ATTACHMENT NO. B.7 (i)

LOCATION OF DISCHARGES LOCATED WITHIN SHANNON FREE AIRPORT DEVELOPMENT COMPANY AREA – NOT APPLICABLE

ATTACHMENT NO. B.7 (iii)

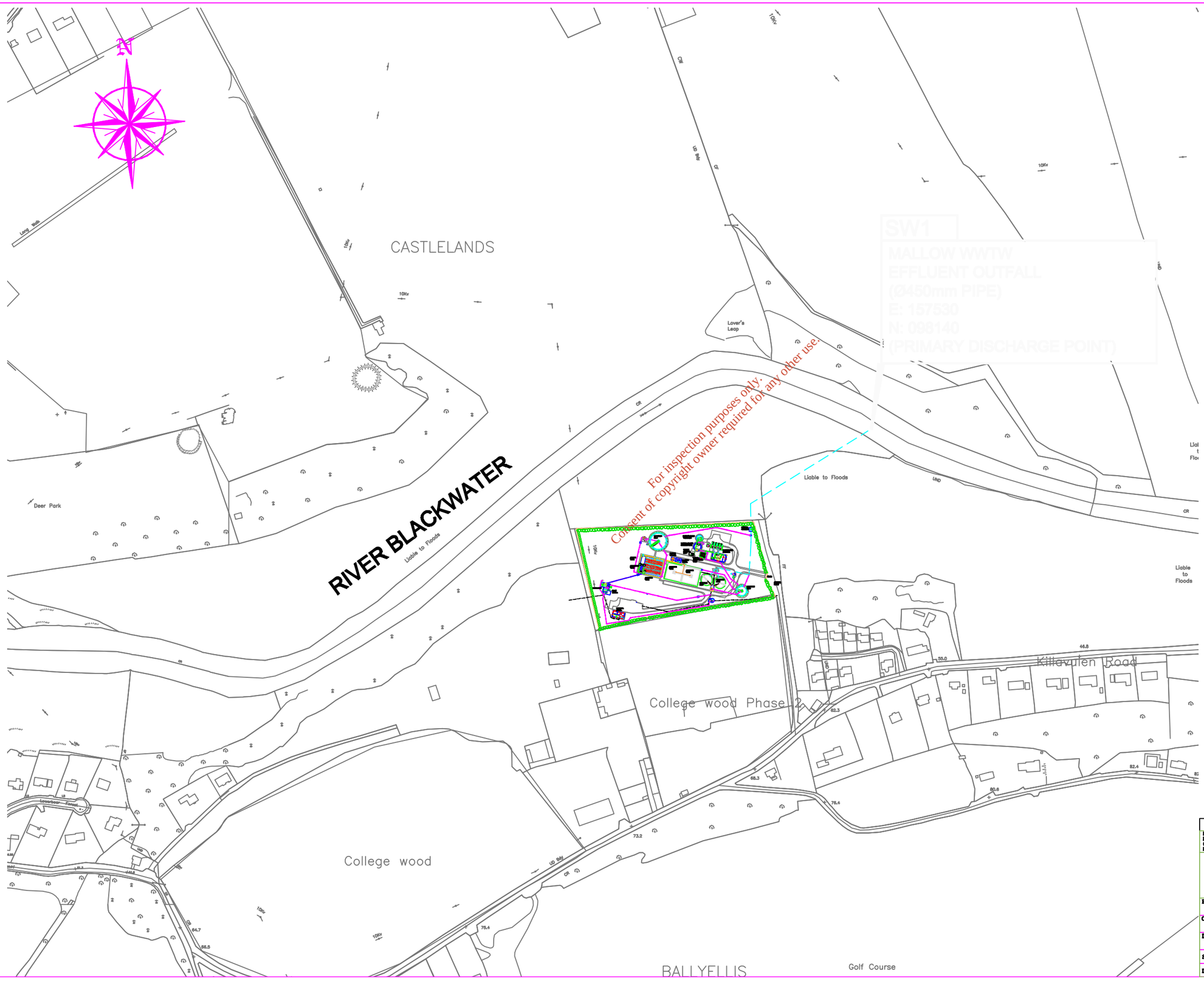
NOTICE ISSUED TO THE RELEVANT LOCAL AUTHORITY – NOT APPLICABLE

ATTACHMENT NO. B.8

COPY OF SITE NOTICE & DRAWING SHOWING ITS LOCATION

NEWSPAPER ADVERTISEMENT " THE IRISH EXAMINER" 30/11/2007

CLARIFICATION OF NEWSPAPER ADVERTISEMENT



	AMENDMENT DETAILS	DATE

T.J.O'CONNOR & ASSOCIATES
CONSULTING ENGINEERS
CORRIG HOUSE, CORRIG ROAD, SANDYFORD, DUBLIN 18.
Tel: 295 2321 Fax: 295 4541

PROJECT: MALLOW WWTW EPA – DISCHARGE LICENCE APPLICATION

CLIENT: CORK COUNTY COUNCIL

DRAWING TITLE: ATTACHMENT B.3–LOCATION OF PRIMARY DISCHARGE POINT

SCALE:	JOB NO:	DRAWING NO:
N.A.	2778	MALLOW 06
DATE: NOV'07 DRAWN BY: BE		

CORK COUNTY COUNCIL

SITE NOTICE

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Waste Water Discharge (Authorisation) Regulations 2007, S.I. No. 684 of 2007, Water Services, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for Mallow Waste Water Treatment Plant, Ballyellis, Mallow, at the following locations:

Plant Name	Location	National Grid Ref.
Mallow WWTP	Ballyellis, Mallow Townland of Ballyellis	E157318 N097988

Discharge	Function	Townland	Receptor	Locator
Primary	Main	Ballyellis	Blackwater	E157530 N98140
Secondary	Emergency	Bearforest Lower	Blackwater	Bearforest
Secondary	Emergency	Bearforest Lower	Blackwater	Summerhill
Secondary	Emergency	Spa Glen	Blackwater	Ballylough Cross
Secondary	Emergency	Ballydahin	Blackwater	Quartertown Road Railway Bridge
Secondary	Emergency	Lacknalooha	Blackwater	Lower Beecher Street
Secondary	Emergency	Castlelands	Blackwater	Davis St/Shambles Lane
Secondary	Emergency	Mallow	Blackwater	West End

It is intended to submit the Environmental Impact Statement associated with the recently completed upgrading of the Waste Water Treatment Plant to the Agency along with the Application.

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

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

and at

- **Cork County Council Offices, Annabella, Mallow, Co. Cork, Telephone: 022 21123 Fax: 022 21983.**

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

Clarification of Newspaper Advertisement

Plant Name	Location	National Grid Ref.
Mallow WWTP	**Ballyellis, Mallow Townland of Ballyellis**	**E157318 N097988**

Discharge	Function	Townland	Receptor	Locator	Refers to
Primary	Main	Ballyellis	Blackwater	E157530 N98140	**SW1 in Section B3**
Secondary	Emergency	Bearforest Lower	Blackwater	Bearforest	**SW2 in Section B4**
Secondary	Emergency	Bearforest Lower	Blackwater	Summerhill	**SW3 in Section B5**
Secondary	Emergency	Spa Glen	Blackwater	Ballylough Cross	**SW4 in Section B5**
Secondary	Emergency	Ballydahin	Blackwater	Quartertown Road Railway Bridge	**SW5 in Section B5**
Secondary	Emergency	Lackalooha	Blackwater	Lower Beecher Street	**SW6 in Section B5**
Secondary	Emergency	Castlelands	Blackwater	Davis St/Shambles Lane	**SW7 in Section B5**
Secondary	Emergency	Mallow	Blackwater	West End	**SW8 in Section B5**

Note: Please note SW9 in Section B5 was identified post the placing of newspaper advertisement on 30/11/2007.

Mallow,, Co.Cork.	existing concrete reservoir, site fencing and associated works

Mr. Tom Stritch, Director of Services, Annabella, Mallow, Co. Cork.
30th November 2007

ROADS

CORK NORTHERN RING ROAD SCHEME PART I
Public Exhibition – Preferred Route Corridor (Western Section – Part I)
December 2007

Cork County Council and Cork City Council, in consultation with the National Roads Authority, are holding a public exhibition for the above project to outline the preferred route corridor for the Western section of the scheme (Part I – N22 Ballincollig Bypass to N20 Cork to Mallow Road), which has been developed by the Cork National Roads Office in conjunction with the Scheme Consultants, Fehily Timoney Gifford/Fehily Timoney Ramboll.

To afford an opportunity for the public to be fully informed of the scale and extent of the preferred route corridor option chosen, you are invited to attend a Public Exhibition Session to be held at the following location:

DATE	TIME	VENUE
Wednesday 5th December 2007	2.00pm to 8.00pm	Kingsley Hotel, Victoria Cross

Cork County Council and Cork City Council are seeking the general co-operation and understanding of the public in relation to the advancement of the Scheme.

Road Traffic Act 2004
Road Works Speed Limits - Macroom

Notice is hereby given that, in exercise of the powers vested in them under Section 10 of the Road Traffic Act, 2004 and in the interests of road safety, Cork County Council has made a Road Works Speed Limit Order in respect of the following road:

- **L3402-Reananerree to Ballingeary Road**
  Extending the existing 50kph zone approximately 800m west.

This is to facilitate road improvement works. The Road Works Speed Limit shall be 50kph and will apply from 30th November 2007 to 26th August 2008 inclusive, or until such earlier dates as may be determined by Cork County Council.

Representations in this matter may be made in writing to Claire O'Neill, A/Staff Officer, Roads Department, Floor 5, County Hall, Cork.

Director of Services, South Cork Area Operations.

PUBLIC NOTICES

Cork County Council (Northern Division)

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Waste Water Discharge (Authorisation) Regulations 2007 SI No. 684 of 2007, Water Services Northern Division, of Cork County Council, Annabella, Mallow, Co. Cork is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for Mallow Waste Water Treatment Plant, Ballyellis, Mallow at the following locations:

Plant Name	Location	National Grid Ref.
Mallow WWTP	Ballyellis, Mallow Townland of Ballyellis	E157318 N097988

Discharge	Function	Townland	Receptor	Locator
Primary	Main	Ballyellis	Blackwater	E157530 N98140
Secondary	Emergency	Bearforest Lower	Blackwater	Bearforest
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Secondary	Emergency	Ballydahin	Blackwater	Quartertown Road Railway Bridge
Secondary	Emergency	Lacknalooha	Blackwater Street	Lower Beecher
Secondary	Emergency	Castlelands	Blackwater	Davis St/Shambles Lane
Secondary	Emergency	Mallow	Blackwater	West End

It is intended to submit the Environmental Impact Statement associated with the recently completed upgrading of the Waste Water Treatment Plant to the Agency along with the Application.
A copy of the application for the Waste Water Discharge Licence, the Environmental Impact Statement and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at:

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

Cork County Council Offices, Annabella, Mallow, Co. Cork, Telephone: 022 21123 Fax: 022 21983.

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

ATTACHMENT NO. B.10

DEVELOPMENT PROGRAMME INCLUDING COPIES OF APPROVED FUNDING.

Note: UPGRADING WORKS COMPLETED

AN ROINN COMHSHAOIL AGUS RIALTAIS ÁITIÚIL
DEPARTMENT OF THE ENVIRONMENT
AND LOCAL GOVERNMENT

8th July, 2004.

Ms. Mary Kelly,
Finance Department,
Cork County Council,
Annabella,
Mallow,
Co. Cork.

AN ROINN COMHSHAOIL
AGUS RIALTAIS ÁITIÚIL
DEPARTMENT OF
THE ENVIRONMENT AND
LOCAL GOVERNMENT
BLOC 1, URLÁR 2
FOIRGNIMH IRISH LIFE
SR. NA MAINISTREACH ÍOCHT.
BAILE ÁTHA CLIATH 1
BLOCK 1, FLOOR 2
IRISH LIFE CENTRE
LOWER ABBEY STREET
DUBLIN 1
Tel No: +353 1 888 2000
LoCall No: 1890 20 20 21
Fax No: +353 1 888 2687

Re: Mallow/Blarney/Fermoy Sewage Treatment Works Imp. Scheme (SLI).

A Chara,

I refer to your recent letter and enclosures in respect of the above scheme.

The Department has examined the Baseline Planning and Construction Costs outlined in the Form As for the works appropriate to the Exchequer element (i.e. "Other 43.74%") of the project and I am to convey approval to the budget outlined in the attached spreadsheet.

In accordance with Circular L11/01 recoupment by the Department will be limited to 60% of the approved costs, pending receipt and approval of a report on the application of the Polluter Pays Principle to this scheme.

Please note that the prior sanction of the Department is required if claiming payment for costs, which do not form part of the approved costs.

If you have any queries relating to the above, please contact the undersigned at (01) 888 2095.

Mise le meas,

Martina Gallagher

Martina Gallagher,
Water Services Section,
Environment Infrastructure and
Services Division.

H:\COMMON\WORDS\Martina\Cork & Wex Lets\Cork Let 2004\Crklet2004-CoCo.doc

Mallow/Blarney/Fermoy Sewage Treatment Works Imp. Scheme							
	Approved Cost	97.5% Approved Costs	Total Drawn to Date	Balance Outstanding	Payable	Date	Comment
1. Planning and Design Costs							
Preliminary Report	€0.00	n/a	€0.00	€0.00			
EIS	€43,740.00	n/a	€0.00	€43,740.00			
Contract Documents	€140,000.00	n/a	€0.00	€140,000.00			
Tender Preparation	€0.00	n/a	€0.00	€0.00			
Publicity & Advertising	€5,000.00	n/a	€0.00	€5,000.00			
Legal Expenses	€10,000.00	n/a	€0.00	€10,000.00			
Archaeological Costs	€0.00	n/a	€0.00	€0.00			
Licensing/Planning Application	€50,000.00	n/a	€0.00	€50,000.00			
Sub-total (1)	€248,740.00		€0.00	€248,740.00			
2. Construction Costs							
Contract 1 (Design/Build)	€4,414,572.00	€4,304,207.70	€220,728.00	€4,083,479.70			
Site Supervision							
Resident Engineer	€300,000.00	n/a	€0.00	€300,000.00			
Consultant (Supervision)	€100,000.00	n/a	€0.00	€100,000.00			
Project Management	€10,000.00	n/a	€0.00	€10,000.00			
Legal Expenses	€5,000.00	n/a	€0.00	€5,000.00			
Other (specify) - Polluter Pays Policy Reports	€15,000.00	n/a	€0.00	€15,000.00			
Sub-total (2)	€4,844,572.00	€4,304,207.70	€220,728.00	€4,513,479.70			
Overall total (1+2)	€5,093,312.00		€220,728.00				
Minus 2.5% Final Account (Contract Costs only)	€110,364.30						
Minus Polluter Pays Principle - 40%	€2,037,324.80						
Total Approved Grant	€2,945,622.90		€220,728.00	€2,724,894.90			
Latest claim 03/12/03							
Contract 1 - Total drawn to date includes 5% contract signing							

Cork

Water Services Investment Programme 2004 - 2006

Schemes at Construction	W/S	Est. Cost.
Cork Main Drainage (Treatment)	S	99,400,000
Cork Water Strategy Study	W	1,340,000
		100,740,000

Schemes to start 2004	W/S	Est. Cost.
Cobh/Midleton/Carrigtwohill Water Supply Scheme	W	9,650,000
Cork City (Tivoli) Water	W	2,000,000
Cork Lower Harbour Sewerage Scheme	S	70,000,000
Kinsale Sewerage Scheme	S	19,600,000
Little Island Sewerage Scheme	S	1,700,000
Midleton Sewerage Scheme (Nutrient Removal)	S	140,000
Mitchelstown Sewerage Scheme (Nutrient Removal)	S	210,000
		103,300,000

Schemes to start 2005	W/S	Est. Cost.
Ballincollig Sewerage Scheme (Nutrient Removal)	S	900,000
Ballyvourney/Ballymakeery Sewerage Scheme	S	2,900,000
Bandon Sewerage Scheme Stage II	S	14,000,000
Bantry Sewerage Scheme	S	6,800,000
Bantry Water Supply Scheme	W	14,250,000
Cork NW Regional Water Supply Scheme	W	5,750,000
Dunmanway Sewerage Scheme	S	2,050,000
Inniscarra Water Treatment Plant Extension Phase 1	W	2,550,000
Lee Road Waterworks	W	15,000,000
Mallow Sewerage Scheme	S	5,150,000
Mallow/Ballyviniter Regional Water Supply Scheme	W	8,250,000
Schull Water Supply Scheme	W	5,000,000
Shanakiel Rising Main Replacement	W	1,700,000
Skibbereen Sewerage Scheme	S	13,100,000
		97,400,000

Schemes to start 2006	W/S	Est. Cost.
Clonakilty Sewerage Scheme (Plant Capacity Increase)	S	3,500,000
Cork NE Water Supply Scheme	W	4,120,000
Courtmacsherry/Timoleague Sewerage Scheme	S	2,350,000
Dunmanway Regional Water Supply Scheme Stage 1	W	12,100,000
Leap Water Supply Scheme	W	3,500,000
Shanakiel Reservoir	W	4,400,000
Youghal Sewerage Scheme	S	13,700,000
		43,670,000

Schemes approved to complete planning	W/S	Est. Cost.
Ballingeary Sewerage Scheme	S	850,000
Ballydehob Sewerage Scheme	S	650,000
Baltimore Water Supply Scheme	W	2,450,000
Cork Sludge Management	S	13,700,000
Docklands Surface Water Drainage	S	5,000,000
Docklands Water Supply Scheme	W	5,100,000
Garrettstown Sewerage Scheme	S	2,050,000
Inniscarra (Sludge Treatment) Water	W	5,100,000
Millstreet Wastewater Treatment Plant Upgrading	S	1,550,000
Minane Bridge Water Supply Scheme	W	1,350,000
Roscarberry/Owenahincha Sewerage	S	1,500,000
Shannagarry/Garryvoe/Ballycotton Sewerage Scheme	S	3,600,000
		42,900,000

Serviced Land Initiative	W/S	Est. Cost.
Ballincollig, Barry's Rd Foul and Storm Drainage	S	1,109,300
Ballyclough Water	W	132,100
Ballyhooley Services Extension	W/S	132,100
Ballyviniter Water Stage 2	W	145,300
Belgooley Water and Sewerage	W/S	1,056,400
Blackrock Improvement in Services	S	158,100
Blarney Water Supply Extension to Station Rd	W	396,100
Bweeng Water	W	105,700
Carrigtwohill Sewage Treatment and Storm Drain	S	7,263,400
Castletownshend Sewerage Scheme	S	1,500,000
Churchtown Water/Sewerage	W/S	396,100
Clondulane Sewage Treatment Plant	S	198,100
Dripsey Water and Sewerage	W/S	1,056,500
Enniskeane Sewerage Scheme	S	438,500
Freemount Sewerage	S	132,100
Glounthane Sewerage Scheme	S	1,500,000
Innishannon Sewerage	S	264,100
Innishannon Sewerage Treatment Plant	S	660,300
Kerrypike Sewage Disposal	S	792,300
Kerrypike Water Supply Scheme	W	396,200
Kildorrery Storm Water Drainage	S	132,100
Killeagh Water and Sewerage	W/S	462,200
Kilnagleary Sewerage	S	660,300
Kinsale Water Supply -Commoge	W	88,400
Mallow/Fermoy/Blarney STW – Stormwater Tanks Capacity Increase	S	10,092,800
Mid Glanmire Road Improvement in Services	S	158,500
Mitchelstown (Brigown Road) Services	S	132,100
Newmarket Sewerage Scheme Improvement	S	79,200
Rathcormac Services Extension	W/S	528,200
Sally's Cross Sewerage	S	105,700
Shanballymore Sewerage	S	264,100
Uplands Fermoy Servicing of Lands	W/S	396,100
Watergrasshill Water and Sewerage	W/S	3,952,000
		34,884,400

Rural Towns & Villages Initiative	W/S	Est. Cost.
Ballylicky Sewerage Scheme	S	2,050,000
Baltimore Sewerage Scheme	S	3,650,000
Buttevant Sewerage Scheme	S	4,950,000
Castletownbere Sewerage Scheme	S	4,950,000
Doneraile Sewerage Scheme	S	2,480,000
Innishannon (Ballinadee/Ballinspittle/Garrettstown) Water Supply Scheme	W	6,400,000
Kilbrin Sewerage Scheme	S	1,410,000
Schull Sewerage Scheme	S	3,350,000
		29,240,000

Water Conservation Allocation		**25,235,000**
Existing Programme Total		**477,369,400**

Schemes Approved to Enter Planning	W/S	Est. Cost.
Ballincollig Sewerage Scheme Upgrade	S	21,200,000
Banteer/Dromahane Regional Water Supply	W	1,500,000
Bantry Regional Water Supply (Distribution) Scheme	W	9,000,000
Cape Clear Water Supply Scheme	W	1,600,000
Castletownbere Regional Water Supply Scheme	W	8,000,000
City Environs (CASP) Drainage Study	S	150,000
Cloghroe Sewerage Scheme Upgrade	S	650,000
Coachford Water Supply Scheme	W	1,250,000
Conna Regional Water Supply Scheme Extension	W	2,500,000
Drainage Telemetry/Monitoring System (Cork City)	S	800,000
Intermediate Level Reservoir Augmentation (Cork City)	W	5,000,000
Mitchelstown North (Galtees) Water Supply Scheme	W	3,000,000
Newmarket Sewerage Scheme	S	3,000,000
Skibbereen Regional Water Supply Scheme Stage 4	W	7,500,000
		65,150,000

Programme Total		**542,519,400**

ATTACHMENT NO. B.11

RELEVANT CORRESPONDENCE ISSUED IN RELATION TO A SECTION 63 NOTICE – NOT APPLICABLE

ATTACHMENT NO. B.12

NOT APPLICABLE

SECTION C
INFRASTRUCTURE & OPERATION

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.

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
	√	

ATTACHMENT NO. C.1

PLANT & PROCESS CAPACITY SYSTEMS
STORM WATER OVERFLOWS
EMERGENCY OVERFLOWS,ETC.

Pumping & Treatment Systems

ROADBRIDGE LTD
CIVIL ENGINEERING & BUILDING CONTRACTORS
Ballyclough, Ballyhahill, Co. Limerick.
Tel: 061 414 074 Fax: 061 414 767 E-mail: [illegible]

Mallow Waste Water Treatment Works

DRAFT

- Design Submission -

	E.P.S.	Roadbrigde	MCOS
Approved	Jim Palmer		
Reviewed	Lonan Lardner		
Date	31/01/2004		
Rev.	DRAFT		

Table of Contents

1 Introduction

E.P.S. intend to provide a Waste Water Treatment Plant designed in accordance with BATNEEC and the Urban Waste Water Directive 1994. The treated effluent would comply with the standards shown in the following table:

Parameter	Effluent Limit
BOD	25 mg/L
COD	125 mg/L
Suspended Solids	35 mg/L
Phosphate	2 mg/L
Ammonia	3 mg/L
Total Nitrogen	25 mg/L
Sludge	18% DS or greater

Table 1 – Effluent Limits discharge

2 Plant Description

This contract forms part of the Mallow Main Drainage Scheme. The new Wastewater Treatment Works has an ultimate design flow of 5250 m^3/d at Dry Weather Flow and 556.3m^3/h at FFT for a Population Equivalent of 18,000.

It is proposed to upgrade the existing treatment plant by introduction of a flow splitting arrangement after the wastewater passes through the new inlet works. 50% of the flow is diverted to the existing wastewater treatment stream. The remaining 50% is directed to a proposed new treatment stream.

Each stream has an aeration phase, a respective secondary settlement phase and return activated sludge phase. Sludge is wasted separately from each stream to a common sludge blend tank, common PFT and common dewatering plant.

Provision is made within the proposed stream for biological P and N removal using an anaerobic/anoxic process.

2.1 Inlet Works

3 No. pumps will be installed in the existing Pumping Station (2Duty/1Standby). Each pump will be capable of pumping 77L/s, with space allowed to add a 4th pump at a later date for phase2. Forward pumping rates will be controlled by VSD.

The maximum incoming flow to the inlet works is FFT (154L/s). The inlet works comprises of 2 No. Mechanical Screens, 1 No. Manual By-pass Screen, 1 No. Grit Removal 295L/s (MFW), provision is made for a boxed spare grit removal system.

Each of the two screens installed are capable of passing a hydraulic load of (147.5L/s) and the by-pass bar screen will handle the 295L/s.

The screens are supplied with a common screening tray with a water supply to clean and convey screenings into a disposal bin. The water supply is controlled via a solenoid valve.

All screens are washed, separated and deposited in skips for removal off site. Grit will be removed from the base of the unit and deposited into a Grit Classifier. The Grit classifier and washer are complete with enclosed screw delivery to the disposal bin.

Flows up to FFT receive full treatment. A splitter chamber which divides flows equally into 2 No. Biological Treatment streams i.e. 50% of the flow will go to the new treatment plant and the other 50% will go to the existing.

Offensive odours the inlet works are controlled by use of an air extraction system and the extracted air is passed through an odour treatment system.

2.2 Biological Treatment (Proposed Stream)

E.P.S. propose the A2/O Process for the combined removal of Phosphorous and Nitrogen by Biological methods.

Each stream (existing/new) is fed from a central splittor chamber) via adjustable weir and 200mØ pipework. Provision is made for flow measurement on both lines. Biological Treatment is compartmented in three cells: Anaerobic zone, Anoxic Zone and Aeration Tank.

The Anaerobic stage is designed as a plug flow system with three compartments with 1 No. Mixer per compartment to provide full mixing of the contents in each compartment and to maintain a velocity sufficient to prevent solids settlement.

The influent has a total retention time of one hour in the anaerobic zone at FFT. Activated sludge is recycled from clarifiers and mixed with the incoming influent at a rate of between 0.5 DWF and 1 DWF (VSD controlled). Influent passes to an anaerobic zone to accommodate the combined removal of Phosphorous and nitrogen from the system, where it is mixed with return activated sludge (30.4 L/s).

Influent passes to an anoxic zone to accommodate the removal of nitrogen from the system, where it is mixed with recirculated mixed liquor.

Aeration is by fine bubble diffused air through banks of diffusers installed on the bottom of the tank.

Each recirculation pump is capable of variable return flow of 0-30 L/s.

From the anoxic zone, the mixed liquor is passed through the aeration basin. The DO control span is operational at 0-2.5 mg/L.

Each aeration system comprises of a lattice of fine bubble air diffusers and supply networks mounted on the cell floor. Diffusers are arranged so that, with a minimum of 75% diffusers in use, they will maintain the cell contents at a dissolved oxygen level, which can be varied from 0-2.5 mg/l. Diffusers are capable of providing fine bubbles (0.5-3.0 mm. in diameter) with clog free domes capable of preventing inflow to pipe-work when not in operation.

DO probes incorporate self-cleaning mechanism, integrated electronics; handrail mounted tilting bracket and transmitter with local LCD indicator. The readings provided by dissolved oxygen meters are used to automatically control the modulating valves on the air delivery line to maintain preset dissolved oxygen set-points.

The air blowers for the new stream are capable of supplying 1,027Nm³/h (1846.4kg O_2/d) at 550 mbar of free air. Provision is made for 2 No. Blowers (Duty/Standby) positive displacement low pulse, tri-lobe rotary type incorporating high efficiency motors and low noise emission. The blower speed is controlled to maintain a constant preset air pressure in the air delivery header as air demand in the aeration basins varies. Acoustic control measures are in place to limit the operating noise to 85 dBA measured at 1 m distances for the blowers in free field conditions. Each blower includes a stainless steel wafer type non-return valve with stainless steel disc and metal seating.

From the Aeration Zone, submersible MLSS pumps, return mixed liquor to the Anoxic Zone. This MLSS volume is joined by returned settled activated sludge from the final settling tank in the anaerobic zone.

Sludge is wasted on a continuous basis, directly from the final settlement tank outlet by means of a submersible pump. Sludge age and MLSS is controlled directly within

the system by varying the output from the sludge pumps by the use of frequency invertors linked to a magnetic flow meter.

2.3 Biological Treatment (Existing Stream)

Influent is fed forward from the proposed flow splitter chamber.

Aeration is provided by 2 No. 18.5kW, fixed-bridge mounted vertical splindle surface aerators. Sludge recirculation pumps are capable of variable return flow of 0-20/s.

The D.O. control span is operational at 0-2.5mg/L. The D.O. probe incorporates a self-cleaning mechanism, integrated electronics, handrail-mounted tilting bracket and transmitter with local indicator.

MLSS flows forward to the settling tank by gravity. The existing settling tanks are sized adequately to accommodate 200m³ (5.55L/s) at an upward flow velocity of 0.75m³/m²/hr. Sludge settled in the clarifier flows to the existing RAS chamber from where it is returned back to the aeration basin. WAS pumps pump excess sludge to the common blend tank.

2.4 Secondary Settlement Tank

The effluent coming from the new aeration basin gravitates to 1 no. Secondary Settling Tank. The Settling tank is designed for a surface loading of 371 m³/m²/hr, (i.e. 0.75 m/s upward flow velocity) with a hydraulic loading of FFT and a side wall of 3.0 m. Tanks are equipped with a rotating half bridge sludge scraper, inlet scum and sludge draw- off pipework, "V" notch weir plate and baffle-plate and scum collector.

Sludge settled within the secondary clarifier is scraped by means of a bridge mounted scraper which deposits settled sludge into a central sludge hopper from where it is drawn by means of a gravity pipe to the return sludge sump located adjacent to the Settlement Tank. Flows to and from the settling basins are indicated

on the control panel in the Control building. The sludge return- pump then pumps the sludge at a rate of 1 DWF and thus returns settled sludge to the start of the process.

The proposed surplus sludge system consists of 2 No. Surplus sludge pumps (Duty/Standby). Surplus sludge is pumped into the Sludge Blend/Holding Tank. Provision is made for flow measurement to quantify surplus sludge removed. Each pump is controlled via AC adjustable frequency drives using set points derived from the metered flows. Transmitters are located on the main control panel in the Control Building.

The plant incorporates a Sludge Blend/Holding Tank that is adequately sized for the storage of all sludge within the plant. Imported sludge is delivered to site by road tankers @ 0.5% D.S. Imported sludge is passed through a sludge acceptance screen to the sludge acceptance sump, from here the imported sludge is pumped by duty/standby wet well pump to the blend tank where it is mixed with the indigenous sludge.

Excess sludge drawn off the Settlement Tanks is delivered to the Sludge Blend tank at 0.75% D.S. The blended product is pumped to the Picket Fence Thickener where it is thickened to 2% and then pumped to the sludge dewatering building where it is concentrated to 18% dry solids by Sludge Belt Press. The dewatered sludge is then taken off site by truck for disposal.

The supernatant form the PFT overflows by gravity to the adjacent waste return sump and then is pumped to the inlet works for recycle through the process.

2.5 Sludge Dewatering

Sludge dewatering equipment in the form of a Sludge Belt Press is installed to dewater thickened sludge. The sludge is drawn off the PFT at 2%. The sludge is conditioned by addition of a suitable polyelectrolyte followed by flocculation and dewatering. The final dewatered sludge cake has an minimum dry solid content of

18%, and is removed off site for disposal. The Belt Press is capable of dewatering 185 kg/h. The ancillary equipment consists of Polyelectrolyte dosing, Flocculation tank, Sludge transfer pumps and a Screw conveyor. We propose conducting a value engineering evaluation of all existing equipment prior to confirming use of new plant or refurbishment of existing plant for this application.

2.6 Final Effluent

Final effluent prior to discharge to an outfall is subject to outflow measurement and sampling. In Open Channel Flow Metering on the gravity flow common outlet main provides flow measurement. A composite flow proportional wastewater sampler provides sampling.

3 Process Design

3.1 Inlet Works

3.1.1 Inlet Pumps

3 No. Foul Pumps (2 Duty/1 Standby)

$$\text{FFT} = \frac{556.3\text{m}^3/\text{h}}{2 \text{ pumps}} = 77 \text{ L/s}$$

No. Required:	3 No. (2 Duty/1 Standby)
Flow Rate:	77 L/s
Solids Size:	100 mm

3.1.2 Inlet Screens

$$\text{MFW} = \frac{1062.5 \text{ m}^3/\text{h}}{2 \text{ Screen}} = 531.2 \text{ m}^3/\text{h} = 147.5 \text{ L/s each}$$

Type:	Self-cleaning Fine Screen
No. Required:	2 No. (Duty/Assist)
Flow Rate:	148L/s
Screenings Size:	6 mm

3.1.3 Grit Removal

$$\text{MFW} = \frac{1062.5 \text{ m}^3/\text{h}}{1 \text{ Grit Trap}} = 1{,}062.5 \text{ m}^3/\text{h} = 295\text{L/s}$$

Type:	Grit Removal
No. Required:	1 No.
Flow Rate:	295L/s

3.2 Biological Treatment (New Treatment – 50% Total Flow)

3.2.1 *Anaerobic Tank*

1 DWF	(218.7 m³/h)/(2 streams) = 109.3 m³/h
Recycle Ratio from Settlement Tank	1 DWF = 109.3 m³/h
Total Flow entering Anaerobic Zone	218.7 m3/h
Anaerobic Tank Volume	219 m³
Dimensions	5 m H x 4.5 m W x 9.72 L
Retention Time @ 2 DWF	1 h
Phosphorous Removal	3-5% P in wasted sludge
	70 - 90% P in Biological Treatment

3.2.2 *Anoxic Tank*

1 DWF	109.3 m³/h + 109.3 m³/h (anaerb) =218.7 m³/h
Recycle Ratio from AT	3 DWF = 328 m³/h
Total Flow entering Anoxic Zone	218.7 m³/h
Anoxic Tank Volume	219 m³
Retention Time @ DWF	1 h
Retention Time @ 3 DWF	40 min
Dimensions	5 m H x 4.5 m W x 9.72
Ammonia-Nitrogen Removal	5% N in wasted sludge
	95% N - Biological Treatment

NH4-N influent + 20%	77.7 kg N/d
NH4-N effluent	2 kg N/d
BOD + 20%	648 kg BOD/d
BOD remaining	648 kg – 25 kg BOD (eff) = 623 kg/d
Sludge Yield	436 kg SAS/d
Nitrogen Removed by wasted sludge	21.8 Kg N
Total NO_3-N for nitrification	53.9 kg NO_3-N

3.2.3 *Aeration Tank for New Treatment Stream*

BOD Load + 20%	648 kg BOD/d
[MLSS]	3500 mg/L
F/M ratio	0.1 kg BOD/kg MLSS
Aeration Tank Volume	1851 m^3
Dimensions	5.3 m H x 19 m W x 19.5L
Retention Time @ 1 DWF	17hr
Saturation factor O_2	1.2
Assumed oxygen-transfer correction factor (α)	0.6
Assumed salinity-surface tension correction factor (β)	0.8
Oxygen Requirement	(648kg BOD x 1.2)/(0.6 x 0.8) = 1620 kg O_2/d
Total NO_3-N for nitrification	53.9 kg NO_3-N
Kg O_2 required per kg NO_3-N	4.2 kg O_2/kg NO_3-N
Oxygen Requirement for nitrification	226.4 kg O_2/d
Total Aeration Requirement	1846.4 kg O_2/d 77 kg O_2/d
Water Depth in the Aeration Tank	5.0 m
Assumed kg O_2/Nm^3. msd	0.015 kg O_2/Nm^3. msd (77 kg O_2/h)/(0.015 x 4 m) = 1027 Nm^3/h @ 570mbar
Benefit from denitrification	226 kg BOD/d

BOD load +20%	648kg BOD/d
MLSS	3,500mg/L
F/M Ratio	0.07kgBOD/kgMLSS
Effective Aeration Tank Volume	2,700m^3
Dimensions	37.86 x 18.93 x 3.77
Retention Time @ 1 DWF	29hrs
Saturation Factor	1.2
Assumed Oxygen-Transfer Correction Factor (α)	0.6
Assumed Gravity-surface Tension Correction Factor (β)	0.8

3.2.4 *Aeration Tank for Existing Stream*

Biogloical Oxygen Requirement	(648kgBOD x 1.2)/(0.6 x 0.8) = 1,620kgO_2/day
Total NO_3 – N for Nitrification	53.9kg NO_3-N
KgO_2 required per kg NO_3-N	4.2gO_2/kg NO_3-N
Oxygen Requirement for Nitrification	226.4gO_2/day
Total Oxygen Requirement	(16,20 + 226.4) = 1,846.4kgO_2/hr
Water Depth in Aeration Tank	3.77m
Existing Aeration Equipment	2 No. 18.5kW surface aerators
Oxygen input at full immersion	2kgO_2/kW input/hr assumed
Total Aeration Capacity	1,776 kg/day
Benefit from nitrification = (BOD : N_{03}-N – 1: 2.9)	53.9 x 2.9 = 156.31kgBOD/day

3.2.5 *RAS/WAS Pumps (Proposed Stream)*

RAS required to Anaerobic	0 – 20 L/s (0 – 1 DWF)
Internal Recycle to Anoxic Tank	0 – 60 L/s (0 – 3 DWF)
Estimated Was produced	907kg DS/d
@ 0.75% and ρ = 1000	113m³/d

RAS Pumps

No. Required:	2 No. (Duty/Standby)
Flow Rate:	30 L/s
Pump Type:	VSD Submersible Pump

WAS Pumps

No. Required:	2 No. (Duty/Standby)
Flow Rate:	6 L/s
Pump Type:	Fixed speed

3.3 Chemical Treatment/Polishing

Phosphorous exists in three main forms in wastewater; ortho-phosphate, polyphosphate and organic phosphate. During aerobic treatment, the later two forms are converted to ortho-phosphate, which is the easiest form to precipitate using chemical addition.

E.P.S. propose to remove phosphorous using chemical dosing of Ferric Sulphate. The Chemical Dosing location for the chemical precipitation of phosphorous is proposed at the aeration tank i.e. simultaneous precipitation, because polyphosphates and organic phosphorous are less easily removed than orthophosphorus. Adding Iron salts after secondary treatment (where organic phosphorus and polyphosphorus are transformed into orthophosphorus) results in the best removal.

3.3.1 *New Treatment Stream*

Flow	(5,250 m³ /2 streams)= 2,625 m³/d
Phosphorous Influent + 20%	(56.2 kg P /2streams) = 28.1 kg P/d
P Removed by A²/O Process	70-90% P Removal
P Removed by Wasted Sludge	3-5% P Removal
Phosphorous remaining	7 – 1.3 kg P/d
Phosphorous Effluent Limit	1 mg/L = 2.6 kg P/d
Chemical Treatment/Polishing	0 – 34.5 L/d
1 month storage + 20%	1.15 m³/month

3.3.2 *Existing Treatment Stream*

Phosphorous Influent + 20%	28.1 kg P/d
P Removed by Conventional Process	10 - 25% P Removal
Phosphorous remaining	22.9 – 19.1 kg P/d
Phosphorous Effluent Limit	1 mg/L = 2.6 kg P/d
Chemical Treatment/Polishing	156.6 - 127 L/d of Ferric Solution
1 month storage + 20%	5.3 m³/month

Total storage to be provided for both streams is 7m³. We recognise the specification calls for separate storage for each stream, however, we concur that from a safety point of view, we propose combining storage with separate dosing arrangements for each stream.

3.4 Secondary Settlement Tank (New Treatment Stream – 50% Total Flow)

No. Settlement Tank	1
3 DWF	278.1 m^3/h
Up-flow velocity	0.75 m/s
Surface area	371 m^2
Volume	834.5 m^3
Dimensions	∅ 20.2m x 3 m (0.4m FB)
Retention Time @ 4 DWF	2.25hrs

3.4.1 Settlement Tank (Existing Stream

No. of existing stream @ 3 DWF x 0.5	265m^3/hr
No. of existing settlement tanks	2
Dimensions	13mØ x 2m
Capacity of each at 0.75$m^3/m^2/hr$	100m^3/hr each
Additional settlement area required @ 0.75$m^3/m^2/hr$ = 65/0.75	90m^2

1 No. Additional 12.0mØ x 2.5m clarifier will suffice.

3.4.1 Residence Time for Existing Settlement Tank

Volume	190m^3
Throughput @ 3DWF	100m^3/hr (each)
Residence Time	2.65hrs (each

3.4.2 *Residence Time for Additional Clarifier to Serve Existing Stream*

Volume	190m³
Throughput @ 3DWF	6m³/hr
Residence Time	2.92hrs

3.5 Sludge Blend/Holding Tank

3.5.1 *Indigenous Sludge*

BOD load +20%	1,296 kg
Kg D.S./kg BOD	0.7
Sludge yield	907.2kg
@ 0.75%	(907.2 kg x 100)/0.75= 1,210kg/m³
V = (m/ρ)	1,210/1000 = 121 m³/d

Note: ρ is assumed at 1,000kg/m³

3.5.2 *Imported Sludge*

Maximum imported per day	350 kg sludge/day
@ 0.5%	(350 kg x 100%)/0.5% = 70,000 kg/m³
v = (m/ρ)	62m³/day
Maximum volume of sludge to be accommodated per day	121 + 62 = 183m³/day
Average % solids	(121 m³ @ 0.75%) + (62 @ 0.5%) = 0.183m³ @ 0.66%
Volume of blend tank	251.4m³
Volume of sludge acceptance tank	45 m³
Cumulative storage capacity	296.4m³
Retention time available	39hrs

3.6 Sludge Picket Fence Thickener

Maximum volume pumped forward from sludge blend tank: 183 m³ @ 0.66% total solids per day.

Target % solids for sludge exiting PFT: 2.1%

PFT dewatering capability over 24 hours:

Feed: 183 m³ @ 0.66%

Increasing % D.S. to 1.32% reduces sludge volume to 91.5m³

Increasing % D.S. to 2.0% reduces sludge volume to 68.62m³

The PFT has a volumetric capacity of 192 m³

Feed: 183m³

Retention time: 24hr

Dimensions: 6.5mØ x 4m(H) (300mm free board)

Return liquors to head of work: 183 – 68.62 = 114.38m³/day

3.7 Belt Press

Maximum feed per day from PFT: 68.62m³ @ 2.0% D.S.

68.62m³	=	mass
Mass Dry solids	=	1,223kg/day
Design loading for belt press	=	185kg/hr
No. required	=	2
Expected feed solids concentration	=	2%
Hydraulic loading	=	9.2 m³/hr
Sludge cake concentration	=	18% D.S. minimum
Polelectrolyte consumption	=	5 – 7g/kg D.S.
Wash water consumption	=	11 m³/hr
Air consumption	=	0.7 Nm³/hr
Return liquors to head of works	=	(68.62 – 7.7) = 60.92m³/day

3.8 Polymer Preparation and Make-Up Unit

Polymer requirement: 0.5 – 0.7g/kg dry solids

Dry solids loading: 1,223 x 0.7 – 856g/day polyelectrolyte required

The unit offered has a capacity of 1.0kg polymer @ 0.5% concentration per day

ATTACHMENT NO. C.2

DESIGN AND CONSTRUCTION OF DISCHARGE OUTFALLS

NO INFORMATION AVAILABLE

SECTION D
DISCHARGES TO THE AQUATIC ENVIRONMENT

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.

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) 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. 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) of Annex 1 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.

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

Attachment included	Yes	No
	X	

D.2 Tabular Data on Discharge Points

Applicants should submit the following information for each discharge point:

Table D.2:

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

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.

Attachment included	Yes	No
	X	

ATTACHMENT NO. D.1

Cork County Council

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

Section D : Attachment D
D.1 (i) a,b,c
D.1 (ii) a,b,c
D.1 (iii) a

TABLE D.1(i)(b): EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of the emission (Primary Discharge Point)

Discharge Point Code: SW 1 – MALLOW

Number	Substance	As discharged	
		Max. daily average	
1	pH	7.41	
2	Temperature	*	
3	Electrical Conductivity(@25°C)	532	
		Max. daily average (mg/l)	**kg/day**
4	Suspended Solids	16.7	62.1
5	Ammonia (as N)	0.1	0.37
6	Biochemical Oxygen Demand	3.9	14.6
7	Chemical Oxygen Demand	26.5	98.5
8	Total Nitrogen (as N)	17.0	63.2
9	Nitrite (as N)	*	*
10	Nitrate (as N)	1.24	4.6
11	Total Phosphorus (as P)	2.2	8.05
12	Orthophosphate (as P)[Note 1]	2.61	9.7
13	Sulphate (SO_4)	132.4	491.8
14	Phenols (sum) [Note 2] (ug/l)	<0.01	<0.00037

Note 1: For waste water samples this monitoring should be undertaken on a sample filtered on 0.45µm filter paper.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE D.1(i)(c): DANGEROUS SUBSTANCE EMISSIONS TO SURFACE/GROUND WATERS

Primary Discharge Point - Characteristics of the emission

Discharge Point Code: SW 1 - MALLOW

Number	Substance	As discharged		
		Max. daily average (µg/l)	kg/day	kg/year
1	Atrazine	<0.01	<0.00004	<0.015
2	Dichloromethane	<1	<0.0037	<1.36
3	Simazine	<0.01	<0.00004	<0.015
4	Toluene	<0.01	<0.00004	<0.015
5	Tributyltin	*	*	*
6	Xylenes	<1	<0.0037	<1.36
7	Arsenic	5	0.019	6.94
8	Chromium	<20	<0.074	<27.0
9	Copper	<20	<0.074	<27.0
10	Cyanide	18	0.67	244.6
11	Fluoride	0.33	1.23	448.95
12	Lead	<20	<0.074	<27.0
13	Nickel	<20	<0.074	<27.0
14	Zinc	41	0.152	55.5
15	Boron	<20	<0.074	<27.0
16	Cadmium	<20	<0.074	<27.0
17	Mercury	<0.2	<0.0007	0.256
18	Selenium	14	0.052	18.98
19	Barium	<20	<0.074	<27.0

TABLE D.1(ii)(a): EMISSIONS TO SURFACE/GROUND WATERS
(Secondary Discharge Point) (1 table per discharge point)

Discharge Point Code: SW 2 - MALLOW

Source of Emission:	Pumping Station
Location:	Bearforest Lower, Townland of Bearforest
Grid Ref. (12 digit, 6E, 6N):	E : 156245 N : 097959
Name of receiving waters:	River Blackwater
River Basin District:	South Western River Basin District
Designation of receiving waters:	SAC SPA NHA & Sensitive Waters (Under UWWD) Salmonid
Flow rate in receiving waters:	Not Available $m^3.sec^{-1}$ Dry Weather Flow Not Available $m^3.sec^{-1}$ 95%ile flow

Emission Details:

(i) Volume emitted			
Normal/day	Not Available m^3	Maximum/day	Not Available m^3
Maximum rate/hour	Not Available m^3	Period of emission (avg)	N/A min/hr N/A hr/day N/A day/yr
Dry Weather Flow	Not Available m^3/sec		

TABLE D.1(ii)(b): EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of the emission (1 table per discharge point)
(Secondary Discharge Point)

Discharge Point Code: SW 2 - MALLOW

Number	Substance	As discharged	
		Max. daily average	
1	pH	*	
2	Temperature	*	
3	Electrical Conductivity (@25°C)	*	
		Max. daily average (mg/l)	**kg/day**
4	Suspended Solids	*	*
5	Ammonia (as N)	*	*
6	Biochemical Oxygen Demand	*	*
7	Chemical Oxygen Demand	*	*
8	Total Nitrogen (as N)	*	*
9	Nitrite (as N)	*	*
10	Nitrate (as N)	*	*
11	Total Phosphorus (as P) Note 1	*	*
12	Orthophosphate (as P)	*	*
13	Sulphate (SO_4)	*	*
14	Phenols (sum) Note 2 (ug/l)	*	*

Note 1: For waste water samples this monitoring should be undertaken on a sample filtered on 0.45µm filter paper.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE D.1(ii)(c): DANGEROUS SUBSTANCE EMISSIONS TO SURFACE/GROUND WATERS

Secondary Discharge Point - Characteristics of the emission (1 table per discharge point)

Discharge Point Code: SW 2 – MALLOW

Number	Substance	As discharged		
		Max. daily average (µg/l)	kg/day	kg/year
1	Atrazine	*	*	*
2	Dichloromethane	*	*	*
3	Simazine	*	*	*
4	Toluene	*	*	*
5	Tributyltin	*	*	*
6	Xylenes	*	*	*
7	Arsenic	*	*	*
8	Chromium	*	*	*
9	Copper	*	*	*
10	Cyanide	*	*	*
11	Fluoride	*	*	*
12	Lead	*	*	*
13	Nickel	*	*	*
14	Zinc	*	*	*
15	Boron	*	*	*
16	Cadmium	*	*	*
17	Mercury	*	*	*
18	Selenium	*	*	*
19	Barium	*	*	*

TABLE D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS
(Storm Water Overflow) (1 table per discharge point)

Discharge Point Code: SW 2 - MALLOW

Source of Emission:	Pumping Station
Location:	Bearforest Lower, Townland of Summerhill
Grid Ref. (12 digit, 6E, 6N):	E : 156245 N : 097959
Name of receiving waters:	River Blackwater
River Basin District:	South Western River Basin District
Designation of receiving waters:	SAC SPA NHA & Sensitive Waters (Under UWWD) Salmonid
Flow rate in receiving waters:	Not Available $m^3.sec^{-1}$ Dry Weather Flow Not Available $m^3.sec^{-1}$ 95%ile flow

Emission Details:

(i) Volume emitted .			
Normal/day	Not Available m^3	Maximum/day	Not Available m^3
Maximum rate/hour	Not Available m^3	Period of emission (avg)	N/A min/hr N/A hr/day N/A day/yr

TABLE D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS
(Storm Water Overflow) (1 table per discharge point)

Discharge Point Code: SW 3 – MALLOW

Source of Emission:	Combined Storm Water Overflow
Location:	Summerhill, Bearforest Lower
Grid Ref. (12 digit, 6E, 6N):	E : 156251 N : 097599
Name of receiving waters:	River Blackwater
River Basin District:	South Western River Basin District
Designation of receiving waters:	SAC SPA NHA & Sensitive Waters (Under UWWD) Salmonid
Flow rate in receiving waters:	Not Available $m^3.sec^{-1}$ Dry Weather Flow Not Available $m^3.sec^{-1}$ 95%ile flow

Emission Details:

(i) Volume emitted			
Normal/day	Not Available m^3	Maximum/day	Not Available m^3
Maximum rate/hour	Not Available m^3	Period of emission (avg)	N/A min/hr N/A hr/day N/A day/yr

TABLE D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS
(Storm Water Overflow) (1 table per discharge point)

Discharge Point Code: SW 4 - MALLOW

Source of Emission:	Combined Storm Water Overflow
Location:	Ballylough Cross, Townland of Spa Glen
Grid Ref. (12 digit, 6E, 6N):	E : 156440 N : 099586
Name of receiving waters:	River Blackwater
River Basin District:	South Western River Basin District
Designation of receiving waters:	SAC SPA NHA & Sensitive Waters (Under UWWD) Salmonid
Flow rate in receiving waters:	Not Available $m^3.sec^{-1}$ Dry Weather Flow Not Available $m^3.sec^{-1}$ 95%ile flow

Emission Details:

(i) Volume emitted			
Normal/day	Not Available m^3	Maximum/day	Not Available m^3
Maximum rate/hour	Not Available m^3	Period of emission (avg)	N/A min/hr N/A hr/day N/A day/yr

TABLE D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS
(Storm Water Overflow) (1 table per discharge point)

Discharge Point Code: SW 5 - MALLOW

Source of Emission:	Combined Storm Water Overflow
Location:	Quartertown Railway Bridge, Townland of Ballydahin
Grid Ref. (12 digit, 6E, 6N):	E : 155076 N : 097856
Name of receiving waters:	River Blackwater
River Basin District:	South Western River Basin District
Designation of receiving waters:	SAC SPA NHA & Sensitive Waters (Under UWWD) Salmonid
Flow rate in receiving waters:	Not Available $m^3.sec^{-1}$ Dry Weather Flow Not Available $m^3.sec^{-1}$ 95%ile flow

Emission Details:

(i) Volume emitted			
Normal/day	Not Available m^3	Maximum/day	Not Available m^3
Maximum rate/hour	Not Available m^3	Period of emission (avg)	N/A min/hr N/A hr/day N/A day/yr

TABLE D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS
(Storm Water Overflow) (1 table per discharge point)

Discharge Point Code: SW 6 – MALLOW

Source of Emission:	Combined Storm Water Overflow
Location:	Lower Beecher Street, Townland of Lacknalooha
Grid Ref. (12 digit, 6E, 6N):	E : 155487 N : 098937
Name of receiving waters:	River Blackwater
River Basin District:	South Western River Basin District
Designation of receiving waters:	SAC SPA NHA & Sensitive Waters (Under UWWD) Salmonid
Flow rate in receiving waters:	Not Available $m^3.sec^{-1}$ Dry Weather Flow Not Available $m^3.sec^{-1}$ 95%ile flow

Emission Details:

(i) Volume emitted			
Normal/day	Not Available m^3	Maximum/day	Not Available m^3
Maximum rate/hour	Not Available m^3	Period of emission (avg)	N/A min/hr N/A hr/day N/A day/yr

TABLE D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS
(Storm Water Overflow) (1 table per discharge point)

Discharge Point Code: SW 7 - MALLOW

Source of Emission:	Combined Storm Water Overflow
Location:	Davis Street / Shambles Lane, Townland of Castlelands
Grid Ref. (12 digit, 6E, 6N):	E : 156229 N : 097992
Name of receiving waters:	River Blackwater
River Basin District:	South Western River Basin District
Designation of receiving waters:	SAC SPA NHA & Sensitive Waters (Under UWWD) Salmonid
Flow rate in receiving waters:	Not Available $m^3.sec^{-1}$ Dry Weather Flow Not Available $m^3.sec^{-1}$ 95%ile flow

Emission Details:

(i) Volume emitted			
Normal/day	Not Available m^3	Maximum/day	Not Available m^3
Maximum rate/hour	Not Available m^3	Period of emission (avg)	N/A min/hr N/A hr/day N/A day/yr

TABLE D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS
(Storm Water Overflow) (1 table per discharge point)

Discharge Point Code: SW 8 - MALLOW

Source of Emission:	Combined Storm Water Overflow
Location:	West End, Townland of Mallow
Grid Ref. (12 digit, 6E, 6N):	E : 155530 N : 098572
Name of receiving waters:	River Blackwater
River Basin District:	South Western River Basin District
Designation of receiving waters:	SAC SPA NHA & Sensitive Waters (Under UWWD) Salmonid
Flow rate in receiving waters:	Not Available $m^3.sec^{-1}$ Dry Weather Flow Not Available $m^3.sec^{-1}$ 95%ile flow

Emission Details:

(i) Volume emitted			
Normal/day	Not Available m^3	Maximum/day	Not Available m^3
Maximum rate/hour	Not Available m^3	Period of emission (avg)	N/A min/hr N/A hr/day N/A day/yr

TABLE D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS
(Storm Water Overflow) (1 table per discharge point)

Discharge Point Code: SW 9 - MALLOW

Source of Emission:	Combined Storm Water Overflow
Location:	Ballydahin, Townland of Ballydahin
Grid Ref. (12 digit, 6E, 6N):	E : 156023 N : 098019
Name of receiving waters:	River Blackwater
River Basin District:	South Western River Basin District
Designation of receiving waters:	SAC SPA NHA & Sensitive Waters (Under UWWD) Salmonid
Flow rate in receiving waters:	Not Available $m^3.sec^{-1}$ Dry Weather Flow Not Available $m^3.sec^{-1}$ 95%ile flow

Emission Details:

(i) Volume emitted			
Normal/day	Not Available m^3	Maximum/day	Not Available m^3
Maximum rate/hour	Not Available m^3	Period of emission (avg)	N/A min/hr N/A hr/day N/A day/yr

TABLE D.2

Cork County Council

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

Section D : Attachment D.2

Table D.2: Mallow

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING
SW1	Primary	Cork County Council	River	Blackwater	SAC, NHA, SPA	157530	098140
SW2	Secondary	Cork County Council	River	Blackwater	SAC, NHA, SPA	156245	097959
SW3	Storm Water Outflow	Cork County Council	River	Blackwater	SAC, NHA, SPA	156251	097599
SW4	Storm Water Outflow	Cork County Council	River	Blackwater	SAC, NHA, SPA	156440	099586
SW5	Storm Water Outflow	Cork County Council	River	Blackwater	SAC, NHA, SPA	155076	097856
SW6	Storm Water Outflow	Cork County Council	River	Blackwater	SAC, NHA, SPA	155487	098937
SW7	Storm Water Outflow	Cork County Council	River	Blackwater	SAC, NHA, SPA	156229	097992
SW8	Storm Water Outflow	Cork County Council	River	Blackwater	SAC, NHA, SPA	155530	098572
SW9	Storm Water Outflow	Cork County Council	River	Blackwater	SAC, NHA, SPA	156023	098019

SECTION E
MONITORING

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) of the Annex. The primary discharge shall be annotated with a **(P)**.

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) of the Annex.

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**
	x	

E.3. Tabular data on Monitoring and Sampling Points

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

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

application	Water Overflow)				

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, 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**
	x	

ATTACHMENT NO. E.1

WASTE WATER TYPES AND QUANTITIES - EXISTING AND PROPOSED

TABLE E.1(i): WASTE WATER FREQUENY AND QUANTITY OF DISCHARGE – Primary and Secondary Discharge Points

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m^3/annum)
SW 1	365 days/annum	1356340 m^3/annum
SW 2	Not Available	Not Available

TABLE E.1(ii): WASTE WATER FREQUENY AND QUANTITY OF DISCHARGE – Storm Water Overflows

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m^3/annum)	Complies with Definition of Storm Water Overflow
SW 2	Not Available	Not Available	
SW 3	Not Available	Not Available	
SW 4	Not Available	Not Available	
SW 5	Not Available	Not Available	
SW 6	Not Available	Not Available	
SW 7	Not Available	Not Available	
SW 8	Not Available	Not Available	
SW 9	Not Available	Not Available	

ATTACHMENT NO. E.2

PROGRAMMES FOR ENVIRONMENTAL MONITORING

Attachment E2 Mallow application

Cork County Council operate a composite sampler on the primary discharge outlet from the treatment plant to the river. The plant is currently monitored by the Environment Directorate of Cork County Council on a monthly basis to measure compliance with the requirements of the Urban wastewater Directive. Samples are also collected upstream and downstream of the discharge location at this time. The inlet and outlet are monitored by the water services section on a quarterly basis in order to evaluate the performance of the plant. The river Blackwater which is the receiving water body is monitored in terms of the Salmonid 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 with this multi- faceted approach to monitoring the treatment plant and the impacts of the discharge to waters. There is no drinking water abstraction point down stream of the plant therefore the Abstraction directive does not apply ,neither is there designated shellfish waters or bathing waters downstream of the plant.

Samples are analysed for BOD,COD, Ammonia, pH ,Suspended Solids, Total Nitrogen Total Phosphorus ,Sulphate ,Ortho phosphate(in recent times) and Metals (in recent times). Upstream and downstream samples were analysed in accordance with the urban waste water directive requirements for river samples.
The wastewater Laboratory of Cork County Council are accredited for a number of analytical tests under the Irish National Accreditation Board (INAB) under the ISO 17025 international standard . We currently are accredited for the following parameters under the ISO 17025 system.

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

The laboratory perform a number of analytical tests e.g. Fats Oil, Grease &Metals using an ICP-OES system and while we are not currently accredited for extra tests the analytical procedures and protocol are adhered to by the laboratory as if the tests are accredited,. The laboratory also participate in proficiency testing schemes which measure the accuracy of 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.

ATTACHMENT NO. E.3

TABULAR DATA ON MONITORING AND SAMPLING POINTS

Section E3

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
SW1Mallow	Primary	sampling	157530	098140	yes
SW2Mallow	Secondary	not available	156245	097959	yes
SW3Mallow	Storm Water Outflow	not available	156251	097599	yes
SW4Mallow	Storm Water Outflow	not available	156440	099586	yes
SW5Mallow	Storm Water Outflow	not available	155076	097856	yes
SW6Mallow	Storm Water Outflow	not available	155487	098937	yes
SW7Mallow	Storm Water Outflow	not available	156229	097992	yes
SW8Mallow	Storm Water Outflow	not available	155530	098572	yes
SW9Mallow	Storm Water Outflow	not available	156023	098019	yes
aSW1uMallow	upstream	sampling	156197	94741	no
aSW1dMallow	downstream	sampling	158086	98023	no

ATTACHMENT NO. E.4

COMPLIANCE WITH APPLICABLE MONITORING REQUIREMENTS AND TREATMENT STANDARDS

MALLOW SEWAGE TREATMENT PLANT

Sample Date	Sample	pH	BOD mg/L	COD mg/L	SS mg/L	TP mg/L	TN mg/L	NH_3 mg/L	Sulphate	PO4 -P	Flow m3/Day	Cond 20C	Chromium	Copper	Lead	Nickel	Zinc	Cadmium	Barium	Boron	Fluoride
17/01/2007	Effluent	7.4	2.4	<21	23	1.88	7.2				4555										
01/02/2007	Effluent	7.3	3.2	<21	9	2.27	22.3				3150										
08/03/2007	Effluent	7.6	3.9	21	16	1.07	10.4				6356										
12/04/2007	Effluent	7.3	6	28	13	3.95	31				2808		<0.02	<0.02	<0.02	<0.02	0.044		<0.02		
03/05/2007	Effluent	7.4	5.5	25	11	1.23	11.8				2816		<0.02	<0.02	<0.02	<0.02	0.034		<0.02		
28/06/2007	Effluent	7.2	2.1	25	14	0.71	14				3611										
13/09/2007	Effluent	7.3	2.09	<21	8	1.46	8.3	<.1	31		2746		<0.02	<0.02	<0.02	<0.02	0.026	<0.02	<0.02		
27/09/2007	Effluent	7.7	2.12	33	33	3.5	23.4	0.1	41.7	2.72	2946		<0.02	<0.02	<0.02	<0.02	0.031	<0.02	<0.02		
03/10/2007	Effluent	7.6	4.88	36	12	3.18	23.8	<.1	41.4	2.86	2640		<0.02	<0.02	<0.02	<0.02	0.034	<0.02	<0.02		
24/10/2007	Effluent	7.3	7.1	34	28	2.4	18	0.1	40	2.25	5532	532	<0.02	<0.02	<0.02	<0.02	0.062	<0.02	<0.02	<0.02	0.33
	Average	7.41	3.929	26.5	16.7	2.165	17.02	0.1	38.525	2.61	3716		<0.02	<0.02	<0.02	<0.02	0.0385	<0.02	<0.02	<0.02	0.33
	Kg/Day		14.600164	98.474	62.0572	8.04514	63.24632	0.3716	143.1589	9.69876	13808.656		<0.07432	<0.07432	<0.0743	<0.07432	0.14307	<0.07432	<0.07432	<0.07432	1.22628

Parameter	Method	Units	Results	Source	Kg/Day
Arsenic (OES)	ICP-OES	ug/L	5	GR1044 Mallow WWTP **Effluent** 24/10/07	0.01858
Atrazine	HPLC	ug/L	<0.01	GR1044 Mallow WWTP **Effluent** 24/10/07	<0.00003716
Cyanide	Colorimetry	ug/L	18	GR1044 Mallow WWTP **Effluent** 24/10/07	0.066888
Dichloromethane	GC-MS 1	ug/L	<1	GR1044 Mallow WWTP **Effluent** 24/10/07	<0.003716
EPH	GC-FID	ug/L	<1	GR1044 Mallow WWTP **Effluent** 24/10/07	<0.003716
Mercury (OES)	ICP-OES	ug/L	<0.2	GR1044 Mallow WWTP **Effluent** 24/10/07	0.0007432
Phenols (Total)	GC-MS 2	ug/L	<0.10	GR1044 Mallow WWTP **Effluent** 24/10/07	<0.0003716
Polyaromatic Hydrocarbons	HPLC	ug/L	<0.01	GR1044 Mallow WWTP **Effluent** 24/10/07	<0.00003716
Selenium (OES)	ICP-OES	ug/L	14	GR1044 Mallow WWTP **Effluent** 24/10/07	0.052024
Simazine	HPLC	ug/L	<0.01	GR1044 Mallow WWTP **Effluent** 24/10/07	<0.00003716
Toluene	GC-MS 1	ug/L	<0.01	GR1044 Mallow WWTP **Effluent** 24/10/07	<0.00003716
Total Organic Carbon	TOC analyser (NPOC)	mg/L	5.33	GR1044 Mallow WWTP **Effluent** 24/10/07	19.80628
TPH C10-C36	GC-FID	ug/L	<1	GR1044 Mallow WWTP **Effluent** 24/10/07	<0.003716
Xylene	GC-MS 1	ug/L	<1	GR1044 Mallow WWTP **Effluent** 24/10/07	<0.003716

MALLOW SEWAGE TREATMENT PLANT

Sample Date	Sample	pH	BOD mg/L	COD mg/L	SS mg/L	TP mg/L	TN mg/L	NH_3 mg/L	Sulphate	O -PO4 -P	Cond 20C	Chromium	Copper	Lead	Nickel	Zinc	admiu	Barium	Boron	Nitrate as N	Fluoride	Nitrite as N
17/01/2007	U/S	8	<1		15	<0.2	4.3	<0.1														
01/02/2007	U/S	8.1	<1		3	<0.2	11.6	<0.1														
08/03/2007	U/S	7.6	<1		11	0.2	1.9	<0.1														
12/04/2007	U/S		2.6		9	<0.2	2.4	<0.1				<0.02	<0.02	<0.02	<0.02	<0.02		<0.02				
03/05/2007	U/S		1.5		<2.5	<0.2	4.78	<0.1														
28/06/2007	U/S	8	1.3		5	<0.2		<0.1														
27/09/2007	U/S	8.3	1.12		4	<0.2	12.4	<0.1	<30	<0.05		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.053				
24/10/2007	U/S	7.5	2.6	45	5	0.27	1.4	<0.1	<30	<0.05	162	<0.02										
	Average	7.91666667	1.824	45	7.42857	0.235	5.54	<0.1	<30	<0.05	162	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.65	0.033	0.0127
																					0.033	0.0127

Parameter	Method	Units	Results	Source
Arsenic (OES)	ICP-OES	ug/L	4	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Atrazine	HPLC	ug/L	<0.01	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Cyanide	Colorimetry	ug/L	<5	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Dichloromethane	GC-MS 1	ug/L	<1	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
EPH	GC-FID	ug/L	<1	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Mercury (OES)	ICP-OES	ug/L	<0.2	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Phenols (Total)	GC-MS 2	ug/L	<0.10	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Polyaromatic Hydrocarbons	HPLC	ug/L	<0.01	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Selenium (OES)	ICP-OES	ug/L	1	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Simazine	HPLC	ug/L	<0.01	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Toluene	GC-MS 1	ug/L		GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Total Organic Carbon	TOC analyser (NPOC)	mg/L	14.00	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
TPH C10-C36	GC-FID	ug/L	<1	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07
Xylene	GC-MS 1	ug/L	<0.01	GR1036 Mallow WWTP River Blackwater **Upstream** 24/10/07

MALLOW SEWAGE TREATMENT PLANT

Sample Date	Sample	pH	BOD mg/L	COD mg/L	SS mg/L	TP mg/L	TN mg/L	NH_3 mg/L	Sulphate	O -PO4 -P	Flow m3/Day	Cond 20C	Chromium	Copper	Lead	Nickel	Zinc	Cadmium	Barium	Boron
17/01/2007	D/S	7.6	<1			<0.2	3.2	<0.1												
01/02/2007	D/S	7.6	1.2			<0.2	6.7	<0.1												
08/03/2007	D/S	7.6	<1			<0.2	4.1	<0.1												
12/04/2007	D/S		2.6			<0.2	8.3	<0.1												
03/05/2007	D/S		1.3			<0.2	4.9	<0.1					<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	
28/06/2007	D/S	8.3				<0.2		<0.1												
27/09/2007	D/S	7.7	1.42			<0.2	9.6	<0.1	<30	<0.05			<0.02	<0.02	<0.02	<0.02	0.031	<0.02	<0.02	
24/10/2007	D/S	7.6	2.8	49	6	0.35	2.5	<0.1	<30	<0.05		160	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	average	7.733333	1.864	49	6	0.35	5.614286	<0.1	<30	<0.05		160	<0.02	<0.02	<0.02	<0.02	0.031	<0.02	<0.02	<0.02

Parameter	Method	Units	Results	Source
Arsenic (OES)	ICP-OES	ug/L	5	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Atrazine	HPLC	ug/L	<0.01	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Cyanide	Colorimetry	ug/L	<5	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Dichloromethane	GC-MS 1	ug/L	<1	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
EPH	GC-FID	ug/L	<1	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Mercury (OES)	ICP-OES	ug/L	<0.2	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Phenols (Total)	GC-MS 2	ug/L	<0.10	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Polyaromatic Hydrocarbons	HPLC	ug/L	<0.01	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Selenium (OES)	ICP-OES	ug/L	<0.74	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Simazine	HPLC	ug/L	<0.01	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Toluene	GC-MS 1	ug/L	<0.01	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Total Organic Carbon	TOC analyser (NPOC)	mg/L	5.00	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
TPH C10-C36	GC-FID	ug/L	<1	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07
Xylene	GC-MS 1	ug/L	<1	GR1037 Mallow WWTP River Blackwater **Downstream** 24/10/07

MALLOW SEWAGE TREATMENT PLANT

Sample Date	Sample	pH	BOD mg/L	COD mg/L	SS mg/L	TP mg/L	TN mg/L	NH_3 mg/L	Sulphate	O -PO4 -P	Cond 20C	Chromium	Copper	Lead	Nickel	Zinc	Cadmium	Barium	Boron
13/09/2007	Influent			515		2.1		24.3	39.1										
27/09/2007	Influent			510					48.6										
24/10/2007	Influent	7.9	213	618	276	7.2	72	0.1	53		807	<0.02	0.084	<0.02	<0.02	0.167	<0.02	0.05	<0.02
	Average	7.9	213	547.6666667	276	4.65	72	12.2	46.9		807	<0.02	0.084	<0.02	<0.02	0.167	<0.02	0.05	<0.02

Parameter	Parameter	Method	Units	Results	Source
Arsenic (OES)	Arsenic (OES)	ICP-OES	ug/L	11	GR1045 Mallow WWTP **Influent** 24/10/07
Atrazine	Atrazine	HPLC	ug/L	0.311	GR1045 Mallow WWTP **Influent** 24/10/07
Cyanide	Cyanide	Colorimetry	ug/L	<5	GR1045 Mallow WWTP **Influent** 24/10/07
Dichloromethane	Dichloromethane	GC-MS 1	ug/L	<1	GR1045 Mallow WWTP **Influent** 24/10/07
EPH	EPH	GC-FID	ug/L	3.6	GR1045 Mallow WWTP **Influent** 24/10/07
Mercury (OES)	Mercury (OES)	ICP-OES	ug/L	0.4	GR1045 Mallow WWTP **Influent** 24/10/07
Phenols (Total)	Phenols (Total)	GC-MS 2	ug/L	7.40	GR1045 Mallow WWTP **Influent** 24/10/07
Polyaromatic Hydrocarbons	Polyaromatic Hydrocarbons	HPLC	ug/L	<0.01	GR1045 Mallow WWTP **Influent** 24/10/07
Selenium (OES)	Selenium (OES)	ICP-OES	ug/L	<0.74	GR1045 Mallow WWTP **Influent** 24/10/07
Simazine	Simazine	HPLC	ug/L	<0.01	GR1045 Mallow WWTP **Influent** 24/10/07
Toluene	Toluene	GC-MS 1	ug/L	<0.01	GR1045 Mallow WWTP **Influent** 24/10/07
Total Organic Carbon	Total Organic Carbon	TOC analyser (NPOC)	mg/L	71.40	GR1045 Mallow WWTP **Influent** 24/10/07
TPH C10-C36	TPH C10-C36	GC-FID	ug/L	3.6	GR1045 Mallow WWTP **Influent** 24/10/07
Xylene	Xylene	GC-MS 1	ug/L	<1	GR1045 Mallow WWTP **Influent** 24/10/07

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

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.

- 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.**

Attachment included	Yes	No
	x	

.2 Tabular Data on Drinking Water Abstraction Point(s) Not applicable

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	Agglomeration served	Abstraction Volume in m^3/day	Point Code Provide label ID's	Distance Downstream in meters from Emission Point to Abstraction Point	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used

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

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. Not applicable

ATTACHMENT NO. F.1

TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING
(Primary Discharge Point – one table per upstream and downstream location)

Discharge Point Code: ***SW01 Mallow***
MONITORING POINT CODE: ***SW01mallow***

Parameter	Results (mg/l[Note 1])				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	3/05/2007	28/06/2007	27/09/2007	24/10/2007			
pH	7.4	7.2	7.7	7.3	Composite		
Temperature	*	*	*	*	Composite		
Electrical Conductivity (@25°C)	*	*	*	532	Composite		
Suspended Solids	11	14	33	28	Composite		
Ammonia (as N)	*	*	<0.1	0.1	Composite		
Biochemical Oxygen Demand	5.5	2.1	2.12	7.1	Composite		
Chemical Oxygen Demand	25	25	33	34	Composite		
Dissolved Oxygen	*	*	*	*	Composite		
Hardness (as $CaCo_3$)	*	*	*	*	Composite		
Total Nitrogen (as N)	11.8	14	23.4	18	Composite		
Nitrite (as N)	*	*	*	*	Composite		
Nitrate (as N)	*	*	*	1.24	Composite		
Total Phosphorus (as P)	1.23	0.71	3.5	2.4	Composite		
Orthophosphate (as P) - unfiltered	*	*	2.72	2.25	Composite		
Sulphate (SO_4)	*	*	41.7	40	Composite		
Phenols (sum) [Note 2] (ug/l)	*	*	*	<0.1	Composite		

Note 1: Or other unit as appropriate – please specify.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)
(Primary Discharge Point - one table per upstream and downstream location)

Discharge Point Code: ***SW01 Mallow***

MONITORING POINT CODE: ***SW01Mallow***

Parameter	Results (µg/l)				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
Atrazine	*	*	*	<0.01	Composite	0.96 µg/L	HPLC
Dichloromethane	*	*	*	<1	Composite	1 µg/L	GC-MS 1
Simazine	*	*	*	<0.01	Composite	0.01 µg/L	HPLC
Toluene	*	*	*	<0.01	Composite	0.02 µg/L	GC-MS 1
Tributyltin	*	*	*	*	Composite	0.02 µg/L as Sn	GC-MS 1
Xylenes	*	*	*	<1	Composite	1 µg/L	GC-MS 1
Arsenic	*	*	*	5	Composite	0.96 µg/L	ICP-MS
Chromium	<20	<20	<20	<20	Composite	20 µg/L	ICP-OES
Copper	<20	<20	<20	<20	Composite	20 µg/L	ICP-OES
Cyanide	*	*	*	18	Composite	5 µg/L	Colorimetric
Fluoride	*	*	*	0.33	Composite	100 µg/L	ISE
Lead	<20	<20	<20	<20	Composite	20 µg/L	ICP-OES
Nickel	<20	<20	<20	<20	Composite	20 µg/L	ICP-OES
Zinc	0.026	0.034	0.031	0.062	Composite	20 µg/L	ICP-OES
Boron	*	*	*	<0.02	Composite	20 µg/L	ICP-OES
Cadmium	<20	<20	<20	<20	Composite	20 µg/L	ICP-OES
Mercury	*	*	*	<0.2	Composite	0.2 µg/L	ICP-MS
Selenium	*	*	*	14	Composite	0.74 µg/L	ICP-MS
Barium	<20	<20	<20	<20	Composite	20 µg/L	ICP-OES

TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING
(Primary Discharge Point – one table per upstream and downstream location)

Discharge Point Code: ***SW0 1 Mallow***

MONITORING POINT CODE: ***aSW0 1 Mallow(u)***

Parameter	Results (mg/l[Note 1])				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
pH	*	8.0	8.3	7.5	Grab	2	Electrochemical
Temperature	*	*	*	*	Grab	N/A	N/A
Electrical Conductivity (@25°C)	*	*	*	162	Grab	0.5 µmhos/cm	Electrochemical
Suspended Solids	<2.5	5	4	5	Grab	0.5 mg/L	Gravimetric
Ammonia (as N)	<0.1	<0.1	<0.1	<0.1	Grab	0.02 mg/L	Colorimetric
Biochemical Oxygen Demand	1.5	1.3	1.12	2.6	Grab	0.06 mg/L	Electrochemical
Chemical Oxygen Demand	*	*	*	45	Grab	8 mg/L	Digestion + Colorimetric
Dissolved Oxygen	*	*	*	*	Grab	N/A	N/A
Hardness (as $CaCo_3$)	*	*	*	*	Grab	N/A	N/A
Total Nitrogen (as N)	4.78	*	12.4	1.4	Grab	0.5 mg/L	Digestion + Colorimetric
Nitrite (as N)	*	*	*	0.0127	Grab	N/A	N/A
Nitrate (as N)	*	*	*	0.65	Grab	0.5 mg/L	Colorimetric
Total Phosphorus (as P)	<0.2	<0.2	<0.2	0.27	Grab	0.2 mg/L	Digestion + Colorimetric
Orthophosphate (as P) - unfiltered	*	*	<0.05	<0.05	Grab	0.02 mg/L	Colorimetric
Sulphate (SO_4)	*	*	<30	<30	Grab	30 mg/L	Turbidimetric
Phenols (sum) [Note 2] (ug/l)	*	*	*	<0.1	Grab	0.1 µg/L	GC-MS 2

Note 1: Or other unit as appropriate – please specify.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)
(Primary Discharge Point - one table per upstream and downstream location)

Discharge Point Code: ***SW 01 Mallow***

MONITORING POINT CODE: ***aSW0 1 Mallow(u)***

Parameter	Results (µg/l)				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
Atrazine	*	*	*	<0.01	Grab	0.96 µg/L	HPLC
Dichloromethane	*	*	*	<1	Grab	1 µg/L	GC-MS 1
Simazine	*	*	*	<0.01	Grab	0.01 µg/L	HPLC
Toluene	*	*	*	<0.01	Grab	0.02 µg/L	GC-MS 1
Tributyltin	*	*	*	*	Grab	0.02 µg/L as Sn	GC-MS 1
Xylenes	*	*	*	<0.01	Grab	1 µg/L	GC-MS 1
Arsenic	*	*	*	1	Grab	0.96 µg/L	ICP-MS
Chromium	*	<20	<20	<20	Grab	20 µg/L	ICP-OES
Copper	*	<20	<20	<20	Grab	20 µg/L	ICP-OES
Cyanide	*	*	*	<5	Grab	5 µg/L	Colorimetric
Fluoride	*	*	*	0.033	Grab	100 µg/L	ISE
Lead	*	<20	<20	<20	Grab	20 µg/L	ICP-OES
Nickel	*	<20	<20	<20	Grab	20 µg/L	ICP-OES
Zinc	*	<20	<20	<20	Grab	20 µg/L	ICP-OES
Boron	*	*	*	<20	Grab	20 µg/L	ICP-OES
Cadmium	*	<20	<20	<20	Grab	20 µg/L	ICP-OES
Mercury	*	*	*	<0.2	Grab	0.2 µg/L	ICP-MS
Selenium	*	*	*	1	Grab	0.74 µg/L	ICP-MS
Barium	*	<20	0.053	<20	Grab	20 µg/L	ICP-OES

TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING
(Primary Discharge Point – one table per upstream and downstream location)

Discharge Point Code: ***SW01 Mallow***

MONITORING POINT CODE: ***aSW01 Mallow (d)***

Parameter	Results (mg/l[Note 1])				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
pH	*	8.3	7.7	7.6	Grab	2	Electrochemical
Temperature	*	*	*	*	Grab	N/A	N/A
Electrical Conductivity (@25°C)	*	*	*	*	Grab	0.5 µmhos/cm	Electrochemical
Suspended Solids	*	*	*	6	Grab	0.5 mg/L	Gravimetric
Ammonia (as N)	<0.1	<0.1	<0.1	<0.1	Grab	0.02 mg/L	Colorimetric
Biochemical Oxygen Demand	1.3	*	1.42	2.8	Grab	0.06 mg/L	Electrochemical
Chemical Oxygen Demand	*	*	*	49	Grab	8 mg/L	Digestion + Colorimetric
Dissolved Oxygen	*	*	*	*	Grab	N/A	N/A
Hardness (as $CaCo_3$)	*	*	*	*	Grab	N/A	N/A
Total Nitrogen (as N)	4.9	*	9.6	2.5	Grab	0.5 mg/L	Digestion + Colorimetric
Nitrite (as N)	*	*	*	*	Grab	N/A	N/A
Nitrate (as N)	*	*	*	*	Grab	0.5 mg/L	Colorimetric
Total Phosphorus (as P)	<0.2	<0.2	<0.2	0.35	Grab	0.2 mg/L	Digestion + Colorimetric
Orthophosphate (as P) - unfiltered	*	*	<0.05	<0.05	Grab	0.02 mg/L	Colorimetric
Sulphate (SO_4)	*	*	<30	<30	Grab	30 mg/L	Turbidimetric
Phenols (sum) [Note 2] (ug/l)	*	*	*	<0.1	Grab	0.1 µg/L	GC-MS 2

Note 1: Or other unit as appropriate – please specify.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)
(Primary Discharge Point - one table per upstream and downstream location)

Discharge Point Code: ***SW01 Mallow***

MONITORING POINT CODE: ***aSW0 1 Mallow (d)***

Parameter	Results (µg/l)				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
Atrazine	*	*	*	<0.01	Grab	0.96 µg/L	HPLC
Dichloromethane	*	*	*	<1	Grab	1 µg/L	GC-MS 1
Simazine	*	*	*	<0.01	Grab	0.01 µg/L	HPLC
Toluene	*	*	*	<0.01	Grab	0.02 µg/L	GC-MS 1
Tributyltin	*	*	*	*	Grab	0.02 µg/L as Sn	GC-MS 1
Xylenes	*	*	*	<1	Grab	1 µg/L	GC-MS 1
Arsenic	*	*	*	5	Grab	0.96 µg/L	ICP-MS
Chromium	*	*	<20	<20	Grab	20 µg/L	ICP-OES
Copper	*	*	<20	<20	Grab	20 µg/L	ICP-OES
Cyanide	*	*	<20	<20	Grab	5 µg/L	Colorimetric
Fluoride	*	*	*	*	Grab	100 µg/L	ISE
Lead	*	*	<20	<20	Grab	20 µg/L	ICP-OES
Nickel	*	*	<20	<20	Grab	20 µg/L	ICP-OES
Zinc	*	*	0.031	<20	Grab	20 µg/L	ICP-OES
Boron	*	*	*	<20	Grab	20 µg/L	ICP-OES
Cadmium	*	*	<20	<20	Grab	20 µg/L	ICP-OES
Mercury	*	*	*	<0.2	Grab	0.2 µg/L	ICP-MS
Selenium	*	*	*	<0.74	Grab	0.74 µg/L	ICP-MS
Barium	*	*	<20	<20	Grab	20 µg/L	ICP-OES

TABLE F.1(ii)(a): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 2 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (mg/l[Note 1])				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
pH	*	*	*	*	*	2	Electrochemical
Temperature	*	*	*	*	*	N/A	N/A
Electrical Conductivity (@25°C)	*	*	*	*	*	0.5 µmhos/cm	Electrochemical
Suspended Solids	*	*	*		*	0.5 mg/L	Gravimetric
Ammonia (as N)	*	*	*		*	0.02 mg/L	Colorimetric
Biochemical Oxygen Demand	*	*	*	*	*	0.06 mg/L	Electrochemical
Chemical Oxygen Demand	*	*	*	*	*	8 mg/L	Digestion + Colorimetric
Dissolved Oxygen	*	*	*	*	*	N/A	N/A
Hardness (as $CaCo_3$)	*	*	*	*	*	N/A	N/A
Total Nitrogen (as N)	*	*	*	*	*	0.5 mg/L	Digestion + Colorimetric
Nitrite (as N)	*	*	*	*	*	N/A	N/A
Nitrate (as N)	*	*	*	*	*	0.5 mg/L	Colorimetric
Total Phosphorus (as P)	*	*	*	*	*	0.2 mg/L	Digestion + Colorimetric
Orthophosphate (as P) - unfiltered	*	*	*	*	*	0.02 mg/L	Colorimetric
Sulphate (SO_4)	*	*	*	*	*	30 mg/L	Turbidimetric
Phenols (sum) [Note 2] (ug/l)	*	*	*	*	*	0.1 µg/L	GC-MS 2

Note 1: Or other unit as appropriate – please specify.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE F.1(ii)(b): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 2 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (µg/l)				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
Atrazine	*	*	*	*	*	0.96 µg/L	HPLC
Dichloromethane	*	*	*	*	*	1 µg/L	GC-MS 1
Simazine	*	*	*	*	*	0.01 µg/L	HPLC
Toluene	*	*	*	*	*	0.02 µg/L	GC-MS 1
Tributyltin	*	*	*	*	*	0.02 µg/L as Sn	GC-MS 1
Xylenes	*	*	*	*	*	1 µg/L	GC-MS 1
Arsenic	*	*	*	*	*	0.96 µg/L	ICP-MS
Chromium	*	*	*	*	*	20 µg/L	ICP-OES
Copper	*	*	*	*	*	20 µg/L	ICP-OES
Cyanide	*	*	*	*	*	5 µg/L	Colorimetric
Fluoride	*	*	*	*	*	100 µg/L	ISE
Lead	*	*	*	*	*	20 µg/L	ICP-OES
Nickel	*	*	*	*	*	20 µg/L	ICP-OES
Zinc	*	*	*	*	*	20 µg/L	ICP-OES
Boron	*	*	*	*	*	20 µg/L	ICP-OES
Cadmium	*	*	*	*	*	20 µg/L	ICP-OES
Mercury	*	*	*	*	*	0.2 µg/L	ICP-MS
Selenium	*	*	*	*	*	0.74 µg/L	ICP-MS
Barium	*	*	*	*	*	20 µg/L	ICP-OES

TABLE F.1(ii)(a): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 3 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (mg/l[Note 1])				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
pH	*	*	*	*	*	2	Electrochemical
Temperature	*	*	*	*	*	N/A	N/A
Electrical Conductivity (@25°C)	*	*	*	*	*	0.5 µmhos/cm	Electrochemical
Suspended Solids	*	*	*	*	*	0.5 mg/L	Gravimetric
Ammonia (as N)	*	*	*	*	*	0.02 mg/L	Colorimetric
Biochemical Oxygen Demand	*	*	*	*	*	0.06 mg/L	Electrochemical
Chemical Oxygen Demand	*	*	*	*	*	8 mg/L	Digestion + Colorimetric
Dissolved Oxygen	*	*	*	*	*	N/A	N/A
Hardness (as $CaCo_3$)	*	*	*	*	*	N/A	N/A
Total Nitrogen (as N)	*	*	*	*	*	0.5 mg/L	Digestion + Colorimetric
Nitrite (as N)	*	*	*	*	*	N/A	N/A
Nitrate (as N)	*	*	*	*	*	0.5 mg/L	Colorimetric
Total Phosphorus (as P)	*	*	*	*	*	0.2 mg/L	Digestion + Colorimetric
Orthophosphate (as P) - unfiltered	*	*	*	*	*	0.02 mg/L	Colorimetric
Sulphate (SO_4)	*	*	*	*	*	30 mg/L	Turbidimetric
Phenols (sum) [Note 2] (ug/l)	*	*	*	*	*	0.1 µg/L	GC-MS 2

Note 1: Or other unit as appropriate – please specify.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE F.1(ii)(b): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 3 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (µg/l)				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
Atrazine	*	*	*	*	*	0.96 µg/L	HPLC
Dichloromethane	*	*	*	*	*	1 µg/L	GC-MS 1
Simazine	*	*	*	*	*	0.01 µg/L	HPLC
Toluene	*	*	*	*	*	0.02 µg/L	GC-MS 1
Tributyltin	*	*	*	*	*	0.02 µg/L as Sn	GC-MS 1
Xylenes	*	*	*	*	*	1 µg/L	GC-MS 1
Arsenic	*	*	*	*	*	0.96 µg/L	ICP-MS
Chromium	*	*	*	*	*	20 µg/L	ICP-OES
Copper	*	*	*	*	*	20 µg/L	ICP-OES
Cyanide	*	*	*	*	*	5 µg/L	Colorimetric
Fluoride	*	*	*	*	*	100 µg/L	ISE
Lead	*	*	*	*	*	20 µg/L	ICP-OES
Nickel	*	*	*	*	*	20 µg/L	ICP-OES
Zinc	*	*	*	*	*	20 µg/L	ICP-OES
Boron	*	*	*	*	*	20 µg/L	ICP-OES
Cadmium	*	*	*	*	*	20 µg/L	ICP-OES
Mercury	*	*	*	*	*	0.2 µg/L	ICP-MS
Selenium	*	*	*	*	*	0.74 µg/L	ICP-MS
Barium	*	*	*	*	*	20 µg/L	ICP-OES

TABLE F.1(ii)(a): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 4 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (mg/l[Note 1])				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
pH	*	*	*	*	*	2	Electrochemical
Temperature	*	*	*	*	*	N/A	N/A
Electrical Conductivity (@25°C)	*	*	*	*	*	0.5 µmhos/cm	Electrochemical
Suspended Solids	*	*	*	*	*	0.5 mg/L	Gravimetric
Ammonia (as N)	*	*	*	*	*	0.02 mg/L	Colorimetric
Biochemical Oxygen Demand	*	*	*	*	*	0.06 mg/L	Electrochemical
Chemical Oxygen Demand	*	*	*	*	*	8 mg/L	Digestion + Colorimetric
Dissolved Oxygen	*	*	*	*	*	N/A	N/A
Hardness (as $CaCo_3$)	*	*	*	*	*	N/A	N/A
Total Nitrogen (as N)	*	*	*	*	*	0.5 mg/L	Digestion + Colorimetric
Nitrite (as N)	*	*	*	*	*	N/A	N/A
Nitrate (as N)	*	*	*	*	*	0.5 mg/L	Colorimetric
Total Phosphorus (as P)	*	*	*	*	*	0.2 mg/L	Digestion + Colorimetric
Orthophosphate (as P) - unfiltered	*	*	*	*	*	0.02 mg/L	Colorimetric
Sulphate (SO_4)	*	*	*	*	*	30 mg/L	Turbidimetric
Phenols (sum) [Note 2] (ug/l)	*	*	*	*	*	0.1 µg/L	GC-MS 2

Note 1: Or other unit as appropriate – please specify.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE F.1(ii)(b): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 4 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (µg/l)				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
Atrazine	*	*	*	*	*	0.96 µg/L	HPLC
Dichloromethane	*	*	*	*	*	1 µg/L	GC-MS 1
Simazine	*	*	*	*	*	0.01 µg/L	HPLC
Toluene	*	*	*	*	*	0.02 µg/L	GC-MS 1
Tributyltin	*	*	*	*	*	0.02 µg/L as Sn	GC-MS 1
Xylenes	*	*	*	*	*	1 µg/L	GC-MS 1
Arsenic	*	*	*	*	*	0.96 µg/L	ICP-MS
Chromium	*	*	*	*	*	20 µg/L	ICP-OES
Copper	*	*	*	*	*	20 µg/L	ICP-OES
Cyanide	*	*	*	*	*	5 µg/L	Colorimetric
Fluoride	*	*	*	*	*	100 µg/L	ISE
Lead	*	*	*	*	*	20 µg/L	ICP-OES
Nickel	*	*	*	*	*	20 µg/L	ICP-OES
Zinc	*	*	*	*	*	20 µg/L	ICP-OES
Boron	*	*	*	*	*	20 µg/L	ICP-OES
Cadmium	*	*	*	*	*	20 µg/L	ICP-OES
Mercury	*	*	*	*	*	0.2 µg/L	ICP-MS
Selenium	*	*	*	*	*	0.74 µg/L	ICP-MS
Barium	*	*	*	*	*	20 µg/L	ICP-OES

TABLE F.1(ii)(a): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 5 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (mg/l[Note 1])				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
pH	*	*	*	*	*	2	Electrochemical
Temperature	*	*	*	*	*	N/A	N/A
Electrical Conductivity (@25°C)	*	*	*	*	*	0.5 µmhos/cm	Electrochemical
Suspended Solids	*	*	*	*	*	0.5 mg/L	Gravimetric
Ammonia (as N)	*	*	*	*	*	0.02 mg/L	Colorimetric
Biochemical Oxygen Demand	*	*	*	*	*	0.06 mg/L	Electrochemical
Chemical Oxygen Demand	*	*	*	*	*	8 mg/L	Digestion + Colorimetric
Dissolved Oxygen	*	*	*	*	*	N/A	N/A
Hardness (as $CaCo_3$)	*	*	*	*	*	N/A	N/A
Total Nitrogen (as N)	*	*	*	*	*	0.5 mg/L	Digestion + Colorimetric
Nitrite (as N)	*	*	*	*	*	N/A	N/A
Nitrate (as N)	*	*	*	*	*	0.5 mg/L	Colorimetric
Total Phosphorus (as P)	*	*	*	*	*	0.2 mg/L	Digestion + Colorimetric
Orthophosphate (as P) - unfiltered	*	*	*	*	*	0.02 mg/L	Colorimetric
Sulphate (SO_4)	*	*	*	*	*	30 mg/L	Turbidimetric
Phenols (sum) [Note 2] (ug/l)	*	*	*	*	*	0.1 µg/L	GC-MS 2

Note 1: Or other unit as appropriate – please specify.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE F.1(ii)(b): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 5 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (µg/l)				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
Atrazine	*	*	*	*	*	0.96 µg/L	HPLC
Dichloromethane	*	*	*	*	*	1 µg/L	GC-MS 1
Simazine	*	*	*	*	*	0.01 µg/L	HPLC
Toluene	*	*	*	*	*	0.02 µg/L	GC-MS 1
Tributyltin	*	*	*	*	*	0.02 µg/L as Sn	GC-MS 1
Xylenes	*	*	*	*	*	1 µg/L	GC-MS 1
Arsenic	*	*	*	*	*	0.96 µg/L	ICP-MS
Chromium	*	*	*	*	*	20 µg/L	ICP-OES
Copper	*	*	*	*	*	20 µg/L	ICP-OES
Cyanide	*	*	*	*	*	5 µg/L	Colorimetric
Fluoride	*	*	*	*	*	100 µg/L	ISE
Lead	*	*	*	*	*	20 µg/L	ICP-OES
Nickel	*	*	*	*	*	20 µg/L	ICP-OES
Zinc	*	*	*	*	*	20 µg/L	ICP-OES
Boron	*	*	*	*	*	20 µg/L	ICP-OES
Cadmium	*	*	*	*	*	20 µg/L	ICP-OES
Mercury	*	*	*	*	*	0.2 µg/L	ICP-MS
Selenium	*	*	*	*	*	0.74 µg/L	ICP-MS
Barium	*	*	*	*	*	20 µg/L	ICP-OES

TABLE F.1(ii)(a): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 6 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (mg/l[Note 1])				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
pH	*	*	*	*	*	2	Electrochemical
Temperature	*	*	*	*	*	N/A	N/A
Electrical Conductivity (@25°C)	*	*	*	*	*	0.5 µmhos/cm	Electrochemical
Suspended Solids	*	*	*	*	*	0.5 mg/L	Gravimetric
Ammonia (as N)	*	*	*	*	*	0.02 mg/L	Colorimetric
Biochemical Oxygen Demand	*	*	*	*	*	0.06 mg/L	Electrochemical
Chemical Oxygen Demand	*	*	*	*	*	8 mg/L	Digestion + Colorimetric
Dissolved Oxygen	*	*	*	*	*	N/A	N/A
Hardness (as $CaCo_3$)	*	*	*	*	*	N/A	N/A
Total Nitrogen (as N)	*	*	*	*	*	0.5 mg/L	Digestion + Colorimetric
Nitrite (as N)	*	*	*	*	*	N/A	N/A
Nitrate (as N)	*	*	*	*	*	0.5 mg/L	Colorimetric
Total Phosphorus (as P)	*	*	*	*	*	0.2 mg/L	Digestion + Colorimetric
Orthophosphate (as P) - unfiltered	*	*	*	*	*	0.02 mg/L	Colorimetric
Sulphate (SO_4)	*	*	*	*	*	30 mg/L	Turbidimetric
Phenols (sum) [Note 2] (ug/l)	*	*	*	*	*	0.1 µg/L	GC-MS 2

Note 1: Or other unit as appropriate – please specify.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE F.1(ii)(b): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 6 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (µg/l)				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
Atrazine	*	*	*	*	*	0.96 µg/L	HPLC
Dichloromethane	*	*	*	*	*	1 µg/L	GC-MS 1
Simazine	*	*	*	*	*	0.01 µg/L	HPLC
Toluene	*	*	*	*	*	0.02 µg/L	GC-MS 1
Tributyltin	*	*	*	*	*	0.02 µg/L as Sn	GC-MS 1
Xylenes	*	*	*	*	*	1 µg/L	GC-MS 1
Arsenic	*	*	*	*	*	0.96 µg/L	ICP-MS
Chromium	*	*	*	*	*	20 µg/L	ICP-OES
Copper	*	*	*	*	*	20 µg/L	ICP-OES
Cyanide	*	*	*	*	*	5 µg/L	Colorimetric
Fluoride	*	*	*	*	*	100 µg/L	ISE
Lead	*	*	*	*	*	20 µg/L	ICP-OES
Nickel	*	*	*	*	*	20 µg/L	ICP-OES
Zinc	*	*	*	*	*	20 µg/L	ICP-OES
Boron	*	*	*	*	*	20 µg/L	ICP-OES
Cadmium	*	*	*	*	*	20 µg/L	ICP-OES
Mercury	*	*	*	*	*	0.2 µg/L	ICP-MS
Selenium	*	*	*	*	*	0.74 µg/L	ICP-MS
Barium	*	*	*	*	*	20 µg/L	ICP-OES

TABLE F.1(ii)(a): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 7 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (mg/l[Note 1])				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
pH	*	*	*	*	*	2	Electrochemical
Temperature	*	*	*	*	*	N/A	N/A
Electrical Conductivity (@25°C)	*	*	*	*	*	0.5 µmhos/cm	Electrochemical
Suspended Solids	*	*	*	*	*	0.5 mg/L	Gravimetric
Ammonia (as N)	*	*	*	*	*	0.02 mg/L	Colorimetric
Biochemical Oxygen Demand	*	*	*	*	*	0.06 mg/L	Electrochemical
Chemical Oxygen Demand	*	*	*	*	*	8 mg/L	Digestion + Colorimetric
Dissolved Oxygen	*	*	*	*	*	N/A	N/A
Hardness (as $CaCo_3$)	*	*	*	*	*	N/A	N/A
Total Nitrogen (as N)	*	*	*	*	*	0.5 mg/L	Digestion + Colorimetric
Nitrite (as N)	*	*	*	*	*	N/A	N/A
Nitrate (as N)	*	*	*	*	*	0.5 mg/L	Colorimetric
Total Phosphorus (as P)	*	*	*	*	*	0.2 mg/L	Digestion + Colorimetric
Orthophosphate (as P) - unfiltered	*	*	*	*	*	0.02 mg/L	Colorimetric
Sulphate (SO_4)	*	*	*	*	*	30 mg/L	Turbidimetric
Phenols (sum) [Note 2] (ug/l)	*	*	*	*	*	0.1 µg/L	GC-MS 2

Note 1: Or other unit as appropriate – please specify.
Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE F.1(ii)(b): SURFACE/GROUND WATER MONITORING - (1 table per discharge point upstream and downstream locations)
(Secondary Discharge Point)

Discharge Point Code: ***SW 7 Mallow (U+D)***

MONITORING POINT CODE: ***Not Available***

Parameter	Results (µg/l)				Sampling method (grab, drift etc.)	Limit of Quantitation	Analysis method / technique
	03/05/ 2007	28/06/ 2007	27/09/ 2007	24/10/ 2007			
Atrazine	*	*	*	*	*	0.96 µg/L	HPLC
Dichloromethane	*	*	*	*	*	1 µg/L	GC-MS 1
Simazine	*	*	*	*	*	0.01 µg/L	HPLC
Toluene	*	*	*	*	*	0.02 µg/L	GC-MS 1
Tributyltin	*	*	*	*	*	0.02 µg/L as Sn	GC-MS 1
Xylenes	*	*	*	*	*	1 µg/L	GC-MS 1
Arsenic	*	*	*	*	*	0.96 µg/L	ICP-MS
Chromium	*	*	*	*	*	20 µg/L	ICP-OES
Copper	*	*	*	*	*	20 µg/L	ICP-OES
Cyanide	*	*	*	*	*	5 µg/L	Colorimetric
Fluoride	*	*	*	*	*	100 µg/L	ISE
Lead	*	*	*	*	*	20 µg/L	ICP-OES
Nickel	*	*	*	*	*	20 µg/L	ICP-OES
Zinc	*	*	*	*	*	20 µg/L	ICP-OES
Boron	*	*	*	*	*	20 µg/L	ICP-OES
Cadmium	*	*	*	*	*	20 µg/L	ICP-OES
Mercury	*	*	*	*	*	0.2 µg/L	ICP-MS
Selenium	*	*	*	*	*	0.74 µg/L	ICP-MS
Barium	*	*	*	*	*	20 µg/L	ICP-OES

SECTION G
PROGRAMME OF IMPROVEMENTS

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, the Water Framework Directive 2000/60/EC, the Birds Directive 79/409/EEC, the Groundwater Directives 80/68/EEC & 2006/118/EC, the Drinking Water Directives 80/778/EEC, the Urban Waste Water Treatment Directive 91/271/EEC, the Habitats Directive 92/43/EEC, the Environmental Liabilities Directive 2004/35/EC and the Bathing Water Directive 76/160/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
		NONE

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
		NONE

ATTACHMENT NO. G.1

Comhairle Contae Chorcaí
Cork County Council

E. P. A.

Annabella,
Mallow,
Co. Cork.
Tel: (022) 21123 • Fax: (022)21983
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R-phost: northcork@corkcoco.ie
Suíomh Gréasáin: www.corkcoco.ie

13th December 2007

Re/ MALLOW W.W.T.P.
SECTION G: PROGRAMME OF IMPROVEMENTS.

Ref: G.1 Compliance with Council Directives

I wish to state that the Upgrading of Mallow W.W.T.P. has been recently completed, the Plant being fully commissioned in April 2005.

Accordingly, there are no Plans at present for a Programme of Improvements.

Frank Cronin,
SENIOR ENGINEER., WATER SERVICES.

Direct Line: 022/30432
Email: frank.cronin@corkcoco.ie

ATTACHMENT NO. G.2

Comhairle Contae Chorcaí
Cork County Council

Annabella,
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Tel: (022) 21123 • Fax: (022)21983
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Co. Chorcaí.
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R-phost: northcork@corkcoco.ie
Suíomh Gréasáin: www.corkcoco.ie

E. P. A.

13th December 2007

Re/ Phosphorus Regulations Implementation Report No. 4
Ref: Mallow W.W.T.P.

I refer to the above Implementation Report which was submitted to the E.P.A. in 2006.

The Reference for the Blackwater River is Site No:- 18 B02.

The Reference for the monitoring station is Site No:- 1800 which is 2.6 Kilometres downstream of Mallow W.W.T.P.

The Rating was Q3-4 in 2000.

Improved to Q4 during 2003.

Maintained Q4 in 2006.

Frank Cronin,
SENIOR ENGINEER.

Direct Line: 022/30432
Email: frank.cronin@corkcoco.ie

ATTACHMENT NO. G.3

NOT APPLICABLE

ATTACHMENT NO. G.4

NOT APPLICABLE

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 : _____ **Date :** 11th December 2007
(on behalf of the organisation)

Print signature name: Tom Stritch.

Position in organisation: Director of Services

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.

NOT APPLICABLE

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.

Mallow :ANNEX 2: Check List For Regulation 16 Compliance

Regulation 16 of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007) sets out the information which must, in all cases, accompany a discharge licence application. In order to ensure that the application fully complies with the legal requirements of Regulation 16 of the 2007 Regulations, all applicants should complete the following.

In each case, refer to the attachment number(s) of your application which contain(s) the information requested in the appropriate sub-article.

Regulation 16(1) In the case of an application for a waste water discharge licence, the application shall -		**Attachment Number**	**Checked by Applicant ✓**
(a)	give the name, address, telefax number (if any) and telephone number of the applicant (and, if different, of the operator of any treatment plant concerned) and the address to which correspondence relating to the application should be sent and, if the operator is a body corporate, the address of its registered office or principal office,	**B1**	✓
(b)	give the name of the water services authority in whose functional area the relevant waste water discharge takes place or is to take place, if different from that of the applicant,	**B7**	✓
(c)	give the location or postal address (including where appropriate, the name of the townland or townlands) and the National Grid reference of the location of the waste water treatment plant and/or the waste water discharge point or points to which the application relates,	**B2**	✓
(d)	state the population equivalent of the agglomeration to which the application relates,	**B9**	✓
(e)	specify the content and extent of the waste water discharge, the level of treatment provided, if any, and the flow and type of discharge,	**C,D**	✓
(f)	give details of the receiving water body, including its protected area status, if any, and details of any sensitive areas or protected areas or both in the vicinity of the discharge point or points likely to be affected by the discharge concerned, and for discharges to ground provide details of groundwater protection schemes in place for the receiving water body and all associated hydrogeological and geological assessments related to the receiving water environment in the vicinity of the discharge.	**D2**	✓

Regulation 16(1) continued.../		Attachment Number	Checked by Applicant ✓
(g)	identify monitoring and sampling points and indicate proposed arrangements for the monitoring of discharges and, if Regulation 17 does not apply, provide details of the likely environmental consequences of any such discharges,	**E3**	✓
(h)	in the case of an existing waste water treatment plant, specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application,	**E4**	✓
(i)	describe the existing or proposed measures, including emergency procedures, to prevent unintended waste water discharges and to minimise the impact on the environment of any such discharges,	**G**	✓
(j)	give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points,	**Not applicable**	✓
(k)	give details, and an assessment of the effects, of any existing or proposed emissions on the environment, including any environmental medium other than those into which the emissions are, or are to be made, and of proposed measures to prevent or eliminate or, where that is not practicable, to limit any pollution caused in such discharges,	**F1**	✓
(l)	give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives of Regulations,	**G**	✓
(m)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work.	**G3**	✓
(n)	Any other information as may be stipulated by the Agency.	**x**	**X**

Regulation 16(3) Without prejudice to Regulation 16 (1) and (2), an application for a licence shall be accompanied by -		**Attachment Number**	**Checked by the applicant ✓**
(a)	a copy of the notice of intention to make an application given pursuant to Regulation 9,	**B8**	✓
(b)	where appropriate, a copy of the notice given to a relevant water services authority under Regulation 13,	**Not applicable**	✓
(c)	Such other particulars, drawings, maps, reports and supporting documentation as are necessary to identify and describe, as appropriate -		
	(i) the point or points, including storm water overflows, from which a discharge or discharges take place or are to take place, and	**B5**	✓
	(ii) the point or points at which monitoring and sampling are undertaken or are to be undertaken,	**E3**	✓
(d)	such fee as is appropriate having regard to the provisions of Regulations 38 and 39.	**B9(ii)**	✓
Regulation 16(4) An original application shall be accompanied by 2 copies of it and of all accompanying documents and particulars as required under Regulation 16(3) in hardcopy or in an electronic or other format as specified by the Agency.			✓
Regulation 16(5) For the purpose of paragraph (4), all or part of the 2 copies of the said application and associated documents and particulars may, with the agreement of the Agency.			✓
	Signed original.		✓
	2 hardcopies of application provided or 2 CD versions of application (PDF files) provided.		✓
	1 CD of geo-referenced digital files provided.		✓
Regulation 17 Where a treatment plant associated with the relevant waste water works is or has been subject to the European Communities (Environmental Impact Assessment) Regulations 1989 to 2001, in addition to compliance with the requirements of Regulation 16, an application in respect of the relevant discharge shall be accompanied by a copy of an environmental impact statement and approval in accordance with the Act of 2000 in respect of the said development and may be submitted in an electronic or other format specified by the Agency			✓
	EIA provided if applicable		✓
	2 hardcopies of EIS provided if applicable.		✓
	2 CD versions of EIS, as PDF files, provided.		✓