Environmental Licensing Programme
Office of Environmental Sustainability
Environmental Protection Agency
PO Box 3000
Johnstown Castle Estate
Wexford

Uisce Éireann
Teach Colvill
24-26 Sráid Thalbóid
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31/05/2023

UÉ ref: LT0651

Re: Grenagh Reg. No. D0544-02 – Reg. 18(3)(b) Notice

Dear Inspector,

In response to the regulation 18(3)(b) request for information notice dated 15th March 2023, please see below relevant information:

Provide a copy of the planning documentation as per Regulation 16(3A).

Please see attached Grant of planning permission dated 26 February 1999 including associated conditions.

Uisce Éireann has made every effort to seek the information required as part of regulation 16(3A)(b)(ii) – i.e. confirmation in writing from the planning authority that an environmental impact assessment was not required by or under the Act of 2000. However, documents and reports associated with planning file 98/3907 are not available as they were destroyed in the flood that struck County Hall, Cork, in November 2009 as confirmed by the Local Authority.

However, it should be noted that planning has been granted for the existing works as per the attached document and there have been no additional works that required planning permission.

Having regard to the 95%ile flow estimate of 0.045m^3/s for the receiving water as provided by the EPA in August 2022, update the impact assessment of waste water discharges on the receiving water and your application as appropriate or justify your assessment.

A hydrological estimation for the River Martin at Grenagh was submitted as part of the WWDL Application as attachment D.2.6 Hydrological Estimation Report, July 2022 (refer to appendix 2). This estimation was completed in accordance with UÉ's Technical Guidance for Hydrological Estimation, which was developed in consultation with the EPA Hydrometrics and Groundwater Unit. The analysis completed as part of this assessment provided a 95%ile flow estimate of 0.06m3/s. Based on the methodology and analysis provided in the report, it is deemed that the calculated 95%ile flow estimate of 0.06m3/s is robust enough to be used to assess the impact of the waste water discharges on the receiving water body.

Confirm whether Figure 1 in the Attachment D.2.6 Hydrological Estimation Report is correctly described as "Glaslough WWTP Outfall, River Flow Measuring Location and Contributing Catchment Areas".

This was a typographical error. Please see updated report appended (appendix 2) correcting this error.

Give timeframes for the provision of phosphorus removal facilities and composite sampling and flow monitoring at the waste water treatment plant.

The provision of chemical dosing for P-removal at Grenagh WWTP is not included in the current investment plan (RC3). Uisce Éireann will review the needs for Grenagh, including the provision of chemical dosing for P-removal, as part of the compiling of needs for the submission process for next investment period (2025 -2029) RC4. UÉ will endeavor to incorporate as many interventions as possible in the submission for the next investment period (2025-2029), while having due regard for competing national obligations and priorities. A final decision in relation to Grenagh WWTP will be dependent on the prioritisation process around the RC4 Capital Investment Plan.

There is currently continuous effluent flow monitoring in place with manual recording of the flow readings at least once per week. The process for scoping a composite sampler is currently ongoing and the Agency will be updated on plans and timeframes when complete.

Provide the monitoring data for ammonia and orthophosphate as referenced in section B.2.2 Table 7 of the application.

Please see Appendix 3 for the Ammonia and Orthophosphate data across the period 2021-2022 as requested. As per the attached results and as stated in the WWDL application, it is considered that on average the plant is capable of meeting the proposed Emission Limit Values.

Enclosed:

Appendix 1: Grant of planning permission February 1999

Appendix 2: Hydrological Estimation Report, July 2022

Appendix 3: 2021 & 2022 Ammonia and Orthophosphate monitoring data

Yours sincerely,

Peter Keegan

Peter Keegan

Wastewater Strategy

Appendix 1: Grant of planning permission February 1999

Cork County Council

Local Government (Planning and Development) Acts, 1963-1999

Notification of Decision to Grant Permission (with conditions)

Reference No. in planning register: 98/3907

D. & J. BUILDERS (CORK LTD)
c/o Tony Dennehy,
7, Woodlands,
Cloghroe,
Co. Cork

In pursuance of the powers conferred on them by the above mentioned act the Council of the County of Cork have by order dated 26/02/1999 decided to grant permission for the development of land namely;

Residential development -

56 no. dwellinghouses &

sewage treatment plant

at: GRENAGH NORTH, GRENAGH

in accordance with the plans and particulars submitted by the applicant on: 09/09/1998

and as amended by drawings and revised documentation on 05/11/1998 23/12/1998 08/01/1999 04/02/1999

and subject to the conditions (16 No.) set out in column 1 of the Schedule atttached hereto. The reasons for the imposition of the conditions are set out in column 2 of the schedule.

An appeal against a decision of the Planning Authority may be made to An Bord Pleanala by any person before the EXPIRATION of the period of one month beginning on the day of the giving (i.e. date of order) of the decision of the Planning Authority. (SEE NOTES ATTACHED)

If there is no appeal against the said decision a grant of PERMISSION in accordance with the decision will be issued after the expiration of the period within which an appeal may be issued to An Bord Pleanala

It should be noted that until a grant of PERMISSION has been issued the development in question is NOT AUTHORISED.

Planning Department

County Hall

Cork

Cork County Council

Local Government (Planning and Development) Acts, 1963-1999

TO:

D. & J. BUILDERS (CORK LTD)
c/o Tony Dennehy,
7, Woodlands,
Cloghroe,
Co. Cork

Planning register No: 98/3907

Application by	D. & J. BUILDERS (CORK LTD)
Of	c/o Tony Dennehy, 7, Woodlands, Cloghroe, Co. Cork
On	09/09/1998
and as amended on	05/11/1998 23/12/1998 08/01/1999 04/02/1999
For	Residential development - 56 no. dwellinghouses & sewage treatment plant
At	GRENAGH NORTH, GRENAGH

Further to Notice dated 26/02/1999 the Cork County Council hereby conveys a grant of PERMISSION for the application described above subject to the conditions (16 No.) set out in the schedule (if any) attached to the said notice dated 26/02/1999 of its intention to grant PERMISSION.

Signed on behalf of Cork County Council

Planning Department

County Hall

Date: _____

SCHEDULE

Reference No. in Planning Register: 98/3907

Column 1 Conditions	Column 2 Reason
(1) Development shall be phased over a three year period.	
Houses Nos. 34-38 shall not commence development within 2 years beginnning on the date of Grant of Permission.	In the interest of orderly development.
(2) Treatment plant shall be to the Council's satisfaction and shall include for diffused air and mixers technology rather than surface aeration.	In the interest of the proper development of the site.
Details shall be submitted to and agreed with the Planning Authority before development commences.	

(3) The sewer from the existing Council estate shall be connected to this estate system to the satisfaction of the Planning Authority.	In the interests of the proper development of the site.
(4) Surface water from the exisitng County roads shall be incoporated into the storm water drainages system.	In the interests of orderly development.
(5) A hydrant shall be located at the end of each pipe and no house shall be more than 50 m from a hydrant.	In the the interest of the proper development of the site.
(6) The foul sewer from manhole F10 to F11 and F12 to F20 shall be 225 mm diameter. The proposed treatment plant shall give an effluent having	In the interest of the proper development of the stie.

a maximum B.O.D. value of 20 p.p.m. and a suspended solids valve of 30 p.p.m. - Treated effuent shall discharge to the marshy land by the river rather than directly to the river.	
(7) Road gullys shall have grit sumps at least 1/30 cu. m. capacity and shall be fitted with gratings having locking devices to Cork County Council approval.	In the interest of the proper development of the site.
(8) Footpaths shall be ramped at the junctions to Cork County Council approval to facilitate prams, wheelchairs etc.	In the interst of the proper development of the site.
(9) Car parking space for 2 No.	In the interest of the proper development of the site.

cars shall be provided on all sites fronting onto the existing public roads as well as in sites 5-12 inclusive.		
(10) Public lighting to Cork County Council approval shall be provided - lights on existing public roads shall be on 6 metre columns.	In the interest of the proper development of the site.	
(11) Yield signs shall be provided on all access roads leading onto existing public roads.	In the interst of the proper development of the site.	
(12) Screen walls of 2 metres high, of a design to be agreed with Cork County, shall be erected where the rear or side of a site adjoins a public road.	In the interest of the proper development of the site.	

(13) Within a period of one month prior to the date of commencement of the development but not later than such date, the developer shall pay to Cork County Council a sum of £14,040 updated in accordance with the Consumer Price Index from the date of granting Permission to the value pertaining at the time of payment as a contribution towards the expenditure incurred by the Council in the provision of road improvement works which have facilitated the proposed development. No development shall take place until the monies have	It is considered appropriate that the developer should contribute towards the expenditure incurred by the Council in respect of these works which have facilitated the proposed development.

been paid to the Planning Authority.	
(14) Within a period of one month prior to the date of commencement of the development but not later than such date, the developer shall pay to Cork County Council a sum of £14,040 updated in accordance with the Consumer Price Index from the date of granting Permission to the value pertaining at the time of payment as a contribution towards the expenditure incurred by the Council in the provision of a public water supply which has facilitated the proposed development.	It is considered appropriate that the developer should contribute towards the expenditure incurred by the Council in respect of these works which have facilitated the proposed development.

No development shall take

place until the monies have

been paid to the Planning

Authority.

(15) To ensure that these parts of

Before commencing any the development are

individual house constructed and completed to

construction a satisfactory standard.

the developer shall provide,

to the satisfaction of the

Planning Authority, security

for the provision and

satisfactory completion,

including maintenance until

taken in charge at the

discretion of that Authority,

of roads, footpaths, sewers,

watermains, road lighting,

open spaces and other services

required in connection with

the development. The security

shall be a Bond in a form and

amount approved by the

Planning Authority and

provided by a Bank or

Insurance Company
acceptable

to the Planning
Authority.

(16)

The proposed development
shall

be carried out in
accordance

with plans and
particulars In the interests of the proper development of the site.

lodged with the Planning

Authority on 4/2/1998
save

where amended by the

conditions herein.

Signed on behalf of the said Council

DATE:

_____

Appendix 2: Hydrological Estimation Report, July 2022

Uisce Éireann

Low Flows Hydrological Estimation

River Martin at Grenagh

TABLE OF CONTENTS

1 INTRODUCTION

River flow estimates are required by Uisce Éireann for the purposes of assimilative capacity calculations for treated wastewater discharges from Grenagh Wastewater Treatment Plant (WWTP) discharging to the River Martin at Grenagh. The most important flow conditions are currently the Q_{95} low flow condition and Q_{30} average flow condition and the following note sets out the calculation process followed for this site.

2 SITE LOCATION AND LOCAL RIVER FLOW GAUGES

Grenagh WWTP discharges treated wastewater to the River Martin at Grenagh, at Ordnance Survey Ireland National Grid Reference 158833 084980. The River Martin catchment area at the discharge point is 16.5km^2. There are no continuous river flow gauges located on the River Martin in the immediate vicinity of the discharge point, however the River Martin is gauged at Kilmona, 3.7km downstream. The key flow estimate and flow measurement locations and river catchment areas are shown in Figure 1.

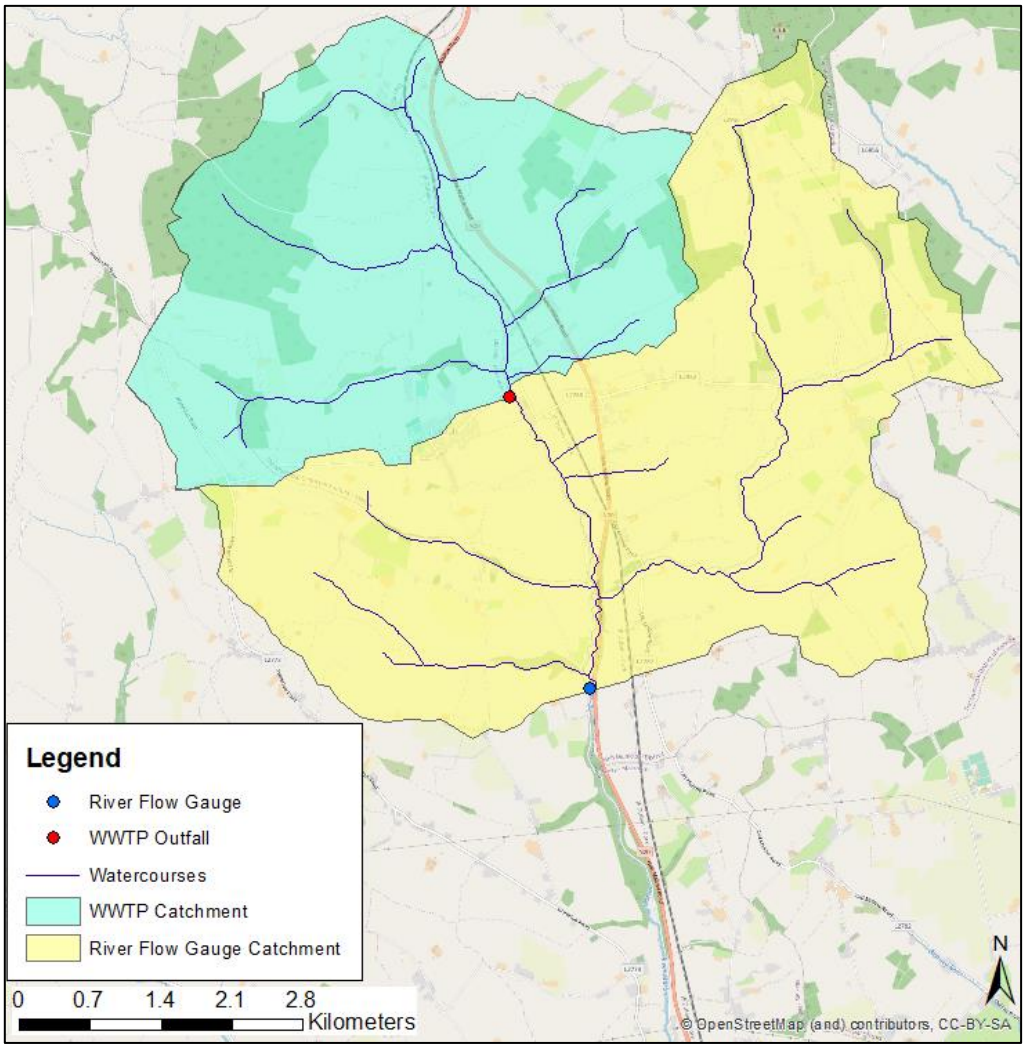

Figure 1: Grenagh WWTP Outfall, River Flow Measuring Location and Contributing Catchment Areas

3 RIVER FLOW GAUGE DATA

3.1 Continuous River Flow Gauge Record at Kilmona

Details of the gauged flow data at Kilmona are provided in Table 1 and the timeseries is shown in Figure 2. The annual flow data and flow percentiles at the Kilmona gauge are set out in Appendix A.

Table 1: Kilmona Bridge Gauging Station Details

Station Number	19044
Station Name	Kilmona
Waterbody	River Martin
Site Owner	Office of Public Works
Grid Reference	159617 082047
River Basin District	South Western
Catchment Area (km^2)	41.2
Data Start Date	13/10/1992
Data End Date	26.07.2011
Daily Data Percent Complete	71.4

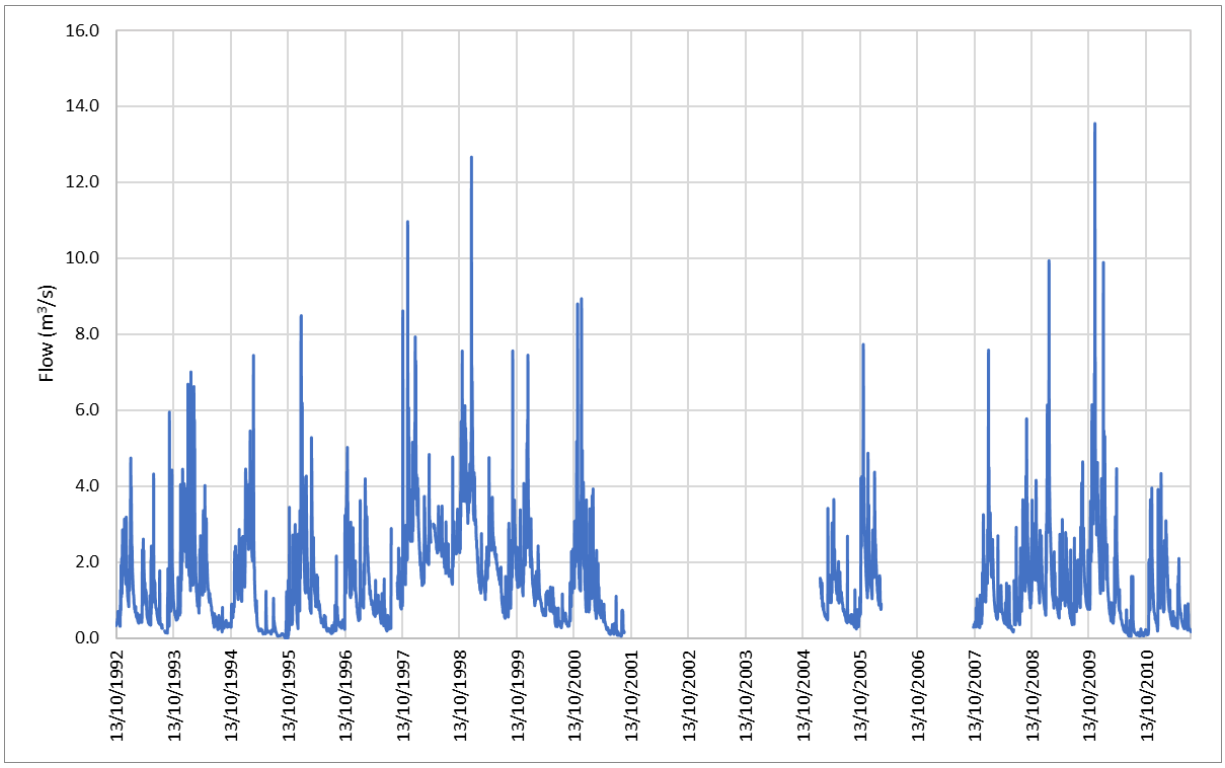

Figure 2: River Flow Timeseries for the River Martin at Kilmona (Daily Mean Flows from 1992 to 2011)

The gauge data have been reviewed for quality, non-stationarity and impact of missing data. This shows that there are no problems with flow measurement quality indicated by the flags provided with the river flow data. The principal gaps in the data, from 2001 to 2004 and 2005 to 2007, remove the entire range of measured flows and should therefore not skew the calculated flow statistics. The missing data does reduce the number of complete and near complete hydrological years represented within the record

from 19 to 12, however this is sufficient to allow a robust estimate of Q_{95} and there is no evidence of non-stationarity in the record. There are no major anthropogenic influences on river flow with no significant abstraction pressures or impounded river sections in the River Martin catchment. There are also no WWTP discharging to the River Martin upstream of Kilmona which serve more than 500 population equivalent.

One the basis of these checks, the daily mean flow data from the entire gauge record have been used to produce the flow duration curve and key flow percentiles shown in Figure 3.

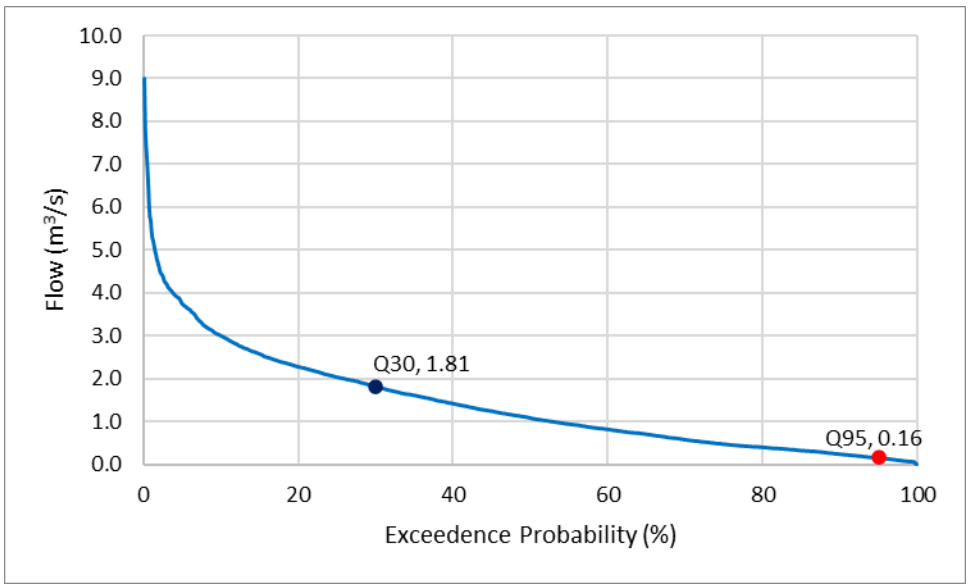

Figure 3: Flow Duration Curve and Key Flow Percentiles for the River Martin at Kilmona (daily mean flows from 1992 to 2011)

4 RIVER FLOW ESTIMATE METHODOLOGY

There are no continuous river flow gauges on the River Martin close to Grenagh WWTP discharge point. However, the River Martin catchment at the Kilmona gauge may be suitable as a donor catchment if there is no significant change in catchment hydrology between the discharge point and the gauge. A review of catchment descriptors at both locations has been carried out in Table 2 below.

Table 2: Catchment Descriptors for Subject Site and River Flow Gauges

Catchment Descriptor	Grenagh WWTP Discharge Point	Kilmona River Flow Gauge
Catchment Area (km^2)	16.5	41.2
FARL	1.000	1.000
SAAR	1230	1208
Evapotranspiration	512.1	512.7
Poorlydrained	2.18	1.73
Peat	0.19	0.08
Conduit Karst	0.0	0.0

The catchment descriptors in Table 2 show less than 2% difference in SAAR and no significant difference in evapotranspiration. There is no difference in FARL and neither catchment is underlain by conduit Karst geology. Only very small proportions of either catchment are underlain by poorly draining or peat soils. There is therefore not considered to be significant change in catchment hydrology between the Kilmona gauge and the WWTP discharge point and flow statistics calculated at the gauge will be applied at the Grenagh WWTP outfall with simple scaling for catchment area. On this basis, the Q_{95} flow at Grenagh WWTP outfall would be $0.06m^3/s$ and the Q_{30} flow would be $0.72m^3/s$.

5 FINAL RIVER FLOW ESTIMATES

The above analysis has provided a Q_{95} flow estimate of 0.06m^3/s and a Q_{30} flow estimate 0.72m^3/s for the River Martin at Grenagh WWTP discharge point. The river flow gauge used to obtain this flow estimate is not located immediately downstream of the discharge point and therefore the flow estimates do not need to be corrected to account for the contribution of the discharge to river flows. The calculated flow percentiles can be used in wastewater assimilative capacity calculations to inform discharge permit applications.

6 APPENDIX A – Annual River Flow Statistics for River Martin at Kilmona

Year	% missing	Flow (m^3/s)												
		Max	Min	Q_5	Q_{10}	Q_{20}	Q_{30}	Q_{40}	Q_{50}	Q_{60}	Q_{70}	Q_{80}	Q_{90}	Q_{95}
1992	8	5.96	0.15	2.49	2.02	1.62	1.28	1.00	0.78	0.56	0.46	0.41	0.29	
1993	0	7.00	0.18	3.60	3.00	2.27	1.82	1.43	1.07	0.80	0.58	0.44	0.32	0.29
1994	0	7.42	0.01	3.41	2.85	2.10	1.36	0.83	0.37	0.24	0.19	0.14	0.10	0.07
1995	0	8.50	0.01	3.42	2.54	1.74	1.19	0.90	0.63	0.44	0.37	0.27	0.21	0.16
1996	10	5.03	0.20	2.91	2.44	1.74	1.41	1.14	0.90	0.70	0.54	0.37	0.20	
1997	4	10.9	0.78	4.76	3.89	3.04	2.78	2.56	2.39	2.20	2.03	1.77	1.47	0.85
1998	0	12.6	0.54	4.99	4.36	3.66	3.05	2.58	2.28	1.93	1.62	1.36	1.01	0.81
1999	0.5	7.46	0.29	3.12	2.39	1.91	1.49	1.20	1.04	0.83	0.69	0.50	0.39	0.36
2000	8	8.94	0.06	3.19	2.56	1.91	1.35	0.99	0.73	0.41	0.22	0.15	0.08	
2001	100													
2002	100													
2003	100													
2004	33	3.66	0.25	1.80	1.57	1.21	0.93	0.63	0.52	0.41				
2005	60	7.64	0.31	3.14	2.46	1.70	1.17	0.33						
2006	100													
2007	2	7.56	0.17	3.04	2.46	1.82	1.39	1.06	0.82	0.60	0.47	0.37	0.31	0.25
2008	0	9.90	0.36	3.63	2.83	2.27	1.83	1.60	1.36	1.11	0.99	0.87	0.69	0.57
2009	0	13.6	0.06	4.18	3.59	2.43	1.68	1.07	0.76	0.46	0.26	0.15	0.09	0.07
2010	18	4.31	0.10	2.16	1.82	1.15	0.79	0.61	0.41	0.33	0.25	0.11		

Appendix 3: 2021 & 2022 Ammonia and Orthophosphate monitoring data

Inlet data 2021				Outlet data 2021	
Month	Day	Ortho P as P	Ammonia as N	Ortho P as P	Ammonia as N
		mg/l	mg/l	mg/l	mg/l
January	6		132		0.05
	13		88.9		10.2
	19		113		0.09
	28		152		0.016
February	3		85.7		0.01
	10		90.8		0.4
	17		101		6.8
	24		11		
March	3		77		0.02
	10		112		0.7
	18		103		1
	24		82.2		1
	31		97.8		0.1
April	8		172		0.15
	14		98.1		0.7
	20		128		0.04
	28		75.3		3.9
May	5		235		0.06
	11		64.7		4.5
	19		36.8		6.9
	25		48		0.5
June	2		63.8		0.15
	9		70.4		7.1
	15		49		6.4
	22		50.8		1.1
	29		47.9		1.9
July	7		80.6		0.04
	13		85.2		0.50
	21		53.5		0.10
	26		64		0.50
August	3		55		0.04
	10		83		0.04
	17		47		0.21
	26				0.03
September	7		52		0.66
	16		16		0.06
	21		2		0.16
	28				0.02
October	5		41		8.7
	12		47		4.6
	20		72		19
	26		77		4.6
November	2		32		2.3
	9		100		2.1
	16		26		2.5
	22				
	30				
December	10		54		0.08
	16		68		0.04
	21				
	29				

Inlet data 2022				Outlet Data 2022	
Month	Day	Ortho P as P	Ammonia as N	Ortho P as P	Ammonia as N
		mg/l	mg/l	mg/l	mg/l
January	4		44.8		0.03
	13		151		0.08
	18		33.6		0.01
	25		77.3		0.30
February	1		123		1.8
	8		29.9		0.16
	15		26.7		0.01
	23		34.3		0.30
March	1		44.7		0.10
	8		47.6		13.4
	15		82.5		4.6
	23		65.6		0.30
	30		63.3		0.12
April	5		71.0		1.3
	12		30.9		6.4
	20		53.8		0.11
	26		48.0		1.62
May	5		36.4		0.29
	10		35.3		0.09
	17		51.0		0.51
	24		43.1		2.5
June	7		44.4		0.58
	16		68.3		1.5
	23		43.9		6.4
	30				1.5
July	7		72.7		1.1
	12		57.0		4.4
	19		76.9		3.1
	26		105		3.4
August	2		74.3		3.4
	9		54.6		3.1
	16		98.5		0.21
	24		48.4		0.20
	29		53.3		0.22
September	6		30.4	1.20	0.12
	13		37.1	0.78	0.05
	21		38.10	1.10	0.18
	26			1.4	0.25

Inlet data 2022				Outlet Data 2022	
Month	Day	Ortho P as P	Ammonia as N	Ortho P as P	Ammonia as N
	27		60.6		
October	4		47.0	1.6	0.1
	11		56.5	3.0	2.4
	18		55.8	1.9	0.11
	24		67.3	0.92	0.34
November	1	0.7	22.4	0.92	0.32
	8	0.9	8.5	0.74	0.20
	15	2.6	18.8	0.97	0.04
	21	2.4	17.9	0.80	0.05
	29		22.4	0.34	0.02
December	5		40.2	0.57	0.03
	13		100	0.45	0.13
	20		19.0	0.50	0.20