no./100mls	N/A	N/A	N/A	2	N/A	N/A	1.95	
ortho-Phosphate (as P) - unspecified mg/l	ELV comes in to operation 31/12/2019	N/A	N/A	6	N/A	N/A	2.67	
E. Coli no./100mls	N/A	N/A	N/A	2	N/A	N/A	1.76	
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	2	N/A	N/A	17118.29	

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) mg/l	ELV comes in to operation 31/12/2019	N/A	N/A	6	N/A	N/A	27.02	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Cause of Exceedance(s):

Inadequate infrastructure

Significance of Results:

The WWTP is non compliant with the ELV's set in the Wastewater Discharge Licence. The impact on receiving waters is assessed further in Section 2

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0500D0541SW001

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.

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	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	166326, 54277	RS20S030800	No	No	No	No	Good
Downstream	166299.81, 52125.06	TW05003164OY1001 (TPEFF0500D0541SW001)	No	No	No	No	Unassigned

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

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

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.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - BELGOOLY - RIVERBANK ESTATE WWTP

2.1.4.1 Treatment Efficiency Report - Belgooly - Riverbank Estate WWTP

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:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
TP	N/A	N/A	N/A
COD	23175	4697	80
cBOD	9257	1283	86
TN	N/A	N/A	N/A
SS	9691	1823	81

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

2.1.4.2 Treatment Capacity Report Summary - Belgooly - Riverbank Estate WWTP

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.

Belgooly - Riverbank Estate WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	675
DWF to the Treatment Plant (m^3/day)	225
Current Hydraulic Loading - annual max (m^3/day)	330
Average Hydraulic loading to the Treatment Plant (m^3/day)	143
Organic Capacity (PE) - As Constructed	1000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	827
Organic Capacity (PE) - Remaining	173
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - BELGOOLY - RIVERBANK ESTATE 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)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

2.2 CRAMERS CLOSE WWTP - TREATED DISCHARGE: TPEFF0500D0541SW002

2.2.1 INFLUENT MONITORING SUMMARY - CRAMERS CLOSE WWTP

No Influent monitoring is carried out for TPEFF0500D0541SW002.

2.2.2 EFFLUENT MONITORING SUMMARY - TPEFF0500D0541SW002

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)
pH pH units	6-9	6-9	N/A	6	0	0	7.92	Pass

COD-Cr mg/l	125	250	N/A	6	5	4	345.5	Fail
Suspended Solids mg/l	35	87.5	N/A	6	5	4	125.17	Fail
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	6	6	4	151.83	Fail

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Cause of Exceedance(s):

Inadequate infrastructure

Significance of Results:

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

2.2.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0500D0541SW002

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.

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	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	166770.92, 54080.67	RS20B690960	No	No	No	No	Good
Downstream	166299.81, 52125.06	TW05003164OY1001 (TPEFF0500D0541SW001)	No	No	No	No	Unassigned

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 non-compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

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.

2.2.4 OPERATIONAL PERFORMANCE SUMMARY - CRAMERS CLOSE WWTP

2.2.4.1 Treatment Efficiency Report - Cramers Close WWTP

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.

Influent monitoring is not carried out for Cramers Close WWTP.

2.2.4.2 *Treatment Capacity Report Summary - Cramers Close WWTP*

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.

Cramers Close WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	189
DWF to the Treatment Plant (m^3/day)	63
Current Hydraulic Loading - annual max (m^3/day)	40.5
Average Hydraulic loading to the Treatment Plant (m^3/day)	13.5
Organic Capacity (PE) - As Constructed	75
Organic Capacity (PE) - Collected Load (peak week)[Note1]	71
Organic Capacity (PE) - Remaining	4
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.2.5 SLUDGE / OTHER INPUTS - CRAMERS CLOSE 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)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

2.3 BELGOOLY SECONDARY DISCHARGE - TREATED DISCHARGE: TPEFF0500D0541SW003

2.3.1 INFLUENT MONITORING SUMMARY - BELGOOLY SECONDARY DISCHARGE

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

Parameters	Number of Samples	Annual Max	Annual Mean
There is no Influent data included in the AER. Influent monitoring is not carried out. This is a direct discharge.			

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

2.3.2 EFFLUENT MONITORING SUMMARY - TPEFF0500D0541SW003

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)
pH pH units	6-9	6-9	N/A	6	0	0	7.7	Pass

COD-Cr mg/l	125	250	N/A	6	5	3	274.6	Fail
Suspended Solids mg/l	35	87.5	N/A	6	5	4	106.16	Fail
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	6	5	5	98.6	Fail

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Cause of Exceedance(s):

Inadequate infrastructure

Significance of Results:

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

2.3.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0500D0541SW003

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.

Ambient monitoring data is as per that for Cramers Close. The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary**

2.3.4 OPERATIONAL PERFORMANCE SUMMARY - BELGOOLY SECONDARY DISCHARGE

2.3.4.1 Treatment Efficiency Report - Belgooly Secondary Discharge

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:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
There is no Treatment Efficiency data included in the AER. No influent monitoring is carried out. This is a direct discharge.			

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

2.3.4.2 Treatment Capacity Report Summary - Belgooly Secondary Discharge

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.

No influent monitoring is carried out. This is a direct discharge.

Belgooly Secondary Discharge	
Peak Hydraulic Capacity (m^3/day) - As Constructed	N/A
DWF to the Treatment Plant (m^3/day)	N/A
Current Hydraulic Loading - annual max (m^3/day)	N/A
Average Hydraulic loading to the Treatment Plant (m^3/day)	N/A
Organic Capacity (PE) - As Constructed	0
Organic Capacity (PE) - Collected Load (peak week)[Note1]	19

Belgooly Secondary Discharge	
Organic Capacity (PE) - Remaining	56
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.3.5 SLUDGE / OTHER INPUTS - BELGOOLY SECONDARY DISCHARGE

'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)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 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
There were no relevant environmental complaints in 2019.			

3.2 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.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Breach of ELV	WWTP upgrade required to meet ELV	1	Yes	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2019	1
Number of Incidents reported to the EPA via EDEN in 2019	1
Explanation of any discrepancies between the two numbers above	None

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:

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 2019 (No. of events)	Total volume discharged in 2019 (m3)	Monitoring Status
SW3	166655, 53615	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW2	166616, 53840	Yes	Low	Meeting	Unknown	Unknown	Not Monitored

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not 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 / changes to Schedule C3 and A4 under Condition 1.7?	N/A

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)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0541-SIP:01	Improvements to ensure compliance with the ELVs as specified in Schedule A by 31/12/2019	C	31/12/2019	No	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis
D0541-SIP:02	Provide sufficient capacity in the wastewater works to satisfy the requirements of this licence	C	31/12/2019	No	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis
D0541-SIP:03	SW002 Secondary Discharge Point to be Discontinued	C	31/12/2019	No	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis

D0541-SIP:04	SW003 Secondary Discharge Point to be discontinued	C	31/12/2019	No	Not Started		The improvement programme will be reviewed by Irish Water 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 / or any Operational Improvements	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	2015	No	

5.1 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report has been included in the AER 2015

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 modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
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: 23/04/2020

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 ,

Katherine Walshe

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Ambient Monitoring for SW001

Ambient Monitoring Point from WWDL (or as agreed with EPA)	EPA Feature Coding Tool code	Irish National Grid Reference (Easting, Northing)	Bathing Water	Drinking Water	FWPM	Shellfish	Current WFD Status	cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	RS20S030800	166326.26, 54277.85					Good	0.828	0.034	0.028
Downstream Monitoring Point	TW05003164OY1001 (TPEFF0500D0541SW001)	166299.81, 52125.06	No	No	No	No	Unassigned	1.750	0.033	0.145
Difference								0.922	-0.001	0.117
EQS								4.000	0.060	N/A
% of EQS								23.050%	-2.083%	#VALUE!

Ambient Monitoring for SW002 & SW003

Ambient Monitoring Point from WWDL (or as agreed with EPA)	EPA Feature Coding Tool code	Irish National Grid Reference (Easting, Northing)	Bathing Water	Drinking Water	FWPM	Shellfish	Current WFD Status	cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	RS20B690960	166770.92, 54080.67					Good	1.725	0.019	0.077
Downstream Monitoring Point	TW05003164OY1001 (TPEFF0500D0541SW001)	166299.81, 52125.06	No	No	No	No	Unassigned	1.750	0.033	0.145
Difference								0.025	0.014	0.068
EQS								4.000	0.060	N/A
% of EQS								0.625%	22.917%	#VALUE!

RS20S030800 - Upstream of SW001

WaterbodyNan	WaterbodyCode	Waterbodytype	MonitoringStat	SampleDate	SampleMethod	ParameterNam	ParameterUnit	Result	TextResult	ResultStrin	LimitOfDet	ReportResu	ReportText	ReportResu	ReportLimit
STICK_010	IE_SW_20S030800	River	RS20S030800	06/02/2019 09:45	Grab	Ammonia-Tota	mg/l	0.018			0	0.018			
STICK_010	IE_SW_20S030800	River	RS20S030800	06/03/2019 10:40	Grab	Ammonia-Tota	mg/l	0.092			0	0.092			
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	Ammonia-Tota	mg/l	0.009			0	0.009			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/06/2019 14:00	Grab	Ammonia-Tota	mg/l	0.018			0	0.018			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	Ammonia-Tota	mg/l	0.039			0	0.039			
STICK_010	IE_SW_20S030800	River	RS20S030800	14/08/2019 13:35	Grab	Ammonia-Tota	mg/l	0.018			0	0.018			
STICK_010	IE_SW_20S030800	River	RS20S030800	11/09/2019 13:00	Grab	Ammonia-Tota	mg/l	0.009			0	0.009			
STICK_010	IE_SW_20S030800	River	RS20S030800	09/10/2019 10:40	Grab	Ammonia-Tota	mg/l	0.021			0	0.021			
STICK_010	IE_SW_20S030800	River	RS20S030800	06/02/2019 09:45	Grab	BOD - 5 days (T	mg/l	1.1			1	1.1			1
STICK_010	IE_SW_20S030800	River	RS20S030800	06/03/2019 10:40	Grab	BOD - 5 days (T	mg/l	1			1	1			1
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	BOD - 5 days (T	mg/l	1.1			1	1.1			1
STICK_010	IE_SW_20S030800	River	RS20S030800	12/06/2019 14:00	Grab	BOD - 5 days (T	mg/l			<1.0	1	0.5	<1.0		1
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	BOD - 5 days (T	mg/l	1.2			1	1.2			1
STICK_010	IE_SW_20S030800	River	RS20S030800	14/08/2019 13:35	Grab	BOD - 5 days (T	mg/l			<1.0	1	0.5	<1.0		1
STICK_010	IE_SW_20S030800	River	RS20S030800	11/09/2019 13:00	Grab	BOD - 5 days (T	mg/l			<1.0	1	0.5	<1.0		1
STICK_010	IE_SW_20S030800	River	RS20S030800	09/10/2019 10:40	Grab	BOD - 5 days (T	mg/l	1			1	1			1
STICK_010	IE_SW_20S030800	River	RS20S030800	06/02/2019 09:45	Grab	Dissolved Oxyg	% Saturation	100.4			0	100.4			
STICK_010	IE_SW_20S030800	River	RS20S030800	06/03/2019 10:40	Grab	Dissolved Oxyg	% Saturation	96.8			0	96.8			
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	Dissolved Oxyg	% Saturation	101.9			0	101.9			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/06/2019 14:00	Grab	Dissolved Oxyg	% Saturation	97.6			0	97.6			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	Dissolved Oxyg	% Saturation	98			0	98			
STICK_010	IE_SW_20S030800	River	RS20S030800	14/08/2019 13:35	Grab	Dissolved Oxyg	% Saturation	99.1			0	99.1			
STICK_010	IE_SW_20S030800	River	RS20S030800	11/09/2019 13:00	Grab	Dissolved Oxyg	% Saturation	101.3			0	101.3			
STICK_010	IE_SW_20S030800	River	RS20S030800	09/10/2019 10:40	Grab	Dissolved Oxyg	% Saturation	96.6			0	96.6			
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	E. Coli	no./100mls	148			0	148			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	E. Coli	no./100mls			>2420	0	2420	>2420		2420
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	Enterococci (In	no./100mls	44			0	44			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	Enterococci (In	no./100mls	649			0	649			
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	Faecal coliform	no./100mls	158			0	158			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	Faecal coliform	no./100mls			>2420	0	2420	>2420		2420
STICK_010	IE_SW_20S030800	River	RS20S030800	06/02/2019 09:45	Grab	ortho-Phospha	mg/l	0.015			0	0.015			
STICK_010	IE_SW_20S030800	River	RS20S030800	06/03/2019 10:40	Grab	ortho-Phospha	mg/l	0.054			0	0.054			
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	ortho-Phospha	mg/l	0.009			0	0.009			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/06/2019 14:00	Grab	ortho-Phospha	mg/l	0.024			0	0.024			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	ortho-Phospha	mg/l	0.035			0	0.035			
STICK_010	IE_SW_20S030800	River	RS20S030800	14/08/2019 13:35	Grab	ortho-Phospha	mg/l	0.085			0	0.085			
STICK_010	IE_SW_20S030800	River	RS20S030800	11/09/2019 13:00	Grab	ortho-Phospha	mg/l	0.019			0	0.019			
STICK_010	IE_SW_20S030800	River	RS20S030800	09/10/2019 10:40	Grab	ortho-Phospha	mg/l	0.025			0	0.025			
STICK_010	IE_SW_20S030800	River	RS20S030800	06/02/2019 09:45	Grab	pH	pH units	7.4			2	7.4			2
STICK_010	IE_SW_20S030800	River	RS20S030800	06/03/2019 10:40	Grab	pH	pH units	7.5			2	7.5			2
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	pH	pH units	7.8			2	7.8			2
STICK_010	IE_SW_20S030800	River	RS20S030800	12/06/2019 14:00	Grab	pH	pH units	7.8			2	7.8			2
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	pH	pH units	7.9			2	7.9			2
STICK_010	IE_SW_20S030800	River	RS20S030800	14/08/2019 13:35	Grab	pH	pH units	7.9			2	7.9			2
STICK_010	IE_SW_20S030800	River	RS20S030800	11/09/2019 13:00	Grab	pH	pH units	8			2	8			2
STICK_010	IE_SW_20S030800	River	RS20S030800	09/10/2019 10:40	Grab	pH	pH units	7.6			2	7.6			2

WaterbodyNan	WaterbodyCode	Waterbodytype	MonitoringStat	SampleDate	SampleMethod	ParameterNam	ParameterUnit	Result	TextResult	ResultStrin	LimitOfDet	ReportResu	ReportText	ReportResu	ReportLimit
STICK_010	IE_SW_20S030800	River	RS20S030800	06/03/2019 10:40	Grab	Suspended Soli	mg/l	22			2.5	22			2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	Suspended Soli	mg/l			<2.5	2.5	1.25	<2.5		2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	Suspended Soli	mg/l	5			2.5	5			2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	11/09/2019 13:00	Grab	Suspended Soli	mg/l			<2.5	2.5	1.25	<2.5		2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	06/02/2019 09:45	Grab	Temperature	°C	7.6			0	7.6			
STICK_010	IE_SW_20S030800	River	RS20S030800	06/03/2019 10:40	Grab	Temperature	°C	9			0	9			
STICK_010	IE_SW_20S030800	River	RS20S030800	15/05/2019 11:00	Grab	Temperature	°C	11.8			0	11.8			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/06/2019 14:00	Grab	Temperature	°C	12.1			0	12.1			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/07/2019 10:00	Grab	Temperature	°C	17.3			0	17.3			
STICK_010	IE_SW_20S030800	River	RS20S030800	14/08/2019 13:35	Grab	Temperature	°C	15.7			0	15.7			
STICK_010	IE_SW_20S030800	River	RS20S030800	11/09/2019 13:00	Grab	Temperature	°C	14.3			0	14.3			
STICK_010	IE_SW_20S030800	River	RS20S030800	09/10/2019 10:40	Grab	Temperature	°C	11.5			0	11.5			

RS20B690960 Upstream SW002 & SW003

WaterbodyNan	WaterbodyCode	Waterbodytype	MonitoringStat	SampleDate	SampleMethod	ParameterNam	ParameterUnit	Result	TextResult	ResultStrin	LimitOfDet	ReportResu	ReportText	ReportResu	ReportLimit
STICK_010	IE_SW_20S030800	River	RS20B690960	06/03/2019 10:50	Grab	Ammonia-Tota	mg/l	0.02			0	0.02			
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	Ammonia-Tota	mg/l	0.026			0	0.026			
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	Ammonia-Tota	mg/l	0.241			0	0.241			
STICK_010	IE_SW_20S030800	River	RS20B690960	11/09/2019 11:50	Grab	Ammonia-Tota	mg/l	0.024			0	0.024			
STICK_010	IE_SW_20S030800	River	RS20B690960	06/03/2019 10:50	Grab	BOD - 5 days (T	mg/l	1.8			1	1.8			1
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	BOD - 5 days (T	mg/l	1.2			1	1.2			1
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	BOD - 5 days (T	mg/l	2.1			1	2.1			1
STICK_010	IE_SW_20S030800	River	RS20B690960	11/09/2019 11:50	Grab	BOD - 5 days (T	mg/l	1.8			1	1.8			1
STICK_010	IE_SW_20S030800	River	RS20B690960	06/03/2019 10:50	Grab	Dissolved Oxyg	% Saturation	92.7			0	92.7			
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	Dissolved Oxyg	% Saturation	98.6			0	98.6			
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	Dissolved Oxyg	% Saturation	100.4			0	100.4			
STICK_010	IE_SW_20S030800	River	RS20B690960	11/09/2019 11:50	Grab	Dissolved Oxyg	% Saturation	88.7			0	88.7			
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	E. Coli	no./100mls			>24196	0	24196	>24196		24196
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	E. Coli	no./100mls	243			0	243			
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	Enterococci (Int	no./100mls	727			0	727			
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	Enterococci (Int	no./100mls			<10	0	5	<10		10
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	Faecal coliform	no./100mls			>24196	0	24196	>24196		24196
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	Faecal coliform	no./100mls	388			0	388			
STICK_010	IE_SW_20S030800	River	RS20B690960	06/03/2019 10:50	Grab	ortho-Phospha	mg/l	0.021			0	0.021			
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	ortho-Phospha	mg/l	0.011			0	0.011			
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	ortho-Phospha	mg/l	0.02			0	0.02			
STICK_010	IE_SW_20S030800	River	RS20B690960	11/09/2019 11:50	Grab	ortho-Phospha	mg/l	0.023			0	0.023			
STICK_010	IE_SW_20S030800	River	RS20B690960	06/03/2019 10:50	Grab	pH	pH units	7.7			2	7.7			2
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	pH	pH units	7.9			2	7.9			2
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	pH	pH units	7.9			2	7.9			2
STICK_010	IE_SW_20S030800	River	RS20B690960	11/09/2019 11:50	Grab	pH	pH units	8.1			2	8.1			2
STICK_010	IE_SW_20S030800	River	RS20B690960	06/03/2019 10:50	Grab	Suspended Soli	mg/l	14			2.5	14			2.5
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	Suspended Soli	mg/l	3			2.5	3			2.5
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	Suspended Soli	mg/l	31			2.5	31			2.5
STICK_010	IE_SW_20S030800	River	RS20B690960	11/09/2019 11:50	Grab	Suspended Soli	mg/l	4			2.5	4			2.5
STICK_010	IE_SW_20S030800	River	RS20B690960	06/03/2019 10:50	Grab	Temperature	°C	8.9			0	8.9			
STICK_010	IE_SW_20S030800	River	RS20B690960	15/05/2019 10:55	Grab	Temperature	°C	12.1			0	12.1			

WaterbodyNan	WaterbodyCode	Waterbodytype	MonitoringStat	SampleDate	SampleMethod	ParameterNam	ParameterUnit	Result	TextResult	ResultStrin	LimitOfDet	ReportRes	ReportText	ReportRes	ReportLimit
STICK_010	IE_SW_20S030800	River	RS20B690960	03/07/2019 10:10	Grab	Temperature	°C	14.2			0	14.2			
STICK_010	IE_SW_20S030800	River	RS20B690960	11/09/2019 11:50	Grab	Temperature	°C	15.1			0	15.1			

TW05003164OY1001 Downstream of SW001, SW002 and SW003

WaterbodyName	WaterbodyCode	Waterbodytype	MonitoringStationCode	SampleDate	SampleMethod	ParameterName	ParameterUnitShortC	Result	TextResult	ResultStrin	LimitOfDet	ReportResı	ReportTexI
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	06/03/2019 11:25	Grab	Ammonia-Total (as N	mg/l	0.071			0	0.071	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	Ammonia-Total (as N	mg/l	0.1			0	0.1	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	Ammonia-Total (as N	mg/l	0.19			0	0.19	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	11/09/2019 11:00	Grab	Ammonia-Total (as N	mg/l	0.219			0	0.219	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	06/03/2019 11:25	Grab	BOD - 5 days (Total)	mg/l	1.9			1	1.9	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	BOD - 5 days (Total)	mg/l	1.4			1	1.4	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	BOD - 5 days (Total)	mg/l	2.1			1	2.1	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	11/09/2019 11:00	Grab	BOD - 5 days (Total)	mg/l	1.5			1	1.5	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	06/03/2019 11:25	Grab	Dissolved Oxygen	% Saturation	96.4			0	96.4	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	Dissolved Oxygen	% Saturation	96			0	96	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	Dissolved Oxygen	% Saturation	97.3			0	97.3	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	11/09/2019 11:00	Grab	Dissolved Oxygen	% Saturation	76.3			0	76.3	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	E. Coli	no./100mls	1145			0	1145	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	E. Coli	no./100mls	288			0	288	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	Enterococci (Intestina	no./100mls	98			0	98	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	Enterococci (Intestina	no./100mls	31			0	31	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	Faecal coliforms	no./100mls	1333			0	1333	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	Faecal coliforms	no./100mls	350			0	350	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	06/03/2019 11:25	Grab	ortho-Phosphate (as	mg/l	0.04			0	0.04	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	ortho-Phosphate (as	mg/l	0.02			0	0.02	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	ortho-Phosphate (as	mg/l	0.02			0	0.02	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	11/09/2019 11:00	Grab	ortho-Phosphate (as	mg/l	0.05			0	0.05	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	06/03/2019 11:25	Grab	pH	pH units	7.9			2	7.9	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	pH	pH units	7.9			2	7.9	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	pH	pH units	7.9			2	7.9	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	11/09/2019 11:00	Grab	pH	pH units	7.9			2	7.9	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	06/03/2019 11:25	Grab	Suspended Solids	mg/l	104			2.5	104	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	Suspended Solids	mg/l	29			2.5	29	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	Suspended Solids	mg/l	34			2.5	34	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	11/09/2019 11:00	Grab	Suspended Solids	mg/l	21			2.5	21	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	06/03/2019 11:25	Grab	Temperature	°C	9.1			0	9.1	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	15/05/2019 11:15	Grab	Temperature	°C	14.1			0	14.1	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	03/07/2019 10:15	Grab	Temperature	°C	14.6			0	14.6	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY1001	11/09/2019 11:00	Grab	Temperature	°C	16.3			0	16.3	

ReportResı	ReportLimit
1	
1	
1	
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2.5	
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2.5	
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