Local Government (Water Pollution) Acts, 1977 & 1990

For Licence Review

APPLICATION FOR A LICENCE TO DISCHARGE TRADE AND/ OR DOMESTIC WASTE WATER TO GROUNDWATER

Your completed review application accompanied by all relevant information and payment is to be sent to the following address:

Address:	Discharge Licensing,
	Environment Section,
	Cavan County Council,
	17 Farnham Street,
	Co.Cavan
Phone:	049 4378486

PART I - Section 1

A. Guidance on Applying for a Review of Licence

For the purpose of ensuring that all information held with regard to the licensee is correct and up to date the licensing authority will require the licensee to submit a completed application form for the purpose of licence review.

However in addition to the completion of an application form an Article 13 Notice will also be issued to the licensee, as required under Regulation S.I. 108 of 1978. This notice will identify site specific information needs and issues to be addressed by the licensee. Requirements for maps, effluent characteristic, effluent treatment details and impact on receiving waters will vary depending on the scale of enterprise, the quality of documentation available on existing licence file and whether current file documents are up to date. It is recommended that the licensee and agent consult with the Environment Section in relation to these matters in advance of completion of application form.

Over time and particularly in relation to trade effluents significant changes may have occurred since the original licence application or last licence review. Such changes may relate to:

- Processes giving rise to the effluent
- Raw effluent characteristics and loads
- Wastewater treatment plant performance
- Water Usage
- Site drainage systems
- Site Development Works

It is important that up to date documentation is available for the licence review and public consultation process.

B. Completing the Application Form

Guidance on what information is to be included in each Part of the Application Form is provided in the "*Guidance on Applying for a Discharge Licence - Groundwaters*".

The Applicant is asked to contact the Licensing Authority in the event that:

- they are unsure as to whether the discharge is licensable by the Local Authority or the EPA
- they are having difficulty in providing all the information required in the application form
- they are unsure as to what information they are to provide in the form
- they are unsure as to where to source the information required in the form
- they require any information or guidance on filling out the form

Who Should Fill in This Form?

B. Completing the Application Form

This form is comprised of four separate parts as follows:

- **Part I – Declaration and Signatures**
  This part is to be completed by all applicants for a review of licence to discharge to waters

- **Part II – General Details**
  This part is to be completed by all applicants for a review of licence to discharge to waters.

- **Part III – Effluent Details**
  This part is to be completed by all applicants for a review of licence to discharge to waters.

- **Part IV Discharge to Ground Water**
  This part is to be completed by all applicants who propose to discharge to groundwater's. For clarification on what constitutes a trade effluent or domestic wastewater refer to the *Guidance on Applying for a Discharge Licence*.

Where multiple discharges are proposed, the applicant for a discharge licence must first contact the Licensing Authority for advice on whether one application form will suffice or whether multiple forms need to be submitted.

Additional Sheets

Where any part of the Application Form does not afford sufficient space to provide the required information, the Applicant should attach additional sheets to the form containing such information.

The additional sheets should be cross-referenced to the appropriate section in the Application Form. Mark each sheet with the name of the Applicant and the name of the premises from which the discharge is generated and indicate the section and part of the Application Form to which the additional sheets relate. An example of an Additional Sheet cross reference is provided in "*Guidance on Applying for a Discharge Licence - Groundwaters*".

PART I – DECLARATIONS & SIGNATURES

C. Signatures of the Applicant & Agent

Identify the class of discharge to which this application pertains.

I hereby make an application for a licence to discharge _____* effluent to groundwater under the Local Government (Water Pollution) Act 1977 in respect of the particulars included in this application on behalf of _____ _____*(insert name of the Applicant)*.**

**indicate whether trade or domestic or both*

Where this application is made by an Agent on behalf of an Applicant, the signature of the Applicant must be provided below confirming the authorisation of the Agent to apply for a licence on their behalf:

I hereby authorise _____ *(name of Agent)* **to apply for a discharge licence on behalf of _____** *(name of Applicant)*.

Signed: | **Date:**

(provide signature of Applicant)

Name (in print):

I hereby declare that I am fully aware of my responsibilities to implement the conditions of any licence granted on the basis of this application and acknowledge that I may be subject to criminal liability whereby the terms of the licence are not complied with.

Signed: | **Date:**

(provide signature of Applicant)

Name (in print):

Refer to the "Guidance on Applying for a Discharge Licence - Groundwaters" for definitions of the Applicant and the Agent.

PART I - Section 2

A. Disclosure of Information

The Freedom of Information Act, 1997 (as amended) states that every person has a right to access any record held by a public body. This includes discharge licenses (and associated applications) held by the Local Authority. The Local Authority may refuse to provide access to records held by them where the information was provided to the Local Authority with the understanding that it is to be treated as confidential. Circumstances under which confidentiality may apply include where information submitted in the application contains commercially sensitive information or matters of National security.

The Applicant is requested to identify all information submitted with the application which is to be treated as confidential and is requested to identify the grounds on which the information may be categorised as confidential.

B. False or Misleading Information

It is an offence under the *Local Government (Water Pollution) Act, 1977* to knowingly submit false or misleading information in the licence application and an Applicant is liable to a fine on summary conviction of such an offence.

Please provide signature of the authorised representatives of the Applicant and where appropriate the Agent confirming that all the information submitted in this application is correct and also that they have made themselves aware of the provisions of the Freedom of Information Act.

I/we hereby declare that I/we have made myself/ourselves aware of the provisions of the Freedom of Information Act and that I/we understand that there is a legal obligation on the Local Authority to make this discharge licence application available for inspection by third parties.

I/We hereby declare that to the best of my/our knowledge all of the information provided in this application is true and correct.

Signed: _____ **Date:** _____

(provide signature of the Applicant)

Name (in print):

Signed: _____ **Date:** _____

(provide signature of the Agent)

Name (in print):

PART II – GENERAL DETAILS

PART II – Section 1

A. Contact Details – Applicant	
A. (i) Provide contact details for the Applicant below	
The Applicant is:	☐ An Individual ☐ A Group of Individuals ☐ A Corporate Body
Name (Principal Contact)*	
Address	
Phone Number (day)	
Phone Number (night)	
Fax	
e-mail	
*** Where the Applicant is a group of individuals or a corporate body, provide the name of one individual to be the principal contact for the purpose of correspondence relating to a licence granted by the licensing authority.**	

A. (ii)Where the Applicant is an Individual provide the following details:	
Relationship to the premises from which it is proposed to discharge	☐ Owner/occupier ☐ Landowner ☐ Responsible for treatment facility ☐ Other (*please specify):*

A. (iii) Where the Applicant is a Group of Individuals provide the following details:	
Type of Group	☐ Management Company ☐ Residents Association ☐ Voluntary Group ☐ Club ☐ Other *(please specify):*

PART II – GENERAL DETAILS

A. (iv) Where the Applicant is a Corporate Body provide the following details:	
Type of Corporate Body	☐ Limited Company ☐ Public Limited Company ☐ Sole Trader ☐ Co-operative ☐ Partnership ☐ Other (*please specify):*
Certificate of Incorporation must be included with the application listing the names of Directors.	

B. Contact Details – Agent	
B. Where an Agent is making this application on behalf of an Applicant the Agent's contact details must be provided	
Name	
Address	
Phone Number (day)	
Phone Number (night)	
Fax	
e-mail	
Relationship to the Applicant e.g. employee, consultant, partner.	

PART II – Section 2

A. Site Details	
A. (i) Provide details below of the site / activity from which the discharge takes place.	
Name of Site (where applicable)	
Address	
Site location (Co-ordinates)	**Easting** ☐☐☐☐☐☐ **Northing** ☐☐☐☐☐☐
Is there any existing discharge license(s) granted in relation to the site?	☐ Yes Reference Number: Reference Number: ☐ No
Is planning permission granted for any proposed / existing development at the site?	☐ Granted Reference Number: ☐ Pending ☐ Not Applied For
Have copies of the following maps / drawings been included?	☐ Site Location Map ☐ Site Layout Map ☐ Site Drainage System Drawings* ☐ None of the above **As constructed and current sit drainage details of foul, trade (if relevant) & Storm water drains and outfalls.* *Consult with LA regarding mapping that requires updating.*

PART II – GENERAL DETAILS

A. (ii) Identify the sector(s) from which the discharge is generated.			
Type of Premises		*Please mark the box as appropriate*	X
	Accommodation	Household / Holiday Home	
		Hotel / Guesthouse / B&B	
		Caravan Park / Camp Site	
		Nursing Home	
	Education	Non-residential facility	
		Boarding School	
		College / University	
	Commercial / Service	Office	
		Hairdresser / Beauty Salon	
		Doctor Surgery	
		Dentist	
		Launderettes and Dry Cleaners	
		Petrol Station	
		Hospital	
		Churches, Monasteries etc.	
		Amenities (golf course, sport facilities etc.)	
	Food & Drink	Public House (with or without food preparation)	
		Restaurant / Café / Take Away	
	Transport	Airport	
		Train station	
		Bus station	
	Industrial	Dry process industry without canteen	
		Dry process industry with canteen where food is prepared	
		Chemicals industry	
		Wood, paper, textiles and leather	
		Food and drink	
		Minerals and other materials	
		Energy	
		Metals	
		Mineral fibres and glass	
		Fossil fuels	
		Cement manufacture	
		Waste	
		Surface coatings	
	Other *(Please specify)*	e.g. tourism- heritage centre, quarry activities.	

PART II – GENERAL DETAILS

A. (iii) Activities Carried Out on Site.	
Provide details of the activities carried out on site. Where this involves a process, provide an overview of the process. In particular indicate where domestic waste water / trade effluent is generated.	
Provide additional sheets where necessary.	
Specify any development, expansion or process changes since the original application or since the most recent licence review.	
Process Materials & Waste Disposal	Where applicable, complete **Appendix A and Appendix B** of this form.

PART III – EFFLUENT DETAILS

PART III – Section 1

A. Effluent Details	
PART III – Section 1 A is to be completed for all licence reviews.	
Type of effluent	☐ Domestic Waste water Only ☐ Trade Effluent Only ☐ Both Domestic and Trade Effluent
Domestic Waste water only (if relevant)	Population Equivalent (p.e.)
	Expected Dry Weather Flow (DWF) m^3/day. ***Provide details of how the P.E. & DWF were calculated.***
Trade Effluent only or Domestic & Trade (if relevant)	Normal volume of effluent discharged per day is m^3/day.
	Max. volume of effluent discharged in one day is m^3/day.
	Max volume of effluent discharged per hour is m^3/hour.
Provide details of how the trade effluent flows are calculated.	
Effluent Characteristics.	**Appendix C and Appendix D of this form.** Consult with local authority as to specific requirements for Licence Review. *Provide additional sheets where necessary.*

PART III – EFFLUENT DETAILS

B. Effluent Details	
PART III – Section 1 B is to be completed for all licence reviews *Provide additional sheets where necessary.*	
Discharge Variability	Briefly identify whether there is likely to be variability in the discharge flow or characteristics e.g. due to process changes, due to seasonal variation, due to diurnal changes etc. Where the discharge shows seasonal or other variation, please provide details of flow volumes and times of discharge. Also provide details of varying effluent characteristics in Appendix C and Appendix D.
Fats, Oils and Grease (FOG) (if relevant)	Provide details of control measures proposed for the removal of FOG from the effluent prior to discharge. Provide technical data sheets for any equipment proposed. Describe equipment maintenance

PART III – EFFLUENT DETAILS

Food Waste (if relevant)	Provide details of provisions for source segregation and disposal of food waste.
Other Discharges	Provide particulars of any other discharges from the premises (e.g. storm water).
Water Supply	Provide details of the source of water that will form part of the discharge e.g. mains, borehole, river etc.
	The estimated volume of water used per day is m^3/day
Other Effluent Details	You may be required to furnish such other particulars as the Licensing Authority may reasonably require for consideration of the application e.g. effluent toxicity testing, bioaccumulation testing, biodegradation testing.

PART III – Section 2

A. Effluent Treatment		
PART III – Section 2 A is to be completed where the effluent is to be treated prior to discharge.		
Operator of Treatment System (*where relevant*)	**Where the treatment system is to be maintained and operated by a third part please provide the following:**	
	Contact Name	
	Company Name	
	Address	
	Phone Number (day)	
	Phone Number (night)	
	Fax	
	e-mail	
	Registered Company Details	

PART III – EFFLUENT DETAILS

A. Effluent Treatment	
Waste Water Treatment System Overview	Provide particulars of the existing / proposed upgrade of effluent treatment system. Where waste water treatment utilises a percolation area, filter system, constructed wetland or land application provide details of the design and construction of same, site suitability / characterisation testing and include such drawings as may be relevant. *Provide copies of the treatment system process drawings.* *Provide additional sheets where necessary.*

In the event of any upgrade or intrusive investigation of soil polishing facilities, the Environment Section of Cavan County Council shall be notified preferably by e-mail or by telephone to the **Environment Section** at least **3 working days** prior to commencement of the site assessment, so as the assessment may be monitored. **Contact the Environment Section on (049) 4378486 or email dmcenerney@cavancoco.ie**

PART III – EFFLUENT DETAILS

A. Effluent Treatment	
Is the Discharge a Direct Discharge or an Indirect Discharge?	☐ Direct Discharge ☐ Indirect Discharge via Percolation Area, Soakage Pit, Filter System or Other Method **Where discharge is via a percolation area, soakage pit, filter system, constructed wetland or other method provide details of the design and construction of same and include such drawings as may be relevant.** **In the event of any upgrade or intrusive investigation of soil polishing facilities, the Environment Section of Cavan County Council shall be notified** preferably by e-mail or by telephone to the **Environment Section** at least **3 working days** prior to commencement of the site assessment, so as the assessment may be monitored. **Contact the Environment Section on (049) 4378486 or email dmcenerney@cavancoco.ie**
Hydraulic Loading	Effluent Discharge Rate (maximum) is m^3/day Recharge Rate is m^3/day Hydraulic loading rate (volumetric flow rate over a given percolation area) is m^3/day.

PART III – EFFLUENT DETAILS

B. Effluent Treatment	
<u>PART III – Section 2 B</u> is to be completed where the effluent is to be treated prior to discharge. *Provide additional sheets where necessary.*	
Treatment System Maintenance	Provide details of the proposals for the treatment system maintenance including frequency of inspection and de-sludging.
Access to treatment systems and discharge point for Local Authority Staff	In the event that the waste water treatment system is enclosed and locked and / or the discharge point is inaccessible during the normal working day provide details of key holder. Name: Address: Phone number: Mobile number:
Plant Failure	Identify how any failure of the treatment system will be detected.
Sludge	Provide details of proposals for dealing with sludge.

PART III – Section 3

A. Effluent Monitoring For Licence Review														
PART III – Section 3 A is to be completed. **Provide details of the monitoring proposed for the effluent discharge** *Provide additional sheets where necessary.*														
Monitoring the Discharge.	Provide details of any proposals to monitor the discharge e.g. o Parameters to be analysed; o Monitoring programme; o Details of any sampling equipment to be used.													
Location of sampling point(s) (Co-ordinates)	**Easting**							**Northing**						
Effluent Flow Monitoring	Provide details of any proposals to monitor the discharge flow.													
Licensing Authority Monitoring	Provide a description of how the Licensing Authority will be provided access to the effluent in order to take samples and indicate the point at which such samples may be taken e.g. last manhole before outfall. *(Provide grid reference below).*													
Location of Licensing Authority sampling point(s) (Co-ordinates)	**Easting**							**Northing**						

PART III – EFFLUENT DETAILS

B. Pollution Control		
<u>PART III – Section 3 B</u> is to be completed for licence review. **Provide details of any pollution control measures proposed.** *Provide additional sheets where necessary.*		
Accidental Discharges	Provide details of arrangements to prevent accidental discharges.	
Provide below, details of emergency procedures, contact persons and facilities available to respond to unexpected incidents.		
Emergency Response	**Contact Name**	
	Phone Number (day)	
	Phone Number (night)	
	Provide details of any emergency procedure.	
Environmental Management Plan	Is there an Environmental Management Plan in place in respect of the site? ☐ Yes ☐ No *If 'Yes' please submit a copy with this application.*	

PART IV – DISCHARGE TO GROUNDWATER

PART IV – Section 2

A. Aquifer Characteristics & Receptor Details														
Name of Receiving Water (Waterbody code)														
Location of Discharge (Co-ordinates)	**Easting**							**Northing**						
Add additional rows where necessary. **All discharge locations to be indicated clearly on OS Map.**														
Name of River Basin District	Provide the name of the River Basin District in which the discharge is located :													
Water Framework Directive Waterbody Status	☐ No Status ☐ Poor ☐ Good													
Designation*	The receiving water is located within the boundary of: *(tick as appropriate)* ☐ An SAC, site code: ☐ An SPA, site code : ☐ None of the Above ** Note: Where the discharge is located within the boundary of a Natura 2000 site (SAC or SPA), or where a discharge is likely to impact on a nearby SAC / SPA, an Appropriate Assessment (Natura Impact Statement) must be submitted with this application as required by Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive).*													
Is GWDTE Located within 1km of the Discharge?	☐ Yes ☐ No													
Nearby Surface Water Features	Show the location of nearby surface waters e.g. rivers, streams, lakes and field drainage ditches within 250m of the discharge on a map.													

PART IV – DISCHARGE TO GROUNDWATER

Drinking Water Abstractions	Provide the name of Public/Group Water Supply Schemes within 1km of the discharge and mark their location on a map. Mark the location of any domestic wells located within 250m of the discharge on a map.
	Is the discharge located within the Zone of Contribution or Source Protection Zone of a Groundwater Protection Scheme? ☐ Yes ☐ No ☐ None Delineated *If Yes, provide copy of report and maps.*
Soil & Bedrock	Soil type: Subsoil type: Bedrock Type: Karst features: *Provide copies of reports and maps as relevant.*
Aquifer Category and Vulnerability	*Identify Aquifer Category :* *Identify Vulnerability Rating:* *Provide copies of reports and maps as relevant.*
Topography & Groundwater Flow Direction	*Identify slope of land at the point of discharge i.e. Steep (>1:5), Shallow (1:5-1:20), or Relatively Flat (<1:20):* *Mark groundwater flow direction on a map.*
Depth to Water Table	*Where available provide depth to water table:* *m.*
Refer to "Guidance on Applying for a Discharge Licence - Groundwaters" for sources of information.	

PART IV – DISCHARGE TO GROUNDWATER

B. Groundwater Background Concentrations		
Receiving Water Background Concentrations.	**Parameter**	**Result (mean)**
	Total Dissolved Solids mg/l	
	pH (pH units)	
	Colour	
	Temperature ºC	
	Electrical Conductivity µS/cm	
	Total Hardness mg/l $CaCO_3$	
	Total Ammonia as mg/l NH_4 – N	
	Un-ionised Ammonia as mg/l N	
	Molybdate Reactive Phosphorus as (unfiltered MRP)	
	Total Phosphorus as mg/l P	
	Nitrite as mg/l NO_2 – N	
	Nitrate as mg/l NO_3 – N	
	Total Nitrogen mg/l N	
	Total organic carbon (TOC)	
	Chloride mg/l	
	Sulphate mg/l	
	Sodium mg/l	
	Magnesium µg/l	
	Manganese µg/l	
	Iron µg/l	
	Escherichia coli (E.coli) number/100 ml	
	Total Coliforms number/100 ml	
	Cryptosproridium number/100 ml	
Consult with LA on information needs		

PART IV – Section 3

A. Impact of Discharge – Consult with LA	
Tier 1 Assessment	*A Tier 1 Assessment must be carried out in support of all applications to discharge to groundwater.*
Tier 2 Assessment	*A Tier 2 Assessment must be carried out for the following:* • *Where the proposed discharge is an input greater than 5 m^3/d and less than or equal to 20 m^3/d of domestic waste water associated with OSWTS and ICWs;* • *Where the proposed discharge is a trade effluent (moderate risk);* • *Where the Tier 1 Assessment indicates uncertainty about the risk of impact to groundwaters, the Applicant must proceed to a Tier 2 Assessment.* *Note that an Applicant may be requested to conduct a Tier 2 Assessment where the Licensing Authority, following a risk screening of the discharge, deems that there is a moderate risk of impact to groundwaters from the discharge.*
Tier 3 Assessment	*A Tier 3 Assessment must be carried out for applications to discharge to groundwater that relate to the following activities:* • *Inputs greater than 20 m^3/d of domestic waste water;* • *Discharges from Landfills;* • *Where the proposed discharge is a trade effluent (high risk)* • *Where the Tier 1 and Tier 2 Assessments indicate uncertainty about the risk of impact to groundwaters, the Applicant must proceed to a Tier 3 Assessment.* *Note that an Applicant may be requested to conduct a Tier 3 Assessment where the Licensing Authority, following a risk screening of the discharge, deems that there is a high risk of impact to groundwaters from the discharge.*
Refer to "Guidance on Applying for a Discharge Licence - Groundwaters" for guidance on Carrying out a Tier 1, Tier 2 and Tier 3 Assessment.	

PART IV – Section 4

Checklist for Applicant when applying for a licence to discharge to Groundwater	
Details to be Submitted	**X the Box where included**
1. Fully completed, signed and dated application form (One original plus three hard copies of all associated documentation must be included).	
2. Name & address of Applicant & Agent	
3. Has the type of discharge been identified i.e. new or existing / domestic or trade?	
4. Has location of discharge been identified on a location map?	
5. In the case of an application submitted by a company, has a certificate of incorporation been included?	
6. Site location map at scale of 1:50,000	
7. Site layout map at scale of 1:2500	
8. Drainage system drawings at scale no greater than 1:2500	
9. Description of process giving rise to trade effluent	
10. Description of the proposed method of effluent treatment including details of percolation area and distribution system and measures for the control of FOG where appropriate	
11. Treatment system process drawings	
12. Treatment system operation and maintenance details	
13. Effluent quality, discharge load details and concentration	
14. Receiving water quality assessment (physico-chemical & microbial)	
15. Newspaper Notice (one copy of full page from the newspaper)	
16. Hydraulic loading calculations	
17. Site investigation results including soil and subsoil characterisation, trial hole and percolation testing.	
18. Details of designated areas (including designation of waters)	
19. Proposals for dealing with sludge (where relevant)	
20. Emergency procedures in case of plant breakdown or pollution incident (including details of storage facilities onsite)	
21. Results of Tier1/Tier2/Tier3 assessment as appropriate	

Please include any additional information which you deem to be pertinent to the application / discharge.

PART IV – DISCHARGE TO GROUNDWATER

Appendix A - Provide details of process related raw materials, products etc. used or generated on site.							
Substance	**EC Number**	**Nature of Use**	**Amount Stored (tonnes)**	**Annual Usage (tonnes)**	**Danger Classification**	**Risk Phrase**	**Safety Phrase**
Include copies of *Material Safety Data Sheets (MSDS) for materials.*							

Ref. European Communities (Classification, Packaging, Labelling and Notification of Dangerous Substances) Regulations, 1994

PART IV – DISCHARGE TO GROUNDWATER

Appendix B - Off-site Waste Disposal					
Waste Description	**EWC. Catalogue No.**	**Quantity (Tonnes per annum)**	**Name of site accepting waste**	**Reference Number of site environment licence**	**State whether recycling, recovery or disposal**

PART IV – DISCHARGE TO GROUNDWATER

Appendix C - Characteristics of Trade and/or Domestic Effluent								
The following list of parameters is indicative only. Additional physical, chemical or other characteristics as are pertinent to the effluent in question should also be identified. *Complete for all applicable sections, giving concentration ranges where available.*								
Emission Point co-ordinates (One table per emission point):								
Parameter *Concentrations in mg/l unless otherwise stated*		***Prior to Treatment (if any)***			***As discharged***			
Characteristic *Note: Section A = to be completed where discharging domestic effluent only* *Section A-E = to be completed where discharging a trade effluent.*		***Max. Hourly***	***Max. Daily***	***Mg/l***	***Max. Hourly***	***Max. Daily***	***Mg/l***	***% Removal***
A	Temperature °C							
	pH							
	Biological Oxygen Demand (5 day)							
	Chemical Oxygen Demand							
	Suspended Solids							
	Total Ammonia (as N)							
	Nitrate (as N)							
	Total Phosphorus (as P)							
	Conductivity							
	Molybdate Reactive Phosphorus (MRP)							
	Oils, Fats and Greases							
	Sulphates (as SO_4)							
	Chlorides (as Cl)							
	Phenols (as C_6H_5OH)							
	Detergents (as Lauryl Sulphate)							
	Escherichia coli (E.coli) number/100 ml							
	Total Coliforms number/100 ml							
	Cryptosproridium number/100 ml							
B	Metals µg/l							

PART IV – DISCHARGE TO GROUNDWATER

	Arsenic							
	Chromium							
	Copper							
	Cyanide							
	Fluoride							
	Iron							
	Lead							
	Magnesium							
	Manganese							
	Nickel							
	Zinc							
	Other *(please specify)*							
C	Pesticides & Solvents:							
	Atrazine							
	Dichloromethane µg/l							
	Simazine µg/l							
	Toluene µg/l							
	Xylenes µg/l							
D	Organohalogen Compounds (Specify)							
	Organophosphorus Compounds (Specify)							
	Organotin Compounds (Specify)							
	Mineral Oils or Hydrocarbons of petroleum origin							
	Other toxic substances (Specify)							
	Colour (degrees hazen)							
E	Other:							
	Other relevant characteristics including fish toxicity data from tests carried out on all or part of the effluent							

PART IV – DISCHARGE TO GROUNDWATER

Appendix D - Dangerous Substances		
Are any of the following chemicals used in the process or stored on the premises	***Yes/No***	***Are residual chemical process materials or chemical tailings from a process recovered or discharged?***
EDC (1, 2 dichloroethane ($C_2H_4C1_2$)) TRI trichloroethylene (C_2HC1_3); PER perchloroethylene (C_2 $C1_4$); TCB trichlorobenzene		
Carbon tetrachloride, DDT and pentachlorophenol		
Aldrin, dieldrin, isodrin, HCB (hexachlorobenzene), HCBD (hexachlorobutadiene) and $CHCl_3$ (chloroform)		
Cadmium		
>100 kg of raw asbestos		
Atrazine		
Dichloromethane		
Simazine		
Toluene		
Tributyltin		
Xylenes		
Arsenic		
Chromium		
Copper		
Cyanide		
Fluoride		
Lead		
Nickel		
Zinc		

Glossary of Terms

The following provides a glossary of terms used in this document. The definitions therein are not to be taken as comprehensive but solely as an aid to the non-technical reader.

Abstraction
In relation to water contained in any source of water, means the doing of anything whereby any of that water is removed from that source of water, whether temporarily or permanently, including anything whereby the water is so removed for the purpose of being transferred to another source of water *(Source: Water Services Act, 2007)*

Agreed Limit of Detection
The lowest concentration or quantity of a substance that can be distinguished from the absence of that substance. It should be agreed between the regulator and the applicant.

Appropriate Assessment
In accordance with Article 6(3) of the Habitats Directive (92/43/EEC), an Appropriate Assessment is an evaluation of the potential impacts of a plan or project on the conservation objectives of a Natura 2000 site (European network of special areas of conservation and special protection areas), and the development, where necessary, of mitigation or avoidance measures to mitigate negative effects.

Aquifer
A subsurface layer or layers of rock, or other geological strata, of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater (Groundwater Regulations, 2010).

Attenuation
A decrease in pollutant concentrations, flux, or toxicity as a function of physical, chemical and/or biological processes, individually or in combination, in the subsurface environment. Attenuation processes include dilution, dispersion, filtration, sorption, decay, and retardation.

Authorised person
A person appointed in writing by the Minister or by a Water Services Authority / Local Authority for the purposes of enforcing the legislation under which they have been appointed.

Capacity
A measure of the ability of groundwater to assimilate or absorb pollutants whilst still maintaining acceptable water quality in relation to applicable groundwater quality standards. The term relates primarily to the chemical status of a groundwater body.

Coastal Water
The area of surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate to the outer limit of transitional waters.

Compliance Point
The point (location, depth) at which a compliance value should be met. Generally it is represented by a borehole or monitoring well from which representative groundwater samples can be obtained

Compliance Value
The concentration of a substance and associated compliance regime that, when not exceeded at the compliance point, will prevent pollution and/or achieve water quality objectives at the receptor.

Conceptual Hydrogeological Model
A simplified representation or working description of how a real hydrogeological system is believed to behave on the basis of qualitative analysis of desk study information, field observations and field data. A quantitative conceptual model includes preliminary calculations of water balances, including groundwater flow.

Conservative Pollutants
Pollutants which do not readily or easily react or biodegrade in the subsurface environment.

Contaminant (Chemical) Load
The volume and concentrations of chemical substances (pollutants) discharged to soil or groundwater.

Diffuse Sources
Diffuse sources of pollution are spread over wider geographical areas rather than at individual point locations. Diffuse sources include general land use activities and landspreading of industrial, municipal wastes and agricultural organic and inorganic fertilisers.

Direct Input
An input to groundwater that bypasses the unsaturated zone (e.g. direct injection through a borehole) or is directly in contact with the groundwater table in an aquifer either year round or seasonally.

Domestic Waste Water
Waste water of a composition and concentration (biological and chemical) normally discharged by a household, and which originates predominantly from the human metabolism or from day to day domestic type human activities, including washing and sanitation, but does not include fats, oils, grease or food particles discharged from a premises in the course of, or in preparation for, providing a related service or carrying on a related trade. (Water Services Act, 2007).

Downgradient
The direction of decreasing groundwater levels, i.e. flow direction. Opposite of upgradient.

Dry Weather Flow (Effluent)
For a waste water treatment plant, the Dry Weather Flow is the average daily flow to the plant without any contribution from stormwater inflow or infiltration of groundwater into the waste water collection system.

Dry Weather Flow (Receiving Water)

The Dry Weather Flow of a stream or river is the annual minimum daily mean flow rate with a return period of 50 years. The Dry Weather Flow is a statistical measure of low flow and usually requires reliable long term low flow data or sufficient information that would allow the estimation of the Dry Weather Flow.

Environmental Quality Standard (EQS)
The concentration of a particular pollutant or group of pollutants in a receiving water which should not be exceeded in order to protect human health and the environment.

Good Groundwater Chemical Status
The chemical status of a body of groundwater which meets all the conditions for good chemical status set out in Groundwater Regulations 2010, regulations 39 to 43.

Good Groundwater Status
Achieved when both the quantitative and chemical status of a groundwater body are good.

Good Surface Water Chemical Status
The chemical status of a body of groundwater which meets all the conditions for good chemical status set out in the Surface Water Regulations 2009, S.I. No. 272 of 2009.

Good Surface Water Status
Achieved when both the quantitative and chemical status of a surface water body are good.

Groundwater
All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil (Groundwater Regulations, 2010). The EPA interpretation of the settings in which groundwater can occur is presented in Section 3.2.1.

Groundwater Body (GWB)
A volume of groundwater defined as a groundwater management unit for the purposes of reporting to the European Commission under the Water Framework Directive. Groundwater bodies are defined by aquifers capable of providing more than 10 m^3 per day, on average, or serving more than 50 persons.

Groundwater Dependent Terrestrial Ecosystems (GWDTEs)
These are groundwater dependent wetlands, whereby the dependency is either on groundwater flow, level or chemistry as the controlling factors or qualifying interests of associated habitats. Examples are raised bogs, alkaline fens and turloughs. Groundwater dependent terrestrial ecosystems are listed on the EPA's register of protected areas in accordance with Regulation 8 of the Water Policy Regulations, 2003.

Groundwater Protection Scheme (GWPS)
A scheme comprising two principal components: a land surface zoning map which encompasses the hydrogeological elements of risk (of pollution); and a groundwater protection response matrix for different potentially polluting activities (DELG/EPA/GSI, 1999).

Groundwater Protection Responses (GWPR)

Control measures, conditions or precautions recommended as a response to the acceptability of an activity within a groundwater protection zone.

Groundwater Protection Zone (GPZ)
A zone delineated by integrating aquifer categories or source protection areas and associated vulnerability ratings. The zones are shown on a map, each zone being identified by a code, e.g. SO/H (outer source area with a high vulnerability) or Rk/E (regionally important karstified aquifer with an extreme vulnerability). Groundwater protection responses are assigned to these zones for different potentially polluting activities.

Groundwater Recharge
Two definitions: a) the process of rainwater or surface water infiltrating to the groundwater table; b) the volume (amount) of water added to a groundwater system.

Groundwater Resource
An aquifer capable of providing a groundwater supply of more than 10 m^3 a day as an average or serving more than 50 persons.

Hazardous Substances
Substances or groups of substances that are toxic, persistent and liable to bio-accumulate, and other substances or groups of substances which give rise to an equivalent level of concern. A list of hazardous substances has been published by the EPA (2010a).

Hydraulic Conductivity
The rate at which water can move through a unit volume of geological medium under a potential unit hydraulic gradient. The hydraulic conductivity can be influenced by the properties of the fluid, including its density, viscosity and temperature, as well as by the properties of the soil or rock.

Hydraulic Gradient
The change in total head of water with distance; the slope of the groundwater table or the piezometric surface.

Indirect Input
An input to groundwater where the pollutants infiltrate through soil, subsoil and/or bedrock to the groundwater table.

Input
The direct or indirect introduction of pollutants into groundwater as a result of human activity.

Integrated Constructed Wetlands (ICWs)
Constructed wetlands are artificially constructed or modified wetland systems supporting vegetation, which provide secondary treatment, by physical and biological means, to effluent from a primary treatment step. Constructed wetlands may also be used for tertiary treatment (EPA, 2009a). “Integrated constructed wetlands” have been developed in Ireland to integrate water quality, management of landscape-fit towards improving site aesthetics and enhancement of biodiversity. ICWs can primarily treat domestic waste water and farmyard soiled water. Guidance (DEHLG, 2010) is available that outlines the ICW concept, and provides information on site assessment, design, construction, operation, maintenance and monitoring.

Integrated Pollution Prevention and Control (IPPC) Licence
A licence for industrial and other activities issued by the EPA under the Environmental Protection Agency Acts, 1992 to 2011.

Karst
A distinctive landform characterised by features such as surface collapses, sinking streams, swallow holes, caves, turloughs and dry valleys, and a distinctive groundwater flow regime where drainage is largely underground in solutionally enlarged fissures and conduits.

Lake
A body of surface water, which may be artificial or natural.

Landfill
A waste disposal site or facility used for the deposit of waste onto or under land.

Licence Application
An application to a Local Authority or a Water Services Authority for a licence to discharge trade or sewage effluent to waters or to sewer

Licensing Authority
Includes the Water Services Authority (as defined in the Water Services Act, 2007) and the Local Authority (as defined in the Local Government Act, 2001) which includes County Councils and City Councils.

Limit Objective
This objective requires the implementation of all measures necessary to limit inputs of non-hazardous substances, into groundwater to ensure that such inputs do not cause deterioration in status or significant and sustained upward trends in their concentrations in groundwater.

Limit Value
The mass, expressed in terms of a specific parameter, concentration or level of an emission, or both a specific concentration and level of an emission, that may not be exceeded during one or more periods of time. In this guidance, when not exceeded at the source, the limit value will prevent an unacceptable release to groundwater.

Minimum Reporting Value (MRV)
The lowest concentration of a substance that can be determined with a given degree of confidence using commonly available analytical methods, primarily used in the context of hazardous substances. MRVs are not necessarily equivalent to limits of detection.

Non-hazardous Substances
Pollutants listed in Schedule 2 of the Groundwater Regulations 2010 that are not considered hazardous, as well as any other non-hazardous pollutants not listed in Schedule 2 but presenting an existing or potential risk of pollution. Non-hazardous substances are listed in a document by the EPA (2010a).

On-site Waste Water Treatment Systems (OSWTSs)
A generic term for small-scale waste water treatment systems associated with single houses and small communities or facilities, and mostly associated with septic tanks and intermittent filter systems offering secondary treatment of raw waste water effluent.

Pathway
The route which a particle of water and/or chemical or biological substance takes through the environment from a source to a receptor location. Pathways are determined by natural hydrogeological characteristics and the nature of the contaminant, but can also be influenced by the presence of features resulting from human activities (e.g., abandoned ungrouted boreholes which can direct surface water and associated pollutants preferentially to groundwater).

Permeability
A measure of a soil or rock's ability or capacity to transmit water under a potential hydraulic gradient (synonymous with hydraulic conductivity).

Point Source
Any discernible, confined or discrete conveyance from which pollutants are or may be discharged. These may exist in the form of pipes, ditches, channels, tunnels, conduits, containers, and sheds, or may exist as distinct percolation areas, integrated constructed wetlands, or other surface application of pollutants at individual locations. Examples are discharges from waste water works and effluent discharges from industry.

Polluting Matter
Any substance liable to cause pollution, and, for the purpose of this definition, 'substance' includes bacteria and other pathogens, where relevant, and the expression "polluting matter" shall be construed accordingly. *(Source European Communities Environmental Objectives (Surface Waters) Regulations, 2009).*

Pollution
The direct or indirect introduction, as a result of human activity, of substances or heat into the air, water or land which may be harmful to human health or the quality of aquatic ecosystems or terrestrial ecosystems directly depending on aquatic ecosystems which result in damage to material property, or which impair or interfere with amenities and other legitimate uses of the environment (Groundwater Regulations, 2010).

Poorly Productive Aquifers (PPAs)
Low-yielding bedrock aquifers that are generally not regarded as important sources of water for public water supply but that nonetheless may be important in terms of providing domestic and small community water supplies and of delivering water and associated pollutants to rivers and lakes via shallow groundwater pathways.

Population Equivalent (p.e.)
A conversion value which aims at evaluating non-domestic pollution in reference to domestic pollution fixed by EEC directive (Urban Waste Water Treatment Directive 91/271/EEC) at 60 g/day BOD_5.

Pore water
Water that occupies void spaces between mineral grains in unlithified (uncemented) sediments.

Preferential Flow
A generic term used to describe water movement along favoured pathways through a geological medium, bypassing other parts of the medium. Examples include pores formed by soil fauna, plant root channels, weathering cracks, fissures and/or fractures.

Prevent Objective
Taking all measures necessary and reasonable to avoid the entry of hazardous substances into groundwater and to avoid any significant increase in their concentration in groundwater.

Priority Substances
Those substances or groups of substances, identified by the Commission in accordance with Article 16(2) of the Water Framework Directive and listed in Tables 11 and 12 of Schedule 6 of the European Communities Environmental Objectives (Surface Waters) Regulations, 2009 that have been prioritised for action by the setting of environmental quality standards at Community level.

Priority Hazardous Substances
Those substances or groups of substances forming a subset of priority substances identified by the Commission in accordance with Article 16(3) of the Water Framework Directive and for which measures have to be taken to cease or phase-out discharges, losses and emissions and which are listed in Table 12 of Schedule 6 of the European Communities Environmental Objectives (Surface Waters) Regulations, 2009.

Receptor-based Water Quality Standards
Standards developed to protect receptors, which include drinking water standards, environmental quality standards for surface waters and minimum reporting values. They are used to develop compliance values for assessing inputs to groundwater.

Receptors
Receptors are existing and potential future groundwater resources, drinking water supplies (e.g. springs and abstraction wells), surface water bodies into which groundwater discharges (e.g. streams) and groundwater dependent terrestrial ecosystems (GWDTEs).

Regulator
In this document, the EPA or the relevant local authority depending on the type of discharge licence and location.

River
A body of inland water flowing for the most part on the surface of the land but which may flow underground for part of its course (Groundwater Regulations, 2010). Upland rivers are generally fast flowing and lowland rivers are generally slow flowing and meandering.

River Basin
The area of land from which all surface water run-off flows, through a sequence of streams, rivers and lakes, into the sea at a single river mouth, estuary or delta.

River Basin District (RBD)
A group of river basins formally defined by Water Policy (2003) for the purposes of reporting Water Framework Directive requirements to the European Commission.

River Basin Management Plan (RBMP)
A detailed document describing the characteristics of a river basin district, the environmental objectives that need to be achieved, and the pollution control measures required to achieve these objectives through a specified work programme.

Saturated Zone
The zone below the water table in an aquifer in which all pores and fissures and fractures are filled with water at a pressure that is greater than atmospheric.

Section 4 Licence
A licence to discharge to waters, given by local authorities under the Local Government (Water Pollution) Acts 1977 to 1990.

Sewer
Drainage pipes and sewers of every description, including storm water sewers, owned by, vested in or controlled by a water services authority, an authorised provider of water services or a person providing water services jointly with or on behalf of a water services authority or an authorised provider of water services, but does not include a drain or service connection *(Source: Water Services Act, 2007)*

Sewage Effluent
Effluent from any works, apparatus, plant or drainage pipe used for the disposal to waters of sewage, whether treated or untreated *(Source: Local Government (Water Pollution) Act 1977)*

Significant and Sustained Upward Trend
Any statistically and environmentally significant increase in concentration of a pollutant, group of pollutants, or indicator of pollution in groundwater (EPA, 2010b).

Soil (topsoil)
The uppermost layer of soil in which plants grow.

Source Pathway Receptor (SPR) Model
A SPR model involves identifying whether and how pollution sources are connected to a receptor via a pathway. A conceptual model provides an understanding of all the relationships between SPR factors in a particular hydrogeological setting.

Source Protection Area
The catchment area around a groundwater source which contributes water to that source (Zone of Contribution), divided into two areas; the Inner Protection Area (SI) and the Outer Protection Area (SO). The SI is designed to protect the source against the effects of human activities that may have an immediate effect on the source, particularly in relation to microbiological pollution. It is defined by a 100-day time of travel (TOT) from any point below the water table to the source. The SO covers the remainder of the zone of contribution of the groundwater source.

Special Areas of Conservation (SACs)
Areas selected and designated under the Natural Habitats Regulations, 1997 (as amended in 1998 and 2005) for the protection of certain habitats and species.

Storm Water
Runoff of rainwater mainly in urban settings during high intensity rainfall events. Stormwater may enter and discharge to groundwater or other receptors through storm drains.

Subsoil
Unlithified (uncemented) geological strata or materials beneath the topsoil and above bedrock.

Surface Water
A discrete and significant element of surface water such as a lake, reservoir, stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water. *(European Communities Environmental Objectives (Surface Waters) Regulations, 2009)*

Surface Water Bodies
Inland waters, except groundwater, which are on the land surface (such as reservoirs, lakes, rivers, transitional waters, coastal waters and, under some circumstances, territorial waters) and which occur within a WFD River Basin District.

Sustainable Urban Drainage Systems (SuDS)
Generic term used to describe conveyance systems and control structures designed to intercept, manage, and dispose of surface drainage and stormwater in urban settings and the built environment. Components of SuDS may include drains, ponds, soakaways, recharge basins, and porous pavements.

Threshold Values (TVs)
Chemical concentration values for substances listed in Schedule 5 of the Groundwater Regulations (2010), which are used for the purpose of chemical status classification of groundwater bodies.

Trade Effluent
Effluent from any works, apparatus, plant or drainage pipe used for the disposal to a waste water works of any liquid (whether treated or untreated), either with or without particles of matter in suspension therein, which is discharged from premises used for carrying on any trade or industry (including mining), but does not include domestic waste water or storm water (Water Services Act, 2007).

Transitional Waters
Bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to saline coastal waters, and which are substantially influenced by freshwater flows.

Trigger Level
A parameter value specified in a licence or authorisation, the achievement or exceedance of which requires certain actions to be taken by the licensee.

UK TAG
The United Kingdom Technical Advisory Group, a partnership of UK environment and conservation agencies set up to interpret and support the implementation of the Water Framework Directive. The EPA is an invited member of the UK TAG.

Unacceptable Input to Groundwater
An input of hazardous substances to groundwater, or pollution resulting from an input of non-hazardous substances to groundwater, where these inputs are not exempted by the provisions of Regulation 14 of the Groundwater Regulations (2010).

Unsaturated Zone
The zone between the land surface and the water table, in which pores, fractures and fissures are only partially filled with water. Also known as the vadose zone.

Vulnerability
The intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities (Fitzsimmons et al, 2003).

Waste Licence
A licence for activities in the waste sector given by the EPA under the Waste Management Acts, 1996 to 2010.

Waste Water Effluent
Any quantity or volume of waste water generated from a domestic, industrial, or commercial facility. Typically disposed of via an onsite waste water treatment system or a specially designed treatment facility such as a waste water treatment plant.

Waste Water Discharge Licence or Certificate of Authorisation
Issued by the EPA to sanitary authorities under the Waste water Discharge (Authorisation) Regulations 2007 and 2011.

Water Body
A WFD management unit. It refers to all types of waters, including surface water bodies, transitional and coastal water bodies, as well as groundwater bodies.

Water Table
The uppermost level of saturation in an aquifer at which the pressure is atmospheric.

Water Pollution
The discharge by man, directly or indirectly, of substances or energy into the aquatic environment, the results of which are such as to cause hazards to human health, harm to living resources and to aquatic ecosystems, damage to amenities or interference with other legitimate uses of water.

Water Services Authority
Includes a County Council or a City Council as defined in the Local Government Act, 2001, (sanitary authority or local authority).

Zone of Contribution (ZOC)

The area surrounding a pumped well or spring that encompasses all areas or features that supply groundwater to the well or spring. It is defined as the area required to support an abstraction and/or overflow (in the case of springs) from long-term groundwater recharge