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for submission to the Board by
the Programme Manager F Clinton
Signed: *Gráinne Ogle* Date: *26/11/09***



**OFFICE OF CLIMATE,
LICENSING & RESOURCE USE.**

**INSPECTORS REPORT ON A WASTE WATER DISCHARGE
LICENCE APPLICATION**

To:	DIRECTORS	
From:	Ann Marie Donlon	Environmental Licensing Programme
Date:	25 th November 2009	
RE:	Application for a Waste Water Discharge Licence from Cork County Council Southern Division, for the agglomeration named Passage West / Monkstown, Reg. No. D0129-01	

Application Details	
Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent between 2,000 and 10,000
Licence application received:	22 September 2008
Notices under Regulation 18(3)(b) issued:	07 May 2009
Information under Regulation 18(3)(b) received:	29 June 2009
Site notice check:	17 October 2008
Submission Received:	None

1. Agglomeration

This application relates to the Passage West-Monkstown agglomeration serving the villages of Passage West, Glenbrook and Monkstown. The existing sewer network, with the exception of the newer residential estates, is served by a combined system.

There is no waste water treatment plant in Passage West - Monkstown and waste water discharges untreated to Lough Mahon through 3 outfall points. Comminutors are installed on these discharge points. The largest flow is discharged through Pembroke outfall (primary discharge) in Passage West. There are two other secondary discharges of untreated waste water from the agglomeration.

There are six pumping stations and five have emergency overflows which also act as combined storm water overflows (CSWOs). There is evidence of seawater and rainfall infiltration. The current load from the agglomeration is estimated at a population equivalent (p.e.) of 7,600, which includes an estimated load of 10% for pending development. The waste water is predominantly domestic with 10% attributed to commercial and institutional waste water.

As the agglomeration is between 2,000 and 10,000 p.e., and discharging to estuarine waters, secondary treatment was required under the Urban Waste Water Treatment Regulations, 2001 (S.I. No. 254 of 2001) (UWW Regulations) by 31/12/05. It is proposed to upgrade the Passage West - Monkstown collecting system and pump waste water to the proposed urban waste water treatment plant (UWWTP) at Shanbally which is expected to be operational by mid to late 2014. This proposal forms part of the Cork Harbour Main Drainage Scheme (also referred to as the Cork Lower Harbour Sewerage Scheme). The Cork Harbour Main Drainage Scheme is for the provision of collection systems and waste water treatment facilities in the Cork Lower Harbour area serving the agglomerations of Cobh (D0043-01), Passage West / Monkstown (D0129-01), and Ringaskiddy /Carrigaline/Crosshaven (D0057-01) and Ringaskiddy village (D0436-01). An Environmental Impact Statement for the proposed UWWTP and associated works accompanied the application and the proposal was granted planning permission by An Bord Pleanála in July 2009. Separate planning approval will be required for the construction of pumping stations, holding tanks or outfalls for waste water or storm water associated with the conveyance system that form part of the Cork Harbour Main Drainage Scheme. The scheme is listed on the Water Services Investment Programme 2007-2009.

The proposed WWTP at Shanbally (within agglomeration D0057-01) will have a design capacity of 80,000 P.E., and will discharge through the existing deep water outfall at Dognose Bank (the primary discharge of D0057-01 licence application).

In broad terms, Cork County Council Southern Division submitted licence applications for four discrete collecting systems with untreated discharges (Cobh, Passage West-Monkstown, Ringaskiddy village, Crosshaven-Carrigaline-Ringaskiddy). The Cork Harbour Main Drainage Scheme was granted planning permission in July 2009 and this scheme will connect the four collecting systems and provide a WWTP by mid to late 2014. Consequently, only one large agglomeration will exist from 2015 with one primary discharge and no secondary discharges. Therefore only one licence shall be relevant from 2015. This application is for existing untreated discharges from the Passage West-Monkstown agglomeration.

The EIS for the proposed urban WWTP at Shanbally was received with this application as it relates to this waste water works. As the proposed WWTP is not planned to be operational before mid 2014 the application only relates to the existing untreated discharges. An application for the combined agglomeration (Cobh/ Passage West / Monkstown/ Ringaskiddy /Carrigaline / Crosshaven) has not been received.

2. Discharges to waters

The largest flow of waste water is discharged from Passage West (primary discharge) to the River Lee West Passage (Lough Mahon). There are two other secondary discharges of untreated waste water from the agglomeration to the West Passage. Based on one round of monitoring the current load to the receiving water was estimated as 221kg/day BOD, 83.6kg/day total nitrogen (N), 45.3kg/day Dissolved Inorganic Nitrogen as N (DIN-N) and 5kg/day Ortho-PO₄-P. Copper was detected at high levels of 39.2 to 88.8µg/l in all three outfalls. Zinc levels were marginally high. No other parameter was deemed significant.

There are five emergency/storm water overflows associated with the pumping stations. These storm water overflows do not comply with the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows, 1995*'. It is proposed as part of the Cork Harbour Main Drainage Scheme that any storm water overflows associated with this agglomeration will be designed in accordance with the DoEHLG '*Procedures and Criteria in relation to Storm water Overflows*', 1995 for sensitive waters.

3. Receiving waters and impact

The following table summarises the main considerations in relation to the River Lee (West Passage) downstream of the primary discharge. For the purpose of the Water Framework

Directive the River Lee (West Passage) is part of the area described as Lough Mahon (SW_060_0750) and is a transitional water.

Table 1.0 Receiving waters

Characteristic	Classification	Comment
Receiving water name and type	Lough Mahon	Transitional waters. (SW_060_0750)
Resource use	Shipping lane	
Amenity value	Water sports	
Applicable Regulations	Urban Waste Water Regulations ¹	Lee Estuary/Lough Mahon (to Monstown) designated as 'sensitive'
	EO Regulations ²	See WFD below for details.
Trophic Classification ³	Polluted 1999 –2003 Intermediate 2003-2005	Category: Estuary Improvement from '99-03
WFD Lough Mahon ⁴	Status: Good	DIN condition is determined as moderate
	Risk: 1a (at risk)	
	Objective: Protect	Protect to achieve Protected Area objective
WFD protected areas	Lee Estuary/ Lough Mahon	Nutrient sensitive area
	SPA (4030)	Water dependant habitat and species

Note 1: Urban Waste Water (Amendment) Regulations, 2004 S.I. No. 440 of 2004

Note 2: European Communities Environmental Objectives (Surface Water) Regulations, 2009 (S.I. No. 277 of 2009)

Note 3: EPA (2008) Water Quality in Ireland 2004 – 2006

Note 4: Draft River Basin Management Plan for the South Western River Basin District and interactive maps, December 2008.

The Lee Estuary/Lough Mahon have seen a marked improvement in water quality in recent years due mainly to the Cork Main Drainage Scheme, which was completed in 2004. The intermediate status is for breach of the winter dissolved inorganic nitrogen (DIN) criterion and marginal failure of the undersaturation criterion¹. The Lee River West Passage flows into Cork Harbour which has a trophic status of intermediate due to elevated levels of DIN.

The discharges are directly into the designated nutrient sensitive waters and approximately 500m from the SPA (see figure 1). These areas are on the register of protected sites under the WFD. Untreated waste water discharges to the West Passage will exert a pressure on water quality particularly in regard to DIN. It is estimated that there are at least 700 dilutions in the immediate proximity of the discharge points. Based on salinity readings it is estimated that the DIN levels downstream near Spike Island would be raised by 0.006mg/l as a result of the discharges (based on 30mg/l concentration). The environmental objective for full saline waters is $\leq 0.25\text{mg/l}$ DIN. The discharges account for about 2% of the environmental objective at that point (0.287mg/l).

Downstream of the discharges, Rostellan North, Rostellan South and Cork Great Island North Channel are designated shellfish waters. Oysters grown in the area require purification prior to sale and are designated Class B². The harbour is currently closed for mussel production due to biotoxins³. The Cork CC and UCC "*Modelling the Norovirus contamination of an oyster farm in Cork Harbour (2007)*", report submitted with the Midleton agglomeration (D0056-01) application, indicates that the untreated discharges from Passage West -

¹ EPA (2008) Water Quality in Ireland 2004 – 2006

² Source: Sea Fisheries Protection Authority website

³ Source: Food Safety Authority of Ireland website

Monkstown contribute 8-9% (relative contribution) to the contamination of the oyster fishery in the outer harbour.

The impact on the environment of treated waste water from the Passage West - Monkstown agglomeration that will have undergone secondary treatment at the proposed Shanbally WWTP are considered in the inspectors report to the Crosshaven-Carrigaline-Ringaskiddy application (D0057-01).

The implementation of the Cork Harbour Main Drainage Scheme will meet the requirements of the UWW Regulations with respect to Passage West -Monkstown. Having regard to the grant of planning permission for Shanbally WWTP and the requirements of the UWW Regulations, the Recommended Licence (RL) requires all discharges to cease by the 1st January 2015. It should be noted that the Passage West - Monkstown agglomeration does not form part of the existing Crosshaven/ Carrigaline/ Ringaskiddy application (D0057-01) and a review or technical amendment to any licence granted to D0057-01 will be required to include within its scope Passage West – Monkstown before 2015. It should be noted that there is no mechanism in the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007) by which a licence can be surrendered.

As stated previously the agglomeration is non-compliant with the UWW Regulations having not provided secondary treatment by the end of 2005. In accordance with Agency policy and the combined approach, the RL specifies emission limit values on the basis of the limits specified in the UWW Regulations. The applicant cannot meet these emission limit values specified in the licence before the completion of the proposed WWTP and associated works.

The RL does not require monitoring of untreated discharges and the Urban Waste Water Treatment Regulations, 2001 (S.I. No. 254 of 2001) only requires monitoring of treatment plant discharges. To demonstrate that the water quality of Cork Harbour has not deteriorated in the interim (in accordance with Regulation 29(2)(c)), the RL requires an annual report on the water quality of Cork Harbour having regard to the Quality of Shellfish Water Regulations, 2006 (S.I. 268 of 2006) and the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. 272 of 2009). This report will largely collate monitoring information from a number of sources. If a deterioration in the status of the receiving waters is noted, and is attributed to the discharges from this waste water works, Condition 3.2 requires that the Water Services Authority take 'such measures as are necessary' to prevent such deterioration.

Since the RL requires all discharges to cease by the 1st January 2015, no requirements are specified in relation to the assessment and remediation of storm water overflows, monitoring of influent or discharges, screening for priority pollutants, assessment of treatment capacities, and with regard to the condition on the Programmes of Improvements requirements are limited to the waste water works (collecting system). Having regard to the elevated levels of metals detected in the discharges, the RL requires an investigation of sources and appropriate measures and included within the Programmes of Improvements is a requirement to assess limitations applied to any industrial discharges.

4. Programme of Improvements

As stated above, Passage West - Monkstown agglomeration comes within the Cork Harbour Main Drainage Scheme. The upgrading of the existing sewer network will aim to eliminate excessive infiltration, remediate structural damage and separate storm water as far as practicable. It is proposed to pump flows from Passage West - Monkstown to the proposed Shanbally WWTP. A major pumping station with standby power arrangements is proposed for Monkstown. It is proposed that pumping stations and associated overflows will be designed in accordance with the DoEHLG 'Procedures and Criteria in relation to Storm water Overflows', 1995. These works are due for completion by mid 2014.

The RL requires that all discharges from Passage West - Monkstown to cease from 1st January 2015. Given that there will no longer be a primary discharge from the Passage West - Monkstown agglomeration from 2015, the licence will cease to have effect as the

agglomeration is integrated into a larger agglomeration. The specifics of the improvement works are not yet finalised.

5. 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 (S.I. No. 684 of 2007) notably:

a. Water Framework Directive [2000/60/EC]

As discussed above the RL requires that there will be no further deterioration of the receiving water quality as a result of these discharges and requires that untreated waste water discharges will cease by 1st January 2015.

b. Urban Waste Water Treatment Directive [91/271/EEC]

The receiving water is designated sensitive. This agglomeration is not in compliance with the UWW Regulations and the RL not only requires discharges to discontinue by the 1st January 2015 but sets limits based on the combined approach. Connecting this collection system to the Crosshaven-Carrigaline-Ringaskiddy agglomeration and the provision of secondary treatment will meet the requirements of the UWW Regulations.

c. Shellfish Waters Directive [2006/113/EC]

Untreated discharges are exerting pressure on the microbiological quality of the shellfish waters. The RL requires discharges to cease by 1st January 2015.

d. Birds Directive [79/409/EEC] & Habitats Directive [92/43/EEC]

Untreated waste water discharges to Lough Mahon is the current and historical situation that prevails. The primary discharge is approximately 500m from the SPA. There is no evidence of an on-going impact on the SPA and the site synopsis to the SPA states '*polluted conditions may not be having significant impacts on the bird populations*'. So long as there is no further deterioration in water quality the untreated discharges are not considered to have a likely significant effect on the current conservation status of the SPA. The impact of secondary treatment of waste water is discussed in more detail in the inspectors report to Crosshaven-Carrigaline-Ringaskiddy agglomeration (D0057-01) but in summary the proposal will benefit the SPA.

6. Submissions

No submissions received in relation to this application.

7. Charges

The RL sets an annual charge for the agglomeration at €2,152 and is reflective of the monitoring and enforcement regime being proposed for the agglomeration. Sampling and analysis of untreated discharges is not proposed.

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

Ann Marie Donlon

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Office of Climate, Licensing and Resource Use

Figure 1: Passage West-Monkstown discharges, Nutrient sensitive area (red stripe) and the SPA (green stripe).

