CORK COUNTY COUNCIL

WESTERN DIVISION

WATER SERVICES

Re: Waste Water Discharge Licence Application for the Agglomeration of Dunmanway

Dear Sir / Madam,

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

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)
- 2 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. Nº: *(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	26/08/2007	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.

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

CONTENTS

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 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. <u>The abbreviation "N/A" should not be used</u>.

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.

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 Nº A.1**

Section A – Non Technical Summary

A description of the Wastewater Works and the Activities Carried Out Therein

Introduction

Dunmanway is located at the confluence of the Brewery and the Dirty rivers with the Bandon River. It is sheltered by elevated land on three sides. To the north and west lie the foothills of the Shehy Mountains and to the south lie smaller hills. The topography and landscape of the wider area consists of pasture, rough grazing and rock outcrop.

Existing Situation

Existing Wastewater Treatment Plant

The existing wastewater treatment plant in Dunmanway is located in the townland of Dunmanway North approximately 60km west of Cork City (see Drg No. Dunmanway – A1 - 01 in attachment A1). This plant treats the domestic sewage from the town and its immediate environs as well as non domestic/industrial flows. The extent of the agglomeration is shown on Drg. No. Dunmanway - B1 - 06 in Attachment B1.

The original design capacity of the existing WWTP is 1000p.e. while the future capacity is set at 3,500p.e. The WWTP was constructed in the 1960's and has seen no significant upgrade since then. The existing WWTP does not incorporate an inlet

works with screens and grit traps. The load to the existing plant is in excess of the design capacity that the plant was constructed to serve. Therefore the discharge standard for BOD and SS cannot be met on occasions. Furthermore, the hydraulic load of the primary settlement tanks (Imhoff tanks) and the humus tanks is excessive.

The outfall from the existing wastewater treatment plant discharges to the River Bandon within an Area designated as an SAC.

The existing wastewater treatment plant was built approximately 40 years ago. It was designed for a capacity of 1,000 PE and would have been intended to achieve the Royal Commission Effluent Treatment Standards of the time.

The treatment works is typical for its size and time of construction, comprising 2 No. Imhoff Tanks for primary settlement, 2 No. percolating filters for secondary treatment and final humus tanks prior to discharge to the River Bandon via an outfall sewer. The sludge which is settled and partly stabilised in the Imhoff tanks is drawn off manually to sludge drying beds. There is no provision for humus sludge drawoff.

Drawing No. Dunmanway_A1_03 shows a view form the inlet chamber at the WWTP with the Imhoff tanks on the left and the drying beds and trickling filters on the right.

Based on the design capacity of the pumps installed in 1993, the current maximum influent flow from the pumping stations is 148 m3/h. However, it is reported by the caretaker for the scheme that the forward pumping capacity is greatly reduced when several pumps are operating simultaneously and it is considered unlikely that this maximum flow rate is achieved at present.

The design capacity of the existing WWTP is 1,000 PE, while the future capacity is set at 3,500 PE. The load to the existing plant and especially the trickling filters will become so high, that the discharge standard for BOD cannot be met. Furthermore, the hydraulic load of the primary settlement tanks (Imhoff tanks) and the humus tanks will be excessive. Finally, the existing WWTP does not incorporate an inlet works with screens and grit traps. This will have to be constructed in the upgraded WWTP.

It can be concluded, that the existing WWTP can hardly be re-used. Almost all process units have to be renewed or extended. Taking the structural status of the superstructures and plant into account, it is recommended to construct a new wastewater treatment plant at the same site.

Quarry PS and Long Bridge PS

The wastewater from the greater part of Dunmanway agglommeration is currently pumped from Quarry Road Pumping Station to the wastewater treatment plant via a 150mm dia. rising main. A second pumping station at the Long Bridge Pumping Station pumps the remainder of the agglomeration catchment area to the WWTP via a 100mm dia. rising main. Both rising mains are pvc pipelines and they were installed in the early 1960's as part of the Dunmanway Sewerage Scheme. Both pumping stations incorporate wet wells which are external to the pumping station building and which were originally open to the elements. In recent years these

chambers have been covered in. Both pumping stations incorporate secondary outfalls which discharge to the Dirty and Bandon rivers respectively.

The current structural and mechanical/electrical status of both pumping stations in Dunmanway is such that substantial works are required to refurbish the buildings and to comply with Health & Safety Legislation. Furthermore, the capacity of the existing pumps is not sufficient to cater for the flows arriving at the stations, particularly in incidents of heavy rainfall. Therefore, it is proposed to construct new pumping stations at the current sites. The location of the pumping stations referred to above as shown on Drg. No. Dunmanway – B4 - 13 in Attachment No. B4.

The Proposal

It is proposed to construct a new wastewater treatment plant on an extended site at the location of the existing waste water treatment plant in Dunmanway. The wastewater treatment plant will cater for a design population of 3,500pe. This includes for pollution loads from non-domestic sources such as shops, hotels, restaurants and local industries. No phasing of the upgrading of the WWTP is proposed.

It is also proposed to construct new pumping stations at the sites of the existing Quarry Rd and Long Bridge pumping stations. The new pumping stations will incorporate stormwater holding tank which will reduce the frequencies of overflows to the Dirty River and the Bandon River, greatly reducing the polluting load on the rivers.

A description of the Wastewater Works and the activities to be carried out therein

It is proposed that the above works will be constructed in conjunction with the West Cork Grouped WWTP DBO Scheme. Contract documents have been approved by the DoEHLG for this scheme and final approval to proceed to tender is expected to be received in the near future. The programme for the construction of this scheme provides for a period of 18months in which to substantially complete the works.

As is the nature of DBO contracts, the Contractor may specify which plant he chooses to meet the performance specification. With this in mind, the following is a description of the expected operation of the new plant. The rising mains from the two pumping stations would most likely be connected to an inlet works which will incorporate screening, grit removal, flow measurement and sampling. The flow would then enter the activated sludge tanks for the biological treatment. Separation of sludge and final effluent would take place in the secondary clarifiers, prior to flow measurement and discharging to the Bandon River. The process design will incorporate biological or chemical phosphorus reduction. Waste sludge would be pumped to the sludge thickening tank. Thickened sludge would be dewatered and stored in holding tank prior to removal off site for further treatment and disposal.

As is the nature of DBO contracts, the plant will be operated by a private service provider on behalf of the local authority under a 20 year Operation and Maintenance Contract.

The design flows to the plant are based on a contributing population of 2,404 p.e. with an expansion capacity to 3,500p.e. The effluent requirements specified for the proposed Wastewater Treatment Plant are as follows:

Table A.1: Effluent Requirements

Parameters	Concentration (mg/l)	Maximum Concentration (mg/l)	Minimum Percentage Reduction
BOD	*25mgO_2/l	50 mgO_2/l	90
Suspended Solids	*35mg/l	70mg/l	90
COD	*125mgO_2/l	250mgO_2/l	75
Phosphorus	*1.5mg/l		80

* Standard to be achieved in 95% of samples or more

An indicative layout of the proposed wastewater treatment plant is shown on Drg. No. Dunmanway – A1 - 04 in Attachment A1.

A summary of the proposed treatment processes is presented below:

Preliminary Treatment	Preliminary Treatment of the incoming sewage is carried out at the inlet works. Inlet works machinery unit comprising 2 No. continuous band screens (duty/standby) with 6mm spacing grit trap with bypass to remove screenings, grit and larger solids. Screenings are washed, compacted and bagged. Grit is classified and washed for disposal to landfill. Inlet works are envisaged in a building approximately 10m x 5m in plan and air treatment equipment will be provided for odour control.
Secondary Treatment	This stage comprises biological oxidation of the sewage by an activated sludge process followed by a settling stage. The dimensions of the two aeration basins are 5m x 12.5m each and 4m (liquid) deep. The two final clarifiers have a diameter of 11m.
Sludge Treatment	The sludge removed from the final clarifiers would be directed to a picket fence thickener. The thickened sludge will be stored in a sludge holding tank. Its volume is reduced so that it is suitable for transportation to the regional sludge hub centre for stabilisation and reuse. Both picket fence thickener and the sludge holding tank have a diameter of 4m and will be 5m high.
Phosphorus Removal	Phosphorus will be chemically removed by dosing a coagulant into the splitter box ahead of the aeration tanks.

The Sources of Emissions from the Wastewater Works

1 The primary discharge of the treated effluent through the outfall pipe into Bandon River.
2 A screened overflow to the Dirty River from the Quarry Road pumping Station is proposed to cater for flows in excess of 12 DWF or in the case of power failure.

3 A screened overflow to the Bandon River from the Long Bridge Pumping Station is proposed to cater for flows in excess of 7 DWF or in the case of power failure.
4 Noise and odour emissions from the treatment works units which are regulated by the limits set in the planning approval.

Unscreened overflows from the existing Quarry Road and Long Bridge pumping Stations and discharges from Combined storm overflows to the Brewery and Dirty Rivers will be eliminated together with a percolation area from a package treatment plant at Dun Ogra on the Macroom Road.

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

The operation of the treatment works produces a treated effluent which is discharged to the Bandon River and a treated sludge which is reused on agricultural land, forestry land, or to landfill. These effluents and residue are described in detail above. There is no long term storage or accumulation of residues on the treatment works site.

The discharge of treated effluent from the wastewater plant is via a single outfall pipeline to the Bandon River (see Drg. No. Dunmanway - B2 - 06 Attachment B2). The outfall is proposed to be relocated from its existing location in order to minimise the impact of the discharge of the treated effluent on the SAC in the Bandon River.

The discharge at the pumping station of the excess storm water in storm/rainfall events (which occurs when the storage capacity of the storm tank is exceeded) via the outfall pipeline should not give rise to any significant adverse effects on the receiving waters as the storm water holding tank capacity conforms to the recommendation of the DoE Guidelines for Combined Storm Overflows.

Environmental Impacts

In conjunction with the Part 8 Planning process, Cork Co Co have prepared a document entitled “Determination whether Dunmanway Sewerage Scheme would or would not be likely to have significant effects on the environment” which encompasses a sub-threshold environmental assessment of the impact of the proposed WWTP.

The discharge of effluent from the wastewater treatment plant at Dunmanway together with the overflows from the pumping stations at the Quarry Road and the Long bridge have a negative impact on water quality in the Rivers Bandon and Dirty at present. The proposed scheme will improve the quality of the effluent being discharged from the wastewater treatment plant and will greatly reduce the frequency of discharges from the pumping stations. The incorporation of phosphorus removal at the treatment plant will reduce the nutrient load on the river. The relocation of the outfall serving the WWTP plant will serve to protect the river mussel habitats within the river Bandon.

The proposed effluent quality standards will meet the requirements stated in the Urban Wastewater Directive.

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

Technologies
At Dunmanway WWTP, standby pumps and mobile generator equipment will be provided in order to ensure continuation of the wastewater and sludge treatment operations and to comply with specified standards in case of equipment failures or breakdowns. Standby equipment will be installed in the critical processes should the duty units fail.

Techniques
Overall management responsibility for operation of the treatment works is borne by Cork County Council. However, operation of the wastewater treatment plant and management of sludge transport, treatment and disposal will be contracted out to a private service provider through a 20 year operation and maintenance contract. Full time staff will be employed by the service provider to run the facility and to carry out the required monitoring and maintenance requirements.

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

Prevention of Pollution
The operation of the treatment works produces a treated effluent in compliance with the specific standards prior to its discharge to the River Bandon.

Toxic Substances
All chemicals and dangerous substances will be stored safely at all times and appropriate safety measures will be taken to ensure against leakage and spillage in accordance with relevant Health and Safety Legislation. Chemical and diesel storage tanks will be bunded to contain these liquids in the event of a leak occurring in the storage tanks.

Measures planned to monitor emissions into the environment
Monitoring the operation of the wastewater treatment plant will be carried out on private basis by private plant operators. This monitoring will ensure that all the processes operate optimally, including the odour control system. Analysis of the final effluent and treated sludge is carried out on a routine basis as evidenced by the results contained in Section E.

The spreading of treated sludge on agricultural land is logged and regulated in order to ensure the protection of surface water and groundwater from risk of pollution.

Monitoring of water quality in the Brewery, Dirty and the Bandon River is carried out by both Cork County Council and the EPA.

SECTION B: GENERAL

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

B.1 Agglomeration Details

Name of Agglomeration:	Dunmanway

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:	Water Services(Western Division)
	Courthouse
	Skibbereen
	Co. Cork
Tel:	(028) 22391
Fax:	(0) 28 21995
e-mail:	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.

Name*:	Mr Declan Groarke,
Address:	Water Services, Western Division,
	Cork Co. Co,
	The Courthouse, Skibbereen
	Co Cork
Tel:	(028) 21299
Fax:	(028) 21995
e-mail:	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

Name*:	
Address:	
	NOT APPLICABLE
Tel:	
Fax:	
e-mail:	

*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*:	
Address:	
	NOT APPLICABLE
Tel:	
Fax:	
e-mail:	

*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 (≤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*:	Mr Kevin Morey, Area Engineer
Address:	Dunmanway Wastewater Treatment Plant
	Dunmanway
	County Cork
Grid ref (6E, 6N)	E123994, N052577
Level of Treatment	Preliminary Treatment; Secondary Treatment; Tertiary Treatment; Sludge Treatment
Primary Telephone:	(023) 45209
Fax:	(023) 45703
e-mail:	kevin.morey@corkco.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 (≤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.

Existing Discharge Point:

Type of Discharge	E.g. Diffuser, Lunar Valve, Non-return flap valve etc. Piped Outfall
Unique Point Code	SW01Dway Dunmanway WWTP Primary Effluent Discharge Point (Outfall to River)
Location	Bandon River
Grid ref (6E, 6N)	E124142 N052545

Proposed Discharge Point:

Type of Discharge	E.g. Diffuser, Lunar Valve, Non-return flap valve etc. Non-return Flap Valve
Unique Point Code	SW02Dway Dunmanway WWTP Proposed Primary Effluent Discharge Point (Outfall to River)
Location	Bandon River
Grid ref (6E, 6N)	E124122 N052532

Existing Discharge Point:

Type of Discharge	E.g. Diffuser, Lunar Valve, Non-return flap valve etc. Pumping Chamber to Percolation Area with Sand Polishing Filter
Unique Point Code	GW01Dway Dunmanway Package Plant Primary Effluent Discharge Point (Discharge to percolation area)
Location	Bandon River
Grid ref (6E, 6N)	E123829 N053210

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.

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.

Existing Secondary Discharge (Emergency Overflow):

Type of Discharge	E.g. Diffuser, Lunar Valve, Non-return flap valve etc. Piped outfall
Unique Point Code	SW03Dway Long Bridge Pumping Station (Outfall to River)

Location	Bandon River
Grid ref (6E, 6N)	E124057 N053010

Proposed Secondary Discharge:

Type of Discharge	Screened Overflow
Unique Point Code	SW04Dway Long Bridge Pumping Station (Outfall to River)
Location	Bandon River (At the Long Bridge)
Grid ref (6E, 6N)	E124081, N053008

Existing Secondary Discharge (Emergency Overflow):

Type of Discharge	E.g. Diffuser, Lunar Valve, Non-return flap valve etc. Weir Discharge
Unique Point Code	SW05Dway Quarry Road Pumping Station (Outfall to River)
Location	Dirty River at Quarry Rd Bridge
Grid ref (6E, 6N)	E123566 N052546

Proposed Secondary Discharge:

Type of Discharge	Screened Overflow
Unique Point Code	SW06Dway Quarry Road Pumping Station (Outfall to River)
Location	Dirty River
Grid ref (6E, 6N)	E123566, N052546

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.

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.

Existing Combined Storm Overflow:

Type of Discharge	E.g. Diffuser, Lunar Valve, Non-return flap valve etc. Weir overflow
Unique Point Code	SW07Dway Combined Sewer Overflow Point(Outfall to River)
Location	Brewery Stream
Grid ref (6E, 6N)	E123235 N052182

Existing Combined Storm Overflow:

Type of Discharge	E.g. Diffuser, Lunar Valve, Non-return flap valve etc. Piped overflow
Unique Point Code	SW08Dway Combined Sewer Overflow Point (Outfall to River)
Location	Dirty River

Grid ref (6E, 6N)	E122787 N052453

Existing Combined Storm Overflow:

Type of Discharge	E.g. Diffuser, Lunar Valve, Non-return flap valve etc. Piped overflow
Unique Point Code	SW09Dway Combined Sewer Overflow Point (Outfall to Lake)
Location	Dunmanway Lake
Grid ref (6E, 6N)	E123787 N053010

Attachment B.5 should contain appropriately scaled drawings / maps (≤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:	Planning Department
Address:	Cork County Council,
	County Hall,
	Cork
Tel:	(021) 427 6891
Fax:	(021) 427 6321
e-mail:	Corporate.affairs@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 Nº:	**NOT APPLICABLE**

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 **Managers Order for Part 8 Planning Approval for Proposed WWTP**	**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 **NOT APPLICABLE**	**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:	West Cork Local Health Office (West Cork Region)
Address:	Coolnagarrane,
	Skibbereen,
	County Cork
Tel:	(028) 40476
Fax:	(028) 21006
e-mail:	

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:	
Tel:	
Fax:	
e-mail:	

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 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 two copies 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	**2404 (Existing)**
Data Compiled (Year)	**2004**
Method	**Preliminary report Addendum**

Population Equivalent	**3500 (Proposed)**
Data Compiled (Year)	**2004**
Method	**Preliminary report Addendum**

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.

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 €)
DISCHARGE FROM AGGLOMERATIONS WITH POPULATION EQUIVALENT OF 2001 TO 10,000. AMOUNT	€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
	NOT	APPLICABLE

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 Forsehore 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**
	NOT	**APPLICABLE**

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 Waste Water Treatment Plant

Introduction

Dunmanway is located at the confluence of the Brewery and the Dirty rivers with the Bandon River. It is sheltered by elevated land on three sides. To the north and west lie the foothills of the Shehy Mountains and to the south lie smaller hills. The topography and landscape of the wider area consists of pasture, rough grazing and rock outcrop.

Existing Situation

Existing Wastewater Treatment Plant

The existing wastewater treatment plant in Dunmanway is located in the townland of Dunmanway North approximately 60km west of Cork City (see Drg No. Dunmanway – A1 - 01 in attachment A1). This plant treats the domestic sewage from the town and its immediate environs as well as non domestic/industrial flows. The extent of the agglomeration is shown on Drg. No. Dunmanway - B1 - 06 in Attachment B1.

The original design capacity of the existing WWTP is 1000p.e. while the future capacity is set at 3,500p.e. The WWTP was constructed in the 1960's and has seen no significant upgrade since then. The existing WWTP does not incorporate an inlet works with screens and grit traps. The load to the existing plant is in excess of the design capacity that the plant was constructed to serve. Therefore the discharge standard for BOD and SS cannot be met on occasions. Furthermore, the hydraulic load of the primary settlement tanks (Imhoff tanks) and the humus tanks is excessive.

The outfall from the existing wastewater treatment plant discharges to the River Bandon within an Area designated as an SAC.

The existing wastewater treatment plant was built approximately 40 years ago. It was designed for a capacity of 1,000 PE and would have been intended to achieve the Royal Commission Effluent Treatment Standards of the time.

The treatment works is typical for its size and time of construction, comprising 2 No. Imhoff Tanks for primary settlement, 2 No. percolating filters for secondary treatment and final humus tanks prior to discharge to the River Bandon via an outfall sewer. The sludge which is settled and

partly stabilised in the Imhoff tanks is drawn off manually to sludge drying beds. There is no provision for humus sludge drawoff.

Drawing No. Dunmanway_A1_03 shows a view form the inlet chamber at the WWTP with the Imhoff tanks on the left and the drying beds and trickling filters on the right.

Based on the design capacity of the pumps installed in 1993, the current maximum influent flow from the pumping stations is 148 m3/h. However, it is reported by the caretaker for the scheme that the forward pumping capacity is greatly reduced when several pumps are operating simultaneously and it is considered unlikely that this maximum flow rate is achieved at present.

The design capacity of the existing WWTP is 1,000 PE, while the future capacity is set at 3,500 PE. The load to the existing plant and especially the trickling filters will become so high, that the discharge standard for BOD cannot be met. Furthermore, the hydraulic load of the primary settlement tanks (Imhoff tanks) and the humus tanks will be excessive. Finally, the existing WWTP does not incorporate an inlet works with screens and grit traps. This will have to be constructed in the upgraded WWTP.

It can be concluded, that the existing WWTP can hardly be re-used. Almost all process units have to be renewed or extended. Taking the structural status of the superstructures and plant into account, it is recommended to construct a new wastewater treatment plant at the same site.

It is proposed to construct a new wastewater treatment plant on an extended site at the location of the existing waste water treatment plant in Dunmanway. The wastewater treatment plant will cater for a design population of 3,500pe. This includes for pollution loads from non-domestic sources such as shops, hotels, restaurants and local industries. No phasing of the upgrading of the WWTP is proposed.

It is also proposed to construct new pumping stations at the sites of the existing Quarry Rd and Long Bridge pumping stations. The new pumping stations will incorporate stormwater holding tank which will reduce the frequencies of overflows to the Dirty River and the Bandon River, greatly reducing the polluting load on the rivers.

A description of the Wastewater Works and the activities to be carried out therein

It is proposed that the above works will be constructed in conjunction with the West Cork Grouped WWTP DBO Scheme. Contract documents have been approved by the DoEHLG for this scheme and final approval to proceed to tender is expected to be received in the near future. The programme for the construction of this scheme provides for a period of 18months in which to substantially complete the works.

As is the nature of DBO contracts, the Contractor may specify which plant he chooses to meet the performance specification. With this in mind, the following is a description of the expected operation of the new

plant. The rising mains from the two pumping stations would most likely be connected to an inlet works which will incorporate screening, grit removal, flow measurement and sampling. The flow would then enter the activated sludge tanks for the biological treatment. Separation of sludge and final effluent would take place in the secondary clarifiers, prior to flow measurement and discharging to the Bandon River. The process design will incorporate biological or chemical phosphorus reduction. Waste sludge would be pumped to the sludge thickening tank. Thickened sludge would be dewatered and stored in holding tank prior to removal off site for further treatment and disposal.

As is the nature of DBO contracts, the plant will be operated by a private service provider on behalf of the local authority under a 20 year Operation and Maintenance Contract.

The design flows to the plant are based on a contributing population of 2,404 p.e. with an expansion capacity to 3,500p.e. The effluent requirements specified for the proposed Wastewater Treatment Plant are as follows:

Table A.1: Effluent Requirements

Parameters	**Concentration (mg/l)**	**Maximum Concentration (mg/l)**	**Minimum Percentage Reduction**
BOD	*25mgO_2/l	50 mgO_2/l	90
Suspended Solids	*35mg/l	70mg/l	90
COD	*125mgO_2/l	250mgO_2/l	75
Phosphorus	*1.5mg/l		80

* Standard to be achieved in 95% of samples or more

An indicative layout of the proposed wastewater treatment plant is shown on Drg. No. Dunmanway – A1 - 04 in Attachment A1.

A summary of the proposed treatment processes is presented below:

Preliminary Treatment	Preliminary Treatment of the incoming sewage is carried out at the inlet works. Inlet works machinery unit comprising 2 No. continuous band screens (duty/standby) with 6mm spacing grit trap with bypass to remove screenings, grit and larger solids. Screenings are washed, compacted and bagged. Grit is classified and washed for disposal to landfill. Inlet works are envisaged in a building approximately 10m x 5m in plan and air treatment equipment will be provided for odour control.
Secondary Treatment	This stage comprises biological oxidation of the sewage by an activated sludge process followed by a settling stage. The dimensions of the two aeration basins are 5m x 12.5m each and 4m (liquid) deep. The two final

	clarifiers have a diameter of 11m.
Sludge Treatment	The sludge removed from the final clarifiers would be directed to a picket fence thickener. The thickened sludge will be stored in a sludge holding tank. Its volume is reduced so that it is suitable for transportation to the regional sludge hub centre for stabilisation and reuse. Both picket fence thickener and the sludge holding tank have a diameter of 4m and will be 5m high.
Phosphorus Removal	Phosphorus will be chemically removed by dosing a coagulant into the splitter box ahead of the aeration tanks.

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.

C1.3 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.

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.

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**
	√	

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	**Yes**	**No**
	√	

Dunmanway Waste Water Treatment Plant Influent Sampling

Sample Date	09/08/2007	24/10/2007	07/02/2008	04/06/2008	19/06/2008	02/07/2008
Sample	Influent	Influent	Influent	influent	Influent	Inluent
Flow M^3/Day	*	*	*	*	*	*
pH	*	7.2	*	*	*	*
Temperature °C	*	*	*	*	*	*
Cond 20°C	*	718	*	184	*	236
SS mg/L	*	231	*	60	*	*
NH_3 mg/L	*	38.5	16.7	*	29.5	*
BOD mg/L	*	*	*	*	*	*
COD mg/L	143	658	250	176	557	184
TN mg/L		54	*	27	*	*
Nitrite mg/L		*	*	*	*	*
Nitrate mg/L		*	*	*	*	*
TP mg/L		7.9	2.9	2.21	*	2.12
O-PO4-P mg/L		6.07	1.65	0.9	6.67	*
SO4 mg/L		52.4	31	*	*	*
Phenols µg/L		*	*	*	*	*
Atrazine µg/L		*	*	*	*	*
Dichloromethane µg/L			*	*	*	*
Simazine µg/L			*	*	*	*
Toluene µg/L			*	*	*	*
Tributyltin µg/L			*	*	*	*
Xylenes µg/L			*	*	*	*
Arsenic µg/L			*	*	*	*
Chromium mg/L	<0.02				<0.02	
Copper mg/L	<0.02				<0.02	
Cyanide µg/L	*					
Fluoride	*					
Lead mg/L	<0.02				0.036	
Nickel mg/L	<0.02				<0.02	
Zinc mg/L	0.083				0.06	
Boron mg/L	*				0.045	
Cadmium mg/L	<0.02				<0.02	
Mercury µg/L	*					
Selenium µg/L	*					
Barium mg/L	0.022				0.023	

D.2 Tabular Data on Discharge Points

Applicants should submit the following information for each discharge point:

Table D.2:

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.

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING	VERIFIED
SW01DWAY	PRIMARY EFFLUENT DISCHARGE	Cork County Council	RIVER	BANDON	SAC	E124142	N052545	Y
SW02DWAY	PROPOSED PRIMARY EFFLUENT DISCHARGE	Cork County Council	RIVER	BANDON	SAC	E124122	N052532	Y
SW03DWAY	SECONDARY DISCHARGE - EMERGENCY OVERFLOW	Cork County Council	RIVER	BANDON	SAC	E124057	N053010	Y
SW04DWAY	SECONDARY DISCHARGE - PROPOSED EMERGENCY OVERFLOW	Cork County Council	RIVER	BANDON	SAC	E124081	N053008	Y
SW05DWAY	SECONDARY DISCHARGE - EMERGENCY OVERFLOW	Cork County Council	RIVER	DIRTY		E123566	N052546	Y
SW06DWAY	SECONDARY DISCHARGE - PROPOSED EMERGENCY OVERFLOW	Cork County Council	RIVER	DIRTY		E123566	N052546	Y
SW07DWAY	COMBINED SEWER - OVERFLOW POINT	Cork County Council	RIVER	BREWERY		E123235	N052182	N
SW08DWAY	COMBINED SEWER - OVERFLOW POINT	Cork County Council	RIVER	DIRTY		E122787	N052453	N
SW08DWAY	COMBINED SEWER - OVERFLOW POINT	Cork County Council	RIVER	BANDON		E122787	N052453	Y
GW01DWAY	PRIMARY EFFLUENT DISCHARGE	Cork County Council	GROUNDWATER			E123829	N053210	N

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/.

Table E1.1(i) Waste Water Frequency and Quantity of Discharge – Primary and Secondary Discharges

Identification Code for Discharge Point	Frequency of Discharge (days/annum)	Quantity of Waste Discharged (m3/annum)
SW01DWAY	365	197428
SW02DWAY	365	315360
GW01DWAY	365	10643
SW03DWAY	approx 15-20	Not Known
SW04DWAY	<15	Not Known
SW05DWAY	approx 15-20	Not Known
SW06DWAY	<15	Not Known

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/.

Table E1.1(ii) Waste Water Frequency and Quantity of Discharge – Storm Water Overflows

Identification Code for Discharge Point	Frequency of Discharge (days/annum)	Quantity of Waste Water Discharged (m3/annum)	Complies with definition of Storm Water Overflow
SW07DWAY	<15	Not Known	Y
SW08DWAY	<15	Not Known	Y
SW09DWAY	<15	Not Known	Y

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.

Attachment included	**Yes**	**No**
	None	

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
aSW01uDWAY	**Primary**	**M & S**	**124197**	**053006**	**Y**
SW01DWAY	**Primary**	**M & S**	**124143**	**052536**	**Y**
aSW01dDWAY	**Primary**	**M & S**	**125676**	**051303**	**Y**
SW02DWAY	**Storm Water Overflow**	**M & S**	**123271**	**052184**	**N**
SW03DWAY	**Storm Water Overflow**	**M & S**	**123730**	**053010**	**N**
SW04DWAY	**Secondary**	**M & S**	**123562**	**052546**	**Y**
SW05DWAY	**Secondary**	**M & S**	**124035**	**053017**	**Y**

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**
	√	

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://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 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/EEC[1] 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[2];

  [1]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)

  [2]Council 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.

- 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.**

F1 Assessment of Impact on Receiving Surface or Ground Water

Proposed Waste Water Treatment Plant

BANDON RIVER

Phosphorus Removal

Qmean of river (Hydra/AutoCAD)	Q95 =	4.5	m^3/s
Population (Design Report)	future =	3500	
Phosphorus (3 g P/day/pe)	future =	10500	g/day
Flow (225L/day/pe)	future =	861.0	m^3/day
Influent concentration of P	future =	12.2	mg/l
fully mixed concentration	C_{fm} =	$\frac{(Ceff)(Qeff)+(Qback)(Cback)}{(Qeff+Qback)}$	
final effluent P conc.	C_{eff} =	1.5	mg/l

(assumed figure based on secondary treatment with no specific phosphorus removal in place)

Flow from WWTW in future	Q_{eff} =	861	m^3/day
Qmean of river (Hydra/AutoCAD)	Q_{back} =	388800	m^3/day
P conc. of river u/s (from EPA)	C_{back} =	0.03	mg/l

Therefore:

P concentration downstream	C_{fm} =	0.033	mg/l

With P removal:

final effluent P conc.	C_{eff} =	1.5	mg/l
P concentration downstream	C_{fm} =	0.033	mg/l
Total P removal =	C =	37.433	kg/day

o

BANDON RIVER

BOD removal

Q95 of river (Hydra/AutoCAD)	Q95 =	4.5	m^3/s
Population (Design Report)	future =	3500	
BOD (60g BOD/day/pe)	future =	210000	g/day
Flow (225 L/day/pe)	future =	861.0	m^3/day
Influent concentration of BOD	future =	243.9	mg/l
fully mixed concentration	C_{fm} =	$\frac{(Ceff)(Qeff)+(Qback)(Cback)}{(Qeff+Qback)}$	
final effluent BOD conc.	C_{eff} =	25	mg/l

(assumed figure based on secondary treatment with no specific phosphorus removal in place)

Flow from WWTW in future	Q_{eff} =	861	m^3/day
Q95 of river (Hydra/AutoCAD)	Q_{back} =	388800	m^3/day
BOD conc. of river u/s (from EPA)	C_{back} =	1.00	mg/l

Therefore:

BOD concentration downstream	C_{fm} =	1.053	mg/l

With BOD removal:

final effluent BOD conc.	C_{eff} =	25	mg/l
BOD concentration downstream	C_{fm} =	1.053	mg/l
Total BOD removal =	C =	186.07	kg/day

o

BANDON RIVER

SS Removal

Q95 of river (Hydra/AutoCAD)	Q95 =	4.5	m^3/s
Population (Design Report)	future =	3500	
SS (70g P/day/pe)	future =	245000	
Flow (225L/day/pe)	future =	630.0	m^3/day
Influent concentration of SS	future =	388.9	mg/l
fully mixed concentration	C_{fm} =	$\frac{(Ceff)(Qeff)+(Qback)(Cback)}{(Qeff+Qback)}$	
final effluent SS conc.	C_{eff} =	35	mg/l

(assumed figure based on secondary treatment with no specific phosphorus removal in place)

Flow from WWTW in future	Q_{eff} =	630	m^3/day
Q95 of river (Hydra/AutoCAD)	Q_{back} =	388800	m^3/day
SS conc. of river u/s (from EPA)	C_{back} =	0	mg/l

Therefore:

SS concentration downstream	C_{fm} =	0.057	mg/l

With SS removal:

final effluent SS conc.	C_{eff} =	35	mg/l
SS concentration downstream	C_{fm} =	0.057	mg/l
Total SS removal =	C =	1,238.61	kg/day

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
ABS01	Bandon	4,000 m3/d	SW01	26,314	E144127	N054640	N

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).

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.

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.

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.

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 : Declan Groarke
(on behalf of the organisation)

Date : 18/9/08

Print signature name: DECLAN GROARKE

Position in organisation: SENIOR EXECUTIVE ENGINEER

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).

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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.

Application Form Attachments
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