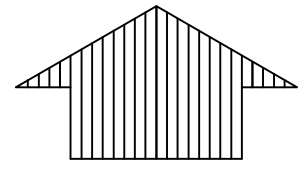


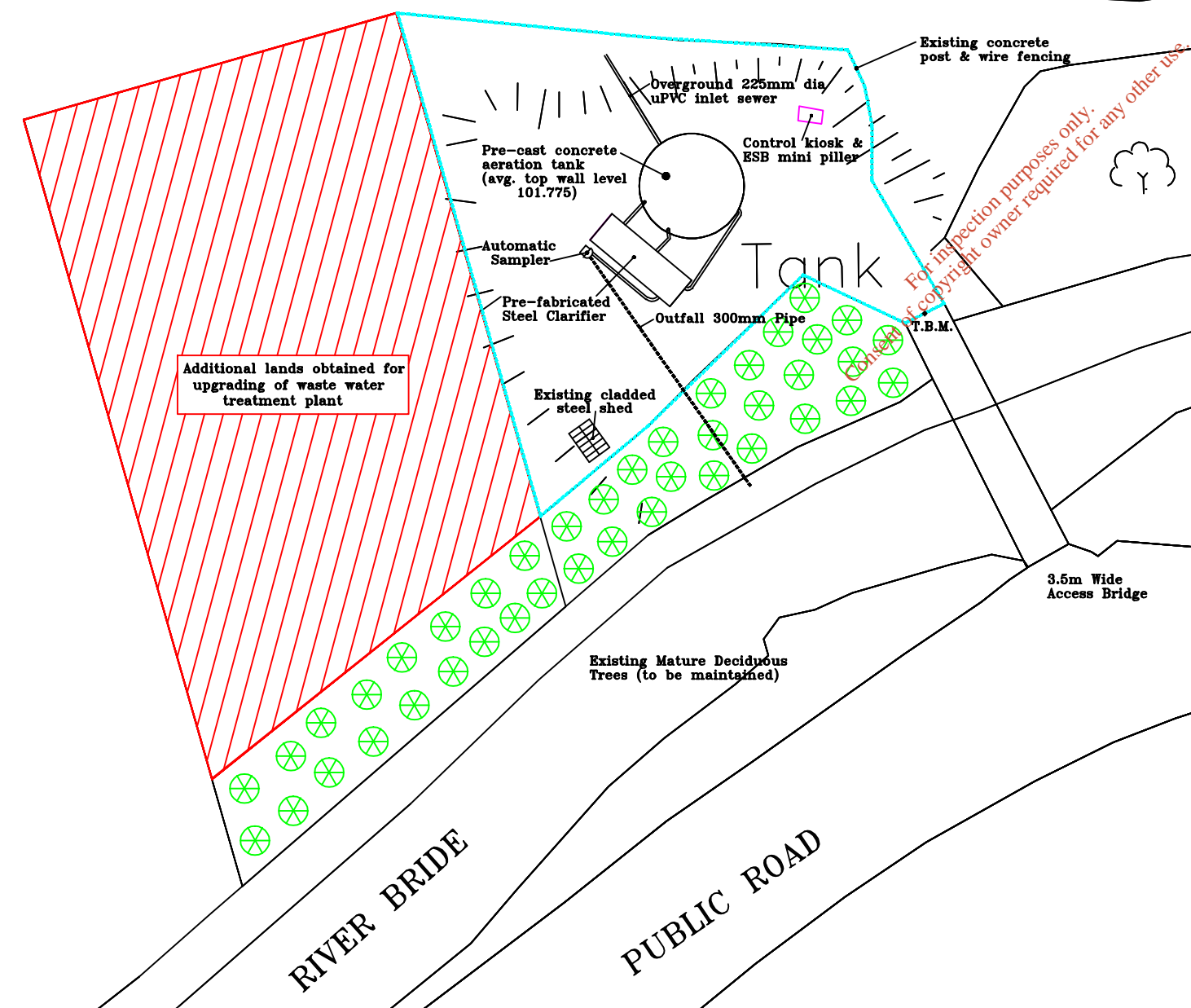
NOTES

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.
4. GROUND LEVELS ARE NOT TO ORDNANCE DATUM.

NORTH



BRIDGELAND EAST TD.



Additional lands obtained for upgrading of waste water treatment plant

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No.	Date	Drawn	Surv	Chkd	Revision Description

Cork County Council,
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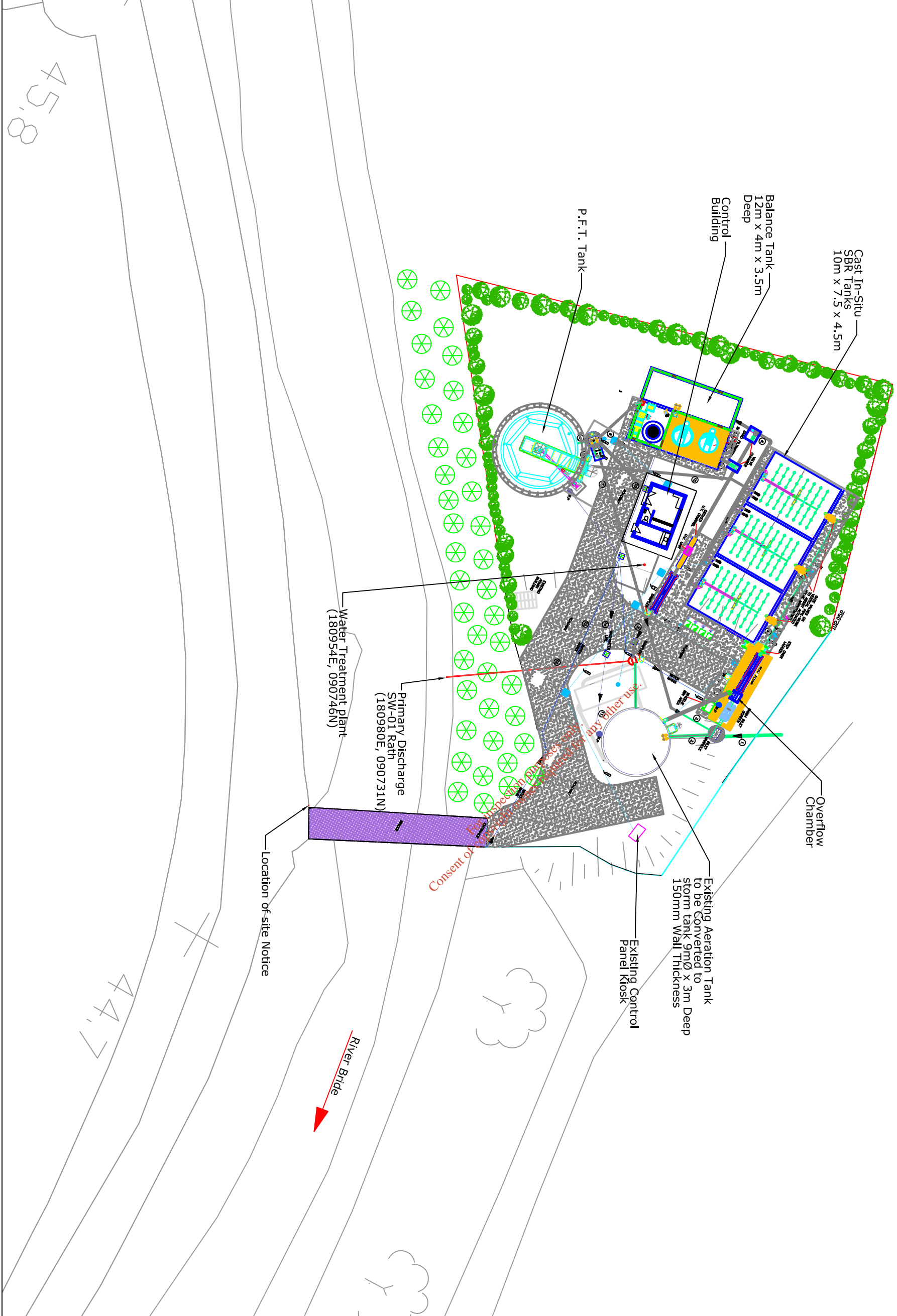
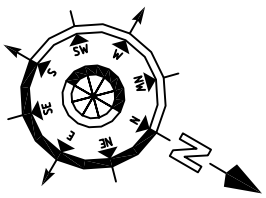


N. O'KEEFFE, B.E.,
A/COUNTY ENGINEER,
COUNTY HALL,
CORK.

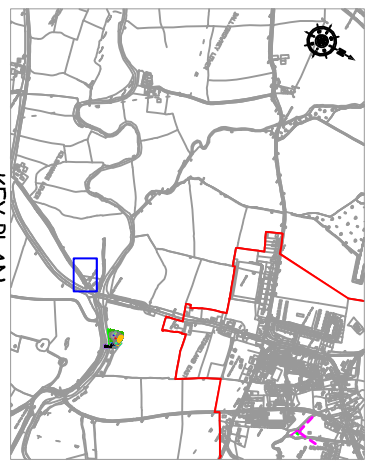
Job Title:
**Rathcormack & Environs
Wastewater Discharge
Licence Application.**

Drawing Title:
**Existing wastewater Treatment
plant
Attachment C1 - Map 10**

Scales: 1:500	Surveyed by: P.M./B.O'S.	Drawn by: P.M.
Designed by: B.O'S.	Checked by: P.O'F.	Date: JANUARY 2008.
Drawing number: C1 - Map 10	Rev:	



- 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.



No.	Date	Drawn/Checked	Revision Description



N. O'KEEFE, B.E.,
A/COUNTY ENGINEER,
COUNTY HALL,
CDR.K.

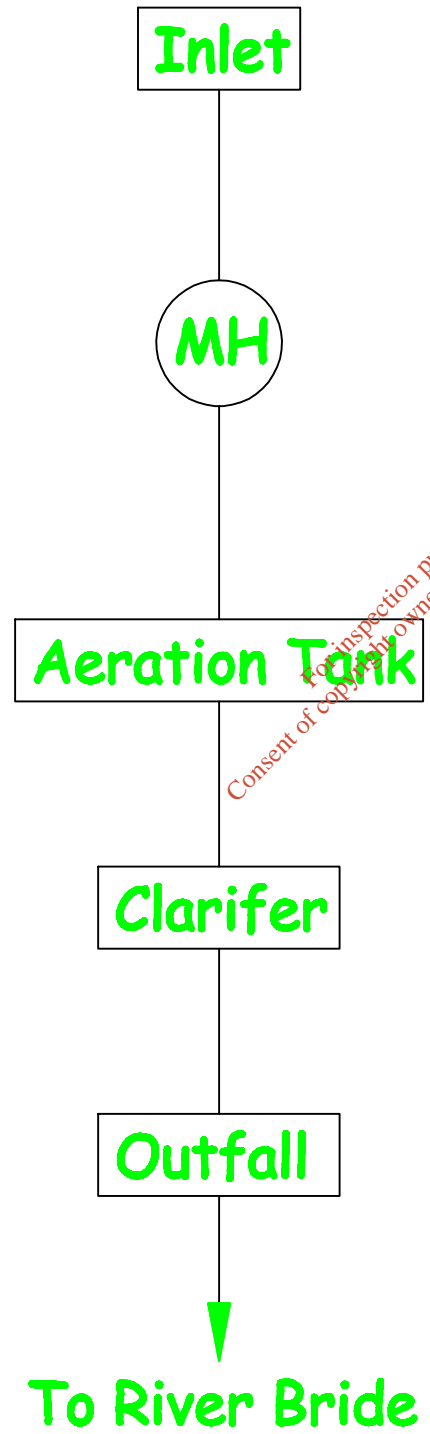
Job Title:
Rathcormack & Environs
Wastewater Discharge
Licence Application

Drawing Title:
Location of Waste Water
Treatment Plant
Attachment C1 - Map 11

Scales:		Drawn by	
1:500 @ A3	D.L.	D.L.	D.L.
Designed by	F.J.	Checked by	F.C.
Date:	August 2008	Date:	August 2008
Drawing number:	C1 - Map 11	Rev:	-

45.8

44.7



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.

No.	Date	Drawn	Surv	Chkd	Revision	Description

Cork County Council,
Northern Division.



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

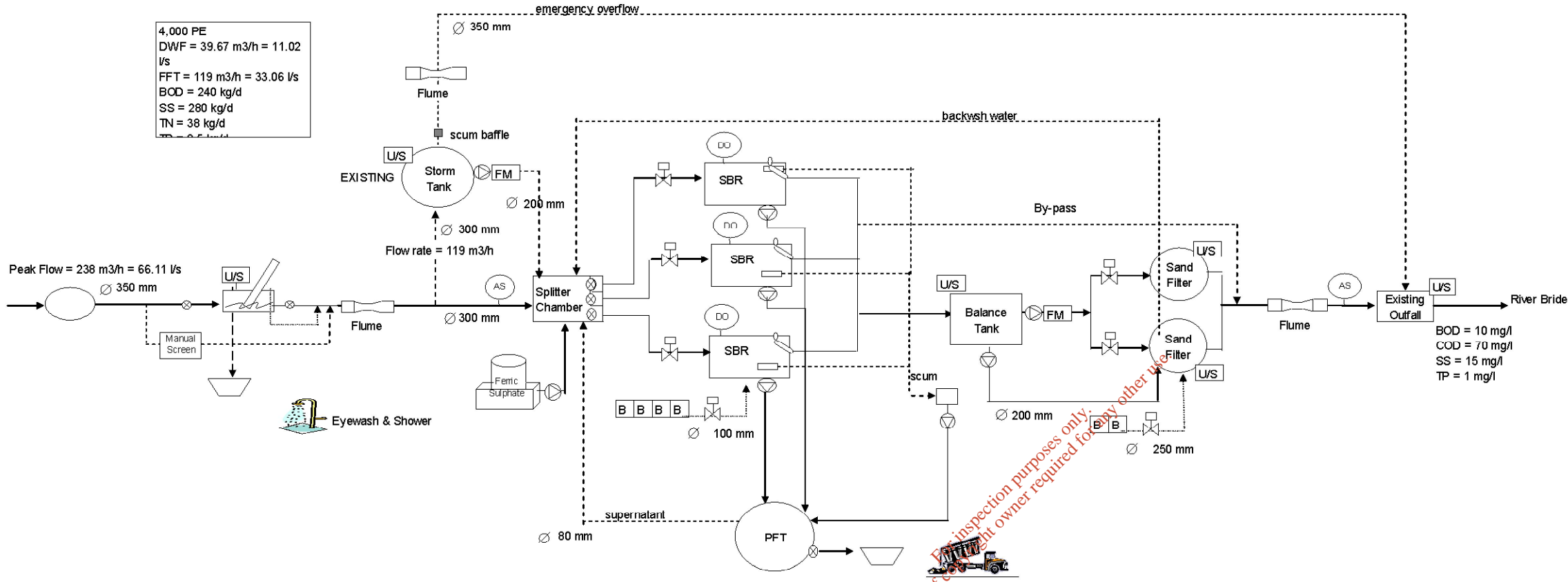
Job Title:
**Rathcormack & Environs
Wastewater Discharge
Licence Application**

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

Scales: 1:5000 @ A3	Surveyed by: D.L.	Drawn by: D.L.
Designed by: F.J.	Checked by: F.C.	Date: August 2008
Drawing number: C1 - Drawing 1	Rev: -	

Rathcormac WWTP

4,000 PE
 DWWF = 39.67 m³/h = 11.02 l/s
 FFT = 119 m³/h = 33.06 l/s
 BOD = 240 kg/d
 SS = 280 kg/d
 TN = 38 kg/d



Flume Flow Rate = 238 m³/h = 66.11 l/s
 8.1m L x 0.61 m W x 0.61m deep

Storm Existing Aeration Tank
 9m dia x 3m side wall
 Working V = 191 m³
 scum baffle
 2 No. backwash pumps (Duty/Standby)
 each Flow rate = 119 m³/h

Screen 1 No. Screen (Duty)
 Flow Rate = 238 m³/h = 66.11 l/s
 6 mm screen
 Manual 6mm By-Pass screen
 skip
 screenings removal > 95% volume
 Screenings compaction > 40% DS

SBR 3 No.
 each Working V = 315 m³
 10 m x 7.5m x 4.2m water depth
 Retention Time = 23.6 d
 Decant time = 1h (at DWF)
 [MLSS] = 3,500 mg/l
 SRT = 19.7 d
 DO meter
 scum box

Blowers 4 No. Blowers (3Duty/1Standby)
 each Flow Rate = 335 Nm³/h @ 500 mbar
 VSD
 approx 56 diffusers (total)

WAS 3 No. WAS pumps (3Duty/1Standby)
 each Flow Rate = 10.6 m³/h @ 0.75%DS

Ferric 2 No. Dosing Pumps (Duty/Standby)
 each Flow Rate = 5.7 l/d
 5 m³ IBC + bund

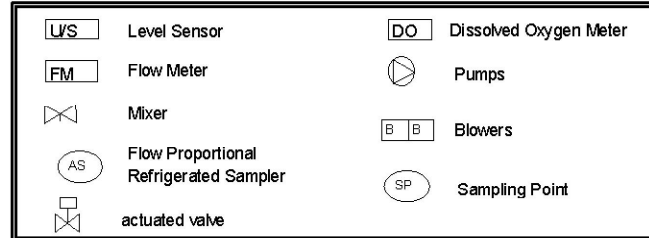
PFT Working V = 257 m³
 8.94m dia x 4.5m side wall
 Free board = 400 mm
 Retention Time = 4 weeks
 out let = 3 %DS
 Baur Connection
 Supernatant = 3.35 m³/h

Balance Tank Working V = 168 m³
 12m x 4m x 3.8m water depth
 2 No. forward pumps (Duty/Standby)
 each Flow rate = 320 m³/h
 VSD
 2 No. Backwash pumps (Duty/Standby)
 each Flow rate = 150 m³/h
 VSD

Sand Filter 2 No. Sand Filters (Duty/standby)
 each Flow rate = 119 m³/h @ FFT
 2.5m dia x 5.5m side wall
 Aeration req = 10 Nm³/h @ 2bar

Flume Flow Rate = 119 m³/h = 11.02 l/s
 3.05m L x 0.229 m W x 0.229m deep

Outfall Chamber Existing



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.

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:
**Rathcormack & Environs
 Wastewater Discharge
 Licence Application**

Drawing Title:
**Schematic showing Proposed
 Treatment Plant Process
 Attachment C1 - Drawing 2**

Scales: 1:5000 @ A3	Surveyed by: D.L.	Drawn by: D.L.
Designed by: F.J.	Checked by: F.C.	Date: August 2008
Drawing number: C1 - Drawing 2	Rev:	-

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

Discharge Point Code: SW01 Rathcormac

Source of Emission:	Rathcormack Wastewater treatment Plant		
Location:	Bridetown East Townland ,Rathcormack		
Grid Ref. (12 digit, 6E, 6N):	E180980 N090731		
Name of receiving waters:	River Bride		
River Basin District:	South Western River Basin		
Designation of receiving waters:	Salmonid		
Flow rate in receiving waters:		<u>0.16</u>	m ³ .sec ⁻¹ Dry Weather Flow
		<u>0.32</u>	m ³ .sec ⁻¹ 95%ile flow

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Emission Details:

(i) Volume emitted			
Normal/day	720m ³	Maximum/day	880 m ³
Maximum rate/hour	50m ³	Period of emission (avg)	<u>60</u> min/hr <u>24</u> hr/day <u>365</u> day/yr
Dry Weather Flow	0.01m ³ /sec		

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

Discharge Point Code: SW01 Rathcormac

Number	Substance	As discharged	
		Max. daily average	
1	pH	6.0 -9.0	
2	Temperature	<30 °C	
3	Electrical Conductivity(@20°C)	1000	
		Max. daily average (mg/l)*	kg/day*
4	Suspended Solids	50	44
5	Ammonia (as N)	Not applicable	Not applicable
6	Biochemical Oxygen Demand	35	30.8
7	Chemical Oxygen Demand	125	110
8	Total Nitrogen (as N)	50	44
9	Nitrite (as N)	Not applicable	Not applicable
10	Nitrate (as N)	Not applicable	Not applicable
11	Total Phosphorus (as P)	6.0	5.28
12	Orthophosphate (as P) ^{Note 1}	5.0	4.4
13	Sulphate (SO ₄)	Not applicable	Not applicable
14	Phenols (sum) ^{Note 2} (ug/l)	Not applicable	Not applicable

Note 1: For waste water samples this monitoring should be undertaken on a sample filtered on 0.45µm filter paper.

Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

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

Primary Discharge Point - Characteristics of the emission

Discharge Point Code: SW01 Rathcormac

Number	Substance	As discharged		
		Max. daily average (µg/l)	kg/day*	Kg/year*
1	Atrazine	Not applicable	Not applicable	Not applicable
2	Dichloromethane	Not applicable	Not applicable	Not applicable
3	Simazine	Not applicable	Not applicable	Not applicable
4	Toluene	Not applicable	Not applicable	Not applicable
5	Tributyltin	Not applicable	Not applicable	Not applicable
6	Xylenes	Not applicable	Not applicable	Not applicable
7	Arsenic	Not applicable	Not applicable	Not applicable
8	Chromium**	Not applicable	Not applicable	Not applicable
9	Copper**	Not applicable	Not applicable	Not applicable
10	Cyanide	Not applicable	Not applicable	Not applicable
11	Fluoride	Not applicable	Not applicable	Not applicable
12	Lead **	Not applicable	Not applicable	Not applicable
13	Nickel**	Not applicable	Not applicable	Not applicable
14	Zinc**	Not applicable	Not applicable	Not applicable
15	Boron	Not applicable	Not applicable	Not applicable
16	Cadmium**	Not applicable	Not applicable	Not applicable
17	Mercury	Not applicable	Not applicable	Not applicable
18	Selenium	Not applicable	Not applicable	Not applicable
19	Barium**	Not applicable	Not applicable	Not applicable

Note 1: For waste water samples this monitoring should be undertaken on a sample filtered on 0.45µm filter paper.

Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

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

Discharge Point Code: SW02 Rathcormack

Source of Emission:	Emergency Overflow from Pumping Station
Location:	Knocknabooly. Rathcormack
Grid Ref. (12 digit, 6E, 6N):	E180938 N091613
Name of receiving waters:	River Bride (North)
River Basin District:	South Western River Basin
Designation of receiving waters:	Salmonid
Flow rate in receiving waters:	<p style="text-align: right;">_____ 0.16 _____ m³.sec⁻¹ Dry Weather Flow</p> <p style="text-align: right;">_____ 0.32 _____ m³.sec⁻¹ 95%ile flow</p>

Emission Details:

(i) Volume emitted not available			
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(ii)(b): EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of the emission (1 table per discharge point)

(Secondary Discharge Point)

Discharge Point Code: SW02 Rathcormac

Number	Substance	As discharged	
		Max. daily average	
1	pH	Not available	
2	Temperature	Not available	
3	Electrical Conductivity (@25°C)	Not available	
		Max. daily average (mg/l)	Kg/day
4	Suspended Solids	Not available	Not available
5	Ammonia (as N)	Not available	Not available
6	Biochemical Oxygen Demand	Not available	Not available
7	Chemical Oxygen Demand	Not available	Not available
8	Total Nitrogen (as N)	Not available	Not available
9	Nitrite (as N)	Not available	Not available
10	Nitrate (as N)	Not available	Not available
11	Total Phosphorus (as P) ^{Note 1}	Not available	Not available
12	Orthophosphate (as P)	Not available	Not available
13	Sulphate (SO ₄)	Not available	Not available
14	Phenols (sum) ^{Note 2} (ug/l)	Not available	Not available

Note 1: For waste water samples this monitoring should be undertaken on a sample filtered on 0.45µm filter paper.

Note 2: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

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

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

Discharge Point Code: SW02 Rathcormac

Number	Substance	As discharged		
		Max. daily average (µg/l)	kg/day	Kg/year
1	Atrazine	Not available	Not available	Not available
2	Dichloromethane	Not available	Not available	Not available
3	Simazine	Not available	Not available	Not available
4	Toluene	Not available	Not available	Not available
5	Tributyltin	Not available	Not available	Not available
6	Xylenes	Not available	Not available	Not available
7	Arsenic	Not available	Not available	Not available
8	Chromium	Not available	Not available	Not available
9	Copper	Not available	Not available	Not available
10	Cyanide	Not available	Not available	Not available
11	Fluoride	Not available	Not available	Not available
12	Lead	Not available	Not available	Not available
13	Nickel	Not available	Not available	Not available
14	Zinc	Not available	Not available	Not available
15	Boron	Not available	Not available	Not available
16	Cadmium	Not available	Not available	Not available
17	Mercury	Not available	Not available	Not available
18	Selenium	Not available	Not available	Not available
19	Barium	Not available	Not available	Not available

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

Discharge Point Code: Not Applicable

Source of Emission:	
Location:	
Grid Ref. (12 digit, 6E, 6N):	
Name of receiving waters:	
River Basin District:	
Designation of receiving waters:	
Flow rate in receiving waters:	<p>_____m³.sec⁻¹ Dry Weather Flow</p> <p>_____m³.sec⁻¹ 95%ile flow</p>

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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

