Annual Environmental Report

2020

Belgooly

D0541-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 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.

1.2 TREATMENT SUMMARY

- Belgooly - Riverbank Estate WWTP - 2020 with a Plant Capacity PE of 1075, the treatment type is 3P - Tertiary P removal
- Cramers Close WWTP (TPEFF0500D0541SW002) with a Plant Capacity PE of 75, the treatment type is secondary RBC.
- Belgooly Secondary Discharge (TPEFF0500D0541SW003) is a direct discharge (untreated)

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
TPEFF0500D0541SW001	Belgooly - Riverbank Estate WWTP - 2020	Treated	Non-Compliant	BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l COD-Cr mg/l Ammonia mg/l Ortho-phosphate (as P) - unspecified mg/l mg/l Suspended Solids mg/l
TPEFF0500D0541SW002	Cramers Close WWTP - 2020	Untreated	Non-Compliant	BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l COD-Cr mg/l Suspended Solids mg/l
TPEFF0500D0541SW003	Belgooly Secondary Discharge - 2020	Untreated	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 - 2020 - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - BELGOOLY - RIVERBANK ESTATE WWTP - 2020

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
Suspended Solids mg/l	8	304	130.13
BOD, 5 days with Inhibition (Carbonaceous mg/l	8	399	173.88
COD-Cr mg/l	8	1054	421.63
Hydraulic Capacity	N/A	331	178

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)
Suspended Solids mg/l	35	87.5	N/A	12	7	1	53.75	Fail
pH pH units	9	9	N/A	12	N/A	N/A	7.83	Pass
Ammonia-Total (as N) mg/l	3	3.6	N/A	12	12	12	23.77	Fail
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	12	12	11	2.33	Fail
COD-Cr mg/l	125	250	N/A	12	5	1	141.64	Fail
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	2	N/A	N/A	4621	
Faecal coliforms no./100mls	N/A	N/A	N/A	2	N/A	N/A	4902	
BOD, 5 days with Inhibition (Carbonaceous mg/l	25	50	N/A	12	6	4	50.01	Fail
E. Coli no./100mls	N/A	N/A	N/A	2	N/A	N/A	24197	

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 ELVs set in the WWDL. 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	166300, 52125	TW05003164OY1001	No	No	No	Yes	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 - 2020

2.1.4.1 Treatment Efficiency Report - Belgooly - Riverbank Estate WWTP - 2020

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)
cBOD	11297	3249	71
TN	N/A	N/A	N/A
TP	N/A	N/A	N/A
SS	8454	3492	59
COD	27393	9202	66

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 - 2020

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 - 2020	
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)	331
Average Hydraulic loading to the Treatment Plant (m^3/day)	178
Organic Capacity (PE) - As Constructed	1075
Organic Capacity (PE) - Collected Load (peak week)[Note1]	834
Organic Capacity (PE) - Remaining	241
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 - 2020

'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 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)
COD-Cr mg/l	125	250	N/A	6	4	N/A	164.83	Fail
Suspended Solids mg/l	35	87.5	N/A	6	5	1	60.17	Fail
pH pH units	9	9	N/A	6	N/A	N/A	7.83	Pass
Faecal coliforms no./100mls	N/A	N/A	N/A	3	N/A	N/A	N/A	
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	3	N/A	N/A	20463.67	
E. Coli no./100mls	N/A	N/A	N/A	3	N/A	N/A	24197	
BOD, 5 days with Inhibition (Carbonaceous mg/l	25	50	N/A	6	6	1	40.67	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 WWDL.

2.2.2 AMBIENT MONITORING SUMMARY FOR THE UNTREATED 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.

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	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**

2.2.1.1 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 (m³/day) - As Constructed	189
DWF to the Treatment Plant (m³/day)	63
Current Hydraulic Loading - annual max (m³/day)	40.5
Average Hydraulic loading to the Treatment Plant (m³/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.

2.2.3 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 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)
BOD, 5 days with Inhibition (Carbonaceous mg/l	25	50	N/A	6	5	2	65.67	Fail
COD-Cr mg/l	125	250	N/A	6	4	2	230.83	Fail
pH pH units	6 – 9	6 – 9	N/A	6	0	0	7.62	Pass
Suspended Solids mg/l	35	87.5	N/A	6	4	2	78.67	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 not compliant with the ELV's set in the Wastewater Discharge Licence.

2.3.2 AMBIENT MONITORING SUMMARY FOR THE UNTREATED 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 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	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**

2.3.3 OPERATIONAL PERFORMANCE SUMMARY - BELGOOLY SECONDARY DISCHARGE

2.3.3.1Treatment 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

2.3.3.2 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
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.

2.3.4 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 related to the discharge(s) to waters from the WWTP is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
1	Related to untreated secondary discharge	0	1

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 2020	1
Number of Incidents reported to the EPA via EDEN in 2020	1
Explanation of any discrepancies between the two numbers above	N/A

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 2020 (No. of events)	Total volume discharged in 2020 (m3)	Monitoring Status
TBC	166710, 54008	No	Unknown	Not yet Assessed	Unknown	0	Monitored
SW3	166655, 53615	Yes	Low	Unknown	Unknown	Unknown	Not Monitored
SW2	166616, 53840	Yes	Low	Unknown	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

SWO Summary	
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
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	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0541-SIP:02	Provide sufficient capacity in the wastewater works to	C	31/12/2019	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included

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
	satisfy the requirements of this licence						in the 2025-2029 investment period.
D0541-SIP:03	SW002 Secondary Discharge Point to be Discontinued	C	31/12/2019	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0541-SIP:04	SW003 Secondary Discharge Point to be discontinued	C	31/12/2019	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

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	
Shellfish Impact Assessment	Yes		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?	Yes
List reason e.g. additional SWO identified	SWO
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	N/A

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

Signed: Date: 21/07/2021

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

Ambeint Monitoring Results for SW001

			Designations					cBOD	o-Phosphate (as P)	Ammonia (as N)
Ambient monitoring point/Coastal Monitoring Code	Irish Grid Reference	Monitoring point	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status	Results	Results	Results
Upstream Monitoring Point	166326.26, 54277.85	RS20S030800					Good	1.475	0.047	0.059
Downstream Monitoring Point	166299.81, 52125.06	TW05003164OY1001 (TPEFF0500D0541SW001)	No	No	No	No	Unassigned	1.775	0.033	0.028
Difference								0.3	-0.014	-0.031
EQS								4	0.06	N/A
% of EQS								7.5	-23.33333333	#VALUE!

Ambeint Monitoring Results for SW002 & SW003

			Designations					cBOD	o-Phosphate (as P)	Ammonia (as N)
Ambient monitoring point/Coastal Monitoring Code	Irish Grid Reference	Monitoring point	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status	Results	Results	Results
Upstream Monitoring Point	166770.92, 54080.67	RS20B690960					Good	1.925	0.025	0.041
Downstream Monitoring Point	166299.81, 52125.06	TW05003164OY1001 (TPEFF0500D0541SW001)	No	No	No	No	Unassigned	1.775	0.033	0.028
Difference								-0.15	0.008	-0.013
EQS								4	0.06	N/A
% of EQS								-3.75	13.33333333	#VALUE!

RS20S030800 Monitoring Upstream of SW001

WaterbodyName	WaterbodyCode	Waterbodytype	MonitoringStati	SampleDate	SampleMe	ParameterNa	ParameterUnit	ParameterUn	Result	TextResult	ResultStri	LimitOfDe	ReportRes	ReportTex	ReportRes	ReportLimi
STICK_010	IE_SW_20S030800	River	RS20S030800	17/06/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.012			0	0.012			
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.051			0	0.051			
STICK_010	IE_SW_20S030800	River	RS20S030800	02/09/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.014			0	0.014			
STICK_010	IE_SW_20S030800	River	RS20S030800	01/10/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1.5			1	1.5			1
STICK_010	IE_SW_20S030800	River	RS20S030800	05/08/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.04			0	0.04			
STICK_010	IE_SW_20S030800	River	RS20S030800	05/02/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1.9			1	1.9			1
STICK_010	IE_SW_20S030800	River	RS20S030800	17/06/2020	Grab	BOD - 5 days	mg/l	milligrams per litre			<1.0	1	0.5	<1.0		1
STICK_010	IE_SW_20S030800	River	RS20S030800	04/03/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1.7			1	1.7			1
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	BOD - 5 days	mg/l	milligrams pe	2.6			1	2.6			1
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1.3			1	1.3			1
STICK_010	IE_SW_20S030800	River	RS20S030800	02/09/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1			1	1			1
STICK_010	IE_SW_20S030800	River	RS20S030800	04/03/2020	Grab	Dissolved Ox	% Saturation	Percentage S	100.7			0	100.7			
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	Dissolved Ox	% Saturation	Percentage S	101.8			0	101.8			
STICK_010	IE_SW_20S030800	River	RS20S030800	17/06/2020	Grab	Dissolved Ox	% Saturation	Percentage S	10.3			0	10.3			
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	E. Coli	no./100mls	Number per	225			0	225			
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	Dissolved Ox	% Saturation	Percentage S	96			0	96			
STICK_010	IE_SW_20S030800	River	RS20S030800	02/09/2020	Grab	Dissolved Ox	% Saturation	Percentage S	97.9			0	97.9			
STICK_010	IE_SW_20S030800	River	RS20S030800	05/02/2020	Grab	Dissolved Ox	% Saturation	Percentage S	99.3			0	99.3			
STICK_010	IE_SW_20S030800	River	RS20S030800	05/08/2020	Grab	Dissolved Ox	% Saturation	Percentage S	93.7			0	93.7			
STICK_010	IE_SW_20S030800	River	RS20S030800	01/10/2020	Grab	Dissolved Ox	% Saturation	Percentage S	98.8			0	98.8			
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	ortho-Phosp	mg/l	milligrams pe	0.044			0	0.044			
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	Enterococci (	no./100mls	Number per	1553			0	1553			
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	Faecal colifor	no./100mls	Number per	214			0	214			
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	Enterococci (	no./100mls	Number per	22			0	22			
STICK_010	IE_SW_20S030800	River	RS20S030800	02/09/2020	Grab	pH	pH units	pH Units	7.4			2	7.4			2
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	Suspended Sc	mg/l	milligrams pe	25			2.5	25			2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	02/09/2020	Grab	Suspended Sc	mg/l	milligrams pe	4			2.5	4			2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	ortho-Phosp	mg/l	milligrams pe	0.009			0	0.009			
STICK_010	IE_SW_20S030800	River	RS20S030800	05/08/2020	Grab	ortho-Phosp	mg/l	milligrams pe	0.041			0	0.041			
STICK_010	IE_SW_20S030800	River	RS20S030800	01/10/2020	Grab	ortho-Phosp	mg/l	milligrams pe	0.038			0	0.038			
STICK_010	IE_SW_20S030800	River	RS20S030800	04/03/2020	Grab	Temperature	Â°C	Degrees cent	8.6			0	8.6			
STICK_010	IE_SW_20S030800	River	RS20S030800	17/06/2020	Grab	Temperature	Â°C	Degrees cent	14.4			0	14.4			
STICK_010	IE_SW_20S030800	River	RS20S030800	17/06/2020	Grab	pH	pH units	pH Units	7.9			2	7.9			2
STICK_010	IE_SW_20S030800	River	RS20S030800	05/08/2020	Grab	pH	pH units	pH Units	7.8			2	7.8			2
STICK_010	IE_SW_20S030800	River	RS20S030800	01/10/2020	Grab	pH	pH units	pH Units	7.7			2	7.7			2
STICK_010	IE_SW_20S030800	River	RS20S030800	04/03/2020	Grab	Suspended Sc	mg/l	milligrams pe	15			2.5	15			2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	Suspended Sc	mg/l	milligrams pe	19			2.5	19			2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	01/10/2020	Grab	Temperature	Â°C	Degrees cent	9.2			0	9.2			
STICK_010	IE_SW_20S030800	River	RS20S030800	05/02/2020	Grab	ortho-Phosp	mg/l	milligrams pe	0.017			0	0.017			
STICK_010	IE_SW_20S030800	River	RS20S030800	02/09/2020	Grab	ortho-Phosp	mg/l	milligrams pe	0.017			0	0.017			
STICK_010	IE_SW_20S030800	River	RS20S030800	05/02/2020	Grab	pH	pH units	pH Units	7.7			2	7.7			2
STICK_010	IE_SW_20S030800	River	RS20S030800	04/03/2020	Grab	pH	pH units	pH Units	7.8			2	7.8			2
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	pH	pH units	pH Units	8			2	8			2
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	Temperature	Â°C	Degrees cent	9.3			0	9.3			
STICK_010	IE_SW_20S030800	River	RS20S030800	05/02/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.015			0	0.015			
STICK_010	IE_SW_20S030800	River	RS20S030800	04/03/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.308			0	0.308			
STICK_010	IE_SW_20S030800	River	RS20S030800	13/05/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.018			0	0.018			
STICK_010	IE_SW_20S030800	River	RS20S030800	01/10/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.016			0	0.016			
STICK_010	IE_SW_20S030800	River	RS20S030800	05/08/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1.3			1	1.3			1
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	E. Coli	no./100mls	Number per one hundred millilitres			>24196	0	24196	>24196		24196
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	Faecal colifor	no./100mls	Number per one hundred millilitres			>24196	0	24196	>24196		24196
STICK_010	IE_SW_20S030800	River	RS20S030800	04/03/2020	Grab	ortho-Phosp	mg/l	milligrams pe	0.187			0	0.187			
STICK_010	IE_SW_20S030800	River	RS20S030800	17/06/2020	Grab	ortho-Phosp	mg/l	milligrams pe	0.026			0	0.026			
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	pH	pH units	pH Units	7.9			2	7.9			2
STICK_010	IE_SW_20S030800	River	RS20S030800	05/02/2020	Grab	Temperature	Â°C	Degrees cent	7.7			0	7.7			
STICK_010	IE_SW_20S030800	River	RS20S030800	08/07/2020	Grab	Temperature	Â°C	Degrees cent	14.5			0	14.5			
STICK_010	IE_SW_20S030800	River	RS20S030800	05/08/2020	Grab	Temperature	Â°C	Degrees cent	16			0	16			
STICK_010	IE_SW_20S030800	River	RS20S030800	02/09/2020	Grab	Temperature	Â°C	Degrees cent	14			0	14			

RS20B690960 Monitoring Upstream of SW002 & SW003

WaterbodyName	WaterbodyCode	Waterbodytype	MonitoringStati	SampleDate	SampleMe	ParameterNa	ParameterUnit	ParameterUn	Result	TextResult	ResultStrin	LimitOfDe	ReportRes	ReportTex	ReportRes	ReportLimi
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.019			0	0.019			
STICK_010	IE_SW_20S030800	River	RS20B690960	02/09/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.045			0	0.045			
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1			1	1			1
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	BOD - 5 days	mg/l	milligrams pe	2.9			1	2.9			1
STICK_010	IE_SW_20S030800	River	RS20B690960	02/09/2020	Grab	BOD - 5 days	mg/l	milligrams pe	2.2			1	2.2			1
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	E. Coli	no./100mls	Number per	260			0	260			
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	Enterococci (	no./100mls	Number per	921			0	921			
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	Enterococci (	no./100mls	Number per	93			0	93			
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	Faecal colifor	no./100mls	Number per one hundred millilitres			>2420	0	2420	>2420		2420
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	Dissolved Ox	% Saturation	Percentage S	98.7			0	98.7			
STICK_010	IE_SW_20S030800	River	RS20B690960	04/03/2020	Grab	Dissolved Ox	% Saturation	Percentage S	98.2			0	98.2			
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	Dissolved Ox	% Saturation	Percentage S	95.4			0	95.4			
STICK_010	IE_SW_20S030800	River	RS20B690960	02/09/2020	Grab	Dissolved Ox	% Saturation	Percentage S	95.4			0	95.4			
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	ortho-Phosph	mg/l	milligrams pe	0.02			0	0.02			
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	E. Coli	no./100mls	Number per one hundred millilitres			>24196	0	24196	>24196		24196
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	Faecal colifor	no./100mls	Number per	222			0	222			
STICK_010	IE_SW_20S030800	River	RS20B690960	04/03/2020	Grab	ortho-Phosph	mg/l	milligrams pe	0.023			0	0.023			
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	ortho-Phosph	mg/l	milligrams pe	0.029			0	0.029			
STICK_010	IE_SW_20S030800	River	RS20B690960	04/03/2020	Grab	Temperature	Â°C	Degrees cent	8.3			0	8.3			
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	Temperature	Â°C	Degrees cent	8.8			0	8.8			
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	pH	pH units	pH Units	7.7			2	7.7			2
STICK_010	IE_SW_20S030800	River	RS20B690960	04/03/2020	Grab	Suspended Sc	mg/l	milligrams pe	26			2.5	26			2.5
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	Temperature	Â°C	Degrees cent	15.4			0	15.4			
STICK_010	IE_SW_20S030800	River	RS20B690960	02/09/2020	Grab	Temperature	Â°C	Degrees cent	14.1			0	14.1			
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	pH	pH units	pH Units	7.8			2	7.8			2
STICK_010	IE_SW_20S030800	River	RS20B690960	02/09/2020	Grab	pH	pH units	pH Units	7.8			2	7.8			2
STICK_010	IE_SW_20S030800	River	RS20B690960	02/09/2020	Grab	Suspended Sc	mg/l	milligrams pe	3			2.5	3			2.5
STICK_010	IE_SW_20S030800	River	RS20B690960	04/03/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.076			0	0.076			
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.023			0	0.023			
STICK_010	IE_SW_20S030800	River	RS20B690960	04/03/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1.6			1	1.6			1
STICK_010	IE_SW_20S030800	River	RS20B690960	02/09/2020	Grab	ortho-Phosph	mg/l	milligrams pe	0.027			0	0.027			
STICK_010	IE_SW_20S030800	River	RS20B690960	04/03/2020	Grab	pH	pH units	pH Units	7.2			2	7.2			2
STICK_010	IE_SW_20S030800	River	RS20B690960	13/05/2020	Grab	Suspended Sc	mg/l	milligrams pe	4			2.5	4			2.5
STICK_010	IE_SW_20S030800	River	RS20B690960	08/07/2020	Grab	Suspended Sc	mg/l	milligrams pe	4			2.5	4			2.5

TW05003164OY1001 Downstream of SW001, SW002 & SW003

WaterbodyName	WaterbodyCode	Waterbodytype	MonitoringStati	SampleDate	SampleMe	ParameterNa	ParameterUnit	ParameterUn	Result	TextResult	ResultStrin	LimitOfDe	ReportRes	ReportTex	ReportRes	ReportLimi
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	04/03/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1.3			1	1.3			1
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	04/03/2020	Grab	Dissolved Ox	% Saturation	Percentage S	98.2			0	98.2			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	02/09/2020	Grab	Dissolved Ox	% Saturation	Percentage S	102.5			0	102.5			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	Ammonia-To	mg/l	milligrams per litre			<0.035	0	0.0175	<0.035		0.035
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.038			0	0.038			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	04/03/2020	Grab	Ammonia-To	mg/l	milligrams pe	0.04			0	0.04			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	02/09/2020	Grab	Ammonia-To	mg/l	milligrams per litre			<0.035	0	0.0175	<0.035		0.035
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	BOD - 5 days	mg/l	milligrams pe	2.3			1	2.3			1
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	Enterococci (	no./100mls	Number per one hundred millilitres			<10	0	5	<10		10
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	Enterococci (	no./100mls	Number per	31			0	31			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1.8			1	1.8			1
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	02/09/2020	Grab	BOD - 5 days	mg/l	milligrams pe	1.7			1	1.7			1
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	Dissolved Ox	% Saturation	Percentage S	99.5			0	99.5			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	04/03/2020	Grab	ortho-Phosph	mg/l	milligrams pe	0.03			0	0.03			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	E. Coli	no./100mls	Number per	602			0	602			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	pH	pH units	pH Units	8.1			2	8.1			2
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	02/09/2020	Grab	Suspended Sc	mg/l	milligrams pe	40			2.5	40			2.5
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	ortho-Phosph	mg/l	milligrams per litre			<10.00	0	5	<10.00		10
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	04/03/2020	Grab	pH	pH units	pH Units	7.8			2	7.8			2
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	04/03/2020	Grab	Suspended Sc	mg/l	milligrams pe	27			2.5	27			2.5
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	Dissolved Ox	% Saturation	Percentage S	102.7			0	102.7			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	Faecal colifor	no./100mls	Number per	906			0	906			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	E. Coli	no./100mls	Number per one hundred millilitres			<10	0	5	<10		10
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	Faecal colifor	no./100mls	Number per	20			0	20			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	pH	pH units	pH Units	7.8			2	7.8			2
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	04/03/2020	Grab	Temperature	Â°C	Degrees cent	8.3			0	8.3			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	Temperature	Â°C	Degrees cent	16.3			0	16.3			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	ortho-Phosph	mg/l	milligrams pe	0.03			0	0.03			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	02/09/2020	Grab	ortho-Phosph	mg/l	milligrams pe	0.04			0	0.04			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	02/09/2020	Grab	pH	pH units	pH Units	8			2	8			2
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	Suspended Sc	mg/l	milligrams pe	22			2.5	22			2.5
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	08/07/2020	Grab	Suspended Sc	mg/l	milligrams pe	48			2.5	48			2.5
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	13/05/2020	Grab	Temperature	Â°C	Degrees cent	13.1			0	13.1			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	02/09/2020	Grab	Temperature	Â°C	Degrees cent	15.5			0	15.5			