Annual Environmental Report

2020

Upper Liffey Valley Sewerage Scheme

D0002-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 AER

This Annual Environmental Report has been prepared for D0002-01, Upper Liffey Valley Sewerage Scheme, in Kildare 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 have been two contracts for the upgrade of the network in ULVSS;

Contract 2A (Newbridge Eastern Interceptor Sewer Contract)

Contract 2A involved the construction of a new Eastern Interceptor Sewer between Newbridge and Osberstown Wastewater Treatment Plant. The Contract was awarded by Irish Water to Roadbridge in February 2019. The Contract involved the construction of new sewers, rising mains and 3 new pumping stations along the route at Kilbelin, Little Connell and Newhall.

The construction work has been completed and is now in an operate phase. The operate phase is due to end in August 2021.

Contract 2B (Network)

Contract 2B involves upgrading of various elements of the sewerage network in the Upper Liffey Valley Catchment primarily in Clane, Sallins, Naas and Newbridge. The Contract was awarded by Irish Water to Coffey Construction Ltd in August 2019. The Contract involves the construction of new sewers, rising mains and 2 new pumping stations at Clane and Monread and a new storm tank upgrade at Sallins. Works are continuing on this contract.

1.2 TREATMENT SUMMARY

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

- Upper Liffey Valley WWTP - 2020 with a Plant Capacity PE of 130000, 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
TPEFF1400D0002SW001	Upper Liffey Valley WWTP - 2020	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

Assessment / Report	Included in AER
Priority Substances Assessment	Yes

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 UPPER LIFFEY VALLEY WWTP - 2020 - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - UPPER LIFFEY VALLEY 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
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	50	230.00	159.67
COD-Cr mg/l	50	948.00	434.27
Suspended Solids mg/l	50	599.00	260.72
Total Nitrogen mg/l	50	44.00	29.97
Total Phosphorus (as P) mg/l	50	7.40	4.55
Hydraulic Capacity	N/A	66997	33114

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 - TPEFF1400D0002SW001

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)
Chemical Oxygen Demand mg/l	100	200	N/A	50	N/A	N/A	22.12	Pass
Suspended Solids mg/l	35	87.5	N/A	50	N/A	N/A	2.64	Pass
Total Oxidised Nitrogen (as N) mg/l	20	24	N/A	50	N/A	N/A	8.45	Pass
Fats, Oils & Greases mg/l	15	18	N/A	9	N/A	N/A	3.54	Pass
BOD, 5 days with Inhibition (Carbonaceous) mg/l	10	20	N/A	50	N/A	N/A	1.36	Pass
pH pH units	6-9	6-9	N/A	50	N/A	N/A	7.5	Pass
Total Phosphorus mg/l	0.9	1.08	N/A	50	N/A	N/A	0.23	Pass
Ammonia-Total (as N) mg/l	0.9	1.08	N/A	50	N/A	N/A	0.11	Pass

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included [Note 1]	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
ortho-Phosphate (as P) - unspecified mg/l	0.5	0.6	N/A	50	N/A	N/A	0.09	Pass
Kjeldahl Nitrogen mg/l	5	6	N/A	50	N/A	N/A	0.64	
Nitrite (as N) mg/l	N/A	N/A	N/A	50	N/A	N/A	0.01	
Total Nitrogen mg/l	N/A	N/A	N/A	50	N/A	N/A	9.12	
Faecal coliforms MPN/100ml	N/A	N/A	N/A	8	N/A	N/A	N/A	
Nitrate (as N) mg/l	N/A	N/A	N/A	50	N/A	N/A	8.44	

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):

Not applicable

Significance of Results:

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

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF1400D0002SW001

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	285423, 220755	RS09L011100	No	No	No	No	Moderate
Downstream	287711 222643	RS09L011300	No	Yes	No	No	Unassigned
Downstream	286940, 221639	RS09L011200	No	Yes	No	No	Moderate

The results for ambient results are included in the **Appendix 7.1 - Ambient monitoring summary.**

Significance of Results:

The WWTP discharge was compliant with the ELV's set in the wastewater discharge licence .

The ambient monitoring results do not meet the required EQS upstream or downstream of the WWTPs for ammonia. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in Ortho-P (RS09L011200 & RS09L011300) and Ammonia (RS09L011200) concentrations downstream of the effluent discharge is noted.

A minor deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

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 - UPPER LIFFEY VALLEY WWTP - 2020

2.1.4.1 Treatment Efficiency Report - Upper Liffey Valley 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	1909444	16100	99
COD	5193340	261031	95
SS	3117924	31140	99
TN	358454	107629	70
TP	54399	2766	95

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

2.1.4.2 Treatment Capacity Report Summary - Upper Liffey Valley 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.

Upper Liffey Valley WWTP - 2020	
Peak Hydraulic Capacity (m^3/day) - As Constructed	85500
DWF to the Treatment Plant (m^3/day)	28500
Current Hydraulic Loading - annual max (m^3/day)	66997

Upper Liffey Valley WWTP - 2020	
Average Hydraulic loading to the Treatment Plant (m^3/day)	33114
Organic Capacity (PE) - As Constructed	130000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	97150
Organic Capacity (PE) - Remaining	32850
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 - UPPER LIFFEY VALLEY 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)
Landfill Leachate (delivered by sewer network)	22525	Volume (m3)	272	0.19	Yes	Yes	No
Domestic /Septic Tank Sludge	11380	Weight (Tonnes)	139	0.09	Yes	Yes	Yes
Industrial / Commercial Sludge	2949	Weight (Tonnes)	36	0.02	Yes	Yes	Yes

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)
Other	49574	Weight (Tonnes)	604	0.41	Yes	Yes	Yes
Waterworks Sludge	10577	Weight (Tonnes)	129	0.09	Yes	Yes	Yes

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
1	Blocked Sewer	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)
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	No	Yes
Abatement Equipment offline	Plant or equipment maintenance at WWTP	1	No	No
Spillage	Broken Sewer Pipe	1	No	Yes

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Spillage	Adverse Weather	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	EO caused by pump failure	1	No	Yes
Uncontrolled release	Blocked Sewer	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO Design not meeting DoEHLG Criteria	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	Plant or equipment breakdown at WWTP	1	No	Yes
Uncontrolled release	Broken Sewer Pipe	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	Broken Sewer Pipe	1	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	1	No	Yes
Uncontrolled release	Plant or equipment breakdown at WWTP	1	No	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2020	30
Number of Incidents reported to the EPA via EDEN in 2020	30
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 (m^3)	Monitoring Status
GW1	277379, 208983	Yes	High	Not Meeting	Unknown	Unknown	Monitored
GW2	278159, 210416	Yes	High	Not Meeting	Unknown	Unknown	Monitored
SW019	281182, 216904	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW10	290045, 221147	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW11	291937, 221574	Yes	High	Not Meeting	Unknown	Unknown	Monitored
SW13	288507, 223646	Yes	High	Not Meeting	12	Unknown	Monitored

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 (m^3)	Monitoring Status
SW14	282896, 227681	Yes	High	Meeting	Unknown	Unknown	Monitored
SW15	294107, 224006	Yes	High	Not Meeting	Unknown	Unknown	Monitored
SW16	294124, 223048	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW17	284028, 209975	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW18	288003, 227117	Yes	High	Not Meeting	12	Unknown	Monitored
SW19	281843, 212371	Yes	High	Not yet Assessed	Unknown	Unknown	Not Monitored
SW2	286924, 220613	No	High	Not Meeting	Unknown	Unknown	Not Monitored
SW2	278959, 208228	Yes	High	Meeting	Unknown	Unknown	Not Monitored
SW20	279004, 208215	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW21	276229, 206830	Yes	High	Not Meeting	Unknown	Unknown	Monitored

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 (m^3)	Monitoring Status
SW22	284960, 221155	Yes	High	Not yet Assessed	Unknown	Unknown	Not Monitored
SW3	285323, 219612	Yes	High	Meeting	1	632.5	Monitored
SW5	281662, 217256	Yes	High	Not Meeting	9	3811.8	Monitored
SW6	280695, 215432	Yes	High	Meeting	Unknown	Unknown	Not Monitored
SW7	280746, 215118	Yes	High	Meeting	Unknown	Unknown	Not Monitored
SW8	280791, 214479	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW9	290251, 221506	Yes	High	Not Meeting	Unknown	Unknown	Monitored
TBC	281374, 213606	No	High	Not Meeting	Unknown	Unknown	Not Monitored
TBC	281841, 212371	No	High	Not yet Assessed	Unknown	Unknown	Monitored

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m^3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
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?	No

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0002-SIP:01	Infiltration programme	C	31/03/2013	Yes	Not Started		Infiltration programme carried out on national prioritisation basis.

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
D0002-SIP:02	Infiltration programme	C	31/03/2013	Yes	Not Started		Infiltration programme carried out on national prioritisation basis.
D0002-SIP:03	Upgrade of the Monread Road Pumping Station (associate with SW9)	C	31/03/2013	Yes	Work ongoing on-site	21/12/2022	
D0002-SIP:04	Upgrade of the Newhall Pumping Station (associated with SW3),	C	31/03/2013	Yes	Works Completed		
D0002-SIP:05	Upgrade to Blessington Road Pumping Station	C	31/03/2011	Yes	Works Completed		
D0002-SIP:06	Upgrading of sewer network to ensure all SWO comply with the criteria outlined in the DoEHLG 'Procedures and Criteria in relation to Storm Water Overflows, 1995'	C	31/12/2020	No	Works Completed		
D0002-SIP:07	Waste water sewer network rehabilitation programme	C	31/03/2013	Yes	Works Completed		Rehabilitation will under go national prioritisation to cater for high risk areas and will not be agglomeration focussed. Rehab for this agglomeration completed under the Pilot.

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
D0002-SIP:08	Waste Water treatment plant upgrade and ancillary works	C	31/03/2013	Yes	Works Completed		
D0002-SIP:09	Waste Water works network rehabilitation programme	C	31/03/2013	Yes	Works Completed		Rehabilitation will under go national prioritisation to cater for high risk areas and will not be agglomeration focussed. Rehab for this agglomeration completed under the Pilot.

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.

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
Drinking Water Abstraction Point Risk Assessment	Yes	2013	No	N/A
Priority Substances Assessment	Yes	2012	Yes	**Appendix 7.2**

5.1 DRINKING WATER ABSTRACTION POINT RISK ASSESSMENT

The Drinking Water Abstraction Point Risk Assessment Report has been included in the AER 2013.

5.2 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report is included in Appendix 7.2 - Priority Substances Assessment. A summary of the findings of this report is included below.

Parameter	Value
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes

Parameter	Value
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Screening Analysis
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Is the agglomeration included in the Irish Water Dangerous Substance Effluent Monitoring Programme (if yes, what year)	Yes (2018)
Does the Dangerous Substance Effluent Monitoring Programme reporting identify Irish Water measures for minimising priority substances and eliminating priority hazardous substances in the discharges	N/A
Does the Dangerous Substance Effluent Monitoring assessment identify that priority substances were found at levels above EQS or target LOD values??	N/A

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	Yes

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

Date: 23/06/2021

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
Appendix 7.2 - Priority Substances Assessment

ULVSS Ambient Monitoring Summary 2020

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish National Grid Reference (Easting, Northing)	EPA Feature Coding Tool code	Receiving Waters Designation (Yes/No)			
			Bathing Water	Drinking Water	FWPM	Shellfish
Upstream Monitoring Point	285423, 220755	RS09L011100	No	No	No	No
Downstream Monitoring Point	286940, 221639	RS09L011200	No	Yes	No	No
Downstream Monitoring Point #2	287711, 222643	RS09L011300	No	Yes	No	No

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Current WFD Status	cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	Moderate	1.083	0.018	0.127
Downstream Monitoring Point	Moderate	1.000	0.021	0.130
Downstream Monitoring Point #2	Unassigned	1.000	0.019	0.121
Difference between Upstream and Downstream		*-0.083*	*0.003*	*0.003*
Difference between Upstream and Downstream #2		*-0.083*	*0.0017*	*-0.006*
EQS		1.500	0.035	0.065
% of EQS		-5.556%	9.740%	5.128%
% of EQS #2		-5.556%	4.762%	-8.974%

2020 ULVSS Ambient Monitoring Data

Type	Monitoring Result Source	Sampling Method	Sample Date	pH pH units	BOD mg/ l	Total Nitrogen mg/l	Ammonia mg/l	Ortho-Phosphate mg/l	OFG mg/l	DO mg/l	Faecal Coliforms cfu
Compliance	Upstream	Grab	18/02/2020	7.52	1	0.8	0.23	0.03	< 5	9.41	548
Compliance	Upstream	Grab	11/03/2020	7.54	1	1.5	0.22	0.02	< 5		365
Compliance	Upstream	Grab	23/04/2020	7.38	1	1.7	0.09	0.01			
Investigative	Upstream	Grab	11/05/2020	7.18	2		0.06	0.01			
Compliance	Upstream	Grab	13/05/2020	7.02	1	1.5	0.09	0.02	< 5		291
Compliance	Upstream	Grab	10/06/2020	6.99	1	1.5	0.08	0.02	< 5		250
Compliance	Upstream	Grab	15/07/2020	7.2	1	2.4	0.1	0.01	< 5		727
Compliance	Upstream	Grab	12/08/2020	7.18	1	1.6	0.08	0.01	< 5		579
Compliance	Upstream	Grab	09/09/2020	6.98	1	1.1	0.02	0.02	< 5		980
Compliance	Upstream	Grab	14/10/2020	7.01	1	1	0.02	0.02	< 5		365
Compliance	Upstream	Grab	05/11/2020	7.56	1	1.2	0.28	0.02			
Compliance	Upstream	Grab	09/12/2020	7.1	1	1.1	0.25	0.02	< 5		345
			Mean		**1.083**		**0.127**	**0.018**			
			95%ile		**1.450**		**0.264**	**0.025**			
Compliance	Downstream #1	Grab	18/02/2020	7.58	1	0.5	0.24	0.03	< 5	9.18	461
Compliance	Downstream #1	Grab	11/03/2020	7.56	1	1.7	0.23	0.04	< 5		649
Compliance	Downstream #1	Grab	23/04/2020	7.4	1	2	0.09	0.01			
Compliance	Downstream #1	Grab	13/05/2020	7.04	1	1.6	0.08	0.02	< 5		548
Compliance	Downstream #1	Grab	10/06/2020	6.98	1	1.8	0.08	0.02	< 5		1203
Compliance	Downstream #1	Grab	15/07/2020	7.23	1	2.6	0.09	0.02	< 5		1417
Compliance	Downstream #1	Grab	12/08/2020	7.24	1	1.4	0.07	0.01	< 5		1203
Compliance	Downstream #1	Grab	09/09/2020	7.02	1	1	0.02	0.02	< 5		921
Compliance	Downstream #1	Grab	14/10/2020	7.02	1	1.1	0.03	0.03	< 5		411
Compliance	Downstream #1	Grab	05/11/2020	7.55	1	1.1	0.23	0.01			
Compliance	Downstream #1	Grab	09/12/2020	7.07	1	1.2	0.27	0.02	< 5		387
			Mean		**1.000**		**0.130**	**0.021**			
			95%ile		**1.000**		**0.255**	**0.035**			
Compliance	Downstream #2	Grab	18/02/2020	7.6	1	0.9	0.23	0.04	< 5	9.43	461
Compliance	Downstream #2	Grab	11/03/2020	7.56	1	1.8	0.24	0.02	< 5		365
Compliance	Downstream #2	Grab	23/04/2020	7.4	1	2	0.08	0.02			
Investigative	Downstream #2	Grab	11/05/2020	7.2	1		0.07	0.01			
Compliance	Downstream #2	Grab	13/05/2020	7.04	1	1.6	0.08	0.01	< 5		649
Compliance	Downstream #2	Grab	10/06/2020	6.98	1	1.8	0.06	0.02	< 5		1553
Compliance	Downstream #2	Grab	15/07/2020	7.24	1	2.8	0.1	0.02	< 5		1553
Compliance	Downstream #2	Grab	12/08/2020	7.23	1	1.6	0.05	0.01	< 5		770
Compliance	Downstream #2	Grab	09/09/2020	7.01	1	1	0.03	0.03	< 5		727
Compliance	Downstream #2	Grab	14/10/2020	7.01	1	1.1	0.02	0.02	< 5		365
Compliance	Downstream #2	Grab	05/11/2020	7.58	1	1.1	0.23	0.02			
Compliance	Downstream #2	Grab	09/12/2020	7.09	1	1	0.26	0.01	< 5		411
			Mean		**1.000**		**0.121**	**0.019**			
			95%ile		**1.000**		**0.249**	**0.035**			

Certificate of Analysis

Customer:	Irish Water	**Site/Project:**	Dangerous Substances
Local Authority:	Kildare County Council	**Date Received:**	24/06/2020
		Condition of Sample(s):	Satisfactory
Customer Contact:	Caroline Murphy	**Date Analysed:**	24/06/2020 - 06/08/2020
Customer PO		**Issue Date:**	07/08/2020
Quote No.		**BATCH NUMBER:**	**20-06999**

Conor Murphy
Operations Manager

Index to symbols used:

*	Analysis is not INAB/UKAS accredited
**	Adapted from Standard Methods for the Examination of Water and Wastewater.
***	S.I. No. 122 of 2014 - European Union (Drinking Water) Regulations 2014 & 2017.
(F)	Analysis carried out at our Farranfore Laboratory.
(D)	Analysis carried out at our Dunrine Laboratory.
LOD	Parameter Limit of Detection.

Notes

Note A	The water should not be aggressive.
Note C	Acceptable to customers and no abnormal change.
Note D	In the case of surface water treatment, a parametric value not exceeding 1 NTU in the water ex treatment works must be strived for.
Note E	Irish water parametric limit for TVC is <100 cfu/mL.
Note F	Fluoridated supplies 0.8 mg/L; Natural supplies 1.5 mg/L.
Note 6	Subcontracted Parameter.

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- **Sampling is outside the scope of the laboratory activities.**

Customer Sample Ref:	Final Effluent 390-OSB-20	**Customer Sample Code:**	
		Sample Condition:	Satisfactory
Entity Name:	Oberstown WWTP	**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	B Nolan
Our Reference:	20740 (20-06999) -	**Sample Matrix:**	WWTP Effluent
Date Sampled:	24/06/2020	**Time Sampled:**	:

Method:		Parameter:	Units	LOD	Result	***Limits
		Chemical Analysis: (F)				
- Note 6		Conductivity (external)	µS/cm @ 20 ℃	25.0	730.0	
- Note 6		pH	pH Unit	4.0	7.6	
- Note 6		Chloride	mg/L	13.0	87.0	
- Note 6	*	Total Hardness	mg/L CaCO3	3.0	247.1	
- Note 6		Cynaide Total	µg/L	1.0	< 1.0	
- Note 6		Fluoride	mg/L	0.10	0.31	
- Note 6		Boron - Total	mg/L	0.5	< 0.5	
- Note 6	*	Calcium	mg/L	1.0	84.0	
- Note 6	*	Magnesium	mg/L	0.3	9.0	
- Note 6		Antimony - Total	µg/L	0.3	0.7	
- Note 6		Arsenic - Total	µg/L	1.0	< 1.0	
- Note 6		Barium - Total	µg/L	3.0	17.3	
- Note 6		Cadmium - Total	mg/L	0.0002	< 0.0005	
- Note 6		Chromium - Total	mg/L	0.0003	0.0014	
- Note 6		Cobalt - Total	µg/L	3.0	< 3.0	
- Note 6		Copper - Total	mg/L	0.003	0.004	
- Note 6		Lead - Total	µg/L	0.9	< 0.9	
- Note 6		Mercury - Total	µg/L	0.06	0.08	
- Note 6		Molybdenum - Total	µg/L	3.0	3.8	
- Note 6		Nickel - Total	µg/L	1.5	2.1	
- Note 6		Selenium - Total	µg/L	3	< 3	
- Note 6		Tin - Total	µg/L	3	< 3	
- Note 6		Vanadium - Total	µg/L	3	< 3	
- Note 6		Zinc - Total	mg/L	0.006	0.081	
- Note 6		1,2 Dicloroethane	µg/L	0.1	< 0.2	
- Note 6		1,2,4-Trichlorobenzene	µg/L	0.01	< 10.00	
- Note 6		Acenaphthene	µg/L	0.01	< 0.01	
- Note 6		Acenaphthylene	µg/L	0.01	< 0.01	
- Note 6		Anthracene	µg/L	0.01	< 0.01	
- Note 6		Benzo(a)anthracene	µg/L	0.01	< 0.01	
- Note 6		Benzene	µg/L	0.1	< 1.0	
- Note 6		Benzo(a)pyrene	µg/L	0.01	< 0.01	
- Note 6		Benzo(b)fluoranthene	µg/L	0.01	< 0.01	
- Note 6		Benzo(ghi)perylene	µg/L	0.01	< 0.01	
- Note 6		Benzo(k)fluoranthene	µg/L	0.01	< 0.01	
- Note 6		Chrysene (218-01-9)	µg/L	0.01	< 0.01	
- Note 6		Dibenz(a,h)anthracene	µg/L	0.01	< 0.01	
- Note 6		Diuron	µg/L	0.05	< 0.50	
- Note 6		Fluoranthene	µg/L	0.01	< 0.01	

Customer Sample Ref:	Final Effluent 390-OSB-20	**Customer Sample Code:**	
		Sample Condition:	Satisfactory
Entity Name:	Oberstown WWTP	**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	B Nolan
Our Reference:	20740 (20-06999) -	**Sample Matrix:**	WWTP Effluent
Date Sampled:	24/06/2020	**Time Sampled:**	:

Method:		Parameter:	Units	LOD	Result	***Limits
- Note 6		Fluorene	µg/L	0.01	0.03	
- Note 6		Hexachlorobenzene	µg/L	0.050	< 2.000	
- Note 6		Hexachlorobutadiene	µg/L	0.5	< 0.5	
- Note 6		Indeno(1,2,3-cd)pyrene	µg/L	0.010	< 0.010	
- Note 6		Isoproturon	µg/L	0.05	< 0.50	
- Note 6		Linuron	µg/L	0.05	< 0.50	
- Note 6		Naphthalene	µg/L	0.01	< 0.01	
- Note 6		Phenanthrene	µg/L	0.01	< 0.01	
- Note 6		Pyrene	µg/L	0.01	< 0.01	
- Note 6		Toluene	µg/L	0.5	< 0.5	
- Note 6		1,2,3-Trichlorobenzene	µg/L	0.01	< 10.00	
- Note 6		1,3,5-Trichlorobenzene	µg/L	0.01	< 10.00	
- Note 6	*	2, 6-dichlorobenzamide	µg/L	0.1	< 0.1	
- Note 6		Carbon tetrachloride	µg/L	0.5	< 1.0	
- Note 6		Chloroform	µg/L	1.0	< 1.0	
- Note 6		Dichlobenil	µg/L	0.050	< 2.000	
- Note 6		Dichloromethane	µg/L	5.0	< 100.0	
- Note 6		Ethylbenzene	µg/L	0.5	< 0.5	
- Note 6		Isodrin	µg/L	0.050	< 4.000	
- Note 6		Aplha-HCH	ug/L	0.050	< 3.000	
- Note 6		Beta-HCH	µg/L	0.050	< 3.000	
- Note 6		Dieldrin	µg/L	0.050	< 4.000	
- Note 6		Gamma-HCH (Lindane)	µg/L	0.0500	< 2.7000	
- Note 6		2,4-D	µg/L	0.05	< 0.05	
- Note 6		MCPA	µg/L	0.05	< 0.05	
- Note 6		MCPP (Mecoprop)	µg/L	0.05	< 0.05	
- Note 6		Glyphosate	µg/L	0.1	0.3	
- Note 6		Atrazine	µg/L	0.020	< 0.020	
- Note 6	*	Total PAH	µg/L	0.01	0.03	
- Note 6		Simazine	µg/L	0.020	< 0.020	
- Note 6		Tetrachloroethene	µg/L	0.1	< 0.1	
- Note 6		Trichloroethane	µg/L	0.1	< 0.1	
- Note 6		Xylene P&M	µg/L	0.5	< 0.5	
- Note 6		Xylene - o	µg/L	0.5	< 0.5	

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directors: K. Murphy, M. Murphy & C. Murphy
registered in ireland no 323196 | vat reg no IE 6343196 M

Certificate of Analysis

Customer:	Irish Water	**Site/Project:**	Dangerous Substances
Local Authority:	Kildare County Council	**Date Received:**	21/12/2020
		Condition of Sample(s):	Satisfactory
Customer Contact:	Caroline Murphy	**Date Analysed:**	22/12/2020 - 22/12/2020
Customer PO		**Issue Date:**	22/12/2020
Quote No.		**BATCH NUMBER:**	**20-08649**

Conor Murphy
Operations Manager

Index to symbols used:

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(F)	Analysis carried out at our Farranfore Laboratory.
(D)	Analysis carried out at our Dunrine Laboratory.
LOD	Parameter Limit of Detection.

Notes

Note A	The water should not be aggressive.
Note C	Acceptable to customers and no abnormal change.
Note D	In the case of surface water treatment, a parametric value not exceeding 1 NTU in water ex treatment works must be strived for.
Note E	Irish water parametric limit for TVC is <100 cfu/mL.
Note F	Fluoridated supplies 0.8 mg/L; Natural supplies 1.5 mg/L.
Note 6	Subcontracted Parameter.

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Customer Sample Ref:	Final Effluent 627-OSB-20	**Customer Sample Code:**	
		Sample Condition:	Satisfactory
Entity Name:	Oberstown WWTP	**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	B Nolan
Our Reference:	25403 (20-08649) -	**Sample Matrix:**	Effluent
Date Sampled:	21/10/2020	**Time Sampled:**	:

Method:		Parameter:	Units	LOD	Result	***Limits
		Chemical Analysis: (F)				
- Note 6		Conductivity (external)	µS/cm @ 20 ℃	25.0	727.0	
- Note 6		pH	pH Unit	4.0	7.0	
- Note 6		Chloride	mg/L	13.0	80.0	
- Note 6	*	Total Hardness	mg/L CaCO3	3.0	237.4	
- Note 6		Cynaide Total	µg/L	1.0	1.0	
- Note 6		Fluoride	mg/L	0.10	0.30	
- Note 6		Boron - Total	µg/L	500.0	< 500.0	
- Note 6	*	Calcium	mg/L	1.0	2.0	
- Note 6	*	Magnesium	mg/L	0.3	7.9	
- Note 6		Antimony - Total	µg/L	0.3	< 0.3	
- Note 6		Arsenic - Total	µg/L	1.0	< 1.0	
- Note 6		Barium - Total	µg/L	3.0	< 3.0	
- Note 6		Cadmium - Total	µg/L	0.2000	< 0.2000	
- Note 6		Chromium - Total	µg/L	0.3000	1.1000	
- Note 6		Cobalt - Total	µg/L	3.0	< 3.0	
- Note 6		Copper - Total	µg/L	3.000	< 3.000	
- Note 6		Lead - Total	µg/L	0.9	< 0.9	
- Note 6		Mercury - Total	µg/L	0.06	< 0.06	
- Note 6		Molybdenum - Total	µg/L	3.0	< 3.0	
- Note 6		Nickel - Total	µg/L	1.5	< 1.5	
- Note 6		Selenium - Total	µg/L	3	< 3	
- Note 6		Tin - Total	µg/L	3	< 3	
- Note 6		Vanadium - Total	µg/L	3	< 3	
- Note 6		Zinc - Total	µg/L	6.000	53.000	
- Note 6		1,2 Dicloroethane	µg/L	0.1	< 0.1	
- Note 6		1,2,4-Trichlorobenzene	µg/L	0.01	< 0.01	
- Note 6		Acenaphthene	µg/L	0.01	< 0.01	
- Note 6		Acenaphthylene	µg/L	0.01	< 0.01	
- Note 6		Anthracene	µg/L	0.01	< 0.01	
- Note 6		Benzo(a)anthracene	µg/L	0.01	< 0.01	
- Note 6		Benzene	µg/L	0.1	< 0.1	
- Note 6		Benzo(a)pyrene	µg/L	0.01	< 0.01	
- Note 6		Benzo(b)fluoranthene	µg/L	0.01	< 0.01	
- Note 6		Benzo(ghi)perylene	µg/L	0.01	< 0.01	
- Note 6		Benzo(k)fluoranthene	µg/L	0.01	< 0.01	
- Note 6		Chrysene (218-01-9)	µg/L	0.01	< 0.01	
- Note 6		Dibenz(a,h)anthracene	µg/L	0.01	< 0.01	
- Note 6		Diuron	µg/L	0.05	< 0.05	
- Note 6		Fluoranthene	µg/L	0.01	< 0.01	

Customer Sample Ref:	Final Effluent 627-OSB-20	**Customer Sample Code:**	
		Sample Condition:	Satisfactory
Entity Name:	Oberstown WWTP	**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	B Nolan
Our Reference:	25403 (20-08649) -	**Sample Matrix:**	Effluent
Date Sampled:	21/10/2020	**Time Sampled:**	:

Method:		Parameter:	Units	LOD	Result	***Limits
- Note 6		Fluorene	µg/L	0.01	< 0.01	
- Note 6		Hexachlorobenzene	µg/L	0.050	< 0.050	
- Note 6		Hexachlorobutadiene	µg/L	0.5	< 0.5	
- Note 6		Indeno(1,2,3-cd)pyrene	µg/L	0.010	< 0.010	
- Note 6		Isoproturon	µg/L	0.05	< 0.05	
- Note 6		Linuron	µg/L	0.05	< 0.05	
- Note 6		Naphthalene	µg/L	0.01	< 0.01	
- Note 6		Phenanthrene	µg/L	0.01	< 0.01	
- Note 6		Pyrene	µg/L	0.01	< 0.01	
- Note 6		Toluene	µg/L	0.5	< 0.5	
- Note 6		1,2,3-Trichlorobenzene	µg/L	0.01	< 0.01	
- Note 6		1,3,5-Trichlorobenzene	µg/L	0.01	< 0.01	
- Note 6		2, 6-dichlorobenzamide	µg/L	0.1	< 0.1	
- Note 6		Carbon tetrachloride	µg/L	0.5	< 0.5	
- Note 6		Chloroform	µg/L	1.0	< 1.0	
- Note 6		Dichlobenil	µg/L	0.050	< 0.050	
- Note 6		Dichloromethane	µg/L	5.0	< 5.0	
- Note 6		Ethylbenzene	µg/L	0.5	< 0.5	
- Note 6		Isodrin	µg/L	0.050	< 0.050	
- Note 6		Aplha-HCH	ug/L	0.050	< 0.050	
- Note 6		Beta-HCH	µg/L	0.050	< 0.050	
- Note 6		Dieldrin	µg/L	0.050	< 0.050	
- Note 6		Gamma-HCH (Lindane)	µg/L	0.0500	< 0.0500	
- Note 6		2,4-D	µg/L	0.05	< 0.05	
- Note 6		MCPA	µg/L	0.05	< 0.05	
- Note 6		MCPP (Mecoprop)	µg/L	0.05	< 0.05	
- Note 6		Glyphosate	µg/L	0.1	< 0.1	
- Note 6		Atrazine	µg/L	0.020	< 0.020	
- Note 6	*	Total PAH	µg/L	0.01	< 0.01	
- Note 6		Simazine	µg/L	0.020	< 0.020	
- Note 6		Tetrachloroethene	µg/L	0.1	< 0.1	
- Note 6		Trichloroethene	µg/L	0.1	< 0.1	
- Note 6		Xylene P&M	µg/L	0.5	< 0.5	
- Note 6		Xylene - o	µg/L	0.5	< 0.5	