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Cork UTAS Bundle

Screening for Appropriate Assessment for Ballycotton WWDL

Irish Water

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1 Introduction

1.1 Background

The primary purpose of this report is to provide relevant material to inform a decision by the relevant competent authority, as required under Article 6(3) of the EU Habitats Directive (see Section 1.1), as to whether the operation of the proposed Ballycotton Wastewater Treatment Plant (WwTP) is likely to have any significant impacts of on the Conservation Objectives of any Natura 2000 site. This report should be read in conjunction with the application for review of the existing waste water discharge licence, to be submitted to the Environmental Protection Agency. This Screening for Appropriate Assessment is focused on the discharge of treated effluent from the proposed WwTP at Ballycotton, Co. Cork through the existing sea outfall, as well as the potential impact of the stormwater overflows resulting from emergency events.

1.2 Legislation

The Birds Directive (2009/147/EC) and the Habitats Directive (92/42/EEC) put an obligation on EU Member States to establish the Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU. In Ireland, the Natura 2000 network of European sites comprises Special Areas of Conservation (SACs, including candidate SACs) and Special Protection Areas (SPAs, including proposed SPAs). SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats.

Each site is selected due to the presence of habitats or species listed in the Birds and Habitats Directives. These species or habitats provide the qualifying interests of the sites and from these the conservation objectives of the site are derived. The Birds and Habitats Directives set out various procedures and obligations in relation to nature conservation management in Member States in general, and of the Natura 2000 sites and their habitats and species in particular. The conservation objectives of particular Natura 2000 sites have been assigned by the National Parks and Wildlife Service (NPWS) of the Department of Housing, Local Government and Heritage; these are the objectives or aims which have been put in place to maintain or restore the favourable conservation status or condition of the Annex I habitat or Annex I or II species for which the designated or classified site has been selected.

A key protection mechanism is the requirement to consider the possible nature conservation implications of any plan or project on the Natura 2000 site network before any decision is made to allow that plan or project to proceed. Not only is every new plan or project captured by this requirement but each plan or project, when being considered for approval at any stage, must take into consideration the possible effects it may have in combination with other plans and projects when going through the process known as Appropriate Assessment (AA). The direct and indirect

effects must be considered. Indirect effects may arise due to pathways or connections to a European site, *i.e.,* a hydrological connection may result in indirect effects on that site due to changes in water flows or construction related emissions. Similarly, there may be indirect impacts to European sites via impacts to non-Qualifying Interest habitats within a site or such habitats outside a site, or via impacts to species for which a site has been designated beyond the site where this might affect the conservation objectives of the site. This is particularly relevant in relation to SPAs where areas outside the European site are often important for bird species.[1]

The obligation to undertake AA derives from Article 6(3) of the Habitats Directive and involves a number of steps and tests that need to be applied in sequential order. Article 6(3) is concerned with the strict protection of sites and it states that, "[a]ny plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives".

Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances. As set out in Section 177U of the Planning and Development Act 2000 as amended, a screening for appropriate assessment of an application for consent for the proposed development must be carried out by the competent authority to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effect on any European site. Each step in the assessment process precedes and provides a basis for other steps. The results at each step must be documented and recorded carefully so there is full traceability and transparency of the decisions made.

Section 42 (1) of S.I. No. 477 of 2011, the European Communities (Birds and Natural Habitats) Regulations 2011 states: "A screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site."

Where the screening process cannot exclude the possibility that a plan or project, individually or in combination with other plans or projects, could have a significant effect on a European site, there is a requirement under Article 42 (9) of these Regulations for the preparation of a Natura Impact Statement to inform the Appropriate Assessment process.

[1] Office of the Planning Regulator, *Appropriate Assessment Screening for Development Management,* OPR Practice Note PN01

1.3 Report Structure

In this report, the Department of the Environment, Heritage and Local Government guidance *"Appropriate Assessment of Plans and Projects in Ireland – guidance for Planning Authorities, 2009 – Revised 11 February 2010"*, the European Commission (2001) guidelines *"Assessment of plans and projects significantly affecting Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC"* and the European Commission (2018) guidelines *"Managing Natura 2000 sites. The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC"* are followed.

The implications of the discharge of treated effluent of the WwTP are assessed, individually and in combination with any other relevant developments, plans or projects, in light of:

- the nature and quality of habitats within and adjacent to the site of the proposed development;
- information relating to the ecology of the relevant Natura 2000 sites;
- the status of Features of Interest of the relevant Natura 2000 sites;
- the scale and nature of the aspects of the project in relation to the Natura 2000 site.

1.4 Site Location

Ballycotton is a small coastal village located in East Cork, approximately 40km east of Cork City and approximately 20km southwest of the town of Middleton. The agglomeration was identified by Irish Water as providing negligible level of treatment for sewerage. The WwTP site is a greenfield site to the south west of the agglomeration and is outside the local area plan settlement boundary. The area is located on elevated land to the rear of the school and is 70m north of the Cork County Council service reservoir. See Figure 1 below

At present, wastewater flows generated in the agglomeration are collected in two combined (foul and storm water) collection systems. The west of the agglomeration is served by a sewer network which flows to a septic tank located along the foreshore which discharges into the Ballycotton Bay via a sea outfall. The septic tank dates from the 1950s and is significantly overloaded.

The east of the agglomeration is served by a collection network which discharges untreated waste water into Ballycotton Bay via an outfall on Ballycotton Pier. 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. Proposed works are described in further detail in Section 2.1.

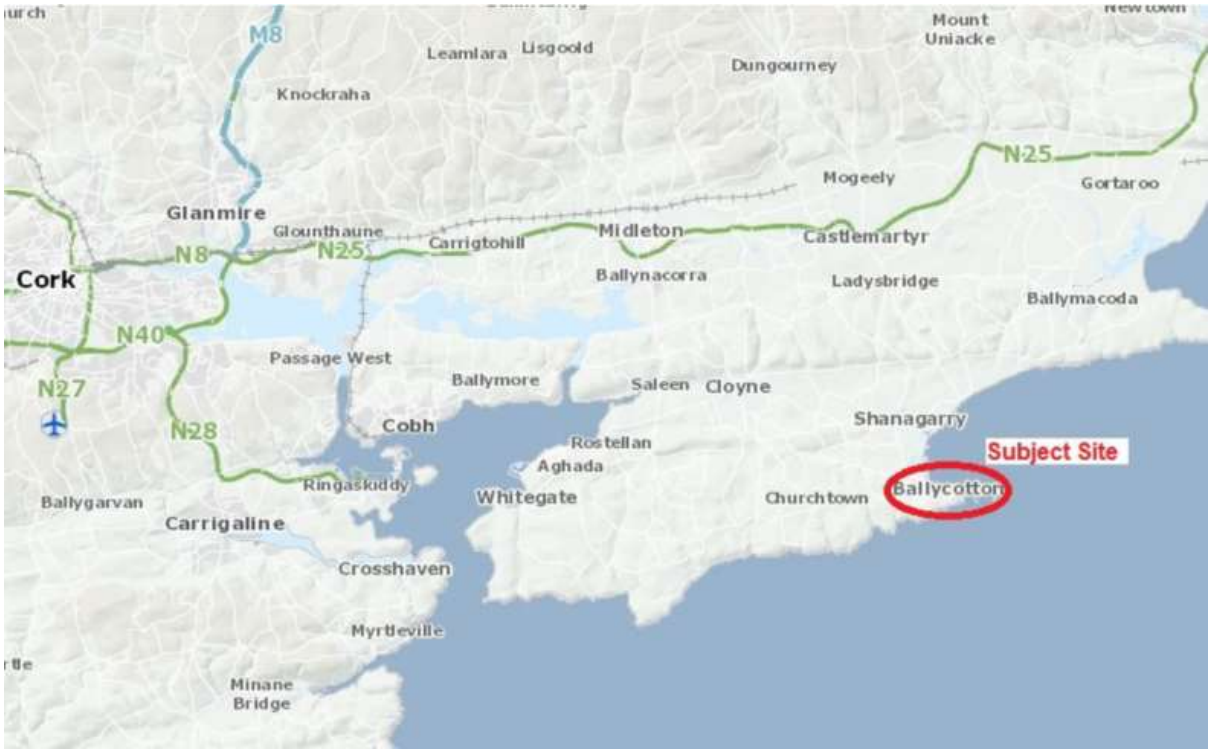

Figure 1 Site location.

1.5 Potentially Affected Natura 2000 Sites

The EPA mapping system[2] was used to locate Natura 2000 sites in the vicinity of the proposed development and with a direct or indirect physical connection to this development. Natura 2000 sites (European sites) are only at risk from significant effects where a source-pathway-receptor[3] link exists between a proposed development and a Natura 2000 site(s). The European sites were examined against the potential zone of influence of the operational impacts of proposed WwTP in terms of source-pathway-receptor linkage and associated risks to determine which sites may experience potential impacts. It was found that:

- Ballycotton Bay Special Protection Area (SPA 004022) is located *c*. 70m from the discharge point.
- Ballymacoda Bay Special Protection Area (SPA 004023) is located approximately 10km from the subject site when measured as a straight line and 14km when measured along an aqueous pathway by the coastline.
- Ballymacoda Bay Special Area of Conservation (SAC 000077) is located over 8km from the subject site when measured as a straight line and approximately 14km when measured along an aqueous pathway by the coastline.

[2] https://gis.epa.ie/EPAMaps/
[3] Source-pathway-receptor model means that the effects [the 'source'] originating at some distance from the sensitivity [the 'receptor'] can cause impacts via a 'pathway'. Water is one of the most common pathways.

- Cork Harbour Special Protection Area (SPA 004030) is located over 11km from the subject site when measured as a straight line and approximately 26km when measured along an aqueous pathway by the coastline.
- Great Island Channel Special Area of Conservation (SAC 001058) is located approximately 12km from the subject site when measured as a straight line and approximately 31km when measured along an aqueous pathway by the coastline.

The Zone of Influence for this project showed only one European Sites with the potential to be affected. Ballycotton Bay SPA is in the Zone of Influence as it is hydrologically connected to the outfalls from the Ballycotton WwTP. The boundary of Ballycotton Bay SPA is located *c*. 100m from the WwTP primary discharge point (SW004) which is the same discharge outfall as the WwTP combined emergency/ stormwater overflow (SW005) and the Cow Pumping Station combined emergency/stormwater overflow (SW007). The Pier pumping station stormwater overflow (SW006) is located >900m from Ballycotton Bay SPA (see Appendix A for outfall locations). As the other European sites have no connectivity with the site of the proposed WwTP, nor with the outfalls, potential impacts on the Conservation Objectives of these sites can be screened out.

1.6 Relevance of Scheme to Management of Natura 2000 Sites

The proposed WwTP and its operations are not directly connected with or necessary to the management of this Natura 2000 and, as such, does not undertake measures for the site's conservation management. However, the treatment provided by the WwTP, and the screening of the emergency/stormwater outfalls, will result in better quality of the effluent with potential for some localised improvement in water quality within Ballycotton Bay SPA. See Section 2.1 for further details of the proposed project.

1.7 Report Preparation

This AA Screening report was prepared utilising information collated during the previous AA Screening and NIS prepared by Pascal Sweeney, B.Sc., M.Sc., for the planning application for the proposed wastewater facilities in Ballycotton. Pascal has over 250 reports for Appropriate Assessment for a wide variety of proposed developments, including local authority wastewater treatment plants, flood defence schemes, fish passes, bridge improvements, landfills, large industrial developments and private housing.

The AA Screening Report has been reviewed and approved by Dr. Brendan O'Connor, Ph.D., a specialist with over 40 years' experience in the biology of aquatic communities and has extensive experience in the preparation of Appropriate Assessment Screening Reports and Natura Impact Statement. Brendan has participated in over 50 scientific publications on aquatic species and habitats.

2 Proposed Scheme

2.1 Proposed Scheme

The objective of the Ballycotton UTAS project is to provide upgrades to the network and provide a wastewater treatment plant (WwTP) capable of primary treatment. A site has been identified for the scheme for a 30-year projected capacity but the initial project objective is to provide infrastructure for the 10-year projected load with a Population Equivalent (PE) of 1082. The works are proposed to meet the primary objective of providing treatment for wastewaters collected in the agglomeration of Ballycotton, Co. Cork.

The proposed treatment plant will provide primary treatment to achieve, as a minimum, an effluent quality that meets the requirements of the wastewater discharge licence:

- Biochemical Oxygen Demand (BOD_5) – 20% reduction
- Suspended Solids (SS) – 50% reduction

Two new pumping stations (PS) will be required to deliver the wastewater to the WwTP. The PSs will be located to intercept the discharges from the eastern and western collection networks. Appendix A contains the drawings of the proposed works and associated outfalls.

The first PS will be located on the Ballycotton pier (Pier PS) at the eastern end of the town. Several locations were considered for this PS but this was found to be the most viable option from technical, environmental and economic aspects. From this PS, 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 through 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 PS).

The Cow PS will then pump the wastewater via rising main to the proposed WwTP. The proposed site for the WWTP is located north of the existing water reservoir and south of the development boundary. Access to the site will be along the existing right-of-way to the water reservoir with a new right-of-way to the proposed WWTP site.

The treated wastewater will then flow via gravity to the top of 'Cow Lane' where it will tie into the existing outfall which discharges to the sea (SW004).

Following the completion of the construction works, wastewater treatment services at Ballycotton will be upgraded. This will ensure that the practice of discharging untreated sewage into Ballycotton Bay is ceased while it is also expected to provide sufficient wastewater treatment capacity to cater for the expected future population growth in Ballycotton.

2.2 Operational Phase

Once the proposed sewerage scheme is operational, the overall quantity of BOD and Suspended Solids being discharged to Ballycotton Bay from the agglomeration will be reduced, with primary treatment achieving 20% reduction in BOD and 50% reduction in Suspended Solids. The outfall (SW004) will now be serving a larger population equivalent and so, an increased quantity in BOD and Suspended Solids will be discharged at SW004 locally.

There will be emissions from the proposed development during the operational phase. Treated effluent will be discharged to Ballycotton Bay from the proposed marine treated outfall linked to the WwTP, while dilute storm water discharges will also overflow from the pumping stations to receiving waters on an infrequent basis.

An Impact Assessment Report which includes an assimilative capacity assessment describes the number of dilutions that will be achieved at a given distance from the primary discharge point (SW004). It found a dilution value (D) of 283. Irish Waters Technical Standards for Marine Modelling (Document Number IW-TEC-100-015) requires a minimum of 100 initial dilutions for new primary treated effluent discharges. As such the calculated 283 is considered more than adequate.

An assessment of concentrations of dissolved organic nitrogen and dissolved oxygen was carried out based on background concentrations and peak levels in the treated effluent. In coastal waters, the main physico-chemical elements assessed are dissolved oxygen (DO) and nitrogen (as dissolved inorganic nitrogen (DIN)). The monitoring data indicate that the waters of Ballycotton Bay met the “High status” environmental quality standards set out in the SWR in the period 2019-2022, though Ballycotton Bay is currently classified as “good” status. An assessment of the discharge effluent indicated that it will not impact on the ability of the receiving water to maintain its current “good” status and in fact, would allow compliance with “high” status (see Appendix D for more information on the Impact Assessment Report and the assimilative capacity assessment, including ambient monitoring data collected).

In the event of an emergency, each pumping station will include a stormwater/emergency storage tank, with the capacity for 24 hour emergency storage. Should the flows entering the wet well be greater than the pump forward flow rate, the excess flows will spill into the storm water holding tank through an electronically operated mechanical screen. If the 24 hour storage capacity is exceeded, all flows will be screened before discharging to Ballycotton Bay.

At the Pier PS, the excess flow will discharge from the holding tank (SW006). The existing overflow pipe discharges on the eastern side of the pier. An overflow weir has been provided in the design to facilitate flow measurement and logging of the emergency overflow, so that volumes of storm spillage to the receiving waters can be quantified.

At the Cow PS, an overflow pipe will not be provided. Instead, a combined sewer overflow (CSO) chamber will be constructed at the head of Cow Lane to accommodate any excess flows should

the stormwater holding tank reach capacity which discharges to Ballycotton Bay via marine outfall (SW007).

A venturi aerator has been incorporated into the design at both pumping stations to provide mixing and aeration in the stormwater holding tank. The operation will be based on a high and low level in the tank.

2.3 Potentially Affected Habitats/Species

The potential impact zone within which habitats and species could potentially be affected by the proposed development is taken as being the entire designated area of Ballycotton Bay SPA, particularly in areas adjoining the footprint of the proposed works (the stony shore in the southeast corner of the SPA) and the receiving aquatic habitat. As noted above in Section 1.4, other Natura 2000 sites in the vicinity of the Upgrade Project have been screened out as they are deemed to be outside of the Zone of Influence of the proposed WwTP and it's outfalls, and are, therefore, unaffected by its operation.

3 Site Assessment

3.1 Ballycotton Bay SPA

The site assessment examined the Flora, Fauna and Habitats protected under the EU Habitats and Birds Directives. Ballycotton Bay supports an excellent diversity of wintering waterfowl and has nationally important populations of eleven species (NPWS, 2014). The Conservation Objectives for Ballycotton Bay SPA can be summarised as follows: To maintain the favourable conservation condition of all QI's including all bird species and the habitats upon which they rely (NPWS, 2022).

Ballycotton Bay SPA	
Qualifying Interests (QIs)	Teal (*Anas crecca*) Ringed Plover (*Charadrius hiaticula*) Golden Plover (*Pluvialis apricaria*) Grey Plover (*Pluvialis squatarola*) Lapwing (*Vanellus vanellus*) Black-tailed Godwit (*Limosa limosa*) Bar-tailed Godwit (*Limosa lapponica*) Curlew (*Numenius arquata*) Turnstone (*Arenaria interpres*) Common Gull (*Larus canus*) Lesser Black-backed Gull (*Larus fuscus*) Wetlands and Waterbirds
Features of biodiversity note	The principal habitat within this SPA site of approximately 281ha is inter-tidal sand and mudflats. The site comprises two sheltered inlets which receive the flows of a number of small rivers. It supports a range of estuarine habitat types including a formerly lagoonal lake, saltmarsh, sand and mudflats and some shallow marine water. The inter-tidal flats provide the main feeding habitat for the

	wintering birds. It supports an excellent diversity of wintering waterfowl species, and it is well known location for passage waders in the autumn.
Key planning requirements to protect/restore site integrity	Prevent disturbance to wintering birds; Maintain a high standard of water quality in discharging rivers and transitional coastal zones in bay area; prevent direct loss of estuarine habitats within the SAC; prevent drainage of wetland habitats; prevent contamination or deterioration of estuarine habitats.

Source: Cork County Council (2014) "Cork County Development Plan: Volume 3" http://corkcocodevplan.com/wp-content/uploads/2017/10/CCDP_Volume_3.pdf

3.2 Scheme Area Assessment

3.2.1 Scheme Area Habitat Assessment Methods

Field work for habitat assessment of the site was carried out on four occasions, coinciding with times of a low tide: 04/12/2017, 18/05/2018, 17/06/2018 and 24/07/2018. These assessments were in line with the Heritage Council Best Practice Guidance for Habitat Survey and Mapping (Smith *et al.,* 2011) and habitats were classified to level 3 of the Fossitt (2000) classification system. To illustrate the general habitat quality, photographs were taken using a digital camera. Grid references were recorded using a GPS handset. Site evaluation is based on the guidelines of the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

Water quality was assessed by desktop study, examining the most up-to-date information available from EPA and other data sources.

3.2.2 Features of Interest Species Assessment Methods

The suitability of the habitats within the footprint of the outfall for bird species listed as Features of Interest of the SPA was assessed by the criteria of Morrison (1998). The section of upper shoreline between the proposed location of The Cow PS and the SPA boundary was checked for the nesting birds, particularly Ringed Plover, on 17/06/2018 and 24/07/2018, and potential nesting habitat was evaluated.

Bird counts, following a combination of the guidance of Wetlands International (2010) and Lewis & Tierney (2014), were carried out on four dates during the period when wintering birds are present in the SPA, in winter 2018/2019, on days when both a high and a low tide coincided with daylight

hours. On 29/11/2018, 28/12/2018, 28/01/2019 and 26/02/2019, bird present on the shoreline within line of sight of the proposed works site of The Cow PS were counted for 30 minutes at high tide (Appendix B - Photo 1) and again for 30 minutes at low tide (Appendix B - Photo 2). Distances of these birds from the slipway between the SPA and the treated effluent outfall were estimated in the bands, < 50m; 50 – 100m; 100 – 150m; 150 – 200m; >200m. Birds flying past within 100m were also recorded.

3.3 Results

3.3.1 Development Site Habitats

The exposed rocky shore over which the existing outfall pipe is laid (Appendix B - Photo 3) is classified as Habitat Code LR1.

3.3.2 Coastal Water Quality

Water quality has the potential to affect species listed as qualifying interests for SPAs that utilise the intertidal and estuarine habitats in Ballycotton Bay for feeding and/or roosting. At low spring tide on 04 December 2017, a plume of discolouration in the seawater was noted, extending to about 20m from the western outfall (Appendix B - Photo 4). The passage of sewage through the septic tank helps in the removal of suspended solids but there is very little biological activity and the removal of BOD is not significant (Cork County Council, 2009). 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). Moreover, the Water Quality was deemed to be 'unpolluted' during the reporting period 2018-2020 (see Appendix C). However, the Annual Environmental Report by Irish Water (2019) shows Ballycotton Bay is classified as "*Unassigned*". Any deoxygenation or enrichment of the marine habitat from the existing discharge has evidently been very localised and quickly diluted.

Recent ambient monitoring data (2019-2022) for Ballycotton Bay is shown in the table below. The data presented below is based on chemistry monitoring data for Ballycotton Bay (downloaded from Catchments.ie 31/05/22) [(2)]. Comparison with the European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019 (S.I. No. 77 of 2019) (SWR) is also shown below.

Table 1 Ambient Monitoring Data – Ballycotton Bay.

Parameter	BOD (mg/l)	Dissolved Oxygen (% Saturated)	Dissolved Inorganic Nitrogen (mg/l)
Number of Samples	5	6	6
Max result	3.3	107.7	1.6
Min result	0.5	97.3	0.018

Parameter	BOD (mg/l)	Dissolved Oxygen (% Saturated)	Dissolved Inorganic Nitrogen (mg/l)
Median Value	-	-	0.083
Mean Value	1.34	102.07	-
95%ile Value	2.92	106.75	-
EQS High Status as per S.I. No. 77/2019	≤3.0 (95%ile) [1]	95%ile Lower limit >80-85% Upper limit <115-120%	≤0.585[3]
EQS Good Status as per S.I. No. 77/2019	≤4.0 (95%ile) [1]	95%ile Lower limit >70-80% Upper limit <120-130%	≤1.425[3]
Overall compliance with relevant EQS High Status	Yes	Yes	Yes

Note 1: Value for transitional water body under S.I. No. 77 of 2019

Note 2: Where data was reported as less than the limit of detection, LOD/2 was applied

Note 3: In the absence of salinity level data, the DIN EQS has been taken as the median value in accordance with S.I. No 77 of 2019

In coastal waters, the main physico-chemical elements assessed are dissolved oxygen (DO) and nitrogen (as dissolved inorganic nitrogen (DIN)). The monitoring data presented in Table 2 above indicate that the waters of Ballycotton Bay met the "High status" environmental quality standards set out in the Surface Water Regulations 2009 to 2019.

Compliance limits for BOD5 in the water body are not stipulated in the SWR for coastal water bodies. For information purposes, the concentrations of BOD5 have been assessed against the limits as set in the SWR for transitional waters to achieve good/high status, as this would represent the most similar waterbody class. In the above assessment, the ambient water quality monitoring indicates high status under the SWR.

3.3.3 Ballycotton Bay SPA Features of Interest

As stated in the Site Synopsis for Ballycotton Bay SPA, "The inter-tidal flats provide the main feeding habitat for the wintering birds. Salt marshes fringe the flats in the sheltered inlets and these provide high tides roosts". The habitats within the footprint of the proposed development are unsuitable for any significant use by the bird species listed as Features of Interest of Ballycotton Bay SPA. The section of upper shoreline between the outfall and the SPA boundary consists mainly of ridges of exposed bedrock, with some patches of shingle at the top of the shore (Appendix B - Photo 5). No nesting birds were seen here and it is considered that the patches of shingle close to the proposed works location are currently subject to too much regular human disturbance to be of use to ground-nesting birds.

Results of the bird counts carried out at the Cow slipway, located approximately 85m from the slipway on the edge of Ballycotton Bay SPA, are presented in Appendix C. The limited suitability of the stony shore habitat (Appendix B - Photo 6) in this corner of the SPA for roosting or foraging birds is reflected in the count results. Sixteen bird species were recorded. Of these, the following five are Features of Interest on Ballycotton Bay SPA: Ringed Plover (*Charadrius hiaticula*), Curlew (*Numenius arquata*), Common Gull (*Larus canus*), Lesser Black-backed Gull (*Larus fuscus*) and Grey Plover (*Pluvialis squatarola*). None were recorded on the shore. Photographs of some of the birds recorded are presented in Appendix B (Appendix B – Photo7, 8, 9, 10).

3.4 Identification and Appraisal of Impacts on European sites

A screening assessment of the Proposed Upgrade Project, as a whole and its individual components, has been carried out previously. This section relates solely to the impact of the discharge of treated effluent from the WwTP on Ballycotton Bay SPA. The triggers for appropriate assessment are based on a 'likelihood' (read as 'possibility') of a potential significant effect occurring and not on certainty. This test is based on the precautionary principle. Significant effects relate to the conservation objectives for the European site. If a project is likely to undermine any of the site's conservation objectives, it must be considered likely to have a significant effect on that site. This will depend on factors such as the type, extent, duration, intensity, timing, probability, and in-combination effects of the potential impact, as well as the vulnerability of the habitats and species concerned.

The Environmental Protection Agency notes that in-combination effects need only apply to other plans and projects that have an impact on the aquatic environment[4]. There are no other plans or projects in the vicinity of this project to be considered for this Appropriate Assessment Screening.

Potential impacts resulting from the proposed Upgrade Project that have the potential (without mitigation) to result in significant environmental effects have been identified can be summarised as follows:

- Discharge of Treated Effluent from the Ballycotton WwTP at operational phase.
- Discharge of Screened Effluent from the Stormwater/Emergency outfalls in infrequent cases of emergency.

An Impact Assessment Report has been prepared to determine the impact of the discharges from the Ballycotton agglomeration on the receiving waterbody once the proposed upgrade to the Ballycotton Sewerage Scheme becomes operational. This has been considered in this AA Screening and can be seen in Appendix D.

[4] Environmental Protection Agency, *Note on Appropriate Assessments for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007), as amended.*

4 Screening for Appropriate Assessment from Potential Impacts at Operational Phase

4.1 Screening of Potential Impacts from Habitat Loss

The proposed WwTP will not result in direct physical disturbance of the seabed because there will be no change to the existing outfalls. The intertidal and shallow subtidal macroinvertebrate communities in Ballycotton Bay will therefore not experience any of the negative impacts usually associated with that type of disturbance, *e.g.*, habitat destruction and/or changes in species abundance and community composition associated with abrasion, smothering or direct removal.

The proposed development will not result in any loss of habitat within Ballycotton Bay SPA nor will it have any significant impact on the availability of open ground on which wading birds could roost at high tide. It is considered that significant impacts on the Features of Interests of the SPA arising from habitat loss can be screened out.

4.2 Screening of Potential Impacts from Eutrophication

The design and location of the propriety waste treatment system for the proposed development is of a specification that will result in a final effluent that will be to a far higher standard than is currently the case, even with the screened discharge from the emergency/stormwater outfalls, which may occur on an infrequent basis. Information on coastal water quality and coastal waterbodies risk on the EPA website indicates that in the recent past, the existing discharges were not having sufficient impact on water quality to affect the unpolluted status of Ballycotton Bay and the Ballycotton WwTP has not been identified as a pressure to this Ballycotton Bay waterbody under the second cycle of the Water Framework Directive. The information is included in Appendix E. The reduction in the concentration of plant nutrients in the discharge at operational phase of the project will therefore not have any significant effects on eutrophication.

While domestic and urban wastewater discharges are noted in the Conservation Objectives Supporting Document for the Ballycotton Bay SPA (NPWS, 2014), they are not highlighted as activities that have the potential to cause disturbance to waterbirds. It is therefore unlikely that the food resource of waterbirds in Ballycotton Bay will be negatively affected. Opportunistic species could give way to a wider array of sediment ingesters and filter feeders that would in turn attract predators including a range of crustaceans. It is predicted that total abundance of benthic macroinvertebrates might decrease but diversity will likely increase allowing birds to diversify their diet. Nonetheless, these changes will be slow and difficult to establish in the short term. The resulting impacts of these changes will be long-term positive but will not have any significant effects on the favourable conservation status of the qualifying interests or on the conservation objectives of Ballycotton Bay SPA. The long-term population growth for this area has been

accounted for, therefore ensuring that an increase in discharge will not have a larger negative effect on the receiving water local to the outfall.

Impacts from this source can therefore be screened out.

4.3 Screening of Potential Impacts from Disturbance of Birds

At operational phase, there will be no significant increase in human activity in proximity to the SPA resulting from the proposed WwTP. Potential impacts from this source can therefore be screened out.

4.4 Cumulative Impacts

The licensed wastewater discharge for the Garryvoe Agglomeration (Reg. No. A0363-01) also discharges to Ballycotton Bay. However, the water quality assessment (Section 3.3.2) indicates that neither the Ballycotton nor the Garryvoe discharges, individually or in combination are negatively impacting on the Conservation Objectives of SPA 004022.

There are plans for improvement works involving dredging of the harbour at Ballycotton. These plans have not been granted the necessary consents at this time with no definite timeline for when consents might be in place or when the works might be carried out. As such, potential cumulative impacts cannot be assessed.

No other plans or projects that could result in a cumulative impact on the Conservation Objectives of the SPA are known.

In the context of the above, it is considered unlikely that there will be any significant effects either during construction or operation of the proposed Scheme.

4.5 Conclusions of Screening

It has been deemed that the operation of the WwTP will not have a 'significant effect' on the conservation objectives of the Ballycotton Bay SPA, either individually or in combination with other plans or projects. The structure and function of the habitats protected for the QI's of Ballycotton Bay SPA will not be impacted by the Upgrade Project. Overall, no significant effects on Ballycotton Bay SPA are foreseen and indeed, a slight positive effect is possible. The treatment provided by the proposed WwTP will likely result in a betterment of water quality. Effects of discharge during the operational phase of the project from the proposed upgrades will therefore have imperceptible impact on habitats and species listed within Ballycotton Bay SPA.

Appendix A – Outfall Locations

A1

PROPOSED PUMP STATION AT THE COW

EXISTING OUTFALL

EXISTING SEPTIC TANK

EXISTING SEWER

INDICATIVE LOCATION OF PROPOSED HEADER MANHOLE

INDICATIVE ROUTE OF PROPOSED GRAVITY SEWER

INDICATIVE ROUTE OF PROPOSED RISING MAIN

INDICATIVE ROUTE OF PROPOSED OUTFALL

INDICATIVE ROUTE OF PROPOSED OUTFALL

PROPOSED WASTE WATER TREATMENT PLANT

PROPOSED ACCESS

INDICATIVE ROUTE OF PROPOSED RISING MAIN

EXISTING WATERMAIN

PROPOSED PUMP STATION AT BALLYCOTTON PIER

INDICATIVE ROUTE OF PROPOSED SEWER

BALLYCOTTON
Baile Choitín

Ballycotton

Páirc na Gleann

Beach View Heights

Flat Rock

Slipway

Silver Strand

Sand & Shingle

Sand

Slip

Breakwater

Pier

Hotel

Pitch & Putt Course

Lifeboat Station

Grotto

Church (Cath)

Church (Ruin)

School

Gables House

Reservoir (Cork County Council)

Sea View Park

Verdun Terrace

O'Brien Terrace

Beach View Heights

HWM

HWM 1910

GENERAL NOTES

N
W E
S

NOTES:

1. ORDNANCE SURVEY IRELAND LICENCE NUMBER EN 3–3–34.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
3. ALL DIMENSIONS TO BE CHECKED ON SITE.
4. ANY QUERIES OR DISCREPANCIES SHOULD BE REFERRED TO THE EMPLOYERS REPRESENTATIVE IMMEDIATELY.
5. EXISTING PIPE LOCATIONS ARE INDICATIVE ONLY.

LEGEND:

EXISTING SEWER
EXISTING WATERMAIN
EXISTING ESB
PROPOSED SEWER
PROPOSED WATER
PROPOSED ESB
PROPOSED RISING MAIN
PROPOSED OUTFALL
PROPOSED STORM DRAIN

Rev	Date	Description	By	Chk	App
A2	06.12.19	ISSUED FOR INFORMATION	LT	OL	KT
A1	20.08.19	WWTP LAYOUT UPDATED	LT	OL	KT

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UISCE ÉIREANN : IRISH WATER

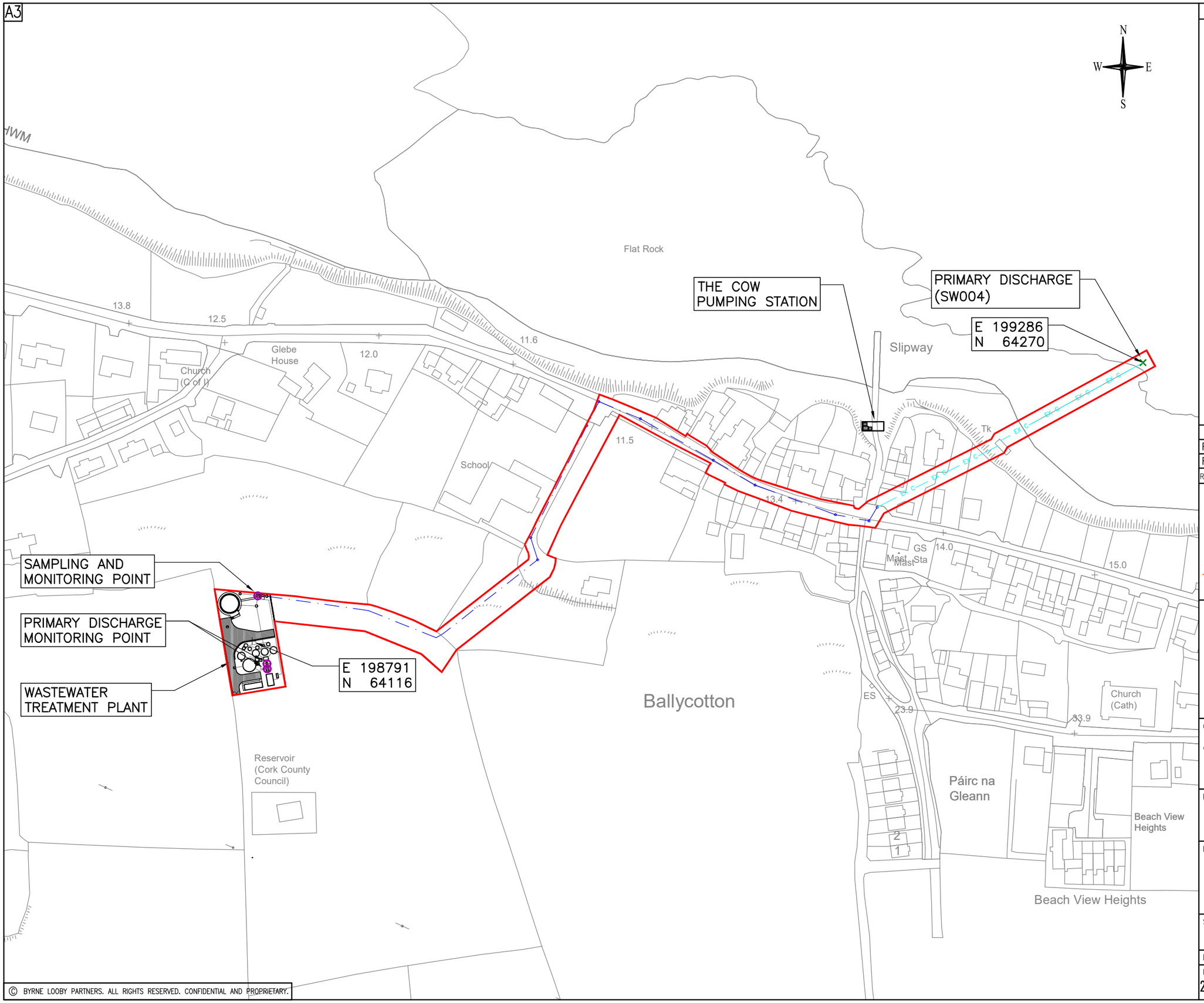
PROJECT
UTAS – CORK BUNDLE
BALLYCOTTON SEWERAGE SCHEME

DRAWING TITLE
PROPOSED SCHEME LAYOUT

STATUS
FOR INFORMATION

Date: 09.04.19	Scale: 1:2500	Drawn: LBR	Chk: OL	App: KT
Project No: 257589_00	Drg. No: IW–10015230–04–01–001			Rev: A2

A3



GENERAL NOTES

NOTES:

1. ORDNANCE SURVEY IRELAND LICENCE NUMBER EN 3–3–34.

2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

LEGEND:

SITE BOUNDARY

PRIMARY DISCHARGE POINT AND SWO

PRIMARY DISCHARGE SAMPLING, AND MONITORING POINT

Rev	Date	Description	By	Chk	App
F1	26.09.22	ISSUED FOR LICENCE APPLICATION	LT	OL	KT
F0	31.05.21	ISSUED FOR LICENCE APPLICATION	LT	OL	KT

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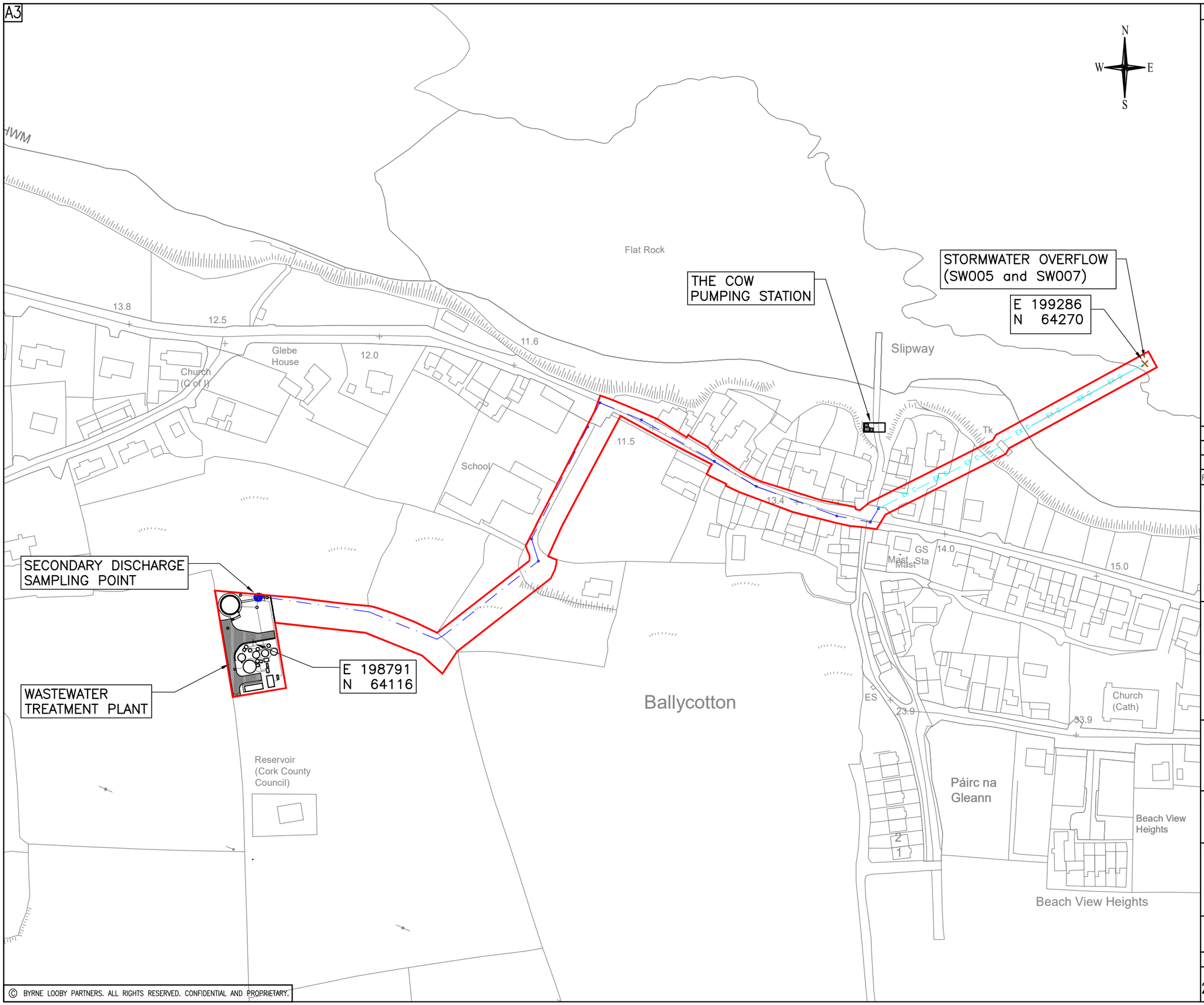
PROJECT
UTAS – CORK BUNDLE
BALLYCOTTON SEWERAGE SCHEME

DRAWING TITLE
DISCHARGE LICENCE APPLICATION
ATTACHMENT B.2.2
PRIMARY DISCHARGE POINTS

STATUS
FOR LICENCE APPLICATION

Date: 28.07.22	Scale: 1:2000	Drawn: LT	Chk: OL	App: KT
Project No: 257589_00	Drg. No: IW10015230–03–02–004			Rev: F1

A3



GENERAL NOTES

NOTES:

1. ORDNANCE SURVEY IRELAND LICENCE NUMBER EN 3–3–34.

2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

LEGEND:

SITE BOUNDARY

SECONDARY DISCHARGE POINT

SECONDARY DISCHARGE MONITORING POINT

Rev	Date	Description	By	Chk	App
F1	26.09.22	ISSUED FOR LICENCE APPLICATION	LT	OL	KT
F0	25.05.21	ISSUED FOR LICENCE APPLICATION	LT	OL	KT

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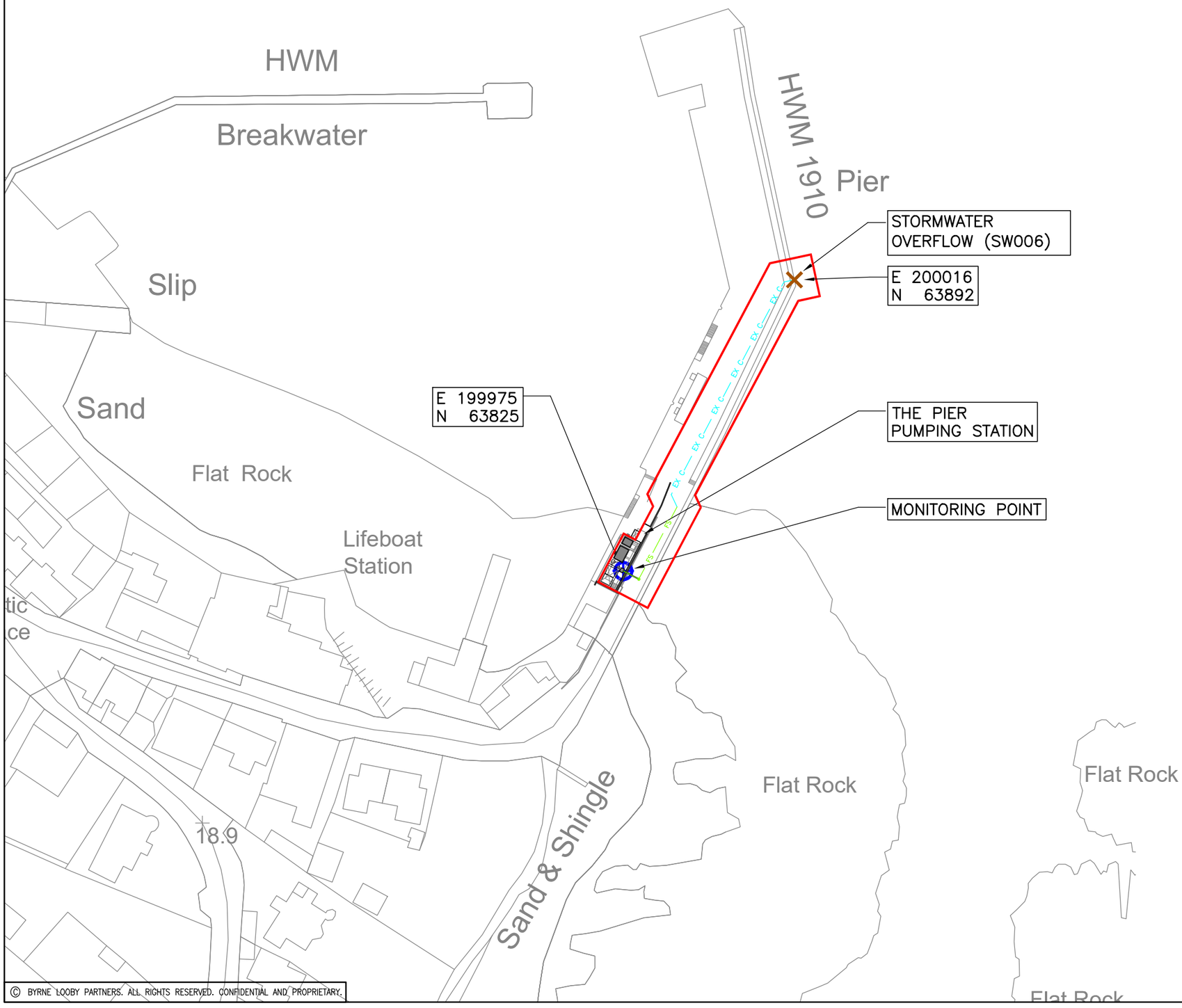
UTAS – CORK BUNDLE
BALLYCOTTON SEWERAGE SCHEME

DRAWING TITLE
DISCHARGE LICENCE APPLICATION
ATTACHMENT B.2.2
STORMWATER OVERFLOWS

STATUS
FOR LICENCE APPLICATION

Date: 25.05.21	Scale: 1:2000	Drawn: LT	Chk: OL	App: KT
Project No: 257589_00	Drg. No: IW10015230–03–02–005			Rev: F1

A3



GENERAL NOTES

NOTES:

1. ORDNANCE SURVEY IRELAND LICENCE NUMBER EN 3–3–34.

2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

LEGEND:

SITE BOUNDARY

SECONDARY DISCHARGE POINT

SECONDARY DISCHARGE MONITORING POINT

Rev	Date	Description	By	Chk	App
F1	26.09.22	ISSUED FOR LICENCE APPLICATION	LT	OL	KT
F0	31.05.21	ISSUED FOR LICENCE APPLICATION	LT	OL	KT

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PROJECT
UTAS – CORK BUNDLE
BALLYCOTTON SEWERAGE SCHEME

DRAWING TITLE
DISCHARGE LICENCE APPLICATION
ATTACHMENT B.2.2
STORMWATER OVERFLOWS

STATUS
FOR LICENCE APPLICATION

Date: 31.05.21	Scale: 1:1000	Drawn: LT	Chk: OL	App: KT

Project No:	Drg. No:	Rev:
257589_00	IW10015230–03–02–005A	F1

Appendix B – Site Visit Photos

1 - High Tide at The Cow PS site

2 - Low Tide at The Cow PS site

3 - Outfall pipe downstream of existing septic tank

4 - *Western Outfall*

5 - Bedrock and shingle between SPA and The Cow PS site

6- Stony Shore in SE Corner of Ballycotton Bay SPA

7 - Curlew

8 - Oystercatcher

9 - Brent Geese

10 - Great Northern Diver

Appendix C – Bird Count Results

Date & Tide	On Shore					Swimming			Fly Past
	<50m	50-100m	100-150m	150-200m	>200m	100-150m	150-200m	>200m	
29/11/18 High						2 ND			10 RP; 1 OC
29/11/18 Low		1 OC;							4 CM; 1 LB; 1 OC; 1 ET
28/12/18 High								1 CA	4 CM; 6 HG; 2 LB; 1 H
28/12/18 Low	2 OC	3 OC; 1 H	12 PB; 2 CU				1 GG		2 CM; 1LB
28/01/19 High									1 GV; 7 PB 1 OC; 3 BH
28/01/19 Low			1 ET; 2 WN	2 PB	3 CU				1 CA
26/02/19 High									I BH; 5 CM; 2 GB
26/02/19 Low			6 PB; 1 HG; 1 CU; 3 OC		14 PB; 1 H	2 WN			

Abbreviations, Following Lewis & Tierney (2014)

SPA 004022 Features of Interest

RP: Ringed Plover (*Charadrius hiaticula*)
CU: Curlew (*Numenius arquata*)
CM: Common Gull (*Larus canus*)
LB: Lesser Black-backed Gull (*Larus fuscus*)
GV: Grey Plover (*Pluvialis squatarola*)

Other Species

GB: Great Black-backed Gull (*Larus marinus*)
HG: Herring Gull (*Larus argentatus*)
BH: Black-headed Gull (*Larus ridibundus*)
PB: Light Bellied Brent Goose (*Branta bernicla*)
ET: Little Egret (*Egretta garzetta*)
ND: Great Northern Diver (*Gavia immer*)
GG: Great Crested Grebe (*Podiceps cristatus*)
H: Grey Heron (*Ardea cinerea*)
OC: Oystercatcher (*Haematopus ostralegus*)
WN: Wigeon (*Anas penelope*)
CA: Cormorant (*Phalacrocorax carbo*)

Appendix D – Impact assessment Report

ATTACHMENT D.2.1: Impact Assessment Report

1. Introduction

This Report provides a summary of the Impact Assessment, prepared to determine the impact of the discharges from the Ballycotton agglomeration on the receiving waterbody (Ballycotton Bay IE_SW_040_0000) once the proposed upgrade to the Ballycotton Sewerage Scheme becomes operational.

This report also addresses the criteria as outlined in **Section D.2** of the EPA guidance document.

Currently wastewater is collected in Ballycotton's public sewer network and is discharged through two existing outfalls to Ballycotton Bay with little or no treatment. By eliminating the discharge of untreated wastewater into Ballycotton Bay, the proposed Ballycotton Sewerage Scheme will improve the water quality in Ballycotton Bay in relation to environmental quality standards and WFD status and will comply with the Urban Wastewater Treatment Directive by providing primary treatment.

The proposed Ballycotton Waste Water Treatment Plant (WwTP) will provide primary treatment of wastewater, with treated effluent quality achieving the emission limit values set out below in accordance with the existing wastewater discharge licence (no. D0516-01) and the Urban Wastewater Treatment Directive.

Parameter	Units	Emission Limit Value
CBOD	mg/l	20% reduction
Suspended Solids	mg/l	50% reduction

2. Water Environment

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.

Recent ambient monitoring data (2019-2022) for Ballycotton Bay is shown in the table below. The data presented below is based on chemistry monitoring data for Ballycotton Bay (downloaded from Catchments.ie 31/05/22) [(3)]. Comparison with the European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019 (S.I. No. 77 of 2019) (SWR) is also shown below.

Parameter	BOD (mg/l)	Dissolved Oxygen (% Saturated)	Dissolved Inorganic Nitrogen (mg/l)
Number of Samples	5	6	6

Parameter	BOD (mg/l)	Dissolved Oxygen (% Saturated)	Dissolved Inorganic Nitrogen (mg/l)
Max result	3.3	107.7	1.6
Min result	0.5	97.3	0.018
Average Value	1.34	102.07	0.44
95%ile Value	2.92	108.35	-
EQS High Status as per S.I. No. 77/2019	Not Applicable	95%ile Lower limit >80-85% Upper limit <115-120%	≤0.585[(2)]
EQS Good Status as per S.I. No. 77/2019	Not Applicable	95%ile Lower limit >70-80% Upper limit <120-130%	≤1.425[(2)]
Overall compliance with relevant EQS High Status	Not applicable	Yes	Yes

Table D.2.1.1 – Ambient Monitoring Data – Ballycotton Bay

Note 1: Where data was reported as less than the limit of detection, LOD/2 was applied

Note 2: In the absence of salinity level data, the DIN EQS has been taken as the median value in accordance with S.I. No 77 of 2019

In coastal waters, the main physico-chemical elements assessed are dissolved oxygen (DO) and nitrogen (as dissolved inorganic nitrogen (DIN)).

The monitoring data presented in Table D.2.1.1 above indicates that the waters of Ballycotton Bay met the "High status" environmental quality standards set out in the SWR in the period 2019-2022.

Compliance limits for BOD_5 in the water body are not stipulated in the SWR for coastal water bodies. For information purposes, the concentrations of BOD_5 have been assessed against the limits as set in the SWR for transitional waters to achieve good/high status, as this would represent the most similar waterbody class. In the above assessment, the ambient water quality monitoring indicates high status under the SWR.

The existing Waste Water Discharge Licence for the Ballycotton agglomeration (no. D0516-01) includes Schedule C.1: Specified Improvement Programme where the specified improvement is described as "*Construct a new primary waste water treatment plant to include inlet screens and appropriately sized primary settlement capacity*". Schedule C.2: Discharges to be Discontinued includes the secondary discharge point SW002.

The proposed Ballycotton WwTP will provide inlet screens and primary treatment of wastewater, with treated effluent quality achieving 20% reduction in BOD and 50% reduction in Suspended Solids and it will also eliminate the discharge of untreated waste water at SW001 and SW002 (existing WWDL codes). The Ballycotton WwTP will be operational as of Q4 2024. Both of the foregoing will result in a betterment of the water quality within Ballycotton Bay and support the objective of the waters continuing to meet the "High Status" standard in accordance with the European Union Environmental Objectives (Surface Waters) Regulations 2009-2019.

There are several SPAs and SACs within a 15km radius of the proposed sewerage scheme. These are as follows:

- Ballycotton Bay Special Protection Area (SPA 004022), located within 70m of the discharge point.
- Ballymacoda Bay Special Protection Area (SPA 004023), located approximately 10km from the subject site when measured as a straight line and 14km when measured along an aqueous pathway by the coastline.
- Ballymacoda Bay Special Area of Conservation (SAC 000077), located over 8km from the subject site when measured as a straight line and approximately 14km when measured along an aqueous pathway by the coastline.
- Cork Harbour Special Protection Area (SPA 004030), located over 11km from the subject site when measured as a straight line and approximately 23km when measured along an aqueous pathway by the coastline.
- Great Island Channel Special Area of Conservation (SAC 001058), located approximately 12km from the subject site when measured as a straight line and approximately 31km when measured along an aqueous pathway by the coastline.

Of the five sites listed above as being within 15km of the subject site, the nearest hydrologically connected designated site is Ballycotton Bay Special Protection Area (SPA 004022) which is located within 70m of the WWTP primary discharge point (SW004), the WWTP combined emergency/ stormwater overflow (SW005) and the Cow Pumping Station combined emergency/stormwater overflow (SW007).

As stated in the Site Synopsis for SPA 004022, “The inter tidal flats provide the main feeding habitat for the wintering birds. Salt marshes fringe the flats in the sheltered inlets and these provide high tides roosts”

The proposed development will not result in any loss of habitat within SPA 004022, nor will it have any significant impact on the availability of open ground on which wading birds could roost at high tide. It is considered that significant impacts on the Features of Interests of the SPA arising from habitat loss can be screened out.

Please refer to Section 4 of this impact assessment for further information on potential impacts on nearby European Sites.

There are no designated nutrient sensitive areas or candidate nutrient sensitive areas in Ballycotton Bay under the Urban Waste Water Treatment Regulations, 2001, as amended.

3. Water Quality

The proposed Ballycotton WwTP will provide primary treatment of wastewater, with treatment effluent quality achieving 20% reduction in BOD and 50% reduction in Suspended Solids.

As noted in section 1 of this Impact Assessment Report, wastewater in the Ballycotton agglomeration is currently discharged untreated to Ballycotton Bay via two separate outfalls which serve two separate wastewater networks.

As part of the proposed Ballycotton Sewerage Scheme, the two existing wastewater networks will be rerouted to the proposed WwTP which will provide primary treatment before discharging treated effluent via a single marine outfall (SW004). Therefore, once the proposed sewerage scheme is operational, the quantity of BOD and Suspended Solids being discharged to Ballycotton Bay from the

agglomeration will be reduced. However, as (SW004) will now be serving a larger population equivalent, an increased level in BOD and Suspended Solids will occur at SW004 locally.

Based on predicted 10-year design PE, the overall BOD discharge to Ballycotton Bay will reduce from 60.8kg/d (2016) to 51.9kg/d (2026) and the discharge at the primary discharge (SW004) will increase from 30.4kg/d (2016) to 51.9kg/d (2026).

The above assessment is based on a BOD loading of 60g/person/day in accordance with the Urban Waste Water Treatment Regulations 2001 as amended.

Based on predicted 10-year design PE, the overall suspended solids discharge to Ballycotton Bay will reduce from 28.9kg/d (2016) to 15.4kg/d (2026) and the discharge at the primary discharge (SW004) will increase from 14.5kg/d (2016) to 15.4kg/d (2026).

The above assessment is based on a suspended solids loading of 163mg/l (mean domestic loading) in accordance with EPA Wastewater Treatment Manuals – Treatment Systems for Small Communities, Business, Leisure Centres and Hotels and a consumption rate of 175l/person/day in accordance with Irish Water technical guidance document IW-TEC-700-99-02 Inlet Works and stormwater treatment (wastewater).

The BOD and Suspended Solids water quality assessment is summarised in Table D.2.1.2 below.

	BOD	SS
Loading	60 g/PE/Day	70 g/PE/Day
Current PE (2016)	1014	
Future PE (2026)	1082	
Total Agglomeration		
Current Load	60.84 kg/Day	70.98 kg/Day
Future Load*	51.94 kg/Day	37.87 kg/Day
Primary Discharge Point		
Current Load	30.42 kg/Day	35.49 kg/Day
Future Load*	51.94 kg/Day	37.87 kg/Day
*Future Loading calculation above considers a reduction in BOD of 20% and a reduction in SS of 50%		

Table D.2.1.2 – Ballycotton Bay BOD and Suspended Solids Assessment

The most recent EPA data notes 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). This indicates that the existing wastewater discharges were not having sufficient impact on water quality to affect the "good" status of Ballycotton Bay. The proposed Ballycotton WwTP will reduce the overall quantity of BOD and Suspended Solids to Ballycotton Bay at operational phase of the project and therefore will not have any negative effects in relation to water quality.

4. Screening for Appropriate Assessment

A Screening for Appropriate Assessment in relation to the discharge of treated effluent from the Ballycotton WwTP and pumping stations, including stormwater overflows and emergency overflows, has been carried out and concluded that "overall no significant adverse effects are foreseen and indeed, a slight positive effect is possible. The Screening for AA Report is included with this application as **Attachment D.2-2**.

On the basis of the information set out, and documentation referenced in the AA Screening Report, it can be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed operational discharges from the new Ballycotton Waste Water Treatment Works, individually or in combination with other plans and projects, would be likely to have a significant effect on any European site. It is acknowledged however that it is the EPA, as the Competent Authority, who will formally conduct the formal AA screening process as part of their determination of this WWDA application.

5. Environmental Impact Assessment (EIA) Screening

An Environmental Impact Assessment (EIA) Screening Report has prepared in relation to the construction and operational stages of the proposed Ballycotton Sewerage Scheme, to form an opinion as to whether or not the proposed activities from the Scheme should be subject to Environmental Impact Assessment (EIA) and if so, whether an Environmental Impact Assessment Report (EIAR) should be prepared in respect of it. Refer to **Attachment B.5** for a copy of the EIA Screening Report.

The Ballycotton Sewerage Scheme EIA Screening Report concluded the following;

'It is submitted that the proposed Scheme does not come within the classes of development that European and Irish legislation identify as being likely to have significant effects on the environment, as set out in Part 1 or Part 2 of Schedule 5 of the Planning and Development Regulations 2001-2017. As the proposed Scheme does not come within the specified classes, there is no mandatory requirement for an EIA for the proposed Scheme.
In addition to the above, a sub threshold assessment has been undertaken. The potential for impacts has been identified, both positive and negative but none that would be likely to have significant effects on the environment.'

6. Bathing Waters

The nearest designated bathing waters are at Garryvoe approximately 2.5km north of the proposed works area. Current EPA water quality results indicate that the water at Garryvoe Beach is of 'sufficient' quality based on the three-year assessment period 2018 to 2021.

Cork County Council has taken a total of 8no samples at Garryvoe during the 2022 bathing season. Of these 8no samples, 7no samples were noted as being 'excellent' while the remaining 1no sample was determined to be 'good'.

The proposed Ballycotton WwTP will provide primary treatment of wastewater, with treated effluent quality achieving 20% reduction in BOD and 50% reduction in Suspended Solids. The reduction in Suspended Solids will result in a decrease in pathogens in the discharge and will therefore not have any negative effects on the bathing water quality at Garryvoe.

7. Shellfish Waters

The nearest designated shellfish area is at Ballymacoda Bay located over 9km from the subject site.

The proposed Ballycotton WwTP will provide primary treatment of wastewater, with treated effluent quality achieving 20% reduction BOD and 50% reduction Suspended Solids. The reduction in Suspended Solids will result in a decrease in pathogens in the discharge and will therefore not have any negative effects on the water quality at Ballymacoda.

8. Priority Substance Assessment

A priority substance assessment has been carried out to identify substances which are likely to be emitted from the agglomeration to the receiving water. The assessment is included in **Appendix A** of this Impact Assessment Report.

9. Combined Approach

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

The treated effluent discharge standards for the new WwTP will comply with the requirements for primary treatment with a 20% reduction in BOD and a 50% reduction in suspended solids. In addition, they will give effect to the principle of the Combined Approach as defined in Waste Water Discharge (Authorisation) Regulations, 2007 to 2020 in that they accommodate the Urban Waste Water Regulations and the relevant status/designations of the receiving waterbody, Ballycotton Bay.

10. Compliance with Relevant National or EU Legislation

The proposed Ballycotton WwTP has been designed to ensure that the emissions from the agglomeration will comply with, and will not result in the contravention of, EU Legislation and National Regulations.

The current WFD Ecological Status of Ballycotton Bay is "good" and the WFD risk status is "not at risk". Regarding in-combination impacts and associated effects, it is envisaged that the improvement in the effluent discharges from the proposed Ballycotton Sewerage Scheme, will have a net positive impact on Ballycotton Bay in terms of assisting it to maintain Good WFD Status for this coastal waterbody. Any improvement in the aquatic environment will have a beneficial impact on the water dependent qualifying features of Ballycotton Bay SPA and all other European sites within the zone of influence of the proposed activity.

Please refer to **Attachment B.6-Compliance with EU Directives and National Regulations** for further information.

11. Mixing zone or transitional areas of exceedance

The EPA publication '*EO Regulations Review, Simple Assimilative Capacity Model for Lakes and Coastal Water' presents* a simple model for carrying out assimilative capacity in lakes and coastal waters. This Assimilative Capacity Model has been applied here to determine the number of dilutions which will be achieved at a given distance from the primary discharge point (SW003).

The calculation for the available dilutions is as follows:

$$D = \frac{8930b}{F}$$

where:

b = average depth of the receiving water (m)

F = Maximum hourly flow rate of the discharge (m^3/hr)

In order to estimate the available dilutions, the average depth of the receiving waters of the mixing zone over a distance of 100m from the discharge point is required. Based on available bathymetry and tidal data, the average depth of the receiving waters over a distance of 100m for the discharge point was determined to be 2.747m (b).

The maximum hourly flow rate from the proposed WwTP is 86.8m^3/h.

This results in a dilution value (D) of 283. Irish Waters Technical Standards for Marine Modelling (Document Number IW-TEC-100-015) requires a minimum of 100 initial dilutions for new primary treated effluent discharges. As such the calculated 283 is considered more than adequate.

Based on the above calculated dilution and the background water quality data in Ballycotton Bay, the resulting concentrations of BOD_5 and DIN in the receiving water (near field) have been calculated as:

- BOD_5 - 2.18mg/l (<3.0mg/l limit for high status water quality)
- DIN - 0.56mg/l (<0.585mg/l limit for high status water quality).

Therefore, the discharge effluent will not impact on the ability of the receiving water to maintain its current "good" status and in fact, would allow compliance with "high" status.

12. Cumulative and In Combination Effects

The Appropriate Assessment Screening Report addresses combination effects. Refer to **Attachments D.2.2**

13.Dilutions and retention times for lakes

Not applicable. No discharges to lakes.

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

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

15.Groundwater Details

Not applicable. No discharge to ground waters.

16.High Status Waterbodies

No High Status water bodies are downstream of the operational discharges.

17.Fresh Water Pearl Mussels

Not applicable. No Fresh Water Pearl Mussels within the region of the primary discharge point

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

A primary discharge outfall long section is included in **Attachment D.2-1**. The long section demonstrates that the WwTP will discharge treated effluent to Ballycotton Bay via the primary discharge point (SW004) below the mean low water springs level.

Please note that maintenance works will be carried out on the outfall on behalf of Irish Water prior to the operational stage of the Ballycotton sewerage scheme to ensure that the discharge point is in accordance with the levels noted on the long section referenced above and to repair any damage to the outfall pipe. The maintenance works are required in accordance with the Ballycotton Foreshore Licence (November 1953) which states that the outfall is to be kept '*in a good and proper state of repair and condition to the satisfaction of the Department of the Environment, Community and Local Government'.*

19. Data Sources

The following data sources were used to complete this application.

- Online data available or held by the NPWS, the EPA, NIEA and Irish Water:
    - www.npws.ie
    - epawebapp.epa.ie
    - gis.epa.ie/EPAMaps
    - catchments.ie
- Irish Water/Cork County Council Monitoring& Sampling Data

Appendix A – Priority Substance Assessment

Ballycotton Sewerage Scheme – Priority Substances Assessment

Introduction

This assessment has been prepared for the Ballycotton agglomeration in County Cork to inform the review application of the existing wastewater discharge licence (D0516-01).

Ballycotton is a village in east Cork located approx. 18km southeast of Midleton town.

Currently, wastewater flows generated in Ballycotton are collected in two combined collection networks with two separate outfalls. These two networks are referred to as the 'west' network and the 'east' network throughout this report.

The west of the agglomeration is served by a sewer network that conveys combined wastewater and storm water by gravity to a septic tank located along the foreshore to the west of Ballycotton harbour. The septic tank is an above ground structure and it is believed that it was constructed in the 1950s (for a PE of 50-60) The passage of sewage through the septic tank helps in the removal of suspended solids but there is very little biological activity and the removal of BOD is not significant (Cork County Council (2009)). It is considered to provide negligible treatment.

Effluent from the septic tank is discharged into Ballycotton Bay via a short sea outfall which is approx. 80m in length and is encased in concrete.

The east of the agglomeration is served by a collection network which discharges untreated sewage as well as storm water into Ballycotton Bay via an outfall at the end of the harbour pier. The outfall at Ballycotton pier is exposed at low tide.

The objective of the proposed Ballycotton sewerage scheme is to provide a wastewater treatment plant (WwTP) capable of primary treatment. Two new pumping stations (PS) will be required to deliver the wastewater to the WWTP. The PS's will be located to intercept the discharges from the eastern and western collection networks.

The proposed Ballycotton Waste Water Treatment Plant (WwTP) will provide primary treatment of wastewater, with treated effluent quality achieving 20% reduction in BOD and 50% reduction in suspended solids in accordance with the requirements set out in the existing wastewater discharge licence (no. D0516-01) and the Urban Wastewater Treatment Directive.

A Waste Water Discharge Licence (WWDL) (Licence Register Number: D05016-01) was granted to Irish Water in accordance with the Waste Water Discharge (Authorisation) Regulations (S.I. No. 684 of 2007) in 2014.

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

Desktop Study

Review of all industrial inputs into WwTP

A review of all available online mapping and all EPA licensed facilities was undertaken to determine the non-domestic discharge types which will being received at the Ballycotton WwTP.

EPA's online mapping portal doesn't show any IPC (Integrated Pollution Control) sites, IEL (Industrial Emissions Licensing) facilities

The sources of the emissions from the proposed WwTP are largely associated with the residential population of the agglomeration, as well as domestic type wastewater discharge from commercial sources (shops, restaurants, offices etc.).

The proposed Ballycotton Sewerage Scheme will end the practice of the discharge of untreated wastewater from the agglomeration which will have a significant positive impact on the surface water quality.

Upon review of the types of businesses, amenities and educational facilities in Ballycotton, **Table 1** provides an indicative list of non-domestic discharge types to the WwTP and details potential dangerous/priority substance.

Type of Industry within the Agglomeration	Potential Source of Dangerous / Priority Substances (Yes / No)	Dangerous / Priority Substances Monitoring Undertaken (Yes / No)	List of Potential Dangerous Substances Based on Industry Type (Source: ***Technical Assessment Manual – Sectoral Profile Data***)
School	Yes	Unknown	Dichloromethene Lead and its compounds Nickel and its compounds Tricholormethane
Hairdressers	Yes	Unknown	Nickel and its compounds Cadmium and its compounds

Table 1 – List of Non-Domestic Discharge Types to WwTP and Details of Potential Dangerous/Priority Substance

Discharge Monitoring

No primary discharge monitoring for the possible presence of Specific Pollutants, Priority and Priority Hazardous Substances as outlined in Table 10, 11 and 12 of European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended (now S.I No. 77 of 2019) is available for this agglomeration.

Downstream monitoring location's participation in relevant monitoring programme

There is no available record of any priority substances monitoring data for the nearest monitoring stations (National Water Monitoring Station CW05003148BT1001 (Ballycotton Ambient) or National Water Monitoring Station CW31003143BR3003 (BR270 - North of Caple Island)).

Catchments.ie notes that Ballycotton Bay is 'not on a published monitoring programme'.

Participation in PRTR reporting

The PRTR section of EPA's online mapping portal was reviewed. No emissions/discharges in relation to PRTR are noted within the Ballycotton agglomeration.

Priority Substance Assessment Conclusion

The desktop study assessed the agglomeration for the presence of relevant priority substances to establish any potential impact on the receiving waters.

The 'parameters to be screened' listed in Appendix 1 of EPA's 'Guidance on the Screening for Priority Substances for Waste Water Discharge Licences' have been reviewed. The desktop study didn't identify any significant sources of the listed parameters within the Ballycotton agglomeration.

The assessment considered the primary discharge relevant to Environmental Quality Standards (EQS) for priority substances in surface waters, as set out in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended (now S.I No. 77 of 2019).

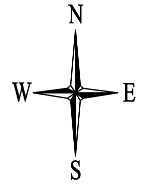
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of *Guidance on the Screening for Priority Substances for Waste Water Discharge Licences*, issued by the EPA	Desk Top Study
Does the assessment include a review of licensed / authorised inputs to the works?	Yes
Does the assessment include a review of other (unauthorised) inputs to the works?	No
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	N/A

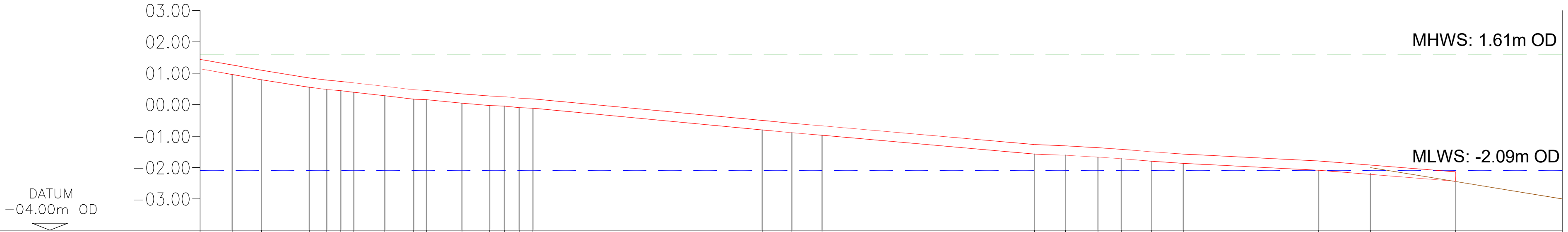
The sources of the emissions from the proposed Ballycotton WwTP are largely associated with the residential population of the agglomeration, as well as domestic type wastewater discharge from commercial sources (shops, restaurants, offices etc.).

The proposed Ballycotton Sewerage Scheme will end the practice of the discharge of untreated wastewater from the agglomeration which will have a significant positive impact on the surface water quality.

Based on the results of this desk top study, it can be determined that **no for further analysis** of the discharge, based on the *Guidance on the Screening for Priority Substances for Waste Water Discharge Licences*, issued by the EPA, is required.

A3





CHAINAGE (m)	OUTFALL CROWN LEVEL (mOD)	SEABED LEVEL (mOD)
0.000	1.44	
2.049	1.26	
3.922	1.09	
6.964	0.85	
8.087	0.78	
8.983	0.74	
9.812	0.69	
11.792	0.58	
13.645	0.47	
14.450	0.45	
16.727	0.34	
18.507	0.27	
19.439	0.25	
20.391	0.20	
21.270	0.18	
35.905	−0.51	
37.807	−0.60	
39.733	−0.68	
53.324	−1.28	
55.291	−1.32	
57.359	−1.38	
58.860	−1.43	
60.809	−1.51	
62.813	−1.58	
71.473	−1.80	
74.767		−02.00
80.223	−2.15	
87.025		−03.00

MHWS TIDE LEVEL (mOD)	MHWS: 1.61m OD
MLWS TIDE LEVEL (mOD)	MLWS: -2.09m OD
OUTFALL PIPE (D)	300

LONGITUDINAL SECTION OF OUTFALL PIPE

SCALE: HORIZ; 1:250 - VERT; 1:500

GENERAL NOTES

NOTES:

1. ORDNANCE SURVEY IRELAND LICENCE NUMBER EN 3−3−34.

2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

LEGEND:

OUTFALL PIPE

Rev	Date	Description	By	Chk	App
F0	15.08.22	ISSUED FOR LICENCE APPLICATION	LT	OL	KT

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UISCE ÉIREANN : IRISH WATER

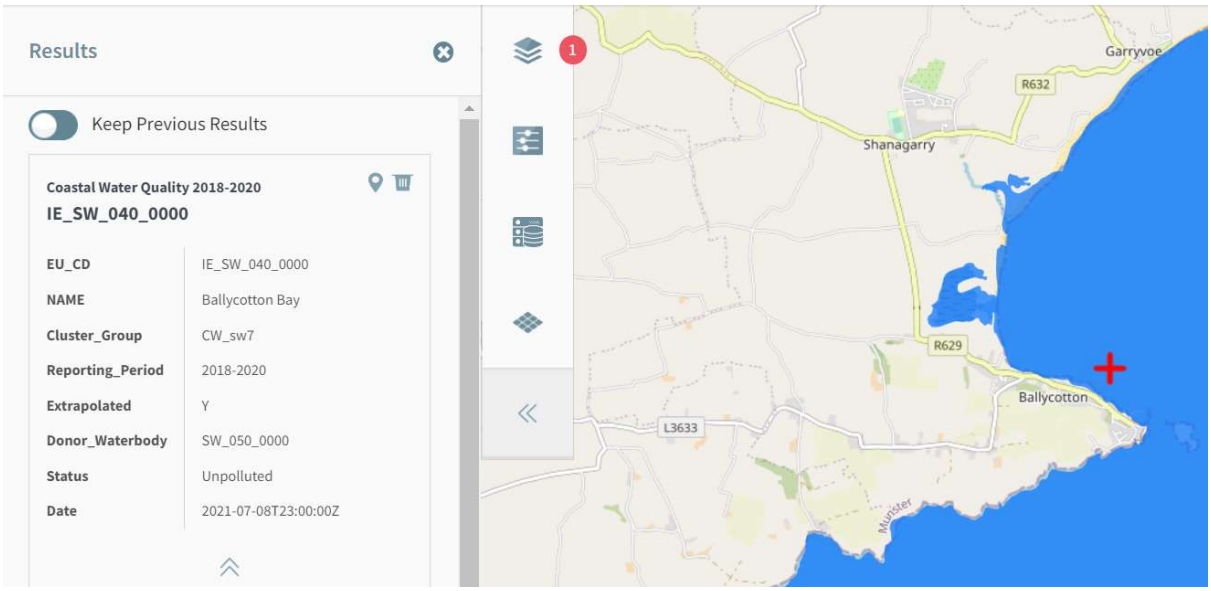
PROJECT
UTAS – CORK BUNDLE
BALLYCOTTON SEWERAGE SCHEME

DRAWING TITLE
DISCHARGE LICENCE APPLICATION
ATTACHMENT D.2.1
OUTFALL LONGITUDINAL SECTION

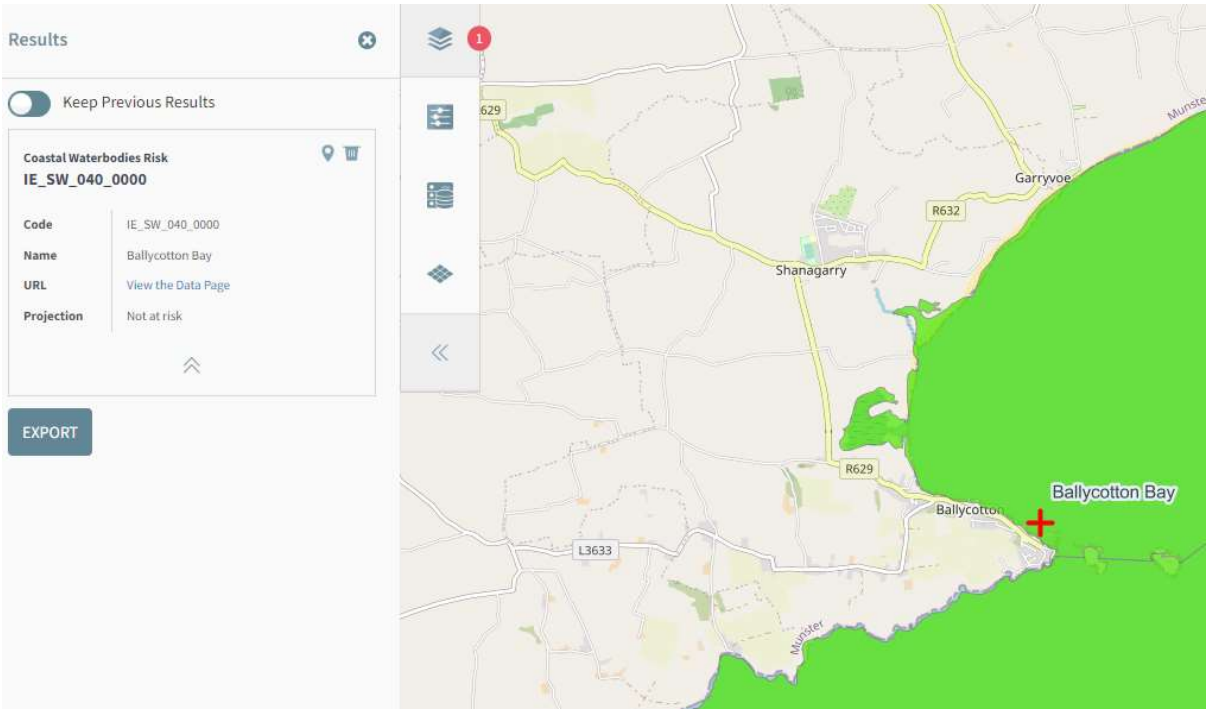
STATUS
FOR LICENCE APPLICATION

Date: 15.08.22	Scale: AS SHOWN	Drawn: LT	Chk: OL	App: KT
Project No: 257589_00	Drg. No: IW10015230−03−02−010			Rev: F0

Appendix E – EPA Coastal Water Data



Coastal Water Quality 2018-2020



Coastal Waterbodies Risk

IRELAND | UK | UAE | BAHRAIN | KSA

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