



# **CORK COUNTY COUNCIL**

## **WESTERN DIVISION**

### **WATER SERVICES**

**Courthouse, Skibbereen, Co. Cork**

# **APPLICATION FOR WASTE WATER DISCHARGE LICENCE BALLYDEHOB, CO. CORK.**

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**Application Form  
22<sup>nd</sup> June 2009**



**CORK COUNTY COUNCIL**  
**WESTERN DIVISION**  
**WATER SERVICES**

Courthouse, Skibbereen, Co. Cork

**Re: Waste Water Discharge Licence Application for the Agglomeration of Ballydehob**


Dear Sir/Madam,

Please find enclosed Cork County Council's Waste Water Discharge Licence Application for the agglomeration of Ballydehob.

The following documentation is enclosed:

- 1 Nr. Signed original in hardcopy
- 1 Nr. Copy in hardcopy
- 2 Nr. CD-ROM with all documentation in electronic searchable PDF (OCR'd format)
- 1 Nr. CD-ROM with GIS Data, Tabular Data

The content of the electronic files is a true copy of the original hardcopy.

  
Declan Groarke  
Senior Executive Engineer

This is a draft document and is subject to revision.



# Waste Water Discharge Licence Application Form

EPA Ref. N<sup>o</sup>:

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## Environmental Protection Agency

PO Box 3000, Johnstown Castle Estate, Co. Wexford

Lo Call: 1890 335599 Telephone: 053-9160600 Fax: 053-9160699

Web: [www.epa.ie](http://www.epa.ie) Email: [info@epa.ie](mailto:info@epa.ie)

**Tracking Amendments to Draft Application Form**

Version No.	Date	Amendment since previous version	Reason
V. 1.	11/10/07	N/A	
V. 2.	18/10/07	Inclusion of a Note 1 superscript for Orthophosphate in Tables D.1(i)(b) & D.1(ii)(b).	To highlight the requirement for filtered samples in measurement of O-Phosphate for wastewater discharges.
V.3.	13/11/07	Amend wording of Section F.2 to include 'abstraction'.  Amend wording of Checklist in Annex to reflect wording of Regulation 16(5) of S.I. No. 684 of 2007.  Inclusion of unique point code for each point of discharge and storm water overflow.	To accurately reflect the information required  To accurately reflect the Regulations and to obtain the application documentation in appropriate format.  To aid in cross-referencing of application documentation.
V.4	18/04/08	Inclusion of requirement to provide name of agglomeration to which the application relates.  Amend wording of Section B.7. (iii) to reflect the title of Water Services Authority.  Addition of new Section B.9 (ii) in order to obtain information on developments yet to contribute to the wastewater works.  Addition of sub-sections C.1.1 & C.1.2 in order to clarify information required for Storm water overflow and pumping stations within the works.  Amend Section D.1 to include a requirement for monitoring data for influent to waste water treatment	To accurately determine the agglomeration to be licensed.  To accurately reflect the Water Services Act, 2007.  To obtain accurate population equivalent figures for the agglomeration.  To obtain accurate information on design and spill frequency from these structures.  To acquire information on the population loading onto the plant and to provide information on performance rates within the plant.

		plants, where available. Amend wording of Section E.1 to request information on composite sampling/flow monitoring provisions.	To acquire accurate information on the sampling and monitoring provisions for discharges from the works.
V.5	07/07/2008	Amend wording of B.7 (iii) to include reference to Water Services Authorities.  Amend Section G.1 to include Shellfish Waters Directive.	To accurately reflect the Water Services Act, 2007 requirements.
V.6	26/08/2008	Amendments to Section D to reflect new web based reporting.  Amended requirements for reporting on discharges under E.1 Waste Water Discharge Frequency and Quantities.  Amendment to Section F.1 to specify the type of monitoring and reporting required for the background environment.  Removal of Annexes to application form.	To clarify the reporting requirements.  To streamline reporting requirements.  To clarify the reporting requirements for ambient monitoring.  To reflect the new web based reporting requirements.

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Environmental Protection Agency  
 Application for a Waste Water Discharge Licence  
 Waste Water Discharge (Authorisation) Regulations 2007.

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## ABOUT THIS APPLICATION FORM

This form is for the purpose of making an application for a Waste Water Discharge Licence under the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007) or for the review of an existing Waste Water Discharge licence.

The Application Form **must** be completed in accordance with the instructions and guidance provided in the *Waste Water Discharge Licensing Application Guidance Note*. The Guidance Note gives an overview of Waste Water Licensing, outlines the licence application process (including the number of copies required) and specifies the information to be submitted as part of the application. The Guidance Note and application form are available to download from the Licensing page of the EPA's website at [www.epa.ie](http://www.epa.ie).

A valid application for a Waste Water Discharge Licence must contain the information prescribed in the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007). Regulation 16 of the Regulations sets out the statutory requirements for information to accompany a licence application. The application form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in the Regulations. In order to ensure a legally valid application in respect of Regulation 16 requirements, please complete the Regulation 16 Checklist provided in Annex 2.

This Application Form does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the Waste Water Discharge (Authorisation) Regulations, 2007. While every effort has been made to ensure the accuracy of the material contained in the Application Form, the EPA assumes no responsibility and gives no guarantee, or warranty 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 the Application Form and any clarifying explanation contained in the accompanying Guidance Note, then the requirements in this Application Form shall take precedence.



## PROCEDURES

The procedure for making and processing of applications for waste water discharge licences, and for the processing of reviews of such licences, appear in the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007) and is summarised below. The application fees that shall accompany an application are listed in the Third Schedule to the Regulations.

Prior to submitting an application the applicant must publish (within the two weeks prior to date of application) in a newspaper circulating in the area, and erect at the point nearest to the waste water treatment plant concerned or, if no such plant exists, at a location nearest the primary discharge point, a notice of intention to apply. An applicant, not being the local authority in whose functional area the relevant waste water discharge, or discharges, to which the relevant application relates, takes place or is to take place, must also notify the relevant Local Authority, in writing, of their intention to apply.

An application for a licence must be submitted on the appropriate form (available from the Agency) with the correct fee, and should contain relevant supporting documentation as attachments. The application should be based on responses to the form and include supporting written text and the appropriate use of tables and drawings. Where point source emissions occur, a system of unique reference numbers should be used to denote each discharge point. These should be simple, logical, and traceable throughout the application.

The application form is divided into a number of sections of related information. The purpose of these divisions is to facilitate both the applicant and the Agency in the provision of the information and its assessment. **Please adhere to the format as set out in the application form and clearly number each section and associated attachment, if applicable, accordingly.** Attachments should be clearly numbered, titled and paginated and must contain the required information as set out in the application form. Additional attachments may be included to supply any further information supporting the application. Any references made should be supported by a bibliography.

**All questions should be answered. Where information is requested in the application form, which is not relevant to the particular application, the words "not applicable" should be clearly written on the form. The abbreviation "N/A" should not be used.**

Additional information may need to be submitted beyond that which is explicitly requested on this form. Any references made should be supported by a bibliography. The Agency may request further information if it considers that its provision is material to the assessment of the application. Advice should be sought from the Agency where there is doubt about the type of information required or the level of detail.

Information supplied in this application, including supporting documentation will be put on public display and be open to inspection by any person.

Applicants should be aware that a contravention of the conditions of a wastewater discharge licence is an offence under the Waste Water Discharge (Authorisation) Regulations, 2007.

**The provision of information in an application for a wastewater discharge licence which is false or misleading is an offence under Regulation 35 of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).**

*Note: Drawings. The following guidelines are included to assist applicants:*

- *All drawings submitted should be titled and dated.*
- *All drawings should have a unique reference number and should be signed by a clearly identifiable person.*
- *All drawings should indicate a scale and the direction of north.*
- *All drawings should, generally, be to a scale of between 1:20 to 1:500, depending upon the degree of detail needed to be shown and the size of the facility. Drawings delineating the boundary can be to a smaller scale of between 1:1000 to 1:10560, but must clearly and accurately present the required level of detail. Drawings showing the wastewater treatment plant location, if such a plant exists, can be to a scale of between 1:50 000 to 1:126 720. All drawings should, however, be A3 or less and of an appropriate scale such that they are clearly legible. Provide legends on all drawings and maps as appropriate.*
- *In exceptional circumstances, where A3 is considered inadequate, a larger size may be requested by the Agency.*

**It should be noted that it will not be possible to process or determine the application until the required documents have been provided in sufficient detail and to a satisfactory standard.**

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## SECTION A: NON-TECHNICAL SUMMARY

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

A non-technical summary of the application is to be included here. The summary should identify all environmental impacts of significance associated with the discharge of wastewater associated with the wastewater works. This description should also indicate the hours during which the wastewater works is supervised or manned and days per week of this supervision.

The following information must be included in the non-technical summary:

A description of:

- the waste water works and the activities carried out therein,
- the sources of emissions from the waste water works,
- the nature and quantities of foreseeable emissions from the waste water works into the receiving aqueous environment as well as identification of significant effects of the emissions on the environment,
- the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the waste water works,
- further measures planned to comply with the general principle of the basic obligations of the operator, i.e., that no significant pollution is caused;
- measures planned to monitor emissions into the environment.

Supporting information should form **Attachment N° A.1**

### The Wastewater Works and Activities Carried Out Therein

#### Introduction

Ballydehob is an attractive small town on the south side of the Mizen peninsula and on the main N71 road between Skibbereen and Bantry. The town has a very good range of facilities, including a variety of shops, pubs and cafes, schools, two churches and a regular bus service. The local area is rich in natural beauty, with stunning views of the Islands of Roaring Water Bay and the Fastnet Rock to be seen in the locality. There is a rich diversity of wildlife to be found in the area with many rare and unusual plants.

#### Existing Situation

##### Existing Waste Water Treatment Plant

The present treatment system in Ballydehob is a primary treatment plant (septic tank) adjacent to the tennis courts on the road to the pier at the location indicated on Drawing No. BALL B2.01. Built in the mid 1980's with a capacity of 164m<sup>3</sup>, it was originally designed for a p.e. of 700. Treated effluent from the septic tank outfalls to Ballydehob Bay via an existing outfall pipe.

The existing collection system consists of sewers varying in size between 100mm and 450mm diameter. The sewer materials are concrete, clay, polyethylene and

PVC. The majority of the sewerage system is a combined system. Combined flows from the eastern end of the collection system, fall by gravity to a pumping station, while flows from the western area of the collection system flow by gravity directly to the existing septic tank for treatment. The rising main from the pumping station connects to the western area gravity system.

RPS Consulting Engineers, Cork are currently finalising a Preliminary Report on the plan to upgrade the existing WWTP at Ballydehob. Thus far, it is recommended that the existing treatment system be upgraded to cater for the increased design p.e. and to protect water quality in Ballydehob Bay.

### **The Proposed Wastewater Treatment Scheme**

The Proposed WWTP upgrade works is to be phased. Phase 1 works shall include the required upgrades to the pumping station and treatment plant and shall also include the foul and storm sewers between Main Street and the proposed treatment plant. Sewers which are to serve proposed future residential development areas are included as Phase 2.

The following are excerpts from the Preliminary Report by RPS Consulting Engineers.

'While it is necessary to upgrade the existing treatment system, it is possible to retain the existing treatment site and incorporate the septic tank in the proposed treatment process in an enlarged site. This may be used as a storm-water balancing tank and would serve to reduce capital costs of the proposed upgrade works. Similarly, should this site be kept, the existing treated effluent outfall pipe may be retained as sufficient capacity is available in it for the design discharge, further reducing capital costs.

Other advantages of this alternative are as follows:

- Cork County Council owns the site and the adjacent lands
- Power costs would be minimised as effluent from most of the town flows by gravity to the existing septic tank
- The existing outfall pipe is well upstream from a shellfish farm southwest of Ballydehob
- Rapid mixing occurs at the mouth of the existing outfall pipe.

### **Criteria for Design**

The following criteria were identified as key to choosing the most suitable design solution for the treatment plant upgrade: -

1. Capacity for a design loading of 1,163 p.e. :

$$\text{BOD} = 1,163 \times 0.06 \text{ kg/p/d} = 69.8 \text{ kg/day}$$

$$\text{DWF} = 1,163 \times 230 \text{ l/p/d} = 11.1 \text{ m}^3/\text{hour}$$

$$3 \text{ DWF} = 33.3 \text{ m}^3/\text{hour}$$

$$\begin{aligned} \text{Formula A} &= \text{DWF} + 1.36 \times \text{Population Served} + 2 \times \text{Trade Effluent} \\ &= 266 \text{ m}^3/\text{day} + (1.36 \times 941) \text{ m}^3/\text{day} + (2 \times 222 \times 0.23) \\ &\text{ m}^3/\text{day} \\ &= 266 \text{ m}^3/\text{day} + 1,280 \text{ m}^3/\text{day} + 102 \text{ m}^3/\text{day} \\ &= 1,648 \text{ m}^3/\text{day} \end{aligned}$$

2. Compliance with Urban Wastewater Regulations (BOD 25 mg/l, SS 35 mg/l).
3. Little space available within the existing treatment plant site for the construction of additional structure.
4. Optimum usage of the existing septic tank in the plant.
5. Minimal disruption to existing treatment system during upgrading works.
6. Minimal disruption to the aesthetic quality of the surrounding area.

Following consideration of a number of different treatment processes, it was decided to proceed with a conventional activated sludge (CAS) treatment process. The various stages of the treatment process are described in the following sections.

### **Inlet Works**

The proposed inlet works will consist of a stormwater overflow chamber, a stormwater holding tank, an inlet pumping station and screening and grit removal chamber.

### **Overflow Chamber**

It is proposed that the treatment plant will have a hydraulic capacity of 3 DWF. In accordance with the DEHLG publication "Procedures and Criteria in relation to Storm Water Overflows", the allowable overflow to the receiving water is the Formula A flow.

An overflow chamber with automatic tilting weir is required on the main sewer line into the plant to allow 3 DWF to the proposed treatment works and to divert flows greater than 3 DWF to the proposed storm holding tank in order to comply with "Procedures and Criteria in relation to Storm Water Overflows".

The automatic tilting weir will be controlled by an inlet flow monitor, which can be installed in the same chamber as the tilting weir. The weir can be easily regulated to ensure that the continuation flow to the plant will not exceed its hydraulic capacity. This mechanism will also minimise the amount of grit and debris build up.

### **Storm Holding Tank**

A storm holding tank is required to store flows in excess of the treatment plant capacity (3 DWF). In accordance with BS EN 12255-3:2000, the volume of the tank should be equivalent to 6 hours retention at dry weather flow. This volume is equivalent to 66.6 m<sup>3</sup>.

The existing septic tank (with a volume of approximately 164 m<sup>3</sup>) may be refurbished to serve this purpose. This will result in 97 m<sup>3</sup> of spare capacity, or an allowable storage of 80 litres per population equivalent. This is sufficient storage on the overflow where a dilution factor of greater than 2 is available, in accordance with the DEHLG publication, "Procedures and Criteria in relation to Storm Water Overflows".

Stormwater stored in this tank would gravitate into the proposed inlet pumping station via a flap valve once the storm abated. Alternatively, should the capacity of the storm holding tank be exceeded before the end of the storm event, an overflow pipe would also be provided in this storage tank. This would be connected to the existing sea outfall pipe, which would dispose of the diluted effluent in Ballydehob Bay.

### **Inlet Pumping Station**

An inlet pumping station shall be constructed downstream of the proposed storm overflow chamber and storm holding tank. The purpose of this is to provide the necessary hydraulic gradient for the sewage to gravitate through the treatment works, without the need for excessive excavations. Approximately 5.0 m head would be required for this purpose.

Two pumps shall be installed in the inlet pumping station, one duty and one standby. These pumps shall both have vortex impellers to prevent blockages.

There will be two inlets to the proposed pumping station. The first shall be normal flow from the proposed storm overflow chamber which shall convey a flow of 3 DWF. The second shall be from the proposed storm holding tank via a flap valve in the internal wall of the pump sump. Sewage from the pumping station shall be pumped to the proposed screening and grit removal chamber.

### **Screening and Grit Removal**

It is proposed to provide a combined screening and grit removal package unit upstream of the proposed aeration tank to remove any grit, debris, etc., in the sewage. These units are particularly suitable for small treatment works particularly given the limited space available. There is minimal head loss across the unit. Combined inlet systems provide a clean and efficient system for removal of screenings and grit.

### **Aeration Tank**

The proposed aeration tank was designed for a sludge age of 5 days. It is proposed to construct a tank with a volume of 267 m<sup>3</sup>, with dimensions of 9.5m x 9.5m x 3m deep.

The aerators in the aeration tank have a dual function: (i) to oxygenate the mixed liquid suspended solids and (ii) to maintain the solids in suspension by circulating the liquid around the tank.

2 no. dissolved oxygen probes would be installed in the proposed aeration tank with relays to automatic data loggers in the control house.

### **Final Settling Tank**

It is proposed to construct a final settling tank, with a surface area of approximately 33.4m<sup>2</sup> and a side wall depth of 2m, downstream of the proposed aeration tank. The design of the settling tank is based on a retention time of 2.0 hours.

An outlet flume from the settling tank will connect to the existing sea outfall pipe. This will dispose of treated effluent in Ballydehob Bay. The proposed flume shall be fitted with a flow monitor and composite sampler to monitor the treated effluent quality. The flow monitor should be relayed to a data logger in the control house

Sludge from the final settling tank will either be returned to the aeration tank via sludge return pumps or shall be conveyed to a proposed picket fence thickener downstream of the settling tank.

### **Sludge Thickening**

#### **Picket Fence Thickener Assembly**

The picket fence thickener will consist of a covered tank similar in form to that of the settling tank with a picket fence mechanism for stirring the sludge slowly in it. This encourages flocculation of the solids, which settle towards the bottom of the tank. The supernatant liquid, which moves towards the top of the tank, is drawn off via a peripheral weir and returned to the aeration tank.

The sludge would be thickened to 3-4% dry solids and would be regularly removed by bulk tanker to a sludge treatment centre to be nominated by the future updated County Cork Sludge Management Strategy.

The sludge withdrawal point from the picket fence thickener would be located in an enlarged manhole to protect the environment from spillages. A drain or pump in this manhole would transfer spillages to the inlet.

#### **Control House**

A control house shall be constructed at the location of the proposed treatment plant site. This shall contain laboratory equipment for testing of the influent and treated effluent and shall house the control panel for the treatment works. The house shall be fitted with shelves, cabinets, etc., as well as sanitary facilities.

#### **Package Treatment Plant**

As an alternative option to constructing a treatment plant as outlined in the previous section, a package treatment plant may be installed at the same location. The advantages of this are as follows:

- Reduced capital cost associated with the construction of the treatment plant.
- Reduced construction time thereby increasing the quality of the effluent being discharged to the tide at an earlier stage.
- As described previously, the septic tank may be retained as a storm holding tank.

The new WWTP will consist of preliminary and secondary treatment or their equivalent, to achieve a final effluent of 25 mg/l BOD; 35 mg/l SS; 125 mg/l COD in accordance with the Urban Waste Water Treatment Regulations, 2001 (S.I. No.254 of 2001).

### **Sources of Emissions from the Waste Water Works**

The WWTP handles organic and hydraulic flows from the following sources:

- Domestic Population
- Commercial Sector
- School



The most significant loading in terms of quantity is the domestic population. The 2006 Census Report recorded a population of 240 in Ballydehob town. This is a significant increase from the 2002 figure of 206 for the town. Using An Post Geodirectory, a house count was undertaken to determine the number of houses in the catchment area of the sewerage scheme.

The result of this indicated that there are approximately 131 domestic connections to the scheme.

The 2006 Census indicated an average housing occupancy of 2.88 persons per house in County Cork, the estimated domestic population served by the sewerage scheme is now 393.

There is one school in the catchment area of the sewerage scheme, namely St. Brigid's National School. According to the website of the Department of Education and Science, this school caters for approximately 122 pupils in total. Allowing for 8 staff members, the total number of people in the school comes to 130.

Other industries in the town are mostly pubs, restaurants and various types of shops, including grocery shops, hardware shops, craft shops, art galleries and jewellers.

The estimated existing population equivalent for the scheme is summarised below.

Total Domestic p.e.	-	393
Total Trade, Industrial, Commercial	-	167
<b>Total Existing P.E. for Ballydehob</b>		<b><u>560</u></b>

From the period 2002 to 2006 there was a 16.5% increase in population in Ballydehob (Census 2006. Table 5). Applying this increase for the projected licence period of 6 years, until 2015, there should be an increase of 24.6%, say 25%.

Therefore, future domestic p.e.	=	393 * 1.25	=	491
And allow 20% increase in non-domestic activities	=	167 * 1.2	=	200
Add Pending Developments from Section B9(ii)			=	114

**Total Predicted P.E. in 2015 = 805**

The existing pe is currently estimated at 560 with a consequent dry weather flow (DWF) of 128.8m<sup>3</sup> per day. There are two storm water over flows on the partially separate system. One is located at the pumping station while the other is located just upstream of the septic tank. The overflows are discharging into transitional waters.

**The nature and quantities of foreseeable emissions from the waste water works into the receiving aqueous environment as well as identification of significant effects of the emissions on the environment**

The current population of Ballydehob is 240 (Ref. 2006 Census Table 5). Sewage is currently treated via a septic tank and thus primary treatment occurs prior to discharge. The EPA Document "Treatment Systems for Small Communities, Business, Leisure Centres and Hotels" (EPA 1999) details wastewater inflow characteristics for domestic and commercial sources. As Ballydehob is considered mainly residential and the amount of industrial / commercial premises in the



village are small, therefore, the following are the inflow characteristics assumed: Suspended Solids 500mg/l, BOD 300mg/l.

Based on a population equivalent of 560 and a discharge volume of 60gBOD/person/day the total BOD reaching the treatment plant is estimated at 33.6kg/day BOD.

The main function of a septic tank is to act as primary settlement tank removing some of the BOD and the majority of the suspended solids. The EPA publication 'Primary, secondary and tertiary treatment' (EPA 1997) estimates that typically 50-70% of suspended solids are removed in primary settlement tanks; BOD is reduced by 20-50% and the bacterial count by 25-75%. According to the National Urban Waste Water Study (NUWWS) the reduction to the BOD load would be approximately 30% and approximately 50% to the Suspended Solids load.

This would result in a BOD discharge to the bay of 21.8kg/day.

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

The Dept of Environment, Heritage and Local Government has directed that the WWTP at Ballydehob be procured through a Design, Build and Operate form of contract in conjunction with a number a similar schemes in West Cork. The final layout of the site will be governed by the contractor's proposals for the site.

It is envisaged that this offers the following advantages;

- more buildable designs,
- innovative solutions to design issues,
- improved guarantee of enhanced operational performance.

The upgraded plant will provide secondary as opposed to the existing primary treatment. Consequently, newer technologies will be more likely to be used to optimize treatment thus ensuring compliance with the necessary effluent standards.

**Further measures planned to comply with the general principle of the basic obligations of the operator, i.e., that no significant pollution is caused**

The complete process will be upgraded in the near future with the construction of a new WWTP. The treatment capacity, the discharge quality and control systems will be improved to ensure that no significant pollution is caused.

It is likely that under the DBO contract for Ballydehob Wastewater Treatment Plant, a Performance Management System will be required. Such a system would provide a uniform approach to dealing with performance management issues, including procedures for dealing with plant operation, and in particular for dealing with emergencies or failure to meet treated effluent standards.

Failure to meet the specified treated effluent standards may result in final penalties to the operating contractor. As a result, the risk of environmental pollution from the treatment plant should be reduced.

**Measures planned to monitor emissions into the environment**

The emissions from the existing septic tank can be monitored through the sampling point SW01 Ball (see Map BALL B3.01 for location). Samples were taken from the septic tank, results of which are attached to this application. It is proposed to sample once yearly the influent to and effluent from the septic tank.

In the upgraded WWTP, monitoring and sampling of the emissions will be provided in inlet and outlet works. The sampling will consist of a composite sampler and all emissions will be measured and can be sampled before discharge.

It is also likely that under the Employers Requirements for Operation & Maintenance of the Works for Ballydehob Wastewater Treatment Plant, the Contractor will be obliged to implement in full, the requirements of a 'Performance Management System'. In providing this service, the Contractor would monitor the wastewater treatment plant assets and operations, which would include undertaking sampling, monitoring and analysis of the wastewater and sludge. Long term monitoring of the estuary and the final effluent from the treatment plant will also be undertaken to determine compliance or otherwise with the quality objectives set for the scheme.

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**SECTION B: GENERAL**

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

**B.1 Agglomeration Details**

**Name of Agglomeration:** Ballydehob, Co.Cork

**Applicant's Details**

**Name and Address for Correspondence**

Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant. Provide a drawing detailing the agglomeration to which the licence application relates. It should have the boundary of the agglomeration to which the licence application relates clearly marked in red ink.

<b>Name*:</b>	Cork County Council
<b>Address:</b>	Water Services (Western Division)
	Courthouse
	Skibbereen
	Co. Cork
<b>Tel:</b>	028-21299
<b>Fax:</b>	028-21995
<b>e-mail:</b>	declan.groarke@corkcoco.ie

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

\*Where an application is being submitted on behalf of more than one water services authority the details provided in Section B.1 shall be that of the lead water services authority.

<b>Name*:</b>	Mr Declan Groarke, S.E.E.
<b>Address:</b>	Water Services, Western Division,
	Cork County Council,
	The Courthouse, Skibbereen
	Co. Cork
<b>Tel:</b>	028-21299
<b>Fax:</b>	028-21995
<b>e-mail:</b>	declan.groarke@corkcoco.ie

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

**Co-Applicant's Details**

<b>Name*:</b>	Not applicable
<b>Address:</b>	
<b>Tel:</b>	
<b>Fax:</b>	
<b>e-mail:</b>	

\*This should be the name of a water services authority, other than the lead authority, where multiple authorities are the subject of a wastewater discharge (authorisation) licence application.

**Design, Build & Operate Contractor Details**

<b>Name*:</b>	Not applicable
<b>Address:</b>	
<b>Tel:</b>	
<b>Fax:</b>	
<b>e-mail:</b>	

\*Where a design, build & operate contract is in place for the wastewater works, or any part thereof, the details of the contractor should be provided.

**Attachment B.1** should contain appropriately scaled drawings / maps ( $\leq A3$ ) of the agglomeration served by the wastewater works showing the boundary clearly marked in red ink. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g., ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. These drawings should be provided to the Agency on a separate CD-Rom containing sections B.2, B.3, B.4, B.5, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No
	✓	

**B.2 Location of Associated Waste Water Treatment Plant(s)**

Give the location of the wastewater treatment plant associated with the wastewater works, if such a plant or plants exists.

<b>Name*:</b>	Billy Horgan, A/S.E.E.
<b>Address:</b>	Cork County Council, Store Road, Ballydehob, Co Cork
<b>Grid ref (6E, 6N)</b>	098960E, 035286N
<b>Level of Treatment</b>	Primary (Septic Tank)
<b>Primary Telephone:</b>	+353 28 28128
<b>Fax:</b>	+353 28 28541
<b>e-mail:</b>	<a href="mailto:billy.horgan@corkcoco.ie">billy.horgan@corkcoco.ie</a>

\*This should be the name of the person responsible for the supervision of the wastewater treatment plant.

**Attachment B.2** should contain appropriately scaled drawings / maps ( $\leq A3$ ) of the site boundary and overall site plan, including labelled discharge, monitoring and sampling points. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g., ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. These drawings should be provided to the Agency on a separate CD-Rom containing sections B.1, B.3, B.4, B.5, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No

	✓	
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**B.3 Location of Primary Discharge Point**

Give the location of the primary discharge point, as defined in the Waste Water Discharge (Authorisation) Regulation, associated with the wastewater works.

<b>Type of Discharge</b>	300mm D.I. Pipe with Non-return flap valve
<b>Unique Point Code</b>	SW01
<b>Location</b>	Ballydehob Bay
<b>Grid ref (6E, 6N)</b>	099090E, 035099N

**Attachment B.3** should contain appropriately scaled drawings / maps (≤A3) of the discharge point, including labelled monitoring and sampling points associated with the discharge point. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-Rom containing the drawings and tabular data requested in sections B.1, B.2, B.4, B.5, C.1, D.2, E.3 and F.2.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
	✓	

**B.4 Location of Secondary Discharge Point(s)**

Give the location of **all** secondary discharge point(s) associated with the wastewater works. Please refer to Guidance Note for information on Secondary discharge points.

<b>Type of Discharge</b>	Not Applicable
<b>Unique Point Code</b>	
<b>Location</b>	
<b>Grid ref (6E, 6N)</b>	

**Attachment B.4** should contain appropriately scaled drawings / maps (≤A3) of the discharge point(s), including labelled monitoring and sampling points associated with the discharge point(s). These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.5, C.1, D.2, E.3 and F.2.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
		✓

**B.5 Location of Storm Water Overflow Point(s)**

Give the location of **all** storm water overflow point(s) associated with the wastewater works.

**Overflow from Septic Tank**

<b>Type of Discharge</b>	450mm Pipe with Non-return flap valve
<b>Unique Point Code</b>	SW02
<b>Location</b>	Ballydehob Bay
<b>Grid ref (6E, 6N)</b>	098964E, 035318N

**Pump Station at Community Centre**

<b>Type of Discharge</b>	225mm Open Pipe
<b>Unique Point Code</b>	SW03
<b>Location</b>	Ballydehob Bay
<b>Grid ref (6E, 6N)</b>	098976E, 035430N

**Attachment B.5** should contain appropriately scaled drawings / maps ( $\leq A3$ ) of storm water overflow point(s) associated with the waste water works, including labelled monitoring and sampling points associated with the discharge point(s). These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-ROM containing sections B.1, B.2, B.3, B.4, C.1, D.2, E.3 and F.2.

Consent of copyholder required for any other use.  
For inspection purposes only.

Attachment included	Yes	No
	✓	

**B.6 Planning Authority**

Give the name of the planning authority, or authorities, in whose functional area the discharge or discharges take place or are proposed to take place.

<b>Name:</b>	Cork County Council – Planning Department
<b>Address:</b>	Norton House North Street Skibbereen Co. Cork
<b>Tel:</b>	+353 28 40340
<b>Fax:</b>	+353 28 21660
<b>e-mail:</b>	planninginfo@corkcoco.ie

Planning Permission relating to the wastewater works which is the subject of this application: - (tick as appropriate)

<b>has been obtained</b>		<b>is being processed</b>	✓
<b>is not yet applied for</b>		<b>is not required</b>	

<b>Local Authority Planning File Reference N<sup>o</sup>:</b>	Not Applicable
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**Attachment B.6** should contain **the most recent** planning permission, including a copy of **all** conditions, and where an EIS was required, copies of any such EIS and any certification associated with the EIS, should also be enclosed. Where planning permission is not required for the development, provide reasons, relevant correspondence, etc.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
		✓

**B.7 Other Authorities**

B.7 (i) Shannon Free Airport Development Company (SFADCo.) area

The applicant should tick the appropriate box below to identify whether the discharge or discharges are located within the Shannon Free Airport Development Company (SFADCo.) area

- Not Applicable

**Attachment B.7(i)** should contain details of any or all discharges located within the SFADCo. area.

<b>Within the SFADCo Area</b>	<b>Yes</b>	<b>No</b>
		✓

B.7 (ii) Health Services Executive Region

The applicant should indicate the **Health Services Executive Region** where the discharge or discharges are or will be located.

<b>Name:</b>	Health Service Executive South
<b>Address:</b>	Area Headquarters
	Hospital Grounds
	Skibbereen.
<b>Tel:</b>	+353 28 40400
<b>Fax:</b>	+353 28 21006
<b>e-mail:</b>	info@hse.ie

B.7 (iii) Other Relevant Water Services Authorities

Regulation 13 of the Waste Water Discharge (Authorisation) Regulations, 2007 requires all applicants, not being the water services authority in whose functional

area the relevant waste water discharge or discharges, to which the relevant application relates, takes place or is to take place, to notify the relevant water services authority of the said application.

<b>Name:</b>	Not Applicable
<b>Address:</b>	
<b>Tel:</b>	
<b>Fax:</b>	
<b>e-mail:</b>	

<b>Relevant Authority Notified</b>	<b>Yes</b>	<b>No</b>
		✓

**Attachment B.7(iii)** should contain a copy of the notice issued to the relevant local authority.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
		✓

**B.8 Notices and Advertisements**

Regulations 10 and 11 of the Waste Water Discharge (Authorisation) Regulations, 2007 require all applicants to advertise the application in a newspaper (within two weeks prior to date of application) and by way of a site notice. See *Guidance Note*.

**Attachment B.8** should contain a copy of the site notice and an appropriately scaled drawing (≤A3) showing its location. **The original application must include the original page of the newspaper in which the advertisement was placed.** The relevant page of the newspaper containing the advertisement should be included with the original and one (1) copy of the application.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
	✓	

**B.9 (i) Population Equivalent of Agglomeration**

**TABLE B.9.1 POPULATION EQUIVALENT OF AGGLOMERATION**

The population equivalent (p.e.) of the agglomeration to be, or being, served by the wastewater works should be provided and the period in which the population equivalent data was compiled should be indicated.

**Existing 2009**

<b>Population Equivalent</b>	560
<b>Data Compiled (Year)</b>	2009
<b>Method</b>	House Count and Population Statistics



**Proposed 2015**

<b>Population Equivalent</b>	805
<b>Data Compiled (Year)</b>	2009
<b>Method</b>	House Count and population Statistics

**B.9 (ii) Pending Development**

Where planning permission has been granted for development(s), but development has not been commenced or completed to date, within the boundary of the agglomeration and this development is being, or is to be, served by the waste water works provide the following information;

- information on the calculated population equivalent (p.e.) to be contributed to the waste water works as a result of those planning permissions granted,
- the percentage of the projected p.e. to be contributed by the non-domestic activities, and
- the ability of the wastewater works to accommodate this extra hydraulic and organic loading without posing an environmental risk to the receiving water habitat.

**Method of Calculating Pending Developments**

Planning Permission has been granted for the following developments in Ballydehob but construction has not commenced.

- 38 No. Dwellings

The 2006 Census was used to determine the occupancy rate per house for the permanent residential addresses. The Cork County rural average occupancy in the 2006 Census was 2.96 persons per house.

Therefore, the additional p.e. from this development will be  $38 \times 3 = 114$  pe.

2 no. applications were made for non-domestic developments. These consist of an application to extend St. Brigid's National School, with the addition of a new classroom to cater for growing number of students, and also to construct 2 no. commercial units in the centre of the village.

Allow 20% increase overall for non-domestic p.e.

The proposed WWTP plant will be designed to cater for 1,163 p.e. which will more than meet the future 2015 p.e. expected for Ballydehob.

**B.9 (iii) FEES**

State the relevant Class of waste water discharge as per Column 1 of the Second Schedule, and the appropriate fee as per Columns 2 or 3 of the Third Schedule of the Waste Water Discharges (Authorisation) Regulations 2007, S.I. No. 684 of 2007.

<b>Class of waste water discharge</b>	<b>Fee (in €)</b>
Discharges from agglomerations with a population equivalent of 500 to 1,000	€10,000

<b>Appropriate Fee Included</b>	<b>Yes</b>	<b>No</b>
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	✓	
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**B.10 Capital Investment Programme**

State whether a programme of works has been prioritised for the development of infrastructure to appropriately collect, convey, treat and discharge wastewater from the relevant agglomeration. If a programme of works has been prioritised provide details on funding, (local or national), allocated to the capital project. Provide details on the extent and type of work to be undertaken and the likely timeframes for this work to be completed.

The most recent national Water Services Investment Programme lists the Ballydehob Sewerage Scheme for inclusion in the 2007 – 2009 WSIP. The Cork County page of the WSIP shows the estimated cost of the project as €683,000.

**Likely Timeframe**

The likely timeframe for the carrying out of these works is as follows:

1. **Approval of Preliminary Report** by DOEHLG May 2009
2. **Contract Documents ,Preparation of Brief,design,planning** for Scheme to go forward as Design, Build,OperateScheme by **June 2011**
3. **Tender Process December 2011**
5. **Start construction - Jan 2012**
6. **Completion of Works - Oct 2012**

**Attachment B.10** should contain the most recent development programme, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
	✓	

**B.11 Significant Correspondence**

Provide a summary of any correspondence resulting from a Section 63 notice issued by the Agency in relation to the waste water works under the Environmental Protection Agency Acts, 1992 and 2003, as amended by Section 13 of Protection of the Environment Act, 2003.

- Not Applicable

**Attachment B.11** should contain a summary of any relevant correspondence issued in relation to a Section 63 notice.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
		✓

**B.12 Foreshore Act Licences.**

Provide a copy of the most recent Foreshore Act licence issued in relation to discharges from the waste water works issued under the Foreshore Act 1933.

**Attachment B.12** should contain the most recent licence issued under the Forshore Act 1933, including a copy of **all** conditions attached to the licence and any monitoring returns for the previous 12-month period, if applicable.

Attachment included	Yes	No
	✓	

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## SECTION C: INFRASTRUCTURE & OPERATION

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

### **C.1 Operational Information Requirements**

Provide a description of the plant, process and design capacity for the areas of the waste water works where discharges occur, to include a copy of such plans, drawings or maps, (site plans and location maps, process flow diagrams), and such other particulars, reports and supporting documentation as are necessary to describe all aspects of the area of the waste water works discharging to the aquatic environment. Maps and drawings must be no larger than A3 size.

#### C.1.1 Storm Water Overflows

For each storm water overflow within the wastewater works the following information shall be submitted:

- An assessment to determine compliance with the criteria for storm water overflows, as set out in the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows*', 1995 and any other guidance as may be specified by the Agency, and
- Identify whether any of the storm water overflows are to be decommissioned, and identify a date by which these overflows will cease, if applicable.

#### C.1.2 Pumping Stations

For each pump station operating within the wastewater works, provide details of the following:

- Number of duty and standby pumps at each pump station;
- The measures taken in the event of power failure;
- Details of storage capacity at each pump station;
- Frequency and duration of activation of emergency overflow to receiving waters. Clarify the location where such discharges enter the receiving waters.

### **Description of the existing plant process and design capacity**

The present treatment system in Ballydehob is a primary treatment plant (septic tank) adjacent to the tennis courts on the road to the pier at the location indicated on Drawing No. BALL B2.01. Built in the mid 1980's with a capacity of 164m<sup>3</sup>, it was originally designed for a p.e. of 700. Treated effluent from the septic tank outfalls to Ballydehob Bay via an existing outfall pipe.

The existing collection system consists of sewers varying in size between 100mm and 450mm diameter. The sewer materials are concrete, clay, polyethylene and PVC. The majority of the sewerage system is a combined system. Combined flows from the eastern end of the collection system, fall by gravity to a pumping station, while flows from the western area of the collection system flow by gravity directly to the existing septic tank for treatment. The rising main from the pumping station connects to the gravity system from the western area.

RPS Consulting Engineers, Cork are currently finalising a Preliminary Report on the plan to upgrade the existing WWTP at Ballydehob. Thus far, it is

recommended that the existing treatment system be upgraded to cater for the increased design p.e. and to protect water quality in Ballydehob Bay.

The septic tank provides primary settlement only, which according to the National Urban Waste Water Study (NUWWS) reduces the BOD load by approximately 30% and the Suspended Solids load by approximately 50%.

**Stormwater Overflows**

The sewerage network has two storm water overflow discharge points. Details of the stormwater overflow (SWO's) discharge points are given in Table C.1.1.

Type of Discharge	Unique Point Code	Receiving Water Body Type	Receiving Water Body Name	Grid Reference
Outfall Pipe	SW02 BALL	Transitional	Ballydehob Bay	E:098964 N:035318
Outfall Pipe	SW03 BALL	Transitional	Ballydehob Bay	E:098976 N:035430

SW01 Ball serves as the primary discharge and SW02 serves as the storm overflow from the septic tank. SW03 is the overflow for the pump station near the community center.

**Pump Station**

As shown in Map Ball B5.01 there is only one pump station in Ballydehob. The majority of the sewerage system is a combined system. Combined flows from the eastern end of the collection system fall by gravity to the pumping station, while flows from the western area of the collection system flow by gravity directly to the existing septic tank for treatment. The rising main from the pumping station connects to the gravity system from the western area. See Attachment Drawing C1.03 for details of existing pump station.

**Frequency & duration of activation of emergency overflow to receiving waters**

Emergency overflow is activated in the event of power failure or pump failure. The sewerage network is mostly a combined system as described above. During rainfall events there are significant volumes of storm run off entering the sewers, causing the storm water overflows in the system to be activated regularly. Some of the recently constructed housing estates have separate systems, therefore reducing the storm water flows in the system.

**Location of discharge enter the receiving waters**

The discharges from the pump stations are shown on Drawing no Ball B5.01, and enter transitional waters.

**Description of the proposed plant process and design capacity**

The plant will be designed to serve a population equivalent of 1,163 persons. This will cater for population growth and development demand for the next twenty years.

The following criteria were identified as key to choosing the most suitable design solution for the treatment plant upgrade: -

1. Capacity for a design loading of 1,163 p.e.:

$$\text{BOD} = 1,163 \times 0.06 \text{ kg/p/d} = 69.8 \text{ kg/day}$$

$$\text{DWF} = 1,163 \times 230 \text{ l/p/d} = 11.1 \text{ m}^3/\text{hour}$$

$$3 \text{ DWF} = 33.3 \text{ m}^3/\text{hour}$$

$$\begin{aligned} \text{Formula A} &= \text{DWF} + 1.36 \times \text{Population Served} + 2 \times \text{Trade Effluent} \\ &= 266 \text{ m}^3/\text{day} + (1.36 \times 941) \text{ m}^3/\text{day} + (2 \times 222 \times 0.23) \\ &\quad \text{m}^3/\text{day} \\ &= 266 \text{ m}^3/\text{day} + 1,280 \text{ m}^3/\text{day} + 102 \text{ m}^3/\text{day} \\ &= 1,648 \text{ m}^3/\text{day} \end{aligned}$$

2. Compliance with Urban Wastewater Regulations (BOD 25 mg/l, SS 35 mg/l).

It is proposed that the treatment plant will have a hydraulic capacity of 3 DWF. In accordance with the DEHLG publication, "Procedures and Criteria in relation to Storm Water Overflows", the allowable overflow to the receiving water is the Formula A flow.

An overflow chamber with automatic tilting weir is required on the main sewer line into the plant to allow 3 DWF to the proposed treatment works and to divert flows greater than 3 DWF to the proposed storm holding tank in order to comply with "Procedures and Criteria in relation to Storm Water Overflows". A storm holding tank is required to store flows in excess of the treatment plant capacity (3 DWF). In accordance with BS EN 12255-3:2000, the volume of the tank should be equivalent to 6 hours retention at dry weather flow. This volume is equivalent to 66.6 m<sup>3</sup>.

The existing septic tank (with a volume of approximately 164 m<sup>3</sup>) may be refurbished to serve this purpose. This will result in 97 m<sup>3</sup> of spare capacity, or an allowable storage of 80 litres per population equivalent. This is sufficient storage on the overflow where a dilution factor of greater than 2 is available, in accordance with the DEHLG publication, "Procedures and Criteria in relation to Storm Water Overflows".

Stormwater stored in this tank would gravitate into the proposed inlet pumping station via a flap valve once the storm abated. Alternatively, should the capacity of the storm holding tank be exceeded before the end of the storm event, an overflow pipe would also be provided in this storage tank. This would be connected to the existing sea outfall pipe, which would dispose of the diluted effluent in Ballydehob Bay.

The Urban Wastewater Treatment Regulations (SI 419 1994), states that urban wastewater entering collection systems shall before discharge be subject to appropriate treatment for discharge to fresh water and estuaries from agglomerations below a threshold number of 2,000 PE. Appropriate treatment is defined as that level of treatment, which is required so as not to adversely affect the water quality of the receiving waters. Due to the sensitive nature of the receiving water in Ballydehob, the level of treatment provided by the existing septic tank would not constitute appropriate treatment.

Requirements are also set within the Urban Wastewater Directive for Nutrients levels in discharges to sensitive areas, i.e. areas which are subject to eutrophication. However, these standards are only applicable for treatment plants with capacities over 10,000PE. As the population equivalent of Ballydehob at present is less than 2000, nutrient removal will not be carried out.

While the legislation does not define what level of treatment is to be considered as "appropriate treatment" it is considered that a minimum of secondary

treatment should be provided at Ballydehob. It is likely that it will consist of preliminary treatment, secondary treatment and disinfection or their equivalent to achieve a final effluent of 25mg/l BOD; 35mg/l SS; 125mg/l COD; 10,000/100 mls Total Coliforms; 2,000/100 mls Faecal Coliforms. Mitigating measures will be installed to maintain noise and odour emissions within recognised and acceptable limits at the site boundary.

Standby power generation will be available in case of power failure. Thickened sludge will be transported by tanker or skip off site for further treatment or disposal in accordance with the County Sludge Strategy Plan. Screening arising from the Preliminary Treatment stage will be disposed of to the Cork County Council landfill site.

**Control system description**

The proposed wastewater treatment plant will allow for monitoring and sampling of the inflow and outflow of wastewater in the plant.

**Pumping Stations**

An inlet pumping station shall be constructed downstream of the proposed storm overflow chamber and storm holding tank. The purpose of this is to provide the necessary hydraulic gradient for the sewage to gravitate through the treatment works, without the need for excessive excavations. Approximately 5.0 m head would be required for this purpose.

Two pumps shall be installed in the inlet pumping station, one duty and one standby. These pumps shall both have vortex impellers to prevent blockages.

There will be two inlets to the proposed pumping station. The first shall be from the proposed storm overflow chamber, which shall convey a flow of 3 DWF. The second shall be from the proposed storm holding tank via a flap valve in the internal wall of the pump sump. Sewage from the pumping station shall be pumped to the proposed screening and grit removal chamber.

The Community Centre pump station will also be upgraded as part of Phase 1 to comply with DoEHLG publication, "Procedures and Criteria in relation to Storm Water Overflows".

See Attachment Drawing C1.03 for details of existing pump station.

**Attachment C.1** should contain supporting documentation with regard to the plant and process capacity, systems, storm water overflows, emergency overflows, etc., including flow diagrams of each with any relevant additional information. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, D.2, E.3 and F.2.

Attachment included	Yes	No
	✓	

**C.2 Outfall Design and Construction**

Provide details on the primary discharge point & secondary discharge points and storm overflows to include reference, location, design criteria and construction detail.

The present treatment system in Ballydehob is a septic tank. Treated effluent from the septic tank outfalls to Ballydehob Bay via an existing outfall pipe just south of the Quay on Store Street.

There is a proposal to upgrade the current WWTP to cater for future growth and greater capacity in the village. While it is necessary to upgrade the existing treatment system, it is possible to retain the existing treatment site and incorporate the septic tank in the proposed treatment process in an enlarged site.

The existing treated effluent outfall pipe may be retained as sufficient capacity is available in it for the design discharge. Rapid mixing occurs at the mouth of the existing outfall pipe.

**Attachment C.2** should contain any supporting documentation on the design and construction of any and all discharge outfalls, including stormwater overflows, from the wastewater works.

Attachment included	Yes	No
		✓



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**SECTION D: DISCHARGES TO THE AQUATIC ENVIRONMENT**

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

Give particulars of the source, location, nature, composition, quantity, level and rate of discharges arising from the agglomeration and, where relevant, the period or periods during which such emissions are made or are to be made.

Details of all discharges of wastewater from the agglomeration should be submitted via the following web based link: [http://78.137.160.73/epa\\_wwd\\_licensing/](http://78.137.160.73/epa_wwd_licensing/). The applicant should address in particular all discharge points where the substances outlined in Tables D.1(i), (b) & (c) and D.1(ii), (b) & (c) of Annex 1 are emitted.

Where it is considered that any of the substances listed in Annex X of the Water Framework Directive (2000/60/EC) or any of the Relevant Pollutants listed in Annex VIII of the Water Framework Directive (2000/60/EC) are being discharged from the waste water works or are seen to be present in the receiving water environment downstream of a discharge from the works (as a result of any monitoring programme, e.g., under the Water Framework Directive Programme of Measures) the applicant shall screen the discharge for the relevant substance.

**D.1 Discharges to Surface Waters**

Details of all discharges of wastewater from the agglomeration should be supplied via the following web based link: [http://78.137.160.73/epa\\_wwd\\_licensing/](http://78.137.160.73/epa_wwd_licensing/). Tables D.1(i)(a), (b) & (c), should be completed for the primary discharge point from the agglomeration and Tables D.1(ii)(a), (b) & (c) should be completed for **each** secondary discharge point, where relevant. Table D.1(iii)(a) should be completed for **each** storm water overflow. Individual Tables must be completed for each discharge point.

Where monitoring information is available for the influent to the plant this data should also be provided in response to Section D.1.

Supporting information should form **Attachment D.1**

Attachment included	Yes	No
	✓	

**D.2 Tabular Data on Discharge Points**

Applicants should submit the following information for each discharge point:

**Table D.2:**

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING
Point Code Provide label ID's	Point Type (e.g., Primary/ Secondary/ Storm Water Overflow)	Local Authority Name (e.g., Donegal County Council)	Receiving Water Body Type (e.g., River, Lake, Groundwater, Transitional, Coastal)	Receiving Water Body Name (e.g., River Suir)	Protected Area Type (e.g., SAC, candidate SAC, NHA, SPA etc.)	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING
Point Code Provide label ID's	Point Type (e.g., Primary/ Secondary/ Storm Water Overflow)	Local Authority Name (e.g., Donegal County Council)	Receiving Water Body Type (e.g., River, Lake, Groundwater, Transitional, Coastal)	Receiving Water Body Name (e.g., River Suir)	Protected Area Type (e.g., SAC, candidate SAC, NHA, SPA etc.)	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference
SW01 BALL	Primary	Cork County Council	Transitional	Ballydehob Bay	SAC, pNHA	099090E	035099N
SW02 BALL	Storm water Overflow	Cork County Council	Transitional	Ballydehob Bay	SAC, pNHA	098964E	035318N
SW03 BALL	Storm water Overflow	Cork County Council	Transitional	Ballydehob Bay	SAC, pNHA	098976E	035430N

An individual record (i.e. row) is required for each discharge point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at [www.epa.ie](http://www.epa.ie). This data should be submitted to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, C.1, E.3 and F.2.



**SECTION E: MONITORING**

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

**E.1 Waste Water Discharge Frequency and Quantities – Existing & Proposed**

Provide an estimation of the quantity of wastewater likely to be emitted in relation to all primary and secondary discharge points applied for. This information should be included in Table E.1(i) via the following web based link: [http://78.137.160.73/epa\\_wwd\\_licensing/](http://78.137.160.73/epa_wwd_licensing/).

Provide an estimation of the quantity of wastewater likely to be emitted in relation to all storm water overflows within the agglomeration applied for. This information should be included in Table E.1(ii) via the following web based link: [http://78.137.160.73/epa\\_wwd\\_licensing/](http://78.137.160.73/epa_wwd_licensing/).

Indicate if composite sampling or continuous flow monitoring is in place on the primary or any other discharge points. Detail any plans and timescales for the provision of composite sampling and continuous flow meters.

**E.2. Monitoring and Sampling Points**

Programmes for environmental monitoring should be submitted as part of the application. These programmes should be provided as Attachment E.2.

Reference should be made to, provision of sampling points and safe means of access, sampling methods, analytical and quality control procedures, including equipment calibration, equipment maintenance and data recording/reporting procedures to be carried out in order to ensure accurate and reliable monitoring.

In determining the sampling programme to be carried out, the variability of the emission and its effect on the receiving environment should be considered.

Details of any accreditation or certification of analysis should be included.

**Attachment E.2** should contain any supporting information.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
	✓	

**E.3. Tabular data on Monitoring and Sampling Points**

Applicants should submit the following information for each monitoring and sampling point:

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
Point Code Provide label ID's assigned in section E of application	Point Type (e.g., Primary, Secondary, Storm Water Overflow)	Monitoring Type M = Monitoring S = Sampling	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used

An individual record (i.e., row) is required for each monitoring and sampling point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at [www.epa.ie](http://www.epa.ie). This data should be submitted to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, C.1, D.2 and F.2.

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
aSW-1u	Primary - Upstream	S	099021	035445	N
SW-01	Primary - Discharge	S	099090	035099	N

Please note that no downstream monitoring was carried out due to inaccessible nature of the location.

**E.4 Sampling Data**

Regulation 16(1)(h) of the Waste Water Discharge (Authorisation) Regulations 2007 requires all applicants in the case of an existing waste water treatment plant to specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application.

Please note that no downstream monitoring was carried out due to inaccessible nature of the location.

Regulation 16(1)(l) of the regulations requires applicants to give details of compliance with any applicable monitoring requirements and treatment standards.

**Attachment E.4** should contain any supporting information.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
	✓	

## **SECTION F: EXISTING ENVIRONMENT & IMPACT OF THE DISCHARGE(S)**

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

Detailed information is required to enable the Agency to assess the existing receiving environment. This section requires the provision of information on the ambient environmental conditions within the receiving water(s) upstream and downstream of any discharge(s).

Where development is proposed to be carried out, being development which is of a class for the time being specified under Article 24 (First Schedule) of the Environmental Impact Assessment Regulations, the information on the state of the existing environment should be addressed in the EIS. **In such cases, it will suffice for the purposes of this section to provide adequate cross-references to the relevant sections in the EIS.**

### **F.1. Assessment of Impact on Receiving Surface or Ground Water**

- Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

RPS Consulting Engineers Ltd. commissioned Irish Hydrodata Limited to investigate the impact of the marine environment of proposed treated wastewater discharges from the town and environs of Ballydehob to Ballydehob Bay, Co. Cork.

The marine study (Attachment F.1), confirms that the main impacts of discharging from the treatment plant outfall will be confined to Ballydehob Bay and that by the time the discharge reaches Reen Point at the mouth of the estuary the bacterial levels are below allowable limits.

The following is an excerpt of the conclusions of the marine report( Attachment F.1)-

"Effluent discharged from the municipal outfall just downstream of the town will be carried seaward along Ballydehob Bay towards Roaringwater Bay. As it travels downstream the effluent will mix with the bay waters. These waters are made up of saline seawater and fresh water from the river entering at Ballydehob.

Tracer studies using Rhodamine dye have shown that effluent discharged around high water on a spring tide will just reach Reen Point and Roaringwater Bay at low tide, having travelled a distance of about 2.7km. During neap tides the observed travel distances were less.

Simulations of the discharge have been conducted with a numerical dispersion model. These have shown that the main impact of the discharge will largely be confined to Ballydehob Bay itself. During calm conditions the effluent plume remains relatively compact while during windy conditions it disperses more widely. In both instances by the time the plume reaches Reen Point its bacterial

levels are substantially reduced due to a combination of decay and dispersion. BOD levels reduce rapidly with distance from the outfall and quickly fall below normal background levels (1 -2mg/l).

There are no designated bathing areas in the vicinity of Ballydehob Bay. Inner Roaringwater Bay, to the south west of Reen Point, is a designated aquaculture site. The models show that elevated bacterial levels will be experienced in this area as a result of the outfall discharges during spring tides and also during windy conditions. The predicted peak bacterial levels are 30 fc/100ml.

The EU Shellfish directive provides a guideline faecal coliform limit of <300 fc/100ml for designated shellfish waters. The DCMNR SHELLSAN guidelines set limits for faecal coliform levels in shellfish tissue and while they do not specifically apply to the surrounding waters they do provide an indication of likely acceptable coliform levels. SHELLSAN categories are:

- Approved: < 14 fc/100ml
- Conditional: 14 – 140 fc/100ml
- Restricted: > 140 fc/100ml

While the predicted faecal coliform levels in the aquaculture area are within EU limits the tendency in recent times has been to aim for lower limits and therefore consideration should be given to applying additional treatment to reduce the concentrations in the effluent discharge."

- Details of all monitoring of the receiving water should be supplied via the following web based link: [http://78.137.160.73/epa\\_wwd\\_licensing/](http://78.137.160.73/epa_wwd_licensing/). Tables F.1(i)(a) & (b) should be completed for the primary discharge point. Surface water monitoring locations upstream and downstream of the discharge point shall be selected for those substances listed in Tables F.1(i)(a) & (b). Monitoring of surface water shall be carried out at not less than two points, one upstream from the discharge location and one downstream.

Tables F.1 (i) (a) & (b) are included in the application form.

- For discharges from secondary discharge points Tables F.1(ii)(a) & (b) should be completed. Furthermore, provide summary details and an assessment of the impacts of any existing or proposed emissions on the surface water or ground (aquifers, soils, sub-soils and rock environment), including any impact on environmental media other than those into which the emissions are to be made.

**Not Applicable**

- Provide details of the extent and type of ground emissions at the works. For larger discharges to groundwaters, e.g., from Integrated Constructed Wetlands, large scale percolation areas, etc., a comprehensive report must be completed which should include, inter alia, topography, meteorological data, water quality, geology, hydrology, and hydrogeology. The latter must in particular present the aquifer classification and vulnerability. The Geological Survey of Ireland Groundwater Protection Scheme Dept of the Environment and Local Government, Geological Survey of Ireland, EPA (1999) methodology should be used for any such classification. This report should also

identify all surface water bodies and water wells that may be at risk as a result of the ground discharge.

There are no groundwater emissions from the existing or proposed discharges to which this licence application pertains.

- Describe the existing environment in terms of water quality with particular reference to environmental quality standards or other legislative standards. Submit a copy of the most recent water quality management plan or catchment management plan in place for the receiving water body. Give details of any designation under any Council Directive or Regulations that apply in relation to the receiving water.

Ballydehob Bay joins Roaringwater Bay approximately 2.7km to the south of the town. Inner Roaringwater Bay is used extensively for longline mussel cultivation and is a licensed aquaculture area. Roaringwater Bay is a Special Area of Conservation and a proposed National Heritage Area.

The South Western River Basin District status data is "Unassigned" with an objective to "Restore" for Roaring Water Bay incorporating Ballydehob Bay. On a risk assessment basis the SWRBD classify Roaring Water/Ballydehob Bay as "not at significant risk".

- Provide a statement as to whether or not emissions of main polluting substances (as defined in the *Dangerous Substances Regulations S.I. No. 12 of 2001*) to water are likely to impair the environment.

The Dangerous Substances Regulations define the main polluting pesticides, solvents and metals that have significant effects on the environment. As the load to the WWTP is mainly domestic and tourism with little industrial contribution it can be assumed that the presence of these substances is negligible. The main parameters which impact the receiving environment, are limited to BOD, suspended solids and bacteria (total and faecal Streptococci).

- In circumstances where water abstraction points exist downstream of any discharge describe measures to be undertaken to ensure that discharges from the waste water works will not have a significant effect on faecal coliform, salmonella and protozoan pathogen numbers, e.g., Cryptosporidium and Giardia, in the receiving water environment.

No water abstraction points exists downstream of any of the discharge locations (primary or secondary).

- Indicate whether or not emissions from the agglomeration or any plant, methods, processes, operating procedures or other factors which affect such emissions are likely to have a significant effect on –
  - (a) a site (until the adoption, in respect of the site, of a decision by the European Commission under Article 21 of Council Directive 92/43/EEC for the purposes of the third paragraph of Article 4(2) of that Directive) –
    - (i) notified for the purposes of Regulation 4 of the Natural Habitats Regulations, subject to any amendments made to it by virtue of Regulation 5 of those Regulations,

- (ii) details of which have been transmitted to the Commission in accordance with Regulation 5(4) of the Natural Habitats Regulations, or
- (iii) added by virtue of Regulation 6 of the Natural Habitats Regulations to the list transmitted to the Commission in accordance with Regulation 5(4) of those Regulations,
- (b) a site adopted by the European Commission as a site of Community importance for the purposes of Article 4(2) of Council Directive 92/43/EEC<sup>1</sup> in accordance with the procedures laid down in Article 21 of that Directive,
- (c) a special area of conservation within the meaning of the Natural Habitats Regulations, or
- (d) an area classified pursuant to Article 4(1) or 4(2) of Council Directive 79/409/EEC<sup>2</sup>;

<sup>1</sup>Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ No. L 206, 22.07.1992)

<sup>2</sup>Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (OJ No. L 103, 25.4.1979)

Ballydehob Bay joins Roaringwater Bay approximately 2.7km to the south of the town. Inner Roaringwater Bay is used extensively for longline mussel cultivation and is a licensed aquaculture area. Roaringwater Bay is a Special Area of Conservation and a proposed National Heritage Area. Marine studies were undertaken by Irish Hydrodata in May 2007. The results of the studies are included in Attachment F.1 of this report.

- o Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.

Not Applicable

- o This section should also contain full details of any modelling of discharges from the agglomeration. Full details of the assessment and any other relevant information on the receiving environment should be submitted as **Attachment F.1.**

Marine studies were undertaken by Irish Hydrodata in May 2007. The results of the studies are included in Attachment F.1 of this report.

Attachment included	Yes	No
	✓	



**F.2 Tabular Data on Drinking Water Abstraction Point(s)**

Applicants should submit the following information for each downstream or downgradient drinking water abstraction point. The zone of contribution for the abstraction point should be delineated and any potential risks from the wastewater discharge to the water quality at that abstraction point identified.

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
Abstraction Code	Agglomeration served	Abstraction Volume in m <sup>3</sup> /day	Point Code Provide label ID's	Distance Downstream in meters from Emission Point to Abstraction Point	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used

**Note:** Attach any risk assessment that may have been carried out in relation to the abstraction point(s) listed.

There are no drinking water abstraction points downstream of the discharges from the Ballydehob agglomeration.

An individual record (i.e. row) is required for each abstraction point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at [www.epa.ie](http://www.epa.ie). This data should be submitted to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, C.1, D.2 and E.3.

**Attachment F.2** should contain any supporting information.

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## SECTION G: PROGRAMMES OF IMPROVEMENTS

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

### G.1 Compliance with Council Directives

Provide details on a programme of improvements to ensure that emissions from the agglomeration or any premises, plant, methods, processes, operating procedures or other factors which affect such emissions will comply with, or will not result in the contravention of the;

- Dangerous Substances Directive 2006/11/EC,
- Water Framework Directive 2000/60/EC,
- Birds Directive 79/409/EEC,
- Groundwater Directives 80/68/EEC & 2006/118/EC,
- Drinking Water Directives 80/778/EEC,
- Urban Waste Water Treatment Directive 91/271/EEC,
- Habitats Directive 92/43/EEC,
- Environmental Liabilities Directive 2004/35/EC,
- Bathing Water Directive 76/160/EEC, and
- Shellfish Waters Directive (79/923/EEC).

#### **Dangerous Substances Directive 2006/11/EC**

Council Directive 2006/11/EEC recognises the need for action to be taken by member states to protect the aquatic environment from pollution, in particular that caused by certain persistent, toxic and bioaccumulable substances. The WWTP at Ballydehob, treats wastewater from primarily domestic sources and the industrial contribution can be considered as negligible. For this reason, we can assume that any dangerous substances mentioned in the Dangerous Substances Regulations will not be present in the discharge.

#### **Water Framework Directive 2000/60/EC**

The EU Water Framework Directive (WFD) entered into force in December 2000 and serves as a major impetus for improved water management. The objectives of the Water Framework Directive (WFD) are to protect all high status waters, prevent further deterioration of all waters and to restore degraded surface and ground waters to good status by 2015. The Directive requires the co-ordination of measures for water management in relation to all waters - inland surface waters, estuarine and coastal waters and groundwater.

The quality of estuarine and coastal waters is usually monitored by a number of government and regulatory agencies, including EPA, Coastal Local Authorities, the Marine Institute's Fisheries Research Centre (FRC), various arms of the Department of the Marine and Natural Resources and the Radiological Protection Institute of Ireland.

The South Western River Basin District status data is "Unassigned" with an objective to "Restore" for Roaring Water Bay incorporating Ballydehob Bay. On a risk assessment basis the SWRBD classify Roaring Water/Ballydehob Bay as "not at significant risk".

**Groundwater Directives 80/68/EEC & 2006/118/EC**

Not Applicable.

**Drinking Water Directives 80/778/EEC**

This Directive concerns standards for water intending for human consumption. As there is no drinking water abstraction point in the vicinity of any of the discharge points, this directive is not applicable.

**Urban Waste Water Treatment Directive 91/271/EEC**

The UWWTD provides a framework for action to deal with the pollution threat from urban and industrial wastewater. The principal requirement of the UWWTD is that:

"The design, construction and maintenance of collection systems shall be undertaken in accordance with the best technical knowledge not entailing excessive costs, notably regarding:

- *Volume and characterisation of urban waste water*
- *Prevention of leaks*
- *The limitation of pollution of receiving waters due to storm water overflows"*

In a footnote to the above requirements, the directive recognises that it is not possible in practice to construct collection systems and treatment plants in a way such that all wastewater can be treated during situations such as unusually heavy rainfall. As a result, it requires Member States to decide on measures to limit pollution from storm water overflows and suggests that such measures:

(i) could be based on:

- Dilution rates
- Capacity in relation to dry weather flow

(ii) could specify a certain acceptable number of overflows per year.

As stated in the S.I. No. 254 of 2001, Urban Waste Water Treatment Regulation, 2001:

" A sanitary authority shall ensure by 31 December 2005 that urban waste water entering a collecting system shall before discharge be subject to appropriate treatment in the following cases:

- (a) in respect of discharges to freshwater and estuaries from agglomerations with a population equivalent of less than 2,000;
- (b) in respect of discharges to coastal waters from agglomerations with a population equivalent of less than 10,000."

The proposed upgrade of Ballydehob WWTP will provide secondary treatment and ensure compliance with this Directive.

**Habitats Directive 92/43/EEC & Birds Directive 79/409/EEC**

Ballydehob Bay, which abuts the town, is within the Roaringwater Bay and Islands Special Area of Conservation and proposed Natural Heritage Area.

Roaringwater Bay and Islands is a site of exceptional conservation importance, supporting diverse marine and terrestrial habitats (including the shallow sheltered bays such as that of Ballydehob), six of which are listed under the EU Habitats Directive. The site is also notable for the presence of Otter and Grey Seals, plus a number of rare species and also supports important sea bird colonies. However, none of the habitats around the Wastewater Treatment Plant are rare or of special ecological interest. In particular, there are no Areas of Scientific Interest in the immediate vicinity and no rare or protected plants on the site.

### **Environmental Liabilities Directive 2004/35/EC**

The Environmental Liabilities Directive is about preventing and remedying environmental damage. It aims to hold operators whose activities have caused environmental damage financially liable for remedying this damage.

It is likely that under the DBO contract for Ballydehob Wastewater Treatment Plant, a Performance Management System will be required. Such a system would provide a uniform approach to dealing with performance management issues, including procedures for dealing with plant operation, and in particular for dealing with emergencies or failure to meet treated effluent standards. Failure to meet the specified treated effluent standards may result in final penalties to the operating contractor. As a result, the risk of environmental pollution from the treatment plant may be reduced.

### **Bathing Water Directive 76/160/EEC**

In Ireland the legislation governing the quality of bathing waters is set out in the Quality of Bathing Waters Regulations, 1992 (S.I. 155 of 1992) and amendments which transpose the EU Directive 76/160/EC concerning the quality of bathing water.

The Directive, which came into force over thirty years ago, is intended to protect public health and the environment at locations where bathing is not prohibited and is traditionally practised by a large number of bathers, by enforcing the achievement of a number of standards, chemical, physical and microbiological.

There are no known bathing areas within Ballydehob Bay. The nearest bathing area is at Audley Cove to the southwest, outside Reen Point and approximately 5km along the coastline from the discharge point therefore, by the time the discharge reaches Reen Point it is expected that the bacterial levels are below allowable limits.

### **Shellfish Waters Directive (79/923/EEC)**

Ballydehob Bay joins Roaringwater Bay approximately 2.7km to the south of the town. Inner Roaringwater Bay is used extensively for longline mussel cultivation and is a licensed aquaculture area.

According to S.I. No. 268 of 2006, European Communities (Quality of Shellfish Waters) Regulations 2006, part of Roaringwater Bay, but excluding Ballydehob Bay, is a designated shellfish water area.

The marine study carried out by Irish Hydrodata confirms that the main impacts of discharging from the treatment plant outfall will be confined to Ballydehob Bay and that by the time the discharge reaches Reen Point the bacterial levels are below allowable limits under this Directive.

**Attachment G.1** should contain the most recent programme of improvements, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

Attachment included	Yes	No
	✓	

**G.2 Compliance with Water Quality Standards for Phosphorus Regulations (S.I. No. 258 of 1998).**

Provide details on a programme of improvements, including any water quality management plans or catchment management plans in place, to ensure that improvements of water quality required under the Water Quality Standards for Phosphorous Regulations (S.I. No. 258 of 1998) are being achieved. Provide details of any specific measures adopted for wastewater works specified in Phosphorus Measures Implementation reports and the progress to date of those measures. Provide details highlighting any wastewater works that have been identified as the principal sources of pollution under the P regulations.

Not Applicable for Discharges into the sea.

**Attachment G.2** should contain the most recent programme of improvements and any associated documentation requested under Section G.3 of the application.

Attachment included	Yes	No
		✓

**G.3 Impact Mitigation**

Provide details on a programme of improvements to ensure that discharges from the agglomeration will not result in significant environmental pollution.

**The Proposed Wastewater Treatment Scheme**

The Proposed WWTP upgrade works is to be phased. Phase 1 works shall include the required upgrades to the pumping station and treatment plant and shall also include the foul and storm sewers between Main Street and the proposed treatment plant. Phase 2 shall include the remaining sewers.

In order to upgrade and rehabilitate the foul collection system, it is necessary to lay:

1. Approximately 169 m of 150 mm diameter pcc sewer.

2. Approximately 569 m of 225 mm diameter pcc sewer.
3. Approximately 389 m of 300 mm diameter pcc sewer.
4. Approximately 344 m of 375 mm diameter pcc sewer.
5. Approximately 32 m of 450 mm diameter pcc sewer.
6. Approximately 35 m of 525 mm diameter pcc sewer.
7. Approximately 226 m of 600 mm diameter pcc sewer.

In order to upgrade and rehabilitate the storm collection system, it is necessary to lay:

1. Approximately 142 m of 300 mm diameter pcc sewer.
2. Approximately 470 m of 600 mm diameter pcc sewer.

The following are excerpts from the Preliminary Report by RPS Consulting Engineers.

'While it is necessary to upgrade the existing treatment system, it is possible to retain the existing treatment site and incorporate the septic tank in the proposed treatment process in an enlarged site. This may be used as a storm-water balancing tank and would serve to reduce capital costs of the proposed upgrade works. Similarly, should this site be kept, the existing treated effluent outfall pipe may be retained as sufficient capacity is available in it for the design discharge, further reducing capital costs.

Other advantages of this alternative are as follows:

- Cork County Council owns the site and the adjacent lands
- Power costs would be minimised as effluent from most of the town flows by gravity to the existing septic tank
- The existing outfall pipe is well upstream from a shellfish farm southwest of Ballydehob
- Rapid mixing occurs at the mouth of the existing outfall pipe.

### Criteria for Design

The following criteria were identified as key to choosing the most suitable design solution for the treatment plant upgrade: -

1. Capacity for a design loading of 1,163 p.e. :

$$\begin{aligned} \text{BOD} &= 1,163 \times 0.06 \text{ kg/p/d} = 69.8 \text{ kg/day} \\ \text{DWF} &= 1,163 \times 230 \text{ l/p/d} = 11.1 \text{ m}^3/\text{hour} \\ 3 \text{ DWF} &= 33.3 \text{ m}^3/\text{hour} \end{aligned}$$

$$\begin{aligned} \text{Formula A} &= \text{DWF} + 1.36 \times \text{Population Served} + 2 \times \text{Trade Effluent} \\ &= 266 \text{ m}^3/\text{day} + (1.36 \times 941) \text{ m}^3/\text{day} + (2 \times 222 \times 0.23) \\ &\quad \text{m}^3/\text{day} \\ &= 266 \text{ m}^3/\text{day} + 1,280 \text{ m}^3/\text{day} + 102 \text{ m}^3/\text{day} \\ &= 1,648 \text{ m}^3/\text{day} \end{aligned}$$

2. Compliance with Urban Wastewater Regulations (BOD 25 mg/l, SS 35 mg/l).

3. Little space available within the existing treatment plant site for the construction of additional structure.
4. Optimum usage of the existing septic tank in the plant.
5. Minimal disruption to existing treatment system during upgrading works.
6. Minimal disruption to the aesthetic quality of the surrounding area.

Following consideration of a number of different treatment processes, it was decided to proceed with a conventional activated sludge (CAS) treatment process. The various stages of the treatment process are described in the following sections.

### **Inlet Works**

The proposed inlet works will consist of a stormwater overflow chamber, a stormwater holding tank, an inlet pumping station and screening and grit removal chamber.

### **Overflow Chamber**

It is proposed that the treatment plant will have a hydraulic capacity of 3 DWF. In accordance with the DEHLG publication, "Procedures and Criteria in relation to Storm Water Overflows", the allowable overflow to the receiving water is the Formula A flow.

An overflow chamber with automatic tilting weir is required on the main sewer line into the plant to allow 3 DWF to the proposed treatment works and to divert flows greater than 3 DWF to the proposed storm holding tank in order to comply with "Procedures and Criteria in relation to Storm Water Overflows".

The automatic tilting weir will be controlled by an inlet flow monitor, which can be installed in the same chamber as the tilting weir. The weir can be easily regulated to ensure that the continuation flow to the plant will not exceed its hydraulic capacity. This mechanism will also minimise the amount of grit and debris build up.

### **Storm Holding Tank**

A storm holding tank is required to store flows in excess of the treatment plant capacity (3 DWF). In accordance with BS EN 12255-3:2000, the volume of the tank should be equivalent to 6 hours retention at dry weather flow. This volume is equivalent to 66.6 m<sup>3</sup>.

The existing septic tank (with a volume of approximately 164 m<sup>3</sup>) may be refurbished to serve this purpose. This will result in 97 m<sup>3</sup> of spare capacity, or an allowable storage of 80 litres per population equivalent. This is sufficient storage on the overflow where a dilution factor of greater than 2 is available, in accordance with the DEHLG publication, "Procedures and Criteria in relation to Storm Water Overflows".

Stormwater stored in this tank would gravitate into the proposed inlet pumping station via a flap valve once the storm abated. Alternatively, should the capacity of the storm holding tank be exceeded before the end of the storm

event, an overflow pipe would also be provided in this storage tank. This would be connected to the existing sea outfall pipe, which would dispose of the diluted effluent in Ballydehob Bay.

### **Inlet Pumping Station**

An inlet pumping station shall be constructed downstream of the proposed storm overflow chamber and storm holding tank. The purpose of this is to provide the necessary hydraulic gradient for the sewage to gravitate through the treatment works, without the need for excessive excavations. Approximately 5.0 m head would be required for this purpose.

Two pumps shall be installed in the inlet pumping station, one duty and one standby. These pumps shall both have vortex impellers to prevent blockages.

There will be two inlets to the proposed pumping station. The first shall be normal flow from the proposed storm overflow chamber which shall convey a flow of 3 DWF. The second shall be from the proposed storm holding tank via a flap valve in the internal wall of the pump sump. Sewage from the pumping station shall be pumped to the proposed screening and grit removal chamber.

### **Screening and Grit Removal**

It is proposed to provide a combined screening and grit removal package unit upstream of the proposed aeration tank to remove any grit, debris, etc., in the sewage. These units are particularly suitable for small treatment works particularly given the limited space available. There is minimal head loss across the unit. Combined inlet systems provide a clean and efficient system for removal of screenings and grit.

### **Aeration Tank**

The proposed aeration tank was designed for a sludge age of 5 days. The design of the proposed aeration tank is detailed in Appendix C. It is proposed to construct a tank with a volume of 267 m<sup>3</sup>, with dimensions of 9.5m x 9.5m x 3m deep.

The aerators in the aeration tank have a dual function: (i) to oxygenate the mixed liquid suspended solids and (ii) to maintain the solids in suspension by circulating the liquid around the tank.

Various options are available for the provision of aerators. In this case it is proposed to provide 2 No. venturi aerators in the proposed aeration tank. This type of aerator would offer the following advantages:

- Venturi aerators can provide both aeration and mixing of the mixed liquor.
  - There is a reduced aerosol effect over alternative options, thereby minimising air borne odours.
- No requirement for compressed air supply.
  - An automatic weir is not required on the outlet to the aeration tank to vary the depth of immersion of the aerator, unlike other aerator types.



- Capital and operating costs not excessive.

2 no. dissolved oxygen probes would be installed in the proposed aeration tank with relays to automatic data loggers in the control house.

### **Final Settling Tank**

It is proposed to construct a final settling tank, with a surface area of approximately 33.4m<sup>2</sup> and a side wall depth of 2m, downstream of the proposed aeration tank. The design of the settling tank is included in Appendix C and is based on a retention time of 2.0 hours.

An outlet flume from the settling tank will connect to the existing sea outfall pipe. This will dispose of treated effluent in Ballydehob Bay. The proposed flume shall be fitted with a flow monitor and composite sampler to monitor the treated effluent quality. The flow monitor should be relayed to a data logger in the control house

Sludge from the final settling tank will either be returned to the aeration tank via sludge return pumps or shall be conveyed to a proposed picket fence thickener downstream of the settling tank.

### **Sludge Thickening**

#### **Picket Fence Thickener Assembly**

The picket fence thickener will consist of a covered tank similar in form to that of the settling tank with a picket fence mechanism for stirring the sludge slowly in it. This encourages flocculation of the solids, which settle towards the bottom of the tank. The supernatant liquid, which moves towards the top of the tank, is drawn off via a peripheral weir and returned to the aeration tank.

The sludge would be thickened to 3-4% dry solids and would be regularly removed by bulk tanker to a sludge treatment centre to be nominated by the future updated County Cork Sludge Management Strategy.

The sludge withdrawal point from the picket fence thickener would be located in an enlarged manhole to protect the environment from spillages. A drain or pump in this manhole would transfer spillages to the inlet.

### **Control House**

A control house shall be constructed at the location of the proposed treatment plant site. This shall contain laboratory equipment for testing of the influent and treated effluent and shall house the control panel for the treatment works. The house shall be fitted with shelves, cabinets, etc., as well as sanitary facilities.

### **Package Treatment Plant**

As an alternative option to constructing a treatment plant as outlined in the previous section, a package treatment plant may be installed at the same location, using the same design parameters as per Section 0. The advantages of this are as follows:

- Reduced capital cost associated with the construction of the treatment plant.

- Reduced construction time thereby increasing the quality of the effluent being discharged to the tide at an earlier stage.
- As described previously, the septic tank may be retained as a storm holding tank.

For these reasons, it is recommended that a package treatment plant be installed to with a treatment capacity of 1163 p.e.'

The new WWTP will consist of preliminary and secondary treatment or their equivalent, to achieve a final effluent of 25 mg/l BOD; 35 mg/l SS; 125 mg/l COD in accordance with the Urban Waste Water Treatment Regulations, 2001 (S.I. No.254 of 2001).

**Attachment G.3** should contain the most recent programme of improvements, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
		✓

**G.4 Storm Water Overflow**

Provide details on a programme of improvements to ensure that discharges other than the primary and secondary discharges comply with the definition of 'storm water overflow' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007.

There are two storm water overflows on the partially separate system. One is located at the pumping station while the other is located just upstream of the septic tank.

There are three existing dedicated storm sewers in the town. One is a 225 mm diameter system which outfalls just upstream of the bridge on the Skibbereen Road. Another is a 300 mm diameter sewer which runs from the western end of the town and outfalls to a stream near the top of Main Street. Thirdly, a box culvert system runs parallel to Main Street, at the back of the houses on the northern side of the street. This flows to an open channel section, which is then piped in a 225 mm diameter sewer to the estuary.

There are no proposals to provide further separation of storm and foul flows in the developed areas of the town as part of this report. However, the most recent developments have been constructed with separate storm sewers and, as new developments progress, it is recommended that this policy be continued for larger schemes, while stormwater from smaller developments may be discharged to soakaways. Storm flows from future development should be attenuated to a maximum of the storm flows, which could be generated from an undeveloped catchment.

It is recommended that the existing stormwater box culvert and pipe system to the north of Main Street be replaced with a proposed 600mm diameter sewer. Planning permission has recently been granted for a proposed development north of Main Street. A condition of this application is that a 600mm diameter storm water sewer be laid through the site from the existing storm system and out onto Main Street. It is recommended that this 600mm diameter sewer be extended in a southeasterly direction to discharge the stormwater to the estuary. Upstream of the proposed development, the 600mm diameter sewer

should be laid up to the mouth of the existing culvert, on the east of Church Road and a new screen should be constructed at the mouth of the pipe. It should be noted that localised flooding has been observed in this area and this proposal would alleviate these problems.

**Storm Holding Tank**

A storm holding tank is required to store flows in excess of the proposed treatment plant capacity (3 DWF). In accordance with BS EN 12255-3:2000, the volume of the tank should be equivalent to 6 hours retention at dry weather flow. This volume is equivalent to 66.6 m<sup>3</sup>.

The existing septic tank (with a volume of approximately 164 m<sup>3</sup>) may be refurbished to serve this purpose. This will result in 97 m<sup>3</sup> of spare capacity, or an allowable storage of 80 litres per population equivalent. This is sufficient storage on the overflow where a dilution factor of greater than 2 is available, in accordance with the DEHLG publication, "Procedures and Criteria in relation to Storm Water Overflows".

Stormwater stored in this tank would gravitate into the proposed inlet pumping station via a flap valve once the storm abated. Alternatively, should the capacity of the storm holding tank be exceeded before the end of the storm event, an overflow pipe would also be provided in this storage tank. This would be connected to the existing sea outfall pipe, which would dispose of the diluted effluent in Ballydehob Bay.

The sewerage network is mostly a combined system. During rainfall events there is significant volumes of storm run off entering the sewers, causing the storm water overflows in the system to be activated regularly. Some of the recently constructed housing estates have separate systems, therefore reducing the storm water flows in the system.

The Community Centre pump station will also be upgraded as part of Phase 1 to comply with DoEHLG publication, "Procedures and Criteria in relation to Storm Water Overflows".

**Attachment G.4** should contain the most recent programme of improvements, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

<b>Attachment included</b>	<b>Yes</b>	<b>No</b>
		✓

**SECTION H: DECLARATION**

**Declaration**

I hereby make application for a wastewater discharge licence/revised licence, pursuant to the provisions of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).

I certify that the information given in this application is truthful, accurate and complete.

I give consent to the EPA to copy this application for its own use and to make it available for inspection and copying by the public, both in the form of paper files available for inspection at EPA and local authority offices, and via the EPA's website.

This consent relates to this application itself and to any further information or submission, whether provided by me as Applicant, any person acting on the Applicant's behalf, or any other person.

**Signed by :** Niall O'Mahony **Date :** 18/6/09  
*(on behalf of the organisation)*

**Print signature name:** NIALL O'MAHONY

**Position in organisation:** SENIOR ENGINEER

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**SECTION I: JOINT DECLARATION**

**Joint Declaration** <sup>Note1</sup>

I hereby make application for a wastewater discharge licence/revised licence, pursuant to the provisions of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).

I certify that the information given in this application is truthful, accurate and complete.

I give consent to the EPA to copy this application for its own use and to make it available for inspection and copying by the public, both in the form of paper files available for inspection at EPA and local authority offices, and via the EPA's website.

This consent relates to this application itself and to any further information or submission whether provided by me as Applicant, any person acting on the Applicant's behalf, or any other person.

**Lead Authority**

**Signed by :** \_\_\_\_\_ **Date :** \_\_\_\_\_  
*(on behalf of the organisation)*

**Print signature name:** \_\_\_\_\_

**Position in organisation:** \_\_\_\_\_

**Co-Applicants**

**Signed by :** \_\_\_\_\_ **Date :** \_\_\_\_\_  
*(on behalf of the organisation)*

**Print signature name:** \_\_\_\_\_

**Position in organisation:** \_\_\_\_\_

**Signed by :** \_\_\_\_\_ **Date :** \_\_\_\_\_  
*(on behalf of the organisation)*

**Print signature name:** \_\_\_\_\_

**Position in organisation:** \_\_\_\_\_

**Note 1:** In the case of an application being lodged on behalf of more than a single water services authority the following declaration must be signed by all applicants.

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## TABLES / ATTACHMENTS

### Section A - Non Technical Summary

Attachment A1 – BALL A1-01 – Site Location Map of Agglomeration

### Section B - General

Attachment B1 – BALL B1-01 – Ballydehob Agglomeration Boundary Map

Attachment B2 – BALL B2-01 – Site Location of Existing Waste Water Treatment Plant

Attachment B2 – BALL B2-02 – Site Layout of Proposed Waste Water Treatment Plant

Attachment B3 – BALL B3-01 – Existing Primary Discharge Point  
Attachment B3 – BALL B3-02 – Proposed Primary Discharge Point

Attachment B5 – BALL B5-01 – Storm Water Overflow

Attachment B8 – BALL B8-01 – Location of Site Notices

- Site Notice
- Press Notice

Attachment B9 – Application Fee

Attachment B10 – Capital Investment Programme

Attachment B12 – Foreshore Licence

### Section C – Infrastructure & Operation

Attachment C1 - BALL C1-01 – Waste Water Treatment Plant Site Layout

Attachment C1 - BALL C1-02 – Layout Plan of Existing Sewers

Attachment C1 - BALL C1-03 – Existing Pump Station

Attachment C1 - BALL C1-04 – Process Flow Diagram

### Section E – Monitoring

Attachment E2 - Monitoring Programme

Attachment E3 - Tabular Data on Monitoring and Sampling Points

Attachment E4 - Sampling Data

### Section F – EXISTING ENVIRONMENT & IMPACT OF THE DISCHARGE(S)

Attachment F1 – Marine Report

## **Section G – Programme of Improvements**

Attachment G1 – Programme of Improvements

### **Tables**

Agglomeration Details

Tables D.1 – Emissions to Surface/Ground Waters

Table E.1 - Wastewater Frequency and Quantity of Discharge

Table F.1 - Surface/Ground Water Monitoring

### **Annex II**

Checklist for Regulation 16/17 Compliance

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## Attachment A.1

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## Attachment A1

### Map:

- BALL A1.01 - Site Location Map

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KEY MAP

Not To Scale

**AREA OF INTEREST**

*Consent boundary for inspection purposes only (for any other use)*

No.	Date	Drawn	Chkd	Revision Description

**Cork County Council  
Western Division.**



N. O'MAHONY, B.E.,  
SEN. ENGR. (WATER SERVICES),  
COURTHOUSE, SKIBBEREEN.  
  
M. MURRELL,  
DIRECTOR OF SERVICES  
WEST CORK

Job Title:  
**WASTE WATER DISCHARGE  
LICENCE APPLICATION  
BALLYDEHOB AGGLOMERATION**

Drawing Title:  
**ATTACHMENT A.1  
SITE LOCATION MAP**

Prepared By: A. O'BRIEN	Checked By: D. GROARKE	Date: JUN. 2009
Drawing number: BALL_A1-01	Scales: NTS	Rev: -



## Attachment B.1

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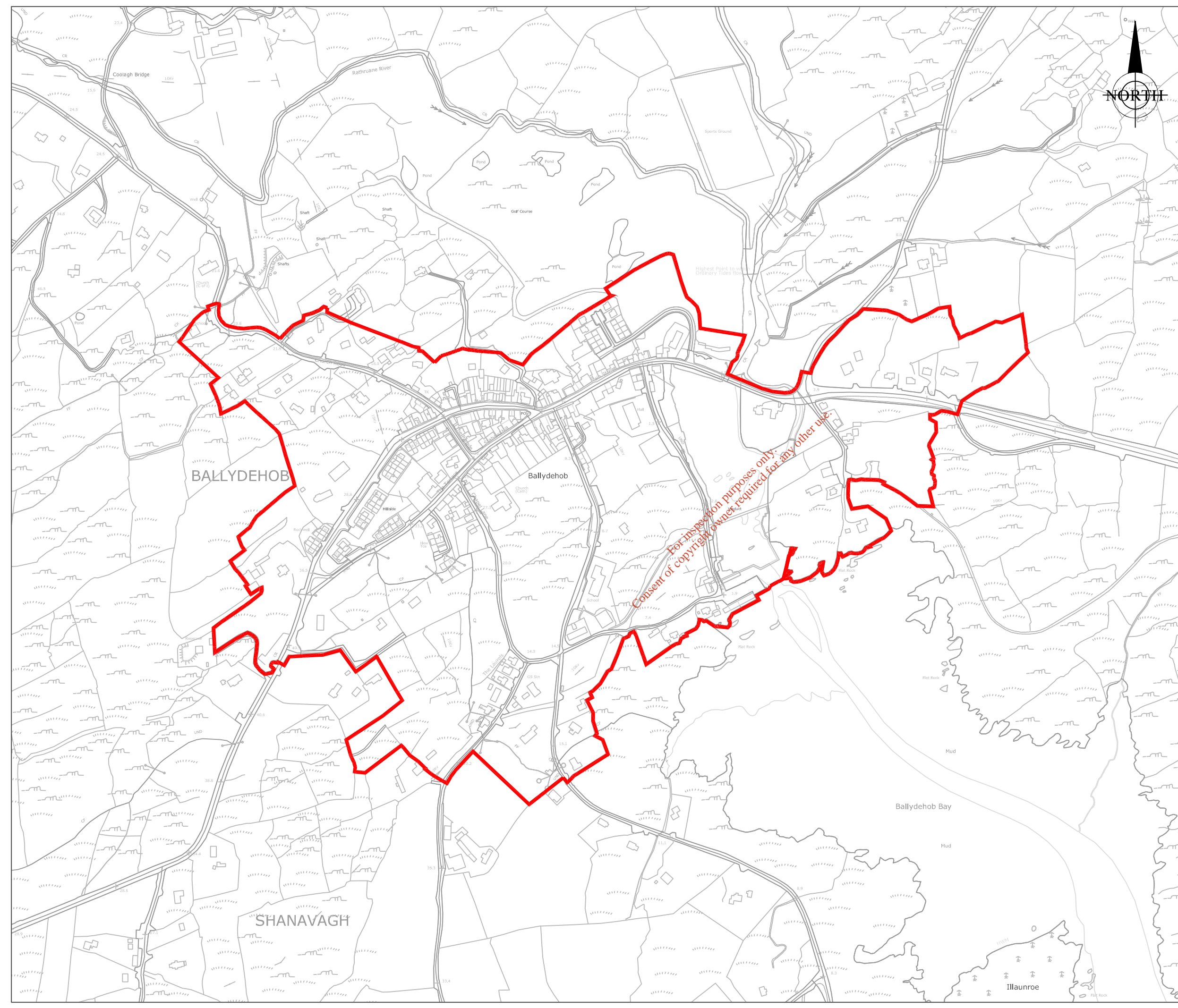
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## **Attachment B1**

### **Map:**

- BALL B1.01 – Ballydehob Agglomeration Boundary Map

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**LEGEND**

——— AGGLOMERATION BOUNDARY

No.	Date	Drawn	Chkd	Revision Description

**Cork County Council,  
Western Division.**



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SENIOR ENGR. (WATER SERVICES),  
COURTHOUSE, SKIBBEREEN.  
  
M. MURRELL,  
DIRECTOR OF SERVICES  
WEST CORK

Job Title:  
**WASTE WATER DISCHARGE  
LICENCE APPLICATION  
BALLYDEHOB AGGLOMERATION**

Drawing Title:  
**ATTACHMENT B.1  
AGGLOMERATION BOUNDARY  
SERVED BY WWTP**

Prepared By: A.O'BRIEN	Checked By: D.GROARKE	Date: JUN.2009
Drawing number: BALL_B1_01	Scales: 1:5000	Rev: -

## Attachment B.2

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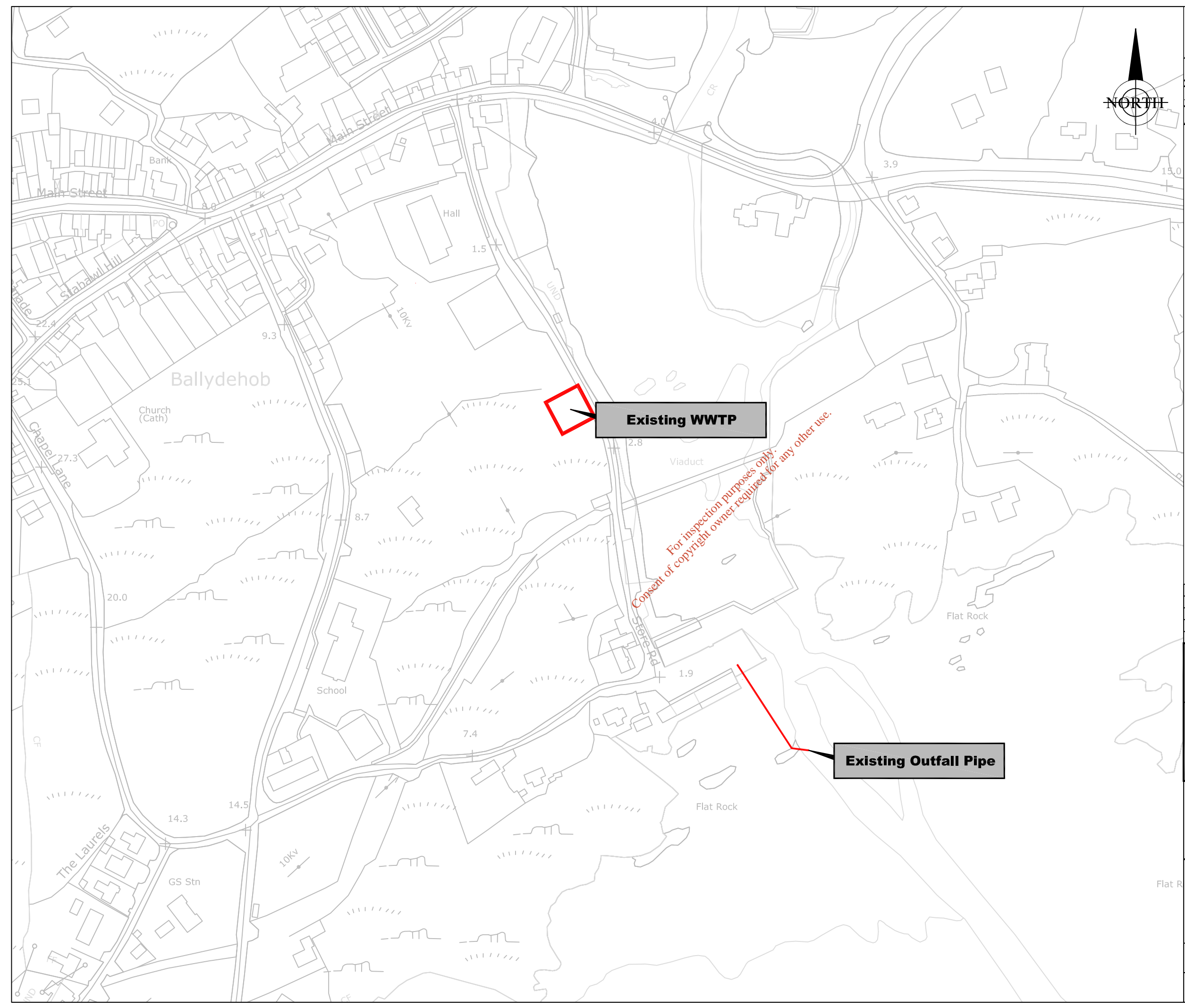
## **Attachment B2**

### **Maps:**

- BALL B2.01 – Site Location Map of Existing & Proposed Wastewater Treatment Plants

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**Cork County Council,  
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SENR. ENGR. (WATER SERVICES),  
COURTHOUSE, SKIBBEREEN.

**M. MURRELL,**  
DIRECTOR OF SERVICES  
WEST CORK

Job Title:  
**WASTE WATER DISCHARGE  
LICENCE APPLICATION  
BALLYDEHOB AGGLOMERATION**

Drawing Title:  
**ATTACHMENT B.2  
SITE LOCATION PLAN  
EXISTING WWTP**

Prepared By: A.O'BRIEN	Checked By: D.GROARKE	Date: JUN.2009
Drawing number: BALL_B2-01	Scales: 1:2000	Rev: -

---

Attachment B.3

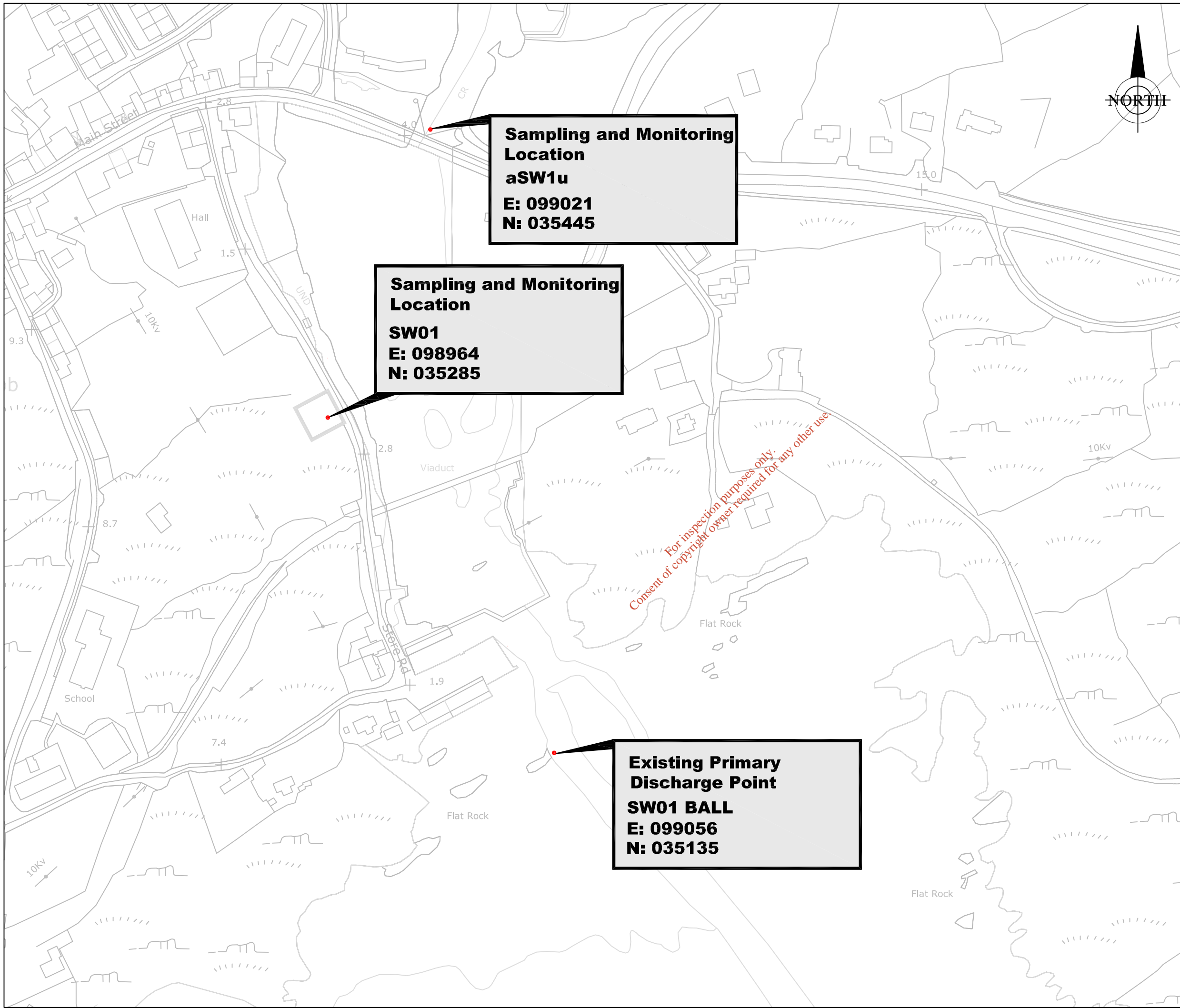
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## **Attachment B3**

### **Maps:**

- BALL B3.01 – EXISTING PRIMARY DISCHARGE LOCATION
- BALL B3.02 - PROPOSED PRIMARY DISCHARGE LOCATION

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**Sampling and Monitoring Location**  
**aSW1u**  
**E: 099021**  
**N: 035445**


**Sampling and Monitoring Location**  
**SW01**  
**E: 098964**  
**N: 035285**

**Existing Primary Discharge Point**  
**SW01 BALL**  
**E: 099056**  
**N: 035135**

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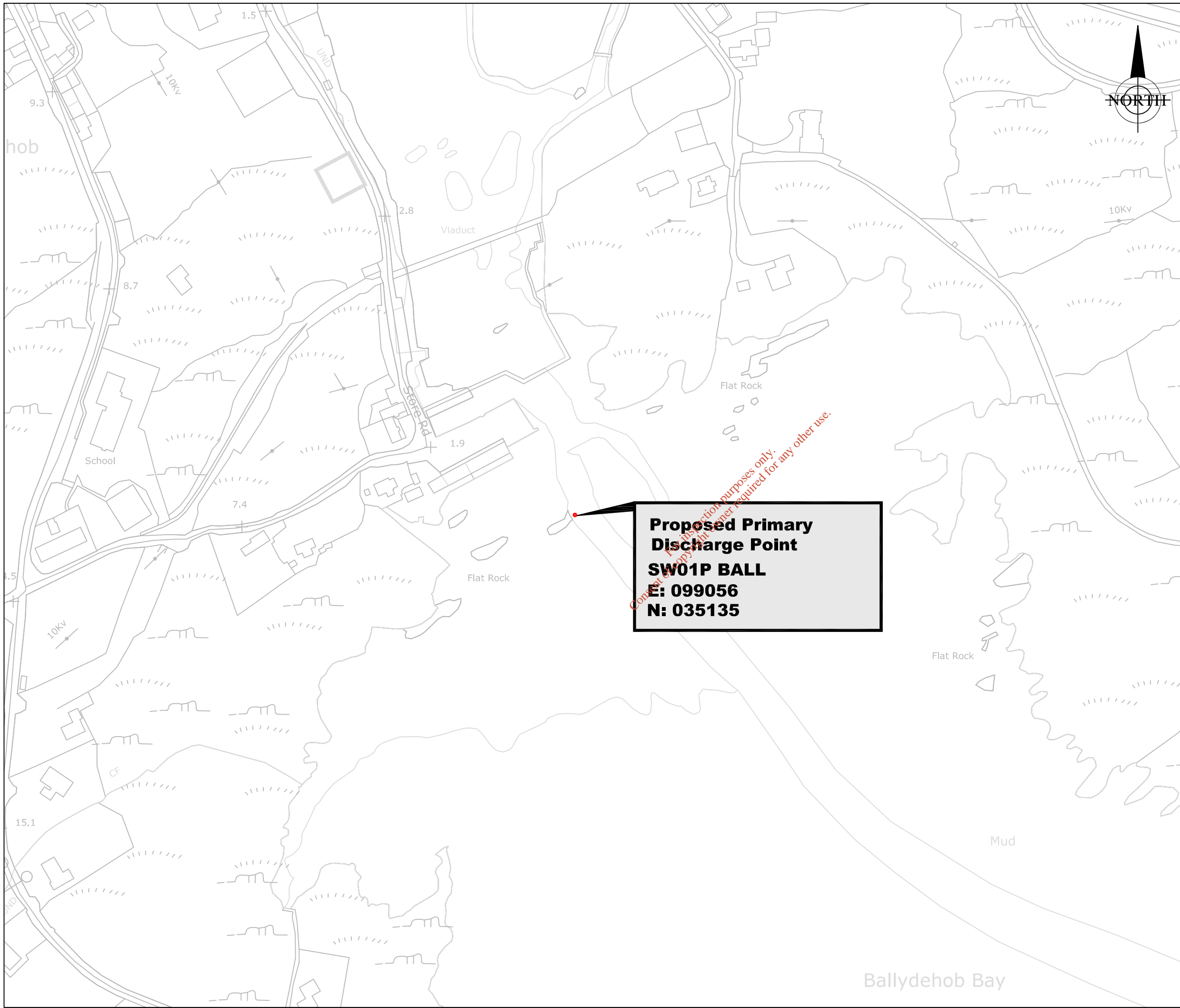
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SEN. ENGR. (WATER SERVICES),  
COURTHOUSE, SKIBBEREEN.

M. MURRELL,  
DIRECTOR OF SERVICES  
WEST CORK

Job Title:  
**WASTE WATER DISCHARGE LICENCE APPLICATION  
 BALLYDEHOB AGGLOMERATION**

Drawing Title:  
**ATTACHMENT B.3  
 EXISTING PRIMARY  
 DISCHARGE POINT**

Prepared By: A.O'BRIEN	Checked By: D.GROARKE	Date: JUN.2009
Drawing number: BALL_B3-01	Scales: 1:1000	Rev: -



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**Proposed Primary  
Discharge Point  
SW01P BALL  
E: 099056  
N: 035135**

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COURTHOUSE, SKIBBEREEN.  
  
M. MURRELL,  
DIRECTOR OF SERVICES  
WEST CORK

Job Title:  
**WASTE WATER DISCHARGE  
LICENCE APPLICATION  
BALLYDEHOB AGGLOMERATION**

Drawing Title:  
**ATTACHMENT B.3  
PROPOSED PRIMARY  
DISCHARGE POINT**

Prepared By: A.O'BRIEN	Checked By: D.GROARKE	Date: JUN.2009
Drawing number: BALL_B3-02	Scales: 1:2000	Rev: -

## Attachment B.5

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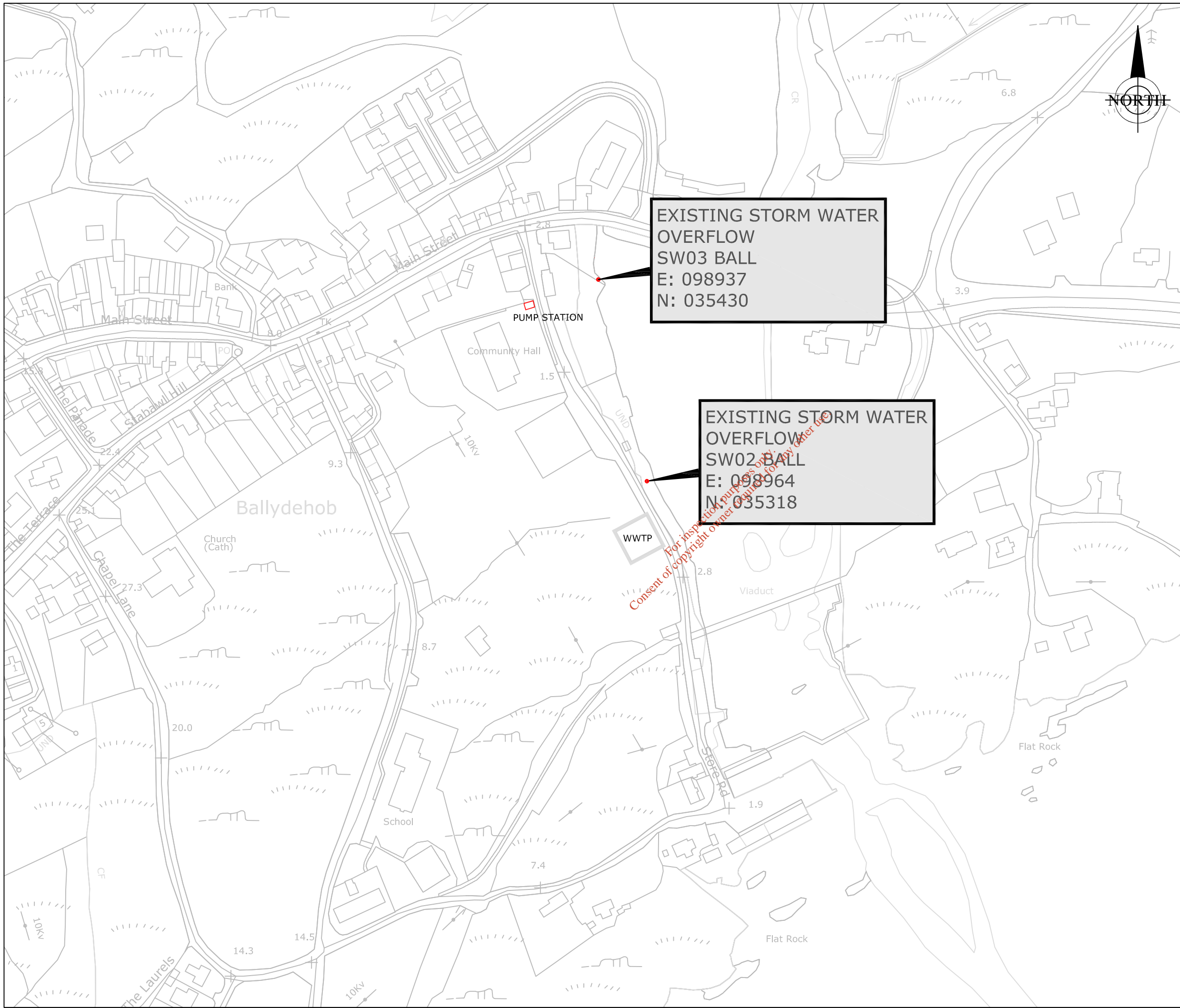
## Attachment B5

### Map :

- **BALL B5.01** – Stormwater Overflow Locations

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**EXISTING STORM WATER  
OVERFLOW  
SW03 BALL**  
E: 098937  
N: 035430

**EXISTING STORM WATER  
OVERFLOW  
SW02 BALL**  
E: 098964  
N: 035318

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SENR. ENGR. (WATER SERVICES),  
COURTHOUSE, SKIBBEREEN.  
  
M. MURRELL,  
DIRECTOR OF SERVICES  
WEST CORK

Job Title:  
**WASTE WATER DISCHARGE  
LICENCE APPLICATION  
BALLYDEHOB AGGLOMERATION**

Drawing Title:  
**ATTACHMENT B.5  
STORMWATER OVERFLOWS**

Prepared By: A.O'BRIEN	Checked By: A.O'BRIEN	Date: JUN.2009
Drawing number: BALL_B5-01	Scales: 1:2000	Rev: -



## Attachment B.8

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## Attachment B8

- Copy of Site Notice
- Copy of Press Notice

### MAP:

- BALL B8.01 - Location of Site Notices

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# CORK COUNTY COUNCIL

## SITE NOTICE

### APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE

In accordance with the Waste Water Discharge (Authorisation) Regulations 2007, Water Services Western Division, Cork County Council, Courthouse, Skibbereen is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for Ballydehob agglomeration at the following locations:

Plant Name	Location	National Grid Ref.
Ballydehob WWTP	Ballydehob	098960E, 035286N

Discharge	Function	Townland	Receptor	Grid Reference
Primary	Main	Ballydehob	Ballydehob Bay	099090E, 035099N

Cork County Council proposes to construct a new wastewater treatment plant at Ballydehob, Co. Cork, Grid Reference (E098949, N035278). It is proposed to discharge treated wastewater from this plant to Ballydehob Bay. The proposed location is detailed in the table below:

Discharge Type	Function	Townland	Receptor	Grid Reference
Primary	Main	Ballydehob	Ballydehob Bay	099090E, 035099N

A copy of the application for the Waste Water Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall as soon as is practicable after receipt by the Agency be available for inspection or purchase at the

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335599 Telephone: 053-9160600 Fax: 053-9160699 Email: info@epa.ie

and at

- Cork County Council Water Services (Western Division), Courthouse, Skibbereen, Co. Cork ; Telephone: 028-21299 Fax: 028-21995.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.



Cork County Council Offices, Annabella, Mallow, Co. Cork.  
Tel: 022-21123; Fax: 022-21893.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE**

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Northern Division, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the operation of Killavullen at the following locations:

Name	Location	National Grid Ref.
Killavullen WWTP	Ballymacmoy, Killavullen	E164897 N099517

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Ballymacmoy	Ross River	E164919 N099521

A copy of the application for the Wastewater Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the:

Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie

Cork County Council Offices, Annabella, Mallow, Co. Cork.  
Tel: 022-21123; Fax: 022-21893.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE**

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Northern Division, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the operation of Ballyclough at the following locations:

Name	Location	National Grid Ref.
Ballyclough WWTP	Ballyclough	E149318 N101474

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Ballyclough	Finnow Stream	E149349 N101796

A copy of the application for the Wastewater Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the:

Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie

Cork County Council Offices, Annabella, Mallow, Co. Cork.  
Tel: 022-21123; Fax: 022-21893.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE**

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Northern Division, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the operation of Banteer at the following locations:

Name	Location	National Grid Ref.
Banteer WWTP	Inchidaly, Banteer	E139139 N98377

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Banteer	River Blackwater	E139107 N98449

A copy of the application for the Wastewater Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the:

Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie

Cork County Council Offices, Annabella, Mallow, Co. Cork.  
Tel: 022-21123; Fax: 022-21893.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Major	Derrigra	River Bandon	E134624 N053965

A copy of the application for the Wastewater Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the:

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie
- Cork County Council Offices, Annabella, Mallow, Co. Cork. Tel: 022-21123; Fax: 022-21893.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

**WESTERN DIVISION**

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE**

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Western Division, Cork County Council, Courthouse, Skibbereen is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for Drimoleague agglomeration at the following locations:

Plant Name	Location	National Grid Ref.
Drimoleague WWTP	Drimoleague	E112677 N045277

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Major	Garranes South	River Ruagagh	E112681 N045309

A copy of the application for the Wastewater Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the:

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie
- Cork County Council Water Services (Western Division), Courthouse, Skibbereen, Co. Cork. Tel: 028-21299; Fax: 028-21995.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE**

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Western Division, Cork County Council, Courthouse, Skibbereen is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for Timoleague agglomeration at the following locations:

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Timoleague	Courtmacsherry Estuary	E147200 N043523
Secondary	Minor	Timoleague	Courtmacsherry Estuary	E147132 N043496
Secondary	Minor	Timoleague	Courtmacsherry Estuary	E147141 N043507
Secondary	Minor	Timoleague	Courtmacsherry Estuary	E147209 N043702
Secondary	Minor	Timoleague	Courtmacsherry Estuary	E147176 N043789

Cork County Council proposes to construct a new wastewater treatment plant at Cullenagh, Courtmacsherry, Co. Cork, Grid Reference (E149710, N042520). It is proposed to discharge treated wastewater from this plant to Courtmacsherry Estuary. The proposed discharge location is detailed in the table below:

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Cullenagh	Courtmacsherry Estuary	E150732 N042818

A copy of the application for the Wastewater Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the:

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie
- Cork County Council Water Services (Western Division), Courthouse, Skibbereen, Co. Cork. Tel: 028-21299; Fax: 028-21995.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Major	Derrigra	River Bandon	E134624 N053965

A copy of the application for the Wastewater Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the:

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie
- Cork County Council Water Services (Western Division), Courthouse, Skibbereen, Co. Cork. Tel: 028-21299; Fax: 028-21995.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE**

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Western Division, Cork County Council, Courthouse, Skibbereen is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for Ballydehob agglomeration at the following locations:

Plant Name	Location	National Grid Ref.
Ballydehob WWTP	Ballydehob	E098960 N035286

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Ballydehob	Ballydehob Bay	E099090 N035099

Cork County Council proposes to construct a new wastewater treatment plant at Ballydehob, Co. Cork, Grid Reference (E098949, N035278). It is proposed to discharge treated wastewater from this plant to Ballydehob Bay. The proposed location is detailed in the table below:

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Ballydehob	Ballydehob Bay	E099090 N035099

A copy of the application for the Wastewater Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the:

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie
- Cork County Council Water Services (Western Division), Courthouse, Skibbereen, Co. Cork. Tel: 028-21299; Fax: 028-21995.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE**

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, S.I. No. 684 of 2007, Water Services (Western Division), Cork County Council, Courthouse, Skibbereen, Co. Cork is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the Castletownshend agglomeration at the following locations:

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Major	Castletownshend	Castlehaven Bay	E118671 N031292
Secondary	Minor	Castletownshend	Castlehaven Bay	E118652 N031130

Cork County Council proposes to construct a Wastewater Treatment Plant at Castletownshend, Co. Cork, Grid Reference (E118620 N031623). It is proposed to discharge treated wastewater from this Plant to Castlehaven Bay. The proposed location is detailed in the table below:

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Major	Castletownshend	Castlehaven Bay	E118895 N031628

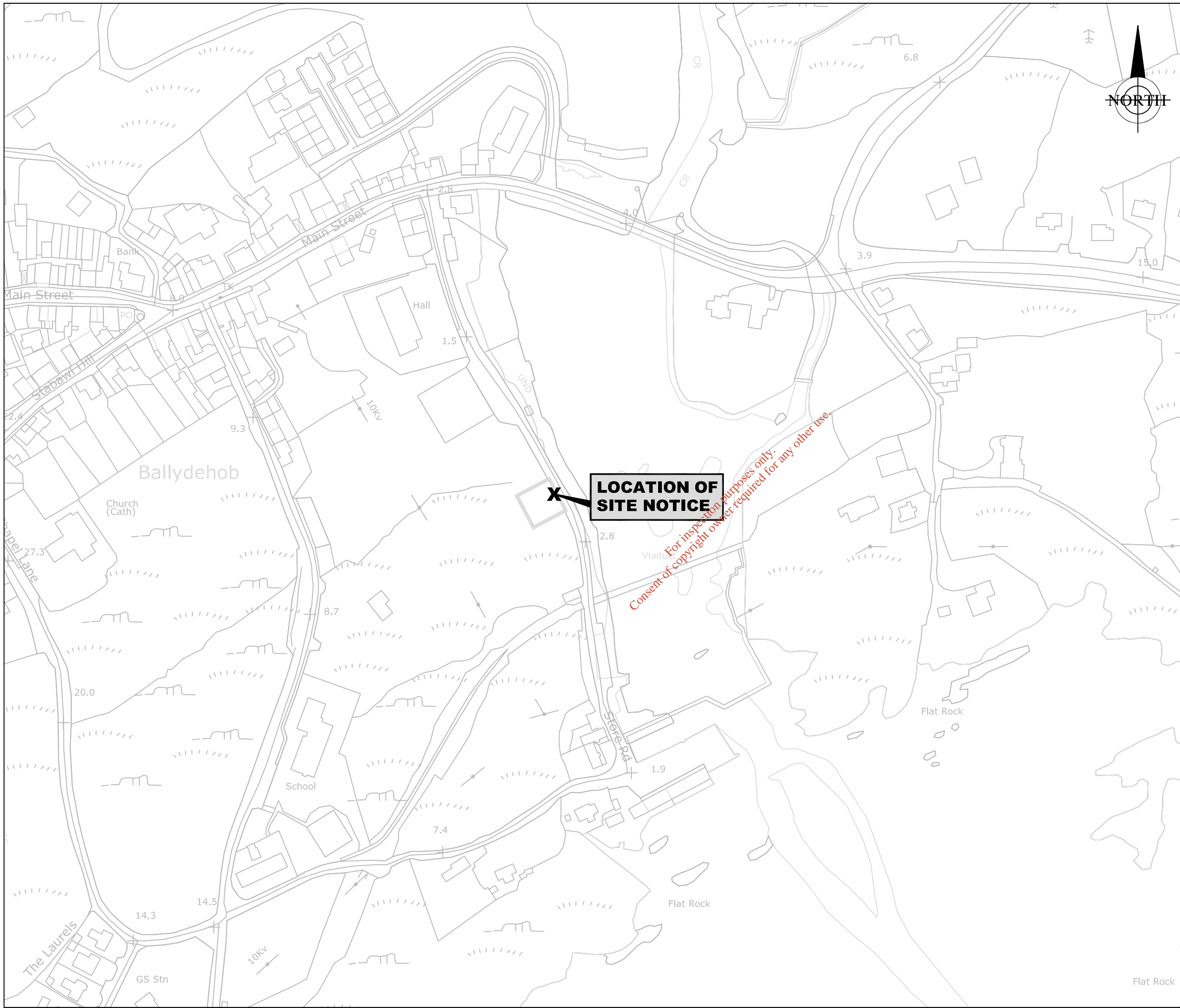
A copy of the application for the Wastewater Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the:

- Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie
- Cork County Council Water Services (Western Division), Courthouse, Skibbereen, Co. Cork. Tel: 028-21299; Fax: 028-21995.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above.

THE EXAMINER 12.06.09





**NOTES**

1. Do not scale, use figured dimensions only. If in doubt ask.
2. All dimensions to be checked on site.
3. Drawings to be read in conjunction with Licence application.
4. Includes Ordnance Survey Ireland data reproduced under OSi Licence number Cork County Council CCMA2004/07. Unauthorised reproduction infringes Ordnance Survey Ireland and Government of Ireland.

**LOCATION OF SITE NOTICE**

*For inspection purposes only. Consent of copyright owner required for any other use.*

No.	Date	Drwn	Chkd	Revision Description

**Cork County Council,  
Western Division.**



N.O'MAHONY, B.E.,  
SENR. ENGR. (WATER SERVICES),  
COURTHOUSE, SKIBBEREEN.  
  
M. MURRELL,  
DIRECTOR OF SERVICES  
WEST CORK

Job Title:  
**WASTE WATER DISCHARGE  
LICENCE APPLICATION  
BALLYDEHOB AGGLOMERATION**

Drawing Title:  
**ATTACHMENT B.8  
SITE NOTICE LOCATION**

Prepared By: A.O'BRIEN	Checked By: D.GROARKE	Date: JUN.2009
Drawing number: BALL_B8-01	Scales: 1:2000	Rev: -

## Attachment B.9

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## Attachment B9

- Fees – Copy of Payment

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# Comhairle Contae Chorcaí Cork County Council

Courthouse,  
Skibbereen, Co. Cork.  
Tel (028) 21299 • Fax (028) 21995  
Web: www.corkcoco.ie  
Teach na Cúirte,  
An Sciobairín, Co. Chorcaí.  
Fón: (028) 21299 • Faics: (028) 21995  
Suíomh Gréasáin: www.corkcoco.ie



Mr. Declan Groarke,  
Senior Executive Engineer,  
Cork County Council,  
Courthouse,  
Skibbereen.

27<sup>th</sup> May 2009

**Re:- Waste Water Discharge Regulations 2007.**

Dear Declan,

With regard to the application to the EPA for Discharge Licences for the agglomerations with P.E.s of 500 to 1,000 listed below, I confirm the following in relation to the application fee of €70,000 (being €10,000 for each agglomeration).

Transferred to EPA Bank Account:- **Account No. 23507098**

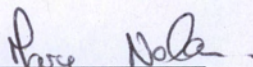
Date Transferred to EPA Bank Account:- **21<sup>st</sup> May, 2009.**

Electronic Fund Transfer Reference No.:- **1080937.**

**Agglomerations: Ballydehob  
Castletownshend  
Drimoleague  
Glengarriff  
Timoleague  
Union Hall  
Ballineen/Enniskeane**

This information should be included with the application to the EPA.

Yours faithfully,

  
Mary Nolan,  
Staff Officer.





## Attachment B.10

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## Attachment B10

### **Supporting Information:**

- Capital Investment Programme

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# Cork County

## Water Services Investment Programme 2007 - 2009

Schemes at Construction	W/S	Est. Cost	W/S	Est. Cost
<b>Cork North</b>				
Mitchelstown Sewerage Scheme (Nutrient Removal)	S	221,000		
<b>Cork South</b>				
Ballyvourney/ Ballymakeery Sewerage Scheme	S	3,049,000		
Cobh/ Middleton/ Carrigtwohill Water Supply Scheme	W	10,135,000		
Cork Lower Harbour Sewerage Scheme (Crosshaven SS) (G)	S	4,850,000		
Cork Water Strategy Study (G)	W	941,000		
Kinsale Sewerage Scheme	S	20,000,000		
Middleton Sewerage Scheme (Infiltration Reduction) (G)	S	2,078,000		
		<b>41,274,000</b>		
<b>Schemes to start 2007</b>				
<b>Cork North</b>				
North Cork Grouped DBO Wastewater Treatment Plant (Buttevant, Doneraile & Kilbrin)	S	5,150,000		
<b>Cork West</b>				
Skibbereen Sewerage Scheme	S	20,000,000		
		<b>25,150,000</b>		
<b>Schemes to start 2008</b>				
<b>Cork North</b>				
Mallow/ Ballyvinter Regional Water Supply Scheme (H) W		8,652,000		
Mallow Sewerage Scheme (H)	S	5,408,000		
<b>Cork South</b>				
Ballincollig Sewerage Scheme (Nutrient Removal) (G)	S	948,000		
Ballingeary Sewerage Scheme	S	1,296,000		
Bandon Sewerage Scheme Stage 2	S	14,729,000		
City Environs (CASP) Strategic Study (G)	S	153,000		
Cloghroe Sewerage Scheme (Upgrade)	S	683,000		
Coachford Water Supply Scheme	W	1,318,000		
Garretstown Sewerage Scheme	S	2,153,000		
Inniscarra Water Treatment Plant Extension Phase 1	W	2,678,000		
Little Island Sewerage Scheme (G)	S	2,200,000		
		<b>61,137,000</b>		
<b>Cork West</b>				
Bantry Sewerage Scheme	S	7,148,000		
Dunmanway Sewerage Scheme	S	2,153,000		
Leap/ Ballimore Water Supply Scheme	W	6,365,000		
Schull Water Supply Scheme	W	5,253,000		
<b>Schemes to start 2009</b>				
<b>Cork North</b>				
Banteer/Dromahane Regional Water Supply Scheme	W	1,576,000		
Conna Regional Water Supply Scheme Extension	W	2,627,000		
Cork NE Water Supply Scheme	W	4,326,000		
Cork NW Regional Water Supply Scheme	W	6,046,000		
Millstreet Wastewater Treatment Plant (Upgrade)	S	1,628,000		
<b>Cork South</b>				
Ballincollig Sewerage Scheme (Upgrade) (G)	S	22,248,000		
Cork Lower Harbour Sewerage Scheme (excl. Crosshaven SS)	S	73,542,000		
Shannagary/ Garryvoe/ Ballycotton Sewerage Scheme	S	3,780,000		
Youghal Sewerage Scheme	S	14,420,000		
<b>Cork West</b>				
Ballydehob Sewerage Scheme	S	683,000		
Bantry Water Supply Scheme	W	14,935,000		
Clonakilty Sewerage Scheme (Plant Capacity Increase)	S	3,677,000		
Courtmacsherry/ Timoleague Sewerage Scheme	S	2,472,000		
Dunmanway Regional Water Supply Scheme Stage 1	W	12,669,000		
				<b>164,629,000</b>
<b>Serviced Land Initiative</b>				
<b>Cork North</b>				
Ballycough Water Supply Scheme	W	139,000		
Ballyhooley Improvement Scheme	W/S	139,000		
Brookhill-Rathgoggin Sewerage Scheme	S	406,000		
Bweeng Water Supply Scheme	W	115,000		
Churchtown Sewerage Scheme (incl. Water)	W/S	543,000		
Clondulane Sewage Treatment Plant	S	417,000		
Freemount Sewerage Scheme	S	150,000		
Pike Road Sewerage Scheme (incl. Water)	W/S	2,080,000		
Rathormac Sewerage Scheme (incl. Water)	W/S	555,000		
Spa Glen Sewerage Scheme	S	736,000		
Uplands Fermoy Sewerage Scheme (incl. Water)	W/S	1,174,000		
Watergrasshill Water Supply Scheme (incl. Sewerage) (G)	W/S	4,151,000		
<b>Cork South</b>				
Ballincollig Sewerage Scheme (Barry's Rd Foul and Storm Drainage) (G)	S	1,164,000		
Belgooley, Water Supply Scheme (incl. Sewerage)	W/S	2,913,000		
Blamey Water Supply Scheme (Ext. to Station Rd) (G)	W	416,000		
Carrigtwohill Sewerage Scheme (Treatment and Storm Drain) (G)	S	7,632,000		
Castlematyr Wastewater Treatment Plant Extension	S	1,200,000		
Crookstown Sewerage Scheme (incl. Water)	W/S	1,200,000		
Dripsey Water Supply Scheme (incl. Sewerage)	W/S	1,112,000		
Glounthane Sewerage Scheme (G)	S	1,576,000		
Innishannon Sewerage Scheme	S	277,000		
Innishannon Wastewater Treatment Plant	S	694,000		
Keryypike Sewerage Scheme	S	832,000		
Keryypike Water Supply Scheme	W	416,000		
Killeagh Wastewater Treatment Plant Extension	S	1,200,000		
Killeagh Water Supply Scheme (includes Sewerage)	W/S	485,000		
Killeens Sewerage Scheme	S	420,000		
Kilnagleary Sewerage Scheme	S	694,000		
Middleton Wastewater Treatment Plant Extension	S	4,050,000		



# Cork County contd.

## Water Services Investment Programme 2007 - 2009

	W/S	Est. Cost		W/S	Est. Cost
Mogeely, Castlemartyr & Ladysbridge Water Supply Scheme	W	2,566,000	<b>Cork South</b>		
North Cobh Sewerage Scheme (G)	S	3,193,000	Carrigtwohill Sewerage Scheme (G)	S	20,000,000
Riverstick Water Supply Scheme (incl. Sewerage)	W/S	525,000	Cork Sludge Management (G)	S	14,420,000
Rochestown Water Supply Scheme	W	2,700,000	Cork Water Supply Scheme (Storage - Mount Emla, Ballincollig & Chetwind) (G)	W	8,500,000
Saleen Sewerage Scheme	S	1,051,000	Inniscarra Water Treatment Plant (Sludge Treatment)(G)W		5,356,000
Youghal Water Supply Scheme	W	2,300,000	Macroon Sewerage Scheme	S	5,150,000
			Minane Bridge Water Supply Scheme	W	1,421,000
<b>Cork West</b>					
Castletownshend Sewerage Scheme	S	1,576,000	<b>Cork West</b>		
		<b>50,797,000</b>	Bantry Regional Water Supply Scheme (Distribution)	W	9,455,000
<b>Rural Towns &amp; Villages Initiative</b>			Cape Clear Water Supply Scheme	W	1,679,000
<b>Cork North</b>			Castletownbere Regional Water Supply Scheme	W	8,405,000
Buttevant Sewerage Scheme (Collection System)	S	2,446,000	Glengarriff Sewerage Scheme	S	2,500,000
Doneraile Sewerage Scheme (Collection System)	S	1,738,000	Roscarberry/Owenahincha Sewerage Scheme	S	1,576,000
			Skibbereen Regional Water Supply Scheme Stage 4	W	7,880,000
<b>Cork South</b>					<b>95,646,000</b>
Innishannon (Ballinadee/ Ballinspittle/ Garrettstown) Water Supply Scheme	W	6,726,000	<b>Water Conservation Allocation</b>		<b>12,206,000</b>
			<b>Asset Management Study</b>		<b>300,000</b>
<b>Cork West</b>			<b>South Western River Basin District (WFD) Project<sup>1</sup></b>		<b>9,400,000</b>
Ballylicky Sewerage Scheme	S	2,153,000			
Baltimore Sewerage Scheme	S	3,762,000			
Castletownbere Sewerage Scheme	S	5,302,000			
Schull Sewerage Scheme	S	3,523,000			
		<b>24,950,000</b>	<b>Programme Total</b>		<b>485,489,000</b>
<b>Schemes to Advance through Planning</b>					
<b>Cork North</b>					
Mitchelstown North Galtees Water Supply Scheme	W	3,152,000			
Mitchelstown Sewerage Scheme	S	3,000,000			
Newmarket Sewerage Scheme	S	3,152,000			

<sup>1</sup> This project is being led by Cork County Council on behalf of other authorities in the River Basin District

(H) Refers to a Hub as designated in the National Spatial Strategy

(G) Refers to a Gateway as designated in the National Spatial Strategy