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Dear Inspector,

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Re: Ballyjamesduff – D0256-02

In response to regulation 18(3)(b) request for information notice dated 26 June 2025, please see below relevant information:

Provide an updated Natura Impact Statement (NIS), as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 as amended. The updated NIS should include the operational phase of the proposed project to account for the waste water discharges to which this licence review application relates.

Please find appended, the Natura Impact Statement (NIS) as requested, which concludes that the Ballyjamesduff wastewater agglomeration operational discharges, alone or in-combination with other plans and / or projects will not give rise to adverse effects on the integrity of the Lough Sheelin SPA, or any other European Site.

Yours Sincerely



Peter Keegan

Peter Keegan

Wastewater Asset Strategy

Uisce Éireann

Report

AA Screening & Natura Impact Statement Report as part of the Ballyjamesduff Waste Water Discharge Licence (D0256-01) Review Application

September 2025



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Introduction

Background to Appropriate Assessment

Approximately 14% of the land area of Ireland is included in the European Network of Natura 2000 sites (hereafter referred to as 'European sites'), which includes Special Protection Areas (SPAs) for the protection of birds and Special Areas of Conservation (SACs) for the protection of habitats and non-avian fauna. Legislative protection for these sites is provided by the European Council *Birds Directive* (79/409/EEC) and E.C. *Habitats Directive* (92/43/EEC, as amended), which are transposed into Irish law by the *European Communities (Birds and Natural Habitats) Regulations 2011* (SI 477/2011, as amended).

Articles 6(3) and (4) of the EC *Habitats Directive* - transposed by Part 5 of the national regulations - require competent authorities to assess the implications of any plan or project on European sites before consent can be given. A staged process is proposed (hereafter referred to as 'the Appropriate Assessment process'), as follows:

- **Stage 1: Screening.** This consists of a pre-assessment stage ('screening') to ascertain whether the plan or project is likely to have a significant effect on the site (either alone or in combination with other plans or projects) in view of the site's conservation objectives.
- **Stage 2: Appropriate Assessment.** If likely significant effects cannot be excluded at Stage 1, the next stage of the procedure assesses the residual effects (i.e. after mitigation is taken into account) of the plan or project against the site's conservation objectives, to determine whether or not it will affect the integrity of the European site. If any significant residual effects are identified at this stage the component authority must either refuse planning consent or proceed to Stage 3.
- **Stage 3: Alternative Solutions.** Alternative design options must be considered, to justify whether or not adverse effects on the integrity of a European site can be avoided or reduced. This step is an essential pre-requisite for Stage 4.
- **Stage 4: IROPI.** Where a project will have significant residual effects, and where no less-damaging alternatives exist, the project will only be permitted if it is required for Imperative Reasons of Overriding Public Interest (IROPI). This typically only applies to public infrastructure such as flood defences or drinking water supply. Projects that do not meet the criteria must be refused planning consent.

This report provides information to enable the Environmental Protection Agency (EPA), as the Competent Authority, to conduct an Appropriate Assessment (AA) Screening Determination and Stage 2 AA in respect of the Ballyjamesduff WW Agglomeration Operational Discharges, for the purposes of the *European Union (Waste Water Discharge) Regulations 2007 to 2020*. It considers whether the Operational Discharges (i.e., Primary Discharge (SW001), WwTP Dual Function Overflow (SW003) and network Emergency Overflows (SW004 – SW006), alone or in combination with other plans and projects, could adversely affect the integrity of European Site(s) in view of best scientific knowledge and the conservation objectives of the site(s).

Methodology

Guidance

This report has been prepared with reference to the following guidelines:

- OPR Practice Note PN01: *Appropriate Assessment Screening for Development Management* (Office of the Planning Regulator 2021)
- *Appropriate Assessment of Plans and Projects in Ireland* (Department of the Environment, Heritage and Local Government, 2009)
- *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4), E.C., 2002.*
- *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal* (CIEEM 2018)

Supporting data was collected from the following sources:

- Plans and specifications for the proposed development
- A Natura Impact Statement prepared by EirEco Environmental Consultants in 2022 as part of the planning application
- Conservation objectives of European sites from www.npws.ie
- Bedrock, soil, subsoil, surface water and ground water maps from the Geological Survey of Ireland webmapping service, the National Biodiversity Data Centre, and the Environmental Protection Agency web viewer
- The *Cavan County Development Plan 2022 - 2028*, and details of permitted or proposed developments from the local authority's online planning records

Desktop data from internet resources was accessed in September 2025. A site inspection was carried out on 12th September 2025.

Consultation

The EPA, as the Competent Authority, will seek National Parks and Wildlife Service (NPWS) advice as may be required in reaching their decision on operational discharges from a WW agglomeration. The NPWS can only communicate with the applicant (*i.e.*, Uisce Éireann) on request from the Competent Authority, when the formal application process to the Competent Authority has already commenced.

Statement of Authority

This report was written by Nick Marchant, the principal ecologist of NM Ecology Ltd. He has eighteen years of professional experience, including fifteen years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO in Indonesia. He provides ecological assessments for developments throughout Ireland and Northern Ireland, including wind farms, infrastructural projects (roads, water pipelines, greenways, *etc.*), and a range of residential and commercial developments.

He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct.

Description of the Project

Project Context

Ballyjamesduff is a market town located ca. 18.5km south east of Cavan town. The WW agglomeration is spread over 9 townlands: Carn, Moodoge, Cornahilt, Ramonan, Derrylurgan, Kilmore, Killyfinla Kilquilly and Lismeen. The Ballyjamesduff Waste Water Treatment Works (WwTW) is served by a catchment that includes the main town centre and surrounding residential areas.

Ballyjamesduff WwTP Upgrade

On the 13th April 2022, a planning application for the Ballyjamesduff WwTP Upgrade Project was submitted to Cavan County Council for determination (Planning Ref: 22145). A notification from Cavan County Council of a decision to grant planning, subject to 9 no. conditions, was received on 15th November 2022.

The upgrade works at the WwTP will consist of the following:

- Demolition and replacement of existing inlet works;
- Provision of a Control Storm Water Overflow Chamber;
- Storm Water Overflow (SWO) (SW002) outfall from existing storm water tanks to be made redundant;
- Existing oxidation tank will be repurposed to provide extra storm water storage, with minor demolition works of ancillary structures;
- Provision of tertiary treatment system (tanks and a filter) together with all associated ancillary works;
- Provision of 5 no. buildings for operating equipment;
- Existing effluent discharge outfall from WwTP to be replaced and upsized (225mm to 600mm) to serve both the final treated effluent from the Primary Discharge (SW001) and any discharge from the Dual Function Overflow (SW003) from the WwTP (*i.e.*, an overflow which can act as a SWO or as an Emergency Overflow (EO) depending on the event).
- Provision of service water system and service water pump sump (wash water recycle system to clean equipment);
- Provision of outfall pump station;
- Demolition of existing sludge tank and replacement with sludge thickening unit and sludge holding tank;
- Provision of biological treatment tank;
- Provision of below ground pump chambers and process drainage sumps;
- Provision of odour control unit and above ground duct work (at a maximum height of 2.4m above ground);
- Provision of a back-up generator with diesel tank bunded to be used in an emergency/power cut;
- Provision of an ESB substation.

The upgraded WwTP (5,200 p.e) has been designed to meet the below effluent design standards/Emission Limit Values (ELVs).

Table 1: Proposed Effluent Design Standards/ ELVs

Parameter	Proposed Effluent Design Standards/ELVs
pH	6-9
BOD	4 mg/l
COD	125 mg/l
Suspended Solids	35 mg/l
Total Ammonia (N)	0.2 mg/l
Orthophosphate (P)	0.1 mg/l

The above ELVs were set by the EPA during their determination of WWDL D0256-01 to ensure that potential effects on the receiving water body are strictly limited and controlled and to ensure compliance with standards and objectives established for associated protected areas in accordance with relevant legislation, including the Water Framework Directive. A Water Quality Impact Assessment (WQIA) based on the proposed primary discharge ELVs at DWF for 5,200 p.e using the EPA's notionally clean river approach shows that the receiving waterbody, has the capacity to accommodate the proposed discharge from the upgraded WwTP without causing a breach in the relevant standards as outlined in National and European legislation. This includes ensuring compliance with the relevant standards set out in the *European Communities Environmental Objectives (Surface Water) Regulations, 2009*, as amended (S.I. No. 77 of 2019 & S.I No. 288 of 2022). See Section "Water Quality Impact Assessment Report (WQIA)" below for further details.

The upgrade works are expected to be completed by 31st December 2026.

Discharges as per Subject Matter of Licence Review

Proposed Primary Discharge - SW001:

Treated effluent from the WwTP will be discharged *via* a new 600mm combined outfall pipe with the Dual Function Overflow (SW003) to the Mountnugent_020 River at NGR 251924E 290849N.

Proposed Secondary Discharges:

There will be no secondary discharge points associated with the waste water works.

Proposed New Dual Function Overflow (SWO/EO) - SW003:

There will be a new Dual Function Overflow (SW003) from the upgraded WwTP and will discharge *via* a new 600mm combined outfall pipe with the Primary Discharge (SW001) which discharge directly to the Mountnugent_020 River. SW003 will be designed to meet the definition of 'Storm Water Overflow' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended and the criteria as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995.

The EO (SW003) at the WwTP will be activated only under an emergency event *i.e.*, prolonged power failure. The likelihood of an emergency event is low, and there is provision for the connection of a mobile power generator facility at the WwTP in the event of a power failure. In the very rare event of an EO activation, the effluent will have been screened *via* a 6mm screen at the Control SWO chamber prior to discharge to the Mounnugent_020 River.

WW Network Overflows (SW004 – SW006):

The 3 No. EO's from the Ashford Down Pumping Station, Ballyjamesduff Filling Station Pumping Station, and Ashgrove Pumping Station will continue to operate as per current configuration.

The risks of sewer or outfall failure associated with extreme events resulting in the activation of EO's, while a theoretical risk (as the failure of any infrastructure in catastrophic situations is theoretically possible), is not reasonably predicted to occur. Their inclusion in the agglomeration prevents the risk of uncontrolled emissions arising from other points in the network and spilling onto land or water in an unpredictable manner. All appropriate design measures and mitigation to prevent EOs that can be applied has been incorporated in the design and operation of the agglomeration.

Table 2: Proposed WW Discharges Ballyjamesduff Agglomeration

Discharge	Asset	Type	Discharge Location (NGR)	Receiving Waterbody
SW001	WwTP	Primary Discharge	251924E 290849N	Mounnugent_020 River
SW003	WwTP	SWO / EO	251924E 290849N	Mounnugent_020 River
SW004	Ashford Downs PS	EO	252007E, 290839N	Mounnugent_020 River
SW005	Ballyjamesduff Filling Station PS	EO	252040E, 290831N	Mounnugent_020 River
SW006	Ashgrove PS	EO	251616E, 291118N	Mounnugent_020 River

*SW002 will be decommissioned as part of the upgrade works.

In summary, there will be 5 No. of Operational Discharges from the Ballyjamesduff WW Agglomeration as outlined in **Table 2**.

Final Treated Effluent monitoring data from 2024-2025 (prior to completion of the upgrade) is presented in **Table 3** together with the existing/proposed ELV's.

Table 3: Final Treated Effluent Monitoring Data at the existing/proposed Primary Discharge (SW001) 2024 - 2025.

Date	pH	cBOD	COD	SS	Ammonia	Orthophosphate
ELV	6-9	4 mg/l	125 mg/l	35 mg/l	0.2 mg/l	0.1 mg/l
05/01/2024	7.3	3	41	32	9.64	1.27
20/02/2024	7.1	2.7	43	8	0.61	1.26

Date	pH	cBOD	COD	SS	Ammonia	Orthophosphate
ELV	6-9	4 mg/l	125 mg/l	35 mg/l	0.2 mg/l	0.1 mg/l
05/03/2024	7.4	17.4	32	11	5.79	1.01
03/04/2024	7	6.5	38	6	1.34	1.06
22/05/2024	7.4	3.4	40	11	0.02	0.78
26/06/2024	7	7.8	10	7	9.75	0.8
18/07/2024	7.4	1.1	24	6	0.77	0.1
20/08/2024	7.3	8.6	35	8	5.05	0.18
11/09/2024	7.2	2.5	16	13	7.94	0.08
03/10/2024	7.3	32	40	10	10.4	0.51
13/11/2024	6.8	18.8	30	20	2.16	0.54
13/12/2024	7	6.5	34	13	6.62	0.31
09/01/2025	7.2	30.7	56	28	11.48	0.31
13/02/2025	7.4	5.1	60	5	15.22	1.3
06/03/2025	7.5	4.2	41	10	19.37	1.34
16/04/2025	7.3	9	41	13	8.84	1.02
08/05/2025	7.2	4	37	14	6.61	0.34
12/06/2025	7.3	2.3	10	4	2.51	1.02
Max	7.5	32	60	32	19.4	1.3
Min	6.8	1.1	10	4	0.02	0.08
Average	7.2	9.2	34.9	12.2	6.9	0.7

*Results in bold indicate a non-compliance with the ELVs set out in schedule A.3.

A total of 18 samples were taken between 5th January 2024 and 12th June 2025. Of these, 11 exceeded the ELV for cBOD, 17 exceeded the ELV for Ammonia and 17 exceeded the ELV for orthophosphate.

Currently the WwTP is exceeding its design capacity (2,200 p.e.), its treated effluent is not compliant with its ELVs, and the effluent appears to have a negative impact on WFD status.

The WwTP upgrade will increase the design capacity of the WwTP from 2,200 p.e. to 5,200 p.e., which will cater for the existing influent (ca. 3,705 p.e.) and 25 year projected growth in the town. It has been designed to operate within the ELVs for its previous discharge licence (Error! Reference source not found.). The upgrade will contribute towards achieving the current “Good” WFD Status objective of the Mounthugent_020 River, in accordance with the *European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019* (S.I. No. 77 of 2019). This will ultimately ensure that there is no environmental risk posed to the receiving waterbody, or to the downstream water environment from the Primary Discharge (SW001) from the upgraded Ballyjamesduff WwTP.

Description of the Receiving Waters of the WW Operational Discharges

In this section we provide details of the receiving waterbody (*i.e.*, the Mounnugent_020 River) and assess its capacity to assimilate the treated effluent of the Primary Discharge (SW001).

Description of the Mounnugent_020 River

The Ballyjamesduff proposed WW agglomeration Operational Discharges (*i.e.*, Primary Discharge (SW001), WwTP Dual Function Overflow (SW003), and network Overflows (SW004 – SW006) are directly to the Mounnugent River, which runs along the southern boundary of the WwTP. On the WFD monitoring scheme database this watercourse is referred to as ‘Mounnugent_010’ upstream of Market Street in Ballyjamesduff (280m upstream of the Primary Discharge SW001) and ‘Mounnugent_020’ downstream of Market Street. These labels provide a reasonable proxy for upstream and downstream waters, so they will be used for the remainder of the report.

The EPA undertake biological water quality monitoring at RS26M020100 280m upstream of the proposed Primary Discharge (SW001) location, there are no recent Q values for this ambient monitoring station. Downstream, the nearest station subject to recent monitoring is 600m, which was assigned a Q2-Q3 score in 2024.

The receiving waterbody watercourse is small, measuring approx. 2m in width where it passes the WwTP. Water depth was approx. 0.5 – 1m following a period of regular rainfall; during periods of dry weather the depth (and thus volume) of water may be lower. Some in-stream vegetation was observed upstream of the Primary Discharge point (SW001), including pondweed *Potamogeton* sp., water-starwort *Callitriche* sp. and sweet-grass *Glyceria* sp. Downstream of the Discharge Point, some rafts of duckweed *Lemna* sp. had accumulated on the surface, particularly where overhanging vegetation obstructed flow.

The Mounnugent_020 River flows west, merges with another tributary, and flows south-west to Lough Sheelin. The total hydrological distance between the WwTP and Lough Sheelin is ca. 11.5 km. Lough Sheelin drains into the River Inny, which flows in a south-westerly direction through a number of lakes (Lough Derravaragh, Lough Iron, etc), before reaching Lough Ree on the River Shannon ca. 81 km downstream.

Water quality in Irish rivers and streams is monitored as part of the WFD status assessments, of which the latest sampling period was 2016 – 2021. The Mounnugent_010 waterbody (upstream of the WW Operational Discharges) was of “Moderate” WFD status and the Mounnugent_020 waterbody (the receiving waters for the WW Operational Discharges) was of “Poor” status. This reduction in water quality may be due to Agriculture (a significant pressure identified in the HA 26F Upper Shannon Catchment Report for the Mounnugent_020 River) and / or Urban Waste Water. The Mounnugent River ranges from “Poor” to “Moderate” status for the remainder of its course as far as Lough Sheelin. The Lough is of “Moderate” WFD status, and the River Inny ranges from “Moderate” to “Good” WFD status throughout its course as far as the Shannon.

Water Quality Impact Assessment Report (WQIA)

To inform the WWDL Review Application, a WQIA calculation has been completed (August 2025) to show the impact of the Primary Discharge (SW001) from the Ballyjamesduff WwTP on the receiving waterbody, the Mountnugent_020 River.

These calculations were carried out to determine the: i) Emission Limit Values (ELVs) that would be required to ensure there would be sufficient assimilative capacity for Ammonia, BOD and Ortho-P in the receiving waterbody; and ii) to determine the predicted downstream mean and 95%ile concentration from same (see **Table 4**).

The calculations were based on the 95%ile flow in the receiving water (0.013m³/s, as confirmed by the EPA Hydrometric & Groundwater Section on the 25th November 2021), the notional clean river background concentrations, the Dry Weather Flow (DWF) (1,170 m³ /day – calculated as 5,200 p.e x 225l/p/d), and the ELVs for the discharge as per EPA WWDL D0256-01 (proposed ELVs for this licence review).

Based on the ambient monitoring data upstream (June 2023 – May 2025), it is clear that other sources of pollution (e.g., agriculture) are contributing to the current WFD “Poor” – “Moderate” WFD Status (2016-2021) of the receiving waterbody upstream of the WwTP. The sources which give rise to the background concentrations are outside the control of UÉ. Based on this, the EPA’s notionally clean river approach has been used in the WQIA calculations to show the impact of the proposed Primary Discharge (SW001) from the upgraded Ballyjamesduff WwTP (in isolation) with reference to the EQS’s specified in S.I No.77 of 2019.

Table 4: Predicted Downstream Concentrations Based on Proposed ELVs for Ballyjamesduff Primary Discharge (SW001) based on 5,200 p.e

Parameter	Proposed ELVs (mg/l)	Upstream River Conc <small>Note 1</small>	Predicted d/s 95% Conc.(mg/l)	Relevant Standard (mg/l) Status) to be applied <small>Note 2</small>
BOD	4	0.260	2.168	≤2.6 <small>Good Status</small> ≤2.2 <small>High Status</small>
Ortho-P (MRP)	0.1	0.008	0.0535	≤0.075 <small>Good Status</small> ≤0.045 <small>High Status</small>
Total Ammonia	0.2	0.005	0.1060	≤0.14 <small>Good Status</small> ≤0.09 <small>High Status</small>

Note 1: Notional clean river values for AC based on 1/5th of the mean “High Status” standard in S.I No. 77 of 2019
Note 2: S.I. No. 77/2019 - European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019

Note 3: using 225 lpd

For the notionally clean river, the predicted downstream concentrations of BOD, Ortho-Phosphate and Total Ammonia, based on the ELVs included in the current WWDL, would comply with the “Good” status water quality standards in S.I. No. 77 of 2019. This means that for a notionally clean river there would be sufficient assimilative capacity in the receiving water to receive the flows and loads associated with a 5,200 p.e WwTP.

Stage 1: Screening for Appropriate Assessment

Review of European Sites within the Potential Zone of Influence of the Ballyjamesduff WW Agglomeration Operational Discharges

The proposed Ballyjamesduff WW agglomeration Operational Discharges - Primary Discharge (SW001), WwTP Dual Function Overflow (SW003), network Overflows (SW004 – SW006) - discharge to the Mountnugent_020 River. In this section we identify European sites that could potentially be affected by the Operational Discharges. The primary consideration is whether the Operational Discharges discharge into any European sites, because this could lead to direct effects. Potential indirect effects on downstream European sites are considered using the source-pathway-receptor model, which identifies potential pathways (e.g. surface water) between the source (the Operational Discharges) and the receptor (a European site). The suitability of receiving waters as *ex-situ* habitats for SPA bird species is also discussed.

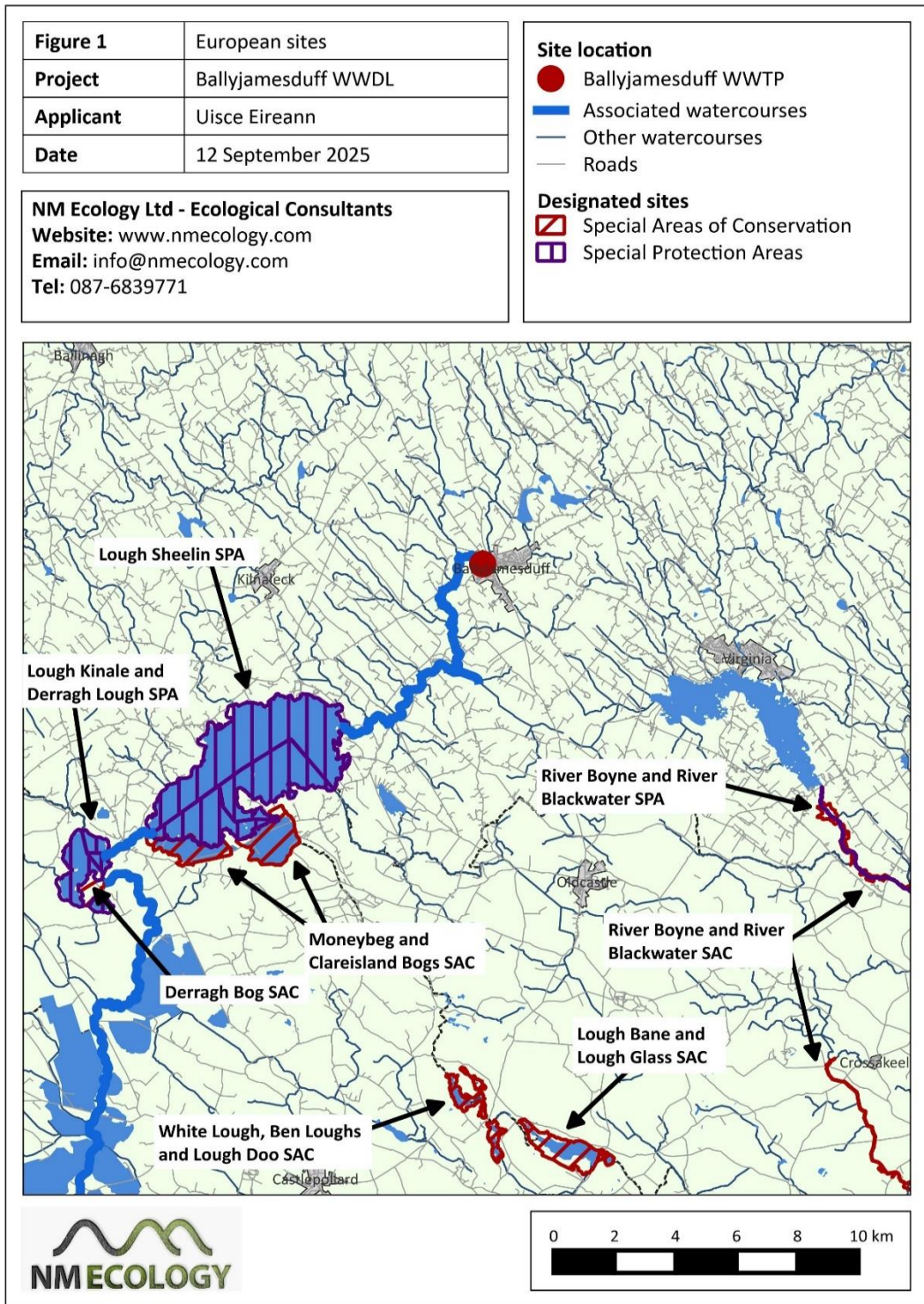
To support the above assessments, a map of European sites in the surrounding area is shown in **Figure 1**, and details of sites shown on the map are provided in **Table 5**.

Distances in **Table 5** are measured from the primary discharge (SW001) to the closest point on the boundary of the relevant European site, *i.e.* a straight line distance. Surface water pathways to downstream European sites are considered under a separate heading below, and hydrological distances along intervening watercourses are presented in **Table 6**.

Table 5: European sites shown in Figure 1

Site name	Direct Distance from Primary Discharge (SW001)	Qualifying Interests
Lough Sheelin SPA (site code 4065)	6.5 km south-west	Key habitats: freshwater lake Special conservation interests: great crested grebe, pochard, tufted duck, goldeneye
Moneybeg and Clareisland Bogs SAC (2340)	10.6 km south-west	Annex I habitats: active raised bogs, degraded raised bogs still capable of natural regeneration, depressions on peat substrates of the Rhynchosporion
River Boyne and River Blackwater SAC (2299)	13.3km south-east	Annex I habitats: alkaline fens, alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> Annex II species: river lamprey, Atlantic salmon, otter
River Boyne and River Blackwater SPA (4232)	13.3km south-east	Key habitats: freshwater rivers Special conservation interests: kingfisher

Site name	Direct Distance from Primary Discharge (SW001)	Qualifying Interests
Lough Kinale and Derragh Lough SPA (4061)	15.3 km south-west	Key habitats: freshwater lake Special conservation interests: pochard, tufted duck
Derragh Bog SAC (2201)	16.3 km south-west	Annex I habitats: active raised bogs, degraded raised bogs still capable of natural regeneration
White Lough, Ben Loughs and Lough Doo SAC (1810)	16.7 km south	Annex I habitats: Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. Annex II species: white-clawed crayfish
Lough Bane and Lough Glass SAC (2120)	18.4 km south	Annex I habitats: Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. Annex II species: white-clawed crayfish



European sites (potential direct effects)

The WW Operational Discharges are not within or adjacent to any European sites (**Figure 1**), so there is no risk of direct effects.

Potential pathways for indirect effects

In this section we identify potential *pathways* between the *source* (the WW Operational Discharges and the *receptor* (a European site). The most common pathway is surface water, which typically occurs when a pollutant enters a river and is carried downstream into a European site. Other potential pathways *via* groundwater, air (e.g. airborne dust or sound waves), or land (e.g. flow of liquids, vibration) are also considered.

Surface water

The Operational Discharges are to the Mountnugent_020 River. This river, which is part of the River Inny catchment (a major tributary of the River Shannon), provides a distant surface water pathway to a number of European sites. In the interests of completeness, a full list of European sites associated with downstream watercourses (the Mountnugent River and River Inny) is listed in **Table 6**. This list refers only to European sites that were designated for freshwater rivers or lakes, and excludes ombrotrophic peatlands (which are isolated from nearby rivers, see below) and other terrestrial habitats. Distances are measured along the surface water pathway, which differs from the straight-line distances presented in **Table 5**.

Table 6: European sites associated with downstream watercourses & their hydrological distance from the Primary Discharge (SW001)

Site name	Hydrological Distance from the Primary Discharge (SW001)	Qualifying Interests
Lough Sheelin SPA (site code 4065)	11.5 km	Key habitats: freshwater lake Special conservation interests: great crested grebe, pochard, tufted duck, goldeneye
Lough Kinale and Derragh Lough SPA (4061)	20.8 km	Key habitats: freshwater lake Special conservation interests: pochard, tufted duck
Lough Derravaragh SPA (4043)	38.1 km	Key habitats: freshwater lake Special conservation interests: whooper swan, pochard, tufted duck, coot
Lough Iron SPA (4046)	49.2 km	Key habitats: freshwater lake Special conservation interests: whooper swan, greenland white-fronted goose, teal, coot, golden plover, wigeon, shoveler
Lough Ree SPA (4064)	81.4 km	Key habitats: freshwater lake and wetlands Special conservation interests: whooper swan, little grebe, teal, coot, golden plover, wigeon, shoveler, mallard, tufted duck, common scoter, goldeneye, lapwing, common tern
Lough Ree SAC (440)	81.4 km	Annex I habitats: natural eutrophic lakes with Magnopotamion or Hydrocharition, semi-natural dry grasslands and scrubland facies on calcareous substrates, active raised bogs, degraded raised

Site name	Hydrological Distance from the Primary Discharge (SW001)	Qualifying Interests
		bogs capable of natural regeneration, alkaline fens, limestone pavements, bog woodland, alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> Annex II species: otter

A distant surface water pathway was identified between the proposed WW Operational Discharges (*i.e.*, Primary Discharge SW001, Dual Function Overflow SW003 and Network EO's SW004 – SW006) and the *Lough Sheelin* SPA, which is approx. 11.5 km downstream on the Mounnugent_020 river. A detailed assessment of potential impacts on the Operational Discharges will be carried out at Stage 2 of the Appropriate Assessment process. All other European sites associated with the Mounnugent / Inny Rivers (**Table 6**) are over 20 km downstream (*i.e.*, *Lough Kinale and Derragh Lough SPA, Lough Derravaragh SPA, Lough Iron SPA, Lough Ree SAC and SPA*). Any pollutants would be diluted to negligible concentrations over these distances, so therefore is not considered to be a feasible surface water pathway to any of these European sites.

The *River Boyne and River Blackwater SAC, River Boyne and River Blackwater SPA, White Lough, Ben Loughs and Lough Doo SAC and Lough Bane and Lough Glass SAC* are all part of the Boyne catchment. The Mounnugent_020 River is part of the Shannon catchment, so a surface water pathway to all of the above sites can be ruled out.

Two of the European sites listed in **Table 5** – the *Moneybeg and Clareisland Bogs SAC and Derragh Bog SAC* – were designated to protect raised bogs and associated habitats. Raised bogs are ombrotrophic habitats that are kept hydrated solely by rainwater and have no association with surrounding surface water or groundwater features. Therefore, despite the proximity of these SACs to rivers or lakes associated with the Mounnugent and Inny Rivers, there is no pathway by which surface water could reach the qualifying interests (peatland habitats) of these SACs.

Groundwater

There are no WW Operational discharges to groundwater and the Mounnugent_020 river does not feed any groundwater bodies, so a groundwater pathway can be ruled out.

Land

As noted above, the closest European site is more than 5 km from the WwTP. There is no risk that pollutants from the WW Operational Discharges could flow over land to reach this or any other European sites.

Air

The WW Operational Discharges to the aquatic environment and will not have any significant emissions to air, so this pathway can be ruled out.

Summary

In summary, a surface water pathway was identified to a number of European sites from the WW Operational Discharges, but all other pathways were ruled out.

Suitability for SPA bird species

There are no SPAs in the vicinity of the WW Operational Discharges (Primary Discharge SW001, Dual Function Overflow SW003 and Network EO's SW004 – SW006).

The Special Conservation Interests of most SPAs listed in **Table 5** and **Table 6** are wildfowl associated with freshwater lakes. The Mounnugent_020 River would be unsuitable for these species, so there is no risk that birds associated with these SPAs would use the river as an *ex-situ* habitat.

The *River Boyne and River Blackwater* SPA was designated to protect a population of kingfishers. The SPA is *ca.*13.3 km from the WwTP and is in a separate river catchment, so there is no feasible possibility that any kingfishers from the SPA could reach the Mounnugent_020 River.

Therefore, the receiving waters (Mounnugent_020 River) are of no importance as an *ex-situ* habitat for the Special Conservation Interests of any SPAs.

Conclusion of Stage 1: Screening Statement

In Section 3 of *Appropriate Assessment Screening for Development Management* (OPR 2021), it is stated that the first stage of the AA process can have two possible conclusions:

- **No likelihood of significant effects:** Appropriate assessment is not required and the planning application can proceed as normal. Documentation of the screening process including conclusions reached and the basis on which decisions were made must be kept on the planning file.
- **Significant effects cannot be excluded:** Appropriate assessment is required before permission can be granted. A Natura Impact Statement (NIS) will be required in order for the project to proceed.

A potential surface water pathway has been identified between the WW Operational Discharges (Primary Discharge SW001, Dual Function Overflow SW003 and Network EO's SW004 – SW006) and the *Lough Sheelin* SPA (site code 4065). Detailed assessment will be required before the risk of significant impacts can be excluded. Therefore, it will be necessary to proceed to Stage 2 of the Appropriate Assessment for these sites.

However, there is sufficient information at present to rule out impacts on all other European sites listed in **Table 5** and **Table 6**, so these sites will not need to be considered at Stage 2.

Stage 2: Appropriate Assessment

Introduction

This Stage 2 AA and NIS assesses potential adverse effects of the Operational Discharges from the Ballyjamesduff WW agglomeration on the integrity of the downstream *Lough Sheelin* SPA in view of its conservation objections. Potential adverse effects are assessed in view of best scientific knowledge and based on objective information in relation to the WW Operational Discharges including the proposed avoidance, reduction, and preventive measures.

Description of the European Site

Lough Sheelin SPA (site code 4065)

The Site Synopsis for the SPA is reproduced below:

“Lough Sheelin is a medium to large-sized lake, located on the border of Counties Cavan, Westmeath and Meath. It is a relatively shallow alkaline lake with a maximum depth of 14 m. The Inny River, a main tributary of the River Shannon, is the main outflow from the lake.

*The shore of the lake is wooded in places and there are some very small offshore islands with willows (*Salix aurita* and *S. cinerea*). The islands are fringed by swamp communities of Common Reed (*Phragmites australis*), Common Clubrush (*Scirpus lacustris*) and Bottle Sedge (*Carex rostrata*). A good range of Charophytes has been recorded from the lake, including *Chare denudata*, a Red Data Book species.*

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Great Crested Grebe, Pochard, Tufted Duck and Goldeneye. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Despite variable water quality in recent decades, Lough Sheelin remains a very important site for wintering waterfowl, especially diving duck. It supports nationally important populations of four species, i.e. Great Crested Grebe (140), Pochard (546), Tufted Duck (762) and Goldeneye (224) - all figures are mean peaks for the 5 winters 1995/96-1999/2000. A number of other species occur in relatively low numbers, including Mute Swan (28), Mallard (76), Coot (24), Little Grebe (19), Cormorant (42) and Black-headed Gull (202).

Lough Sheelin is a nationally important site for four species of wintering wildfowl and is one of the main Midlands lakes sites for wintering birds.”

Conservation Objectives of relevant European sites

The conservation objectives for the *Lough Sheelin* SPA are available at <https://www.npws.ie/protected-sites/spa/004065>; the latest revision was in January 2025. The SPA was designated to protect over-wintering (i.e. non breeding) populations of four birds: great crested

grebe, pochard, tufted duck, goldeneye. The conservation objectives are identical for each of these species; an example is provided in **Table 7**.

Table 7: Conservation Objectives for each Special Conservation Interest of the *Lough Sheelin* SPA

Attribute	Measure	Target
To restore the Favourable conservation condition of [relevant species] at <i>Lough Sheelin</i> SPA, which is defined by the following list of attributes and targets		
Winter population trend	Percentage change in number of individuals	Long term winter population trend is stable or increasing
Winter spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target
Disturbance at wintering site	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution
Barriers to connectivity and site use	Number, location, shape and hectares	Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA
Forage spatial distribution, extent and abundance	Location, hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target
Roost spatial distribution and extent	Location and hectares of roosting habitat	Sufficient number of locations, area and availability of suitable roosting habitat to support the population target

Impact Prediction

Impacts on Water Quality - SW001 (Primary Discharge)

The treated effluent from the upgraded WwTP will continue to be discharged to the Mountnugent_020 River. As noted previously, there are a number of European sites along the course of the Mountnugent and Inny Rivers, of which the closest is the *Lough Sheelin* SPA.

Water Quality Impact Assessment (WQIA) calculations were carried out to assess the potential effects of the treated effluent Primary Discharge on the Mountnugent_020 River (**Table 4**). It considered the DWF during prolonged periods of low rainfall, defined as the 95th percentile flow (the flow rate exceeded 95% of the time). This represents a worst case scenario, when the river would have least volume to dilute the treated effluent. At higher flows the dilution rate would be higher than provided by the model, so it is assumed that the dilution rate would be greater for the majority of the year. The model also considers the background concentrations of pollutants

recorded in the river, *i.e.* the pollutants already present in the river before it passes the proposed Primary Discharge (SW001).

Based on the proposed ELVs (Error! Reference source not found.), the predicted downstream concentrations of key parameters would be 2.168 mg/l BOD, 0.1060 mg/l total ammonia and 0.0535 mg/l ortho-phosphates. These values would comply with the *European Union Environmental Objectives (Surface Waters) Regulations 2009* (as amended).

The WFD requires EU member States to achieve water quality of at least “Good” WFD status by 2027. Compliance with the *European Union Environmental Objectives (Surface Waters) Regulations 2009* (as amended) means that the treated effluent from the WwTP would not prevent the Mountnugent_020 River achieving “Good” WFD status. This is complicated by the background levels of pollution in the watercourse: the river is of “Moderate” status upstream of the proposed Primary Discharge (SW001). Nonetheless, if the upstream sources of pollution were removed and it increased to “Good” status upstream of the proposed Primary Discharge (SW001), then the treated effluent would not prevent it achieving “Good” WFD status downstream of SW001.

On this basis, it can be concluded that the discharge of treated effluent to the Mountnugent_020 River would not have a significant negative effect on water quality in the river immediately downstream of the proposed Primary discharge (SW001). Over the 11.5 km of river between the WwTP and the *Lough Sheelin* SPA the residual pollutants would be diluted to negligible concentrations. There is no risk that it would conflict with any of the conservation objectives of the SPA (refer to **Table 7**), specifically:

- It will not reduce the winter population trends of any Special Conservation Interests
- It will not change the winter spatial distribution of any Special Conservation Interests
- It will not cause any disturbance at the wintering site
- It will not create any barriers to connectivity and site use
- It will not reduce the spatial distribution, extent and / or abundance of forage
- It will not change the spatial distribution and extent of roosts

In summary, the proposed Primary Discharge SW001 to the Mountnugent River will not affect the conservation objectives of the *Lough Sheelin* SPA, and thus will not affect the integrity of the European site.

SW003 – SWO Activation

Compliant SWOs are a necessary part of sewerage networks and serve to prevent uncontrolled spillages arising within the agglomeration and to prevent the biological processes necessary to treat effluent being compromised by inundation with excess water. The principal consideration to take account of in the assessment of the impact of overflows for water quality is that overflows will only occur in the event of sustained rainfall. The initial flushing flow arising from the first 5 mm of rain in a rainfall event is contained in the foul sump initially and will not be passed through to the storm tanks unless the capacity of the foul pumps is exceeded. This initial surface runoff flow will have the highest level of pollutants as it will wash in debris from impermeable surfaces and may dislodge settled solids in the sewer network. Flows entering a storm tank will then pass through a 6mm upward flow screen between the foul sump and storm sump. This will further retain a significant proportion of the organic matter, solids and rags in the foul sump. Flows will then be retained in the storm tanks (805m³) providing an opportunity for suspended solids to settle out. As

flow recedes, the storm tank contents are passed forward to the WwTP for treatment. If the storm tank reaches capacity a highly-diluted screened effluent is discharged. It is not possible to fully retain all stormwater due to septicity that arises with storage and the inability of treatment plant biological processes to cater for large volumes of dilute wastewater. In the case of Ballyjamesduff, SW003 will discharge *via* the same outfall and location as the Primary Discharge (SW001), which has been designed to meet the criteria as set out in the DoEHLG ‘*Procedures and Criteria in Relation to Storm Water Overflows*’, 1995. Diluted, settled and screened effluent which could be discharged during storm conditions, will enter a waterbody which will have increased volume and flow driven by sustained rainfall. In this context, the overflow discharges to the receiving waters will be diluted and dispersed effectively. Based on the above, it can be confidently concluded that should a SWO be activated from the WwTP the discharge will not affect the conservation objectives of the Lough Sheelin SPA and thus will not affect the integrity of the European site.

SW004, SW005 & SW006 (Network EOs) & EO Activation from SW003

The risks of sewer or outfall failure associated with extreme events resulting in the activation of EO’s, while a theoretical risk (as the failure of any infrastructure in catastrophic situations is theoretically possible), is not reasonably predicted to occur. Their inclusion in the agglomeration prevents the risk of uncontrolled emissions arising from other points in the network and spilling onto land or water in an unpredictable manner. All appropriate design measures and mitigation to prevent emergency overflows that can be applied has been incorporated in the design and operation of these discharges. These overflows should they occur in a rare event will be temporary (short-lived) and have no long-term negative impact on the waterbody quality. Based on the above, it can be confidently concluded that should an EO be activated from the agglomeration the discharge will not affect the conservation objectives of the Lough Sheelin SPA and thus will not affect the integrity of the European site.

Assessment of potential in-combination effects

Plans or projects in Ballyjamesduff

A land-use zoning map for Ballyjamesduff was included in the county development plan. The WwTP is zoned for ‘mixed / general community services / facilities uses’, and undeveloped land to the north is zoned for ‘industrial, enterprise, employment’. A corridor along the Mountnugent River to the west of the town is zoned for ‘open space / park’. Subject to this zoning, it is possible that there will be other development in the vicinity of the WwTP, but not within or adjacent to the Mountnugent River.

Live and recently-approved developments in the surrounding area were viewed on the local authority’s planning database. None were identified in the vicinity of the Operational Discharges or along the Mountnugent River. Therefore, no risk of in-combination effects was identified.

Other EPA-licensed facilities

As noted previously, the Mountnugent_020 River is of “*Moderate*” WFD status upstream of the WwTP, which indicates other potential sources of pollutant upstream in the catchment. There are two other EPA licensed activities in Ballyjamesduff:

- A former landfill (capped in 2002) in the north of Ballyjamesduff (EPA licence W0093)

- An Industrial Emissions Licence (EPA licence P0544) for Gleneagle Woodcraft Ltd, subsequently withdrawn

Landfill leachate can negatively affect water quality. However, monitoring of emissions to water and air from the landfill is reported in the Annual Environmental Report, and all were reported to be within the ELVs in the waste licence. Therefore, it is considered unlikely that the landfill is responsible for the Moderate status of the Mountnugent River.

Agricultural activities

Runoff of nitrates and phosphates from agricultural land is the most common form of pollution in Irish waterbodies, and it is considered most likely to be the cause of the Moderate status in the Mountnugent River. Agricultural pollution is diffuse and seasonal, so it is difficult to draw any conclusions about potential in-combination effects.

Based on the above it is considered cumulatively with the Ballyjamesduff WW agglomeration Operational Discharges, there is no potential for negative cumulative effects on any qualifying interests of the Lough Sheelin SPA or any other European site.

Mitigation Measures

The assessment that the Operational Discharges from the Ballyjamesduff WW agglomeration (*i.e.*, Primary Discharge (SW001), WwTP Dual Function Overflow (SW003) & WW Network EOs (SW004-SW006)) do not have the potential to adversely affect the qualifying interests of the Lough Sheelin SPA, in-combination with other catchment pressures, and hence no specific mitigation measures are required.

To ensure satisfactory operation of the Ballyjamesduff WW agglomeration Operational Discharges, the author recommends the following:

- Ensure that the capacity of the new WwTP is not exceeded.
- Ensure the Primary Discharge (SW001) operates in compliance with its current/proposed ELVs.
- Ensure that the SW003 operates in line with the criteria as set out in the DoEHLG ‘*Procedures and Criteria in Relation to Storm Water Overflows*’, 1995;
- Monitoring of the final treated effluent (SW001) and receiving waters in line with the requirements as set out in Schedule A.1 and B.2 of the WWDL (D0256-01).

Conclusion of Stage 2: Appropriate Assessment

This NIS has been prepared following the EPA (2009) ‘*Note on Appropriate Assessments for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007)*’. The Department of the Environment, Heritage and Local Government guidance ‘*Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities*’ (DoEHLG, 2009) has also been taken into account. This NIS for the Waste Water Discharge Authorisation investigates the potential adverse effects on the aquatic qualifying interests of the Natura 2000 network arising from the Ballyjamesduff WW agglomeration Operational Discharges, in

combination with other plans / projects affecting the aquatic environment. The assessment considers whether the WW agglomeration Operational Discharges, alone or in combination with other projects or plans, will have adverse effects on the *integrity* of a European site in view of its conservation objectives, and includes consideration of any mitigation measures that may be necessary to avoid, reduce or offset negative effects. Its purpose is to assist the competent authority, the EPA, in carrying out its AA of the WWDL (D0256-01) Review Application.

Based on the assessment herein, it has been concluded that there will be no adverse effects on the integrity of the Lough Sheelin SPA, or any other European Sites, in view of these site's conservation objectives.

It is therefore concluded that the Ballyjamesduff WW agglomeration Operational Discharges (Primary Discharge (SW001), WwTP Dual Function Overflow (SW003) & WW Network EOs (SW004-SW006)), alone or in-combination with other plans and / or projects will not give rise to adverse effects on the integrity of the Lough Sheelin SPA, or any other European Site.

References

Chartered Institute of Ecology and Environmental Management, 2018. *Guidelines for Ecological Impact Assessment in the U.K and Ireland: Terrestrial, Freshwater and Coastal* (2nd Edition). C.I.E.E.M., Hampshire, England.

Department of the Environment, Heritage and Local Government, 2009. *Appropriate Assessment of Plans and Projects in Ireland*. National Parks and Wildlife Service, DAHG, Dublin, Ireland.

European Commission. 2002. *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. Office for Official Publications of the European Communities, Luxembourg.

Office of the Planning Regulator 2021. *Practice Note PN01: Appropriate Assessment Screening for Development Management*. Available online at opr.ie