This memo has been approved to go to the Director by the Senior Inspector.
Signed _____ Date 12/8/13

OFFICE OF CLIMATE, LICENSING & RESOURCE USE.

INSPECTORS REPORT ON A WASTE WATER DISCHARGE LICENCE APPLICATION

To:	Dara Lynott, Director
From:	Loretta Joyce Environmental Licensing Programme
Date:	8th August 2013
RE:	Application for a Waste Water Discharge Licence from Cork County Council for the **Kildorrery** agglomeration, **Reg. No. D0442-01.**

Application Details	
Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of 500 to 1000
Licence application received:	22/06/2009
Notices under Regulation 18(3)(b) issued:	30/04/2010, 15/07/2010, 16/05/2013
Information under Regulation 18(3)(b) received:	01/06/2010, 04/07/2011, 11/06/2013
Site notice check:	10/07/2009
Site visit:	14/05/2013
Submissions Received:	None

1. Agglomeration

This application relates to the Kildorrery agglomeration in County Cork. The agglomeration had a population equivalent (p.e.) of 500 in 2011 and the design capacity of the WWTP is 850 p.e. There are no identified sources of industrial waste water in the agglomeration.

The WWTP was constructed in 2000, designed to produce Royal Commission standard 25:35 BOD: Suspended Solids and consists of inlet works, aeration tank, clarifier, automatic screen, storm water holding tank and sludge holding tank. There is no chemical dosing for phosphorus removal.

2. Discharges to waters

Primary Discharge

The primary discharge (SW-1) is the gravity outfall from the WWTP to the River Funshion, 700m east of the WWTP. At 95%ile flow in the river (1.34 m^3/sec), there are approximately 508 dilutions available for the projected normal waste water discharge (0.0026m^3/sec). The 95%ile river flow was provided by the Office of

Environmental Assessment. The applicant's 2012 treated effluent monitoring results are shown in Table 1, along with the WWTP design standards.

Table 1. WWTP monitoring results 2012 (average based on 5 samples)

Parameter	BOD (mg/l)	COD (mg/l)	Suspended solids (mg/l)	Ammonia (mg/l)	Orthophosphate (mg/l)
Average effluent	14	61	41	-	-
WWTP Design standards	25	-	35	-	-

Secondary Discharges

There are no secondary waste water discharges from the agglomeration.

Storm water overflows

There is one storm water overflow (SWO) at the WWTP, which discharges to the River Funshion via the primary discharge point

Emergency overflows

There are no emergency overflows from the agglomeration.

3. Receiving waters and impact

The River Funshion forms part of the South Western River Basin District. The following table summarises the main considerations in relation to the receiving waters.

Table 2. Receiving waters

Characteristic	Description	Comment
Receiving water name and type	River Funshion IE_SW_18_1836	
Relevant designations within 10km	None	
Drinking water abstraction within 10 km d/s	Kildorrery Borehole (Groundwater) 0500PUB1503	30m u/s of primary discharge point, discharge point on the boundary of the zone of contribution.
EPA monitoring stations & Biological quality rating (Q value)	U/s station RS18F050500 located 20m u/s D/s station RS18F050600 located 1.35km d/s	Upstream Q4-5 in 2012 Downstream Q4 in 1990
WFD status	Moderate	2011
WFD Risk Category	1a, water body at significant risk of failing objectives	2008
WFD Objective	Restore good status	2021 deadline
WFD protected areas	RPA drinking water groundwater	

Ambient water quality monitoring data for the River Funshion provided by the Local Authority in accordance with the Water Framework Directive is summarised in Table 3 below. The results show that BOD, orthophosphate and ammonia levels upstream and downstream of the primary discharge do not comply with the good status water quality standards specified in the European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended. Orthophosphate and ammonia levels ameliorate downstream of the primary discharge.

Table 3. Water Quality in River Funshion in 2012 (average based on 4 samples)

Parameter	RS18F050500 20m u/s of SW001	RS18F050600 1.35km d/s of SW001	Water Quality Standards Note 1
BOD	**2.02**	**2.42**	≤ 1.5 mg/l (mean)
Orthophosphate (as P)	**0.062**	**0.058**	≤ 0.035 mg/l (mean)
Ammonia (as N)	**0.145**	**0.117**	≤ 0.065 mg/l (mean)

Note 1: Good status under European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended;

Table 4 below summarises the mass balance calculations which show the contribution from the primary discharge on the receiving water at a projected, loading of 600 p.e. (500 p.e. plus 20%). The calculations use the 'notionally clean river' approach (a hypothetically clean stretch of river) provided by the Office of Environmental Assessment.

Table 4. Mass Balance Calculations

Parameter (mg/l)	Proposed ELVs for Primary discharge	Contribution from Primary discharge	Contribution from notionally clean background Note 1	Predicted Downstream concentration	Water Quality Standards Note 2
BOD	25	0.0491	0.2595	0.3086	≤ 2.6
Orthophosphate (as P)	3	0.0059	0.0080	0.0139	≤ 0.075
Ammonia (as N)	5	0.0098	0.0050	0.0148	≤ 0.14

Note 1: The notionally clean background concentrations are 0.26 mg/l BOD, 0.005 mg/l ortho-phosphate (as P) and 0.008 mg/l ammonia (as N).

Note 2: Good status under the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

The calculations show that the predicted downstream concentrations of BOD, Orthophosphate as P and Ammonia as N would comply with the good status standards in the Environmental Objectives Regulations 2009, as amended.

The RL proposes an ELV of 25mg/l BOD which is the design standard for the WWTP. The average BOD in the effluent was 14mg/l in 2012, indicating that an ELV of 25mg/l BOD can be achieved.

The RL proposes an ELV of 3mg/l Orthophosphate. Average Orthophosphate as P in the effluent was 1.75mg/l in 2009 (4 samples) indicating that an ELV of 3mg/l Orthophosphate as P can be achieved. There is no chemical dosing for phosphorus removal at the WWTP.

The RL proposes an ELV of 5mg/l Ammonia as N. Average Ammonia in the effluent was 0.87 mg/l in 2009 (4 samples) indicating that an ELV of 5mg/l Ammonia as N can be achieved.

Kildorrery WWTP is listed as a point pressure in the Blackwater Funshion Water Management Unit Action Plan. The plan notes that an extended deadline until 2021, to restore River Funshion to good status, was required for wastewater infrastructure to be put in place. Wastewater infrastructure was required for Mitchelstown, Reg. No. D0202-01, licensed on 05/07/2010, which discharges waste water to the River Funshion 9.8km upstream of the primary discharge point from the Kildorrery WWTP.

4. Site Visit

I visited Kildorrery agglomeration on 14/05/2013 and met with a representative of Cork County Council. I visited the WWTP and observed the primary discharge point and receiving waters.

Ambient Monitoring

Schedule B.2 Receiving Water Monitoring of the RL specifies quarterly monitoring of the River Funshion for a number of specified parameters.

- Upstream: The location identified by Cork County Council is aSW-1u (grid ref. 172311E 110784N) is approximately 40m upstream of SW001. There is a National monitoring station approximately 20m upstream of SW001 (Station Code: RS18F050500) and this has been included in *Schedule B.2* of the RL
- Downstream: The location provided by Cork County Council aSW-1d, (grid ref. 172033E 109579N) is approximately 1.3km downstream of SW001. There is a National monitoring station approximately 1.35km downstream of SW001 (Station Code: RS18F050600) and this has been included in *Schedule B.2* of the RL

6. Programme of Improvements

There are no planned improvements proposed by the applicant for Kildorrery WWTP. The RL proposes ELVs that are already being achieved with the current WWTP.

Compliance with EU Directives

In considering the application, regard was had to the requirements of Regulation 6(2) of the Waste Water (Discharge) Authorisation, Regulations 2007 as amended, notably:

Table 4. Compliance with EU Directives/Regulations

Compliance with Directives/Regulations	Description and Conditions in RL
Urban Waste Water Treatment Directive [91/271/EEC]	Appropriate treatment was required by 31st December 2005.
Water Framework Directive [2000/60/EC]	Restore Good status.
EC Environmental Objectives (Surface Water) Regulations 2009, S.I. No. 272 of 2009, as amended	Schedule A of RL sets ELVs to contribute towards good status water quality standards.
Drinking Water Abstraction Regulations	Kildorrery Borehole (Groundwater) 0500PUB1503, 30m u/s of primary discharge. Condition 4 requires a risk assessment for protection of drinking water abstraction points to be carried out.
EC Freshwater Fish Directive [2006/44/EC]	Not a designated salmonid river.
Bathing Water Directive [2006/7/EC]	No bathing waters present.
Shellfish Waters Directive [2006/113/EC]	No shellfish waters present.
Dangerous Substances Directive [2006/11/EC]	Condition 4 requires screening for priority substances.
Birds Directive [79/409/EEC] & Habitats Directive [92/43/EEC]	Screening for Appropriate Assessment (AA) demonstrates that the discharges, individually or in combination with other plans or projects, are not likely to have significant effects on a European site, due to the lack of hydrological connectivity with a European site. AA was not required
Environmental Impact Assessment Directive [85/337/EEC]	An EIS was not required for Kildorrery WWTP.
Environmental Liability Directive [2004/35/CE]	Condition 7.2 of RL satisfies the requirements of the Directive.

8. Submissions

No submissions were received in relation to this licence application.

9. Charges

The RL sets an annual charge for the agglomeration at € 4,152.18 and is reflective of the monitoring and enforcement regime being proposed for the agglomeration.

10. Recommendation

I recommend that a Final Licence be issued subject to the conditions and for the reasons as set out in the attached Recommended Licence.

Signed

Loretta Joyce

Loretta Joyce
Inspector
Environmental Licensing Programme

Kildorrery Agglomeration D0442-01