

Attachment A.1 – Non-Technical Summary

1. Introduction

Ballycotton is a small coastal village located in East Cork, approximately 40km east of Cork City and approximately 20km southwest of the town of Midleton. The village has been identified by the EPA as a Priority Area where untreated wastewater is currently being discharged into the environment.

The objective of the Ballycotton Sewerage Scheme is to provide two new pumping stations (PS), gravity sewers, rising mains and a wastewater treatment plant (WwTP) capable of providing appropriate preliminary and primary wastewater treatment for the agglomeration. The existing outfall will be used to discharge treated effluent to the sea. All infrastructure has been designed based on the projected loading associated with a 30-year design horizon, but the initial scheme objective is to provide infrastructure for the 10-year projected load.

A planning application was submitted to Cork County Council for the proposed Ballycotton Sewerage Scheme (reference no. 21/04483). Planning for the Scheme has now been granted.

Please refer to **Attachment B.2.1 – Agglomeration Map** for a map of the Ballycotton agglomeration.

2. Population Equivalent

The current population equivalent within the Ballycotton agglomeration is 799.

The proposed Ballycotton sewerage scheme has been designed for a 10 year predicted population equivalent of 1082 (for which the application relates)

3. Description of the wastewater discharges from the wastewater works serving the agglomeration

The sources of the emissions from the proposed WwTP include treated effluent, screenings from the inlet screens, sludge from the primary settlement tanks are largely associated with the residential population of the agglomeration, as well as domestic type wastewater discharge from commercial sources (shops, offices etc.).

Existing Discharges

Primary Discharge (SW001)

The existing primary discharge (SW001) serves the west agglomeration collection network. SW001 currently discharges wastewater to Ballycotton Bay via marine outfall with little to no treatment (i.e. the outfall is served by a septic tank constructed in the 1950's which is ineffective).

Secondary Discharge (SW002)

Secondary Discharge (SW002) serves the east agglomeration collection network. SW002 currently discharges untreated wastewater to Ballycotton Bay via an outfall along the eastern side of Ballycotton Pier.

Storm Water Overflow (SW003)

Storm water overflow (SW003) currently discharges storm water from the overflow of the existing septic tank to Ballycotton Bay via a marine outfall.

Proposed Discharges

Primary Discharge (SW004)

The existing primary discharge outfall (identified as SW001 under the current WWDL) serving the west of the agglomeration which currently discharges via a septic tank near Cow Lane will be repaired and reused as the primary discharge (identified as SW004) discharging treated effluent via gravity from the WwTP.

The proposed primary discharge point (SW003) will be located at the following Irish National Grid coordinates – E199286, N64270.

Please refer to **Attachment B.2.2** for primary discharge location map.

Dual Function Emergency / Stormwater Overflows

The existing secondary discharge (identified as SW002 under the current WWDL) serving the east of the agglomeration which currently discharges untreated wastewater to Ballycotton Bay via an outfall on the eastern side of Ballycotton Pier will be discontinued in accordance with Schedule C2 of the current licence. The outfall pipe shall be reused as the dual function emergency/stormwater overflow (identified as SW006) for the proposed Pier PS.

The proposed Pier PS dual function emergency/stormwater overflow discharge point (SW006) will be located at the following Irish National Grid coordinates – E200016, N63892.

A dual function emergency/storm water overflow will be provided at the WwTP site (SW005). Screened flows in excess of FFT (Flow to full treatment) will overflow to a buffer tank. In the unlikely event that the buffer tank fills to capacity, excess flows will overflow via the WwTP outfall to Ballycotton Bay via the gravity outfall.

The proposed WwTP dual function emergency/stormwater overflow (SW005) will be located at the following Irish National Grid coordinates – E199286, N64270.

A dual function emergency/storm water overflow will be provided to serve the Cow PS (SW007).

The proposed Cow PS dual function emergency/stormwater overflow (SW007) will be located at the following Irish National Grid coordinates – E199286, N64270.

The emergency/stormwater overflows (SW005, SW006 and SW007) from the WwTP and Pumping Stations respectively will only operate in an emergency event (*e.g.*, power failure). The likelihood of an emergency event is low, and there is provision for the connection of a mobile power generator facility in the event of a power failure.

All stormwater overflows have been designed in compliance with the definition of ‘*Storm Water Overflow*’ as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended and the criteria as set out in the DoEHLG ‘*Procedures and Criteria in Relation to Storm Water Overflows*’, 1995.

Please refer to **Attachment B.2.2** for emergency/stormwater overflow location maps.

Proposed Outfall ID	Type	Details	Type of Discharge
SW004	Proposed primary discharge to replace existing primary discharge.	Treated effluent outfall.	Continuous
SW005	WWTP SWO	Stormwater / emergency overflow	Intermittent

SW006	Pumping station stormwater overflow to replace existing secondary discharge.	Stormwater /emergency overflow.	Intermittent
SW007	Pumping station emergency overflow	Stormwater /Emergency overflow	Intermittent

Table 1; Proposed Discharges

4. Description of the wastewater works and associated wastewater treatment plant, Ballycotton Sewerage Scheme Overview

At present, wastewater generated in the agglomeration is collected in two combined collection systems. The west of the agglomeration is served by a sewer network draining to a septic tank, located along the foreshore and discharges into the Ballycotton Bay via a sea outfall (identified as SW001 under the current WWDL). The septic tank dates from the 1950s and has an estimated capacity to provide primary treatment for 50-60PE. The septic tank is overloaded and it is assumed to be providing little to no treatment. As such Table 10 of the application form has been completed on the basis that no treatment is currently being provided within the agglomeration.

The east of the agglomeration is served by a collection network, which discharges untreated wastewater from an outfall by the pier into Ballycotton Bay (identified as SW002 under the current WWDL). This practice of discharging untreated wastewater to the bay is no longer acceptable and Irish Water intends to fix this problem in partnership with Cork County Council by developing a sewerage scheme.

The proposed Ballycotton Sewerage Scheme will provide a new wastewater treatment plant (WwTP) providing primary treatment (as required under Schedule C.1 Specified Improvement Programme in the current licence), gravity sewer sized to convey treated effluent from the WwTP to the existing outfall, 2 no. proposed wastewater pumping stations with stormwater storage, approximately 1,220m of new wastewater rising mains, 655m of new gravity sewers and associated and ancillary infrastructure.

Proposed Pumping Stations

The Pier Pumping Station

As part of the proposed Ballycotton sewerage scheme, a pumping station will be constructed on Ballycotton Pier (Pier PS). This pumping station will intercept wastewater flows from the east agglomeration collection network which currently discharges untreated wastewater to Ballycotton Bay (identified as SW002 under the current WWDL).

65m³ of stormwater/emergency storage capacity will be provided at the Pier PS.

From this pumping station the wastewater will be pumped, via a rising main, in a north westerly direction along Main Street to a header manhole west of the grotto.

From the header manhole, the wastewater will flow via a new section of gravity sewer and then an existing gravity sewer westward along Main Street to the second pumping station which is to be located along 'Cow Lane' at the top of the slipway.

The Cow Pumping Station

The Cow Lane pumping station (Cow PS) will collect wastewater flows from the west agglomeration collection network which currently discharges via septic tank and marine outfall to Ballycotton Bay (identified as SW001 under the current WWDL) as well as flows from the Pier PS and pump them to the proposed WwTP for treatment.

105m³ of stormwater/emergency storage capacity will be provided at the Pier PS.

Proposed Wastewater Treatment Plant

The proposed Ballycotton WwTP will provide primary treatment designed to cater for a hydraulic and biological load for the 10-year predicted population (1,082PE). Wastewater will be treated to the discharge standards of a 20% reduction in cBOD and a 50% reduction in Suspended Solids as required by Schedule A1 of the current Licence.

The proposed WwTP will be located at the following Irish National Grid coordinates – E198791, N64116.

The WwTP will consist of an inlet works, stormwater buffer tank, primary settlement tanks, sludge holding tank, treated effluent balance tank and site control facilities

Once operational, the proposed Ballycotton Sewerage Scheme will provide an effective wastewater collection network and treatment capacity, for current and future agglomeration loads. The proposed scheme will improve water quality in Ballycotton Bay and bring benefits associated with health,

amenity, environmental quality as well as facilitating economic and social development for Ballycotton, which has been constrained by the lack of adequate wastewater treatment capacity.

Once operational, the Ballycotton WwTP will eliminate the discharge of untreated wastewater to Ballycotton Bay, thereby having a significantly positive impact on water quality, aligning with objectives set out in the Water Framework Directive (2000/ 60/ EC) and the European Communities Environmental Objectives (Surface Water) Regulations, SI272 of 2009, as amended (Surface Water Regulations).

For further information on the proposed WwTP and its components, please refer to **Attachment B.8 – Improvement Programme**.

Please refer to **Attachment B.2.2** for WwTP Site Plan.

5. Description of the features and measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset the significant adverse effects on the environment

Irish Water are committed to ensuring that water services infrastructure operates in a manner that supports the achievement of the water body objectives under the Water Framework Directive.

Standard Operating Procedures, Environmental Plans and Site Emergency Plans will be developed by the Contractor prior to the WwTP becoming operational.

All stormwater overflows have been designed in compliance with the definition of '*Storm Water Overflow*' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended and the criteria as set out in the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows*', 1995.

For information on features which have been included in the design of the WwTP and pumping stations to prevent or reduce and, if possible, offset the significant adverse effects on the environment, please refer to **Attachment C.2 – Measures to Prevent Unintended Discharge**.

6. The proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the waste water works

The proposed WwTP has been designed by the appointed Contractor to ensure the primary discharge of treated effluent achieves a 20% reduction in $cBOD$ (mg/l) and 50% reduction in Suspended Solids

(mg/l). The proposed WwTP will provide primary treatment prior to discharging effluent to Ballycotton Bay. This level of treatment is appropriate to ensure compliance with the Urban Waste Water Treatment Directive.

The WwTP has been designed, and will be operated, to ensure the primary discharge of treated effluent, and the activation of any Storm Water Overflows/Emergency Overflows, do not cause a significant adverse effect on the receiving environment *i.e.*, Ballycotton Bay.

7. Description of the Receiving Waterbody

The primary discharge from the proposed Ballycotton WwTP will be to Ballycotton Bay (coastal waterbody, WFD code IE_SW_040_0000). The primary discharge will be via an existing marine outfall (SW004). The EU Water Framework Directive (WFD) has established a Framework for the protection, improvement, and management of surface water and groundwaters. The EPA website (www.epa.ie) indicated that Ballycotton Bay was classified as “*Not at risk*” in accordance with the WFD 2013-2018 Risk Status and the ecological status is noted as “*Good*” (2013-2018).

The WFD objective for Ballycotton Bay is to achieve “*Good*” status by 2027. Ballycotton Bay has not been identified as a significant pressure and does not have high ecological status objectives.

For further information on the receiving waters, please refer to **Attachment D.2-1-Impact Assessment Report**.

8. Description of the likely significant effects of the discharges on the environment,

The proposed WwTP will be designed to cater for a hydraulic and biological load up to a population equivalent (PE) of 1,082 (Phase 1: 10-year design horizon). Primary treatment of wastewater will be provided, with treated effluent quality achieving a 20% reduction in $cBOD$ and a 50% reduction in Suspended Solids. Flows of $1,565m^3/day$ (Formula A for the 10-year design horizon) are expected at the WwTP. It is expected that the proposed discharge of treated effluent will result in an improvement of the receiving waters as currently, as there is currently inadequate and no treatment from the west and east collection networks respectively. Further detail on estimated quantities of emissions are provided in Section B.4.

9. Measures planned to monitor emissions into the environment

The primary discharge monitoring will be carried out in accordance with the licence requirements.

Proposed monitoring for effluent is as per existing licence as per table 2 below;

Discharges Emission Levels and Monitoring							
Primary Discharge (SW004)					Monitoring		
Parameter	Units	Interim emission level (or Interim % Reduction)	Proposed emission level	Emission level commencement date	Monitoring Frequency	Sampling Method	Analysis method/Technique
cBOD	mg/l	-	20% reduction	Q4, 2024/Upon commissioning of new plant (whichever is sooner)	Bi-monthly	Composite	Standard method
Suspended Solids	mg/l	-	50% reduction	Q4, 2024/Upon commissioning of new plant (whichever is sooner)	Bi-monthly	Composite	Standard method

Table 2 – Primary discharge monitoring

As discharges are coastal, ambient monitoring will be conducted by EPA as part of TraCs monitoring.

10. The hours during which the wastewater works is supervised or manned and days per week of this supervision

At a minimum: 8 hours per day (Monday to Friday) with out of hours cover and remote monitoring available also

11. In the event of a review application, state the grounds for which this review application is being made.

The reasons for review are as follows:

1. Increase in licence threshold band – change from 500-1000 to 1,001 – 2,000 &
2. Increase in authorised PE (for which the licence was granted); 971 PE Vs 1,082 PE

The application for review will also describe the current proposals for upgrading the wastewater collection and treatment systems and the programme for completing these upgrades and provide updated details on monitoring and discharge locations. Existing outfalls are being retained but are being repurposed and given new codes. The agglomeration boundary is also changing as part of this licence review.