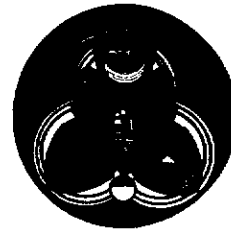


Comhairle Contae Chorcaí Cork County Council

County Hall,
Cork, Ireland.
Tel: (021) 4276891 • Fax: (021) 4276321
Web: www.corkcoco.ie
Halla an Chontae,
Corcaigh, Éire.
Fón: (021) 4276891 • Faics: (021) 4276321
Suíomh Gréasáin: www.corkcoco.ie



Environmental Protection Agency,
Office of Climate change and resource Unit,
Licencing Unit ,
P.O.Box 3000,
Johnstown Castle Estate,
County Wexford.

Our Ref.: MS/DLBally/0209

24th February 2009

Sub.: Waste Water Discharge License Application for the Agglomeration of Fair Green, Ballymakeera, County Cork.

Dear Sir/Madam,

Please find enclosed the waste water discharge license application for the agglomeration of Fair Green, Ballymakeera in County Cork.

The following are the documents enclosed as per the application guide note.

- 1 No. signed hard copies of originals.
- 1 No. hard copy of originals.
- 2 No. CD-ROM with documentation in electronic searchable PDF, .
- 1 No. CD-ROM with GIS Data, Table D.2 ,Table E.3.and Table F.2

The content of the electronic files is true copy of the original hard copy.

Also enclosed is a paying order for the application fee of €25,000.

Yours faithfully,

Patricia Power

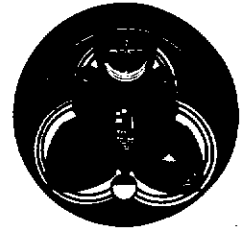
Director of Services

A handwritten signature in black ink, appearing to read 'Patricia Power'.



Comhairle Contae Chorcaí Cork County Council

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Cork, Ireland.
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The Environmental Protection Agency
Office of Climate, Licensing & Resource Use
PO Box 3000
Johnstown Castle Estate
County Wexford

February 25th 2009

Re: Wastewater Discharge Licence Application for the Ballymakeera Agglomeration

To whom it may concern

Please find enclosed the application for the above.

The Septic Tank in Ballymakeera is treating waste of circa 1300 and was thus categorised as falling into the 1000 to 2000 band for applications. However plans are at an advanced stage to proceed with designing and constructing a WWTP in the locality. The proposal is to construct a WWTP to treat waste for a pe of 2200. It is envisaged that this plant will be constructed by end of 2011.

This application should therefore have been submitted last September in the 2000 to 10000 category.

I enclose a cheque for €25,000.00 which is the correct fee amount for this application.

I regret any inconvenience this may cause.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'Patricia Power'.

Patricia Power
Director of Services
Area Operations South



This is a draft document and is subject to revision.



Waste Water Discharge Licence Application Form

EPA Ref. N^o:

(Office use only)

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 Email: 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 waste water 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 waste water 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 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

		to waste water treatment plants, where available. Amend wording of Section E.1 to request information on composite sampling/flow monitoring provisions.	the plant. 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.

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 waste water discharge licence is an offence under the Waste Water Discharge (Authorisation) Regulations, 2007.

The provision of information in an application for a waste water 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 waste water 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 waste water associated with the waste water works. This description should also indicate the hours during which the waste water 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**

NON-TECHNICAL SUMMARY

Ballyvourney is located approximately 15 kilometres northwest of Macroom on the main N22 Cork to Killarney road and is the largest settlement located within the Muskerry Gaeltacht region.

The Waste Water Works and the Activities Carried Out Therein

Until the sewer upgrade in 2007 the sewer network in Ballyvourney / Ballymakeera served only the eastern part of the village and discharged to a septic tank which has an outfall to the River Sullane. The existing sewers had inadequate capacity and some of the older pipelines had been laid at a relatively flat gradient and so could not achieve self cleansing velocities.

In 2007 the sewer network was upgraded: A new gravity foul line was laid from the western extremity of the village to a new pumping station on the Creamery Road and the old foul sewer was decommissioned and integrated into the storm water system. The waste water from this pump/sump is now pumped to the septic tank. Location maps of the plant have been included in **Attachment A1_Map1** and **Attachment A1_Map2**.

When Ballyvourney septic tank was built the PE contributing to it was far less than the present PE. The current PE contributing to the septic tank is approximately 1343. In 2007 a separate storm system was installed to collect

and discharge storm water directly to the River Sullane. This reduced the hydraulic load entering the septic tank. The passage of sewage through a septic tank helps in the removal of suspended solids but there is very little biological activity and the removal of BOD is not significant.

Currently, influent flows entering the inlet works of the plant range from 50m³/d to 225m³/d with an average inflow of 138m³/d.

A new waste water treatment plant is due to be constructed by 2011 to cater for a PE of 2,200. The proposed plant is to be designed to comply with Salmonid Regulations and the Phosphorus Regulations.

As a minimum, the construction of the works shall have the following units:

- Inlet Pumpstation c/w Storm Overflow Screen
- Inlet works shall be provided c/w 6mm screen, bypass screen, screenings handling and grit removal
- Flow Dividing Chamber to split treatment flows
- 2 No. Aeration Tanks c/w Anoxic Zones and FBDA system (volume of approx 330m³ each)
- 2 No. Final Settlement Tanks (6.8m internal diameter with sidewall liquid depth of 2.5m)
- Return and Waste Sludge Pumping Facilities
- Sludge Thickening and Storage facilities (4m internal diameter picket fence thickener with liquid depth of 3.5m)
- Sludge Dewatering Facility
- Phosphorus Dosing Facility
- Stormwater holding Tank (volume of approx 155m³)
- Instrumentation and Control Equipment
- Treated Effluent Outfall pipeline
- Site Roads and Fencing, Landscaping, Process and Drainage pipework, Telemetry and SCADA control system
- Administration and Control Building including Sludge Dewatering facility

The Sources of Emissions from the Waste Water Works

The population load for the Ballyvourney / Ballymakeera agglomeration arises from the following areas:

- Domestic population
- Commercial premises
- Industrial premises
- Schools
- Infiltration

The Údarás na Gaeltachta industrial estate effluent is partially treated prior to discharging it to the public sewer for treatment in conjunction with the domestic waste.

One other potential emission from the waste water treatment plant would be odour generated from the treatment process. There have been no recorded issues to date.

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 emissions on the environment

The final effluent is discharged to the River Sullane. The maximum flow to the waste water treatment plant is approximately 225m³/d. The maximum predicted flow from the new waste water treatment plant is 495m³/d. It will be a requirement that independent treatment streams of 1,100 PE each are implemented into the design of the plant in order to ensure that the treatment plant is not under-loaded if the future development is not realised.

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

Technology

The new WWTP will have a sufficient number of standby pumps, streams, storm holding facilities, sludge holding facilities, etc to ensure continuation of the waste water treatment.

The new plant will include the following elements:

- Inlet Screening
- 2 No Aeration Tanks
- 2 No Final Settlement tanks
- Sludge thickening and storage facilities

Techniques

The new WWTP shall be operated and maintained in accordance with best practice and shall comply with the standards set down in the proposed design.

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

Cork County Council have already purchased a site approximately 0.583 acres for the proposed location of the treatment plant. The proposed plant is to include a telemetry and SCADA control system to ensure that the plant is operating sufficiently at all times. The upgrading of the plant will ensure that the basic obligations of the operator are being adhered to.

Measures planned to monitor emissions into the environment

The Cork County Council Environmental Laboratory carries out sampling of the influent and effluent. The Cork County Council Environmental Department located in Inniscarra takes samples from the River Sullane upstream and downstream of the wastewater treatment plant.

SECTION B: GENERAL

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

B.1 Agglomeration Details

Name of Agglomeration: Ballyvourney / Ballymakeery

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.

Name*:	Cork County Council
Address:	County Hall
	Carrigrohane Road
	Cork
Tel:	021 4276891
Fax:	021 4276321
e-mail:	

*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.

Name*:	Patricia Power
Address:	Director of Services: Operational Water Services
	Floor 5 (Tower)
	County Hall
	Cork
Tel:	021 4285285
Fax:	021 4276321
e-mail:	Patricia.power@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

Name*:	Not Applicable
Address:	Not Applicable
Tel:	Not Applicable
Fax:	Not Applicable
e-mail:	Not Applicable

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

Design, Build & Operate Contractor Details

Name*:	Not Applicable
Address:	Not Applicable
Tel:	Not Applicable
Fax:	Not Applicable
e-mail:	Not Applicable

*Where a design, build & operate contract is in place for the waste water 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 waste water 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 waste water treatment plant associated with the waste water works, if such a plant or plants exists.

Name*:	Faughna Keohane
Address:	Fair Green
	Ballymakeera
	Co. Cork
Grid ref (6E, 6N)	121364E, 076413N
Level of Treatment	Primary
Primary Telephone:	026 41047
Fax:	026 42390
e-mail:	Faughna.keohane@corkcoco.ie

*This should be the name of the person responsible for the supervision of the waste water 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
	✓	

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 waste water works.

Type of Discharge	250mm open end concrete pipe to river
Unique Point Code	SWO1BLVNY
Location	Sullane River
Grid ref (6E, 6N)	121490E, 076158N

Attachment B.3 should contain appropriately scaled drawings / maps ($\leq A3$) 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.

Attachment included	Yes	No
	✓	

B.4 Location of Secondary Discharge Point(s)

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

Type of Discharge	Not applicable
Unique Point Code	Not applicable
Location	Not applicable
Grid ref (6E, 6N)	Not applicable

Attachment B.4 should contain appropriately scaled drawings / maps ($\leq A3$) 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.

Attachment included	Yes	No
		✓

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

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

Type of Discharge	Not applicable
Unique Point Code	Not applicable
Location	Not applicable
Grid ref (6E, 6N)	Not applicable

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.

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.

Name:	Cork County Council
Address:	Planning Department
	County Hall
	Carrigrohane Road
	Cork
Tel:	021 4276891
Fax:	021 4867007
e-mail:	planninginfo@corkcoco.ie

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

has been obtained		is being processed	
is not yet applied for	✓	is not required	

Local Authority Planning File Reference N^o:	Not available
---	---------------

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.

Attachment included	Yes	No
		✓

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.

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

Within the SFADCo Area	Yes	No
		✓

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.

Name:	Health Services Executive Southern Region
Address:	North Lee Local Health Office
	Floor 2, Abbeycourt House
	George's Quay
	Cork
Tel:	021 4965511
Fax:	
e-mail:	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.

Name:	Not Applicable
Address:	Not Applicable
Tel:	Not Applicable
Fax:	Not Applicable
e-mail:	Not Applicable

Relevant Authority Notified	Yes	No
		✓

		✓
--	--	---

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

Attachment included	Yes	No
		✓

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.

Attachment included	Yes	No
	✓	

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 waste water works should be provided and the period in which the population equivalent data was compiled should be indicated.

Population Equivalent	1600
Data Compiled (Year)	2009
Method	CSO 2006 statistics, geodirectory assessment

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 waste water works to accommodate this extra hydraulic and organic loading without posing an environmental risk to the receiving water habitat.

The Cork County Council Planning Application Database identified a number of small developments contributing 62 units of residence, that have been granted planning permission. The 62 additional residential locations, with an average of 2.9 persons per household, equates to a population of 180.

Assuming the non-domestic contribution to be 15% of domestic, the non-domestic equates to 27 PE.

The waste water works will not be able to treat this additional load of 207 PE under its current operation without posing an environmental risk. However with the scheduled upgrade works the treatment plant will be able to cater for this additional load, and future loads.

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.

Class of waste water discharge	Fee (in €)
2,000-10,000 PE	€25,000

Appropriate Fee Included	Yes	No
	✓	

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 waste water 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.

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.

Attachment included	Yes	No
		✓

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.

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

Attachment included	Yes	No
		✓

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 Foreshore 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.

Operational Information Requirements

Ballyvourney is located approximately 13km west of Macroom on the Cork / Killarney Road. The area is bounded by the River Sullane to the south and by high ground to the north. An examination of old drawings indicates that the first sewer was laid in the village of Ballymakeery in 1941. The sewage discharges to a septic tank and from there to the River Sullane, approximately 370m downstream of the Ballymakeery Bridge.

In 2007 a separate storm system was installed to discharge storm water directly to the River Sullane. This reduced the hydraulic load entering the septic tank. The passage of sewage through a septic tank helps in the removal of suspended solids but there is very little biological activity and the removal of BOD is not significant. Generally the septic tank removes 50% of the particulate BOD and none of the soluble BOD. Typically BOD in urban wastewater is 50% particulate and 50% soluble, hence the septic tank removes 25% of the BOD from the wastewater. Effluent from the septic tank discharges directly to the River Sullane. No secondary treatment is provided to the effluent prior to discharge. Maps indicating the operations of the plant are included in **Attachment C1_Map9**.

C.1.1 Storm Water Overflows

For each storm water overflow within the waste water 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.

Storm Water Overflows

There is no storm water overflow provided in the Ballyvourney / Ballymakeera WWTP.

C.1.2 Pumping Stations

For each pump station operating within the waste water 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.

Pumping Stations

Creamery Road Pumping Station

In the Creamery Road Pumping Station there are two pumps operating on a duty standby basis. The pumps activate when waste water can be pumped forward at a rate of 5m³/h, and can cater for up to 120m³/h. In the event of a power failure there is an emergency overflow from the pump sump to the adjacent River Sullane. There is no storage capacity in the pump sump. There is no information regarding the frequency or duration of activation of emergency discharges to date. The location of the emergency discharge is identified on **Attachment C 1.2_Map 10**.

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.

Primary Discharge Point

There is one discharge point from the septic tank. The outlet from the plant conveys treated effluent from the septic tank via a 250mm concrete pipe to the outfall.

Attachment B3_Map6 identifies the location of the outfall.

There is no information regarding the invert level of the discharge pipe, nor any technical construction details regarding the outfall.

Attachment C.2 should contain any supporting documentation on the design and construction of any and all discharge outfalls, including stormwater overflows, from the waste water 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 waste water from the agglomeration should be submitted via the following web based link: 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 waste water from the agglomeration should be supplied via the following web based link: 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 – Provided in E4	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
SW01B LVNY	Primary Discharge	Cork County Council	River	River Sullane	Salmonid	E 121490	N 076158

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. 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.

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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 waste water 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/.

Provide an estimation of the quantity of waste water 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/.

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.

E.2 Monitoring in respect of Ballyvourney / Ballymakeera Waste Water Licence Application

The plant is currently monitored by the Environmental Directorate of Cork County Council to ensure compliance with the requirements of the Urban Wastewater Directive. Samples are also collected upstream and downstream of the discharge location at this time. The River Sullane, which is the receiving water body, is monitored in terms of the Freshwater Fish Directive, the Phosphorus Regulations by the Water laboratory of Cork County Council and in recent times the Water Framework Directive as part of the River Basin Project. It is proposed to continue this multi-faceted approach to monitoring the treatment plant and the impacts of the discharge to the receiving waters.

Attachment E2_Map11 identifies the locations of these upstream and downstream monitoring points.

General Laboratory Information

The Wastewater Laboratory of Cork County Council is accredited for a number of analytical tests under the Irish National Accreditation Board (INAB) under the

ISO 17025 international standard. The details of the Accreditation can be found in **Attachment E.2**. The Wastewater Laboratory of Cork County Council is currently accredited for the following parameters under the ISO 17025 system:

- pH
- Biochemical Oxygen Demand
- Chemical Oxygen Demand
- Suspended Solids
- Ammonia
- Ortho Phosphates
- Total Phosphates
- Chloride
- Sulphate

The laboratory perform a number of analytical tests e.g. fats, oil , grease and metals using an ICP-OES system and while the Wastewater Laboratory of Cork County Council is not currently accredited for extra tests the same analytical procedures and protocol are adhered to by the laboratory as would be required if the tests were accredited. The laboratory also participates in proficiency testing schemes which measure the accuracy of the results and performance of the laboratory in both the EPA scheme and the WRC Aquacheck scheme from the UK. The performance of the laboratory in these schemes is excellent and the non-accredited tests are within the performance criteria for the schemes as evaluated by the scheme coordinators.

Details of any accreditation or certification of analysis should be included. **Attachment E.2** should contain any supporting information.

Attachment included	Yes	No
	✓	

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
SW01	Primary Discharge	S	E 121490	N 076158	N
aSW01u	Primary Discharge	S	E 120222	N 076943	N
aSW01d	Primary Discharge	S	E 122684	N 075589	N

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. 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.

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.

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.

Attachment included	Yes	No
	✓	

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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.
- Details of all monitoring of the receiving water should be supplied via the following web based link: http://08.137.160.73/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 screened 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.
- 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.
- 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.

- 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.
- 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.
- 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.
- 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/EEC¹ 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/EEC²;

¹Council 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)

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

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

Assessment of Impact on Receiving Surface or Ground Water

Existing Receiving water

The receiving water body of the Ballyvourney / Ballymakeery Waste Water Treatment System is the River Sullane, of the River Lee catchment. All effluent from the treatment system is discharged via the discharge point into the River Sullane. The emergency overflow also discharges to the River Sullane, there are no storm water overflows. There are no discharges to ground, or any other media.

The River Sullane rises in the Derrynasaggart Mountains and flows in a North-Easterly direction towards Ballyvourney. The Sullane flows adjacent to the main Cork / Killarney road as far as Macroom. The River widens on the western outskirts of Macroom. The River Sullane is joined by the River Larne which flows from the North of Macroom just before it meets the River Lee at the Two Mile Bridge at the Sullane Delta confluence.

The river is within the catchment drained by the River Lee (Hydrometric Area 19 – Lee, Cork Harbour and Youghal Bay). The River Sullane is an important fishery and is known to support Salmonid fish. According to the Ecological Scoping & Constraints Report commissioned by J. B. Barry & Partners Ltd. and carried out by Limosa Environmental, the South Western Regional Fisheries Board confirmed the presence of salmon, brown trout and potentially eels and referred to the Sullane as a 'significant brown trout river' with a good spawning nursery.

The 2008 EPA Water Quality Report indicated that the water quality in the River Sullane has remained satisfactory. The biological water quality data for Station 0170, upstream of Ballyvourney / Ballymakeera outfall has a Q4 value (unpolluted waters) from 2005 to 2008. Station 0300, downstream of the outfall has a Q4-5 value (unpolluted waters) from 1986 to 2008.

Under the Third Schedule of the Urban Waste Water Treatment Regulations, 2001 & 2004 the River Sullane is not designated as a Sensitive Area. Despite the presence of Salmonids in the river it is not designated under the EU Freshwater Fish Directive (78/659/EEC). The River Sullane is a tributary of the River Lee which is designated under this directive and also under S.I No. 293/1988 EU (Quality of Salmonid Waters) Regulations, 1988.

According to the EPA's ENVision Online Map Viewer, the River Sullane downstream of Macroom Town is a designated RPA Drinking Water River. No other designations apply to the River Sullane.

A Special Area of Conservation, St. Gobnet's Wood is located approximately 1.3km west of the Ballyvourney / Ballymakeery Waste Water Treatment System. The effluent from the Ballyvourney / Ballymakeery Treatment System does not impact on this area as it discharges downstream of St. Gobnet's Wood. Another Special Area of Conservation, Mullaghanish Bog is located approximately 5km from Ballyvourney. Effluent discharging to the River Sullane will not impact on this Area.

F.1 (I) Waste Assimilative Capacity of Receiving Waters**Assimilative Capacity**

Receiving waters should have a capacity to assimilate effluent discharges without showing signs of pollution. It is desirable that any effluent discharge to the river Sullane should not

- increase the BOD₅ level in the water by more than 1mg/l;
- increase the overall BOD₅ in the water to more than 4mg/l (ideally 3mg/l);
- increase the Ortho Phosphate level in the water to more than 0.03mg/l;

Assimilative Capacity of the Receiving Water**Mass Balance Equation for Orthophosphates:**

Gauge number 19042, at Ballyvourney Bridge

Median flow of River (station 19042) = 1.11671m³/sec
 Median oPO₄-P in River (upstream) = 0.05mg/l

Average volume of discharge = 0.002 m³/sec
 Median value for oPO₄-P in discharge = 1.15mg/l

$$C_{\text{final}} = \frac{(1.11671 \times 0.05) + (0.002 \times 1.15)}{(1.11671 + 0.002)}$$

$$C_{\text{final}} = 0.052 \text{ mg/l oPO}_4\text{-P}$$

The increase in Orthophosphate due to the discharge of Ballyvourney / Ballymakeera septic tank is .002 mg/l.

Mass Balance Equation for BOD:

Gauge number 19042, at Ballyvourney Bridge

Flow of River (95% ile) = 0.09m³/sec
 Median BOD in River (upstream) = 1.0mg/l

Average volume of discharge = 0.002 m³/sec
 Median value for BOD in discharge = 216mg/l

$$C_{\text{final}} = \frac{(0.09 \times 1.0) + (0.002 \times 216)}{(0.09 + 0.002)}$$

$$C_{\text{final}} = 5.67 \text{ mg/l BOD}$$

The increase in BOD due to the discharge of Ballyvourney / Ballymakeera septic tank is 4.67 mg/l.

Mass Balance Equation for Suspended Solids:

Gauge number 19042, at Ballyvourney Bridge

Flow of River (95% ile) = 0.09m³/sec
 Median SS in River (upstream) = 4.0mg/l

Average volume of discharge = 0.002 m³/sec
 Median value for SS in discharge = 99mg/l

$$C_{\text{final}} = \frac{(0.09 \times 4.0) + (0.002 \times 99)}{(0.09 + 0.002)}$$

C_{final} = 7.0 mg/l Suspended Solids

The increase in Suspended Solids due to the discharge of Ballyvourney / Ballymakeera septic tank is 3.0 mg/l.

Mass Balance Equation for Total Phosphates:

Gauge number 19042, at Ballyvourney Bridge

Median Flow of River (station n. 19042) = 0.09m³/sec
 Median TPO₄-P in River (upstream) = 0.2mg/l

Average volume of discharge = 0.002 m³/sec
 Median value for TPO₄-P in discharge = 4.35mg/l

$$C_{\text{final}} = \frac{(1.11671 \times 0.2) + (0.002 \times 4.35)}{(1.11671 + 0.002)}$$

C_{final} = 0.21 mg/l Total Phosphates

The increase in Total Phosphates due to the discharge of Ballyvourney / Ballymakeera septic tank is 10 mg/l.

Mass Balance Equation for Total Nitrogen:

Gauge number 19042, at Ballyvourney Bridge

Flow of River (95% ile) = 0.09m³/sec
 Median Total Nitrogen in River (upstream) = 5.0mg/l

Average volume of discharge = 0.002 m³/sec
 Median value for Total Nitrogen in discharge = 20mg/l

$$C_{\text{final}} = \frac{(0.09 \times 5.0) + (0.002 \times 20)}{(0.09 + 0.002)}$$

$$(0.09 + 0.002)$$

$$C_{\text{final}} = 5.326 \text{ mg/l Total Nitrogen}$$

The increase in Total Nitrogen due to the discharge of Ballyvourney / Ballymakeera septic tank is 0.326 mg/l.

Mass Balance Equation for Sulphates:

Gauge number 19042, at Ballyvourney Bridge

Flow of River (95% ile) = 0.09m³/sec
 Median Sulphates in River (upstream) = 30.0mg/l

Average volume of discharge = 0.002 m³/sec
 Median value for Sulphates in discharge = 60mg/l

$$C_{\text{final}} = (0.09 \times 30.0) + (0.002 \times 60)$$

$$(0.09 + 0.002)$$

$$C_{\text{final}} = 30.65 \text{ mg/l Sulphates}$$

The increase in Sulphates due to the discharge of Ballyvourney / Ballymakeera septic tank is 0.65mg/l.

Mass Balance Equation for Ammonia - N:

Gauge number 19042, at Ballyvourney Bridge

Flow of River (95% ile) = 0.09m³/sec
 Median Ammonia in River (upstream) = 0.1mg/l

Average volume of discharge = 0.002 m³/sec
 Median value for Ammonia in discharge = 13mg/l

$$C_{\text{final}} = (0.09 \times 0.1) + (0.002 \times 13)$$

$$(0.09 + 0.002)$$

$$C_{\text{final}} = 0.380 \text{ mg/l Total Ammonia}$$

The increase in Ammonia due to the discharge of Ballyvourney / Ballymakeera septic tank is 0.280 mg/l.

Proposed Assimilative Capacity of the Receiving Water

Mass Balance Equation for BOD:

Gauge number 19042, at Ballyvourney Bridge

Flow of River (95% ile) = 0.09m³/sec
 Median BOD in River (upstream) = 1.0mg/l

Average volume of discharge = 0.005 m³/sec
 Median value for BOD in discharge = 20mg/l

$$C_{\text{final}} = \frac{(0.09 \times 1.0) + (0.005 \times 20)}{(0.09 + 0.005)}$$

C_{final} = 2.0 mg/l BOD

The increase in BOD due to the discharge of Ballyvourney / Ballymakeera septic tank is 1.0 mg/l.

Mass Balance Equation for Suspended Solids:

Gauge number 19042, at Ballyvourney Bridge

Flow of River (95% ile) = 0.09m³/sec
 Median SS in River (upstream) = 4.0mg/l

Average volume of discharge = 0.005 m³/sec
 Median value for SS in discharge = 30mg/l

$$C_{\text{final}} = \frac{(0.09 \times 4.0) + (0.005 \times 30)}{(0.09 + 0.005)}$$

C_{final} = 3.368 mg/l Suspended Solids

The increase in Suspended Solids due to the discharge of Ballyvourney / Ballymakeera septic tank is 0.368 mg/l

Mass Balance Equation for Total Phosphates:

Gauge number 19042, at Ballyvourney Bridge

Median Flow of River (station n. 19042) = 0.09m³/sec
 Median TPO₄-P in River (upstream) = 0.2mg/l

Average volume of discharge = 0.002 m³/sec
 Median value for TPO₄-P in discharge = 4.35mg/l

$$C_{\text{final}} = \frac{(1.11671 \times 0.2) + (0.005 \times 2.0)}{(1.11671 + 0.005)}$$

C_{final} = 0.208 mg/l Total Phosphates

The increase in Total Phosphates due to the discharge of Ballyvourney / Ballymakeera septic tank is 0.008 mg/l.

Mass Balance Equation for Ammonia - N:

Gauge number 19042, at Ballyvourney Bridge

Flow of River (95% ile) = 0.09m³/sec
 Median Ammonia in River (upstream) = 0.1mg/l

Average volume of discharge = 0.005 m³/sec
 Median value for Ammonia in discharge = 10mg/l

$$C_{\text{final}} = \frac{(0.09 \times 0.1) + (0.005 \times 10)}{(0.09 + 0.005)}$$

C_{final} = 0.625 mg/l Total Ammonia

The increase in Ammonia due to the discharge of Ballyvourney / Ballymakeera septic tank is 0.525 mg/l.

The waste water as discharged from the septic tank does not receive sufficient treatment for discharge not to impact negatively on the assimilative capacity of the River Sullane. However the calculations carried out above for the proposed upgrade show that the River Sullane will have the assimilative capacity to receive the proposed effluent discharge.

- 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.**

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 waste water 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	Macroom Urban	1,300	Point Code Provide label ID's	14500	E 133831	N 073005	No

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

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. 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.

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).

G.1 Compliance with Council Directives

Details of compliance are outlined in Section F1. Under the Water Services Investment Programme 2007-2009 funding has been secured for the upgrade of the WWTP in Ballyvourney / Ballymakeera. It is expected that this upgrade will be completed and operational by the end of 2011. Recommendations made for the upgrade in the forthcoming Preliminary Report will be in compliance with Council Directives.

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 waste water works specified in Phosphorus Measures Implementation reports and the progress to date of those measures. Provide details highlighting any waste water works that have been identified as the principal sources of pollution under the P regulations.

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

The discharge to the River Sullane from Ballyvourney / Ballymakeera Waste Water Treatment System is approximately 6.0 km upstream of site No 19L03 0300 at the Sullane Bridge. The target value set for this location is Q4-5.

Station Nos.	1971	1976	1981	1986	1990	1994	1997	1999	2002	2005	2008
0170(Upstream)	-	-	-	-	4-5	4-5	4	4-5	4-5	4	4
0300(Downstream)-	-	-	5	4-5	5	4-5	4-5	4-5	4-5	4-5	4-5

Table G.2.1

On the basis of the above Table G.2.1 this site is compliant with the Phosphorus Regulations (S.I. No. 258 of 1998). The treatment plant in Ballyvourney / Ballymakeera is due for upgrade under the Water Services Investment Programme 2007-2009. Phosphorus removal is to be included as part of the proposed upgrade.

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.

Impact Mitigation

Ballyvourney / Ballymakeera Waste Water Treatment Plant is due to be upgraded to a 2,200 PE plant to ensure compliance with the relevant regulations. As a minimum, the construction of the works shall have the following units:

- Inlet Pumpstation c/w Storm Overflow Screen
- Inlet works shall be provided c/w 6mm screen, bypass screen, screenings handling and grit removal
- Flow Dividing Chamber to split treatment flows
- 2 No. Aeration Tanks c/w Anoxic Zones and FBDA system (volume of approx 330m³ each)
- 2 No. Final Settlement Tanks (6.8m internal diameter with sidewall liquid depth of 2.5m)
- Return and Waste Sludge Pumping Facilities
- Sludge Thickening and Storage facilities (4m internal diameter picket fence thickener with liquid depth of 3.5m)
- Sludge Dewatering Facility

- Phosphorus Dosing Facility
- Stormwater holding Tank (volume of approx 155m³)
- Instrumentation and Control Equipment
- Treated Effluent Outfall pipeline
- Site Roads and Fencing, Landscaping, Process and Drainage pipework, Telemetry and SCADA control system
- Administration and Control Building including Sludge Dewatering facility

This upgrade is under construction and is due for completion by the end of 2011.

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.

Attachment included	Yes	No
	✓	

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.

Storm Water Overflow

There are no overflows other than the primary overflow in the existing WWTP.

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.

Attachment included	Yes	No
		✓

SECTION H: DECLARATION

Declaration

I hereby make application for a waste water 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 : *Patricia Power*
(on behalf of the organisation)

Date : 23rd Feb 09

Print signature name: Patricia Power

Position in organisation: Director of Services

Consent of copy for inspection purposes only. For inspection purposes only. Consent of copy for inspection purposes only. For inspection purposes only.

SECTION I: JOINT DECLARATION

Joint Declaration Note1

I hereby make application for a waste water 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.

ATTACHMENTS TABLE OF CONTENTS		
ATTACHMENTS	ITEM	TITLE
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A.1	Map 2	Location of WWTP
B.1	Map 3	Agglomeration Boundary
B.2	Map 4	Location of WWTP
B.2	Map 5	Monitoring Points
B.3	Map 6	Primary Discharge Location
B.3	Map 7	Monitoring Points
B.8	Text	Newspaper Site Notice & Site Notice
B.8	Map 8	Site Notice Location
B.10	Text	Capital Investment Programme
C.1	Map 9	Operation Information
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D.2	Table	Discharge Points
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