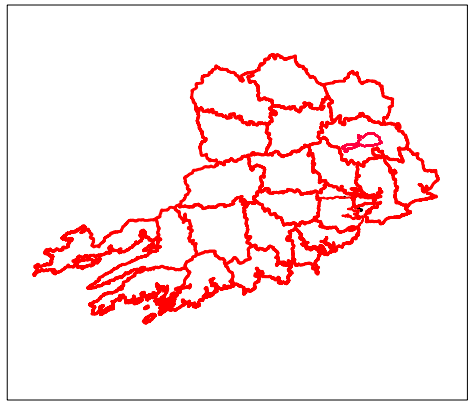
NOTES

1. Dimensions are not to be scaled from drawing. For any discrepancies found consult with the design office.
2. This drawing is to be read in conjunction with the Specification.
3. This drawing is to be read in conjunction with all other contract drawings.



Key Map

No.	Date	Drawn	Surv	Chkd	Revision Description

Cork County Council, Northern Division.

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

Job Title:
Watergrasshill & Environs
Wastewater Discharge
Licence Application

Drawing Title:
Agglomeration Map for Conna
Regional water supply network
Attachment F2 - Map 10

Scales:	Surveyed by:	Drawn by:
1:50,000 @ A3	D.L.	D.L.
Designed by:	**Checked by:**	**Date:**
F.J.	F.C.	August 2008
Drawing number:		**Rev:**
F2 - Map 10		-

Report ref 242/08

			Project	Conna Reç	Conna Reç	Conna Reg
			Sample Re	2005/2285	2006/0738	2007/2547
			Sample Da	22-Nov-05	19-Apr-06	05-Dec-07
Parameter		Max.	Comments			
Total Coliforms		25000	MPN/100ml	2419	6870	
E. coli		5000	MPN/100ml	866	1350	
Faecal Streptoco		2000	cfu/100ml	92		
pH		9	pH units	7.6	8	7.5
Conductivity @ 2		1000	µS/cm	212	213	197
BOD	O2	5	mg/l	< 1	0.7	< 1
Dissolved Oxyge	O2	15	mg/l			9.9
Phosphorous	P2O5	0.7	mg/l		0.034	0.103
Nitrite	NO2	--	mg/l	0.035	0.026	0.048
Ammonium	NH4	1.5	mg/l	0.028	0.038	0.063
Nitrate	NO3	--	mg/l	20.48	18.53	13.24
Suspended Solid		--	mg/l	3.2	1	
Colour	Hz	--	Hazen	10	12	102
Manganese	Mn	50	µg/l	< 20	< 20	< 50
Sulphate	SO4	200	mg/l	8.9	7.5	8.6
Chloride	Cl	250	mg/l	18.7	19	19.6
Dissolved Iron	Fe	2000(A2)	µg/l	59	< 40	
Dissolved Iron		(200)A1				
Dissolved Oxyge		150	% O2			91
Appearance		--	Descriptive			clear
Temperature		--	Degrees C			10.3
Copper	Cu	2	mg/l	< 0.005	0.005	< 0.05
Zinc		--	µg/l	< 25	< 25	< 50

316

SURFACE WATER - Introduction

Scores should be inserted (where appropriate) into the blue boxes in Sections 1 to 10. The scores for each section will be automatically totalled (in the yellow box) and a summary of the scores for each section will appear on this sheet. The section scores will be totalled automatically on this summary sheet. The population of supply should be entered into the blue box below on this page and the overall Cryptosporidium Risk Assessment Score will be automatically calculated for the supply.

Surface Water Catchment Risk Scores	Section Score	Total Score
Section 1 - Animals within the Catchment	15	
Section 2 - Agricultural Practices within the Catchment	26	
Section 3 - Discharges to the Catchment/Water Source	4	
Section 4 - Water Source Type	6	
Section 5 - Catchment Inspections	-6	
Section 6 - Raw Water Intake Management for Abstractions	3	
Total Surface Water Catchment Risk Score		48
Surface Water - Treatment and Supply Risk Score		
Section 7 - Water Treatment Processes	-7	
Section 8a - Treatment Works Monitoring of Coagulation and Filtration	5	
Section 8b - Treatment Works Monitoring of Coagulation and Filtration	0	
Section 8c - Treatment Works Monitoring of Coagulation and Filtration	22	
Section 8d - Treatment Works Monitoring of Coagulation and Filtration	0	
Section 8e - Treatment Works Monitoring of Coagulation and Filtration	0	
Section 8f - Treatment Works Monitoring of Coagulation and Filtration	0	
Section 9 - Rapid Gravity and Pressure Filter Works Performance	-6	
Section 10 - Treatment Works Operation	-4	
Total Surface Water - Treatment and Supply Risk Score		10
Surface Water Risk Assessment Score		58
Population		2732
Population Weighting Factor (0.4 x log10(population))		1.3745923
Final Weighted Risk Assessment Score		**79.726352**
Water Supply Risk Classification		

Section 1 - Animals Within the Catchment

Section No.	Pressure Risk Factor	RA Score	Actual Score
1.1	Cattle/calves at less than or equal to one livestock unit per hectare of forage area *	5	10
	Cattle/calves at more than one one livestock unit per hectare of forage area*	10	
	No cattle/calves in the catchment	0	
1.2	Sheep/lambs at less than or equal to one one livestock unit per hectare of forage area *	5	5
	Sheep/lambs at more than one one livestock unit per hectare of forage area *	10	
	No sheep/lambs in the catchment	0	
1.3	Wild or farmed deer in the catchment	2	
	No wild or farmed deer in the catchment	0	
1.4	Pig farms in the catchment	2	
	No pig farms in the catchment	0	
1.5	Animals have direct access to water sources including feeder streams	4	
	Fencing prevents access to water sources including feeder streams	-4	
1.6	High numbers of birds	2	
1.7	Any other farmed animals or birds	1	
	Total for Section 1		15

Section 2 - Agricultural Practices Within the Catchment

Section No.	Risk Factor	RA Score	Actual Score
2.1	Slurry spraying 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 the Good Agricultural Practice Regulations verified by catchment inspection	-6	
	Total for Section 2		26

Section 3 - Discharges to the Catchment/Water Source

Section No.	Risk Factor	RA Score	Actual Score
3.1	Population equivalent served by individual on-site wastewater treatment systems < 100 PE	4	4
	Population equivalent served by individual on-site wastewater treatment systems > 100 PE	6	
3.2	Population equivalent served by all wastewater works <500	4	
	Population equivalent served by all wastewater works 500 to 5,000	5	
	Population equivalent served by all wastewater works 5,001 to 20,000	6	
	Population equivalent served by all wastewater works 20,001 to 50,000	7	
	Population equivalent served by all wastewater works > 50,000	8	
3.3	Storm water overflows	2	
3.4	Section 4 or Integrated Pollution Prevention Control (IPPC) Licence discharge from intensive agricultural activity or agriculturally related discharge	2	
3.5	All wastewater treatment plants complying with the UWWT Regulations quality standards	-1	
3.6	All wastewater treatment plants complying with the UWWT Regulations quality standards	-1	
	UV inactivation at outlet of wwastewater treatment plants	-2	
		Total for Section 3	4

Section 4 - Water Source Type

Section No.	Risk Factor	RA Score	Actual Score
4.1	Upland reservoir/lake	2	6
	Lowland long term storage reservoir/lake	4	
	Upland river or stream - bankside storage	5	
	Upland river or stream – direct abstraction	6	
	Lowland river or stream – direct abstraction or bankside storage	8	
	Total for Section 4		6

Section 5 - Catchment Inspections

Section No.	Risk Factor	RA Score	Actual Score
5.1	Catchment inspections carried out at least monthly	-3	-3
	Catchment inspections carried out less frequently	6	
5.2	Procedures in place to deal with irregularities on the catchment	-3	-3
		Total for Section 5	-6

Section 6 - Raw Water Intake Management for Abstractions

Section No.	Risk Factor	RA Score	Actual Score
6.1	No appropriate water quality monitor on intake	3	3
	Appropriate water quality monitor on intake that is alarmed and connected to telemetry	-2	
	Automatic intake shut down when poor water quality	-4	
	Manual intake shut down when poor water quality	-1	
	No intake shut down when poor water quality	3	
		Total for Section 6	3

Section 7 - Water Treatment Processes

Section No.	Risk Factor	RA Score	Actual Score
7.1	Simple sand filtration (not slow sand filtration)	8	-7
	Simple sand filtration (**not** slow sand filtration) with UV treatment	6	
	Coagulation followed by DAF/sedimentation and filtration	-10	
	Coagulation followed by DAF/sedimentation and filtration followed by UV treatment	-16	
	Coagulation followed by rapid gravity or pressure filtration (no flotation or sedimentation)	-7	
	Coagulation followed by rapid gravity or pressure filtration (no flotation or sedimentation) followed by UV treatment	-13	
	Slow sand filtration	-9	
	Slow sand filtration followed by UV treatment	-15	
	Membrane Filtration (DWI approved)	-16	
	Membrane filtration (Not DWI approved)	-2	
	Total for Section 7		-7