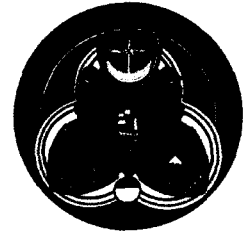


Comhairle Contae Chorcaí Cork County Council

County Engineers Office,
Floor 10,
County Hall,
Cork.
Tel No: (021) 4285385
Web: <http://www.corkcoco.ie>



Administration,
Environmental Licensing Programme,
Office of Climate, Licensing & Resource Use,
Environmental Protection Agency,
Headquarters, P.O. Box 3000,
Johnstown Castle Estate,
Co. Wexford



19th July 2011

**Re: Notice in accordance with Regulation 18(3)(b) of the Waste Water Discharge
(Authorisation) Regulations 2007 – Application D0058-01 – Fermoy Town
& Environs**

F.A.O. Ms. Orla Harrington

Dear Orla,


Further to your letter of 6th July, 2011 I now enclose response to queries raised in the correspondence.

For clarity I have responded point by point to the queries raised in your letter with your queries highlighted in bold print on the attached document.

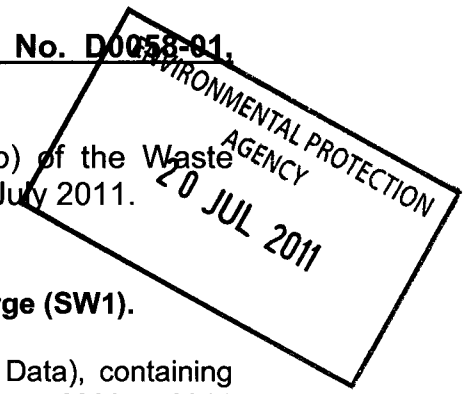
I enclose one original document, one copy and also one electronic copy in searchable PDF format on a CD-ROM as requested.

I trust this is satisfactory. Should you have any further queries, please do not hesitate to contact me.

Yours faithfully,


Noel O'Keeffe,
County Engineer & Director of Water Services

Application for Waste Water Discharge Licence - Ref. No. D0058-01,
Agglomeration Name – Fermoy.



Response to Notice in accordance with Regulation 18(3)(b) of the Waste Water Discharge (Authorisation) Regulations 2007, dated 6th July 2011.

- **Submit updated monitoring data for the primary discharge (SW1).**

See attached Appendix A (Primary Discharge (SW1) Monitoring Data), containing Cork County Council monitoring data from the primary discharge from 2009 to 2011 (year to date).

See also included data on typical Ammonia (as N) values in WWTP Effluent from week ending 24-06-2011. This data was requested during site visit of 16-06-2011.

- **Clarify which discharge points are storm water overflows, emergency overflows and which act as both.**

Discharge Point	Location	Northing	Easting	Description
SW2	Fermoy WWTP, Strawhall	098780	182193	Combined Storm Water Overflow and Emergency Overflow.
SW3	Rathealy Road Pumping Station, Carrignagroghera	098779	181462	Combined Storm Water Overflow and Emergency Overflow.
SW4	Fermoy Bridge North-East, Carrignagroghera	098624	181232	Secondary Discharge.
SW5	Fermoy Bridge North-East, Carrignagroghera	098622	182191	Combined Storm Water Overflow.
SW6	Fitzgerald Place, Fermoy	098557	181400	Combined Storm Water Overflow.
SW7	Fermoy Bridge, South-East	098500	181217	Combined Storm Water Overflow.
SW8	Waterloo Lane, Fermoy	098498	180936	Combined Storm Water Overflow.

Note, pump sumps associated with Combined Storm Water Overflows at Discharge Points SW2 and SW3 also provide for high level emergency overflow.

The emergency discharge at SW2 will occur only if;

- 3 No. Foul Pumps (Duty / Duty / Standby arrangement) & 3 No. Storm Pumps (Duty / Duty / Standby) block / fail during a single storm event.

The emergency discharge at SW3 will occur only if;

- 2 No. Foul Pumps (Duty / Standby) & 3 No. Storm Pumps (Duty / Duty / Standby) block / fail during a single storm event.

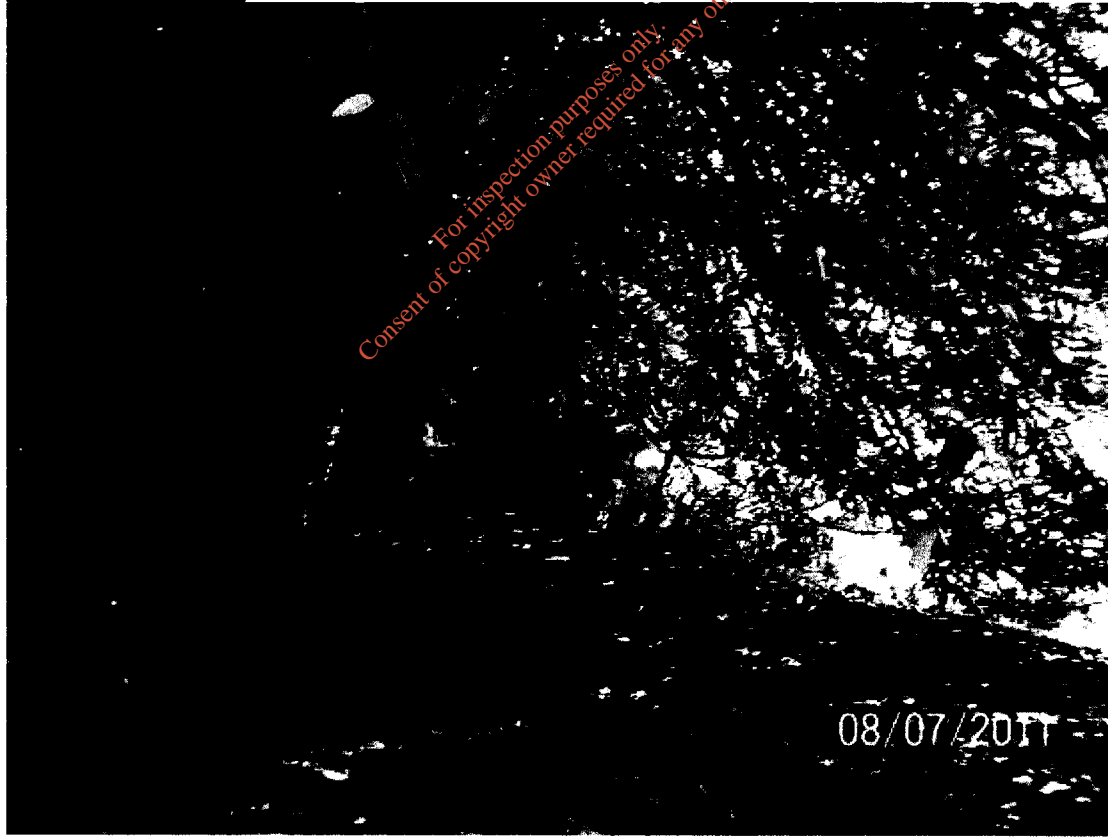
- Provide a suitably scaled map indicating the location and grid coordinates of the monitoring point and discharge point of the secondary discharge (SW4) and provide information as to the impact of discharge on the River Blackwater from the combined trade effluent. Submit a copy of Section 16 (licensing of discharges to sewer) for Silver Pail Dairy (Fermoy) Ltd. Provide records of the frequency of flows from the secondary discharge point (SW4).

See attached Appendix B (Site Location Map, Monitoring Point & Discharge Point for Secondary Discharge (SW4)) containing both the discharge point associated with SW4 and proposed monitoring points for this discharge.

Provision of suitable monitoring points for this discharge is difficult due to physical constraints.

The most obvious monitoring point is located at the point of discharge to the river Blackwater. However as per Photograph No. 1 (below) the discharge point is accessible only via the river bank / river bed. The discharge point was accessible on date of inspection as per photograph but is not accessible for significant portions of the year due to river levels and there are Health & Safety concerns associated with access to this monitoring point.

Photograph No. 1.



As a result of the access difficulties as per the above at the discharge point, it's proposed to provide monitoring points at manholes on the sewer system downstream of the discharges from both Silver Pail Dairy (Fermoy) Ltd. and Micro-Bio (Ireland) Ltd.

The proposed monitoring points are located at 3 No. manholes on the access road to the Mirco-Bio (Ireland) Ltd. facility within what is a residential area as per Appendix B. The proposed points are listed in order of priority in Table No. 1. (below)

Proposed Monitoring Point Priority	Easting	Northing
1	180953	99263
2	180892	99274
3	180826	99285

All of the above proposed monitoring points are manholes located on the public road. 3 No. alternative monitoring points have been given due to the manholes proximity to the footpath kerb and the possibility that cars may be parked in the area and access cannot be guaranteed to a specific manhole.

The sampler will be required to give advance notice of any proposed sampling date to Cork County Council for any monitoring at proposed monitoring points listed 1-3 above. Advance notice will be necessary to arrange traffic control, which will be required to facilitate safe access to the manholes.

There are two separate sources of liquids discharging via SW4, namely Micro-Bio (Ireland) Ltd. which is a treated trade effluent and Silver Pail Dairies (Fermoy) Ltd. which is a cooling water only.

Discharge from the Micro-Bio site is a treated industrial trade effluent and is continuous as the process is in constant operation within the trade site.

Discharge from the Silver Pail Dairies site is a cooling water only and is discharged whilst the production process operates. Silver Pail Dairies have indicated to Cork County Council that the production process operates on a batch basis (generally daily) and cooling water is discharged during cycles of production. Please note, the treated trade effluent from Silver Pail Dairies site is discharged to Cork County Council's foul sewer network and receives subsequent treatment at Fermoy WWTP.

The discharge from SW4 is not predicted to have any significant impact on the Blackwater River at this location. The Natura Impact Statement that was prepared by Ryan Hanley Consultants on behalf of Cork County Council for the river Blackwater did not identify significant impacts as a consequence of this discharge. Pages 142 and 143 of the NIS contain detailed discussions about this discharge.

The discharge consists of predominately chloride solutions from the Micro-Bio site with uncontaminated cooling water from the Silver Pail Dairies site. Both discharges are to a dedicated pipe that discharges adjacent to the main bridge in the centre of Fermoy(SW4). Due to the very high levels of dilution available in the river for chloride at that location it is predicted that there will be no significant impacts from this discharge. The foul sewage from both premises and process wastewater from the Silver Pail Dairies site discharge to the foul sewer network for treatment at the municipal wastewater plant. Extensive works have also been undertaken in Fermoy as part of the flood relief programme and this should also assist in the protection of species at this location.

See attached, Appendix C full copy of Section 16 Licence for Silver Pail Dairy (Fermoy) Ltd.

- **Please provide comprehensive details as to why this secondary discharge (SW4) cannot be forwarded to the WWTP.**

As above, the discharge from SW4 consists of cooling water from Silver Pail Dairies and treated effluent from Micro-Bio.

With regard to the cooling water generated by Silver Pail, this water is generated from a private groundwater supply located within the Silver Pail site supplemented or alternated with mains water supply in addition to un-contaminated storm water generated on site. The discharge limits set for this discharge as per Section 16 Licence are as follows;

pH	6.0-9.0
B.O.D.	10 mg/l
Conductivity	150% of Average Level
Total Chlorine Residual	0.1 p.p.m.
Temperature	35 °C.

With regard to the treated effluent generated by Micro-Bio, the discharge limits set for this discharge as per IPPC Licence No. P0082-02 are as follows;

Maximum Volume	320 m ³ /day or 22 m ³ /hr
Temperature	20 °C (25 °C 1 st May to 30 th Sept)
Suspended Solids	35 mg/l
Sulphate	3,000 mg/l
Total Phosphorus (as P)	0.5 mg/l
Chlorine	0.1 mg/l
TOC	20 mg/l
Metals	1 mg/l
Chloride	50,000 mg/l
Total Dissolved Solids	130,000 mg/l
VOC	1 mg/l

As per above, the discharge from Micro-Bio has high salinity (Chloride at 50,000 mg/l) and if this flow was forwarded to the WWTP this would equal approximately 10% of current average influent by volume. The Fermoy WWTP currently achieves Nitrogen removal by biological process and the addition of this additional salinity loading to the treatment works would have a negative impact on the biological process within the WWTP.

Furthermore, the WWTP is not designed to remove Chloride and no reduction in overall Chloride Discharge (Kg) is currently achievable by forwarding this discharge to the Fermoy WWTP.

- **Provide a table outlining the existing and maximum PE contributions from domestic sources, commercial sources and trade effluent sources in the agglomeration.**

Existing loading to the Fermoy WWTP is estimated as 10,000 P.E. for Biological Load and some 13,200 P.E. for Hydraulic Load. This estimate is based on typical influent strength and quantity figures through period from 2007 to 2011.

Table 1 – Existing P.E. Contributions.

Source	Existing P.E. Contribution (No.)	Existing P.E. Contribution (%)
Domestic	10,870	82%
Commercial	1,000	8%
Trade	1,330	10%
Total	13,200	100%

Table 2 – Future P.E. Contributions.

Source	Future P.E. Contribution (No.)	Future P.E. Contribution (%)
Domestic	15,990	80%
Commercial	2,000	10%
Trade	2,010	10%
Total	20,000	100%

Future proportions as per the above are estimates and in practice figures will be development driven. The future figure provided for trade is based on maximum discharge limits for licences granted at present. The granting of any additional future licences will alter future projections given above.

It's noted that the current Draft Fermoy Electoral Area, Local Area Plan published by Cork County Council estimates population growth of some 1,150 persons in Fermoy and Environs to 2020.

Fermoy WWTP is designed to cater for P.E. of 20,000 and hence is adequately sized to cater for future expansion. The WWTP has two no. distinct treatment streams, i.e.

New Stream (Aeration Basin) 11,000 P.E.
 Old Stream (Oxidation Ditch x 2) 9,000 P.E.

The New Stream (Aeration Basin) is designed to cater for a hydraulic peak of 2.3 x DWF and is the only stream operational at present. The decision to re-introduce waste water treatment by use of the oxidation ditches in addition to use of the aeration basin will be based on need as determined by final effluent quality.

- **Your reply to this notice should include a revised non-technical summary which reflects the information you supply in compliance with the notice, insofar as that information impinges on the non-technical summary.**

See attached (Appendix D), Revised Non-Technical Summary.

- **In the case where any drawings already submitted are subject to revision consequent on this request, a revised drawing should be prepared in each case. It is not sufficient to annotate the original drawing with a textual correction. Where such revised drawings are submitted, provide a list of drawing titles, drawing numbers and revision status, which correlates the revised drawings with the superseded versions.**

2 No. Drawings previously submitted have been altered to include alterations made to discharge point classifications above. Please see revised drawings attached (Appendix E).

Drawing Title.	Drawing No.	Revision Status.
Attachment B4 – Location of Secondary Discharge Point	FERMOY 07	Rev. A – Location of SW4.
Attachment B5 – Combined Sewer Overflows	FERMOY 08	Rev. A – Re-Classification of SW2 and SW3.

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Appendix A – Primary Discharge (SW1) Monitoring Data.

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John Conroy
Northumbrian Water Projects Ltd
Carrigrennan WWTP
Little Island
Cork

Certificate No.: **604858**
Job Ref: **11F09072**
Sample Ref No.: **LSN 49/6793**
Page No.: **1 of 1**
Date Received: **22/06/2011**
Date Reported: **05/07/2011**

TEST REPORT

Sample Description **Fermoy Effluent - 20/06/11 -
Ex Job 11F08380 - LSN: 49/
2717**

Date Testing Initiated: **04/07/2011**
Category: **ENVIRONMENTAL**
Sample Condition: **Satisfactory**
Order No.: **Not Available**

Test	Test Result	Unit	Method
Ammonia Nitrogen (as N)	0.1	mg/l	ET 038 MEWAM 1981

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All tests are carried out according to our INAB schedule of accreditation.

Comments, opinions and interpretations expressed herein are outside this current scope of INAB accreditation.
Results apply only to samples tested, and as received at the Laboratory.

Signed for and on behalf of Exova (Ireland) Ltd.

Dan Healy
B.Sc (Hons)
Technical Manager



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John Conroy
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Little Island
Cork

Certificate No.: 604859
Job Ref: 11F09482
Sample Ref No.: LSN 49/8942
Page No.: 1 of 2
Date Received: 22/06/2011
Date Reported: 05/07/2011

TEST REPORT

Sample Description Fermoy In 22-06-11

Date Testing Initiated: 23/06/2011
Category: ENVIRONMENTAL
Sample Condition: Satisfactory
Order No.: N/A

Test	Test Result	Unit	Method
cBOD 5d with nitrification inhib	278	mg/l	ET 066 APHA 2005:5210:B
Total Phosphorus (as P)	12.91	mg/l	ET G01 based on ISO 6838:2004
Total Nitrogen (as N)	43.7	mg/l	ET G03 Ref.- ISO 11905-1:1998

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Signed for and on behalf of Exova (Ireland) Ltd.

Dan Healy
B.Sc (Hons)
Technical Manager



Registered Office: Exova (Ireland) Ltd, Glanmire Industrial Estate, Glanmire, Co. Cork. Reg. No 414141

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11F09482/LSN49/8942/2/1/2

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John Conroy
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Cork

Certificate No.: 604859
Job Ref: 11F09482
Sample Ref No.: LSN 49/8944
Page No.: 2 of 2
Date Received: 22/06/2011
Date Reported: 05/07/2011

TEST REPORT

Sample Description Fermoy Out 22-06-11

Date Testing Initiated: 04/07/2011
Category: ENVIRONMENTAL
Sample Condition: Satisfactory
Order No.: N/A

Test	Test Result	Unit	Method
Ammonia Nitrogen (as N)	0.7	mg/l	ET 038 MEWAM 1981

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Signed for and on behalf of Exova (Ireland) Ltd.

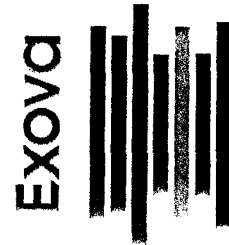
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John Conroy
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Carrigrennan WWTP
Little Island
Cork

Certificate No.: 604861
Job Ref: 11F10080
Sample Ref No.: LSN 49/12340
Page No.: 1 of 1
Date Received: 23/06/2011
Date Reported: 05/07/2011

TEST REPORT

Sample Description **Effluent - Fermoy - 23/06/11**

Date Testing Initiated: 04/07/2011
Category: ENVIRONMENTAL
Sample Condition: Satisfactory
Order No.: Not Available

Test	Test Result	Unit	Method
Ammonia Nitrogen (as N)	0.1	mg/l	ET 038 MEWAM 1981

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Signed for and on behalf of Exova (Ireland) Ltd.

Dan Healy
B.Sc (Hons)
Technical Manager



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11F10080/LSN49/12340/1/1/1

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John Conroy
Northumbrian Water Projects Ltd
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Cork

Certificate No.: **604862**
Job Ref: **11F10721**
Sample Ref No.: **LSN 49/15662**
Page No.: **1 of 1**
Date Received: **24/06/2011**
Date Reported: **05/07/2011**

TEST REPORT

Sample Description **Effluent - Fermoy - 24/06/11**

Date Testing Initiated: **04/07/2011**
Category: **ENVIRONMENTAL**
Sample Condition: **Satisfactory**
Order No.: **Not Available**

Test	Test Result	Unit	Method
Ammonia Nitrogen (as N)	0.1	mg/l	ET 038 MEWAM 1981

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All tests are carried out according to our INAB schedule of accreditation.

Comments, opinions and interpretations expressed herein are outside this current scope of INAB accreditation.
Results apply only to samples tested, and as received at the Laboratory.

Signed for and on behalf of Exova (Ireland) Ltd.

Dan Healy
B.Sc (Hons)
Technical Manager



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11F10721/LSN49/15662/1/1/1

**Appendix B – Site Location Map, Monitoring Point & Discharge Point for
Secondary Discharge (SW4)**

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Appendix C – Silver Pail Dairy (Fermoy) Ltd., Section 16 Licence.

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FERMOY URBAN DISTRICT COUNCILLOCAL GOVERNMENT (WATER POLLUTION) ACT, 1977 - 1990

Licence to discharge Trade Effluent or other matter to a Sewer.

Reference No. 002
in registerTO/ Silver Pail Dairy
(Ireland) Ltd.,
Industrial Estate,
Station Road,
Fermoy,
Co. Cork.

The Council of the Urban District of Fermoy, in exercise of the powers conferred on it by the Local Government (Water Pollution) Acts, 1977 - 1990 hereby GRANTS a Licence/A Revised Licence in substitution for Licence dated 15th May 1992.

Reference Number. 002.

To discharge Trade Effluent.From Silver Pail Dairy (Ireland) Ltd.,Located at Industrial Estate, Station Road, Fermoy.To Fermoy U.D.C. Sewer.At Industrial Estate, Station Road, Fermoy, Co. Cork.

subject to the Conditions set out in the schedule attached hereto. It should be noted that a person shall not be entitled solely by reason of a licence to make, cause or permit a discharge to a Sewer.

Courthouse,
Fermoy,
Co. Cork.Signed on behalf of the said Council.
Town Clerk: Michael [Signature]

Date : 30th September 1993

Order No. : 30 B / 93**NOTE:**

An appeal against a decision made by a Sanitary Authority under Section 16 and Section 17 of the Act of 1977 may be made to An Bord Pleanala under Section 20 of the Act, as inserted by Section 15 of the Local Government (Water Pollution) (Amendment) Act, 1990.

Appeals should be addressed to THE SECRETARY, AN BORD PLEANALA, Floor 3, Irish Life Centre, Lower Abbey Street, Dublin 1, and will be invalid unless accompanied by a fee of £36.00

Submissions or observations made to the Board by or on behalf of a person (other than the applicant) in relation to an appeal made by another person must be accompanied by a fee of £10.00.

A party to an appeal shall give to An Bord Pleanala any document, information or evidence in his possession or procurement which An Bord Pleanala consider necessary for the purpose of determining the appeal.

FERMOY URBAN DISTRICT COUNCIL

Licensee :

SILVER PAIL DAIRY (Ireland) Ltd.
Industrial Estate
Station Road
Fermoy
Co. Cork

Local Government (WATER POLLUTION) Act 1977
Section 16 Licence
Previously No. 002
Reviewed as No. (F) 002 (R)

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6th April 1993

Effluent Discharges shall take place only as specified in the application (F) 002 in the FERMOY U.D.C. register as modified and/or controlled by this licence and subject to the requirements of law. Any changes in the nature or quantity of any discharge shall require the Licensee to notify the Licensing Authority and in the case of any material change for the Licensee to request a review or obtain a new licence as may be determined by the Licensing Authority prior to any such change being made. The Licensing Authority shall interpret whether any change is material or not.

This licence supercedes all previous licences and correspondence issued in respect of the facility under the terms of the Water Pollution Act (1977).

This licence does not exempt any development from complying with the requirements of the Planning Acts.

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1. CONTAMINATED WASTE WATERS.

1.1 All contaminated waste water shall be treated in the on-site effluent treatment plant, unless otherwise agreed with the Licensing Authority.

1.2 Contaminated waste water shall comprise those arising from the manufacture of ice cream products and liqueurs only and shall include in particular the following, having regard to the requirements of condition 1.1 of this licence :-

- (a) Waste or spoiled milk or similar material.
- (b) Process waste water.
- (c) Boiler blowdown and condensates.
- (d) Aqueous wastes and contaminated runoff from the bunded areas.
- (e) Contaminated wastes from the truck unloading and storage areas.
- (f) Contaminated storm water.
- (g) Floor washings and wash water.
- (h) Domestic effluents.
- (i) Laboratory waste water.
- (j) Tank washings excluding the recirculated C.I.P. wash waters.

1.3 All treated effluent shall be directed to the public sewer at Carrignagroghera, Fermoy. The outflow pipe shall be fitted with a flow meter of the continuous recording and integrating type and a composite sampler of a flow proportionate type. These shall be installed in the effluent discharge pipe at a location agreed with the Licensing Authority.

The sampler shall be operated so as to take samples at a frequency to be agreed with the Licensing Authority making up to a composite sample once every 24 hours. In this regard, a composite sample for testing purposes shall be defined as any sample extracted from the sampling apparatus between the hours of 8.00 am and 12.00 noon.

This composite sample shall be collected at 12:00 noon each day or as otherwise agreed with the Licensing Authority.

This sampling and monitoring system shall be fully operational and in use at all times during which effluent is being discharged.

1.4 The total volume of treated effluent shall not exceed 100 cubic metres/day nor 10 cubic metres/hour .

1.5 Composite samples obtained in accordance with condition 1.3 above shall be tested by the Licensee for the parameters indicated in the following table and no such sample or grab sample taken at the point of sampling in the effluent discharge line shall exceed the following condition limits:-

pH	6.0 - 9.0
B.O.D.	2000 mg/l 150 Kg/day max.
Total Suspended Solids	300 mg/l
Total Nitrogen	75 mg/l
Total Phosphorus	10 mg/l
Oils, fats and greases	50 mg/l
Temperature	35 degrees C.

Composite samples shall be tested by the Licensee for any other parameters which may be required by the Licensing Authority .

The frequency of testing for the above parameters shall be as follows :- BOD and SS shall be tested daily and the remaining parameters shall be tested weekly .

In the event that satisfactory correlation can be established between C.O.D and B.O.D. levels, then with the agreement of the Licensing Authority the C.O.D. test results may be used to estimate the B.O.D. loading, subject to the following :-

- (ii) Yearly re-evaluation of the C.O.D. / B.O.D. ratio.

The pH of the influent to the D.A.F. plant shall be controlled such that no adverse affect is caused to the treatment system .

1.6 The toxicity of the treated effluent as expressed by the number of toxic units shall be determined with reference to a representative aquatic organism on the basis of a forty four hour flow proportionate composite sample of treated effluent . The determination shall be carried out by a competent independent body using methods agreed with the Licensing Authority at the request of the Licensing Authority . The toxicity of the treated effluent shall not exceed 5 toxic units .

1.7 The Licensee shall provide a sampling point on the treated effluent discharge line for the use of any body having statutory responsibility for water pollution control . The Licensee shall also ensure that direct access to the sampling point is available at all times .

1.8 In the event of malfunction or breakdown of the treatment works , or fracture or blockage of any pipe , the Licensee shall immediately report the incident to the Licensing Authority by telephone or telefax and shall confirm the communication in writing within twenty four hours . The Licensee shall take all possible steps to ensure that discharges not in accordance with the provisions of this licence do not occur and shall consult with the Licensing Authority on the best practicable means of restoring the treatment process to its full operational capacity .

1.9 The Licensee shall not discharge any effluent or substance to the sewer which would damage the sewer or effect its integrity .

2 STORM WATER

2.1 All uncontaminated storm water and cooling water shall be directed to the surface water sewer at Carrignagroghera , Fermoy .

A sampling point shall be provided on this pipeline for the use of any statutory body with responsibility for pollution control .

2.2 Grab samples shall be tested by the Licensee for the parameters indicated in the following table and if any sample taken at the point of sampling in the stormwater discharge line shall exceed the following condition limits , the Licensing Authority shall be immediately informed and an investigation of the causes shall be carried out :-

pH	6.0 - 9.0
B.O.D.	10 mg/l
conductivity	150% of average level .
total chlorine residual	0.1 p.p.m.
temperature	35 degrees C.

3 GROUNDWATER

3.1 The Licensee shall have the quality of the water abstracted from the on-site well monitored once per annum for the following parameters : conductivity , chloride , iron , manganese , pH , Total Organic Carbon or total oxygen demand , ammonia , nitrate and such other parameters as may be indicated by the Licensing Authority . The Licensing Authority reserve the right to alter the frequency of such testing .

4 STORAGE FACILITIES

4.1 All storage tanks areas and drum storage areas shall be rendered impervious to the materials stored therein . In addition, storage tank areas shall be bunded , either locally or remotely , to a volume of 110% of the largest tank within each individual bunded area . Drum storage areas shall be bunded to a volume equal to 110% of the sum of the volumes of the largest ten drums likely to be stored therein . The height of the bund for any drum storage area shall be not less than 300 millimetres .

4.2 The integrity and watertightness of all the bunded structures and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the Licensee to the satisfaction of the Licensing Authority (eg. in the case of concrete structures , testing in accordance with the requirements of B.S. 5337 or B.S. 8007). The results of of these tests shall be certified by a Chartered Engineer .

5. TREATMENT PLANT

5.1 The design and sizing of treatment plant units , pumping stations, pipe networks , pumps and other details of pollution control measures shall be completed to the satisfaction of the Licensing Authority at least one month prior to the commencement of construction of these elements . In addition , the integrity of the system shall be demonstrated to the satisfaction of the Licensing Authority , if required . All liquid retaining units shall be tested for watertightness . This testing shall be carried out in accordance with the requirements of the Licensing Authority (eg. in the case of reinforced concrete units , B.S. 5337 or B.S. 8007). The results of all such tests shall be certified correct by a Chartered Engineer .

5.2 The Licensee shall initiate an approved maintenance programme for all mechanical and electrical plant in use in the treatment process or in pollution control . A register shall be kept of all maintenance work carried out on such units and this information shall be made available to the Licensing Authority on request .

Duty and standby sets shall be provided on all pollution control mechanical units and these units shall be operated in accordance with good engineering practice .

5.3 All pump sumps or other treatment plant chambers from which spillages might occur shall be fitted with high liquid level alarms . The alarm condition shall be signified by an audible signal on site at times when maintenance staff are present on site and shall be connected to an autodialling communication and message system at all other times .

5.4 The Licensee shall submit evidence of the competence of the plant operator in the operation and maintenance of the treatment plant . If required by the Licensing Authority , the competence of the operator be shall be demonstrated in the form of an interview and any shortcomings shall be rectified by further training or other means .

SOLID WASTES

6.1 All solid waste which can be regarded as neither toxic nor dangerous including general refuse shall be disposed to landfill or by other means as may be agreed with the Licensing Authority .

6.2 While awaiting disposal , all wastes and by-products shall be collected and stored in designated areas protected against spillage and leachate run-off .

6.3 Within two months of issue of this licence , the Licensee shall submit results of soil analysis carried out on the lands on which it is proposed to dispose of fat . These tests shall be undertaken by a competent independent technical body approved by Cork County Council . Nutrient levels and heavy metals concentrations shall be measured . The number of tests required shall be determined by the Licensing Authority (one per 5 hectares unless otherwise determined) . A representative sample of the fat shall be similarly tested and the results submitted to the Licensing Authority . These tests shall be repeated annually . The Testing Body shall recommend the maximum rate of spread of fat allowable . Upon receipt of these results , the Licensing Authority shall determine the maximum rate of spread of fat allowable (as recommended by the Testing Body unless otherwise determined) . The rate thus determined shall be based on the nutrient requirements of the soil and the prevention of runoff to waters . The Licensee shall indicate whether the designated lands will be used for the disposal of animal slurries (or other wastes) in addition to fat disposal and if so then the number of animals housed on the farms shall be specified . Authority that the concentrations of any substances is increasing to undesirable levels as a result of landspreading , then alternative arrangements for fat disposal shall be agreed with the Licensing Authority .

The preferred method of fat disposal on land is soil injection . The Licensing Authority may insist that only this method be used .

A fat holding tank of capacity to accommodate sixteen weeks production shall be available for storage prior to landspreading .

The lands designated for landspreading shall be indicated on a map to a scale of not less than 1/10,560 and submitted to the Licensing Authority . The Licensee shall maintain a record of the quantities of fat deposited and the approximate locations of applications on a grid map . Landspreading shall not be carried out following periods of heavy rain or when the ground is saturated or frozen . Landspreading shall not be carried out within 10 metres of any watercourse , stream or river or in any circumstances when water pollution might occur .

7 MONITORING

7.1 The Licensee shall grant immediate and unhindered access to the site and any portion of the effluent treatment plant including sewers and pipes, to any authorized personnel representing any body having statutory responsibility for water pollution control, at all times to carry out such inspections, monitoring and investigations as the body deems necessary.

7.2 The Licensee shall keep records of all monitoring carried out and shall retain such records for a minimum period of ten years. These records shall be available for inspection by authorized personnel representing any statutory body involved in water pollution control at all reasonable times. The Licensee shall submit to the Licensing Authority before the tenth day of each calendar month the results of all monitoring relating to the previous month, together with any other records relating to pollution control which may be required by the Licensing Authority. The format of these results shall include minimum, maximum and average values for each of the parameters tested. Any non-compliance with the terms of the licence shall be highlighted and the reason why this occurred shall be stated. The measures taken to ensure non-recurrence shall also be outlined. The percentage compliance with licence values for each parameter shall also be indicated.

7.3 Before January 15th. of each calendar year, the Licensee shall submit a summary report of all monitoring carried out in the previous year. This report shall evaluate the operation of the facilities available on site to treat the effluent.

The report shall include annual totals for each parameter emitted. The report shall also outline the intentions of the Licensee with regard to the upgrading of treatment plant or operations should these results not fully comply with the terms of this licence. All monthly and annual reports shall be certified representative and accurate by the Licensee's plant manager or other senior officer designated by him.

8 RESPONSIBLE PERSON

8.1 The Licensee shall ensure that a person or persons is/are available at all times to give relevant information on discharges to the Licensing Authority. The Licensee shall identify to the Licensing Authority each such person.

9. CONTRIBUTIONS

9.1 The Licensee shall pay to CORK COUNTY COUNCIL such annual contributions towards the cost of monitoring the discharge as the Licensing Authority considers necessary for the performance of its duties under this Act as follows :-

(a) Not later than September 30th., 1993 the Licensee shall pay to CORK COUNTY COUNCIL a contribution of not less than £ 700.00 .

(b) In subsequent years the Licensee shall pay to CORK COUNTY COUNCIL an annual amount of not less than £ 700.00 updated in accordance with the Consumer Price Index from the date of the grant of this licence to the value pertaining at the time of payment of each annual contribution .

(c) Notwithstanding the foregoing , the rate of contribution each year shall take account of the actual costs of monitoring as incurred by CORK COUNTY COUNCIL in the previous year and as estimated for the next year .

9.2 The Licensee shall pay to FERMOY URBAN DISTRICT COUNCIL such annual contributions towards the cost of the operation and maintenance of Fermoy Main Drainage as the Licensing Authority considers appropriate .

(a) Not later than 30th September 1993 the Licensee shall pay to FERMOY URBAN DISTRICT COUNCIL a contribution of not less than £ 33000.00 .

(b) In subsequent years the Licensee shall pay to FERMOY URBAN DISTRICT COUNCIL an annual amount of not less than £ 33000.00 updated in accordance with the Consumer Price Index from the date of the grant of this licence to the value pertaining at the time of payment of each annual contribution . (this amount shall be payable before 30th September each year) .

(c) Notwithstanding the foregoing , the rate of contribution each year shall take account of the actual costs of disposal of the effluent by FERMOY URBAN DISTRICT COUNCIL in the previous year and as estimated for the next year .

Appendix D – Revised Non-Technical Summary.

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Section A : Non Technical Summary – Updated July 2011

A Description of the Waste Water Works and the Activities Carried Out Therein

The wastewater in Fermoy is collected in a partially combined foul and separated foul sewage drainage network. The wastewater drains from the town on both sides of the Blackwater River. The wastewater on the north side of the river drains to a pumping station at Rathealy Road, which is then pumped across Fermoy Bridge to the main sewer. The wastewater arising on the south side of the river drains directly to the WWTW.

The Fermoy WWTP is designed for a Population Equivalent (PE) of 20,000PE and BOD loading of 1,200Kg/day. The maximum hydraulic capacity of the Fermoy WWTP is 673m³/h which is 2.3 Dry Weather Flow (2.3DWF). In order to cope with flows above 2.3DWF storm storage has been provided at the WWTW. The volume of storm storage at the WWTW is approximately 1,126m³. In the event that the storm water holding tanks are filled and the storm continues, the storm water tanks are operated as a pre-clarification tank without sludge removal. The overflow from the storm water storage tank is connected to the final effluent outlet pipe.

The treatment plant treats all flows that arrive at the works to secondary standards in accordance with the Urban Waste Water Directive 1994 as shown in the following table:

Parameter	Effluent Limit
BOD	25 mg/l
COD	125 mg/l
Suspended Solids	35 mg/l
Phosphate	2 mg/l
Ammonia	3 mg/l
Total Nitrogen	25 mg/l
Sludge	18% or greater

Table 1 – Effluent Limits discharge

The existing WWTW were upgraded with an additional stream. The flow is split after the wastewater passes through the new inlet works. 40% of the flow is diverted to the existing wastewater treatment stream. The remaining 60% is directed to a new treatment system. The existing stream has an aeration phase, a secondary settlement phase and return activated sludge phase. The new stream has an anaerobic, anoxic and aeration phase, a secondary settlement phase and return activated sludge phase.

Sludge is wasted separately from each stream to a common storage sludge blend tank, common Picket Fence Thickener and common dewatering plant.

A summary of the treatment process is presented below:

Inlet works	2Duty/1Standby pumps, 2 No. mechanical screens with aerated grit and grease removal system, flow measurement and grit classifier.	
	EXISTING STREAM	NEW STREAM
Biological Treatment	2 No. oxidation ditches with 4 No. surface aerators.	- 1 No. Anaerobic tank with 3 No. mixers. - 1 No. Anoxic tank - 1 No. aeration tank with fine bubble disc aeration
Phosphorus Removal	Ferric Sulphate dosing	
Secondary Settling	3 No. 13m diameter final settlement tanks with half bridge sludge scraper. Sludge settled within the settlement tanks is withdrawn by gravity from each central sludge hopper to the return sludge pump sump. Surplus Activated Sludge (SAS) is pumped by 2 No. pumps (Duty/Standby) from the pump sump to the sludge blend/holding tank. Return Activated Sludge (RAS) is pumped 2 No. pumps (Duty/Standby) from	1 No. 24m diameter final settlement tanks with half bridge sludge scraper.

	the pump sump and is mixed with the incoming influent.
Sludge Treatment	<ul style="list-style-type: none"> - 1 No. sludge acceptance tank, 45m³, 1 No. mixer and sludge pump sump equipment with 2 No. Pumps. - 1 No. Sludge Blend/Holding tank, 192m³, 1 No. mixer and sludge pump sump equipment with 2 No. Pumps. - 1 No. Picket Fence Thickener for thickening from 0.5% to 2% Dry Solids, 97m³. - 2 No. Sludge Belt Presses with 2 No. sludge transfer pumps, 1 No. poly make-up unit with 3 No. dosing pumps.
Effluent Discharge	1 No. 450mm gravity outfall pipe to Blackwater River.

Ancillary equipment at the WWTP also includes the following:

- Odour Treatment Unit with 2 No extractor fans.
- Standby Generator for the Inlet Pumping Station and SCADA system covering all the plant including sludge treatment process.
- Buildings - Inlet and sludge building, electricity transformer building, laboratory and control room building with fire alarm and security alarm systems.

The Fermoy WWTP is now operated by Northumbrian Water Projects Ltd., Carrigrenan WWTP, Courttown Ind. Est., Little Island, Cork (021-4355544) under a 20 year Operation and Maintenance Contract, which commenced on 3rd May 2011. The plant is manned during the working week, (in conjunction with another plant at Mallow), 8.00am - 5.30pm (Monday - Friday) by 2 No. operators who are overseen by an Operations Manager . During out of hours the SCADA system will send alarms to a mobile phone of the person on standby.

The Sources of Emissions from the Waste Water Works

The pollution load for the Fermoy agglomeration arises from the following areas:

- The local Population
- The local Industries

The pollution load from these sources varies greatly with daily, weekly and seasonal producers of effluent. The sewage from all industries is collected via the public sewer and treated in conjunction with domestic waste at the waste water treatment plant.

The domestic population of Fermoy has grown over the last three censuses owing to its development as a town within the Cork Metropolitan area. The most recent Census figures show that Fermoy Town and environs now has a population in excess of 5,800. (Census, 2006). Other sources of influent that contribute to the sewage scheme would be:

- Commercial premises
- Schools
- Tourism

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

The final effluent is discharged into the Blackwater River. At design capacity the WWTW will discharge 7,140m³/d to the river.

Environmental Impacts

An Environmental Impact Statement was carried out for the Expansion and Upgrading of Fermoy Sewage Treatment Works in August 2000 by T.J. O'Connor & Associates. This report stated:

"Due to the high dilution capabilities of the river, it shall not suffer any noticeable decrease in Dissolved Oxygen downstream of the outfall. The increase in population and industry in the Fermoy area will place additional demands on the wastewater treatment facilities in the area and if not provided for could be expected to result in a deterioration of the water quality in the Blackwater River downstream of the town. However, the proposed upgrading and expansion of the works at the Wastewater Treatment plant are designed to protect the water body downstream of the outfall sufficiently to restore its quality rating around Q4. Without the proposed works, the town developments would cause a much greater BOD loading to the river, so that the effects of the treatment works expansion is positive."

It is necessary to consider that the effluent quality will meet the requirements stated in the Urban Waste Water Directive 1994.

The Proposed Technology and Other Techniques for Preventing or, Where This Is Not Possible, Reducing Emissions from the Waste Water Works

Technologies

In the WWTW at Fermoy a sufficient number of standby pumps, fans, etc. is provided in order to ensure continuation of the wastewater and sludge treatment and to comply with all environmental standards in case of equipment failures or breakdowns. Standby equipment is installed, ready for take over, or available in stock on site.

A Standby generator is provided for the Inlet Pumping Station. Elsewhere, generator sockets are provided to enable the plant to operate during mains electric power failure thereby preventing untreated emissions from entering the receiving aqueous environment.

Techniques

A Performance Management System (PMS) is in place at the Fermoy Wastewater Treatment Plant. This Performance Management System was developed by the Water Services National Training Group (WSNTG). The PMS provides a uniform approach to dealing with all relevant performance management issues, including Independent Compliance Audits, Management of Change, Dispute Resolution, Public Relations, Emergency Procedures and Reporting Procedures.

Northumbrian Water Projects Ltd performs the Operation of the WWTP in accordance with the Performance Management System and maintains the design performance capability of the existing treatment plant.

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

Prevention of pollution

Any alteration or upgrading of the existing infrastructure shall not increase the potential to cause pollution in the environment. In particular any alterations to the wastewater treatment plant will be designed to enable any operator of the facility to prevent pollution of the environment by the following potential contaminants:

- Surface water run-off
- Spillages
- Solid Waste

Toxic Substances

Cork County Council/ Northumbrian Water Projects Ltd shall ensure that any modification or alterations to the plant do not increase the impact by any toxic substances. All chemicals and dangerous substances must be stored safely at all times and all appropriate safety measures must be taken to ensure against leakage and spillage in accordance with the relevant Health and Safety Legislation.

Measures planned to monitor emissions into the environment

Northumbrian Water Projects Ltd., as current operator has developed a system, using the PMS as a template, of procedures and processes for sampling and analysis of the incoming raw sewage, outgoing effluent, sludge and other by-products such as screenings, so that analytical results are reliable, repeatable, consistent and accurate. Sampling procedures are in accordance with EU and Irish Regulations, and in particular in accordance with the Environmental Protection Agency's (EPA) monitoring and operating requirements. All laboratory analyses are performed in accordance with the latest edition of the Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association, and the Water Pollution Control Federation or other methods of comparable accuracy.

Regular independent laboratory analysis is also undertaken to externally monitor the operator's performance. Flow proportional or time based 24 hour samples are collected at the same well defined point at the inlet and outlet of the treatment works in order to monitor compliance with the requirements. A refrigerated sampler minimizes degradation between collection and analysis. Certain heavy metal analyses are also required on an annual basis as identified in 'Code of Good Practice for Use of Biosolids in agriculture'.

The operator is responsible for developing and implementing procedures to remedy defects in his laboratory procedures where the independent checking shows variations of more than $\pm 10\%$.

The sampling of the statutory samples is in accordance with the following procedures: -

- All samples are representative of the appropriate stream.
- Daily grab samples are taken at approximately the same times each day.
- Samples are fixed, stored and handled as per standard methods. Analysis of the samples (both operator's and Employer's) are undertaken within 24 hours and reported to the Employer's Representative within 48 hours. Exceptions are BOD, metals and pathogens, which are reported within 7 days.

The monitoring and recording of the status of all parameters appropriate to proper control and operation of the plant is carried out.

Secondary Discharges

There is a single Secondary Discharge Point associated with the Wastewater system located adjacent to Fermoy Bridge. Two local industries contribute to this discharge namely Microbio and Silver Pail Dairies.

The discharge from Microbio is a treated trade effluent (IPPC Licence P0082-02) and the discharge from Silver Pail Dairies is a cooling water. All foul effluent associated with both sites is discharged to the foul collection system and ultimately treated in the Fermoy WWTP. The discharge is not predicted to have any significant impact on the Blackwater River at this location.

Appendix E – Revised Drawings.

- (1) Attachment No. B.4. - Location of Secondary Discharge Point.**
- (2) Attachment No. B.5. – Combined Sewer Overflows.**

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