



Cork County Council

Wastewater Discharge Licence Application under S.I. 684 of 2007
Regulations

Scheme / Agglomeration Name : Ringaskiddy/Carrigaline

Submission Date : 14th December 2007

Location - Ringaskiddy

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Waste Water Discharge Licence Application Form

EPA Ref. N^o:

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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.

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**

1. Description of Carrigaline and Crosshaven Agglomeration

The agglomeration, for which this application is sought, comprises a number of distinct areas linked by one sewer collection system. The agglomeration is made up of the village of Crosshaven, the town of Carrigaline, the village of Shanbally and also includes treated trade effluent from a number of industries in the Ringaskiddy area.

Wastewater collected in Crosshaven is pumped to the sewerage system in Carrigaline.

All wastewater collected in Carrigaline [including Crosshaven] is pumped through the Coolmore Pumping Station at Church road, Carrigaline to a trunk sewer at Raheens, where it flows by gravity to the discharge point in Lower Cork Harbour. An underwater outfall pipe discharges approximately 2.6km from the shore at a depth of approximately 30 below sea level.

There is also a small collection system and pumping station in Shanbally village which conveys effluent to the trunk sewer.

A number of industrial plants also discharge treated effluent into this sewer before discharge.

1.1. Crosshaven.

Crosshaven is located at the mouth of the Owenboy River estuary and the lower reaches of Cork Harbour. It has a population of 1,669 [Census 2006]. Prior to the recent Crosshaven Sewerage Scheme being constructed, no effluent treatment was provided in the area, resulting in several main outfalls as well as an additional 30 minor outfalls discharging untreated sewage to the Owenboy River. In order to tackle this problem Cork County Council have constructed interception sewers and pumping facilities which connect Crosshaven to the Carrigaline sewer network system at Kilnaglery bridge.

1.1.1. Pumping Station 1 at The Square, Crosshaven PS1

All incoming flows from east of Crosshaven village gravitate to PS1 at The Square and are pumped forward to an existing sewer manhole. There is a gravitational flow from this point to Pumping Station 2 at The Glen. Storm holding facilities are incorporated in the design of pumping station PS1, with storm pumps to cater for excess flows.

1.1.2. Pumping Station 2 at The Glen, Crosshaven. PS2

Flows from the catchment west of Crosshaven village and from PS1 are connected to PS2 by gravity sewers. Wastewater is pumped through twin rising mains from PS2 to Kilnaglery Bridge in Carrigaline where it enters a gravity sewer and flows to Coolmore Pumping Station.

Storm holding facilities are incorporated in the design of the pumping station, with a high level emergency overflow. Screens are in place prior to overflow. No overflow events have been experienced since the pumping station was commissioned.

1.2. Carrigaline

The town of Carrigaline is situated approximately 12km from Cork City at the eastern end of the Owenboy River and covers an area of approximately 375 ha. The

WASTE Application Form

current population according to Census 2006 is 12,835. The town has experienced rapid growth over the last fifteen years due to its proximity to Cork City and Ringaskiddy, which are the main centres of employment.

The existing collection basically comprises a northern interceptor sewer and a southern interceptor sewer, running east on both sides of the Owenboy river to the main pumping station at Church Road viz. 'Coolmore Pumping Station'. The northern interceptor sewer collects wastewater from north of the Owenboy river.

The southern interceptor conveys wastewater from the southern side of the river and crosses the estuary to join the northern interceptor sewer approximately 1.3 km east of Carrigaline Bridge. This sewer then enters the Coolmore Pumping Station at Church Road.

There are two smaller pumping stations in Carrigaline which pump central low lying catchments on both sides of the Owenboy river into the interceptor sewers i.e. Old Waterpark SPS on the northern side and Crosshaven road SPS on the southern side.

All wastewater from Carrigaline and Crosshaven is pumped from the Coolmore pumping station via twin rising mains to the main gravity sewer serving the IDA industrial lands at Ringaskiddy ['IDA sewer'].

1.2.1. Old Waterpark Pumping Station

The Old Waterpark Pumping Station has 2 Duty/standby foul pumps and 2 Duty/standby storm pumps and a 70 m³ storm holding tank. The pumping station is intended to operate so that influent flows in excess of the capacity of the foul pumps, would overflow into the storm holding tank. A flap valve is incorporated in the holding tank to return stored effluent to the foul sump when the level in the foul sump returns to normal operating levels. An overflow from the storm holding tank discharges to the storm pump sump. During low tide any overflow would discharge directly to the river. At high tides the storm pumps are intended to lift the overflow to a header chamber above high tide level.

1.2.2. Crosshaven Road Pumping Station

The Crosshaven Road Pumping Station serves the south-central portion of the town. The pumping station pumps the incoming flow via a 200mm diameter rising main to a manhole on the southern interceptor sewer. The pumping station has a wet well/dry well arrangement with two foul pumps (1 duty, 1 standby). There is an emergency overflow from the wet well.

1.2.3. Coolmore Pumping Station

Coolmore Pumping Station is the main pumping station serving Carrigaline. It is located on the northern side of the Owenboy River on the eastern outskirts of the town. Flows entering the pumping station are pumped through twin 500 mm diameter rising mains to the main gravity foul sewer serving the I.D.A industrial estate at Ringaskiddy.

The pumping station is a wet well/dry well structure with a Comminutor chamber immediately upstream of the wet well. There are four foul pumps which operate as 2 duty and 2 standby.

1.3. Shanbally.

A pumping station at Shanbally conveys effluent from the village [PE 360] to a 225mm diameter sewer which gravitates to the 'I.D.A.' sewer. The pumping station consists of a duty/standby set of submersible pumps.

1.4. Ringaskiddy

Ringaskiddy is situated approximately 16km from Cork City, in the south-west of the Lower Harbour. Development of the Industrial Development Authority [IDA] land in the catchment, an area of approximately 400ha, has resulted in a number of pharmaceutical companies locating there. Discharges from industries in the area are governed by IPC licences issued by the EPA or licences issued by Cork County Council. Treated trade effluent from a number of industries in the area discharges into the common 'I.D.A.' trunk sewer which flows by gravity through the Ringaskiddy screening plant and discharges through a long sea outfall pipe in Cork Harbour. The screening plant was enclosed in a building in the late 1980s in order to eliminate odour problems.

The outfall pipe consists of a 1400 mm internal diameter continuously welded steel pipe with diffuser discharge. The outfall pipe discharges approximately 2.6km from the shore near the Dognose Bank at a depth of approximately 30 below sea level. There is also a flushing system to keep the outfall pipe clear. This consists of a flushing pump which extracts sea water and pumps it at a rate of 1200 litres per second into the trunk sewer upstream of the outfall. At present the flushing pump is operated for one hour each day at high tide thus pumping approximately 4320 m3 of sea water per day.

2. Sources of Emissions

Emissions from this agglomeration arise from two main sources:

Domestic Loading

-Existing Population

Non Domestic Loading

-Commercial

-Industrial

-Institutional

2.1. Domestic Loading/ Emissions.

The following Population figures are used to estimate the domestic loading:

Crosshaven: 1,669 [Census 2006]

Carrigaline: 12,835. [Census 2006]

Shanbally: 360 [estimated from house count].

Total Population for the Agglomeration: 14,864.

2.2. Non domestic loading/emissions.

Non Domestic Loading arises from discharges from industry.

A number of industries in the catchment are licensed to discharge effluent - either by the EPA or by Cork County Council.

The Population Equivalent [PE] of the licensed discharges is estimated to be 82,692

The Total PE of all current discharges is 97,556.

3. The Nature and Quantities of Foreseeable Emissions

It is expected that the domestic loading will increase with the further development of land zoned for housing and consequent increase in population in the agglomeration.

There is also potential for further industrial development in zoned land and consequent increase in non domestic emissions. As part of the Cork Harbour Main Drainage Scheme it is proposed to increase the discharge through the primary discharge [existing outfall pipe] by incorporating the sewerage schemes from Passage West, Monkstown, and Cobh areas. However, as a wastewater treatment plant is proposed, it is expected that overall BOD loadings will be reduced.

4. Environmental Impacts

There are no observed long term impacts associated with the discharges from this agglomeration. It is estimated that there is approximately 1,300 dilutions available in the receiving waters at the lowest tide level for the current average daily discharge flow for the primary discharge point.

McDonald Pettit, Consulting Engineers are preparing an Environmental Impact Statement for the proposed wastewater treatment plant. The Council hopes to submit the EIS to An Bord Pleanála before the end of 2007.

5. Proposed Technology and Other Techniques for Preventing or, Where This Is Not Possible, Reducing Emissions from the Waste Water Works.

Cork County Council recognises the need for improvement in the existing sewerage system and facilities. In 2000, Cork County Council appointed E G Pettit & Company to prepare a Preliminary Report for the Cork Lower Harbour Area which would make recommendations concerning the collection and treatment of wastewater from the population centres of Cobh, Passage West, Monkstown, Carrigaline and Ringaskiddy.

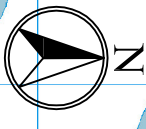
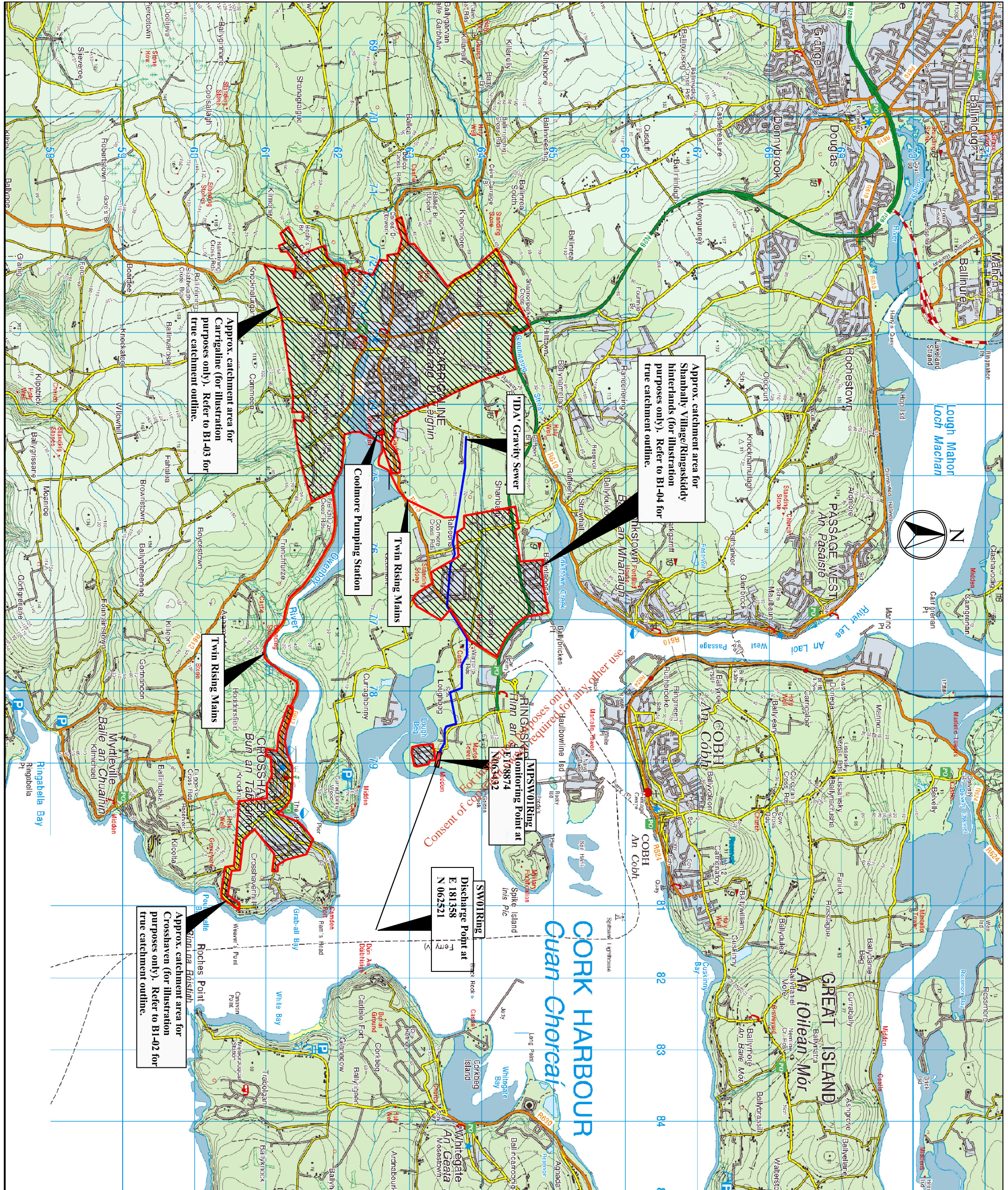
The central proposal of the Cork Harbour Main Drainage Scheme is to provide a Wastewater Treatment Plant to provide secondary treatment of all currently untreated wastewater arising in this agglomeration as well as wastewater from Ringaskiddy Village, Monkstown, Passage West and Cobh. It is proposed to discharge the treated effluent into the existing foul sewer to discharge through the existing long sea outfall pipe into Cork Lower Harbour. An advance contract of this scheme has already been put in place i.e. the collection and pumping of wastewater from Crosshaven to Carrigaline, which has eliminated a number of discharge points.

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

Some upgrading of existing pumping stations and screening is proposed. Nutrient removal is not being proposed as the receiving waters are not designated sensitive.

7. Measures planned to monitor emissions into the environment

The flow of the primary discharge is monitored. There is also a refrigerated composite sampler located at the outfall building.



Notes:

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Project:
EPA LICENCE APPLICATION
 Crosshaven - Carrigaline - Ringaskiddy

Title:
Section A1
Non-Technical Summary
Extent of Agglomeration

Designed:	Checked:	Scale:	Drawing No.
BOL	FW	1:50,000	01
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BOL	FW	08/11/07	