



ATTACHMENT D.2:

**ASSESSMENT OF IMPACT ON RECEIVING
WATERS**



ATTACHMENT D.2.1:
IMPACT ASSESSMENT REPORT

D.2-1 - Impact Assessment Report

Document no: Enfield Impact Assessment Report
Revision no: P01

Irish Water
321120

CIP Wastewater Lot 4
3 November 2022



D.2-1 - Impact Assessment Report

Client name: Irish Water
Project name: CIP Wastewater Lot 4
Client reference: 321120
Project no: 321060BK
Document no: Enfield Impact Assessment Report
Project manager: Nick Stokes
Revision no: P01
Prepared by: Benjamin Delmond
Date: 3 November 2022
File name: Attachment D.2-1 - IA Report
Doc status:

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
P01	21/12/22	For Review	BD	NS	NS	NS

Distribution of copies

Revision	Issue approved	Date issued	Issued to	Comments

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Acronyms and abbreviations

WwTP Wastewater Treatment Plant

PE Population Equivalent

MCC Meath County Council

ELV Emission Limit Value

FSR Feasibility Study Report

EPA Environmental Protection Agency

WwTP Wastewater Treatment Plant

SAC Special Area of Conservation

SPA Special Protected Area

EQS Environmental Quality Standards

1. Introduction

This Report provides a summary of the Impact Assessments prepared to determine the impact of the discharges from the Enfield agglomeration on the receiving waterbody, the Blackwater River, and also addresses the criteria as outlined in Section D.2 of the EPA guidance document.

2. Receiving Waters

The receiving water for Enfield WwTP is the Blackwater (Longwood)_030 water body. Presently, final effluent from each of the clarifiers discharges to the water body via an outfall on the south bank. Storm water overflows from the storm tanks and emergency overflows also discharge via the same outfall.

The River Boyne and River Blackwater SAC and SPA are approximately 14km downstream of the Proposed Development.

The majority of works are located on land outside of the existing site boundary. The proposed lands to be acquired are located on the north bank of the River Blackwater which has a medium probability of Flood Extent of exceeding the 1% (1 in 100) AEP.

The Blackwater (Longwood)_030 currently has a 'moderate' WFD ecological status 2016-2021, however it is categorised as being 'At risk of not achieving Good Status', which is the ultimate minimum objective of the WFD for all water bodies. The Blackwater (Longwood)_020 is the upstream water body, inputting into the Blackwater (Longwood)_030 a short distance downstream of the R402 bridge, approximately 160m upstream of the WwTP and has 'poor' WFD ecological status based on 2016-2021 assessment (poor Q value status (3) based on 2020 also); the Blackwater (Longwood)_040 water body begins approximately 3.8km downstream of the WwTP; it is 'Moderate' WFD ecological status based on 2016-2021 assessment and also at risk of not achieving Good water quality status. (EPA Cathments.ie and online maps). This is illustrated in [Error! Reference source not found. Figure 2.1.](#)

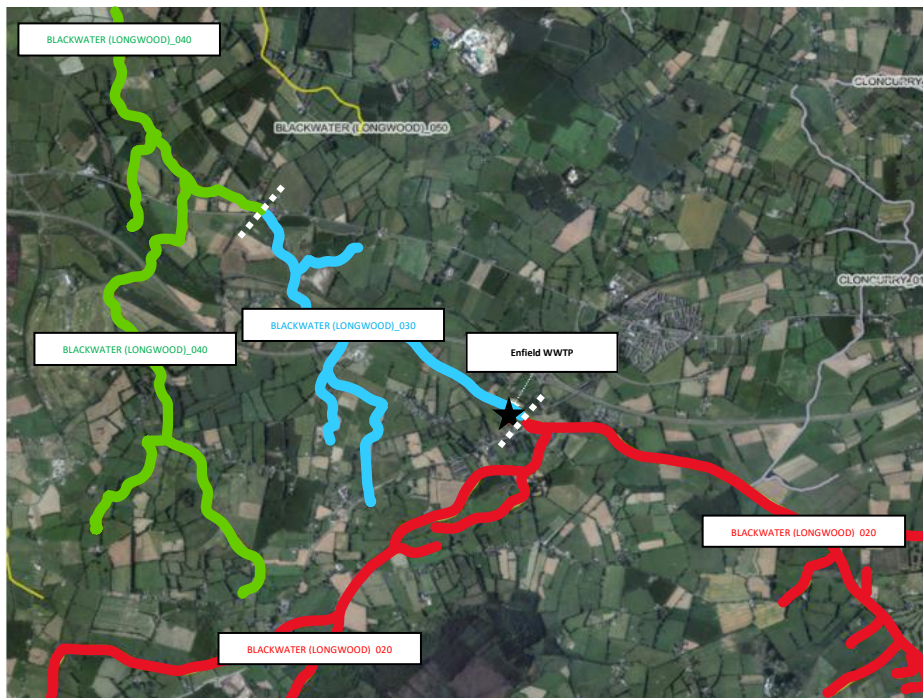


Figure 2.1 - Water Bodies in the vicinity of the Proposed Development (Source: epamaps.ie)

EPA monitoring results are provided below from the past four years, at the upstream (RS07B020100) and downstream (RS07B020120) points from the WwTP. The upstream monitoring point is located 310m from the discharge point, and the downstream monitoring point is 440m from the discharge point.

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Table 2.1 – Ambient Monitoring – Upstream at RS07B020100 (Data Source: IW 03-2019 – 09-2022).

Parameter	pH	BOD (mg/L)	Orthophosphate (mg/L)	Total Ammonia (mg/L)
Maximum	8.39	3.94	0.186	0.165
Minimum	7.24	0.14	0.018	0.005
Average result	7.79	1.00	0.044	0.036
Mean EQS as per S.I. No. 77/2019 Good Status *	6 - 9	≤ 1.5	≤ 0.035	≤ 0.065
Mean EQS as per S.I. No. 77/2019 High Status *	6 - 9	≤ 1.3	≤ 0.025	≤ 0.040
95%ile EQS as per S.I. No. 77/2019 Good Status *	6 - 9	≤ 2.6	≤ 0.075	≤ 0.140
95%ile EQS as per S.I. No. 77/2019 High Status *	6 - 9	≤ 2.2	≤ 0.045	≤ 0.090
Overall compliance with relevant Mean EQS Good Status *	Yes	Yes	No	Yes
Overall compliance with relevant 95%ile EQS Good Status *	Yes	Yes	Yes	Yes

* EQSs under S.I. No. 77/2019

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Table 2.2 – Ambient Monitoring – Downstream at RS07B020120 (Data Source: IW 03-2018 – 09-2022).

Parameter	pH	BOD (mg/L)	Orthophosphate (mg/L)	Total Ammonia (mg/L)
Maximum	8.39	3.85	0.122	0.253
Minimum	7.24	0.31	0.017	0.005
Average result	7.79	1.146	0.043	0.045
Mean EQS as per S.I. No. 77/2019 Good Status *	6 - 9	≤ 1.5	≤ 0.035	≤ 0.065
Mean EQS as per S.I. No. 77/2019 High Status *	6 - 9	≤ 1.3	≤ 0.025	≤ 0.040
95%ile EQS as per S.I. No. 77/2019 Good Status *	6 - 9	≤ 2.6	≤ 0.075	≤ 0.140
95%ile EQS as per S.I. No. 77/2019 High Status *	6 - 9	≤ 2.2	≤ 0.045	≤ 0.090
Overall compliance with relevant Mean EQS Good Status *	Yes	Yes	No	Yes
Overall compliance with relevant 95%ile EQS Good Status *	Yes	Yes	Yes	Yes

* EQSs under S.I. No. 77/2019

Based on the ambient monitoring results upstream and downstream of the operational discharge point for the period March 2019 to September 2022, the average BOD and Ammonia concentrations are within the required mean and 95%ile EQSs for Good status. Ortho P concentrations meet 95%ile Good status EQS upstream and downstream, but do not meet the mean Good status EQS for either upstream or downstream, indicating the water quality of River Blackwater is affected by upstream pollution events rather than by the existing Enfield WWTP.

This can be confirmed by [Figure 2.2](#) and [Figure 2.3](#), where it can be seen that the parameter concentration has only slightly varied following discharge from the WWTP. Ortho-Phosphate concentrations downstream have slightly decreased. 2013-2018 assessment indicate no trends for Total Ammonia (as N) in the Blackwater (Longwood)_030 downstream of the WwTP. The same assessment shows downward trends for ammonia and upwards trends for Ortho-phosphate (as P) for the Blackwater (Longwood)_020 (upstream of the Enfield WwTP discharge). The EPA 2016-2021 for Longwood_020 assessment shows orthophosphate to be meeting good quality and

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ammonium to be High. It's WFD status deteriorated from Moderate to Poor from 2013-2018 to 2016-2021 with a deterioration in the Biological (invertebrate) status recorded. It is noted that the downstream BOD, Orthophosphate and ammonia concentrations meet 95%ile High status EQS and the more stringent ELVs proposed are unlikely to impact on this status.

Figure 2.2 – Comparison between upstream and downstream ambient monitoring for BOD (March 2019-September 2022)

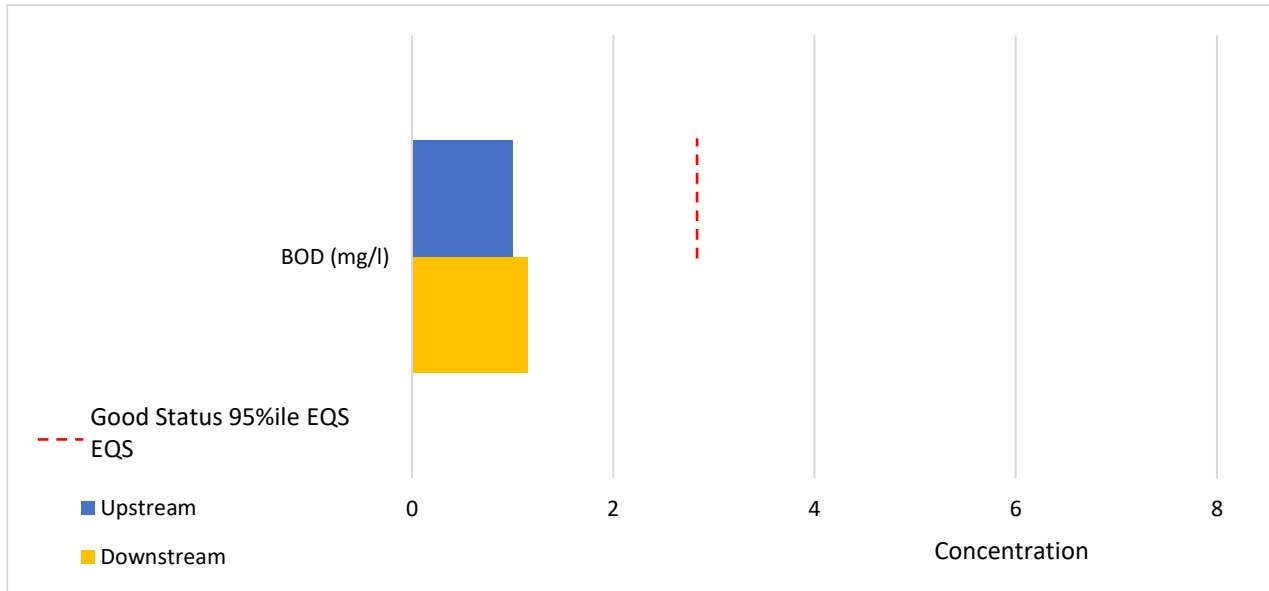
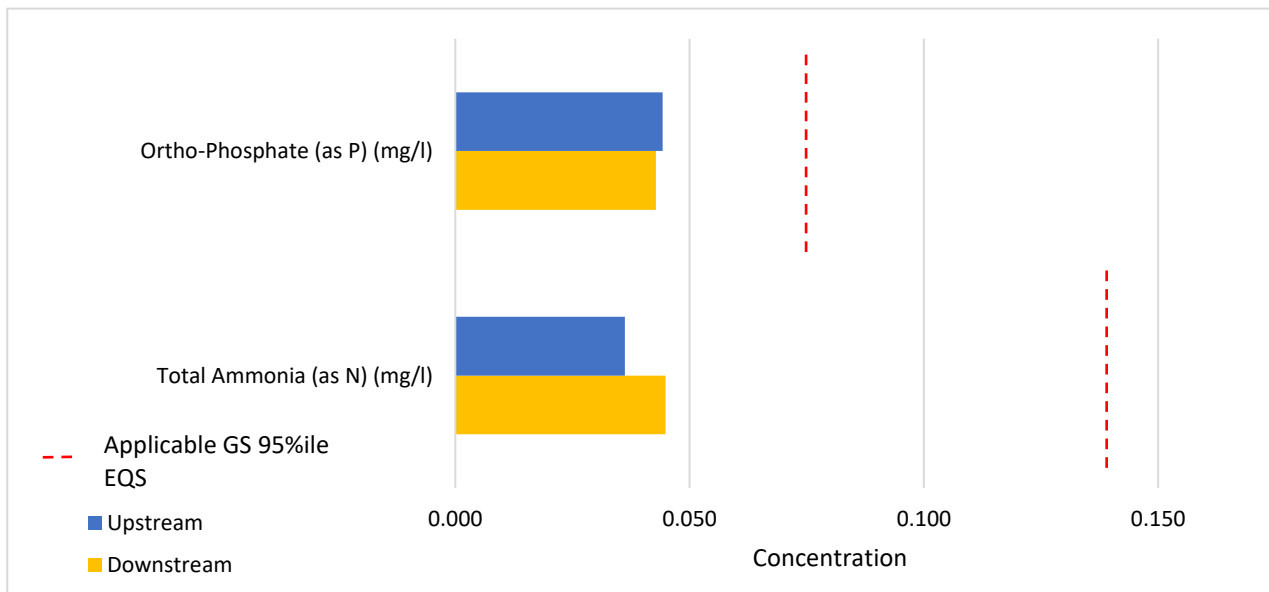


Figure 2.3 – Comparison between upstream and downstream ambient monitoring for Ortho-Phosphate and Total Ammonia. (March 2019 – September 2022)



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River BLACKWATER (LONGWOOD)_030 has been classified of moderate ecological status per the 2016 – 2021 EPA study. The upstream river, BLACKWATER (LONGWOOD)_020 has been classified of poor ecological status, highlighting the poor ecological quality of the waterbody prior the Enfield WWTP discharge.

Pressures on the Blackwater (Longwood) sub catchments are identified as being predominantly from agricultural sources, through direct discharges or runoff from farmyards and poorly drained soils. Other significant pressures arise from peat extraction.

The Enfield treatment plant or any associated discharges from the Enfield agglomeration are not identified as a significant pressure on the receiving waterbody. Agriculture is identified under WFD cycle 2 and in the 3rd cycle draft report on the Boyne Catchment (HA07) as a significant pressure on the receiving waterbody; Blackwater (Longwood)_030. Other pressures such as anthropogenic pressures and peat harvesting are identified as significant pressures on the downstream waterbody Blackwater (Longwood)_040 under WFD cycle 2 and also in the 3rd cycle draft report referenced above. Significant pressures are identified on the upstream waterbody; Blackwater (Longwood)_020, are unknown (further characterisation required) but potential pressures are agriculture, peat and hydromorphology.

River Blackwater makes part of the River Boyne and River Blackwater special area of conservation (SAC) and special protection area (SPA). The receiving waterbody, the River Blackwater (Longwood)_030 is not a designated sensitive area, nor is it a designated salmonid waterbody with no designated bathing waters or shellfish waters downstream of the discharge point.

Refer to Attachment B.5 for a copy of the Environmental Impact Assessment Report and Attachment D.2.2 for a copy of the combined AA Screening & Natura Impact Statement Report for further details on the receiving environment.

3. Waste Assimilative Capacity Calculations

A waste assimilative capacity assessment (WAC) has been carried . The results of this assessment are provided as follows:

Table 3.1

- [Table 3.1](#) shows existing and proposed ELVs.
- [Table 3.2](#)~~Table 3.2~~ summarises the outcomes of a WAC assessment of the proposed treatment standards for the Proposed Development – design standards and 6,200 p.e.
- Table 3.3 summarises the outcomes of a WAC assessment of the proposed treatment standards using updated 95%ile river flows provided by the EPA – noting no material differences between WAC calculations
- Table 3.4 For comparison purposes only - summarises the outcomes of a WAC assessment of the proposed treatment standards using updated 95%ile river flows provided by the EPA and actual background data

Table 3.1 ELVs required to comply with IW Guidance

Scenario	Water Quality Parameter	Existing ELV	Potential ELV with a Notionally Clean River	Recommended ELV
Proposed Development (6200 PE Capacity)	BOD	20	29.3	20
	Ortho-phosphate (as P)	0.5	0.88	0.5
	Ammonia	3	1.67	1.2

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Table 3.2 Blackwater (Longwood)_030 95%ile flow assimilative capacity at Enfield WwTP considering notional clean river values and Potential ELVs

Scenario	Water Quality Parameter	Blackwater (Longwood)_030 95%ile Flow (l/s)	Flow from WwTP - DWF (l/s)	Notional Clean Concentration (mg/l)	Required Standard Concentration (mg/l) for Good Status ¹	Predicted Downstream Concentration (mg/l)	Pass/Fail
Proposed Development (6200 PE Capacity)	BOD	261	16.1	0.26	2.6	1.41	Pass
	Ortho-phosphate (as P)	261	16.1	0.005	0.075	0.03	Pass
	Ammonia	261	16.1	0.008	0.14	0.08	Pass

Table 3.3 Blackwater (Longwood)_030 95%ile flow assimilative capacity at Enfield WwTP considering notional clean river values and proposed ELVs and 95%ile River flow provided by EPA

Scenario	Water Quality Parameter	Blackwater (Longwood)_030 95%ile Flow (l/s) – provided by EPA	Flow from WwTP - DWF (l/s)	Notional Clean Concentration (mg/l)	Required Standard Concentration (mg/l) for Good Status ¹	Predicted Downstream Concentration (mg/l)	Pass/Fail
Proposed Development (6200 PE Capacity)	BOD	250	16.1	0.26	2.6	1.46	Pass
	Ortho-phosphate (as P)	250	16.1	0.005	0.075	0.04	Pass
	Ammonia	250	16.1	0.008	0.14	0.08	Pass

- Table 3.4 For comparison purposes only - using background data

Scenario	Water Quality Parameter	Blackwater (Longwood)_030 95%ile Flow (l/s) – provided by EPA	Flow from WwTP - DWF (l/s)	Notional Clean Concentration (mg/l)	Required Standard Concentration (mg/l) for Good Status ¹	Predicted Downstream Concentration (mg/l)	Pass/Fail
Proposed Development (6200 PE Capacity)	BOD	250	16.1	1	2.6	2.15	Pass
	Ortho-phosphate (as P)	250	16.1	0.036	0.075	0.06	Pass
	Ammonia	250	16.1	0.044	0.14	0.11	Pass

As can be seen from the above calculations using the notionally clean approach and the proposed ELV's, the resultant downstream nutrient water quality for BOD, Ammonia and Ortho-P will be good, which is in line with the waterbody objective of good status. In addition, the resultant downstream water quality is still high for BOD, Ammonia and Ortho-P. For information and comparison purposes only, using actual background data and the proposed ELVs, the resultant downstream water quality will be good, which as discussed is in line with the waterbody objective of good status.

¹ EU Environmental Objectives (Surface Water) Regulations 2009 Schedule 3, Table 9 Part A General Conditions.

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The WAC assessment shows that the receiving waterbody (the Blackwater (Longwood)_030), has sufficient capacity to assimilate the final effluent discharge and meet the standards required to achieve Good status as defined by the EU Environmental Objectives (Surface Water) Regulations 2009.

Further, the Proposed Development will lead to an improvement in the quality of the discharge compared to the receiving water compared to the existing discharge, thereby reducing pressures upon it, which may have otherwise impeded the water body in meeting its WFD objective of 'Good' status.

The proposed ELVs are what the plant is designed for and in summary, the upgrade works to the Enfield WwTP and proposed effluent discharge (actual design) standards of 20mg/l BOD, 1.2mg/l Total Ammonia (as N) and 0.5 mg/l Orthophosphate (as P), along with the operational design of the overflow will ensure compliance with the European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended, and give effect to the combined approach and ultimately will assist the receiving waterbody in achieving its WFD objective (to achieve Good WFD Status).

4. Appropriate Assessment Screening

European sites were isolated for consideration in the study based on their presence within the Proposed Development's Zone of Influence and potential connectivity to European sites. There are a number of designated sites within a 15km buffer of the proposed site. The designated sites include Special Areas of Conservation (SACs) and Special Protection of Areas (SPAs). One Natura 2000 site is identified with the potential to be impacted by the Proposed Development. This is the River Boyne and River Blackwater SAC (Site Code 002299). The existing WWTP 14.25km from this SAC however the Blackwater (longwood)_030 into which the WWTP discharges is hydrologically connected to it.

A study to inform an Appropriate Assessment of the likely significant effects (LSEs) of the Proposed Development at Enfield WWTP on this SAC has been undertaken.

The AA Screening concluded that the works associated with the Proposed Development will not directly affect the SAC. However, examination of potential indirect effects, that may arise from construction activities or the operation of the new and upgraded equipment, has shown that mitigation will be required to ensure no LSE on the conservation objectives of the downstream SAC.

A Natura Impact Statement (NIS) accompanies the application (Attachment D.2-2 - NIS). It provides information to allow Meath County Council, as the competent authority, to determine whether there are any LSEs associated with the Proposed Development.

The NIS details mitigation measures which have been prescribed to ensure the Proposed Development will not result in adverse effects on Natura 2000 site integrity either alone or in-combination with other plans or projects. The NIS concludes, based on the best available scientific information and professional judgement, that with the implementation of the mitigation measures, there will be no adverse effects on the integrity of the River Boyne and River Blackwater SAC, alone or in-combination with other plans or projects in light of the site's conservation objectives.

5. Priority Substance Assessment Report

An assessment of the potential for impacts on receiving waters from priority substances in the primary discharge has been carried out to inform this WWDL application. This Report is contained in Attachment D.2-5 - Priority Substance Assessment. Its conclusions state that the proposed works will lead to an improvement in the quality of the effluent discharge, thereby reducing pressures upon it, which may have otherwise impeded on the water body in meeting its WFD objective of 'Good' status.

6. Shellfish Waters

There are no designated shellfish waters located downstream in the vicinity of the discharges.

7. Bathing Waters

There are no designated bathing waters located downstream in the vicinity of the discharges.

8. River flow Estimation

The 95%ile flow for the Enfield WwTP receiving waterbody, Blackwater (Longwood)_030 was calculated in 2018 using the EPA HyroTool to be 260 l/s. This drew in in data from arrange of analogue stations. A more recent figure of 250l/s for the 95%ile has been calculated by the EPA. It is not considered necessary to adjust the original 95%ile estimate, as the 10l/s difference is within the bounds of likely uncertainty. A change will also have a marginal impact on the stated results. However, for completion purpose an updated analysis is included in section 3 above.

9. Combined Approach

The Waste Water Discharge Authorisation under the European Union (Waste Water Discharge) Regulations 2007 to 2020, specify that a 'combined approach' in relation to licensing of waste water works must be taken, whereby the emission limits for the discharge are established on the basis of the stricter of either or both, the limits and controls required under the Urban Waste Water Treatment Regulations, 2001, as amended, and the limits determined under statute or Directive for the purpose of achieving the environmental objectives established for surface waters, groundwater or protected areas for the water body into which the discharge is made.

The proposed ELVs give effect to the principle of the Combined Approach as defined in Waste Water Discharge (Authorisation) Regulations, 2007 to 2020 in that they accommodate the Urban Waste Water Regulations and the relevant designations / status of the receiving waterbody, River Blackwater.

10. Compliance with Relevant National or EU legislation

As per Attachment B.6-1 - Compliance with Regulations, the Enfield WwTP has been designed to ensure that the emissions from the agglomeration will comply with and will not result in the contravention of EU Legislation and National Regulations.

The discharge standard will not compromise the achievement of the objectives and EQSs established for any European sites water dependant species and natural habitats and designations in the wider environs or downstream of the agglomeration.

11. Data Sources

The following data sources were used to complete this application.

- Online data available on held by the NPWS, the EPA, NIEA and Irish Water:
 - www.npws.ie
 - epawebapp.epa.ie
 - gis.epa.ie/EPAMaps
 - catchments.ie
- GIS data for European site boundaries obtained in digital format online from European Environmental Agency
- Irish Water/Meath County Council Monitoring & Sampling Data

12. Cumulative and In Combination Effects

The Appropriate Assessment Screening Report addresses in combination effects. Refer to Attachment D.2-3 - AA Screening Enfield.

13. Mixing zone or transitional areas of exceedance

Based on the 95%ile River flow (260 l/s), and the Enfield WwTP outflow (16.1l/s), there are 16.1 dilutions estimated immediately in the proximity of the discharge point. Based on updated 95%ile flow data provided by the Agency, there are 15.5 dilutions available.

14. Dilutions and retention times for lakes

Not applicable. No discharges to lakes.

15. The impact of the discharges on any environmental media other than those into which the emissions are to be made

Not applicable. No other relevant media into which the emissions are to be made.

16. Groundwater Details

Not applicable. No discharge to ground waters.

17. High Status Waterbodies

Not applicable. No High status waterbodies within the region of the Enfield WwTP and/or the operational discharges.

18. Fresh Water Pearl Mussels

Not applicable. No Fresh Water Pearl Mussels within the region of the Enfield WwTW and/or the Primary Discharge point.

19. Impacts on Transboundary / Territory of other States

The operational discharges to which this application relates will not result in transboundary impacts or impacts on the territory of other states.

20. For waste water treatment plants with coastal discharges, provide evidence that the end of the discharge pipe is below the mean spring tide low water line

Not applicable. Discharge is not to coastal water.



**ATTACHMENT D.2.4 (1&2):
WASTE ASSIMILATIVE CAPACITY (WAC)**

/

The Proposed Development increases the treatment capacity of the WwTP but is also designed to improve the effluent quality. Final effluent from the existing WwTP is discharged to the Blackwater (Longwood)_030. A new outfall will be provided on the opposing side of the river to discharge Final Effluent from the new Final Settlement Tanks. Following completion of the Proposed Development, there will no final effluent discharged from the existing WWTP site, however the existing outfall will remain in situ, to allow for the discharge of surface water from the existing site and emergency overflows.

A waste assimilative capacity assessment (WAC) was carried out and the results of this assessment are provided in Table 1. The analysis was based upon notionally clean river conditions as a consequence of pollution from other parties upstream, would not be appropriate. Refer to attachment D.2.1 Impact assessment report for further details and also for a WAC based on updated 95%ile flows provided by the EPA.

Table 1: River Blackwater 95%ile flow assimilative capacity at 6,200 PE loading rates to Enfield WWTP considering notional clean river values

Water Quality Parameter	River Blackwater 95%ile Flow (l/s)	Flow from WWTP (l/s)	Notional Clean Concentration (mg/l)	ELV (WWDL) (mg/l)	Required Standard Concentration (mg/l)	Predicted Downstream Concentration (mg/l)	Pass/Fail
BOD	261	16.1	0.26	20	2.6	1.41	Ok
Orthophosphate (as P)	261	16.1	0.005	0.5	0.075	0.03	Ok
Ammonia	261	16.1	0.008	1.2	0.14	0.08	Ok

The WAC assessment shows that the receiving waterbody (the Blackwater (Longwood)_030), has sufficient capacity to assimilate the final effluent discharge and meet the standards required to achieve Good status as defined by the EU Environmental Objectives (Surface Water) Regulations 2009.

Further, the Proposed Development will lead to an improvement in the quality of the discharge compared to the receiving water compared to the existing discharge.

Attachment D.2.4-2 Updated Waste Assimilative Capacity (WAC) Calculations

95%ile RIVER FLOWS

Proposed Effluent Standards: Considering 95%ile River Flows (0.25m³/s) and Notionally Clean Background Concentrations and 6,200PE					
Parameter	Background Concentration mg/l (Notionally Clean)	Proposed Effluent Standards	Contribution from Primary Discharge (mg/l)	Resultant Concentration (Notionally Clean)	Allowable Concentration 95%ile mg/l
Carbonaceous BOD	0.260	20.0	1.21	1.46	2.600
Ammonia Nitrogen (NH)	0.008	1.2	0.07	0.08	0.140
Ortho Phosphate (OP)	0.005	0.5	0.03	0.04	0.075

Proposed Effluent Standards: Considering 95%ile River Flows (0.25m³/s) and Actual Background Concentrations based on March 2019 - September 2022 data and 6,200PE - for comparison purposes only					
Parameter	Background Concentration mg/l (Actual)	Proposed Effluent Standards	Contribution from Primary Discharge (mg/l)	Resultant Concentration (Actual)	Allowable Concentration 95%ile mg/l
Carbonaceous BOD	1.000	20.00	1.21	2.15	2.60
Ammonia Nitrogen (NH)	0.036	1.20	0.07	0.11	0.14
Ortho Phosphate (OP)	0.044	0.50	0.03	0.07	0.075



ATTACHMENT D.2.5:

**PRIORITY SUBSTANCE ASSESSMENT
REPORT,**

D.2-5 - Priority Substance Assessment

Document no: D.2-5
Revision no: P01

Irish Water
321120

CIP Wastewater Lot 4
3 November 2022



D.2-5 - Priority Substance Assessment

Client name: Irish Water
Project name: CIP Wastewater Lot 4
Client reference: 321120
Document no: D.2-5
Revision no: P01
Date: 3 November 2022

Project no: 321060BK
Project manager: Nick Stokes
Prepared by: Benjamin Delmond
File name: Attachment D.2-5 - Priority Substance Assessment

Doc status:

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
P01	03/11/22	For Review	BD	NS	NS	NS

Distribution of copies

Revision	Issue approved	Date issued	Issued to	Comments

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Acronyms and abbreviations

WwTP Wastewater Treatment Plant

PE Population Equivalent

MCC Meath County Council

ELV Emission Limit Value

FSR Feasibility Study Report

EPA Environmental Protection Agency

WwTP Wastewater Treatment Plant

SAC Special Area of Conservation

SPA Special Protected Area

EQS Environmental Quality Standards

1. Introduction

This Report provides a summary of the Priority Substance Assessment. This desk top study has been undertaken to determine the necessity, if any, for further analysis of the primary discharge based on the Guidance on the Screening for Priority Substances for Waste Water Discharge Licences, issued by the EPA.

2. Introduction

Enfield WwTP treats wastewater from the settlements of Enfield and Johnstown Bridge and also receives a volume of wastewater from the nearby M4 Motorway Service Stations. This wastewater is pre-treated before being pumped to Enfield WwTP. The discharge from the M4 Motorway Service Stations is the subject of a Kildare County Council Section 16 Licence.

The proposed works are to upgrade Enfield WWTP, for a design PE of 6,200. This will include a PE of 5332 for domestic load, 620 for commercial PE and 248 for industrial PE. The PE for commercial and industrial loads were estimated in accordance with Irish Water Guidance and do not reflect specific current or planned future sources.

This desk top study has been undertaken to determine the necessity, if any, for further analysis of the primary discharge based on the Guidance on the Screening for Priority Substances for Waste Water Discharge Licences, issued by the EPA. Relevant inputs to the Enfield WwTP and estimates for the emissions from the discharge point have been taken into account in the preparation of this report.

3. Desktop Study

3.1 Review of all industrial inputs into WWTP

A review of available online mapping and all EPA licensed facilities was undertaken to determine the non-domestic discharge types which will be received at the Enfield WwTP. The IW Technical Assessment Manual Sectoral Profile Data was reviewed to determine the potentially dangerous substances which could be released to sewer from industrial inputs.

As per the EPA, IPC and IE database, there are currently no industrial premises with an IPC/IE licence within the agglomeration which discharge to the WwTP.

There is a trade effluent licence under Section 16 of the Water Pollution Act 1977 (amended 1990) within the agglomeration, due to the nearby M4 motorway service station which is pre-treated prior discharge to Enfield WWTP.

It is considered that the Priority Substances which are possibly being emitted to sewer have been well represented in this partial characterisation of the wastewater.

Upon review of the types of businesses, amenities, and educational facilities in Enfield and Johnstown bridge, Table 3.1 provides an indicative list of non-domestic discharge types to the WwTP and details potential dangerous/priority substance.

Table 3.1 - List of Non-Domestic Discharge Types to WwTP and Details of Potential Dangerous/Priority Substance

Type of industry within the agglomeration	Potential source of dangerous / priority substance	Dangerous substances undertaken	/ priority monitoring	List of potential dangerous substances based on industry type (source: technical assessment manual – sectoral profile data)
Petrol Station	Yes	Unknown		Unknown
Highway	Yes	Unknown	Yes	Unknown

3.2 Discharge monitoring

There is no primary discharge monitoring available for the possible presence of Specific Pollutants, Priority and Priority Hazardous Substances as outlined in Table 10, 11 and 12 of European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended is available for this agglomeration.

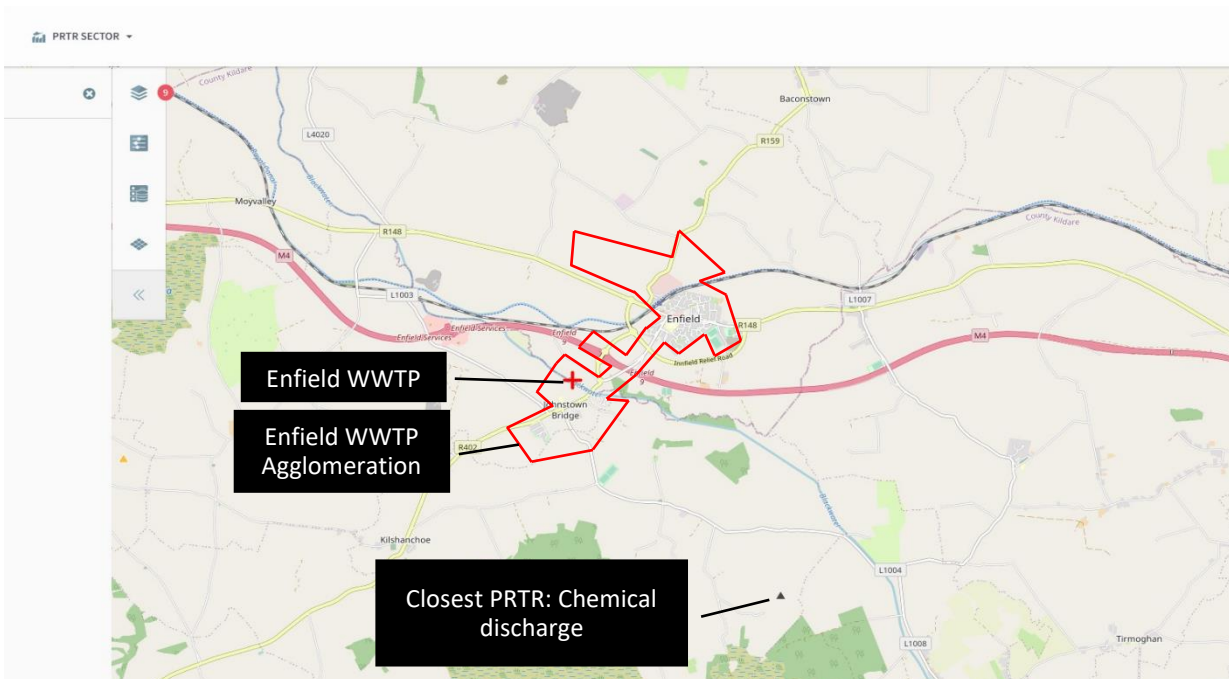
3.3 Downstream monitoring location's participation in relevant monitoring programme

There are no priority substances monitoring data for the downstream ambient monitoring location in the River Blackwater.

3.4 Participation in PRTR reporting

The emissions of specific organic compounds and metals (priority substances) have been estimated for the discharge utilising the EPA's urban WWTP calculation tool for PRTR reporting. As it can be seen in Figure 3-1, no priority substances discharge points are located in or close to the Enfield WWTP agglomeration.

Figure 3.1 – PRTR results (taken from EPA maps)



4. Review Outcome of Desktop Study

Following the desktop study, no potential impact on the receiving waters have been observed. Priority substance measured concentrations in the primary discharge were not available for any parameters, but all information available suggests there is no significant discharge of priority substance into River Blackwater, such as the PRTR tool or the IPC and IE databases. A discharge from the petrol station and nearby M4 motorway are within the Enfield WWTP boundary, but pre treatment is provided for the M4 motorway, and the proposed works are providing betterment through more efficient treatment systems and a high treatment capacity.

5. Assessment of Significance and Recommendations

An assessment of the potential for impacts on receiving waters from priority substances in the primary discharge has been carried out. The assessment considers the primary discharge relevant to Environmental Quality Standards (EQS) for priority substances in surface waters, as set out in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended. Based on the estimated data, no parameters were identified as potentially being higher than the required EQS, with the exception of Ortho-Phosphate which was failing upstream of the WWTP. Further details can be found in attachment D.2-1 IA Report.

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?	Desktop study
Does the assessment include a review of licensed / authorised inputs to the works?	Yes
Does the assessment include a review of other (unauthorised) inputs to the works?	Yes
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
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	Yes

6. Conclusion

An assessment of the potential for impacts on receiving waters from priority substances in the primary discharge has been carried out to inform this WWDL application. The PRTR reporting tool informed this desktop assessment and highlighted no discharge of priority substances near or within the WWTP boundary. The assessment considered the primary discharge relevant to Environmental Quality Standards (EQS) for priority substances in surface waters, as set out in the Surface Waters Regulations (S.I No. 77 of 2019). After dilution, it can be concluded that none of the substances listed in the Specific Pollutants, Priority and Priority Hazardous Substances, are likely to be present in the effluent discharge to the Greese River, at concentrations above the standards in S.I No. 77 of 2019.

Based on the results of this desk top study, it can be determined that no further analysis of the discharge, based on the Guidance on the Screening for Priority Substances for Waste Water Discharge Licences, issued by the EPA, is required. As mentioned in the WWDA, the proposed works will lead to an improvement in the quality of the effluent discharge, thereby reducing pressures upon it, which may have otherwise impeded on the water body in meeting its WFD objective of 'Good' status.