This is a draft document and is subject to revision.

Waste Water Discharge Certificate of Authorisation Application Form

EPA Ref. N^{o}: *(Office use only)*	

Environmental Protection Agency
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Tracking Amendments to Draft Application Form

Version No.	Date	Amendment since previous version	Reason
V. 1.	12/06/2009	N/A	
V.2.	17/06/2009	Delete reference to Design Build and Operate	To accurately reflect the information required for the small schemes programme
		Delete the requirement to provide contact information for the associated waste water treatment plant	To accurately reflect the information required and the scale of the waste water works
		Replace references to the Water Services investment Programme with the Small Schemes Programme	To accurately reflect the information required for the small schemes programme
		Update references to new legislation	To reflect changes in legislation
		Inclusion of the requirement to submit information on private WWTPs within the agglomeration.	To obtain an overview of all discharges within the agglomeration.

Environmental Protection Agency

Application for a Waste Water Discharge Certificate of Authorisation
Waste Water Discharge (Authorisation) Regulations, 2007.

CONTENTS

ABOUT THIS APPLICATION FORM

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

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

A valid application for a Waste Water Discharge Certificate of Authorisation must contain the information prescribed in the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007). Regulation 24 of the Regulations sets out the statutory requirements for information to accompany a Certificate of Authorisation application. The application form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in the Regulations. In order to ensure a legally valid application with respect to Regulation 24 requirements, please complete the Regulation 24 Checklist provided in the following web based tool: http://78.137.160.73/epa_wwd_licensing/.

This Application Form does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the Waste Water Discharge (Authorisation) Regulations, 2007. **While every effort has been made to ensure the accuracy of the material contained in the Application Form, the EPA assumes no responsibility and gives no guarantee, or warranty concerning the accuracy, completeness or up-to-date nature of the information provided herein and does not accept any liability whatsoever arising from any errors or omissions.**

Should there be any contradiction between the information requirements set out in the Application Form and any clarifying explanation contained in the accompanying Guidance Note, then the requirements in this Application Form shall take precedence.

PROCEDURES

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

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

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

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

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

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

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

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

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

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

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

SECTION A: NON-TECHNICAL SUMMARY

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

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

The following information must be included in the non-technical summary:
Millford Village is located on the R515, circa 10 Km West of Charleville town. The waste water from the agglomeration is currently treated by a package treatment plant prior to been discharged.

A description of:

- the waste water works and the activities carried out therein,

Millford wastewater treatment plant (WWTP) was constructed in 1970's. The design PE of the plant is 500.

The main elements of the WWTP are;
Secondary treatment: Activated Sludge (aeration tank and Clarifier)
Discharge to a tributary of the River Deel.

- the sources of emissions from the waste water works,

The main source of emissions from the works is via a 150mm pipe outfall to the River Deel.

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

The wastewater treatment plant treats only municipal waste water from Village and it environs via the sewerage collection system.

The final effluent is treated to a 25/35 standard or better prior to been discharged to the River Blackwater.

There is no flow data for the site. It is estimated that the daily discharge is of the magnitude of 80-95m3/d

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

The treatment works consists of the following elements:
- ***Aeration Tank (surface aerator).***
- ***Hopper bottom clarifier with sludge return pumps.***

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

The WWTP is operated by the staff of Cork County Council whose duties also involve the maintenance of a number of other small WWTP's in the area. The caretaker is on duty from 8.00am to 5.30pm Monday – Saturday.

– measures planned to monitor emissions into the environment.

The Cork County Council Environmental Laboratory carries out sampling of the influent and effluent biannually. Sampling, Monitoring and analysis of the wastewater sludge is also undertaken by the Environmental Laboratory.

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Supporting information should form **Attachment Nº A.1**

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SECTION B: GENERAL

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

B.1 Agglomeration Details

Name of Agglomeration:	***Millford & Environs***

Applicant's Details

Name and Address for Correspondence

Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.

Provide a drawing detailing the agglomeration to which the Certificate of Authorisation application relates. It should have the boundary of the agglomeration to which the Certificate of Authorisation application relates clearly marked in red ink.

Name*:	***Cork County Council***
Address:	***Northern Division***
	Annabella
	Mallow
	Co. Cork
Tel:	***022 21123***
Fax:	***022 21983***
e-mail:	

*This should be the name of the Water Services Authority in whose ownership or control the waste water works is vested.

*Where an application is being submitted on behalf of more than one Water Services Authority the details provided in Section B.1 shall be that of the lead Water Services Authority.

Name*:	***Frank Cronin***
Address:	***Northern Division***
	Annabella
	Mallow
	Co. Cork
Tel:	***022 21123***
Fax:	***022 21983***
e-mail:	***Frank.cronin@corkcoco.ie***

*This should be the name of person nominated by the Water Services Authority for the purposes of the application.

Co-Applicant's Details

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

*This should be the name of a Water Services Authority, other than the lead authority, where multiple authorities are the subject of a waste water discharge Certificate of Authorisation application.

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

Attachment included	Yes	No
	√	

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

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

Name*:	***Michael Cotter***
Address:	***Dromina, Charleville, Co. Cork.***
Grid ref (6E, 6N)	***141041E, 121530N***
Level of Treatment	***Secondary***

*This should be the name of the person responsible for the supervision of the waste water treatment plant.

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

Attachment included	Yes	No
	√	

B.3 Location of Primary Discharge Point

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

Discharge to	***River Deel***
Type of Discharge	***Point source***
Unique Point Code	***SW01-MILF***
Location	***Adjacent to WWTP***
Grid ref (6E, 6N)	***141075E, 121516N***

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

Attachment included	Yes	No
	√	

B.4 Location of Secondary Discharge Point(s)

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

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

*****Where a septic tank is in existence simultaneous to a package plant within an agglomeration, discharges from the septic tank shall be considered as a secondary discharge.

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

Attachment included	Yes	No
		√

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

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

Type of Discharge	***Point***
Unique Point Code	***SW02-MILF***

Location	***Within WWTP compound***
Grid ref (6E, 6N)	***141075N, 121516E***
Type of Discharge	***Point***
Unique Point Code	***SW03-MILF***
Location	***Adjacent to pumping station***
Grid ref (6E, 6N)	***141485N, 121391E***

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

Attachment included	**Yes**	**No**
		√

B.6 Planning Authority

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

Name:	***Cork County Council***
Address:	***Planning Department***
	County Hall
	Carriagrohane Road
	Cork
Tel:	***021 4276891***
Fax:	***021 4867007***
e-mail:	***Planninginfo@corkcoc.ie***

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

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

Local Authority Planning File Reference Nº:	

Attachment B.6 should contain ***the most recent*** planning permission, including a copy of ***all*** conditions, and where an EIS was required, copies of any such EIS and any certification associated with the EIS, should also be enclosed. Where planning permission is not required for the development, provide reasons, relevant correspondence, *etc.*

Attachment included	Yes	No
		√

B.7 Other Authorities

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

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

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

Within the SFADCo Area	Yes	No
		√

B.7 (ii) Health Services Executive Region

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

Name:	***Health Service Executive***
Address:	***North Cork Area Headquarters***
	Gouldhill
	Mallow, Co. Cork
Tel:	***022 30200***
Fax:	***022 30211***
e-mail:	***Gerry.oconnell@hse.ie***

B. 8(i) Population Equivalent of Agglomeration

TABLE B.8.1 POPULATION EQUIVALENT OF AGGLOMERATION

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

Population Equivalent	***490***
Data Compiled (Year)	***2009***
Method	***House count***

B.8 (ii) Pending Development

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

- information on the calculated population equivalent (p.e.) to be contributed to the waste water works as a result of those planning permissions granted,
  The above includes the following planning applications;

Planning Ref 05248	***35 no. houses (16 complete)***	***98 PE***

- the percentage of the projected p.e. to be contributed by the non-domestic activities, and
  Not Applicable
- the ability of the waste water works to accommodate this extra hydraulic and organic loading without posing an environmental risk to the receiving waters.
  The WWTP is operating within its hydraulic and organic loading limitations.

B.8 (iii) FEES

State the relevant Class of waste water discharge as per Regulation 5, and the appropriate fee as per Columns 2 or 3 of the Third Schedule of the Waste Water Discharges (Authorisation) Regulations 2007, S.I. No. 684 of 2007.

Class of waste water discharge	Fee (in €)
Discharges from agglomerations with a PE of 500.	***€3000***

****please see copy of attached letter sent by registered post to Mr F. Clinton ,Programme Manager , Licencing Unit EPA on December 18th 2009***

Appropriate Fee Included	Yes	No
		√

B.9 Capital Investment Programme

State whether a programme of works has been prioritised for the development of infrastructure to appropriately collect, convey, treat and discharge waste water from the relevant agglomeration. If a programme of works has been prioritised provide details on funding (local or national small schemes programme) allocated to the capital project. Provide details on the extent and type of work to be undertaken and the likely timeframes for this work to be completed.
There is no proposed programme of works prioritised for the WWTP or the Network under the WSIP 2007-2009.

Attachment B.9 should contain the most recent development programme, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

Attachment included	Yes	No
		√

B.10 Significant Correspondence

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

Attachment B.10 should contain a summary of any relevant correspondence issued in relation to a Section 63 notice.

Attachment included	Yes	No
		√

B.11 Foreshore Act Licences.

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

Attachment B.11 should contain the most recent licence issued under the Foreshore Act 1933, including a copy of ***all*** conditions attached to the licence and any monitoring returns for the previous 12-month period, if applicable.

Attachment included	Yes	No
		√

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.

The combined sewer gravitates to the WWTP compound.
A pump sump is located in the WWTP compound which is fitted with a Duty and standby pumps. There is an Storm water overflow form the Pump sump to the river.
The flow is forwarded to the aeration tank.

The package plant consists of 2 steel tank constructed concentrically. The inner tank has a diameter of 4.58m and the outer tank has a diameter of 9.16m and they are sited on a concrete base.

The influent is aerated by a cage rotator in the outer area. The aerated effluent trickles over a bell mouth and is directed to the bottom of the inner clarifier.

The clarifier is fitted with a sludge return pump to return activated sludge to the aeration basin. Sludge is wasted by gravity to an underground concrete tank (size unknown). The sludge holding tank is desludged periodically as required.

Post secondary treatment, the effluent is discharged directly to the River Deel.

C.1.1 Storm Water Overflows

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

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

There are two SWOs within the agglomeration.
<u>SWO located at Pumping station.</u>
The pumping station was located adjacent to pre-existing septic tanks which operated prior to the package plant. A high level emergency over diverts flow to the Septic tank which in turn will discharge to the River.
There is no flow data from the emergency overflow.

, which is located in the WWTP at the inlet works. The SWO discharges to the river that runs along the eastern boundary of the site.
There is no data in relation to the flow and frequencies of discharges from the SWO.
Anecdotal evidence suggests there is little discharge from this SWO

This office is not aware of Public complaints in relation to discharges from the overflow.
The overflow is fitted with a baffle to prevent flowing debris/scum from been discharged to the received waters.

C.1.2 Pumping Stations

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

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

There are two CCC operated pumping station within the agglomeration.

Pump station within WWTP compound

- ***Grid Reference: 154670N, 117624E***
- ***The WWTP aeration tank is above ground. This sump forwards all flow to the aeration tank.***
- ***There is an emergency overflow from the sump to the River Deel.***
- ***2 no pumps, duty/standby arrangement***
- ***High level and low level float controls***
- ***There is no dial out facility.***

Pump station no. 2

- ***Grid Reference: 141481N, 121413E***
- ***The pump station is located on the far side of the River Deel from the WWTP***
- ***There is an emergency overflow from the sump to the adjacent septic tank. This in turn can discharge to the River Deel.***
- ***2 no pumps, duty/standby arrangement***
- ***High level and low level float controls***
- ***There is no Alarm facility.***

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
	√	

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 discharges are made or are to be made.

Details of all discharges of waste water from the agglomeration should be submitted via the following web based link: http://78.137.160.73/epa_wwd_licensing/. ***The applicant should address in particular all discharge points where the substances outlined in Tables 'Emissions to Surface/Groundwaters and 'Dangerous Substances Emissions' are emitted***

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

D.1(i) Discharges to Surface Waters

Details of all discharges of waste water from the agglomeration should be supplied via the following web based link: http://78.137.160.73/epa_wwd_licensing/. Tables 'Discharge Point Details', 'Emissions to Surface/Groundwaters and 'Dangerous Substances Emissions', should be completed for the primary discharge point from the agglomeration and for **each** secondary discharge point, where relevant. Table 'Discharge Point Details' should be completed for **each** storm water overflow. Individual Tables must be completed for each discharge point.

Where monitoring information is available for the influent to the waste water treatment plant this data should also be provided in response to Section D.1(i).

Supporting information should form **Attachment D.1(i)**

Attachment included	**Yes**	**No**
	√	

D.1(ii) Discharges to Groundwater

Details of all discharges of waste water from the agglomeration should be supplied via the following web based link: http://78.137.160.73/epa_wwd_licensing/. Tables 'Discharge Point Details', 'Emissions to Surface/Groundwaters and 'Dangerous Substances Emissions', should be completed for the primary discharge point from the agglomeration and for **each** secondary discharge point, where relevant. Table 'Discharge Point Details' should be completed for **each** storm water overflow. Individual Tables must be completed for each discharge point.

Where monitoring information is available for the influent to the waste water treatment plant this data should also be provided in response to Section D.1(ii).

Supporting information should form **Attachment D.1(ii)**

Attachment included	**Yes**	**No**
		√

D.1 (iii) Private Waste Water Treatment Plants

Provide information on all independently owned/operated private waste water treatment plants operating within the agglomeration. Submit a copy of the Section 4 discharge licence issued under the Water Pollution Acts 1977 to 1990, as amended for each discharge.

Not applicable

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
SW01-MILF	*Primary*	*Cork County Council*	*River*	*DEEL*	*N/A*	*141054E*	*121534N*
SW02-MILF	*SWO*	*Cork County Council*	*River*	*DEEL*	*N/A*	*141075N*	*121516E*
SW03-MILF	*SWO*	*Cork County Council*	*River*	*DEEL*	*N/A*	*141485N*	*121391E*

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.

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 'Discharge Point Details' via the following web based link: http://78.137.160.73/epa_wwd_licensing/.

Refer to Weblink submission, attached.

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 'Discharge Point Details' via the following web based link: http://78.137.160.73/epa_wwd_licensing/.

Not applicable

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

There is no continuous flow monitoring or composite sampling at the site.

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 discharge 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
	√	

E.3. Tabular data on Monitoring and Sampling Points

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

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
Point Code Provide label ID's assigned in section E of application	Point Type (e.g., Primary, Secondary, Storm Water Overflow)	Monitoring Type M = Monitoring S = Sampling	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used
SW01-MILF	**Primary**	**S**	*141054E*	*121345N*	N
aSW01u	***u/s***	***S***	***115169E***	***103775N***	***N***
aSW01d	***d/s***	***S***	***115795E***	***102281N***	***N***

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

E.4 Sampling Data

Regulation 24(i) of the Waste Water Discharge (Authorisation) Regulations 2007 requires all applicants in the case of an existing discharge 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 24(m) requires applicants to give details of compliance with any applicable monitoring requirements and treatment standards.

Attachment E.4 should contain any supporting information.

Attachment included	Yes	No
	√	

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

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

Clear and concise 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) and/or the ambient environmental conditions of the groundwater upgradient and downgradient of any discharges.

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. Impact on Receiving Surface water or Groundwater

- Details of monitoring of the receiving surface water should be supplied via the following web based link: http://78.137.160.73/epa_wwd_licensing/. Tables 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details' 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 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details'. Monitoring of surface water shall be carried out at not less than two points, one upstream from the discharge location and one downstream.
  Refer to Weblink submission, attached.

- Details of monitoring of the receiving ground water should be supplied via the following web based link: http://78.137.160.73/epa_wwd_licensing/. Tables 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details' should be completed for the primary discharge point. Ground water monitoring locations upgradient and down gradient of the discharge point shall be screened for those substances listed in Tables 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details'. Monitoring of ground water shall be carried out at not less than two points, one upgradient from the discharge location and one downgradient.
  Not applicable.

- For discharges from secondary discharge points Tables 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details' should be completed.
  Not applicable.

- 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 surface or groundwater.

The water quality in the river is designated as Q4 immediately upstream and Q4 immediately downstream of the discharge point. (No Cork County Council data available north of Milford)

Station Code	Station Name	EPA Biological Quality Rating (Q values)			
		1995-1997	Target 2007	2001-2003	EPA* (ENVision)
18B021300	Lombardstown Br.	2-3	2-3	3-4	4
?	Downstream of Milford	-	-	-	4

Note
Data from Cork County Council Environmental Map viewer.
* Source EPA maps online, 'ENVision', November 2009

Designation of River in relation to	
Shellfish Regulations S.I.200:1994;	Not designated.
Bathing Water Regulations S.I. 178:1998	Not designated
Salmonid Water Regulations S.I. 293: 1998	Not designated
Special Area of Conservation (SAC)	Not designated. The Shannon river is designated SAC 002165.
Special Protection Area (SPA);	Not Designated,
Sensitive Area (Urban Waste water Treatment Regulations S.I.254:2001)	Not designated

The River Shannon is included in the draft Management Plan for the Shannon River Basin District. This can be downloaded at the following address; http://www.shannonrbd.com/pdf/SHANNON-RBD-BOOKLET.pdf

- 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.
  There is no evidence to suggest that there are sources within the agglomeration or in the discharge itself which would lead to emissions of the main polluting substances (as defined in the dangerous substances Regulations SI 12:2001) at levels which would likely to impair the environment.

- In circumstances where drinking water abstraction points exist downstream/down gradient 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)

  The development is in the surface water catchment of the River Shannon, SAC 002165. In accordance with EPA Circular L8/08 Appendix 1, the project must be screened for its impacts. However, due to financial constraints, Cork County Council does not have the resources for the foreseeable future to assess the impacts in accordance with the EPA document, 'Waste Water discharge Licence – Appropriate Assessment'.

- This section should also contain details of any modelling of discharges from the agglomeration. Any other relevant information on the receiving environment should be submitted as **Attachment F.1.**
  There is no modelling of the sewer network to date.

Attachment included	Yes	No
		√

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

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

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
Abstraction Code	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
	Foynes, Askeaton, Shanagolden, Pallaskenry	***17,500***		***30kM***	***134345***	***149179***	
	Newcastle West	***2,700***		***20kM***	***131480***	***131201***	

***17,500m3/day**
(2,500m3/day to serve agglommeration; 15,000m3/day to Aughinish Aluminia)

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.

Attachment included	Yes	No
	√	

SECTION G: PROGRAMMES OF IMPROVEMENTS

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

G.1 Compliance with Council Directives

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

- Dangerous Substances Directive 2006/11/EC,
- Water Framework Directive 2000/60/EC,
- Birds Directive 79/409/EEC,
- Groundwater Directives 80/68/EEC & 2006/118/EC,
- Drinking Water Directives 80/778/EEC,
- Urban Waste Water Treatment Directive 91/271/EEC,
- Habitats Directive 92/43/EEC,
- Environmental Liabilities Directive 2004/35/EC,
- Bathing Water Directive 76/160/EEC, and
- Shellfish Waters Directive (2006/113/EC).

Not applicable, currently there is no programme of improvements to the waste water treatment works.

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 the European Communities Environmental Objectives (Surface Waters) Regulations 2009

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 European Communities Environmental Objectives (Surface Waters) Regulations 2009 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 previously identified as the principal sources of pollution under the Phosphorous Regulations (S.I. No. 258 of 1998).

Not applicable, currently there is no programme of improvements to the waste water treatment works.

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.

Not applicable, currently there is no programme of improvements to the waste water treatment works.

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

Attachment included	Yes	No
		√

G.4 Storm Water Overflows

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.

Not applicable, currently there is no programme of improvements to the waste water treatment works.

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

Attachment included	Yes	No
		√

SECTION H: DECLARATION

Declaration

I hereby make application for a waste water discharge Certificate of Authorisation/revised Certificate of Authorisation, 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 :** 18th Dec 2009
(on behalf of the organisation)

Print signature name: Tom STRITCH

Position in organisation: DIRECTOR OF SERVICES

Agglomeration details

Leading Local Authority	Cork County Council
Co-Applicants	
Agglomeration	Milford
Population Equivalent	490
Level of Treatment	secondary
Treatment plant address	Milford, Charleville, Co. Cork
Grid Ref (12 digits, 6E, 6N)	141041 / 121530
EPA Reference No:	

Contact details

Contact Name:	Frank Cronin
Contact Address:	Water Services Section Cork County Council North Division Annabella Mallow Co. Cork
Contact Number:	022-21123
Contact Fax:	022-21983
Contact Email:	frank.cronin@corkcoco.ie

Table D.1(i)(a): EMISSIONS TO SURFACE/GROUND WATERS (Primary Discharge Point)

Discharge Point Code: SW-1

Local Authority Ref No:	SW01 MILF	
Source of Emission:	MILFORD WWTP	
Location:	MILFORD, CHARLEVILLE	
Grid Ref (12 digits, 6E, 6N)	141054 / 121534	
Name of Receiving waters:	RIVER DEEL	
Water Body:	River Water Body	
River Basin District	Shannon IRBD	
Designation of Receiving Waters:	NONE	
Flow Rate in Receiving Waters:	0.0619	$m^3.sec^{-1}$ Dry Weather Flow
	0.04985	$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)		

Emission Details:

(i) Volume emitted			
Normal/day	95 m^3	Maximum/day	285 m^3
Maximum rate/hour	11.9 m^3	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.0011 m^3/sec		

Table D.1(i)(b): EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
pH	pH	Grab	= 9	
Temperature	°C	Grab	= 30	
Electrical Conductivity (@ 25°C)	µS/cm	Grab	= 1000	
Suspended Solids	mg/l	Grab	= 35	3.3
Ammonia (as N)	mg/l	Grab	= 0	0
Biochemical Oxygen Demand	mg/l	Grab	= 25	2.4
Chemical Oxygen Demand	mg/l	Grab	= 125	11.9
Total Nitrogen (as N)	mg/l	Grab	= 35	3.3
Nitrite (as N)	mg/l	Grab	= 0	0
Nitrate (as N)	mg/l	Grab	= 0	0
Total Phosphorous (as P)	mg/l	Grab	= 8	0.76
OrthoPhosphate (as P)	mg/l	Grab	= 6	0.57
Sulphate (SO_4)	mg/l	Grab	= 0	0
Phenols (Sum)	µg/l	Grab	= 0	0

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Table D.1(i)(c): DANGEROUS SUBSTANCE EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
Atrazine	µg/l	Grab	= 0	0
Dichloromethane	µg/l	Grab	= 0	0
Simazine	µg/l	Grab	= 0	0
Toluene	µg/l	Grab	= 0	0
Tributyltin	µg/l	Grab	= 0	0
Xylenes	µg/l	Grab	= 0	0
Arsenic	µg/l	Grab	= 0	0
Chromium	µg/l	Grab	= 0	0
Copper	µg/l	Grab	= 0	0
Cyanide	µg/l	Grab	= 0	0
Flouride	µg/l	Grab	= 0	0
Lead	µg/l	Grab	= 0	0
Nickel	µg/l	Grab	= 0	0
Zinc	µg/l	Grab	= 0	0
Boron	µg/l	Grab	= 0	0
Cadmium	µg/l	Grab	= 0	0
Mercury	µg/l	Grab	= 0	0
Selenium	µg/l	Grab	= 0	0
Barium	µg/l	Grab	= 0	0

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Table D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS (Storm Overflow)

Discharge Point Code: SW-2

Local Authority Ref No:	SW02 MILF	
Source of Emission:	MILFORD WWTP	
Location:	MILFORD, CHARLEVILLE	
Grid Ref (12 digits, 6E, 6N)	141084 / 121518	
Name of Receiving waters:	RIVER DEEL	
Water Body:	River Water Body	
River Basin District	Shannon IRBD	
Designation of Receiving Waters:	NONE	
Flow Rate in Receiving Waters:	0.0619	$m^3.sec^{-1}$ Dry Weather Flow
	0.04985	$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	NO FLOW DATA AVAILABLE FOR THE SWO	

Emission Details:

(i) Volume emitted			
Normal/day	m^3	Maximum/day	m^3
Maximum rate/hour	m^3	Period of emission (avg)	min/hr hr/day day/yr
Dry Weather Flow	m^3/sec		

Table D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS (Storm Overflow)

Discharge Point Code: SW-3

Local Authority Ref No:	SW03 MILF	
Source of Emission:	PUMPING STATION	
Location:	SCART, MILFORD, CHARLEVILLE	
Grid Ref (12 digits, 6E, 6N)	141485 / 121391	
Name of Receiving waters:	RIVER DEEL	
Water Body:	River Water Body	
River Basin District	Shannon IRBD	
Designation of Receiving Waters:	NONE	
Flow Rate in Receiving Waters:	0.0619	$m^3.sec^{-1}$ Dry Weather Flow
	0.04985	$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	THIS IS AN EMERGENCY OVERFLOW FROM THE PUMPING STATION. THE OVERFLOW PASSES THROUGH A SEPTIC TANK PRIOR TO ANY DISCHARGE TO THE RIVER.	

Emission Details:

(i) Volume emitted			
Normal/day	m^3	Maximum/day	m^3
Maximum rate/hour	m^3	Period of emission (avg)	min/hr hr/day day/yr
Dry Weather Flow	m^3/sec		

TABLE E.1(i): WASTE WATER FREQUENCY 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	34675

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

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m^3/annum)	Complies with Definition of Storm Water Overflow
SW-2			Yes
SW-3			Yes

TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	115795 / 102281

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	01/01/09	26/08/09					
pH		= 8.1			Grab	2	Electrochemical
Temperature	= 0				Grab	0.5	Electrochemical
Electrical Conductivity (@ 25°C)		= 331			Grab	0.5	Electrochemical
Suspended Solids		= 23			Grab	0.5	Gravimetric
Ammonia (as N)		= 0.1			Grab	0.02	Colorimetric
Biochemical Oxygen Demand		= 3.6			Grab	0.06	Electrochemical
Chemical Oxygen Demand		= 25			Grab	8	Digestion & Colorimetric
Dissolved Oxygen	= 0				Grab	0.2	ISE
Hardness (as $CaCO_3$)	= 0				Grab	1	Titrimetric
Total Nitrogen (as N)		= 3.4			Grab	0.5	Digestion & Colorimetric
Nitrite (as N)		= 1.554			Grab	0.1	Colorimetric
Nitrate (as N)		= 0.836			Grab	0.5	Colorimetric
Total Phosphorous (as P)		= 0.129			Grab	0.2	Digestion & Colorimetric
OrthoPhosphate (as P)		= 0.13			Grab	0.02	Colorimetric
Sulphate (SO_4)		< 30			Grab	30	Turbidimetric
Phenols (Sum)		< 0.1			Grab	0.1	GC-MS2

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Additional Comments:	Default of 01/01/09 and 0 where no results are available. TBT testing not required.

TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	115795 / 102281

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	01/01/09	26/08/09					
Atrazine		< 0.01			Grab	0.96	HPLC
Dichloromethane		< 1			Grab	1	GC-MS1
Simazine		< 0.1			Grab	0.01	HPLC
Toluene		< 0.28			Grab	0.02	GC-MS1
Tributyltin	= 0				Grab	0.02	GC-MS1
Xylenes		< 1			Grab	1	GC-MS1
Arsenic		< 0.96			Grab	0.96	ICP-MS
Chromium		< 20			Grab	20	ICP-OES
Copper		< 20			Grab	20	ICP-OES
Cyanide		< 5			Grab	5	Colorimetric
Flouride		< 0.1			Grab	100	ISE
Lead		< 20			Grab	20	ICP-OES
Nickel		< 20			Grab	20	ICP-OES
Zinc		< 20			Grab	20	ICP-OES
Boron		< 20			Grab	20	ICP-OES
Cadmium		< 20			Grab	20	ICP-OES
Mercury		< 0.2			Grab	0.2	ICP-MS
Selenium		< 0.74			Grab	0.74	ICP-MS
Barium		= 21.2			Grab	20	ICP-OES

Additional Comments:	TBT value is 0.02ug/l as Sn Default of 01/01/09 and 0 where no results are available. TBT testing not required.

TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	115169 / 103775

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	01/01/09	26/08/09					
pH		= 7.8			Grab	2	Electrochemical
Temperature	= 0				Grab	0.5	Electrochemical
Electrical Conductivity (@ 25°C)		= 250			Grab	0.5	Electrochemical
Suspended Solids		= 39			Grab	0.5	Gravimetric
Ammonia (as N)		= 0.2			Grab	0.02	Colorimetric
Biochemical Oxygen Demand		= 2.4			Grab	0.06	Electrochemical
Chemical Oxygen Demand		= 52			Grab	8	Digestion & Colorimetric
Dissolved Oxygen	= 0				Grab	0.2	ISE
Hardness (as $CaCO_3$)	= 0				Grab	1	Titrimetric
Total Nitrogen (as N)		= 3.4			Grab	0.5	Digestion & Colorimetric
Nitrite (as N)		= 0.786			Grab	0.1	Colorimetric
Nitrate (as N)		= 0.704			Grab	0.5	Colorimetric
Total Phosphorous (as P)		= 0.151			Grab	0.2	Digestion & Colorimetric
OrthoPhosphate (as P)		= 0.13			Grab	0.02	Colorimetric
Sulphate (SO_4)		< 30			Grab	30	Turbidmetric
Phenols (Sum)	= 0				Grab	0.1	GC-MS2

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Additional Comments:	Default of 01/01/09 and 0 where no results are available. TBT testing not required.

TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	115169 / 103775

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	01/01/09	26/08/09					
Atrazine	= 0				Grab	0.96	HPLC
Dichloromethane	= 0				Grab	1	GC-MS1
Simazine	= 0				Grab	0.01	HPLC
Toluene	= 0				Grab	0.02	GC-MS1
Tributyltin	= 0				Grab	0.02	GC-MS1
Xylenes	= 0				Grab	1	GC-MS1
Arsenic	= 0				Grab	0.96	ICP-MS
Chromium		< 20			Grab	20	ICP-OES
Copper		< 20			Grab	20	ICP-OES
Cyanide	= 0				Grab	5	Colorimetric
Flouride		< 0.1			Grab	100	ISE
Lead		< 20			Grab	20	ICP-OES
Nickel		< 20			Grab	20	ICP-OES
Zinc		< 20			Grab	20	ICP-OES
Boron		< 20			Grab	20	ICP-OES
Cadmium		< 20			Grab	20	ICP-OES
Mercury	= 0				Grab	0.2	ICP-MS
Selenium	= 0				Grab	0.74	ICP-MS
Barium		= 24.7			Grab	20	ICP-OES

Additional Comments:	TBT value is 0.02ug/l as Sn Default of 01/01/09 and 0 where no results are available. TBT testing not required.

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 contains(s) the information requested in the appropiate 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,	B.1	Yes
(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,	not applicable	Yes
(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,	B.2	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	B.8 (i)	Yes
(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	Yes
(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.	F.1	Yes
(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,	E.2, E.3	Yes
(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,	E.4	Yes
(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,	C	Yes
(j)	give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points,	not applicable	Yes
(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,	F	Yes
(l)	give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives of Regulations,	E	Yes
(m)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work.	G	Yes
(n)	Any other information as may be stipulated by the Agency.		Yes
Regulation 16(3) **Without prejudice to Regulation 16 (1) and (2), an application for a licence shall be accompanied by -**		**Attachment Number**	**Checked by Applicant**
(a)	a copy of the notice of intention to make an application given pursuant to Regulation 9,	not applicable	Yes
(b)	where appropriate, a copy of the notice given to a relevant water services authority under Regulation 13,	not applicable	Yes
(c)	Such other particulars, drawings, maps, reports and supporting documentation as are necessary to identify and describe, as appropriate -	B	Yes
(c) (i)	the point or points, including storm water overflows, from which a discharge or discharges take place or are to take place, and	B	Yes
(c) (ii)	the point or points at which monitoring and sampling are undertaken or are to be undertaken,	B	Yes
(d)	such fee as is appropriate having regard to the provisions of Regulations 38 and 39.		Yes

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.		Attachment Number	Checked by Applicant
1	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 electronic or other format as specified by the agancy.		Yes
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, be submitted in an electronic or other format specified by the Agency.**		**Attachment Number**	**Checked by Applicant**
1	Signed original.		Yes
2	2 hardcopies of application provided or 2 CD versions of application (PDF files) provided.		Yes
3	1 CD of geo-referenced digital files provided.		Yes
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**		**Attachment Number**	**Checked by Applicant**
3	2 CD versions of EIS, as PDF files, provided.	not applicable	Yes
1	EIA provided if applicable	not applicable	Yes
2	2 hardcopies of EIS provided if applicable.	not applicable	Yes
Regulation 24 **In the case of an application for a waste water discharge certificate of authorisation, the application shall –**		**Attachment Number**	**Checked by Applicant**
(a)	give the name, address, telefax number (if any) and telephone number of the applicant and the address to which correspondence relating to the application should be sent and, if the operator of the waste water works is a body corporate, the address of its registered office or principal office	B	Yes
(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,	not applicable	Yes
(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 discharge point or points to which the application relates,	B	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	B	Yes
(e)	in the case of an application for the review of a certificate, specify the reference number given to the relevant certificate in the register,		Yes
(f)	specify the content and extent of the waste water discharge, the level of treatment provided and the flow and type of discharge,	A	No
(g)	give details of the receiving water body, 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 or likely to be affected by the discharge concerned,	F	Yes
(h)	identify monitoring and sampling points and indicate proposed arrangements for the monitoring of discharges and of the likely environmental consequences of any such discharges,	E	Yes
(i)	in the case of an existing discharge, specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application,	E	Yes
(j)	describe the existing or proposed measures, including emergency procedures, to prevent unauthorised or unexpected waste water discharges and to minimise the impact on the environment of any such discharges,	C	Yes
(k)	give particulars of the location of the nearest downstream drinking water abstraction point or points to the discharge point or points associated with the waste water works,	F	Yes
(l)	give details of any designation under any Council Directive or Regulations that apply in relation to the receiving waters,	F	Yes
(m)	give details of compliance with any applicable monitoring requirements and treatment standards,	E	Yes
(n)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work,	G	Yes
(o)	give any other information as may be stipulated by the Agency, and		Yes
(p)	be accompanied by such fee as is appropriate having regard to the provisions of Regulations 38 and 39.		Yes

ANNEX 1: TABLES / ATTACHMENT

Section		Ref	Description
A1	Non Technical Summary	Map 1 Map 2 Map 3	1:50,000 Location Map Site Location of WWTP Wastewater Treatment Plant – Site Layout
B1	Agglomeration Details	Map 4	Agglomeration Map
B2	Location of WWTP	Map 5	Layout of Waste Water Treatment Plant
B3	Location of Primary Discharge Point	Map 6 Map 7	Location of primary discharge point Location of Sampling Points
B4	Location of secondary Discharge Point		-
B5	Location of SWO	Map 8 Map 9	Location of SW02 Location of SW02
B6	Planning Authority		-
B7	Other Authorities		-
B8	PE of Agglomeration		-
B9	Capital Investment Programme		-
B10	Significant Correspondence		-
B 11	Foreshore Act Licences		-
C1	Infrastructure and operation.	Map 10 Drg 1	Layout WWTP Schematic of Wastewater Treatment Plant
D1	Discharges to Surface Waters		Sampling Results
	Discharges to Ground waters		-
	Private WWTP		-
D2	Discharge Points		Excel sheet of discharge point data
E2	Monitoring & Sampling Points		-
E3	Tabular data on Monitoring and Sampling Points		Excel sheet of sampling point data
E4	Sampling Data		Sampling Results
F1	Impact on Receiving Surface water or Groundwater		Water abstraction risk assessment
F2	Tabular Data on Drinking Water Abstraction Point(s)		-
G1	Compliance with Council Directives		-
G2	Compliance with the European Communities Environmental Objectives (Surface Waters) Regulations 2009		-
G3	Impact Mitigation		-
G4	Storm Water Overflows		-

NOTES

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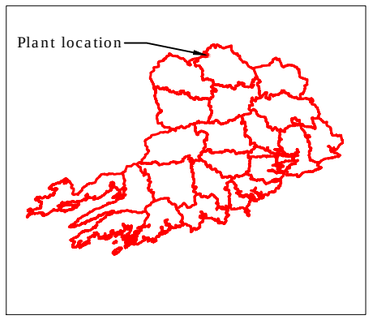


Key Map

No.	Date	Drwn	Surv	Chkd	Revision Description

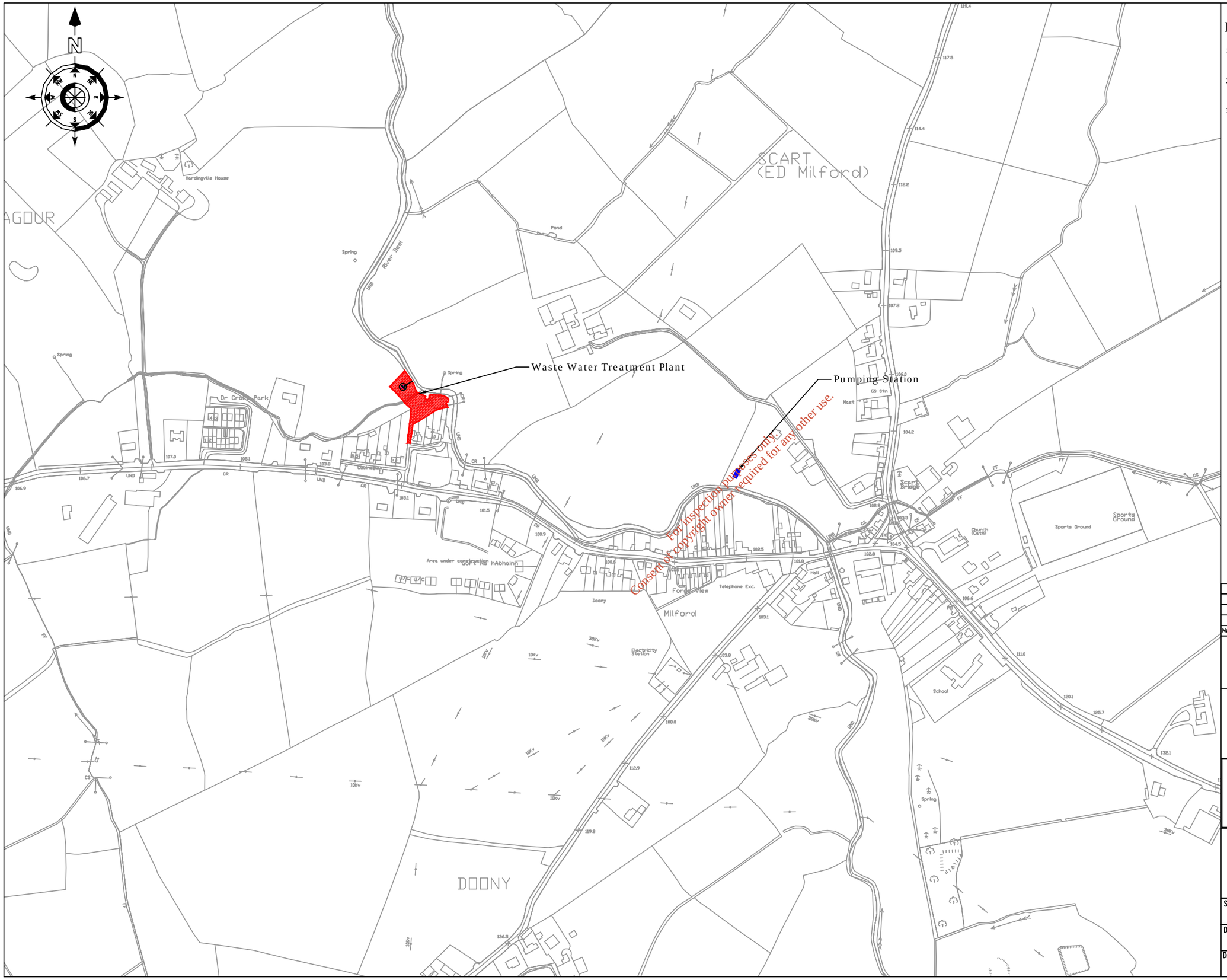
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title: Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Location Map
Scale - 1:50,000
Attachment A1 - Map 1

Scales:	Surveyed by:	Drawn by:
1:50,000 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
A1 - Map 1		-



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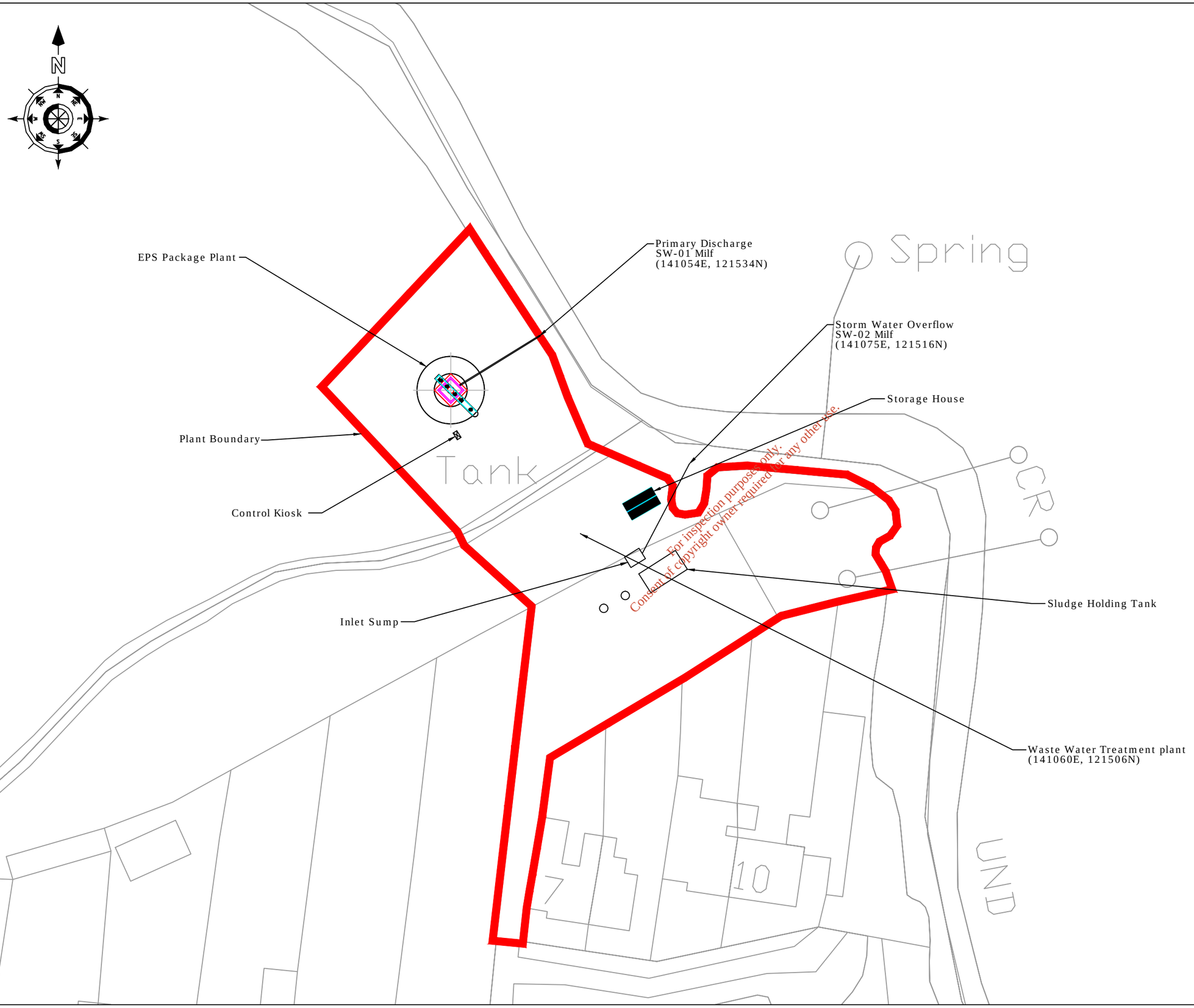
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Site Locations of W.W.T.P.
& Pumping Stations
Attachment A1 - Map 2

Scales:	Surveyed by:	Drawn by:
1:5000 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number: A1-Map 2		**Rev:** -



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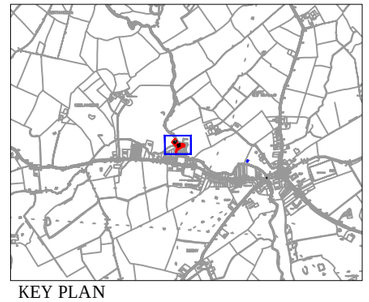


KEY PLAN

No.	Date	Drwn	Surv	Chkd	Revision Description

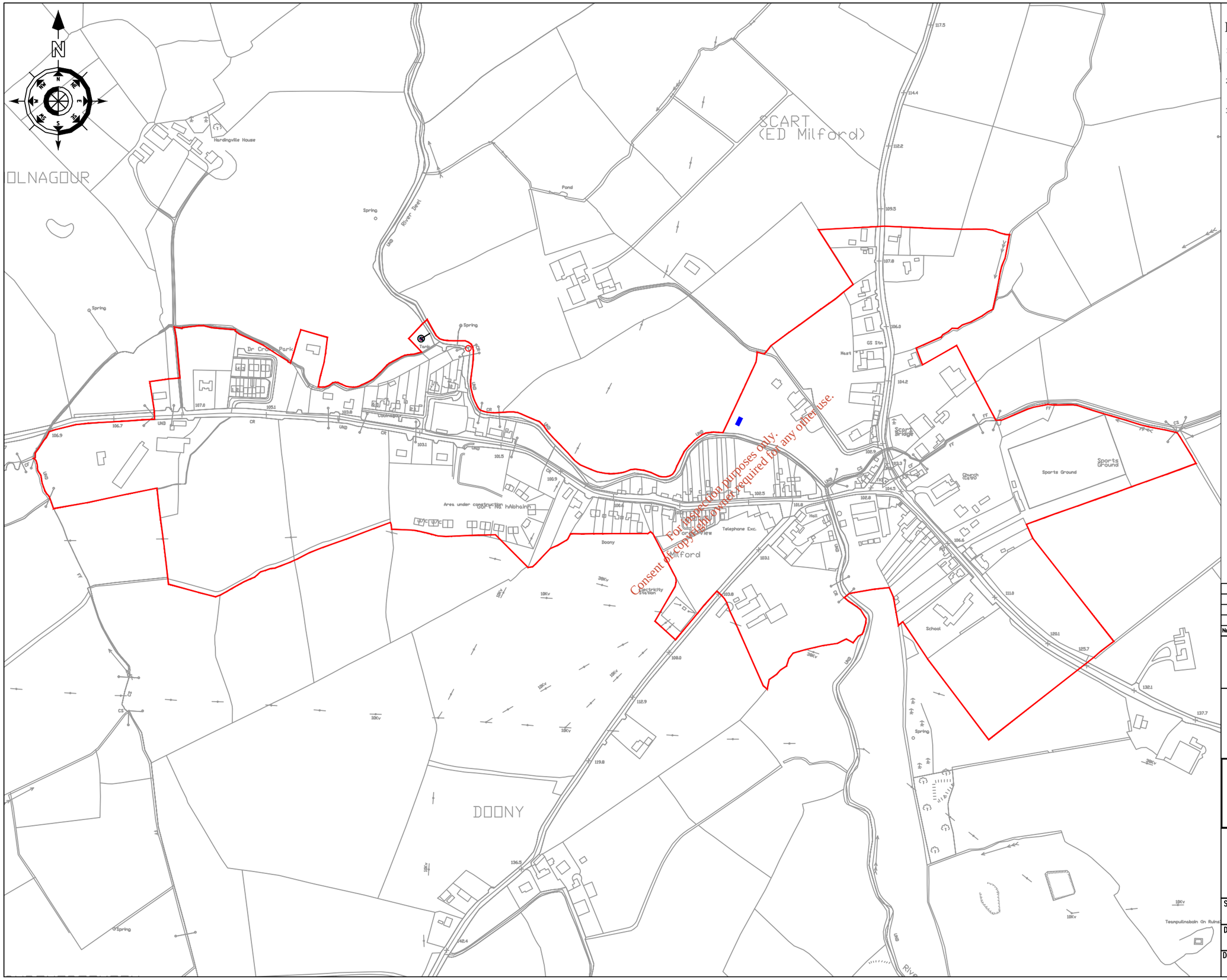
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Waste Water Treatment Plant
Site Layout
Attachment A1 - Map 3

Scales:	Surveyed by:	Drawn by:
1:500 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
A1 - Map 3		-



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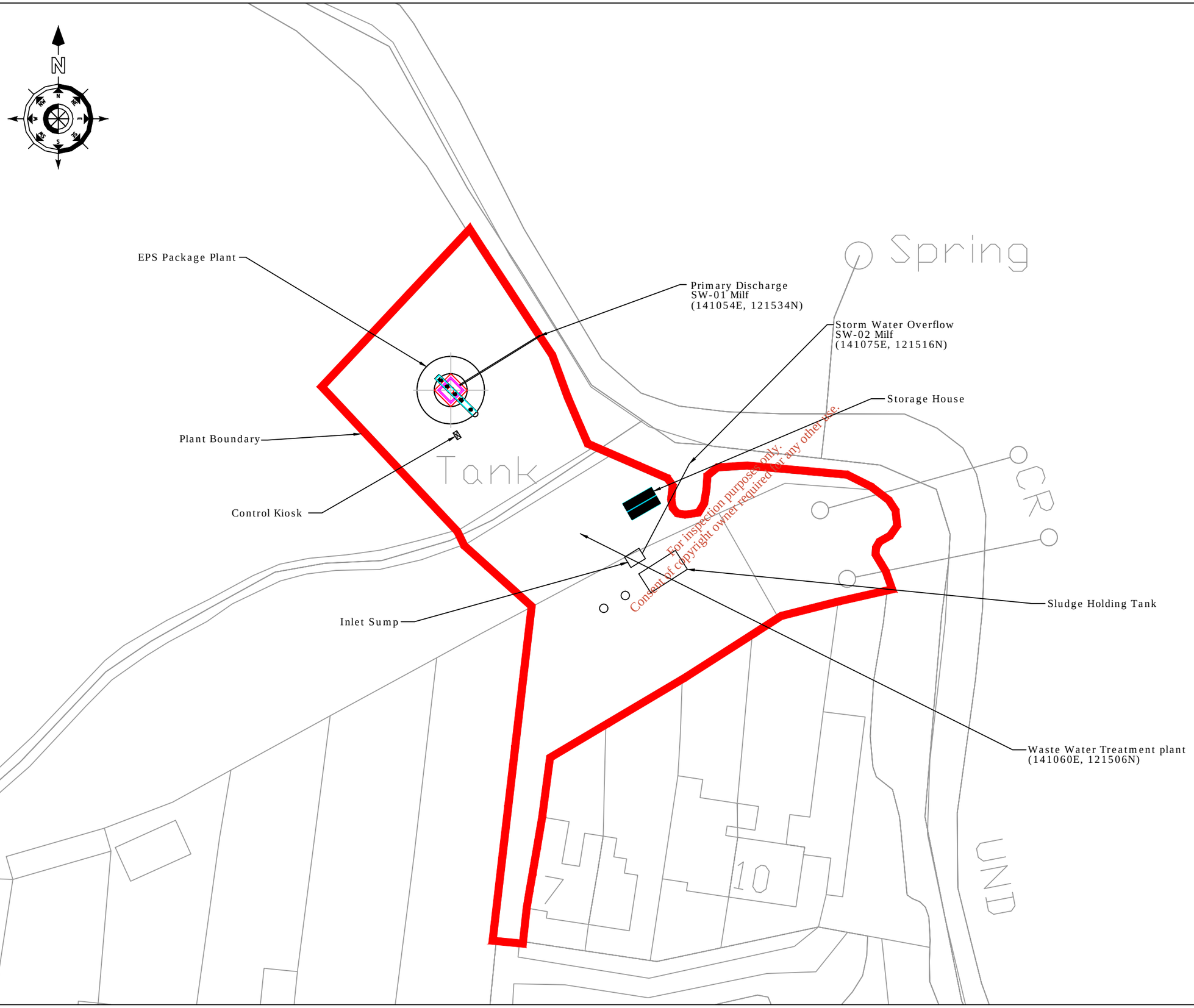
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Agglomeration Boundary
Attachment B1 - Map 4

Scales:	Surveyed by:	Drawn by:
1:5,000 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
B1 - Map 4		-



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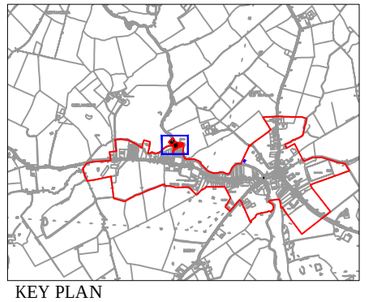


KEY PLAN

No.	Date	Drwn	Surv	Chkd	Revision Description

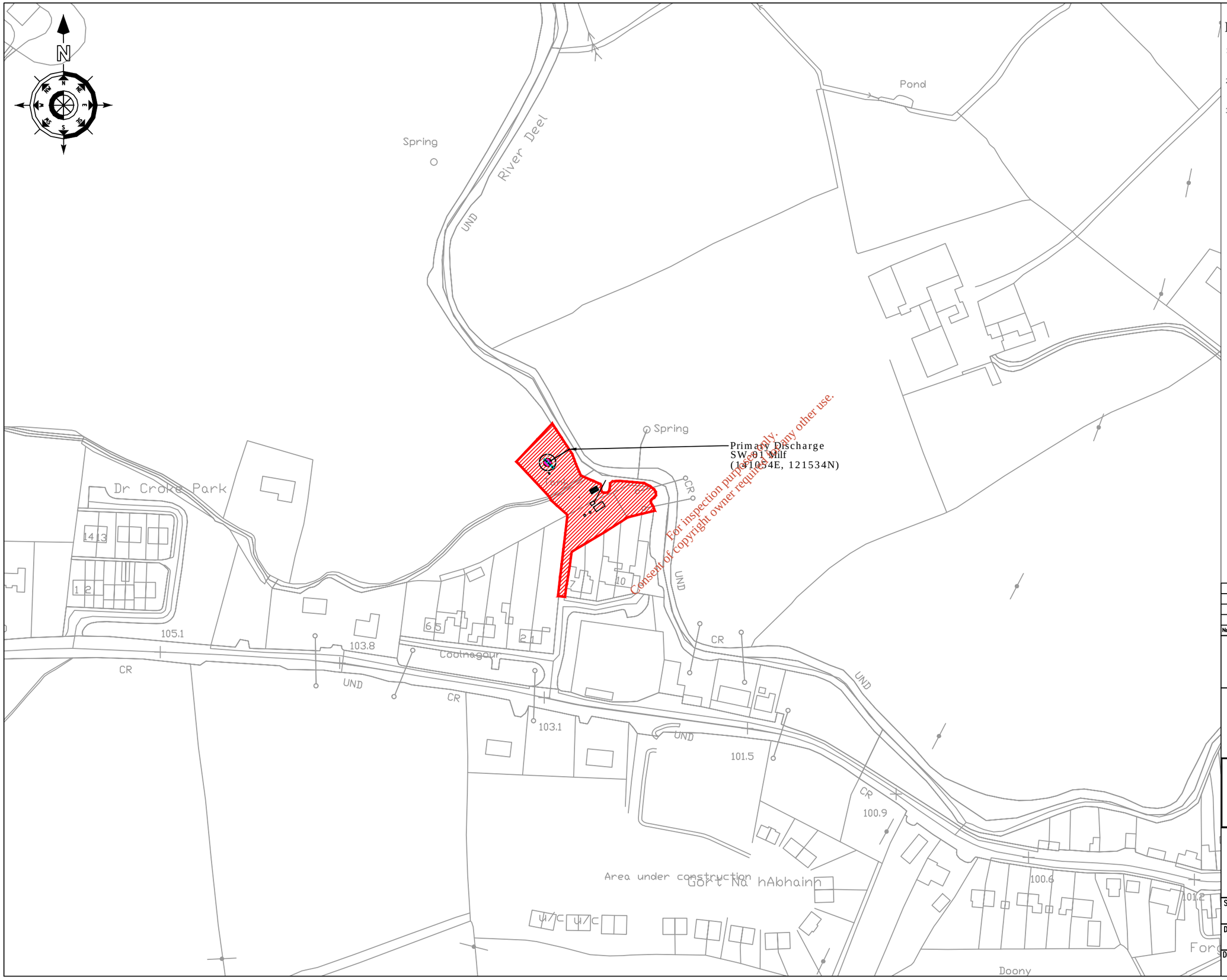
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Waste Water Treatment Plant
Site Layout
Attachment B2 - Map 5

Scales:	Surveyed by:	Drawn by:
1:500 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
B2 - Map 5		-



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No.	Date	Drwn	Surv	Chkd	Revision Description

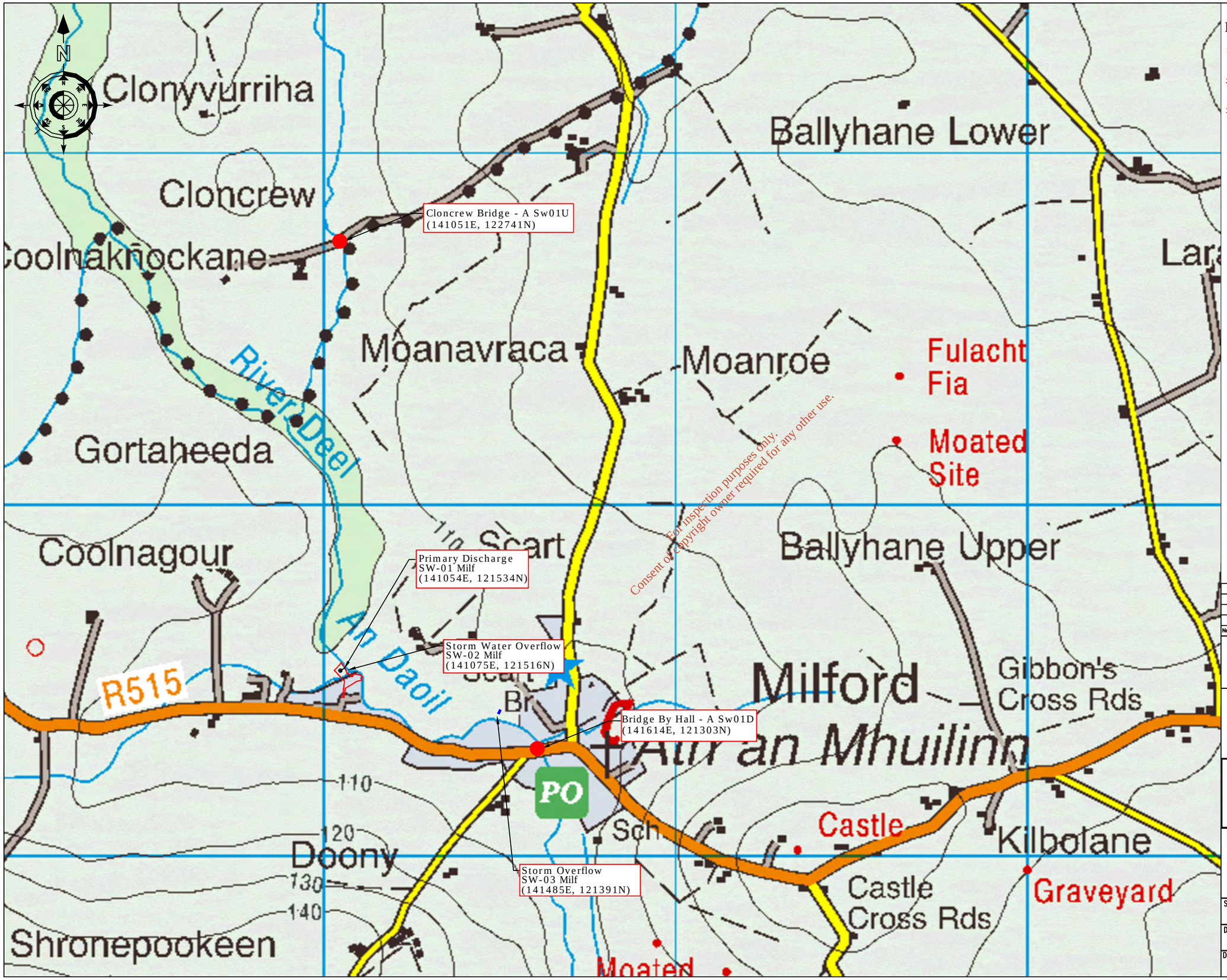
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Location of Primary Discharge
Point SW01 - Milf
Attachment B3 - Map 6

Scales:	Surveyed by:	Drawn by:
1:500 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
B3 - Map 6		-



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No.	Date	Drwn	Surv	Chkd	Revision Description

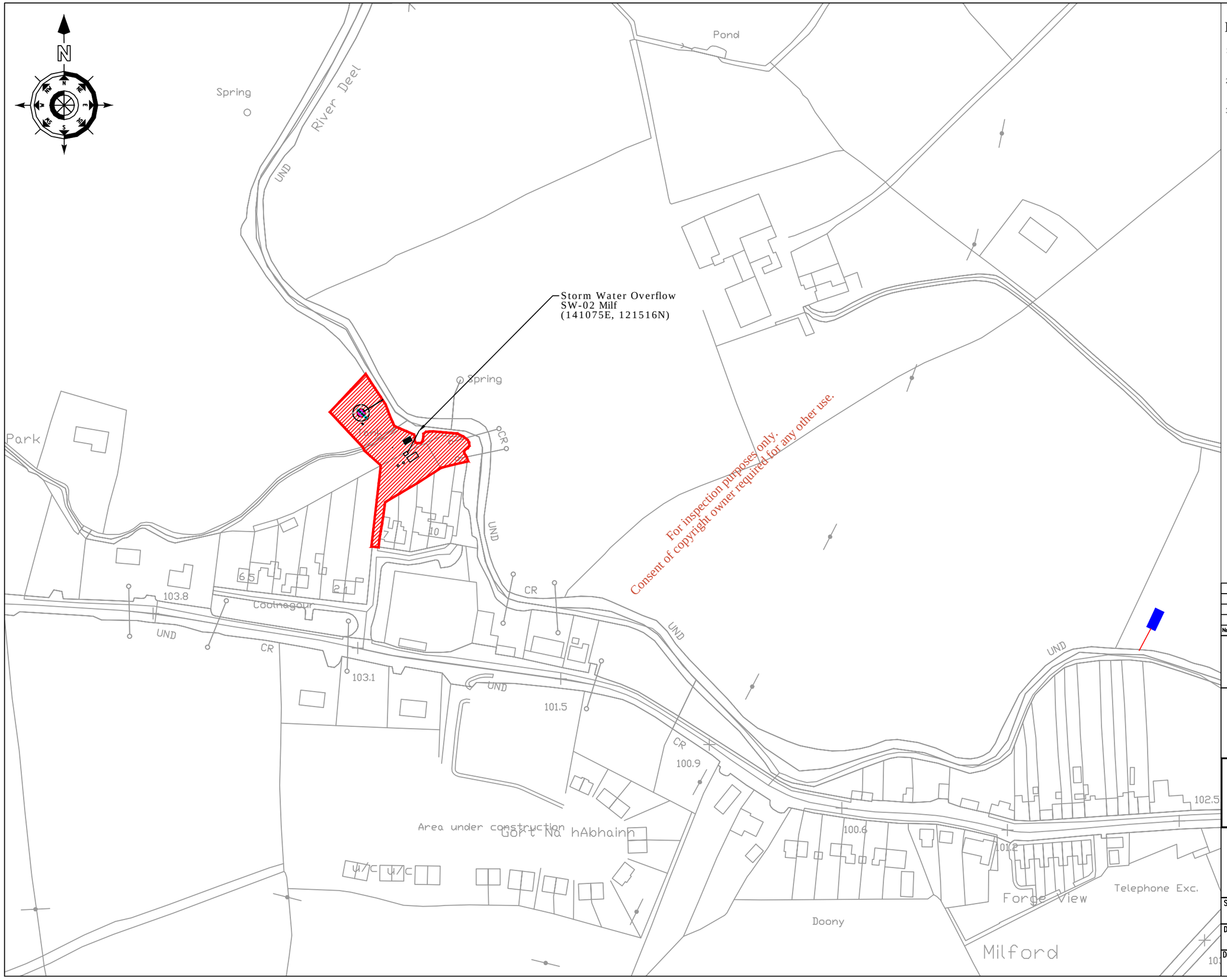
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Locations of sampling points
Attachment B3 - Map 7

Scales:	Surveyed by:	Drawn by:
1:10,000 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
B3 - Map 7		-



NOTES

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No.	Date	Drwn	Surv	Chkd	Revision Description

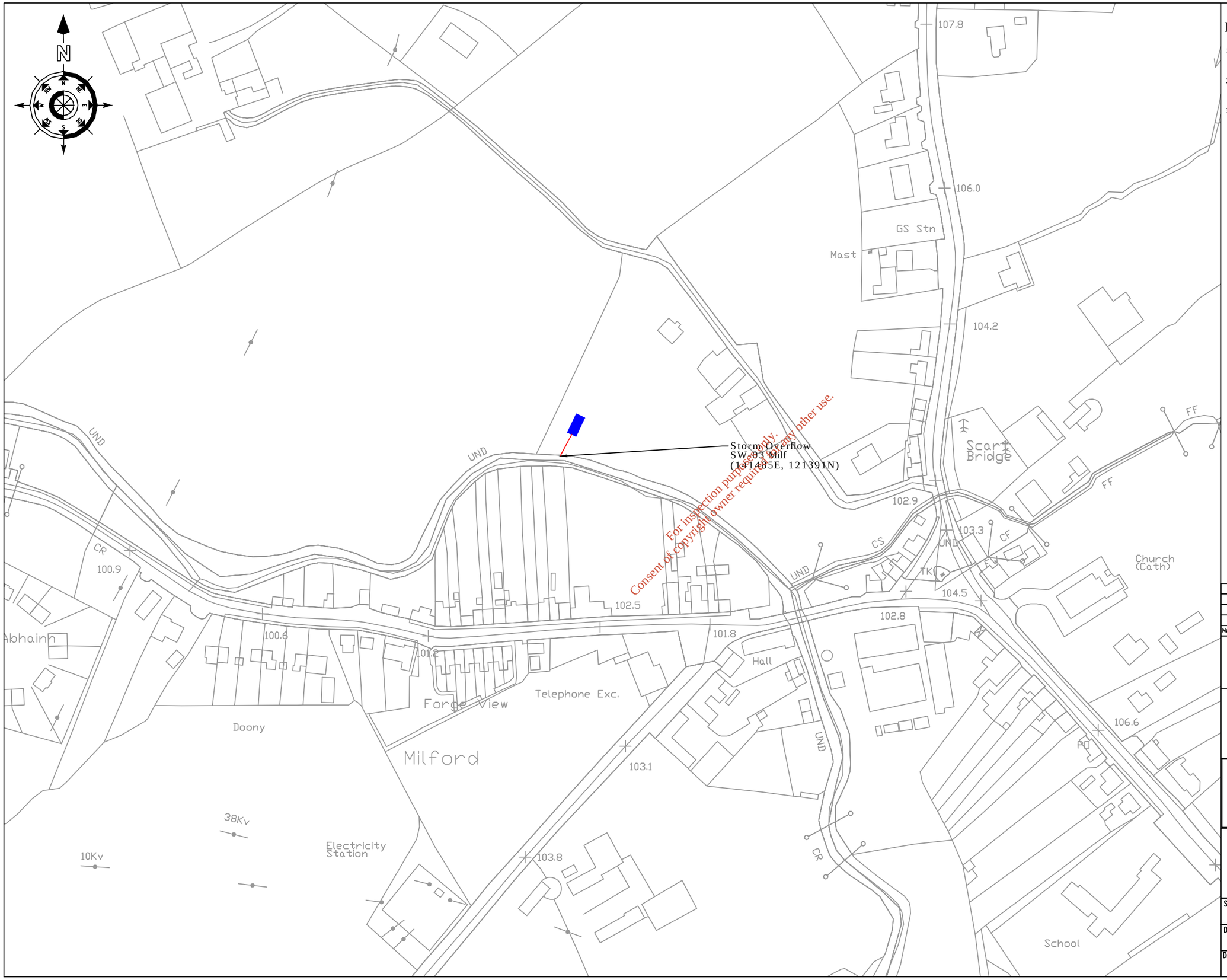
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Location of Storm Water Overflow
Point SW02 - Milf
Attachment B5 - Map 8

Scales:	Surveyed by:	Drawn by:
1:500 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
B5 - Map 8		-



NOTES

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No.	Date	Drwn	Surv	Chkd	Revision Description

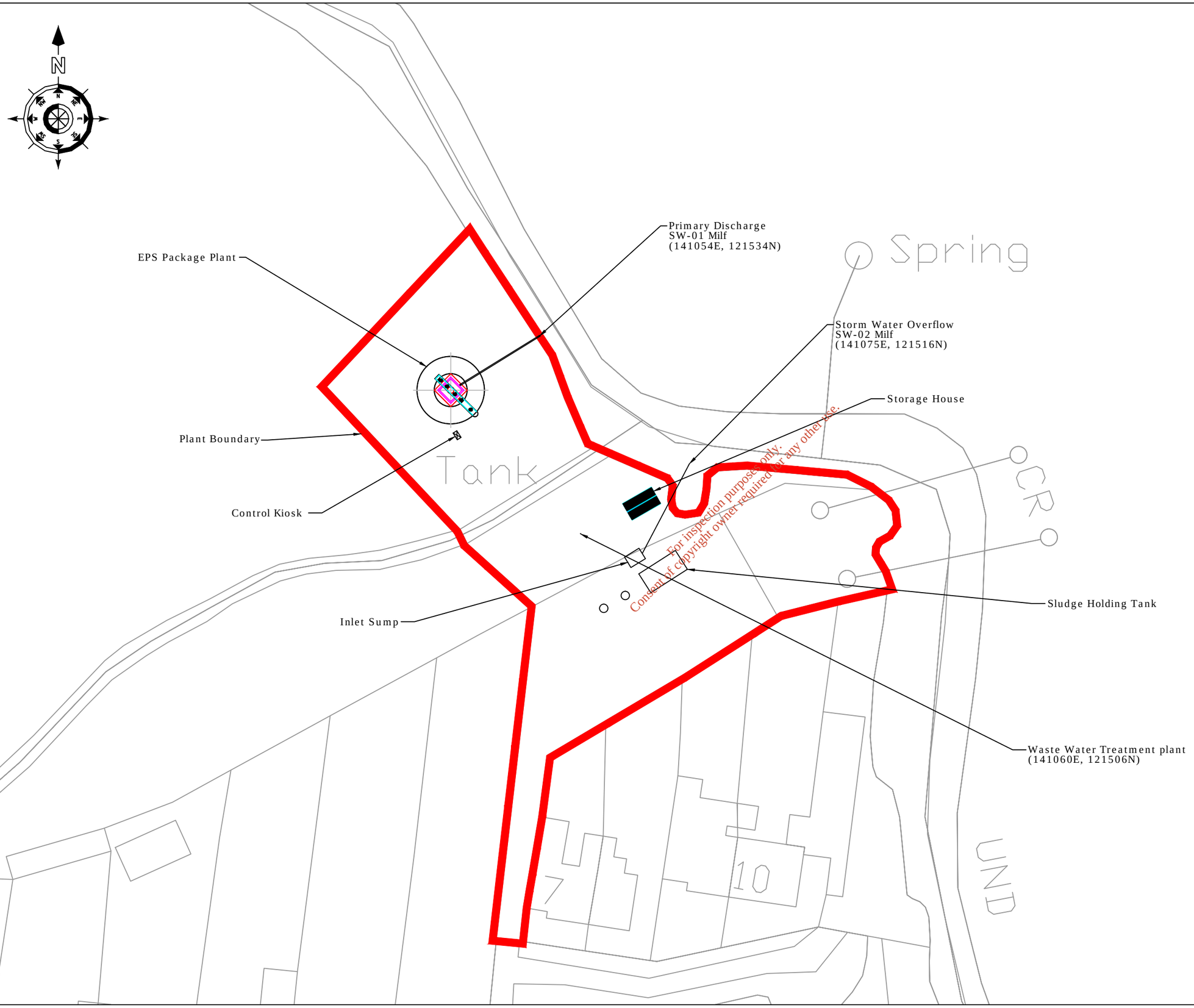
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Location of Storm Water Overflow
Point SW03 - Milf
Attachment B5 - Map 9

Scales:	Surveyed by:	Drawn by:
1:500 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
B5 - Map 9		-



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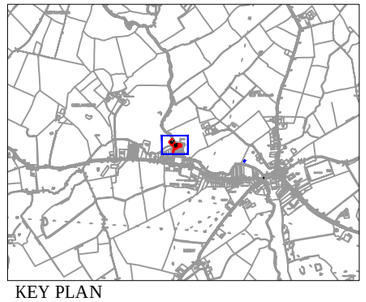


KEY PLAN

No.	Date	Drwn	Surv	Chkd	Revision Description

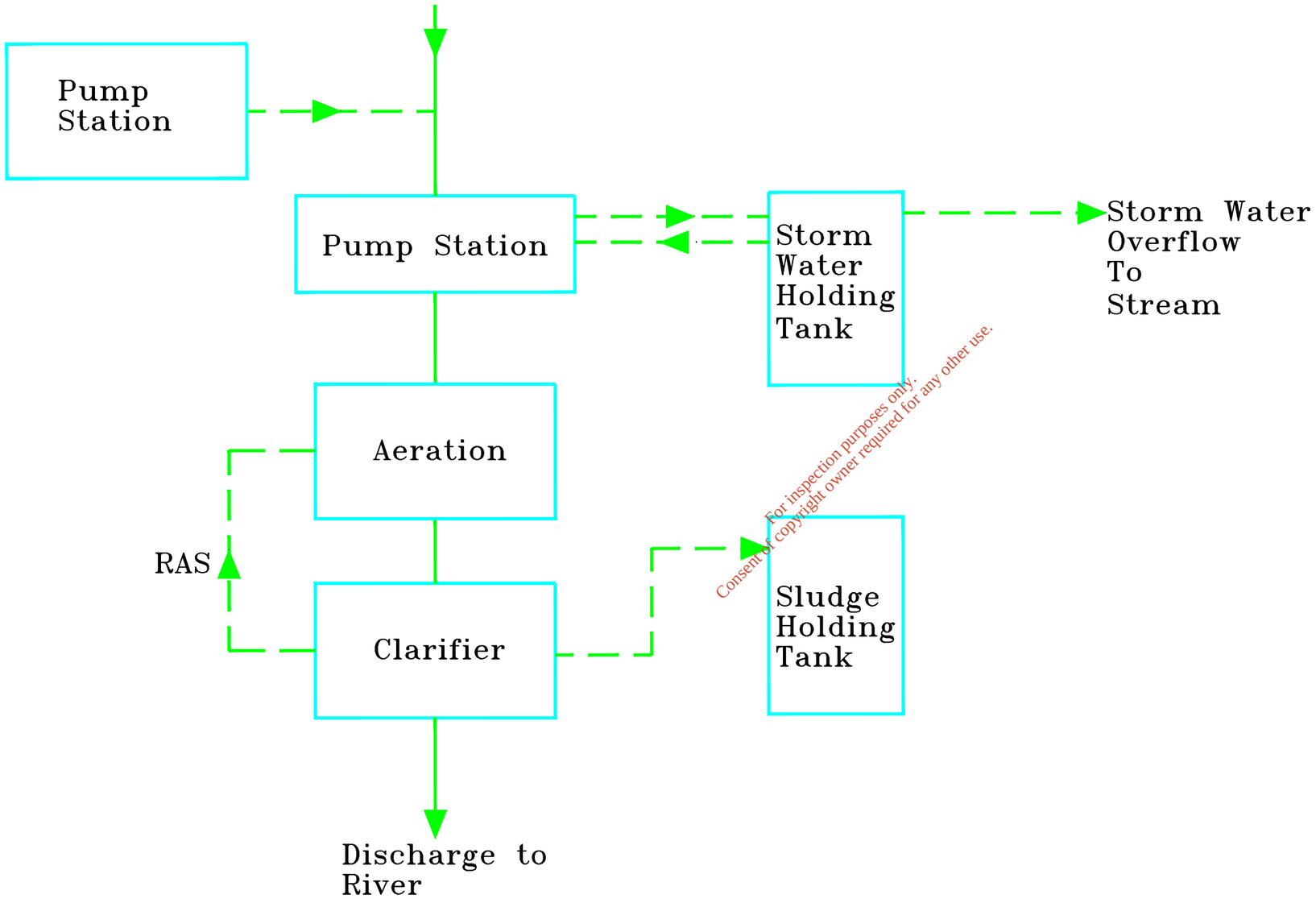
Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Waste Water Treatment Plant
Site Layout
Attachment C1 - Map 10

Scales:	Surveyed by:	Drawn by:
1:500 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
C1 - Map 10		-



NOTES

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No.	Date	Drwn	Surv	Chkd	Revision Description

Cork County Council,
Northern Division.

N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Millford & Environs
Waste Water Discharge
Licence Application

Drawing Title:
Schematic showing Existing Treatment Plant Process
Attachment C1 - Drawing 1

Scales:	Surveyed by:	Drawn by:
1:5000 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
E.M.	P.O.F	December 2009
Drawing number:		**Rev:**
C1 - Drawing 1		-

Attachment E4 Milford analytical data for certification ap

Sample Date	14/05/2009	21/05/2009	26/08/2009		26/08/2009		26/08/2009
Sample	Influent	Influent	Influent		Effluent		River Upstream
Sample Code	GT745	GT785	GT1078		GT1079		GT1077
Flow M^3/Day	No result	No result	No result		No result		No result
pH	No result	No result	7.9		7.6		7.8
Temperature ℃	No result	No result	No result		No result		No result
Cond 20℃	No result	No result	655		472		250
SS mg/L	No result	No result	23		51		39
NH_3 mg/L	No result	No result	26.5		<0.1		0.2
BOD mg/L	No result	No result	52		55		2.4
COD mg/L	No result	No result	77		323		52
TN mg/L	70.5	2.27	35.9		24.1		3.4
Nitrite mg/L	No result	No result	No result		<0.1		0.786
Nitrate mg/L	No result	No result	2.07		7.85		0.704
TP mg/L	No result	No result	2.25		2.44		0.151
O-PO4-P mg/L	No result	No result	2.77		2.46		0.13
SO4 mg/L	No result	No result	<30		<30		<30
Phenols µg/L	No result	No result	No result		<0.10		No result
Atrazine µg/L	No result	No result	No result		<0.01		No result
Dichloromethane	No result	No result	No result		<1		No result
Simazine µg/L	No result	No result	No result		<0.01		No result
Toluene µg/L	No result	No result	No result		<0.28		No result
Tributyltin µg/L	No required	No required	No required		No required		No required
Xylenes µg/L	No result	No result	No result		<0.73		No result
Arsenic µg/L	No result	No result	No result		<0.96		No result
Chromium ug/L	<20	<20	<20		<20		<20
Copper ug/L	46.4	<20	<20		<20		<20
Cyanide µg/L	No result	No result	No result		<5		No result
Fluoride µg/L	No result	No result	0.22		0.3		<0.1
Lead ug/L	<20	<20	<20		<20		<20
Nickel ug/L	<20	<20	<20		<20		<20
Zinc ug/L	110.2	<20	<20		<20		<20
Boron ug/L	<20	<20	<20		<20		<20
Cadmium ug/L	<20	<20	<20		<20		<20
Mercury µg/L	No result	No result	No result		<0.2		No result
Selenium µg/L	No result	No result	No result		<0.74		No result
Barium ug/L	35.9	32.1	26.3		<20		24.7

Note samples analysed for Dangerous substances in discharge and downstream c

plication	
	26/08/2009
	River Downstream
	GT1080
	No result
	8.1
	No result
	331
	23
	0.1
	3.6
	25
	3.4
	1.554
	0.836
	0.129
	0.13
	<30
	<0.10
	<0.01
	<1
	<0.01
	<0.28
	No required
	<1
	<0.96
	<20
	<20
	<5
	<0.1
	<20
	<20
	<20
	<20
	<20
	<0.2
	<0.74
	21.2

of discharge

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING	VERIFIED
SW01 MILF	PRIMARY	CORK COUNTY COUNICL	RIVER	deel	none	141054	121534	N
SW02 MILF	PRIMARY	CORK COUNTY COUNICL	RIVER	deel	none	141075	121516	
SW03 MILF	PRIMARY	CORK COUNTY COUNICL	RIVER	deel	none	141485	121391	

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
SWO1	Primary	Sampling	141054E	121345N	N
aSW01u	u/s	Sampling	115169E	103775N	N
aSW01d	d/s	Sampling	115795E	102281N	N

Attachment E4 Milford analytical data for certification ap

Sample Date	14/05/2009	21/05/2009	26/08/2009		26/08/2009		26/08/2009
Sample	Influent	Influent	Influent		Effluent		River Upstream
Sample Code	GT745	GT785	GT1078		GT1079		GT1077
Flow M^3/Day	No result	No result	No result		No result		No result
pH	No result	No result	7.9		7.6		7.8
Temperature ℃	No result	No result	No result		No result		No result
Cond 20℃	No result	No result	655		472		250
SS mg/L	No result	No result	23		51		39
NH_3 mg/L	No result	No result	26.5		<0.1		0.2
BOD mg/L	No result	No result	52		55		2.4
COD mg/L	No result	No result	77		323		52
TN mg/L	70.5	2.27	35.9		24.1		3.4
Nitrite mg/L	No result	No result	No result		<0.1		0.786
Nitrate mg/L	No result	No result	2.07		7.85		0.704
TP mg/L	No result	No result	2.25		2.44		0.151
O-PO4-P mg/L	No result	No result	2.77		2.46		0.13
SO4 mg/L	No result	No result	<30		<30		<30
Phenols µg/L	No result	No result	No result		<0.10		No result
Atrazine µg/L	No result	No result	No result		<0.01		No result
Dichloromethane	No result	No result	No result		<1		No result
Simazine µg/L	No result	No result	No result		<0.01		No result
Toluene µg/L	No result	No result	No result		<0.28		No result
Tributyltin µg/L	No required	No required	No required		No required		No required
Xylenes µg/L	No result	No result	No result		<0.73		No result
Arsenic µg/L	No result	No result	No result		<0.96		No result
Chromium ug/L	<20	<20	<20		<20		<20
Copper ug/L	46.4	<20	<20		<20		<20
Cyanide µg/L	No result	No result	No result		<5		No result
Fluoride µg/L	No result	No result	0.22		0.3		<0.1
Lead ug/L	<20	<20	<20		<20		<20
Nickel ug/L	<20	<20	<20		<20		<20
Zinc ug/L	110.2	<20	<20		<20		<20
Boron ug/L	<20	<20	<20		<20		<20
Cadmium ug/L	<20	<20	<20		<20		<20
Mercury µg/L	No result	No result	No result		<0.2		No result
Selenium µg/L	No result	No result	No result		<0.74		No result
Barium ug/L	35.9	32.1	26.3		<20		24.7

Note samples analysed for Dangerous substances in discharge and downstream c

plication	
	26/08/2009
	River Downstream
	GT1080
	No result
	8.1
	No result
	331
	23
	0.1
	3.6
	25
	3.4
	1.554
	0.836
	0.129
	0.13
	<30
	<0.10
	<0.01
	<1
	<0.01
	<0.28
	No required
	<1
	<0.96
	<20
	<20
	<5
	<0.1
	<20
	<20
	<20
	<20
	<20
	<0.2
	<0.74
	21.2

of discharge

Water Supply Name: Shannon Estuary

Raw Water Source Description: Abstraction from the River Deel

Item No.	Risk Factor	Applic. Score	Score
Section 1 - Animals Within the Catchment			
1.1.1	Cattle/Calves at less than or equal to one livestock unit per hectare of forage area	5	
1.1.2	Cattle/Calves at more than one livestock unit per hectare of forage are	10	10
1.1.3	No cattle/calves in the catchment	0	
1.2.1	Sheep/Lambs at less than or equal to one livestock unit per hectare of forage area	5	5
1.2.2	Sheep/Lambs at more than one livestock unit per hectare of forage area	10	
1.2.3	No sheep/lambs in the catchment	0	
1.3.1	Wild or farmed deer in the catchment	2	
1.3.2	No wild or farmed deer in the catchment	0	0
1.4.1	Pig farms in the catchment	2	2
1.4.2	No pig farms in the catchment	0	
1.5.1	Animals have direct access to water sources including feeder streams	4	4
1.5.2	Fencing prevents access to water sources including feeder streams	-4	
1.6	High numbers of birds	2	
1.7	Any other farmed animal or bird	1	1
S.1	*Total Score for Animals Within Catchment*		22
Section 2 - Agricultural practices within the Catchment			
2.1	Slurry or sewage sludge spreading within the catchment	6	6
2.2	Dung Spreading within the catchment	3	3
2.3	Slurry **or** Dung Stores	3	3
2.4	Sheep pens **or** cattle sheds	6	6
2.5	Lambing or calving on the catchment	8	8
2.6	Full compliance with Good Agricultural Practice Regulations verified by catchment inspection	-6	
S.2	*Total Score for Agricultural practices within the Catchment*		26
Section 3 - Discharges to the Catchment / Water Source			
3.1.1	Population equivalent served by individual on-site wastewater treatment systems <100 PE	4	
3.1.2	Population equivalent served by individual on-site wastewater treatment systems >100 PE	6	6
3.2	Flooding of septic tanks on flood plains	4	4
3.3.1	Population equivalent served by all wastewater works <500	4	
3.3.2	Population equivalent served by all wastewater works 500 to 5000	5	
3.3.3	Population equivalent served by all wastewater works, 5001 to 20,000	6	6
3.3.4	Population equivalent served by all wastewater works 20,001 to 50,000	7	
3.3.5	Population equivalent served by all wastewater works >50,000	8	
3.4	Stormwater overflows	2	2
3.5	Section 4 or IPPC Licence discharge from intensive agricultural activity or related discharge	2	
3.6.1	All wastewater treatment plants complying with UWWT regulations quality standards	-1	
3.6.2	UV inactivation at outlet of wastewater treatment plants	-2	
S.3	*Total Score for Discharges to the Catchment / Water Source*		*18*
Section 4 - Water Source Type			
4.1.1	Upland Reservoir/lake	2	
4.1.2	Lowland long-term storage Reservoir/lake	4	
4.1.3	Upland River or Stream - bankside storage	5	
4.1.4	Upland River or Stream - direct abstraction	6	
4.1.5	Lowland River or Stream - direct abstraction or bankside storage	8	8
S.4	*Total Score for Water Source Type*		*8*
Section 5 - Catchment Inspections			
5.1.1	Catchment inspections carried out at least monthly	-3	
5.1.2	Catchment inspections carried out less frequently	6	6
5.2	Procedures in place to deal with irregularities on the Catchment	-3	-3
S.5	*Total Score for Catchment Inspections*		*3*
Section 6 - Raw Water Intake Management for Abstractions			
6.1.1	No appropriate water quality monitor on intake	3	
6.1.2	Appropriate water quality monitor on intake that is alarmed and on telemetry	-2	-2
6.2.1	Automatic intake shutdown when poor water quality	-4	
6.2.2	Manual intake shutdown when poor water quality	-1	-1
6.2.3	No intake shutdown when poor water quality	3	
S.6	*Total Score for Raw Water Intake Management for Abstractions*		*-3*
Section 7 - Water Treatment Factors			
7.1.1	Simple sand filtration (not slow sand filtration)	8	
7.1.2	Simple sand filtration (not slow sand filtration) with UV treatment	6	

7.1.3	Coagulation followed by DAF/sedimentation and filtration	-10	-10
7.1.4	Coagulation followed by DAF/sedimentation and filtration followed by UV treatment	-16	
7.1.5	Coagulation followed by rapid gravity or pressure filtration (no flotation or sedimentation)	-7	
7.1.6	Coagulation followed by rapid gravity or pressure filtration (no flotation or sedimentation) followed by UV Treatment	-13	
7.1.7	Slow sand filtration	-9	
7.1.8	Slow sand filtration followed by UV treatment	-15	
7.1.9	Membrane filtration (DWI approved)	-16	
7.1.10	Membrane filtration (not DWI approved)	-2	
S.7	*Total Score for Water Treatment Factors*		*-10*
Section 8 - Treatment Works Monitoring of Coagulation and Filtration			
8a	***Coagulation***		
8a.1.1	Manual coagulant dose control - not flow proportional	5	
8a.1.2	Manual coagulant pH control	5	
8a.1.3	Coagulant pH monitored and alarmed	-5	
S.8a	*Total Score for Coagulation*		*0*
8b	***Clarification***		
8b.2.1	Clarified water turbidity monitor / particle counters	-1	
8b.2.2	Clarified water turbidity alarm / particle counters	-1	
S.8b	*Total Score for Clarification*		0
8c	***Rapid Gravity & Pressure Filters***		
8c.3.1	Turbidity meter/particle counter on each filter with alarm on telemetry	-5	-5
8c.3.2	Turbidity meter/particle counter on each filter but no alarm on telemetry	0	
8c.3.3	One turbidity meter/particle counter shared by more than one filter with alarm on telemetry	-2	
8c.3.4	One turbidity meter/particle counter shared by more than one filter but no alarm on telemetry	2	
8c.3.5	No turbidity meters/particle counters monitoring filter performance	10	
8c.4.1	Final water turbidity meter/particle counter with alarm on telemetry	-2	-2
8c.4.2	Final water turbidity meter/particle counter but no alarm on telemetry	2	
8c.4.3	No final water turbidity meter/particle counter	5	
8c.5.1	Continuous residual coagulant monitor on combined filtrate or works outlet with alarm	-5	-5
8c.5.2	Continuous residual coagulant monitor on combined filtrate or works outlet but no alarm	-1	
8c.5.3	No continuous residual coagulant monitor on combined filtrate or works outlet	5	
8c.6.1	Routine discrete monitoring of treated water for turbidity/residual coagulant	-2	-2
8c.6.2	No routine discrete monitoring of treated water for turbidity/residual coagulant	2	
8c.7.1	Turbidity of backwash supernatant monitored when recycled	-2	
8c.7.2	Turbidity of backwash supernatant not monitored when recycled	2	
S.8c	*Total Score for Rapid Gravity & Pressure Filters*		*-14*
8d	**Slow Sand Filters**		
8d.8.1	Turbidity meter/particle counter on each filter with alarm on telemetry	-5	
8d.8.2	Turbidity meter/particle counter on each filter but no alarm on telemetry	0	
8d.8.3	One turbidity meter/particle counter shared by more than one filter with alarm on telemetry	-2	
8d.8.4	One turbidity meter/particle counter shared by more than one filter but no alarm on telemetry	2	
8d.8.5	No turbidity meters/particle counters monitoring filter performance	10	
8d.9.1	Final water turbidity meter/particle counter with alarm on telemetry	-2	
8d.9.2	Final water turbidity meter/particle counter but no alarm on telemetry	2	
8d.9.3	No final water turbidity meter/particle counter	5	
8d.10.1	Filters matured and filtrate analysed for turbidity, coliforms and Cryptosporidium during maturation	-4	
8d.10.2	Filters matured but no analysis carried out on filtrate	5	
8d.10.3	Filters not matured	15	
S.8d	*Slow Sand Filters*		*0*
8e	***Membrane Filtration***		
8e.11.1	Plant monitored and alarmed for integrity	-10	
8e.11.2	Plant monitored for integrity but not alarmed	0	
8e.11.3	Plant not monitored for integrity	10	
8e.12	Particle counter used continuously to monitor filter performance	2	
S.8e	*Membrane Filtration*		*0*
8f	***UV Inactivation***		
8f.13.1	Plant monitored for integrity and correct UV dosage	0	
8f.13.2	Plant monitored and alarmed for integrity and correct UV dosage	-10	
8f.13.3	Plant neither monitored or alarmed	10	
8f.14.1	Influent turbidity consistently < 0.2 NTU	-6	
8f.14.2	Influent turbidity consistently < 1.0 NTU	-3	
8f.14.3	Influent turbidity consistently > 1.0 NTU	-1	
S.8f	*UV Inactivation*		*0*
9	***Rapid Gravity & Pressure Filters Work Performance***		
9.1.1	Final water turbidity increases by more than 50%, excluding normal backwash period or turbidity in the final water >1.0 NTU	4	
9.1.2	Treated water turbidity increases by less than 50%, excluding normal backwash period or turbidity in the final water <1.0 NTU	0	0

9.2.1	Media loss from any filter has brought media depth below design level	6	
9.2.2	Media depth above minimum design level with audit trail maintained	-2	-2
9.3	Signs of media cracking on any filter or any other damage to the filter	4	
9.4	All filters have been drained, inspected and any necessary remedial action taken within last year	-2	-2
9.5	Air scour and backwash maintained and operating efficiently as per maintenance manual	-2	-2
S.9	*Rapid Gravity & Pressure Filters Work Performance*		*-6*
10	***Treatment Works Operation***		
10.1.1	Plant with documented management systems that includes procedures and process control manuals	-2	-2
10.1.2	Process control manuals specific to works available	-1	
10.1.3	Process control manuals specific to works not available	1	
10.2.1	Auditable action plans available for dealing with deviations in quality and evidence of implementation of the plan	-1	-1
10.2.2	Auditable action plans not available for dealing with deviations in quality	1	
10.3.1	Slow start facility on filters operational	-4	
10.3.2	No slow start facility on filters, or slow start facility	4	4
10.4.1	Filters run to waste for appropriate period after backwash	-6	
10.4.2	Filters run to head of works for a period following backwash	-4	
10.4.3	Filters not run to waste or head of works for a period following backwash	4	4
10.5.1	Backwash water and/or sludge supernatant has to be recycled	2	
10.5.2	Other disposal route available for backwash water and sludge supernatant	-2	-2
10.6.1	Water flow through works when operating has not increased by >10% in <30 minutes in last 12 months	-2	-2
10.6.2	Water flow through works when operating has increased by >10% in <30 minutes in last 12 months	2	
10.7.1	Flow through works above design flow for >10% of time in last 12 months	4	
10.7.2	Flow through works above design flow for <=10% of time in last 12 months	0	0
10.7.3	Flow through works >130% above design flow for >50% of time in last 12 months	6	
10.8	Filters bypassed during the year	6	
S.10	*Treatment Works Operation*		*1*

Water Treatment Plant Risk Assessment Totals

Section	***Surface Water Catchment Risk Scores***	
S.1	Total Score for Animals Within Catchment	22
S.2	Total Score for Agricultural practices within the Catchment	26
S.3	Total Score for Discharges to the Catchment / Water Source	18
S.4	Total Score for Water Source Type	8
S.5	Total Score for Catchment Inspections	3
S.6	Total Score for Raw Water Intake Management for Abstractions	-3
	Total Surface Water Catchment Risk Scores	74
	Surface Water Treatment, Operation and Management Risk Scores	
S.7	Total Score for Water Treatment Factors	-10
S.8a	Total Score for Coagulation	0
S.8b	Total Score for Clarification	0
S.8c	Total Score for Rapid Gravity & Pressure Filters	-14
S.8d	Slow Sand Filters	0
S.8e	Membrane Filtration	0
S.8f	UV Inactivation	0
S.9	Rapid Gravity & Pressure Filters Work Performance	-6
S.10	Treatment Works Operation	1
	Total Surface Water Treatment, Operation and Management Risk Scores	-29
Total Surface Water Catchment Risk Scores		74
Total Surface Water Treatment, Operation and Management Risk Scores		-29
Surface Water Screening Score		45
Population est.		4886
Population Weighting Factor		1.48
FINAL WEIGHTED RISK SCREENING SCORE		66
WATER SUPPLY RISK CLASSIFICATION		Moderate

(Low Risk (<50), Moderate Risk (50-75), High Risk (76-100), Very High Risk (>100))

Water Supply Name: Newcastle West

Raw Water Source Description: Abstraction from the River Deel at Mahoonagh More

Item No.	Risk Factor	Applic. Score	Score
Section 1 - Animals Within the Catchment			
1.1.1	Cattle/Calves at less than or equal to one livestock unit per hectare of forage area	5	
1.1.2	Cattle/Calves at more than one livestock unit per hectare of forage are	10	10
1.1.3	No cattle/calves in the catchment	0	
1.2.1	Sheep/Lambs at less than or equal to one livestock unit per hectare of forage area	5	5
1.2.2	Sheep/Lambs at more than one livestock unit per hectare of forage area	10	
1.2.3	No sheep/lambs in the catchment	0	
1.3.1	Wild or farmed deer in the catchment	2	2
1.3.2	No wild or farmed deer in the catchment	0	
1.4.1	Pig farms in the catchment	2	2
1.4.2	No pig farms in the catchment	0	
1.5.1	Animals have direct access to water sources including feeder streams	4	4
1.5.2	Fencing prevents access to water sources including feeder streams	-4	
1.6	High numbers of birds	2	
1.7	Any other farmed animal or bird	1	1
S.1	*Total Score for Animals Within Catchment*		24
Section 2 - Agricultural practices within the Catchment			
2.1	Slurry or sewage sludge spreading within the catchment	6	6
2.2	Dung Spreading within the catchment	3	3
2.3	Slurry **or** Dung Stores	3	3
2.4	Sheep pens **or** cattle sheds	6	6
2.5	Lambing or calving on the catchment	8	8
2.6	Full compliance with Good Agricultural Practice Regulations verified by catchment inspection	-6	
S.2	*Total Score for Agricultural practices within the Catchment*		26
Section 3 - Discharges to the Catchment / Water Source			
3.1.1	Population equivalent served by individual on-site wastewater treatment systems <100 PE	4	
3.1.2	Population equivalent served by individual on-site wastewater treatment systems >100 PE	6	6
3.2	Flooding of septic tanks on flood plains	4	4
3.3.1	Population equivalent served by all wastewater works <500	4	
3.3.2	Population equivalent served by all wastewater works 500 to 5000	5	5
3.3.3	Population equivalent served by all wastewater works 5001 to 20,000	6	
3.3.4	Population equivalent served by all wastewater works 20,001 to 50,000	7	
3.3.5	Population equivalent served by all wastewater works >50,000	8	
3.4	Stormwater overflows	2	2
3.5	Section 4 or IPPC Licence discharge from intensive agricultural activity or related discharge	2	2
3.6.1	All wastewater treatment plants complying with UWWT regulations quality standards	-1	
3.6.2	UV inactivation at outlet of wastewater treatment plants	-2	
S.3	*Total Score for Discharges to the Catchment / Water Source*		*19*
Section 4 - Water Source Type			
4.1.1	Upland Reservoir/lake	2	
4.1.2	Lowland long-term storage Reservoir/lake	4	
4.1.3	Upland River or Stream - bankside storage	5	
4.1.4	Upland River or Stream - direct abstraction	6	
4.1.5	Lowland River or Stream - direct abstraction or bankside storage	8	8
S.4	*Total Score for Water Source Type*		*8*
Section 5 - Catchment Inspections			
5.1.1	Catchment inspections carried out at least monthly	-3	
5.1.2	Catchment inspections carried out less frequently	6	6
5.2	Procedures in place to deal with irregularities on the Catchment	-3	-3
S.5	*Total Score for Catchment Inspections*		*3*
Section 6 - Raw Water Intake Management for Abstractions			
6.1.1	No appropriate water quality monitor on intake	3	
6.1.2	Appropriate water quality monitor on intake that is alarmed and on telemetry	-2	-2
6.2.1	Automatic intake shutdown when poor water quality	-4	-4
6.2.2	Manual intake shutdown when poor water quality	-1	
6.2.3	No intake shutdown when poor water quality	3	
S.6	*Total Score for Raw Water Intake Management for Abstractions*		*-6*
Section 7 - Water Treatment Factors			
7.1.1	Simple sand filtration (not slow sand filtration)	8	
7.1.2	Simple sand filtration (not slow sand filtration) with UV treatment	6	

7.1.3	Coagulation followed by DAF/sedimentation and filtration	-10	-10
7.1.4	Coagulation followed by DAF/sedimentation and filtration followed by UV treatment	-16	
7.1.5	Coagulation followed by rapid gravity or pressure filtration (no flotation or sedimentation)	-7	
7.1.6	Coagulation followed by rapid gravity or pressure filtration (no flotation or sedimentation) followed by UV Treatment	-13	
7.1.7	Slow sand filtration	-9	
7.1.8	Slow sand filtration followed by UV treatment	-15	
7.1.9	Membrane filtration (DWI approved)	-16	
7.1.10	Membrane filtration (not DWI approved)	-2	
S.7	*Total Score for Water Treatment Factors*		*-10*
Section 8 - Treatment Works Monitoring of Coagulation and Filtration			
8a	***Coagulation***		
8a.1.1	Manual coagulant dose control - not flow proportional	5	
8a.1.2	Manual coagulant pH control	5	
8a.1.3	Coagulant pH monitored and alarmed	-5	
S.8a	*Total Score for Coagulation*		*0*
8b	***Clarification***		
8b.2.1	Clarified water turbidity monitor / particle counters	-1	
8b.2.2	Clarified water turbidity alarm / particle counters	-1	
S.8b	*Total Score for Clarification*		0
8c	***Rapid Gravity & Pressure Filters***		
8c.3.1	Turbidity meter/particle counter on each filter with alarm on telemetry	-5	
8c.3.2	Turbidity meter/particle counter on each filter but no alarm on telemetry	0	0
8c.3.3	One turbidity meter/particle counter shared by more than one filter with alarm on telemetry	-2	
8c.3.4	One turbidity meter/particle counter shared by more than one filter but no alarm on telemetry	2	
8c.3.5	No turbidity meters/particle counters monitoring filter performance	10	
8c.4.1	Final water turbidity meter/particle counter with alarm on telemetry	-2	-2
8c.4.2	Final water turbidity meter/particle counter but no alarm on telemetry	2	
8c.4.3	No final water turbidity meter/particle counter	5	
8c.5.1	Continuous residual coagulant monitor on combined filtrate or works outlet with alarm	-5	
8c.5.2	Continuous residual coagulant monitor on combined filtrate or works outlet but no alarm	-1	
8c.5.3	No continuous residual coagulant monitor on combined filtrate or works outlet	5	5
8c.6.1	Routine discrete monitoring of treated water for turbidity/residual coagulant	-2	-2
8c.6.2	No routine discrete monitoring of treated water for turbidity/residual coagulant	2	
8c.7.1	Turbidity of backwash supernatant monitored when recycled	-2	
8c.7.2	Turbidity of backwash supernatant not monitored when recycled	2	
S.8c	*Total Score for Rapid Gravity & Pressure Filters*		*1*
8d	**Slow Sand Filters**		
8d.8.1	Turbidity meter/particle counter on each filter with alarm on telemetry	-5	
8d.8.2	Turbidity meter/particle counter on each filter but no alarm on telemetry	0	
8d.8.3	One turbidity meter/particle counter shared by more than one filter with alarm on telemetry	-2	
8d.8.4	One turbidity meter/particle counter shared by more than one filter but no alarm on telemetry	2	
8d.8.5	No turbidity meters/particle counters monitoring filter performance	10	
8d.9.1	Final water turbidity meter/particle counter with alarm on telemetry	-2	
8d.9.2	Final water turbidity meter/particle counter but no alarm on telemetry	2	
8d.9.3	No final water turbidity meter/particle counter	5	
8d.10.1	Filters matured and filtrate analysed for turbidity, coliforms and Cryptosporidium during maturation	-4	
8d.10.2	Filters matured but no analysis carried out on filtrate	5	
8d.10.3	Filters not matured	15	
S.8d	*Slow Sand Filters*		*0*
8e	***Membrane Filtration***		
8e.11.1	Plant monitored and alarmed for integrity	-10	
8e.11.2	Plant monitored for integrity but not alarmed	0	
8e.11.3	Plant not monitored for integrity	10	
8e.12	Particle counter used continuously to monitor filter performance	2	
S.8e	*Membrane Filtration*		*0*
8f	***UV Inactivation***		
8f.13.1	Plant monitored for integrity and correct UV dosage	0	
8f.13.2	Plant monitored and alarmed for integrity and correct UV dosage	-10	
8f.13.3	Plant neither monitored or alarmed	10	
8f.14.1	Influent turbidity consistently < 0.2 NTU	-6	
8f.14.2	Influent turbidity consistently < 1.0 NTU	-3	
8f.14.3	Influent turbidity consistently > 1.0 NTU	-1	
S.8f	*UV Inactivation*		*0*
9	***Rapid Gravity & Pressure Filters Work Performance***		
9.1.1	Final water turbidity increases by more than 50%, excluding normal backwash period or turbidity in the final water >1.0 NTU	4	
9.1.2	Treated water turbidity increases by less than 50%, excluding normal backwash period or turbidity in the final water <1.0 NTU	0	0

9.2.1	Media loss from any filter has brought media depth below design level	6	
9.2.2	Media depth above minimum design level with audit trail maintained	-2	
9.3	Signs of media cracking on any filter or any other damage to the filter	4	
9.4	All filters have been drained, inspected and any necessary remedial action taken within last year	-2	-2
9.5	Air scour and backwash maintained and operating efficiently as per maintenance manual	-2	-2
S.9	*Rapid Gravity & Pressure Filters Work Performance*		*-4*
10	***Treatment Works Operation***		
10.1.1	Plant with documented management systems that includes procedures and process control manuals	-2	
10.1.2	Process control manuals specific to works available	-1	-1
10.1.3	Process control manuals specific to works not available	1	
10.2.1	Auditable action plans available for dealing with deviations in quality and evidence of of the plan	-1	-1
10.2.2	Auditable action plans not available for dealing with deviations in quality	1	
10.3.1	Slow start facility on filters operational	-4	-4
10.3.2	No slow start facility on filters, or slow start facility	4	
10.4.1	Filters run to waste for appropriate period after backwash	-6	
10.4.2	Filters run to head of works for a period following backwash	-4	
10.4.3	Filters not run to waste or head of works for a period following backwash	4	4
10.5.1	Backwash water and/or sludge supernatant has to be recycled	2	
10.5.2	Other disposal route available for backwash water and sludge supernatant	-2	-2
10.6.1	Water flow through works when operating has not increased by >10% in <30 minutes in last 12 month	-2	
10.6.2	Water flow through works when operating has increased by >10% in <30 minutes in last 12 months	2	2
10.7.1	Flow through works above design flow for >10% of time in last 12 months	4	
10.7.2	Flow through works above design flow for <=10% of time in last 12 months	0	0
10.7.3	Flow through works >130% above design flow for >50% of time in last 12 months	6	
10.8	Filters bypassed during the year	6	
S.10	*Treatment Works Operation*		*-2*

Abbeyfeale	Water Treatment Plant Risk Assessment Totals	
Section	***Surface Water Catchment Risk Scores***	
S.1	Total Score for Animals Within Catchment	24
S.2	Total Score for Agricultural practices within the Catchment	26
S.3	Total Score for Discharges to the Catchment / Water Source	19
S.4	Total Score for Water Source Type	8
S.5	Total Score for Catchment Inspections	3
S.6	Total Score for Raw Water Intake Management for Abstractions	-6
	Total Surface Water Catchment Risk Scores	74
	Surface Water Treatment, Operation and Management Risk Scores	
S.7	Total Score for Water Treatment Factors	-10
S.8a	Total Score for Coagulation	0
S.8b	Total Score for Clarification	0
S.8c	Total Score for Rapid Gravity & Pressure Filters	1
S.8d	Slow Sand Filters	0
S.8e	Membrane Filtration	0
S.8f	UV Inactivation	0
S.9	Rapid Gravity & Pressure Filters Work Performance	-4
S.10	Treatment Works Operation	-2
	Total Surface Water Treatment, Operation and Management Risk Scores	-15
Total Surface Water Catchment Risk Scores		74
Total Surface Water Treatment, Operation and Management Risk Scores		-15
Surface Water Screening Score		59
Population est.		9459
Population Weighting Factor		1.59
FINAL WEIGHTED RISK SCREENING SCORE		94
WATER SUPPLY RISK CLASSIFICATION		High

(Low Risk (<50), Moderate Risk (50-75), High Risk (76-100), Very High Risk (>100))

SITE SYNOPSIS

SITE NAME: BLACKWATER RIVER (CORK/WATERFORD)

SITE CODE: 002170

The River Blackwater is one of the largest rivers in Ireland, draining a major part of Co. Cork and five ranges of mountains. In times of heavy rainfall the levels can fluctuate widely by more than 12 feet on the gauge at Careysville. The peaty nature of the terrain in the upper reaches and of some of the tributaries gives the water a pronounced dark colour. The site consists of the freshwater stretches of the River Blackwater as far upstream as Ballydesmond, the tidal stretches as far as Youghal Harbour and many tributaries, the larger of which includes the Licky, Bride, Flesk, Chimneyfield, Finisk, Araglin, Awbeg (Buttevant), Clyda, Glen, Allow, Dalua, Brogeen, Rathcool, Finnow, Owentaraglin and Awnaskirtaun. The extent of the Blackwater and its tributaries in this site, flows through the counties of Kerry, Cork, Limerick, Tipperary and Waterford. Towns along, but not in the site, include Rathmore, Millstreet, Kanturk, Banteer, Mallow, Buttevant, Doneraile, Castletownroche, Fermoy, Ballyduff, Rathcormac, Tallow, Lismore, Cappoquin and Youghal.

The Blackwater rises in boggy land of east Kerry, where Namurian grits and shales build the low heather-covered plateaux. Near Kanturk the plateaux enclose a basin of productive Coal Measures. On leaving the Namurian rocks the Blackwater turns eastwards along the northern slopes of the Boggeraghs before entering the narrow limestone strike vale at Mallow. The valley deepens as first the Nagles Mountains and then the Knockmealdowns impinge upon it. Interesting geological features along this stretch of the Blackwater Valley include limestone cliffs and caves near the villages and small towns of Killavullen and Ballyhooly; the Killavullen caves contain fossil material from the end of the glacial period. The associated basic soils in this area support the growth of plant communities which are rare in Cork because in general the county's rocks are acidic. At Cappoquin the river suddenly turns south and cuts through high ridges of Old Red Sandstone. The Araglin valley is predominantly underlain by sandstone, with limestone occurring in the lower reaches near Fermoy.

The site is a candidate SAC selected for alluvial wet woodlands and Yew wood, both priority habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected as a candidate SAC for floating river vegetation, estuaries, tidal mudflats, *Salicornia* mudflats, Atlantic salt meadows, Mediterranean salt meadows, perennial vegetation of stony banks and old Oak woodlands, all habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for the following species listed on Annex II of the same directive - Sea Lamprey, River Lamprey, Brook Lamprey, Freshwater Pearl Mussel, Crayfish, Twaite Shad, Atlantic Salmon, Otter and the plant, Killarney Fern.

Wet woodlands are found where river embankments, particularly on the River Bride, have broken down and where the channel edges in the steep-sided valley between Cappoquin and Youghal are subject to daily inundation. The river side of the embankments was often used for willow growing in the past (most recently at Cappoquin) so that the channel is lined by narrow woods of White and Almond-leaved Willow (*Salix alba* and *S. triandra*) with isolated Crack Willow (*S. fragilis*) and Osier (*S. viminalis*). Grey Willow (*S. cinerea*) spreads naturally into the sites and occasionally, as at Villierstown on the Blackwater and Sapperton on the Bride, forms woods with a distinctive mix of woodland and marsh plants, including Gypsywort (*Lycopus europaeus*), Guelder Rose (*Viburnum opulus*), Bittersweet (*Solanum dulcamara*) and various mosses and algae. These wet woodlands form one of the most extensive tracts of the wet woodland habitat in the country.

A small stand of Yew (*Taxus baccata*) woodland, a rare habitat in Ireland and the EU, occurs within the site. This is on a limestone ridge at Dromana, near Villierstown. While there are some patches of the wood with a canopy of Yew and some very old trees, the quality is generally poor due to the dominance of non-native and invasive species such as Sycamore, Beech and Douglas Fir (*Pseudotsuga menzsisii*). However, the future prospect for this Yew wood is good as the site is proposed for restoration under a Coillte EU Life Programme. Owing to its rarity, Yew woodland is listed with priority status on Annex I of the EU Habitats Directive.

Marshes and reedbeds cover most of the flat areas beside the rivers and often occur in mosaic with the wet woodland. Common Reed (*Phragmites australis*) is ubiquitous and is harvested for thatching. There is also much Marsh Marigold (*Caltha palustris*) and, at the edges of the reeds, the Greater and Lesser Pond-sedge (*Carex riparia* and *C. acutiformis*). Hemlock Water-dropwort (*Oenanthe crocata*), Wild Angelica (*Angelica sylvestris*), Reed Canary-grass (*Phalaris arundinacea*), Meadowsweet (*Filipendula ulmaria*), Nettle (*Urtica dioica*), Purple Loosestrife (*Lythrum salicaria*), Marsh Valerian (*Valeriana officinalis*), Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*).

At Banteer there are a number of hollows in the sediments of the floodplain where subsidence and subterranean drainage have created isolated wetlands, sunk below the level of the surrounding fields. The water rises and falls in these holes depending on the watertable and several different communities have developed on the acidic or neutral sediments. Many of the ponds are ringed about with Grey Willows, rooted in the mineral soils but sometimes collapsed into the water. Beneath the densest stands are woodland herbs like Yellow Pimpernel (*Lysimachia nemorum*) with locally abundant Starwort (*Callitriche stagnalis*) and Marsh Ragwort (*Senecio palustris*). One of the depressions has Silver Birch (*Betula pendula*), Ash (*Fraxinus excelsior*), Crab Apple (*Malus sylvestris*) and a little Oak (*Quercus robur*) in addition to the willows.

Floating river vegetation is found along much of the freshwater stretches within the site. The species list is quite extensive and includes Pond Water-crowfoot (*Ranunculus peltatus*), Water-crowfoot (*Ranunculus* spp.), Canadian Pondweed (*Elodea canadensis*), Broad-leaved Pondweed (*Potamogeton natans*), Pondweed (*Potamogeton* spp.), Water Milfoil (*Myriophyllum* spp.), Common Club-rush (*Scirpus*

lacustris), Water-starwort (*Callitriche* spp.), Lesser Water-parsnip (*Berula erecta*) particularly on the Awbeg, Water-cress (*Nasturtium officinale*), Hemlock Water-dropwort, Fine-leaved Water-dropwort (*O. aquatica*), Common Duckweed (*Lemna minor*), Yellow Water-lily (*Nuphar lutea*), Unbranched Bur-reed (*Sparganium emersum*) and the moss *Fontinalis antipyretica*.

The grassland adjacent to the rivers of the site is generally heavily improved, although liable to flooding in many places. However, fields of more species-rich wet grassland with species such as Yellow-flag (*Iris pseudacorus),* Meadow-sweet, Meadow Buttercup (*Ranunculus acris*) and rushes (*Juncus* spp.) occur occasionally. Extensive fields of wet grassland also occur at Annagh Bog on the Awbeg. These fields are dominated by Tufted Hair-grass (*Deschampsia cespitosa*) and rushes.

The Blackwater Valley has a number of dry woodlands; these have mostly been managed by the estates in which they occur, frequently with the introduction of Beech (*Fagus sylvatica*) and a few conifers, and sometimes of Rhododendron (*Rhododendron ponticum*) and Laurel. Oak woodland is well developed on sandstone about Ballinatray, with the acid Oak woodland community of Holly (*Ilex aquifolium*), Bilberry (*Vaccinium myrtillus*), Greater Woodrush (*Luzula sylvatica*) and Buckler Ferns (*Dryopteris affinis, D. aemula*) occurring in one place. Irish Spurge (*Euphorbia hyberna*) continues eastwards on acid rocks from its headquarters to the west but there are many plants of richer soils, for example Wood Violet (*Viola reichenbachiana*), Goldilocks (*Ranunculus auricomus*), Broad-leaved Helleborine (*Epipactis helleborine*) and Red Campion (*Silene dioica*). Oak woodland is also found in Rincrew, Carrigane, Glendine, Newport and Dromana. The spread of Rhododendron is locally a problem, as is over-grazing. A few limestone rocks stand over the river in places showing traces of a less acidic woodland type with Ash, False Brome (*Brachypodium sylvaticum*) and Early-purple Orchid (*Orchis mascula*).

In the vicinity of Lismore, two deep valleys cut in Old Red Sandstone join to form the Owenashad River before flowing into the Blackwater at Lismore. These valleys retain something close to their original cover of Oak with Downy Birch (*Betula pubescens*), Holly and Hazel (*Corylus avellana*) also occurring. There has been much planting of Beech (as well as some of coniferous species) among the Oak on the shallower slopes and here both Rhododendron and Cherry Laurel (*Prunus laurocerasus*) have invaded the woodland.

The Oak wood community in the Lismore and Glenmore valleys is of the classical upland type, in which some Rowan (*Sorbus aucuparia*) and Downy Birch occur. Honeysuckle (*Lonicera periclymenum*) and Ivy (*Hedera helix*) cover many of the trees while Greater Woodrush, Bluebell (*Hyacinthoides non-scripta*), Wood Sorrel (*Oxalis acetosella*) and, locally, Bilberry dominate the ground flora. Ferns present on the site include Hard Fern (*Blechnum spicant*), Male Fern (*Dryopteris filix-mas*), Buckler Ferns (*D. dilatata, D. aemula*) and Lady Fern (*Athyrium felix-femina*). There are many mosses present and large species such as *Rhytidiadelphus* spp., *Polytrichum formosum, Mnium hornum* and *Dicranum* spp. are noticeable. The lichen flora is important and includes 'old forest' species which imply a continuity of woodland here since ancient times. Tree Lungwort (*Lobaria* spp.) is the most conspicuous and is widespread.

The Araglin valley consists predominantly of broadleaved woodland. Oak and Beech are joined by Hazel, Wild Cherry (*Prunus avium*) and Goat Willow (*Salix caprea*). The ground flora is relatively rich with Pignut (*Conopodium majus*), Wild Garlic (*Allium ursinum*), Garlic Mustard (*Alliaria petiolata*) and Wild Strawberry (*Fragaria vesca*). The presence of Ivy Broomrape (*Orobanche hederae*), a local species within Ireland, suggests that the woodland, along with its attendant Ivy is long established.

Along the lower reaches of the Awbeg River, the valley sides are generally cloaked with mixed deciduous woodland of estate origin. The dominant species is Beech, although a range of other species are also present, e.g. Sycamore (*Acer pseudoplatanus*), Ash and Horse-chestnut (*Aesculus hippocastanum*). In places the alien invasive species, Cherry Laurel, dominates the understorey. Parts of the woodlands are more semi-natural in composition, being dominated by Ash with Hawthorn (*Crataegus monogyna*) and Spindle (*Euonymus europaea*) also present. However, the most natural areas of woodland appear to be the wet areas dominated by Alder and willows (*Salix* spp.). The ground flora of the dry woodland areas features species such as Pignut, Wood Avens (*Geum urbanum*), Ivy and Soft Shield-fern (*Polystichum setiferum*), while the ground flora of the wet woodland areas contains characteristic species such as Remote Sedge (*Carex remota*) and Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*).

In places along the upper Bride, scrubby, semi-natural deciduous woodland of Willow, Oak and Rowan occurs with abundant Great Woodrush in the ground flora.

The Bunaglanna River passes down a very steep valley, flowing in a north-south direction to meet the Bride River. It flows through blanket bog to heath and then scattered woodland. The higher levels of moisture here enable a vigorous moss and fern community to flourish, along with a well-developed epiphyte community on the tree trunks and branches.

At Banteer a type of wetland occurs near the railway line which offers a complete contrast to the others. Old turf banks are colonised by Royal Fern (*Osmunda regalis*) and Eared Willow (*Salix aurita*) and between them there is a sheet of Bottle Sedge (*Carex rostrata*), Marsh Cinquefoil (*Potentilla palustris*), Bogbean (*Menyanthes trifoliata*), Marsh St. John's-wort (*Hypericum elodes*) and the mosses *Sphagnum auriculatum* and *Aulacomnium palustre*. The cover is a scraw with characteristic species like Marsh Willowherb (*Epilobium palustre*) and Marsh Orchid (*Dactylorhiza incarnata*).

The soil high up the Lismore valleys and in rocky places is poor in nutrients but it becomes richer where streams enter and also along the valley bottoms. In such sites Wood Speedwell (*Veronica montana*), Wood Anemone (*Anemone nemorosa*), Enchanter's Nightshade (*Circaea lutetiana*), Barren Strawberry (*Potentilla sterilis*) and Shield Fern occur. There is some Wild Garlic, Three-nerved Sandwort (*Moehringia trinervia*) and Early-purple Orchid (*Orchis mascula*) locally, with Opposite-leaved Golden-saxifrage, Meadowsweet and Bugle in wet places. A Hazel stand at the base of the Glenakeeffe valley shows this community well.

The area has been subject to much tree felling in the recent past and re-sprouting stumps have given rise to areas of bushy Hazel, Holly, Rusty Willow (*Salix cinerea* subsp. *oleifoila*) and Downy Birch. The ground in the clearings is heathy with Heather (*Calluna vulgaris*), Slender St John's-wort (*Hypericum pulchrum*) and the occasional Broom (*Cytisus scoparius*) occurring.

The estuary and the other Habitats Directive Annex I habitats within it form a large component of the site. Very extensive areas of intertidal flats, comprised of substrates ranging from fine, silty mud to coarse sand with pebbles/stones are present. The main expanses occur at the southern end of the site with the best examples at Kinsalebeg in Co. Waterford and between Youghal and the main bridge north of it across the river in Co. Cork. Other areas occur along the tributaries of the Licky in east Co. Waterford and Glendine, Newport, Bride and Killahaly Rivers in Waterford west of the Blackwater and large tracts along the Tourig River in Co. Cork. There are narrow bands of intertidal flats along the main river as far north as Camphire Island. Patches of green algae (filamentous, *Ulva* species and *Enteromorpha* sp.) occur in places, while fucoid algae are common on the more stony flats even as high upstream as Glenassy or Coneen.

The area of saltmarsh within the site is small. The best examples occur at the mouths of the tributaries and in the townlands of Foxhole and Blackbog. Those found are generally characteristic of Atlantic salt meadows. The species list at Foxhole consists of Common Saltmarsh-grass (*Puccinellia maritima*), small amounts of Greater Sea-spurrey (*Spergularia media*), Glasswort (*Salicornia* sp.), Sea Arrowgrass (*Triglochin maritima*), Annual Sea-blite (*Suaeda maritima*) and Sea Purslane (*Halimione portulacoides*) - the latter a very recent coloniser - at the edges. Some Sea Aster (*Aster tripolium*) occurs, generally with Creeping Bent (*Agrostis stolonifera*). Sea Couch-grass (*Elymus pycnanthus*) and small isolated clumps of Sea Club-rush (*Scirpus maritimus*) are also seen. On the Tourig River additional saltmarsh species found include Lavender (*Limonium* spp.), Sea Thrift (*Armeria maritima*), Red Fescue (*Festuca rubra*), Common Scurvy-grass (*Cochlearia officinalis*) and Sea Plantain (*Plantago maritima*). Oraches (*Atriplex* spp.) are found on channel edges.

The shingle spit at Ferrypoint supports a good example of perennial vegetation of stony banks. The spit is composed of small stones and cobbles and has a well developed and diverse flora. At the lowest part, Sea Beet (*Beta vulgaris*), Curled Dock (*Rumex crispus*) and Yellow-horned Poppy (*Glaucium flavum*) occur with at a slightly higher level Sea Mayweed (*Tripleurospermum maritimum*), Cleavers (*Galium aparine*), Rock Samphire (*Crithmum maritimum*), Sandwort (*Honkenya peploides*), Spear-leaved Orache (*Atriplex prostrata*) and Babington's Orache (*A. glabriuscula*). Other species present include Sea Rocket (*Cakile maritima*), Herb Robert (*Geranium robertianum*), Red Fescue (*Festuca rubra*) and Kidney Vetch (*Anthyllis vulneraria*). The top of the spit is more vegetated and includes lichens and bryophytes (including *Tortula ruraliformis* and *Rhytidiadelphus squarrosus*).

The site supports several Red Data Book plant species, i.e. Starved Wood Sedge (*Carex depauperata*), Killarney Fern (*Trichomanes speciosum*), Pennyroyal (*Mentha pulegium*), Bird's-nest Orchid (*Neottia nidus-avis,* Golden Dock (*Rumex maritimus*) and Bird Cherry (*Prunus padus*). The first three of these are also protected under the

Flora (Protection) Order 1999. The following plants, relatively rare nationally, are also found within the site: Toothwort (*Lathraea squamaria*) associated with woodlands on the Awbeg and Blackwater; Summer Snowflake (*Leucojum aestivum*) and Flowering Rush (*Butomus umbellatus*) on the Blackwater; Common Calamint (*Calamintha ascendens*), Red Campion (*Silene dioica*), Sand Leek (*Allium scorodoprasum*) and Wood Club-rush (*Scirpus sylvaticus*) on the Awbeg.

The site is also important for the presence of several Habitats Directive Annex II animal species, including Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*), River Lamprey (*L. fluviatilis*), Twaite Shad (*Alosa fallax fallax*), Freshwater Pearl-mussel (*Margaritifera margaritifera*), Otter (*Lutra lutra*) and Salmon (*Salmo salar*). The Awbeg supports a population of White-clawed Crayfish (*Austropotamobius pallipes*). This threatened species has been recorded from a number of locations and its remains are also frequently found in Otter spraints, particularly in the lower reaches of the river. The freshwater stretches of the Blackwater and Bride Rivers are designated salmonid rivers.

The Blackwater is noted for its enormous run of salmon over the years. The river is characterised by mighty pools, lovely streams, glides and generally, a good push of water coming through except in very low water. Spring salmon fishing can be carried out as far upstream as Fermoy and is very highly regarded especially at Careysville. The Bride, main Blackwater upstream of Fermoy and some of the tributaries are more associated with grilse fishing.

The site supports many of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger and Irish Hare. The bat species Natterer's Bat, Daubenton's Bat, Whiskered Bat, Brown Long-eared Bat and Pipistrelle, are to be seen feeding along the river, roosting under the old bridges and in old buildings.

Common Frog, a Red Data Book species that is also legally protected (Wildlife Act, 1976), occurs throughout the site. The rare bush cricket, *Metrioptera roselii* (Orthoptera: Tettigoniidae), has been recorded in the reed/willow vegetation of the river embankment on the Lower Blackwater River. The Swan Mussel (*Anodonta cygnea*), a scarce species nationally, occurs at a few sites along the freshwater stretches of the Blackwater.

Several bird species listed on Annex I of the E.U. Birds Directive are found on the site. Some use it as a staging area, others are vagrants, while others use it more regularly. Internationally important numbers of Whooper Swan (average peak 174, 1994/95-95/96) and nationally important numbers Bewick's Swan (average peak 35, 1994/95-95/96) use the Blackwater Callows. Golden Plover occur in regionally important numbers on the Blackwater Estuary (average peak 885, 1984/85-86/87) and on the River Bride (absolute max. 2141, 1994/95). Staging Terns visit the site annually (Sandwich Tern (>300) and Arctic/Common Tern (>200), average peak 1974-1994). The site also supports populations of the following: Red Throated Diver, Great Northern Diver, Barnacle Goose, Ruff, Wood Sandpiper and Greenland White-fronted Goose. Three breeding territories for Peregrine Falcon are known along the Blackwater Valley. This, the Awbeg and the Bride River are also thought to support at

least 30 pairs of Kingfisher. Little Egret now breed at the site (12 pairs in 1997, 19 pairs in 1998) and this represents about 90% of the breeding population in Ireland.

The site holds important numbers of wintering waterfowl. Both the Blackwater Callows and the Blackwater Estuary Special Protection Areas (SPAs) hold internationally important numbers of Black-tailed Godwit (average peak 847, 1994/95-95/96 on the callows, average peak 845, 1974/75-93/94 in the estuary). The Blackwater Callows also hold Wigeon (average peak 2752), Teal (average peak 1316), Mallard (average peak 427), Shoveler (average peak 28), Lapwing (average peak 880), Curlew (average peak 416) and Black-headed Gull (average peak 396) (counts from 1994/95-95/96). Numbers of birds using the Blackwater Estuary, given as the mean of the highest monthly maxima over 20 years (1974-94), are Shelduck (137 +10 breeding pairs), Wigeon (780), Teal (280), Mallard (320 + 10 breeding pairs), Goldeneye (11-97), Oystercatcher (340), Ringed Plover (50 + 4 breeding pairs), Grey Plover (36), Lapwing (1680), Knot (150), Dunlin (2293), Snipe (272), Black-tailed Godwit (845), Bar-tailed Godwit (130), Curlew (920), Redshank (340), Turnstone (130), Black-headed Gull (4000) and Lesser Black-backed Gull (172). The greatest numbers (75%) of the wintering waterfowl of the estuary are located in the Kinsalebeg area on the east of the estuary in Co. Waterford. The remainder are concentrated along the Tourig Estuary on the Co. Cork side.

The river and river margins also support many Heron, non-breeding Cormorant and Mute Swan (average peak 53, 1994/95-95/96 in the Blackwater Callows). Heron occurs all along the Bride and Blackwater Rivers - 2 or 3 pairs at Dromana Rock; *c*. 25 pairs in the woodland opposite; 8 pairs at Ardsallagh Wood and *c*. 20 pairs at Rincrew Wood have been recorded. Some of these are quite large and significant heronries. Significant numbers of Cormorant are found north of the bridge at Youghal and there are some important roosts present at Ardsallagh Wood, downstream of Strancally Castle and at the mouth of the Newport River. Of note are the high numbers of wintering Pochard (e.g. 275 individuals in 1997) found at Ballyhay quarry on the Awbeg, the best site for Pochard in County Cork.

Other important species found within the site include Long-eared Owl, which occurs all along the Blackwater River, and Barn Owl, a Red Data Book species, which is found in some old buildings and in Castlehyde west of Fermoy. Reed Warbler, a scarce breeding species in Ireland, was found for the first time in the site in 1998 at two locations. It is not known whether or not this species breeds on the site, although it is known to nearby to the south of Youghal. Dipper occurs on the rivers.

Landuse at the site is mainly centred on agricultural activities. The banks of much of the site and the callows, which extend almost from Fermoy to Cappoquin, are dominated by improved grasslands which are drained and heavily fertilised. These areas are grazed and used for silage production. Slurry is spread over much of this area. Arable crops are grown. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the populations of Habitats Directive Annex II animal species within it. Many of the woodlands along the rivers belong to old estates and support many non-native species. Little active woodland management occurs. Fishing is a main tourist attraction along stretches of the Blackwater and its tributaries and there are a number of Angler Associations, some with a number of

beats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place on the rivers. Other recreational activities such as boating, golfing and walking are also popular. Water skiing is carried out at Villierstown. Parts of Doneraile Park and Anne's Grove are included in the site: both areas are primarily managed for amenity purposes. There is some hunting of game birds and Mink within the site. Ballyhay quarry is still actively quarried for sand and gravel. Several industrial developments, which discharge into the river, border the site.

The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, dredging of the upper reaches of the Awbeg, overgrazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel.

Overall, the River Blackwater is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive respectively; furthermore it is of high conservation value for the populations of bird species that use it. Two Special Protection Areas, designated under the E.U. Birds Directive, are also located within the site - Blackwater Callows and Blackwater Estuary. Additionally, the importance of the site is enhanced by the presence of a suite of uncommon plant species.

13.09.2006

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
	Foynes, Askeaton, Shanagolden, Pallaskenry	*17,500*		*30kM*	*134345*	*149179*	
	Newcastle West	*2,700*		*20kM*	*131480*	*131201*	