Waste Water Discharge Authorisation

Application Form

EPA Ref. Nº: *(Office use only)*	

Environmental Protection Agency
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ABOUT THIS APPLICATION FORM

This Application Form is for the purpose of making an application for a Waste Water Discharge Authorisation under the European Union (Waste Water Discharge) Regulations 2007 to 2020, or for the review of an existing Waste Water Discharge authorisation. It should be completed in accordance with the Guidance Document which is available on www.epa.ie.

A valid application for a Waste Water Discharge Authorisation must contain the information prescribed in the European Union (Waste Water Discharge) Regulations 2007 to 2020. Regulations 16 and 24 set out the statutory information requirements for a Waste Water Discharge licence (WWDL) and a Certificate of Authorisation (CoA) application respectively.

Neither this Application Form nor the guidance document purport to be and should not be considered a legal interpretation of the provisions and requirements of the European Union (Waste Water Discharge) Regulations 2007 to 2020.

While every effort has been made to ensure the accuracy of the material contained in this Application Form, the EPA assumes no responsibility and gives no guarantees, undertakings or warranties concerning the accuracy, completeness or up-to-date nature of the information provided herein and does not accept any liability whatsoever arising from any errors or omissions.

Should there be any contradiction between the information requirements set out in this Application Form and any clarifying explanation contained in the Guidance Note, then the requirements in this Application Form should take precedence. The requirements of the Regulations shall take precedence over any considerations mentioned in this Application Form, the guidance document or on the website.

The Application Form comprises sections A-E as follows:

Section A:	Non-Technical Summary
Section B:	General
Section C:	Discharges & Monitoring
Section D:	Impact Assessment
Section E:	Declaration

SECTION A: NON-TECHNICAL SUMMARY

Advice on completing this section is provided in the accompanying Guidance Document.

A.1 Non-Technical Summary

This part of the Application Form collects a Non-Technical Summary which identifies all environmental impacts of significance associated with the discharge of waste water from the waste water works.

A1.1 Supporting documents

Complete the following table and submit the relevant supporting document as Attachment A1 in accordance with the guidance.

Table 1 - Non-Technical Summary Document Name

Document type	Document name
Non-technical summary	**Attachment A.1.1**: Non-Technical Summary, June 2023 **Attachment A.1.2**: Map 1 - Area of Interest

SECTION B: GENERAL

Advice on completing this section is provided in the accompanying Guidance Document.

B.1 Application Details

This part of the form collects contact details, the type of application, and the location and size of the agglomeration.

B.1.1 Application Type

This part of the form collects details of the type of application being made.

Table 2 – Application Type

		Tick as appropriate (✓)
A	Application for the review of an existing authorisation	✓
B	New application for a licence in respect of which the Agency has previously granted a certificate	
C	New application for a licence for discharges (>500 P.E)	
D	New application for a certificate for discharges (< 500 P.E.)	

If A or B are applicable, provide the following information:

Current EPA Authorisation Register Number(s)	D0056-01

If A is applicable, provide the following information:

Grounds for review on which the application is being made:
Uisce Éireann are submitting this licence review of the existing Waste Water Discharge Licence (WWDL) (Reg No. D0056-01) for the Midleton Agglomeration in accordance with Regulation 14(1)(b) of the European Union (Waste Water Discharge) Regulations 2007-2020 (as amended) to the Environmental Protection Agency (EPA). This review includes for the amalgamation of the Carrigtwohill agglomeration into the above licence, thereby giving an agglomeration with a total design p.e. of 48,750. This p.e. is a combination of the design p.e. for Carrigtwohilll Wastewater Treatment Plant (WwTP), Midleton WwTP, and Industrial Emission (IE) discharges downstream of the Midleton WwTP. The reasons for the review of the Midleton licence (D0056-01) are due to:

1. Industrial connection (P1103-01 - Dairygold Co-operative Society Ltd. and TINE) into the UÉ network downstream of the Midleton WwTP
2. The amalgamation of Carrigtwohill and Environs licence into the Midleton licence, thereby resulting in an increase in PE over that which is authorised in the Midleton Licence
3. Change to Emission Limit Values (ELVs) (*e.g*, replacing TON and NH_3 ELVs with DIN for Carrigtwohill and pH range change for Midleton) deemed necessary to support the water quality objectives of the receiving waterbodies.

Some relevant changes to the Midleton Licence as a result of this review include:

4. The regularisation of a number of additional overflows
5. Agglomeration boundary changes
6. Change to the Carrigtwohill downstream ambient monitoring station

If C or D are applicable, provide the following information:

Date on which the waste water works became / becomes operational:	Not applicable

In the case of an application for a licence (review), confirm the agglomeration population equivalent (p.e.):

Table 3 - Agglomeration p.e. thresholds

Discharges from agglomerations with a p.e. of	Tick as appropriate (✓)
more than 10,000	✓
2,001 to 10,000	
1,001 to 2,000	
500 to 1,000	

B.1.2 Applicant's Details

Provide the following information:

Table 4 - Name and Address of Applicant

Name*:	Uisce Éireann
Address:	Colvill House 24-26 Talbot Street Dublin 1
CRO Number:	530363
Tel:	01 8925000
e-mail:	WasteWaterLicensingSouthern@water.ie

**This should be the name of the water services authority in whose ownership or control the waste water works is vested.*

Note that only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.

Table 5 – Name and Address for Correspondence

Name*:	Peter Keegan
Address:	Colvill House 24-26 Talbot Street Dublin 1
Tel:	01 8925000
e-mail:	WasteWaterLicensingSouthern@water.ie

**This should be the name of person nominated by the water services authority for the purposes of the application.*

B.2. Agglomeration Details

This part of the form collects details of the agglomeration, the waste water works and any associated waste water treatment plant, capacity details and waste water inputs.

B.2.1 Agglomeration name and Geographical Location

Table 6 - Agglomeration Name and Location

Name of Agglomeration:	Midleton-Carrigtwohill
Name of townland or townlands of the agglomeration served by a waste water works to which the application relates:	Ballyrichard Beg, Clyduff, Carrigane, Kilmountain, Carrigona, Mogeely, Clashduff, Gortnamucky, Gortagousta, Anngrove, Ballyannan, Baneshane, Gurteenina, Broomfield West, Knockgriffen (Barrymore), Park North, Whiterock, Burgesland, Glebe, Carrigeennamoe, Tullagreen, Ballynacorra East, Ballyvodock East, Kilbree, Killacloyne, Ballyrichard More, Ballynacorra, Ballynacorra West, Killamucky, Townparks, Castleredmond, Stumphill, Fahydorgan, Broomfield East, Carrigtohill, Bawnward East, Bawnyard West, Knockgriffen (Imokilly), Park South, Cahermone, Terry's-land, Carrigagour, Ballynabointra, Water-Rock, Churchtown, Rathcoursey West, Loughatalia, Knockgorm, School-land, Ballycrenane Beg, Garryduff, Rathcoursey East, Woodstock, Ballyedekin, Ballyadam, Killeagh, Dunsfort, Ballynascarthy, Oatencake, Foaty, Carrigatogher, Springhill, Poulaniska, Knockasturkeen, Scarriff, Carhoo, Innygraga, Barryscourt, Tead More, Loughaderry, Curragh, and Butlerstown
Included on EPA Waste Water Priority List?	Yes (Midleton only)
Included on European Commission infringement list?	Yes (Midleton only)

B.2.2 Waste water works and associated Waste Water Treatment Plant(s)

Table 7 - Waste Water Works

Description of the **existing** waste water works (**as per D0056-01**):	Midleton is a settlement located approximately 20km east of Cork City on the Owennacurra River and the N25 road, connecting Cork to Rosslare. It is an important metropolitan of Cork City. The WwTP is in the townland of Garryduff in the southeast of Midleton and serves the agglomeration of Midleton. The wastewater in the agglomeration is collected in a partially combined foul and surface water drainage network. The Midleton agglomeration is currently non-compliant with Article 3 of the Urban Wastewater Treatment Directive (UWWTD) (91/271/EEC) and as such is the subject of an infringement notice from the European Court of Justice (ECJ). Uisce Éireann has committed that all works necessary to achieve network compliance in Midleton will be completed by Q4 2029. The treated wastewater arising from the Midleton agglomeration is a mix of domestic, commercial, and industrial and varies daily, weekly, and seasonally. Irish Distillers (P0442-02) and Dairygold Co-operative Society Ltd. and TINE (P1103-01) treated effluent bypasses the Midleton WwTP and combines with treated effluent from the Midleton WwTP before discharging to the North Channel at NGR 186177E, 69506N. The inclusion of the P1103-01 industrial connection into the UÉ network, is one of the key drivers of the WWDL review. *Midleton WwTP* The WwTP is located at NGR 187505E, 72801N and has a design capacity of 15,000 p.e, following an upgrade to the plant in 2012. The current organic loading (peak weekly load) is 16,652 p.e. (Source: 2022 AER), and therefore the plant is currently organically overloaded. The current WwTP provides secondary treatment using extended aeration followed by clarification, and tertiary treatment *via* UV disinfection of the final effluent. The original Midleton WwTP which opened in 2000 has two identical Streams, Stream 1 and Stream 2. In early 2012 an additional third treatment stream (Stream 3) was constructed as part of improvement works to increase the capacity of the plant by 50%. The main WwTP process stages consist of the following: • **Inlet Works** – The inlet works consist of 2 no. screens, 2 no. macerator pumps and liquid separator, aerated grit and grease removal system, flow measurement and grit classifier with 3 no. grit suction pumps, gas detection system, 2 no. air blowers and skip.

- **Aeration System** – Secondary treatment is provided at the WwTP *via* extended aeration. Screened influent passes to the aeration tanks, the aeration system comprises 2 no. separate lanes, with 4 no. aeration chambers per lane. The first chamber acts as an anoxic zone, each chamber is equipped with fine bubble membrane disc aeration under dissolved oxygen control. A central mixer in each cell ensures adequate mixing during those periods when the air supply to the diffusers is switched off, due to high dissolved oxygen. For Stream 3, in addition to an anoxic zone, there is also an anaerobic zone in the aeration system.
- **Settlement** – There are 3 no. final settlement tanks. Surplus Activated Sludge (SAS) is withdrawn between the aeration tank and final settlement tank for each process stream. The SAS is pumped to 1 no. 5.4m diameter picket fence thickener for thickening from 0.5% to 3% Dry Solids. Return Activated Sludge (RAS) is withdrawn from the bottom of each final settlement tank and is pumped back into the inlet of the aeration tank *via* the RAS Pumping Station.
- **UV Disinfection** – There are two separate UV systems on the outlet from the Midleton WwTP. Streams 1 and 2 are treated using a Wedeco system and Stream 3 is treated using a Trojan system.
- **Sludge Treatment** – The sludge treatment process consists of a raw sludge holding tank, sludge return chamber with 2 no. RAS pumps, SAS chamber with 2 no. SAS pumps, a sludge holding tank with a picket fence thickener, and a dewatering room.

The design flows for the Midleton WwTP are provided below:

Parameter	Design Flow Rate
Dry Weather Flow (DWF)	3,456 m^3/d
Peak Hydraulic Capacity – as constructed	10,368 m^3/d

Treated effluent from the WwTP discharges to the North Channel Great Island transitional waterbody at Rathcoursey *via* a diffuser after passing through Rathcoursey Tidal Holding Tank at NGR 186177E, 69506N (SW001). The Rathcoursey Holding Tank also collects the treated wastewater from Industrial discharges P0442-02 and P1103-01. There are two sets of monitoring undertaken at Midleton, at the primary discharge point to meet Licence ELV's, and at the WwTP to meet UWWTD requirements.

The **existing** licensed ELVs as per Schedule A and Condition 2.1. of the D0056-01 licence for the primary discharge (SW001) from Midleton WwTP are tabled below.

Parameter	Emission Limit Value
BOD	25 mg/l
COD	125 mg/l
Suspended Solids	35 mg/l
Total Nitrogen (as N)	15 mg/l
Ortho-P (as P)	2 mg/l
E.Coli	GM ≤250 ec/100mls & 95%ile ≤ 1000 ec/100mls
pH	6.5 - 9

As the existing Midleton primary discharge is a combined outfall and discharges treated effluent from Midleton WwTP, Industries P0442-02 and P1103-01, the following ELVs currently apply directly at the Midleton WwTP as per condition 4.16 of the original licence in order to comply with the UWWTD requirements. Compliance at the WwTP is monitored under SW100.

Parameter	Emission Limit Value at WwTP
BOD	25 mg/l
COD	125 mg/l
Suspended Solids	35 mg/l
Total Nitrogen (as N)	15 mg/l

For further details on the discharges applicable to the Midleton functional area, refer to existing *Discharge Scenario as per D0056-01* below.

Network Pumping Stations

There are 22 no. Pumping Stations on the Midleton network. 8 no. Pumping Stations have associated Dual Function Overflows *i.e.,* overflows which can act as a Storm Water Overflow (SWO) or as an Emergency Overflow (EO) depending on the event. 3 no. have EOs only. The remaining 11 no. Pumping Stations have no overflows associated with them.

Details of the Pumping Stations in the Midleton agglomeration their locations (NGRs) and their associated type of discharge are provided below:

Pumping Station (PS)	Discharge Type	Pumping Station Location (NGR)
Bailick No.1 PS	SWO/EO *	188023, 73121
Bailick No.2 PS	SWO/EO *	188077, 72532
Ballinacurra No.1 PS	EO	188366, 71772
Ballinacurra No.2 PS	SWO/EO *	188521, 71770
Bailick No.3 PS	EO	188341, 72094

	Dwyers Road PS	SWO/EO *	187482, 72922
	Oakwood PS	EO	188768, 73168
	Roxboro Mews PS	SWO/EO	188327, 73378
	The Rock PS	SWO/EO	188276, 73227
	Roxboro Housing Estate PS	SWO/EO	188337, 73316
	Old Youghal Road PS	SWO/EO	188734, 73020
	Lake View PS	Not Applicable	188534, 72618
	Dungourney Road PS	Not Applicable	188624, 74012
	Beechwood Housing Estate PS	Not Applicable	188773, 73172
	Willowbank Housing Estate PS	Not Applicable	187438, 74636
	The Lodge PS	Not Applicable	188610, 73296
	Hyde Park PS	Not Applicable	188645, 71246
	Millbrook Housing Estate PS	Not Applicable	187723, 74050
	Abbeywood PS	Not Applicable	186624, 73323
	Broomfields PS	Not Applicable	188731, 74718
	Castle Rock Housing Estate PS	Not Applicable	186391, 73182
	Tir Cluain PS	Not Applicable	187273, 75201

** Currently licensed under D0056-01*

Refer to the subsections below for details on the number and type of waste water discharges from the agglomeration, including those proposed under this WWDL review application.

Description of the **existing** waste water works (**as per D0044-01**):	Carrigtwohill is a town located 14 km east of Cork City along the N25. Carrigtwohill is an important hub for many pharmaceutical and biotechnology industries in Cork. The WwTP is located in the townland of Tullagreen to the south of the town and can be accessed *via* the R624. The waste water in Carrigtwohill is collected in a partially combined waste water network. The waste water from the agglomeration arises from domestic and industrial loads. Sewage from industry is collected *via* the public sewer and is combined with domestic waste water before entering the WwTP. *Carrigtwohill WwTP*

The WwTP is located at Tullagreen, Carrigtwohill. In June 2016 a new WwTP was commissioned which increased the WwTP capacity to 30,000 p.e. The current organic loading (peak weekly load) is 8,654 p.e. (Source: 2022 AER).

The current WwTP provides tertiary N and P removal. The treatment process is Nerada (Aerobic Granular Sludge process) which provides for N and P removal. A backup chemical dosing system is also provided for P removal.

The main WwTP process stages consist of:

- **Inlet Works**: The waste water delivery to the works is by gravity and pumping from three forward pumping stations. (*i.e.,* Barryscourt Pumping Station, IDA No.1 Pumping Station, and Old Cobh Road Pumping Station complete with storm tanks).
- **Preliminary Treatment**: Flows are stored in the inlet sump until the foul pumps are activated, delivering flow to the preliminary works which consists of inlet fine screens and aerated grit/grease removal of Oils, Fats, and Grease.
- **Secondary Biological Treatment:** Secondary treatment is provided at the WwTP using Nereda technology. The pre-treated influent flows by gravity to an influent buffer in between Nereda cycles, which is then pumped to the Nereda reactors during the feeding stage, only 1 no. Nereda reactor is in the feed phase at a time. Aeration is assisted by 2 no. Nereda reactors supported by 2 (+1) blowers (blower group dedicated to aeration header, aeration header dedicated to Nereda reactor). This allows for nutrient removal (Phosphorus and Nitrogen) to achieve annual mean standards.
- **Tertiary Treatment:** The treatment process Nerada (Aerobic Granular Sludge process) provides for Nitrogen and Phosphorous removal. A backup chemical dosing system is also provided for Phosphorus removal.
- **Sludge Treatment:** The WwTP comprises a sludge reception and can facilitate the storage of imported sludge. Sludge from the sludge buffer tank is pumped to the Picket Fence Thickener (PFT). Sludge dewatering is assisted by two centrifuges (duty/standby). There is poly-dosing equipment to assist with the dewatering process.

The design flows for the Carrigtwohill WwTP are provided below (for 30,000 p.e. plant);

Parameter	Design Flow Rate
Dry Weather Flow (DWF)	6,750 m^3/day
Peak Hydraulic Capacity – as constructed	20,250 m^3/day

Treated effluent from the WwTP discharges directly to the Lough Mahon (Harper's Island) transitional waterbody at NGR 179911E, 72583N (SW001) which is part of the Lee, Cork Harbour, and Youghal Bay catchment area (HA 19).

The **existing** licensed ELVs for the primary discharge from Carrigtwohill WwTP as per D0044-01 are tabled below.

Parameter	Emission Limit Value
BOD	25 mg/l
COD	125 mg/l
Suspended Solids	35 mg/l
Total Phosphorous (as P)	1 mg/l
Ortho-P (as P)	0.5 mg/l
TON	20 mg/l
Ammonia (Total)	5 mg/l
pH	6 - 9

For further details on the discharges applicable to the Carrigtwohill functional area, refer to existing *Discharge Scenario as per D0044-01* below for further details.

Network Pumping Stations

There are currently 4 no. Pumping Stations on the Carrigtwohill network, of which 3 no. have associated Dual Function Overflows, as tabled below.

Details of the Pumping Stations in the Carrigtwohill agglomeration, their locations (NGRs) and their associated discharge type are provided below:

Pumping Station	Discharge Type	Pumping Station Location (NGR)
Barrycourt Pumping Station *	SWO and EO	181249, 72271
IDA No.1 Pumping Station *	SWO and EO	181084, 72906
Old Cobh Road Pumping Station	SWO and EO	181357, 72693
Bog Road Pumping Station	No Discharge	183290, 73829

**Currently licenced under D0044-01*

Description of **proposed development**, if any, to which the application relates:

The Midleton WwTP (Design p.e. 15,000) is currently organically overloaded at 16,652 p.e. (Source: 2022 AER) and does not have the capacity to cater for current loads in the Midleton agglomeration. In addition, there is a significant demand for housing development in Midleton and therefore wastewater

upgrades are required to cater for future population and economic growth.

Midleton Waste Water Load Diversion Project

In order to relieve the capacity of the Midleton WwTP and agglomeration, the Midleton Local Infrastructure Housing Activation Fund (LIHAF) Wastewater Project, which commenced construction in June 2022 (on the Water Rock pipeline to Carrigtwohill), will divert waste water loads from the Midleton agglomeration to the existing Carrigtwohill and Environs WwTP (Design p.e. 30,000). The current p.e. of the Carrigtwohill and Environs WwTP is 8,654 (Source: 2022 AER) meaning there is significant spare capacity to cater for these proposed diverted loads. This will involve the amalgamation of the Carrigtwohill and Environs agglomeration into the Midleton licence D0056-01, thereby leading to the surrender of Carrigtwohill licence D0044-01.

The total p.e. of which the amalgamated agglomeration relates to will be 48,750 p.e. which is a combination of the design p.e for Carrigtwohill and Midleton WwTP (30,000 & 15,000 p.e.) and the treated IE discharges bypassing the Midleton WwTP (3,750 p.e.).

To cater for the above, two new Pumping Stations, one at Midleton North and one at Water Rock are required to be constructed. The following new network infrastructure will be delivered as part of the Midleton Waste Water Load diversion Project:

- *ca*. 30m of underground pipeline to connect the existing foul network on the Mill Road to the new Midleton North Pumping Station;
- *ca*. 650m of underground pipeline to connect the new Midleton North Pumping Station to the new Water Rock Pumping Station;
- *ca*. 7km of underground pipeline to connect the Water Rock Pumping Station to the existing foul sewer network in Carrigtwohill.

See below for further details on the Projects under which the above infrastructure will be constructed.

Midleton North Pumping Station and Network

Timeframes for the construction and commissioning of Midleton North Pumping Station and Network are contingent on the successful grant of planning following an appeal to An Bord Pleanála – refer to **Section B.3**.

The Midleton North Pumping Station and Network will consist of:

1. A new pumping station with below ground wet well chambers, 2 no. above ground kiosks, vent stack (*ca*. 6.2m

	in height), telemetry pole (*ca*. 6m in height), boundary fencing, retaining wall, and modifications to an existing entrance from Mill Road, including new gates to facilitate vehicular and pedestrian access. 2. The construction of a below ground pipeline (*ca*. 650m long) connecting the proposed wastewater Pumping Station to the previously approved Water-Rock Pumping Station. 3. The construction of *ca*. 30m of an underground pipeline to connect the existing foul network on the Mill Road to the proposed foul Pumping Station. The Midleton North Pumping Station, which will be sized for future growth, will draw an existing wastewater load (*ca*. 4,177 p.e) from the existing sewerage network system in Midleton and will divert this load to the Water Rock Pumping Station and onto Carrigtwohill WwTP for treatment. This will provide immediate relief at the Midleton WwTP. There will be no storage, SWO or EO at the new Midleton North Pumping Station. In the event that flows in the existing sewer exceed the pumping capacity of the Midleton North Pumping Station, surplus flows will return into the Midleton network, *via* a bifurcation chamber, and ultimately back to the Midleton WwTP for treatment, as per the current treatment situation. Refer to **Section B.3** for Planning details. *Water Rock Pumping Station* The Water Rock Pumping Station will comprise of the following below and above ground features: 1. An inlet manhole. 2. Valve and meter chambers. 3. A wet well. 4. An emergency overflow storage tank. 5. A control building which will include welfare facilities for operatives. 6. Two kiosks (wet kiosk & control kiosk). 7. A galvanised steel decorative vent stack with protective grill. 8. Ground level chamber and manhole covers. This Pumping Station will facilitate the future development of the Water Rock Urban Expansion Area (UEA) (*ca.* 7,000 p.e.) and convey the foul wastewater to the Carrigtwohill WwTP *via* the new 7km Water Rock pipeline. The construction of the Water Rock Pump Station is scheduled for completion in December 2023. This will come into operation when both Pumping Stations are complete (Water Rock and Midleton North).

	Water Rock Pipeline to Carrigtwohill The proposed Water Rock to Carrigtwohill rising main will comprise of the following: 1. The construction of a new 450mm diameter foul pipe network of *ca.* 7km in length, and all associated ancillary works. The pipeline will connect the Water Rock Pumping Station to the existing foul sewer network in Carrigtwohill. This new network is expected to be constructed by *ca.* December 2023. Refer to **Section B.3** for Planning details. Refer to *Discharges as per Subject Matter of Licence Review* below for details on the proposed discharges (*i.e.*, primary, secondary and overflows) from the amalgamated agglomeration. Details on the WwTPs have been provided in *Description of the existing waste water works* above. This licence review application does not relate to any upgrades works associated with the Carrigtwohill and Midleton WwTPs.
Number and type of waste water discharges from the waste water works including proposed waste water discharges:	**Discharge Scenario as per D0056-01** *Primary Discharge (SW001):* Treated effluent from the WwTP discharges directly to the North Channel Great Island at Rathcoursey Point at NGR 186177E, 69506N. *Secondary Discharges:* There are no secondary discharge points associated with the waste water works. *Overflows:* There are 13 no. overflows within the agglomeration. 11 no. of these are associated with Pumping Stations, of which 8 no. act as Dual Function Overflows. The remaining 3 no. overflows from Pumping Stations act as EOs (*i.e.*, Bailick No. 3 Pumping Station, Ballinacurra No.1 Pumping Station, and Oakwood Pumping Station). There are 2 no. SWOs associated with the network at Riversfield Estate and Drury's Avenue. 4 no. of overflows (*i.e.,* SW03MIDL, SW04MIDL, SW05MIDL, and SW07MIDL) in the Midleton functional area are currently licenced under D0056-01. An additional 9 overflows (SW013, SW015, SW016, SW017, SW018, SW019, SW020, SW021 and SW022) will be regularised as part of the D0056-01 WWDL review.

Current Licence Name	Asset	SWO/EO	Overflow Discharge Location Coords (NGR)
SW03MIDL*	Bailick No. 1 Pumping Station	SWO/EO	187975, 73109
SW04MIDL*	Bailick No. 2 Pumping Station	SWO/EO	188047, 72518
SW05MIDL	Ballinacurra No. 2 Pumping Station	SWO/EO	188518, 71783
Not Available	Bailick No. 3 Pumping Station	EO	188272, 72060
SW07MIDL	Dwyers Road Pumping Station	SWO/EO	187475, 72902
Not Available	Oakwood Pumping Station	EO	188573, 73373
Not Available	Roxboro Mews Pumping Station	SWO/EO	188346, 73332
Not Available	The Rock Pumping Station	SWO/EO	188265, 73232
Not Available	Roxboro Housing Estate Pumping Station	SWO/EO	188332, 73316
Not Available	Old Youghal Road Pumping Station	SWO/EO	188703 73401
Not Available *	Riversfield Estate SWO (Network)	SWO	187687, 73025
Not Available	Drury's Avenue SWO (Network)	SWO	188346, 73332
Not Available	Ballinacurra No.1 Pumping Station	EO	188366, 71791

* Do not meet criteria as set out in the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows', 1995*.

Discharge Scenario as per D0044-01

Primary Discharge (SW001)

Treated effluent from the Carrigtwohill WwTP discharges to Lough Mahon (Harper's Island) at NGR 179911E, 72583N.

Secondary Discharge

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

Overflows

There are 6 no. overflows within the agglomeration. 3 no. of these are associated with Pumping Stations and act as Dual Function Overflows. There are 3 no. SWOs, 2 no. associated with the network and 1 no. located at the Carrigtwohill WwTP.

2 no. of overflows (*i.e.,* SW003 and SW004) in the Carrigtwohill functional area are currently licenced as part of the D0044-01 licence, these 2 no. of overflows and 4 no. of additional overflows (SW005, SW006, SW007, and SW008) will be regularised as part of the D0056-01 WWDL review.

Current Licence Name	Asset	SWO/ EO	Overflow Discharge Location Coords (NGR) as per WWDL
Not Available	Located at Carrigtwohill WwTP	SWO	179911, 72605
SW003	Barryscourt Pumping Station	SWO/EO	181276, 72256
Not Available	Church Lane (Network)	SWO	181544, 73040
Not Available	Elm Road (Network)	SWO	181544, 73040
SW004	IDA Pumping Station No.1	SWO/EO	181133, 72310
Not Available	Old Cobh Road PS	SWO/EO	180594, 72283

All 6 no. SWOs in the Carrigtwohill agglomeration meet the definition of '*Storm Water Overflow*' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007-2020 and meet the criteria as set out in the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows', 1995*'.

Discharges as per Subject Matter of Licence Review

Primary Discharge (SW009):

The proposed primary discharge (SW009) from the amalgamated Midleton-Carrigtwohill agglomeration will be the current primary discharge from the Carrigtwohill WwTP as per D0044-01 *i.e.,* discharge to Lough Mahon (Harper's Island) at NGR 179911E, 72583N. It is proposed to replace the existing primary discharge code SW001 to SW009 as part of this licence review.

The proposed ELVs for the proposed primary discharge (SW009) are as follows:

Parameter	SW009 Emission Limit Value
BOD	25 mg/l
COD	125 mg/l
Suspended Solids	35 mg/l
Total Nitrogen (as N)	15 mg/l
DIN	25 mg/l
Ortho-P (as P)	0.5 mg/l
pH	6 - 9

The proposed change to ELVs for the Carrigtwohill discharge point (*i.e.*, replacing TON and NH_3 ELVs with DIN) were deemed necessary to support the water quality objectives of the receiving waterbodies.

The European Communities Environmental Objective (Surface Waters) Regulations 2009 (as amended) set DIN standard depending on the salinity of the coastal water body. The Surface Water Regulations do not set EQS for Ammonia or TON in Coastal or Transitional waters. While it is acknowledged the receiving waters are Transitional, if the Agency require ELVs for Nitrogen, it is proposed that DIN is the stipulated ELV instead of TON and NH_3.

Secondary Discharge (SW001):

The secondary discharge (SW001) will be from the current primary discharge from the Midleton WwTP as per D0056-01 *i.e.,* discharge to North Channel Great Island at Rathcoursey Point at NGR 186177E, 69506N. It is proposed for SW001 to remain as the code for the Midleton secondary discharge as part of this licence review.

The proposed ELVs for the secondary discharge (SW001) are as follows:

Parameter	SW001 Emission Limit Value
BOD	25 mg/l
COD	125 mg/l
Suspended Solids	35 mg/l
Total Nitrogen (as N)	15 mg/l
Ortho-P (as P)	2 mg/l
E.Coli	GM ≤250 ec/100mls & 95%ile ≤ 1000 ec/100mls
pH *	6 - 9

Under this licence review a change to the pH ELV for the Midleton discharge point (*e.g.*, pH range change) is proposed. This is

deemed necessary to support the water quality objectives of the receiving waterbodies and to ensure consistency with pH limits nationally for WWDAs

As the secondary discharge is a combined outfall and discharges treated effluent from Midleton WwTP, Industries P0442-02 and P1103-01, the following ELVs currently apply directly at the Midleton WwTP as per condition 4.16 of the original licence in order to comply with the UWWTD requirements. Compliance at the WwTP is monitored under SW100. There are no proposed changes to the ELVs that apply directly at the WwTP.

Parameter	Emission Limit Value at WwTP
BOD	25 mg/l
COD	125 mg/l
Suspended Solids	35 mg/l
Total Nitrogen (as N)	15 mg/l

A Water Quality Modelling Assessment is currently being finalised to determine the potential impact of the Carrigtwohill and Midleton proposed primary and secondary discharges on the receiving water environment.

Proposed Overflows:
Tabled below are the 19 no. overflows associated with this licence review.

Overflow	Asset	Type	Discharge Location NGR	DoEHLG criteria
SW005	Located at Carrigtwohill WwTP	SWO	179911, 72605	Meeting
SW003*	Barryscourt Pumping Station	SWO/EO	181276, 72256	Meeting
SW004*	IDA Pumping Station No.1	SWO/EO	181133, 72310	Meeting
SW006	Church Lane (Network)	SWO	181544, 73040	Meeting
SW007	Elm Road (Network)	SWO	181544, 73040	Meeting
SW008	Old Cobh Road PS	SWO/EO	180594, 72283	Meeting
SW010**	Bailick No. 1 Pumping Station	SWO/EO	187975, 73109	Not Meeting***
SW011**	Bailick No. 2 Pumping Station	SWO/EO	188047, 72518	Not Meeting***

SW012**	Ballinacurra No. 2 Pumping Station	SWO/EO	188518, 71783	Meeting
SW013	Bailick No. 3 Pumping Station	EO	188272, 72060	Not applicable
SW014**	Dwyers Road Pumping Station	SWO/EO	187475, 72902	Meeting
SW015	Oakwood Pumping Station	EO	188573, 73373	Not applicable
SW016	Roxboro Mews Pumping Station	SWO/EO	188346, 73332	Meeting
SW017	The Rock Pumping Station	SWO/EO	188265, 73232	Meeting
SW018	Roxboro Housing Estate Pumping Station	SWO/EO	188332, 73316	Meeting
SW019	Old Youghal Road Pumping Station	SWO/EO	188703, 73401	Meeting
SW020	Riversfield Estate SWO (Network)	SWO	187687, 73025	Not Meeting***
SW021	Drury's Avenue SWO (Network)	SWO	188346, 73332	Meeting
SW022	Ballinacurra No.1 Pumping Station	EO	188366, 71791	Not applicable

**Overflows SW003 & SW004 are currently licensed under D0044-01*
***Overflows currently licensed under D0056-01. SW010 = SW03MIDL; SW011 = SW04MIDL; SW012 = SW05MIDL & SW014 = SW07MIDL.*
**** Not Meeting DoEHLG SWO criteria. To be upgraded by 2029 as part of Midleton Wastewater Network Upgrade Project.*
Note – Any changes to NGR from original application are a result of increased accuracy from UÉ data.

For this review there will be 19 no. overflows within the amalgamated agglomeration. 6 no. associated with the Carrigtwohill Functional Area, and 13 no. associated with the Midleton Functional Area.

The overflows discharge to the following waterbodies:

	• Overflows SW005 and SW008 discharge to the Lough Mahon (Harper's Island) transitional waters. • SW003, SW004, SW006 and SW007 discharge to the Tibbotstown_010 River in Carrigtwohill. • SW009 discharges to the North Channel Great Island transitional water at Rathcoursey Point. • SW010, SW011, SW012, SW013, SW020, and SW022 discharge to the Owennacurra Estuary. • SW014 discharges to the Owencurra_040 River in Midleton. • SW015, SW016, SW017, SW018, SW019, and SW021 discharge to the Dungourney_020 River in Midleton.
Is the network assessment complete?	No
If the answer above is no, in what year is the assessment expected to be complete?	Q2 2024

Table 8a - Waste water treatment plant associated with the waste water works - **Carrigtwohill WwTP**

Site contact Name*:	Regional Wastewater Compliance Specialist
Address of waste water treatment plant (including Eircode):	Carrigtwohill WwTP, Tullagreen, Carrigtwohill, Co. Cork
Telephone Number:	01 8925000
e-mail:	WasteWaterLicensingSouthern@water.ie
Grid ref (6E, 6N)	181177E, 72228N
Description of the treatment process	Tertiary (Nereda Process)
Primary discharge point reference ID:	SW009

Table 8b - Waste water treatment plant associated with the waste water works - **Midleton WwTP**

Site contact Name*:	Regional Wastewater Compliance Specialist
Address of waste water treatment plant (including Eircode):	Midleton WwTP, Ballyannan, Garryduff, Midleton, Co. Cork

Telephone Number:	01 8925000
e-mail:	WasteWaterLicensingSouthern@water.ie
Grid ref (6E, 6N)	187505E, 72801N
Description of the treatment process	Tertiary (UV Disinfection)
Secondary discharge point reference ID:	SW001

**This should be the name of the person responsible for the supervision of the waste water treatment plant.*

B.2.3 Supporting documents

Complete the following table and submit the relevant supporting documents in accordance with the Guidance Document:

Table 9 - Supporting Document Names

Document type	Document name
B.2 .1 Agglomeration map	**Attachment B.2.1**: Map 2 – Agglomeration Plan
B.2-2 Site map including discharge and monitoring points.	**Attachment B.2.2:** Map 3 – Carrigtwohill WwTP Site Location Plan **Attachment B.2.2:** Map 4 – Midleton WwTP Site Location Plan **Attachment B.2.2:** Map 5 – Carrigtwohill Location of Primary Discharge Point & Sampling Point **Attachment B.2.2:** Map 6 – Midleton Location of Secondary Discharge Point & Sampling Point **Attachment B.2.2:** Map 7 – Overflows in Carrigtwohill Functional Area **Attachment B.2.2:** Map 8 – Overflows in Midleton Functional Area **Attachment B.2.2:** Map 9 **–** Location of Ambient Monitoring Point D/S of Primary Discharge Point **Attachment B.2.2:** Map 10 **–** Location of Ambient Monitoring Points U/S and D/S of Secondary Discharge Point
B.2.3 Waste water process flow	**Attachment B.2.3a**: Waste Water Process Flow Diagram Carrigtwohill **Attachment B.2.3b**: Waste Water Process Flow Diagram Midleton

B.2.4 Capacity of the waste water works

Table 10 - Capacity of the Waste water Works

	Carrigtwohill	Midleton	Combined (Total)
Population Equivalent of the agglomeration to which the application relates:	30,000 p.e.	18,750 p.e. (Midleton WwTP (15,000 p.e.) and Industrial Emission (IE) discharges (3,750 p.e.) downstream of the Midleton WwTP).	48,750 p.e.
Maximum average weekly population equivalent of the agglomeration (collected at WwTPs):	8,654 p.e. (Source: Carrigtwohill 2022 AER)	16,652 p.e. (Source: Midleton 2022 AER)	25,306 p.e. (2022)
Existing Organic Capacity of the waste water treatment plant - As Constructed or nominal design (p.e.)	30,000 p.e.	15,000 p.e.	45,000 p.e.
Proposed Organic Capacity of the waste water treatment plant - As per planning permission or design (p.e.)	30,000 p.e.	15,000 p.e.	45,000 p.e.
Current Collected Load (p.e.) (at WwTPs)	8,654 p.e. (Source: Carrigtwohill 2022 AER)	16,652 p.e. (Source: Midleton 2022 AER)	25,306 p.e. (2022)
Remaining Organic Capacity (p.e.):	**Current:** 21,346 p.e. **Proposed:** 10,169 p.e. post connection of LIHAF loads (*ca.* 11,177 p.e)	**Current:** 0 **Proposed:** 2,525 p.e. (post diversion of *ca*. 4,177 to Carrigtwohill) – based on 2022 collected loads	Not Applicable
Is the plant overloaded – organic loading?	No	**Current**: Yes [Note1] **Proposed:** No	Not Applicable

	Carrigtwohill	Midleton	Combined (Total)
Current Peak Hydraulic Capacity of the waste water works–As Constructed or nominal design (m^3/day):	20,250 m^3/day (3 x DWF)	10,368 m^3/day (3 x DWF)	Not Applicable
Proposed Peak Hydraulic Capacity of the waste water works–As per planning permission or nominal design (m^3/day):	20,250 m^3/day	10,368 m^3/day	Not Applicable
Current and proposed dry weather flow (DWF) to the treatment plant (m^3/day):	Current Design DWF: 6,750 m^3/day	Current Design DWF: 3,456 m^3/day	Not Applicable
Current average hydraulic loading to the treatment plant (m^3/day):	Current: 4,846 m^3/day (Source: Carrigtwohill AER 2022)	Current: 8,000 m^3/day (Source: Midleton AER 2022)	Not Applicable
Remaining Hydraulic Capacity (m^3/day):	Current Remaining: 15,404 m^3/day (Source: Carrigtwohill AER 2022) Proposed post LIHAF loads connection; 12,889; (11,177 p.e. = 2,515m^3/day)): 4,846+2,515 = 7,361 m^3/day 20,250-7,361 = **12,889** m^3/day	Current Remaining: 2,368m^3/day (Source: Midleton AER 2022) Proposed post LIHAF loads diversion: 3,308 (minus 4,177 p.e.= 940m^3/day) = 3,308m^3/day (2,368m^3 + 940m^3)	Not Applicable
Is the plant hydraulically overloaded?	No	No	Not Applicable

Note 1 – Based on the 2022 p.e. of the Midelton agglomeration, the Waste Water Load Diversion Project will result in *ca*. 4,177 p.e. being diverted from Midleton existing network to Carrigtwohill for treatment, at that point Midleton WwTP will no longer be organically overloaded.

B.2.5 Waste Water Inputs

Table 11 - Waste Water Inputs to Waste Water Works

Inputs	Carrigtwohill p.e.	% of total PE of Carrigtwohill	Midleton p.e.	% of total p.e of Midleton	Combined p.e. from Midleton and Carrigtwohill	% of total p.e. from combined agglomerations
Domestic waste water load inc. commercial	16,517 p.e.	55.1%	14,982 p.e.	79.9%	31,499 p.e.	64.6%
Industrial waste water load	13,483 [a] p.e.	44.9%	18 [a] p.e.	0.1%	13,501 p.e.	27.7%
Leachate	0 p.e.	0%	0 p.e.	0%	0 p.e.	0%
Waste water to be conveyed and discharged only (i.e. by pass the WWTP)	0 p.e.	0%	3,750 [b] p.e.	20%	3,750 p.e.	7.7%
Total	30,000 p.e.	100%	18,750 p.e.	100%	48,750 p.e.	100%

[a] p.e. Licensed (Based on ILM 60% factor)

[b] P0442-02 and P1103-01 – licenced loadings (BOD based)

Where industrial waste water is relevant to this application, provide the following information:

Table 12 - Industrial waste water pre-treatment

A	*Is the requirement for pre-treatment (Article 9 of the urban waste water treatment regulations 2001 as amended) met?*	Yes

If 'No' was answered to A, provide details of the measures to be taken to comply:

Not applicable

B.3 Planning documentation

B.3.1 Planning information

This part of the application form collects planning information relating to development or proposed development relevant to which the application relates.

Table 13 - Planning Status

	Planning Authority name:	Cork County Council & An Bord Pleanála
A	Is planning permission required for development or proposed development to which the application relates?	Yes: Water Rock Pumping Station Midleton North Pumping Station and Network. Carrigtwohill WwTP Expansion *Water Rock Pumping Station* Part 8 planning was required for the Water Rock Pumping Station. Refer to **Section B** and **Table 14** below. *Midleton North Pumping Station and Network Project* A planning application was submitted to Cork County Council for the Midleton North Pumping Station and Network Project on the 6th May 2022. A conditional grant of planning was obtained on the 13th February 2023 (Planning Ref: 22/05032), which was subsequently appealed to An Bord Pleanála (Planning Ref: ABP-316013-23). *Carrigtwohill WwTP Expansion* Cork County Council made an application under Section 226 of the Planning and Development Act 2000 for the proposed Carrigtwohill WwTP expansion (Planning Ref: ABP 04.YA0006) - which is ultimately for the Carrigtwohill WwTP (as per inspector's report)
B	If *'Yes'*, has planning permission been granted?	Yes: Part 8 planning approval for the Water Rock Pumping Station was obtained by Cork County Council in 2019. Refer to **Table 14**. No: Midleton North; Planning Ref: 22/05032 was appealed to An Bord Pleanála (Planning Ref: ABP-316013-23). At the time of submitting this WWDA application, the case is under consideration by An Bord Pleanála. Yes: Planning Permission for the Carrigtwohill WwTP expansion, to a maximum of 45,000 p.e, was granted by An Bord Pleanála on 13th August 2010 (ABP Ref 04.YA0006).

C	If planning permission is not required at A above, is the proposed development, if any, to which the application relates exempted development?	Uisce Éireann submitted a Section 5 application to Cork County Council in April 2021 for the pipeline from the Water Rock Pumping Station to Carrigtwohill and this was confirmed as Exempted Development. Refer to **Table 15**.

If '*Yes*' was answered to A and B, above, the following 'Planning Granted' table should be completed.

Table 14 - Planning granted

Planning File Reference Number:	Not applicable as Part 8 Planning
Planning Appeal Reference Number (if relevant):	Not applicable
Planning Authority Name / An Bord Pleanála:	Cork County Council
Date of Planning Decision (Final Grant):	13th March 2019
Brief description:	*Water Rock Urban Expansion Area (UEA) Infrastructure Works* Provision of a new wastewater Pumping Station to facilitate future development within the Water Rock UEA. Foul wastewater generated within the development area will be conveyed, *via* a new gravity foul drainage network, to the Pumping Station. Provision has also been made for a future connection from other areas within Midleton. The foul wastewater Pumping Station has been designed to accommodate the proposed development within the Water Rock UEA Infrastructure Works, which included several projects.
EIAR required with Planning Application?	No
NIS required with Planning Application	No
Confirm that the supporting documentation is provided:	**Attachment B.3.1a** Water Rock Part 8 Planning Grant **Attachment B.3.1b**. Water Rock Part 8 Report of Chief Executive

Planning File Reference Number:	04.YA0006
Planning Appeal Reference Number (if relevant):	Not applicable
Planning Authority Name / An Bord Pleanála:	An Bord Pleanála

Date of Planning Decision (Final Grant):	13th August 2010
Brief description:	Cork County Council made an application under Section 226 of the Planning and Development Act 2000 for the proposed Carrigtwohill WwTP to a maximum of 45,000 p.e..
EIAR required with Planning Application?	Yes
NIS required with Planning Application	No
Confirm that the supporting documentation is provided:	**Attachment B.3.6a** Carrigtwohill WwTP Expansion Planning Grant **Attachment B.3.6b**. Carrigtwohill WwTP Expansion Inspectors Report

If '*Yes*' was answered to A and '*No*' was answered to B, above, the Planning under Consideration table (**table 16**) should be completed.

If '*No*' was answered to A and 'Yes' was answered to C, the following Exempted Development table should be completed.

Table 15 - Exempted Development

Reason for exemption:	The Water Rock rising main to Carrigtwohill, Co. Cork constitutes exempted development by virtue of paragraphs (b) (i) of Class 58, Part 1, of Schedule 2 of the Planning and Development Regulations 2001 (as amended). *"Class 58* *Development by Uisce Éireann, for the purpose of the provision of water services, consisting of one or more of the following:* *(b) the installation of either or both—* *(i) underground pipes, cables, water mains, sewers, including associated accessories, service connections, boundary boxes and meters, and,"* Refer to **Attachment B.3.5:** Section 5 Exempted Development Letter Water Rock to Carrigtwohill Rising Main.

B.3.2 Supporting documents

The document names for all supporting documentation should be provided in the following table.

Table 16 - Supporting Documents

	Document type	Document name
Planning granted	- planners letter confirming EIA is not required (if relevant)	**Attachment B.3.1b**: Water Rock Part 8 Report of Chief Executive (refer to **Section 6.1.** in document)
	- a copy of relevant grant of planning permission AND planners report	**Attachment B.3.1a:** Water Rock Part 8 Planning Grant **Attachment B.3.1b**: Water Rock Part 8 Report of Chief Executive **Attachment B.3.6a:** Carrigtwohill WwTP Expansion Planning Grant **Attachment B.3.6b**: Carrigtwohill WwTP Expansion Inspectors Report
Planning under consideration	- confirmation from a planning authority or An Bord Pleanála (as applicable) that an application for permission comprising or for the purposes of the waste water discharge to which the application relates, is currently under consideration by the planning authority concerned or An Bord Pleanála	Refer to: **Attachment B.3.2**: Midleton North Pumping Station & Network Planner's Report. **Attachment B.3.3**: Midleton North Pumping Station & Network Conditional Grant of Planning. **Attachment B.3.4:** Notice of Appeal.
	- Planners letter confirming EIA not required (if relevant)	Refer to Item 7 in **Attachment B.3.2**: Midleton North Pumping Station & Network Planner's Report.
Exempted development	- Planners letter confirming development is exempted or reference to the specific legislation for exemption	**Attachment B.3.5:** Section 5 Exempted Development Letter Water Rock to Carrigtwohill Rising Main

B.4 Notices and Advertisements

This part of the form collects evidence of stakeholder engagement prior to making this application. The location of the site notice should be provided in the following table.

Table 17 - Site notice location – **Midleton WwTP**

Grid co-ordinates (6E, 6N) **Entrance to WwTP from L3620:**	187435E	72911N

Table 18 - Site notice location – **Carrigtwohill WwTP**

Grid co-ordinates (6E, 6N) **Entrance to WwTP from L7008:**	181201E	72333N

B.4.1 Supporting documents

The document names for all supporting documentation should be provided in the following table:

Table 19 - Names of Supporting Document(s) on Notices and Advertisements

Document type	Document name
Newspaper notice:	**Attachment B.4.1**: Newspaper Notice
Site notice:	**Attachment B.4.2**: Site Notice
Map of site notice location:	**Attachment B.4.3:** Map 11 – Site Notice Location
Water Services Authority notice:	**Attachment B.4.4**: Water Services Authority Notice
EIA Portal Confirmation notice:	**Attachment B.4.5**: EIA Portal Confirmation Notice

B.5 Preliminary examination/EIA Screening/EIAR

This part of the application form collects information in relation to EIA and the development /proposed development comprising or for the purposes of the waste water discharge.

Table 20 - EIA related information.

A	Having regard to B.3, is this application accompanied by an EIAR?	No. To be forwarded to the Agency.
B	Is the application in respect of the waste water discharge from a waste water treatment plant with a capacity of greater than 10,000 population equivalents as defined in Article 2, point (6), of the Urban Water Water Treatment Directive	Yes
C	Are there other competent authorities conducting EIA for the development or proposed development to which this application relates?	No
D	If '*Yes*' to C, provide the name of the competent authority and consent reference	Not applicable

If the answer to either A or B is 'Yes', the EIAR must accompany the application.

B.5.1 Supporting documents

The names assigned to the documents should be provided in the following table:

Table 21 - Names of Supporting Document(s) on EIA

Document type	Document name
EIAR	**Attachment B.5:** Environmental Impact Assessment Report - To be forwarded to the Agency upon final completion
Preliminary examination / EIA screening report	Not Applicable

B.6. Compliance with EU Directives & National Regulations

This part of the application form collects details on compliance with relevant EU Directives and national Regulations.

B.6.1 Supporting document

The EPA template provided should be completed. The name assigned to the document should be provided in the following table:

Table 22 - Names of Supporting Document on Compliance with EU Directives and National Regulations

Document type	Document name
Compliance with EU Directives & National Regulations	**Attachment B.6:** Compliance with EU Directives & National Regulations

B.7 Foreshore Act Licences.

This part of the application form collects information relating to Foreshore Act Licences where relevant.

Is Foreshore Act Licence required for development or proposed development the subject of this application?	Yes

If yes, and the Foreshore Act Licence is relevant to this application, provide the following information:

Table 23a -Foreshore Act Licence – **Carrigtwohill Primary Discharge Outfall**

	Foreshore Act Licence Competent Authority name:	Cork County Council
A	Has a Foreshore Act Licence being granted?	Yes, on the 13th November 2015 a Foreshore Licence (FS 006120) was granted in respect of the construction of a new outfall to discharge treated effluent from the proposed new Carrigtwohill Waste Water Treatment Plant.
B	If no to A, is a Foreshore Act Licence application under consideration by the relevant competent authority?	Not Applicable
C	Was EIA carried out or will be carried out by the Foreshore Act Licence competent authority?	Yes, an EIA was carried out in 2008 in relating to the expansion of the Carrigtwohill Waste Water Treatment Works to cater for existing and future loads. FS006120 Cork County Council - Carrigtwohill (www.gov.ie)
D	If *'Yes'* to C, confirm that the same EIAR was submitted to Foreshore competent authority as accompanied this WWDA application:	No, as a standalone WWDA Application and EIAR is being submitted. This WWDL Licence review which includes the amalgamation of Midleton and Carrigtwohill. The subject matter of the

		review application involves a WWDL application from a WwTP(s) with a capacity of greater than 10,000 p.e, including the amalgamation of Midleton and Carrigtwohill. Therefore, a mandatory Environmental Impact Assessment Report (EIAR) is required, as per Regulation 17 of the relevant European Union Waste Water Discharge Regulations, 2007- 2020.
E	If *'Yes'* to A, provide: - Licence Reference Number; and - date of grant of consent:	**Licence Reference Number**: FS 006120 **Date of Grant of Licence**: 13th November 2015
G	If *'Yes'* to B, provide application reference number	Not Applicable

Table 23b -Foreshore Act Licence – **Midleton Sewerage Scheme Infrastructure**

	Foreshore Act Licence Competent Authority name:	Cork County Council
A	Has a Foreshore Act Licence being granted?	Yes, on the 22nd of September 1999 (FS: 004219) was granted for the purpose of laying, using, and maintaining Foreshore Crossings, Domestic Rising Main, Outfall Pipes, Pumping Stations, Storm Water Outfall and Overflow Pipe in connection with the Midleton Sewerage Scheme.
B	If no to A, is a Foreshore Act Licence application under consideration by the relevant competent authority?	Not Applicable
C	Was EIA carried out or will be carried out by the Foreshore Act Licence competent authority?	Not Applicable
D	If *'Yes'* to C, confirm that the same EIAR was submitted to Foreshore competent authority as accompanied this WWDA application:	Not Applicable
E	If *'Yes'* to A, provide: - Licence Reference Number; and - date of grant of consent:	**Licence Reference Number**: FS 004219 **Date of Grant of Licence**: 22nd September 1999
G	If *'Yes'* to B, provide application reference number	Not Applicable

Table 23c -Foreshore Act Licence – **Rathcoursey Tidal Holding Tank & Outfall Pipeline**

	Foreshore Act Licence Competent Authority name:	Cork County Council
A	Has a Foreshore Act Licence being granted?	Yes (FS: 004170), on the 5th of March 1986 for the purposes of constructing a pumphouse, tidal holding tank, and laying, maintaining, and using a pipeline for the discharge of continued domestic sewage and industrial effluent.
B	If no to A, is a Foreshore Act Licence application under consideration by the relevant competent authority?	Not Applicable
C	Was EIA carried out or will be carried out by the Foreshore Act Licence competent authority?	Not Applicable
D	If *'Yes'* to C, confirm that the same EIAR was submitted to Foreshore competent authority as accompanied this WWDA application:	Not Applicable
E	If *'Yes'* to A, provide: - Licence Reference Number; and - date of grant of consent:	**Licence Reference Number**: FS 004170 **Date of Grant of Licence**: 5th March 1986
G	If *'Yes'* to B, provide application reference number	Not Applicable

B.7.1 Supporting documents

The name(s) assigned to all supporting documentation should be provided in the following table:

Table 24 - Supporting documents

	Document type	Document name
If *'Yes'* to A	Foreshore Act Licence:	**Attachment B.7.1**: Carrigtwohill Foreshore Licence, November 2015 **Attachment B.7.2:** Midleton Foreshore Licence, September 1999 **Attachment B.7.3:** Rathcoursey Tidal Holding Tank & Outfall Pipeline Foreshore Licence, March 1986
If *'Yes'* to C	Foreshore Act Licence report:	Not Applicable

B.8 Programme of Improvements

For licence review applications, provide information on current licence requirements with respect to specified improvement works (B.8.1) and Condition 5 improvement programme (B.8.2).

For all applications, provide information on planned improvements (B.8.3). Supporting information can be uploaded / attached to this part of the application form.

B.8.1 Specified Improvement Programme

In the case of a licence review are there specified improvement works in Schedule A and C of current licence?	Yes

If *'Yes'*, the following table should be completed for each specified improvement works.

Table 25 - Schedule A & C Improvement Programme

Specified Improvement Programmes: (under Schedule A and C of WWDL)	**D0056-01:** **SIP:01**: Increase Midleton WwTP capacity to 15,000 p.e. **SIP:02**: Infiltration programme **SIP:03**: Infiltration Programme – SW03 **SIP:04**: Infiltration programme – SW04 **SIP:05**[1]: Upgrading of SWOs to comply with the limits outlined in Schedule A.4 (Condition 5.6) - SW03 **SIP:06**[1]: Upgrading of SWOs to comply with the limits outlined in Schedule A.4 (Condition 5.6) - SW04 **D0044-01:** **SIP:01**: Installation of new WwTP to meet ELVs as specified in Schedule A **SIP:02**: Installation of storm water holding tank (SW003) **SIP:03**: Installation of storm water holding tank (SW004) **SIP:04**: Nutrient removal to meet ELVs as specified in Schedule A **SIP:05**: SW002 Primary Discharge Point to be discontinued
Date for completion of Improvement Programme in the licence:	**D0056SIP:01 – D0056SIP:06**: 31st December 2011 **D0044SIP:01 – D0044SIP:05**: 31st December 2016
Has the date for completion expired? (Enter N, N/A or Y)	Y
Status of works: *e.g. (i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning phase; (v) Completed; (vi) Delayed*	**D0056-01:** **SIP:01**: Works Completed **SIP:02**: Works Completed **SIP:03**: Works Completed

	SIP:04: Works Completed **SIP:05**: At Planning Stage **SIP:06**: At Planning Stage **D0044-01:** **SIP:01:** Works Completed **SIP:02:** Works Completed **SIP:03:** Works Completed **SIP:04:** Works Completed **SIP:05:** Works Completed
Uisce Éireann's expected timeframe for completing the work	**D0056-SIP:05**: Q4 2029 **D0056-SIP:06**: Q4 2029
Refer to **Attachment B.8:** Improvement Programme.	

[1] This current licence review application does not relate to or include for any aspect of the Midleton Wastewater Network Upgrade Project which will address D0056-SIP:05 & 06. This project is currently at the Pre-Feasibility Stages.

B.8.2 Condition 5 Improvement programme

Provide details of the Condition 5 improvement programme by completing the following table:

Table 26 - Condition 5 Improvement Programme

Improvement identifier:	Not applicable
Improvement description:	Not applicable
Improvement source: (*e.g. WWTP assessment, Sewer assessments, Secondary discharges assessment SWO assessment, Drinking Water Abstraction Risk Assessment, Shellfish Impact Risk Assessment, Pearl Mussel Impact Assessment, Improved Operational Control, Incident Reduction, Elimination/Reduction of Priority Substances, Process Optimisation)*	Not applicable
Status of works:	Not applicable
Expected Completion date:	Not applicable
Comments: Not applicable	

B.8.3 Planned programme of improvements

Provide information on planned programme of improvements by completing the following table:

Improvements Pertaining to this WWDL Review Application only.

Table 27a -Planned Programme of Improvements - **Water Rock Pumping Station**

Waste water discharge reference code:	Not applicable
Type: (primary discharge / secondary discharge/ storm water overflow)	Network
Improvement works description:	This Pumping Station will facilitate the future development of the Water Rock UEA (*ca.* 7000 p.e.) and will convey the foul wastewater from the Midleton North Pumping Station to the Carrigtwohill WwTP *via* the new 7km Water Rock pipeline.
Expected completion date:	Q4 2023
Planning status: (grant of permission / exempted development)	Granted
Prioritised for funding:	Yes

Table 27b - Planned Programme of Improvements - **Midleton North Pumping Station and Network**

Waste water discharge reference code:	Not applicable
Type: (primary discharge / secondary discharge/ storm water overflow)	Network
Improvement works description:	The new Midleton North Pumping Station, which will be sized for future growth, will draw an existing wastewater load (*ca*. 4,177 p.e.) off the existing sewerage network system in Midleton and will divert this load to the Water Rock Pumping Station.
Expected completion date:	Timeframes for the construction and commissioning of the Midleton North Pumping Station and Network are contigent on the successful grant of planning following an appeal to An Bord Pleanála.
Planning status: (grant of permission / exempted development)	Conditional grant of planning from Cork County Council in February 2023 and subsequently appealed to An Bord Pleanála. At the time of

	submitting this WWDA application, the case is under consideration by An Bord Pleanála.
Prioritised for funding:	Yes

B.8.4 Supporting documents

Attachment B8 should be submitted in accordance with the Guidance Document as supporting information and the name assigned to it provided in the following table:

Table 28 - Supporting documents

Document type	Document name
Improvement programme	**Attachment B.8:** Improvement Programme

B.9 Fees

State the appropriate fee as per Columns 2 or 3 of the Third Schedule of the European Union (Waste Water Discharge) Regulations 2007 to 2020.

Table 29 - Fee

Class of Waste Water Discharge		Fee accompanying application / review application (in €)
Discharges from agglomerations with a population equivalent of:	(*tick [✓] one as appropriate*)	
- more than 10,000	✓	€22,500
- 2,001 to 10,000		
- 1,001 to 2,000		
- 500 to 1,000		
- less than 500		

SECTION C: DISCHARGES & MONITORING

C.1. Discharges & Monitoring

The Discharges & Monitoring template should be downloaded from the EPA website (www.epa.ie), completed and submitted in accordance with the Guidance Document.

C.1.1 Supporting document

Attachment C.1 should be submitted in accordance with the Guidance Document as supporting information and the name assigned to it provided in the following table:

Table 30 - Discharges & Monitoring

Document type	Document name
Discharges & Monitoring	**Attachment C.1:** Discharges and Monitoring

C.2. Measures to Prevent Unintended Discharges

Existing and proposed measures should be identified in the table below. Additional measures may be added to this table as required.

Table 31 -Prevention Measures & Monitoring - **Carrigtwohill**

Measures to prevent unintended discharges	Existing (Y/N)	Proposed (Y/N)	Applicability	Surveillance measure
Accident prevention procedure:	Y	Y	WwTP	Regular reviews of procedures
Emergency Response Plan and Procedures:	Y	Y	WwTP	Regular reviews of procedures
Waste water treatment plant				
Measures to prevent unintended discharges	Existing (Y/N)	Proposed (Y/N)	Applicability	Surveillance measure
Alarms / telemetry on waste water treatment plant:	Y	Y	WwTP	Alarms for WwTP fed to SCADA with dial out alarms sent to operators also. SCADA connected to UÉ Central SCADA System. Remote access available. Various alarms in place *e.g.*,

				pumps tripping, treatment system (Nereda alarms), inlet works, chemical dosing alarms.
Standby pumps at waste water treatment plant:	Y	Y	WwTP	Standby pumps in place where required *e.g.,* inlet works, RAS/WAS pumps and storm tank pumps.
Standby equipment or provisions in the event of interruption of the power supply such as a portable generator or equipment with automatic switchover:	Y	Y	WwTP	Automatic switch over; Permanent generator at WwTP. Uninterruptable Power Supply (UPS) in place also. All critical equipment has standby units (blowers / pumps).
Storage capacity at intake to the waste water treatment plant (SWO tank):	Y	Y	WwTP	Storm tank providing 1,702 m^3/844 m^3/h = 2h. Flows in excess of Storm Water Holding Tank capacity will overflow to the Lough Mahon (Harper's Island) *via* SW005 which is meeting with DoEHLG criteria.
Groundwater monitoring:	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Network				
Measures to prevent unintended discharges	Existing (Y/N)	Proposed (Y/N)	Applicability	Surveillance measure
Alarms / telemetry on pumping stations:	Y	Y	At 3 out of 4 no. PSs *i.e.*, Barryscourt PS, IDA No.1 PS, Old Cobh Road PS No alarms/ telemetry on Bog Road PS	The operation of 3 no. Pumping Stations is remotely monitored at control room of Carrigtwohill WwTP. SCADA with alarms sent to operators. Alarm for pump trips and power outages.

Alarms / telemetry on emergency overflows:	Y	Y	EO's at 3 no. PSs, Barryscourt PS, IDA No.1 PS, Old Cobh Road PS No overflow at Bog Road PS	All overflows at these 3 no. PS are monitored by flowmeter.
Standby pumps at pumping stations:	Y	Y	At all 4 no. PSs	All 4 no. PS at minimum have duty standby pump sets.
Standby equipment or provisions in the event of interruption of the power supply:	Y	Y	3 no. PSs	Provision of standby generator at Old Cobh Road PS, IDA No.1 PS, and Barryscourt PS. Bog Road PS does not have a standby generator in place. Tankering or the use of generators is an option and is determined on a case-by-case basis. There is no overflow at this location.
Storage capacity at pump stations:	Y	Y	At 3 no. PSs No storm storage at Barryscourt PS. Full peak flow pumped to collection chamber at WwTP Inlet Works	Storm storage available at IDA No.1, Old Cobh Road, and Bog Road PSs but capacity unknown.
Monitoring telemetry on SWOs:	Y	Y	At 3 no. PSs, Barryscourt PS, IDA No.1 PS, Old Cobh Road PS	Overflows at these 3 no. of PS are monitored by flowmeters / telemetry.
Additional measures:	Y	Y	All PS	Regular inspections by operators

Table 32 -Prevention Measures & Monitoring - **Midleton**

Measures to prevent unintended discharges	Existing (Y/N)	Proposed (Y/N)	Applicability	Surveillance measure
Accident prevention procedure:	Y	Y	WwTP	Regular reviews of procedures
Emergency Response Plan and Procedures:	Y	Y	WwTP	Regular reviews of procedures
Waste water treatment plant				
Measures to prevent unintended discharges	Existing (Y/N)	Proposed (Y/N)	Applicability	Surveillance measure
Alarms / telemetry on waste water treatment plant:	Y	Y	WwTP	Alarms for WwTP fed to SCADA with dial out alarms sent to operators also. SCADA connected to UÉ Central SCADA System.
Standby pumps at waste water treatment plant:	Y	Y	WwTP	Standby RAS/WAS pumps in place.
Standby equipment or provisions in the event of interruption of the power supply such as a portable generator or equipment with automatic switchover:	Y	Y	WwTP	Automatic switch over; Permanent generator at WwTP. UPS in place also for instant switchover for SCADA.
Storage capacity at intake to the waste water treatment plant (SWO tank):	Not Applicable	Not Applicable	Not Applicable	No storm tank at WwTP
Groundwater monitoring:	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Network				
Measures to prevent unintended discharges	Existing (Y/N)	Proposed (Y/N)	Applicability	Surveillance measure
Alarms / telemetry on pumping stations:	Y	Y	Dial out alarms available at some PSs. A number of PSs do not have overflows.	Site Operators, Telemetry and Alarms where applicable

			Current Telemetry programme under way. New sites being added as agreed on a national priority basis.	
Alarms / telemetry on emergency overflows:	Y	Y	Available at some PSs. High Level alarm, pump trip, power outage dial outs to operator's phones. Telemetry monitors overflow duration/volumes. Current Telemetry programme under way. New sites being added as agreed on a national priority basis.	Site Operators, Telemetry and Alarms where applicable
Standby pumps at pumping stations:	Y	Y	Available at some PSs. Duty/standby/standby set-ups.	Auto change-over of pumps where applicable.
Standby equipment or provisions in the event of interruption of the power supply:	Y	Y	Provision of standby generators available at some PSs. Connection point to temporary mobile generators available at some PSs.	Site Operators, Telemetry and Alarms. Where standby generators available these are tested weekly and automatic switch over available. Most PS's have adequate storage time under current flows. Depending on duration, tankering may be used as a more cost-effective alternative to generator hire.

Storage capacity at pump stations:	Y	Y	Available at some PSs. Storage allocation is variable across the catchment.	Telemetry / alarms where applicable.
Monitoring telemetry on SWOs:	Y	Y	Available at some PSs. A number of PS do not have overflows. National SWO monitoring programme under way. New sites being added and site dependent in terms of space and need.	Some overflows at the PSs are monitored by flowmeter telemetry.
Additional measures:	Not applicable	Not applicable	Not applicable	Not applicable

C.2.1 Supporting documents

Attachment C2 should be submitted (in accordance with the Guidance Document) as supporting information and the name assigned to it provided in the following table:

Table 33 - Supporting documents

Document type	Document name
Measures to prevent unintended discharges	**Attachment C.2:** Measures to Prevent Unintended Discharges

SECTION D: IMPACT ASSESSMENT

D.1. Receiving Waters

Complete the tables, below, as appropriate, for primary discharge, secondary discharge and storm water overflow(s) (SWO).

Table 34 - Receiving waters of Primary Discharge **- Carrigtwohill WwTP (SW009)**

Type (river, lake, groundwater, coastal, transitional):	Transitional
Name and WFD reference:	Lough Mahon (Harper's Island) (IE_SW_060_0700)
WFD Risk:	At Risk
WFD Status & year:	Moderate (2016-2021)
WFD Objective & timeframe for achievement:	Achieve Good status for 2027
Is the agglomeration identified as a significant pressure?	Yes, in 3rd Cycle Draft Lee, Cork Harbour, and Youghal Bay Catchment Report (HA 19) the Carrigtwohill and Environs (D0044) agglomeration is identified as a significant pressure due to Combined Sewer Overflows (CSO's) However, it is noted in the 3rd Cycle Draft Report (HA 19), that the Carrigtwohill and Environs (D0044) agglomeration is scheduled to be upgraded on the UÉ Capital Investment Programme.
Has the discharges contributed to a deterioration in the quality of the water body?	Based on the Uisce Éireann Compliance Data for 2020 – 2022 at downstream Station TW05003153LE6001 the ambient monitoring results meet the required EQSs set out in the Surface Water Regulations (S.I. No. 77 of 2019). Refer to **Table 40** below. Based on this the discharge from the WwTP does not appear to be having an observable negative impact on the Water Framework Directive status of the Lough Mahon (Harper's Island) waterbody.
Protected areas in the vicinity of the discharges:	The primary discharge point discharges directly into the Great Island Channel SAC (Site Code: 001058), and the Cork Harbour SAC (Site Code: 004030), and the Great Island Channel pNHA. The proposed primary discharge discharges directly into the Great Island Channel pNHA. The pNHAs within the surrounding environment and which have a hydrological connection to the primary discharge include: • The Douglas River Estuary pNHA (Site Code: 001046) *ca*. 5.5km downstream; • Monkstown Creek pNHA (Site Code: 001979) *ca*. 8km downstream;

	• Lough Beg pNHA (Site Code: 001066) *ca.* 12km downstream; • Cuskinny Marsh pNHA (Site Code: 001987) *ca.* 13km downstream; • Whitegate Bay pNHA (Site Code: 001084) *ca.* 14km downstream. The primary discharge enters directly into the Lee Estuary / Lough Mahon Nutrient Sensitive Area, which is designated under the Urban Wastewater Treatment Regulations 2001 (as amended). P is the noted as the limiting parameter under the EPA's Urban Waste Water Treatment Directive (UWWTD) (91/271/EEC) Article 5 Report (*i.e.*, Review of nutrient sensitive areas (freshwater and marine) as required by the Urban Waste Water Treatment Directive (91/271/EEC), 2020). Carrigtwohill WwTP primary discharge discharges *ca.* 2 km from the boundary of the Great Island North Channel designated shellfish waters, and *ca.* 8 km from the boundary of the Rostellan designated shellfish waters. However, these designated shellfish waters are not downstream from the discharge point.
Are there drinking water abstraction points downstream of waste water discharge points?	Although there are no drinking water abstraction points downstream of the primary discharge, there are two drinking water abstractions upstream of the primary discharge on the Tibbotstown_010.
European sites hydrologically connected:	The primary discharge point discharges directly into the Great Island Channel SAC (Site Code: 001058), and the Cork Harbour SPA (Site Code: 004030).
Trophic status of transitional / coastal waters:	Lough Mahon: (Harper's Island) Intermediate (2018-2020) – receiving water of primary discharge. Lough Mahon: Eutrophic (2018-2020) – *ca.* 2.3km d/s of primary discharge. Cork Harbour: Intermediate (2018-2020) *ca.* 8.4km d/s of primary discharge.
Is there a groundwater protection scheme in place or to be provided in the vicinity of such discharge?	Not Applicable
Status of adjacent waterbodies: (e.g. upstream and downstream of the receiving waterbody)	Upstream: Tibbotstown_010 (Good (2016-2021)) Downstream: Lough Mahon (Moderate (2016-2021))
95%ile River Flow upstream of primary discharge point: (if applicable)	Not Applicable

Receiving water monitoring stations: (code and dist ance from primary discharge point)	U/S Not Applicable D/S NGR 177580, 71473[1] (*ca*. 2.6km d/s of Primary Discharge) NGR 179127 70773[2] (*ca.* 2.3km d/s of Primary Discharge)

[1] This is the proposed ambient monitoring point location. The EDEN Code is to be confirmed.
[2] This is the existing ambient monitoring point location, TW05003153LE6001.

Refer to **Attachment D.1: Map 9** which displays the receiving water designations in proximity to the discharges from the WwTP.

Table 35 - Receiving waters of secondary discharges - **Midleton WwTP (SW001)**

Type (freshwater, lake etc.)	Transitional
Name and WFD Ref.	North Channel Great Island (SW_060_0300)
WFD Risk	At Risk
WFD Status (year)	Moderate (2016-2021)
WFD Objective (year)	Achieve Good Status for 2027
Is the agglomeration identified as a significant pressure?	Yes, in 3rd Cycle Draft Lee, Cork Harbour, and Youghal Bay Catchment Report (HA 19) the Midleton (D0056) agglomeration is identified as a significant pressure due to CSO's. However, the 3rd Cycle Draft Report also highlights that the Midleton proposed secondary discharge is not a significant pressure on the North Channel Great Island receiving waters. The impact from this agglomeration is from the 3 no. non-compliant SWOs on the Owennacurra Estuary, which are due to be upgraded by 2029 as part of the Midleton WW Network Project under the UÉ Capital Investment Programme.
Have the discharges contributed to a deterioration in the quality of the water body?	Based on the Uisce Éireann Compliance Data for 2020 – 2022 at downstream Station TW05003153LE6006 the ambient monitoring results meet the required EQSs set out in the Surface Water Regulations (S.I. No. 77 of 2019). Refer to **Table 45** below. Based on the above, the discharge from the WwTP does not appear to be having an observable negative impact on the Water Framework Directive status of North Channel Great Island waterbody.
Protected areas downstream	The proposed secondary discharge does not discharge directly into an SAC or SPA. However, there are 2 no. European Sites within the immediate zone of influence of the project *i.e.,*

	Great Island Channel SAC (Site code: 001058) *ca.* 15m u/s and Cork Harbour SPA (Site code: 004030) *ca.* 70m u/s. The secondary discharge discharges within the zone of influence into the North Great Island Channel pNHA. There are a number of pNHAs downstream of the secondary discharge location, these include: • Rostellan Lough, Aghada Shore and Poulnabibe Inlet pNHA *ca.* 2.3km downstream; • Cuskinny Marsh pNHA (Site Code: 001076) *ca.* 6.2km downstream; • Whitegate Bay pNHA *ca.* 5.7km downstream; • Lough Beg pNHA *ca.* 9.9km downstream; • Monkstown Creek pNHA *ca.* 12km downstream; • Owenboy River pNHA (Site Code: 001990) *ca.* 13km downstream. The Owennacurra Estuary / North Channel and Lee Estuary / Lough Mahon are designated as '*sensitive*' under the Urban Wastewater Treatment Regulations 2001 (as amended). The secondary discharge is directly into the North Great Island Channel. The distances to these designated sensitive areas from the secondary discharge is as follows: • Owennacurra Estuary: *ca.* 1.2km u/s • Lough Mahon: *ca.* 7.5km u/s • Lee Estuary: *ca.* 14.3km u/s For the Owennacurra Estuary / North Channel, both N is the limiting parameter in these water bodies under the EPA's Urban Waste Water Treatment Directive (UWWTD) (91/271/EEC) Article 5 Report. The Midleton WwTP secondary discharge discharges *ca.* 1.5 km d/s from the boundary of the Great Island North Channel designated shellfish waters (Site Code: IEPA2_0049), and *ca*. 3 km u/s from the boundary of the Rostellan designated shellfish waters. (Rostellan North, Site Code: IEPA2_0048, (Rostellan South, Site Code: IEPA2_0047), Rostellan West, IEPA2_0064)).
Are there drinking water abstraction points downstream of waste water discharge points?	There are no drinking water abstraction points downstream of the secondary discharge.
European sites hydrologically connected	Great Island Channel SAC (Site code: 001058); *ca*. 70m u/s of discharge. Cork Harbour SPA (Site code: 004030); *ca*. 15m u/s of discharge.

Trophic status of transitional / coastal waters	North Channel Great Island: Intermediate (2018-2020) – receiving water of secondary discharge. Cork Harbour: Intermediate (2018-2020) – *ca.* 2.2km d/s of secondary discharge.
Is there a groundwater protection scheme in place or to be provided in the vicinity of such discharge?	Not applicable
Status of adjacent waterbodies (e.g. upstream and downstream of the receiving waterbody)	Upstream: Owennacurra Estuary (Moderate (2016-2021)) Downstream: Cork Harbour (Moderate (2016-2021))
95%ile River Flow upstream of secondary discharge point (if applicable)	Not applicable
Receiving water monitoring stations upstream and downstream (code and distance from secondary discharge point	TW05003153LE6005 (*ca*. 0.9 km u/s) TW05003153LE6006 (*ca.* 1km d/s)

Table 36- Receiving waters of discharges from SWOs – Proposed SWOs as per subject matter of licence review

Receiving Waters name and code	WFD status	No. of compliant SWOs[1]	No. of SWOs under assessment or remediation	Is the SWOs identified as a significant pressure?	WFD objective and date
Lough Mahon (Harper's Island)	Moderate (2016-2021)	2 [1,]	0	No	Good Status (2027)
Tibbotstown_010	Good (2016 - 2021)	4 [1]	0	No	Good Status (2027)
Owennacurra Estuary	Moderate (2016-2021)	1 [1,]	3 [3]	Yes	Good Status (2027)
Owennacurra_040	Moderate (2016-2021)	1 [1]	0	No	Good Status (2027)
Dungourney_020	Poor (2016-2021)	5 [1]	0	No	Good Status (2027)

[1] Meeting DoEHLG criteria set out in *'Procedures and Criteria in Relation to Storm Water Overflows'*. SW005, SW003, SW004, SW006, SW007, SW008, SW012, SW014, SW016, SW017, SW018, SW019, SW021.
[2] Not Meeting DoEHLG criteria set out in *'Procedures and Criteria in Relation to Storm Water Overflows'*. SW010, SW011 SW020.
[3] Under the Midleton WW Network Project, all SWOs in the amalgamated agglomeration will be upgraded and will meet DoEHLG criteria.

Table 37 – Primary Discharge Ambient monitoring – upstream monitoring point – **Carrigtwohill (SW009)**

Note: There is currently no upstream monitoring of Carrigtwohill primary discharge.

EDEN Code (where applicable):	Not Applicable	
Licence Code:	Not Applicable	
Monitoring Location:	Not Applicable	Not Applicable
Point Type:	Not Applicable	
Name of Receiving Water	Not Applicable	

Table 38 – Primary Discharge Ambient Monitoring – upstream monitoring results (Not Applicable)

Parameter	pH (pH Unit)	BOD (mg/l)	Ortho-phosphate (mg/l)	Total Ammonia (mg/l)	DO (mg/l)	DO (%sat)	Temp (°C)
Number of Samples	Not Applicable						
Max result							
Min result							
Average result							

Table 39 – Primary Discharge Ambient monitoring results –**Downstream of Carrigtwohill**

EDEN Code (where applicable):	TW05003153LE6001 (Carrigtwohill)	
Licence Code:	Not Applicable	
Monitoring Location:	179127E	70773N
Point Type:	Transitional	
Name of Receiving Water	North Channel Great Island	

Table 40 – Primary Discharge Ambient Monitoring – downstream monitoring results TW05003153LE6001 Source: Uisce Éireann EDEN MDS Compliance Data Mar 2020 – Oct 2022)

Parameter	pH (pH Unit)	BOD (mg/l)	Ortho-phosphate (mg/l)	Total Ammonia (mg/l)	Total Oxidised Nitrogen (as N)(mg/l)	DO (%sat)	Temp (°C)
Number of Samples	12	12	12	12	10	12	12
Max result	8.1	5	7.07	0.40	5.48	102	18.8
Min result	7.6	0.71	0.01	0.05	0.04	74.9	9.1
Average result	**7.94**	**1.87**	**0.74**	**0.12**	**1.33**	**94.51**	**13.7**
95%ile result		**3.6**				**102.6**	
*95%ile EQS as per S.I. No. 77/2019 Good Status **		*≤4.0*	*≤ 0.060 (median)*			**95%ile** >70% <130%	
*95%ile EQS as per S.I. No. 77/2019 High Status **		*≤3.0*	*≤ 0.030 (median)*			**95%ile** >80% <120%	
*Overall compliance with relevant **95%ile EQS Good Status** **		**Yes**	**No (median)**			**Yes**	
*Overall compliance with relevant **95%ile EQS High Status** **		**No**	**No (median)**			**Yes**	

*EQS under S.I. No. 288 of 2022

Note: Where the concentration in the result is less than the limit of detection (LOD), a value of LOD/sqrt(2) was applied.

This table is showing the monitoring results for the current downstream ambient monitoring location TW05003153LE6001.

Table 41 - **Proposed** Receiving Water Monitoring – **Primary Discharge (SW009 - Carrigtwohill)**

EDEN Code (where applicable)	**Proposed** Licence Code [1]	Monitoring Location		Point Type	Name of Receiving Water
TBC	aSW009d	177580	71473	Transitional	Lough Mahon (Harper's Island)

[1] This is a newly proposed ambient monitoring licence point. The current monitoring location (TW05003153LE6001) is not deemed suitable as it is not a true representation of downstream in proximity to the primary discharge point SW009. A **new** monitoring is to be set up on EDEN MDS by Uisce Éireann for uploading ambient monitoring data against the proposed licence code aSW009d.

Table 42 – Secondary Discharge Ambient monitoring – **Upstream monitoring point of Midleton**

EDEN Code (where applicable):	TW05003153LE6005 (Midleton)	
Licence Code:	aSW001u Note 1	
Monitoring Location:	186952E	70048N
Point Type:	Transitional	
Name of Receiving Water	North Channel Great Island	

Note 1: There are no ambient monitoring requirements in the existing D0056-01 Licence. Therefore, this is a newly proposed ambient monitoring licence code. Sampling at this location is on-going.

Table 43 – Secondary Discharge Ambient Monitoring – upstream monitoring results[1] (Source: Uisce Éireann Compliance Data Feb 2020 – Aug 2022 at TW05003153LE6005)

Parameter	pH (pH Unit)	BOD (mg/l)	Ortho-phosphate (mg/l)	Total Ammonia (mg/l)	DO (%sat)	Temp (°C)
Number of Samples	20	2	20	20	20	20
Max result	0.082	2.6	0.036	0.082	134	19.5
Min result	7.9	1.8	0.00003	0.01	83	8.6
Average result	**8.1**	**2.2**	**0.01**	**0.05**	**107.6**	**15**
95%ile result		**2.56**	**0**		**130.2**	
*95%ile EQS as per S.I. No. 77/2019 Good Status **		≤4.0	*≤ 0.060 (median)*		>70% **95%ile** <130%	
*95%ile EQS as per S.I. No. 77/2019 High Status **		≤3.0	*≤ 0.030 (median)*		>80% **95%ile** <120%	
*Overall compliance with relevant **95%ile EQS Good Status ****		**Yes**	**Yes *(median)***		**No**	
*Overall compliance with relevant **95%ile EQS High Status ****		**Yes**	**Yes *(median)***		**No**	

*EQS under S.I. No. 288 of 2022. Mean Practical Salinity Unit (PSU) reading of 31.7 from measured Trac data Feb 2020 – Aug 2022

Note: Where the concentration in the result is less than the limit of detection (LOD), a value of LOD/sqrt(2) was applied

Table 44 – Secondary Discharge Proposed Receiving Water Monitoring – **Downstream monitoring point of Midleton**

EDEN Code (where applicable):	TW05003153LE6006 (Midleton)	
Licence Code:	aSW001d [Note 1]	
Monitoring Location:	185949E	68549N
Point Type:	Transitional	
Name of Receiving Water	North Channel Great Island	

Note 1: There are no ambient monitoring requirements in the existing D0056-01 Licence. Therefore, this is a newly proposed ambient monitoring licence code. Sampling at this location is on-going.

Table 45 – Secondary Discharge Ambient Monitoring – Downstream monitoring results
Source: Uisce Éireann Compliance Data Feb 2020 – Aug 2022 at TW05003153LE6006)

Parameter	pH (pH Unit)	BOD (mg/l)	Ortho-phosphate (mg/l)	Total Ammonia (mg/l)	Total Oxidised Nitrogen (as N)(mg/l)	DO (%sat)	Temp (°C)
Number of Samples	21	20	19	21	21	21	21
Max result	8.3	3.3	0.057	0.094	0.027	120	19.5
Min result	7.9	0.7	0.00003	0.02	0.01	74.9	9.1
Average result	**8.1**	**1.26**	**0.02**	**0.05**	**0.13**	**104.9**	**14.6**
95%ile result		**3.2**				**120**	
*95%ile EQS as per S.I. No. 77/2019 Good Status **		≤4.0	*≤ 0.060 (median)*			>70% **95%ile** <130%	
*95%ile EQS as per S.I. No. 77/2019 High Status **		≤3.0	*≤ 0.030 (median)*			>80% **95%ile** <120%	
*Overall compliance with relevant **95%ile EQS Good Status ****		**Yes**	**Yes *(median)***			**Yes**	
*Overall compliance with relevant **95%ile EQS High Status ****		**No**	**Yes *(median)***			**Yes**	

*EQS under S.I. No. 288 of 2022

Note: Where the concentration in the result is less than the limit of detection (LOD), a value of LOD/sqrt(2) was applied

Table 46 - Proposed Receiving Water Monitoring – **Secondary Discharge (Midleton)**

EDEN Code (where applicable)	Licence Code	Monitoring Location		Point Type	Name of Receiving Water
TW05003153LE6005	aSW009u	186952E	70048N	Transitional	North Channel Great Island
TW05003153LE6006	aSW009d	185949E	68549N	Transitional	North Channel Great Island

Table 47 - Proposed Primary Discharge Ambient Monitoring Regime **– SW009**

Parameter	Units	Monitoring Frequency	Analysis method/Technique
pH	pH Unit	Quarterly	pH Meter and recorder
Dissolved Oxygen	% O2	Quarterly	Standard Method
BOD	mg/l	Quarterly	Standard Method
COD	mg/l	Quarterly	Standard Method
Suspended Solids	mg/l	Quarterly	Standard Method
Temperature	˚C	Quarterly	Standard Method
Orthophosphate (as P)	mg/l	Quarterly	Standard Method
Faecal Coliforms	cfu/100ml	Quarterly	Standard Method
Total Ammonia	mg/l	Quarterly	Standard Method
Escherichia coli	cfu/100ml	Quarterly	Standard Method
Intestinal Entercocci	cfu/100ml	Quarterly	Standard Method
Total Phosphorus (as P)	mg/l	Quarterly	Standard Method
Total Oxidised Nitrogen (as N)	mg/l	Quarterly	Standard Method

Table 48 - Proposed Secondary Discharge Ambient Monitoring Regime **– SW001**

Parameter	Units	Monitoring Frequency	Analysis method/Technique
pH	pH Unit	Quarterly	pH Meter and recorder
Dissolved Oxygen	% O2	Quarterly	Standard Method
BOD	mg/l	Quarterly	Standard Method
COD	mg/l	Quarterly	Standard Method
Suspended Solids	mg/l	Quarterly	Standard Method
Temperature	˚C	Quarterly	Standard Method
Orthophosphate (as P)	mg/l	Quarterly	Standard Method
Total Nitrogen (as N)	mg/l	Quarterly	Standard Method
Faecal Coliforms	cfu/100ml	Quarterly	Standard Method
Total Oxidised Nitrogen (as N)	mg/l	Quarterly	Standard Method
Total Ammonia (as N)	mg/l	Quarterly	Standard Method
Escherichia coli	cfu/100ml	Quarterly	Standard Method
Intestinal Entercocci	cfu/100ml	Quarterly	Standard Method

D.2 Assessment of impact on receiving waters

This part of the application form collects reports on the assessment of the impact of existing and proposed waste water discharges on the environment including any environmental medium other than that into which the discharges take place or are to take place. The impact assessment reports address at least the impact on the quality of receiving waters (surface water or groundwater) and may, as appropriate, address European sites.

Where a Natura Impact Statement (NIS) does not accompany the application, you are required to provide an Appropriate Assessment (AA) screening report.

Is this application accompanied by an NIS?	No. The NIS is being currently finalised and will be forwarded to the Agency upon completion

D.2.1 Supporting document

The impact Assessment Report should be submitted (as Attachment D2) in accordance with the guidance and the name assigned to the attachment(s) provided in the table below.

Table 49 - Assessment Reports.

Document type	Document name
Impact Assessment Report	**Attachment D.2.1**: Impact Assessment Report. To be forwarded to the Agency upon completion
Natura Impact Statement	**Attachment D.2.2:** AA Screening Report & Natura Impact Statement. To be forwarded to the Agency upon completion
Modelling Assessment	**Attachment D.2.3:** Water Quality Modelling Report. To be forwarded to the Agency upon completion
Priority Substance Assessment Report	**Attachment D.2.4**: Priority Substance Assessment Report, May 2023

D.3 Closing Remarks

This part of the application form is a short statement summarising the environmental outcome of your application and assessment.

State the environmental outcome of your application and assessment and reasons for same:

Under this review the existing WwTP's will continue to provide the required level of treatment, which includes tertiary treatment *via* UV disinfection at Midleton, and tertiary treatment *via* Nerada (Aerobic Granular Sludge process) which provides for N and P removal at Carrigtwohill.

The ELVs under this review have been proposed by Uisce Éireann in order to support the water quality objectives of the receiving waterbodies and to ensure that the discharges from the amalgamated agglomeration do not cause a deterioration in the chemical status in the receiving body of waterbodies and do not exclude or compromise the achievement of the objectives and EQSs established for protected areas (*e.g.,* European sites water dependant species and natural habitats, designated bathing waters, designated shellfish waters).

The effluent standards proposed will give effect to the principle of the Combined Approach as defined European Union (Waste Water Discharge) Regulations 2007-2020 (as amended) in that they accommodate the Urban Waste Water Regulations, and the status and objectives of the receiving waterbodies. The design of Midleton and Carrigtwohill WwTPs are each greater than 15,000 p.e and therefore in line Article 4 of the Urban Waste Water Treatment Directive (UWWTD), *"Member States shall ensure that urban waste water entering a collecting system shall before discharge be subject to secondary treatment or an equivalent treatment […] for all discharges from agglomerations of more than 15,000 pe*". In line with the above, Carrigtwohill WwTP provides tertiary treatment with N & P removal, and Midleton WwTP provides tertiary treatment with N removal. As the proposed secondary discharge (SW001) from the amalgamated agglomeration is a combined outfall and discharges treated effluent from Midleton WwTP, and Industries P0442-02 and P1103-01, ELVs will also apply directly at Midleton WwTP to comply with the UWWTD requirements. Under this review there are no proposed changes to the ELVs that apply directly at the Midleton WwTP.

Uisce Éireann is committed to ensuring that the Midleton and Carrigtwohill WwTWs operates in a manner that supports the achievement of the water body objectives under the Water Framework Directive, and their obligations under the Birds and Habitats Directives and all applicable Directives and National Regulations.

A Water Quality Modelling Report is currently being finalised to determine the potential impact of the future operating conditions of the proposed discharges from the amalgamated agglomerations on the receiving water environment. Upon completion, the results of the Water Quality Modelling along with a copy of the Environmental Impact Assessment Report, AA Screening and NIS Report, and Impact Assessment Report will be forwarded to the Agency to inform this WWDL review process.

SECTION E: DECLARATION

E.1. Declaration

The Signed Declaration template should be downloaded from the EPA website (www.epa.ie), completed and submitted in accordance with the Guidance Document.

E.1.1 Supporting documentation

The name assigned to the Signed Declaration document should be provided in the following table:

Table 52 - Signed Declaration document name

Document type	Document name
Declaration	**Attachment E.1:** Signed Declaration

END

ATTACHMENTS

SECTION A: NON-TECHNICAL SUMMARY

Attachment A.1: Non-Technical Summary

A.1.1: Non-Technical Summary, June 2023

A.1.2: Map 1 - Area of Interest

SECTION B: GENERAL

Attachment B.2: Agglomeration Details

Attachment B.2.1: Map 2 - Agglomeration Boundary & WwTPs Location Map

Attachment B.2.2: Map 3 – Carrigtwohill WwTP Site Location Plan

Attachment B.2.2: Map 4 – Midleton WwTP Site Location Plan

Attachment B.2.2: Map 5 – Carrigtwohill Location of Primary Discharge Point & Sampling Point

Attachment B.2.2: Map 6 – Midleton Location of Secondary Discharge Point & Sampling Point

Attachment B.2.2: Map 7 – Overflows in Carrigtwohill Functional Area

Attachment B.2.2: Map 8 – Overflows in Midleton Functional Area

Attachment B.2.2: Map 9 – Location of Ambient Monitoring Point D/S of Primary Discharge Point

Attachment B.2.2: Map 10 – Location of Ambient Monitoring Points U/S and D/S of Secondary Discharge Point

Attachment B.2.3a: Carrigtwohill WwTP Waste Water Process Flow Diagram

Attachment B.2.3b: Midleton WwTP Waste Water Process Flow Diagram

Attachment B.3: Planning Documentation

Attachment B.3.1a: Water Rock Part 8 Planning Grant

Attachment B.3.1b: Water Rock Part 8 Report of Chief Executive

Attachment B.3.2: Midleton North Pumping Station & Network Planner's Report

Attachment B.3.3: Midleton North Pumping Station & Network Conditional Grant of Planning

Attachment B.3.4: Notice of Appeal to An Bord Pleanála

Attachment B.3.5: Section 5 Exempted Development Letter Water Rock to Carrigtwohill Pipeline

Attachment B.3.6a: Carrigtwohill WwTP Expansion Planning Grant

Attachment B.3.6b: Carrigtwohill WwTP Expansion Inspectors Report

Attachment B.4: Notices and Advertisements

Attachment B.4.1: Newspaper Notice

Attachment B.4.2: Site Notice

Attachment B.4.3: Map 11 - Site Notice Location

Attachment B.4.4: Water Services Authority Notice

Attachment B.3.5: EIA Portal Confirmation

Attachment B.5: EIAR

To be forwarded to the Agency.

Attachment B.6: Compliance with EU Directives & National Regulations

Attachment B.6: Compliance with EU Directives & National Regulations

Attachment B.7: Foreshore Act Licences

Attachment B.7.1: Carrigtwohill Foreshore Licence, November 2015

Attachment B.7.2: Midleton Foreshore Licence, September 1999

Attachment B.7.3: Rathcoursey Tidal Holding Tank & Outfall Pipeline Foreshore Licence, March 1986

Attachment B.8: Improvement Programme

Attachment B.8: Improvement Programme

SECTION C: DISCHARGES & MONITORING

Attachment C.1 Discharges and Monitoring

Attachment C.1: Discharges and Monitoring

Attachment C.2 Measures to Prevent Unintended Discharges

Attachment C.2: Measures to Prevent Unintended Discharges

SECTION D: IMPACT ASSESSMEMENT

Attachment D.1: Receiving Waters

Attachment D.1: Map 12 - Receiving Water Designations

Attachment D.2: Assessment of Impact on Receiving Waters

Attachment D.2.1: Impact Assessment Report - ***To be forwarded to the Agency.***

Attachment D.2.2: AA Screening Report & Natura Impact Statement - ***To be forwarded to the Agency.***

Attachment D.2.3: Water Quality Modelling Report - ***To be forwarded to the Agency.***

Attachment D.2.4: Priority Substance Assessment Report, May 2023

SECTION E: DECLARATION

Attachment E.1 Declaration

Attachment E.1: Signed Declaration