

Administration,
Environmental Licensing Programme,
Office of Climate, Licensing & Resource Use,
Environmental Protection Agency,
headquarters, PO Box 3000,
Johnstown, Castle Estate,
County Wexford.
Your Ref.: A0431-01

Our reference: MS/COOL/11

25 February 2011

Sub.: Coolcower Agglomeration (Register No. A0431-01) Regulation 25(c)(ii) Further Information Response

Dear Sir/Madam,

With reference to your letter of the 14 of December 2010, please find the following attached:

- 1 Original of the Coolcower Agglomeration (Register No. A0431-01) Regulation 25(c)(ii) Further Information Response.
- 1 Copy of the Coolcower Agglomeration (Register No. A0431-01) Regulation 25(c)(ii) Further Information Response.
- 1 Original of Attachments.
- 1 Copy of Attachments.
- 1 CDROM with the Further Information Response & Attachments in PDF Format.

Yours faithfully,

Ms Patricia Power,
Director of services, Water Services,
Cork County Council,

County Hall, Cork.

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Coolcower Regulation 25 Further Information Response

- Question 1 Assess the likelihood of significant effect of the waste water discharges from the above agglomerations on the relevant European sites by referring to Circular L8/08 “Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments” issued by the Department of Heritage and Local Government. In particular, the flow diagram in Appendix 1 should be completed and the results of each section recorded. Provide details of the results of this assessment within one month of the date of this notice and provide a reasoned response for the decision. If significant effects are likely then and appropriate assessment must be carried out and a report of this assessment forwarded to the Agency by within 1 month of the date of this notice. You are advised to provide the requested information in accordance with the “Note on Appropriate Assessments for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. 684 of 2007)”

Wastewater Discharge Licence Application: A0431-01

Circular L8/08 2 September 2008

Water Services Investment and Rural Water Programmes –
Further Information Response

- Question 1 Assess the likelihood of significant effect of the waste water discharges from the above agglomerations on the relevant European sites by referring to Circular L8/08 “Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments” issued by the Department of Heritage and Local Government. In particular, the flow diagram in Appendix 1 should be completed and the results of each section recorded. Provide details of the results of this assessment within one month of the date of this notice and provide a reasoned response for the decision. If significant effects are likely then and appropriate assessment must be carried out and a report of this assessment forwarded to the Agency by the date specified below. You are advised to provide the requested information in accordance with the “Note on Appropriate Assessments for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. 684 of 2007)”.

1 Introduction

1.1 Coolcower is situated 2.2km south east of Macroom Town in County Cork. There are some 20 houses within this locality, with some trading as holiday accommodation. 13 houses are connected to a treatment plant in form of a simple septic tank serving approximately 40 PE, discharging domestic waste only into River Lee. The area was home to one of the world’s largest producers of semi-conductors. The company was called General Instruments limited (GIL) had occupied the site west of the houses mentioned above since early 1970’s. GIL has its own Waste Treatment Plant built within its own site. The WWTP was built in early 1970’s with a capacity of 1000 PE. Since 2003/04 when GIL has located its Irish operation elsewhere, the industrial complex became home to some light industries such as manufacturers of Artificial limbs and Timber frames for the building traders. For the purpose of this assessment the waste water discharge from Coolcower septic tank is taken into consideration. This Catchment is serving a total of 13 houses only. In general the sewage from all premises is collected via the existing sewer network and is treated in conjunction at the Septic tank which was built in 1954. The current load on the septic tank is approximately 40 PE which provides preliminary treatment only. The passage of sewage through a septic tank helps in the removal of suspended solids but there is very little biological activity and the removal of BOD is

not significant. This septic tank discharges to an outfall which discharges into the adjacent River Lee.

1.2 Documentations

This document brings together all of the information necessary to make determination as to whether there are likely to be significant impacts arising from the Coolcower discharge on the designated sites within the catchment area.

These are :-

SAC – St Gobnets Wood - approx 14km upstream of discharge location where the qualifying habitat is not water dependent

SPA - Mullaghanish to Musheramore – protected species Hen Harrier – Not water dependent. Stream in site joins the Foherish River which in turn joins the Sullane 4km upstream of discharge location.

SAC – Mullaghanish – Musheramore – Same as above

SAC/SPA – The Gearagh – Located on River Lee approx 2km upstream of where Sullane meets Lee. The Sullane meets the Lee approx. 1km downstream of the Macroom discharge location.

Based on the preliminary flow chart already carried out, the need for an assessment is solely to assess whether the Coolcower discharge has an impact on the salmonoid waters of the Lee. The septic tank discharges directly into River Lee (Upper Lee Catchment Area).

2 Appropriate Assessment Screening Matrix

2.1 Description of project	
Location	Coolcower –near Macroom
Description of the key components of the project	Coolcower Septic tank serves a population equivalent of approx 40. The Loading increases in summer season to between 60- 80 PE. The effluent discharges directly into river Lee.
Distance from designated sites in potential impact zone	1km from Salmonoid river (River Lee), See above for Natura sites in the vicinity.

2.2 Description of the Natura 2000 sites within the potential impact zone¹	
Name	<p>None within impact zone.</p> <p>Designated sites within the area are :</p> <p>St Gobnets Wood SAC is located approx 14km upstream of the discharge location and the qualifying habitats and species are not water dependent.</p> <p>Mullaghanish- Musheramore SAC/SPA – The qualifying habitats and species are not water dependent. A stream runs through the area which joins the Foherish river. The Foherish is a tributary to the Sullane and its confluence is approx 4km upstream of Macroom WWTP.</p> <p>The Gearagh SAC/SPA is located on the River Lee approx 2km upstream of the Sullane/Lee confluence. The confluence occurs approx 1km downstream of the discharge location.</p>
Site Code	N/A

2.3 Assessment Criteria	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Salmonoid River.	<p>Discharge from Coolcower Septic tank</p> <p>Coolcower septic tank (approx. 40 PE) discharges directly into the River Lee downstream of the Lee/Sullane confluence. Though the Septic tank is overloaded, but the standard of effluent is generally good.</p> <p>Other Discharges in the vicinity:</p> <p>Clondrohid – Two septic tanks discharging to the Foherish tributary of the Sullane. The Foherish/Sullane confluence occurs approx. 4km upstream of Macroom</p> <p>Coolcower WWTP.: Small amount of treated effluent discharges into river Lee with PE equivalent to 100.</p>
Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other	<p>Untreated discharges could give rise to elevated nutrients entering the River Lee. Increased nutrients could have a negative impact on the fish life in the river.</p>

¹ Natura 2000 sites within the potential impact zone of the proposed development have been identified in accordance with guidance provided in the NPWS circular L8/08.

<p>plans or projects) on the Salmonoid river taking into account the following:</p> <ul style="list-style-type: none"> ○ Size and scale ○ Land-take ○ Distance from the Natura 2000 site or key features of the site: ○ Resource requirements (water abstraction etc.) ○ Emissions (disposal to land, water or air) ○ Excavation Requirements ○ Transportation Requirements ○ Duration of construction, operation, decommissioning ○ Other. 	
<p>Describe any likely changes to the site arising as a result of:</p> <ul style="list-style-type: none"> ○ Reduction in habitat area ○ Disturbance to key species ○ Habitat or species fragmentation ○ Reduction in species density ○ Changes in key indicators of conservation value (water quality etc) ○ Climate Change 	<p>Reduction in habitat area: N/A</p> <p>Disturbance to key species: Increased nutrients in the river Lee downstream of the discharge location could have a negative effect on fish numbers in the Lee. However there is no evidence to support this.</p> <p>Habitat or species fragmentation: No water dependent species in the surrounding SAC's SPA's.</p> <p>Reduction in species density: N/A.</p> <p>Changes in key indicators of conservation value eg water quality:</p> <p>The South Western River Basin District have carried out a Water Management Unit Report on the Upper lee Catchment. This includes all the tributaries to the Lee upstream of Macroom. The upper Lee is classified as having good water quality .. The intention of the SWRBD is to preserve this good quality.</p> <p>The EPA water monitoring sites in the vicinity give a</p>

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	<p>consistent Q rating of 4-5 upstream of the discharge location. Downstream of the discharge location has a Q rating of 4 (refer to attachment titled Coolcower water quality report 2010)</p> <p>As part of the Application process Cork County Council carried out limited sampling of water immediately upstream and downstream of the discharge point (depending on safe access) There is no evidence of deterioration of water quality associated with these results.</p>
Describe from the above those elements of the project of plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	

3. **Finding of No Significant Effects Report Matrix**

3.1 Project Description	
Name of project or plan	Coolcower-near Macroom
Name of salmonoid River	River Lee
Description of the project or plan	Coolcower septic tank serves the domestic population of the 13 houses development with average PE of 40 plus also some commercial premises . Due to the seasonal changes the population equivalent treated by the Septic Tank is approx 60.
Is the project or plan directly connected with or necessary to the management of the site (provide details)?	No

3.2 The assessment of significance of effects	
Describe how the project or plan (alone or in combination) is likely to affect the river	The discharge location for Coolcower septic tank is located approx 1km upstream of the Sullane/Lee confluence. If untreated effluent was to be discharged into the Sullane in low flow situation then the available dilutions may not exist in the Sullane to prevent wastewater high in nutrients entering the Salmonoid river.
Explain why these effects are not considered significant.	Available water quality data downstream of discharge is consistently Q4 which means the river Sullane is not eutrophic and thus poses no threat to the Lee. Available monitoring data from the WWTP show that despite being overloaded the WWTP is working well and meets the UWWT regulations. (2010 data attached)

Data collected to carry out the assessment			
Who carried out the assessment	Sources of data	Level of assessment completed	Where can the full results of the assessment be accessed and viewed
Mahmoud Shaladan & Madeleine Healy , Cork County Council	Cork Co Council EPA water quality monitoring data	Desktop review of cited data.	This report.

Question 2 Confirm the design capacity of the waste water treatment plant and the current population equivalent (PE) being treated at the plant. Confirm current PE includes the maximum average weekly loading for the agglomeration having taken into account local festivals , peak holiday seasons ,etc.

The Coolcower Agglomeration is served by a concrete septic tank which was built in 1954. There are only 13 houses which make up the residential area of this agglomeration. The waste water collected in the septic tank is discharged to River Lee. The current load on the septic tank is approximately 40 PE. The loading at this location increases in summer season due to increase in the number of visitors to the area. A good estimate would fall within the range of 60-80 PE.

Question 3 Provide a revised drawing clearly detailing the boundary of the agglomeration to which this application relates. Please note that the agglomeration boundary shall include all areas serviced by the sewer network and shall include the waste treatment plant. All areas of the agglomeration shall be connected by the agglomeration body.

Please Refer to Drawing B1_Map3

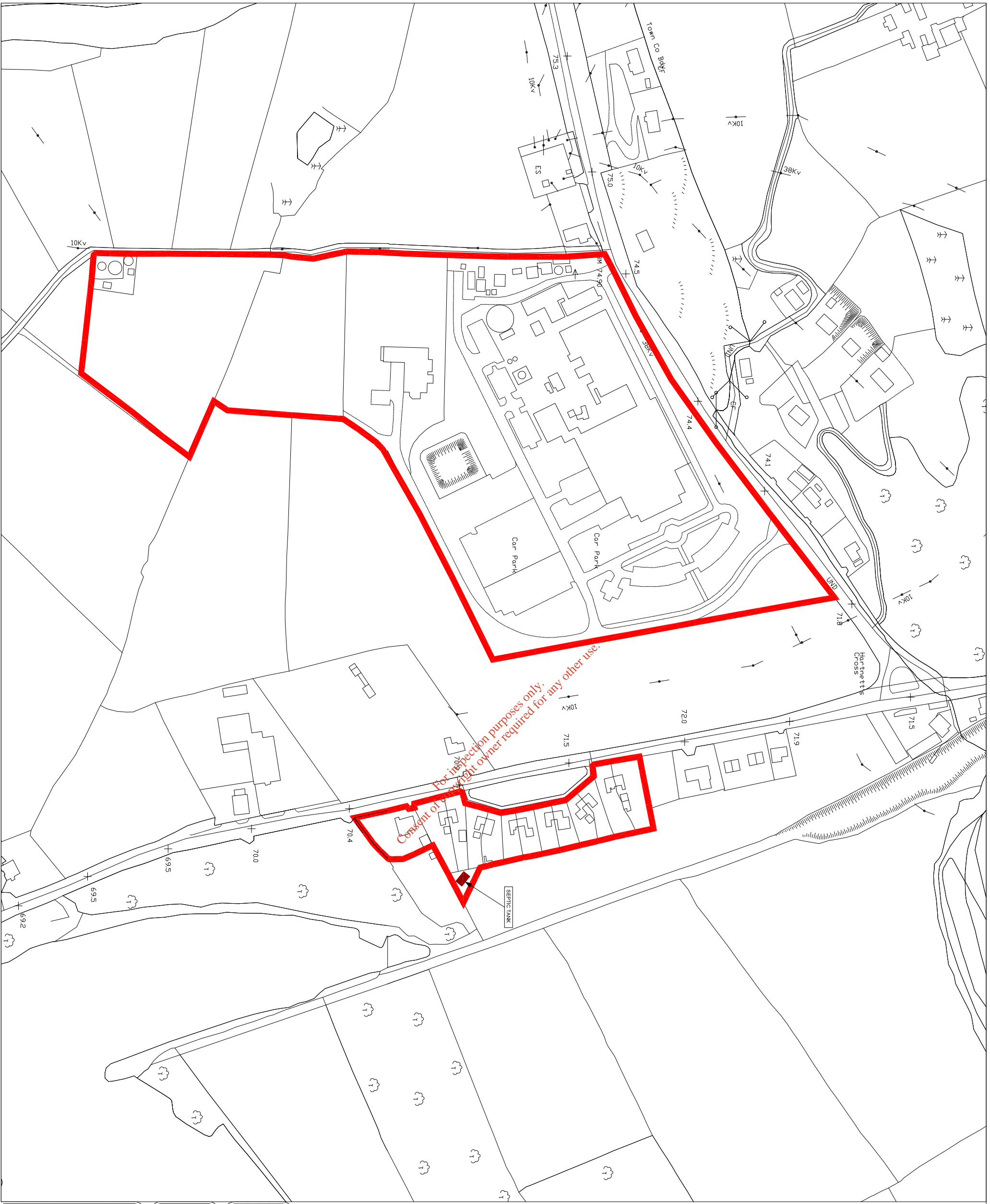
Question 4 Provide the name of the agglomeration to which the waste water discharge Licence Application relates.

The Coolcower Agglomeration

Question 5 As per S.I.684 of 2007 the primary discharge point means the discharge point with the largest volumetric flow. Please clarify which discharge is the primary discharge from the agglomeration .reclassify all other discharges in line with the waste water discharge certificate of authorisation Application Guidance Note which is available at www.epa.ie/downloads/forms/lic/wwda. Amend all sections of the application form and associated drawings where appropriate .

The primary Discharge point with the largest volumetric discharge (40PE) is where the agglomeration discharges from the residential area 1(refer to answer for question 2) . This point is at Grid Reference 135610E,071470N

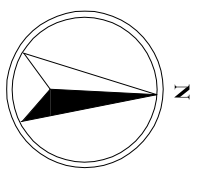
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NOTES:

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3. All levels refer to Ordnance Survey Datum, Malin Head.
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**AGGLOMERATION
BOUNDARY**



Rev	Date	By	Description



CORK COUNTY COUNCIL
SOUTHERN DIVISION

Niall O'Keefe, B.E. Chief Executive
County Hill, Cork.

Patricia Power,
Director of Services,
Area Operations South

Project: **COOLCOWER WWTP
WASTE WATER
DISCHARGE LICENCE APPLICATION**

Title: Application Form			
Attachment B1_Map3			
Agglomeration Boundary Served By			
Waste Water Treatment Works			
Designed: MS	Checked: MH	Scale: 1:3,000 @ A3	Drawing No: B1_Map3
Drawn: MM	Approved: MH	Date: Nov 09	Status: 0
File Path:			Rev: 0

Entity	Station	Station Ref	Station Easting	Station Northing	Sample Type	Sample Ref
Lee	Rooves Beg	RS19L030	145700	71600	Salmonoid	2010/0055
Lee	Rooves Beg	RS19L030	145700	71600	Salmonoid	2010/0393
Lee	Rooves Beg	RS19L030	145700	71600	Salmonoid	2010/0809
Lee	Rooves Beg	RS19L030	145700	71600	Salmonoid	2010/1088
Lee	Rooves Beg	RS19L030	145700	71600	Salmonoid	2010/1357
Lee	Rooves Beg	RS19L030	145700	71600	Salmonoid	2010/1646
Lee	Rooves Beg	RS19L030	145700	71600	Salmonoid	2010/2122
Lee	Rooves Beg	RS19L030	145700	71600	Salmonoid	2010/2372
Lee	Rooves Beg	RS19L030	145700	71600	Salmonoid	2010/2713

Mean Value
EQS Mean
Compliance

95% Percentile
EQS 95% Percentile
Compliance

Lee	Inniscarra	RS19L030	157251.6	71006.6	WFD Oper	2010/0392
Lee	Inniscarra	RS19L030	157251.6	71006.6	Salmonoid	2010/1087
Lee	Inniscarra	RS19L030	157251.6	71006.6	WFD Oper	2010/2121
Lee	Inniscarra	RS19L030	157251.6	71006.6	Salmonoid	2010/2380
Lee	Inniscarra	RS19L030	157251.6	71006.6	Salmonoid	2010/2708

Mean Value
EQS Mean
Compliance

95% Percentile
EQS 95% Percentile
Compliance

Lee	Bealahaglashin Br.	RS19L030	135788.5	70511.6	Salmonoid	2010/0057
Lee	Bealahaglashin Br.	RS19L030	135788.5	70511.6	Salmonoid	2010/0394
Lee	Bealahaglashin Br.	RS19L030	135788.5	70511.6	Salmonoid	2010/0810
Lee	Bealahaglashin Br.	RS19L030	135788.5	70511.6	Salmonoid	2010/1089
Lee	Bealahaglashin Br.	RS19L030	135788.5	70511.6	Salmonoid	2010/1358
Lee	Bealahaglashin Br.	RS19L030	135788.5	70511.6	Salmonoid	2010/1648
Lee	Bealahaglashin Br.	RS19L030	135788.5	70511.6	Salmonoid	2010/2123
Lee	Bealahaglashin Br.	RS19L030	135788.5	70511.6	Salmonoid	2010/2369
Lee	Bealahaglashin Br.	RS19L030	135788.5	70511.6	Salmonoid	2010/2715

Mean Value
EQS Mean

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Compliance

**95% Percentile
EQS 95% Percentile
Compliance**



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2010 Data from Water Quality Section Cork County Council
Assessment against SI 272 of 2009

Parameter	Hardness	Molybdate Reactive Phosphorous	Alkalinity	Appearance	Chloride	Colour
	CaCO3	P	CaCO3		Cl	Hz
Max.	--	Varies	--	--	--	Varies
Target	--	--	--	--	--	--
Min.	--	--	--	--	--	--
Sample Date	Analyst Con	mg/l	mg/l	Descriptive	mg/l	Hazen
20-Jan-10 -		0.011		clear		
17-Feb-10 -	36	0.025	48	good	10.2	42
24-Mar-10 -	50	0.017	40	clear		53
21-Apr-10 -		0.003		clear		
19-May-10 -		0.003		clear		
16-Jun-10 -		0.003		clear		
21-Jul-10 -	45	0.016	26	clear		
18-Aug-10 -		0.003		Clear	9.7	
08-Sep-10 -		0.003				
Mean value		0.009333333	38		9.95	47.5
Compliance with EQS Regs in 2010		≤0.035 Yes	none n/a	none n/a	none n/a	none n/a
5th Percentile Value		0.0218				
Compliance with EQS Regs in 2010		≤0.075 Yes	none n/a	none n/a	none n/a	none n/a
value at half of LOD for statistical purposes						
17-Feb-10 -	62	0.028	78	good	12	31
21-Apr-10 -		0.011		clear		
21-Jul-10 -	70	0.038	52	clear	12	47
18-Aug-10 -		0.003		Clear	12.6	
08-Sep-10 -		0.003		Clear	13.8	
Mean value	66	0.0166	65		12.6	39
Compliance with EQS Regs in 2010		≤0.035 Yes	none n/a	none n/a	none n/a	none n/a
5th Percentile Value		0.036				
Compliance with EQS Regs in 2010		≤0.075 Yes	none n/a	none n/a	none n/a	none n/a
value at half of LOD for statistical purposes						
20-Jan-10		0.011		clear		
17-Feb-10	44	0.02	70	good	11.1	64
24-Mar-10	35	0.003	34	clear		47
21-Apr-10		0.003		clear		
19-May-10		0.003		clear		
16-Jun-10		0.148		clear		
21-Jul-10	45	0.156	20	clear		
18-Aug-10		0.003		Clear	11.5	
08-Sep-10		0.003				
Mean value		0.038888889	41.33333		11.3	55.5
Compliance with EQS Regs in 2010		≤0.035	none	none	none	none

Compliance with EQS Regs in 2010	No	n/a	n/a	n/a	n/a
5th Percentile Value	0.1528				
95th Percentile Value	≤0.075	none	none	none	none
Compliance with EQS Regs in 2010	No	n/a	n/a	n/a	n/a

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Ammonium	Conductivity @ 20 oC	Dissolved Oxygen % Saturation	Dissolved Oxygen	Nitrate	Nitrite	pH
NH4			O2	NO3	NO2	
0.5	--	150	15	25	0.05	9
--	--	--	--	--	--	--
--	--	50	5	--	--	Varies
mg/l	µS/cm	% O2	mg/l	mg/l	mg/l	pH units

0.058	111	92	6.5		0.014	6.7
0.062	111	96	11.8	4.4	< 0.013	7.5
0.064	125	104	11.6	5.3	< 0.013	7.7
0.016	86	96	11.7		< 0.013	7.9
0.025	129	106	11.6		0.03	7.7
0.019	131	116	10.8		0.053	8.1
0.116	81	110	10.3		0.036	7.4
0.029	100	114	10.3	< 2	< 0.013	7.7
0.04	110	100.1	9.9		0.027	7.6

0.0477 109.33 103.789 10.5 4.85 0.032 7.5889

≤0.083(as NH4) none none none none none 6.0 -9.0
Yes n/a n/a n/a n/a n/a **Yes**

0.0952 115.2
 ≤0.1809(as NH4) none >80% & <120% none none none none
Yes n/a **Yes** n/a n/a n/a n/a

note- conversion of NH4 to Amm as N,divide by 1.28

0.059	159	96	11.8	8.6	< 0.013	7.6
0.027	134	96	12		< 0.013	7.9
0.182	155	94	9	4.6	0.075	7.7
0.018	166	109	9.9	4.7	< 0.013	7.7
0.006	136	101.1	9.4		0.027	7.5

0.0584 99.22 10.42 5.966667 0.051 7.68
 ≤0.083(as NH4) none none none none none 6.0 -9.0
Yes n/a n/a n/a n/a n/a **Yes**

0.1574 107.42
 ≤0.1809(as NH4) none >80% & <120% none none none none
Yes n/a **Yes** n/a n/a n/a n/a

note- conversion of NH4 to Amm as N,divide by 1.28

0.056	88	91	6.2		0.015	7
0.101	136	96	11.7	4.3	< 0.013	7.6
0.079	94	100	11.2	2.6	< 0.013	7.5
0.084	115	101	12.7		< 0.013	8
0.022	136	107	10.7		0.018	7.8
0.339	103	98	9.1		0.023	7.5
0.296	62	97	9.2		0.024	7
0.079	128	104	9.9	< 2	< 0.013	7.7
0.037	143	98.2	9.2		0.031	7.7

0.121444 111.667 99.133 9.989 3.450 0.022 7.533
 ≤0.083(as NH4) none none none none none 6.0 -9.0

No	n/a	n/a	n/a	n/a	n/a	Yes
0.3218 ≤0.1809(as NH4) No	none n/a	105.8 >80% & <120% Yes	none n/a	none n/a	none n/a	none n/a

note- conversion of NH4 to Amm as N,divide by 1.28

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Temperature	BOD	Suspended Solids
	O2	
--	Varies	--
--	--	--
--	--	--
Degrees C	mg/l	mg/l

11.1	1.8	2
5.5	1.4	1
10	1.7	1
9.9	1.2	
15.6	1.7	
19.1	1.2	1
18.1	1.4	
19.6	2	
16.8	1.5	
13.9667	1.54	1.25
none	≤1.5	none
n/a	No	n/a
	1.92	
	≤2.6	none
	Yes	n/a
	1.9	
9.7	1.4	1
17.3	2.1	1
19.8	2.2	
15.5	3.4	< 1
15.575	2.2	1
none	≤1.5	
n/a	No	
	3.16	
none	≤2.6	none
n/a	No	n/a
10.8	< 1	2
5.8	< 1	1
9.6	< 1	2
10.1	< 1	1
16.1	< 1	1
19.8	< 1	
17.1	< 1	< 1
17.6	< 1	< 1
18.4	< 1	< 1
13.922	<1	1.4
none	≤1.5	none

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n/a	yes	n/a
none	<1	none
n/a	≤2.6	n/a
	Yes	

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