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This memo has been cleared for submission to the Director by Senior Inspector, Dr Karen Creed
 Signed: Gavin Clabby Date: 06/11/2014

RESOURCE USE

INSPECTORS REPORT ON A WASTE WATER DISCHARGE LICENCE APPLICATION

To:	Dara Lynott, Director	
From:	Gavin Clabby	Environmental Licensing Programme
Date:	06/11/2014	
RE:	Application for a Waste Water Discharge Licence from Irish Water, for the agglomeration named Skibberreen, Reg. No. D0166-01.	

Application & Agglomeration Details

Agglomeration Name:	Skibberreen (See map in Appendix 1)
County:	Cork
Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of 2,001 to 10,000.
Licence application received:	22/09/2008
Notices under Regulation ¹ 18(3)(b) issued:	none
Information under Regulation 18(3)(b) received:	none
Notices under Regulation 20(1) issued:	16/04/2009
Information under Regulation 20(1) received:	15/05/2009
Site notice check:	17/10/2008
Site Visit:	20/06/2014
Submission(s) Received:	None
Design Population Equivalent:	4,700
Actual Population Equivalent:	3,000
Type of treatment:	Secondary (incl. biological N removal)
Plant description:	New WWTP; commissioned 25/05/12. The plant consists of inlet works/screening, primary settlement, activated sludge process (3 No. SBRs) with anoxic stage for nitrogen removal, clarification, sludge thickening, tidal holding tank and effluent discharge.

¹ Wastewater Discharge (Authorisation) Regulations, 2007, as amended.

1. Discharges to waters

The following Table outlines the main considerations in relation to discharges to waters from this agglomeration.

Table 1: Discharges to waters

Primary discharge point	
Receiving water name	Ilen Estuary
Type of receiving water	Transitional
Normal flow	3240 m ³ /day
Maximum flow	3240 m ³ /day
Secondary discharge point(s)	
Receiving water name	none
Storm water overflow(s)	
Storm water overflow(s)	Yes (three): Overflow tanks at main pumping station, The Marsh; Coronea pumping station; Mill Road pumping station
Receiving water name(s)	Main pumping station, discharges via a small un-named stream to Ilen Estuary; Coronea pumping station and Mill Road pumping station discharge directly to Ilen Estuary.
Emergency overflow(s)	
Emergency overflow(s)	Yes (four): Inlet manhole at main pumping station; Glencurragh Road; Marsh Road; Scour Holding tank.

Details of discharge points and overflows as supplied in the licence application submitted to the Agency on the 22/09/2009 were confirmed on the basis of discussions held with the applicant during the site visit of the 20/06/2014. However, it was determined during these discussions that SW8 (Mill Road pumping station) which was listed in the application as an emergency overflow, does, in fact, discharge during storm conditions/heavy rainfall. Therefore, for the purposes of the licence, the overflow at the Mill Road pumping station is regarded as storm water overflow.

2. Receiving waters and impact

The following table summarises the main considerations in relation to the Ilen Estuary in the vicinity of the primary discharge (i.e. the relatively narrow river channel in the upper reaches of the estuary).

Table 2: Receiving waters

Characteristic	Classification	Comment
Receiving water name	Ilen Estuary (WFD Code: IE_SW_130_0100)	Transitional waterbody (Salinity: 27 psu approx.)
Designations	Roaringwater Bay and Islands SAC Sheep's Head to Toe head SPA	SAC Site code: 000101 SPA Site code: 004156
Receiving water monitoring stations	IN010 – Bridge DS Skibbereen IN020 – Pontoon at Boatyard	300 metres 'u/s' ^{Note 1} of SW001 on Ilen estuary 3.4 km 'd/s' ^{Note 1} of SW001 on Ilen estuary
Trophic Status	Unpolluted	TSAS 2007-2009 (preliminary status for 2010-2012 is also 'Unpolluted')
WFD status	Moderate	Objective: Restore 2015. Less than good status due to Phytoplankton data (2011)
WFD Risk Category	1a	At risk of not achieving good status

Note 1: These stations would be regarded as upstream and downstream respectively of the Skibbereen primary discharge point, when considered in relation to the flow direction of the River Ilen as it is flowing outwards towards Roaringwater Bay during the ebb tides.

The Transitional and Coastal Action Plan (TrAC) for the South Western River Basin District lists the Ilen Estuary (IE_WE_130_0100) as a waterbody at risk (2008) from land based point source pressures and identifies 'WWTPs, Combined Sewer Overflows and Treatment Plant Overflows' as point sources potentially putting the waterbody at risk. (A new WWTP and network upgrade for Skibbereen have since completed in 2012) The document also identified the Ilen Estuary as having good ecological status. More recently, the waterbody was assigned a final ecological status for 2007-2012 of 'moderate'. This less than good status is now due to moderate status for phytoplankton; otherwise, nutrient and oxygenation conditions are assigned 'good' or higher.

The Office of Environmental Assessment (OEA) has assigned the Ilen Estuary a value of 'Unpolluted' for the purposes of the trophic status assessment scheme (TSAS) 2007 to 2009. (The OEA have indicated that the preliminary trophic status for the years 2010 to 2012 is also 'Unpolluted'.) The assessment assigns 'pass' to all parameters, including BOD, orthophosphate (MRP) and Winter MRP (TSAS threshold values for these parameters are 4.0 mg/l, 0.052 mg/l and 0.023 mg/l respectively). (DIN and Winter DIN are also assigned 'pass', although data indicates levels are elevated.)

In the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended, the key water parameters for transitional waters are BOD and MRP. In accordance with these Regulations, the standard for good status of BOD in transitional waters is 4.0 mg/l, and the standard for orthophosphate in transitional waters (at salinity of 27 psu) is ≤ 0.049 mg/l.

Analysis of the monitoring data underpinning the Ilen Estuary TSAS indicates that the wider receiving waterbody is in compliance with the European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended. (As indicated above nutrient and oxygenation conditions are assigned WFD status of good or higher.) The monitoring data shows that BOD and MRP levels are below their respective EQSs for high status. These favourable conditions for BOD and MRP exist throughout the water body; i.e. not just in the more open bay area of the estuary, but also in the confined river channel of the upper estuary where the Skibbereen WWTP discharge is located.

Although Dissolved Inorganic Nitrogen (DIN) is not a key parameter for transitional waters under the Surface Water Regulations, it is worth noting that DIN levels are significantly elevated in the upper estuary. Looking at the monitoring data for monitoring station IN010 (300 metres 'upstream' discharge point) it can be observed that DIN is only elevated when the salinity is very low (i.e. during the ebb tide), and when the estuary flow reverses during the flood tide, and carries the receiving waters towards IN010, DIN levels at IN0101 are not elevated to any extent. This suggests that there are elevated levels of DIN in the upper Ilen Estuary which are originating from the freshwater input of the River Ilen, and not from the WWTP discharge. Furthermore, it suggests that the DIN that does originate from the Skibbereen WWTP discharge is sufficiently diluted and dispersed in the receiving water of the Ilen Estuary.

The adjacent coastal waterbody (Roaringwater Bay) is assigned a 'moderate' ecological status under the WFD. This less than good status is due to the presence of an invasive plant species (*Wireweed Sargassum Muticum*). There is no indication of nutrient issues in this waterbody; Indeed, DIN is set at 'high' status.

The RL has set emission limit values (ELVs) 25 mg/l for cBOD, 125 mg/l for chemical oxygen demand (COD), 35 mg/l for suspended solids (SS). These limits are in accordance with the discharge limits set in the UWWT Regulations.

Given that the agglomeration discharges to a transitional waterbody, the RL also specifies an MRP limit of 8 mg/l. The current status for MRP in the receiving water is 'high'. This proposed MRP limit should be possible with standard secondary treatment (i.e. without phosphorous removal). Also, given that the recently constructed Skibbereen WWTP incorporates an anoxic stage for nitrogen removal, the RL specifies an ELV for total nitrogen (TN) of 15 mg/l. This limit is based on applicant monitoring data and what is considered achievable for a WWTP of this type.

These ELVs are seen as sufficient to ensure the treated discharges from the agglomeration do not cause localised pollution in the upper estuary or contribute to the deterioration of the ecological status of the wider receiving waterbody.

All proposed ELVs are considered achievable for any modern secondary treatment plant operating within its design capacity; Consequently, these limits shall apply from the date of grant of licence.

Faecal contamination and the Baltimore/Sherkin Shellfish Area

The lower part of the Ilen Estuary, north and west of Ringarogy Island (see map), is designated as Shellfish Waters; the Skibbereen agglomeration discharges into the upper part of the estuary, 7.6 km from the shellfish area boundary. The Updated Baltimore/Sherkin Pollution Reduction Programme (PRP) 2012 lists the (old) Baltimore and Sherkin urban waste water systems as key pressures on the protected shellfish area; Skibbereen is not listed as a pressure. The results of monitoring

(2009) undertaken in accordance with this PRP indicated that there were no water quality issues with faecal coliform levels within / in the vicinity of the shellfish area. Monitoring results from 2012 indicate that this area is in compliance with the Guide Value of 300 faecal coliforms / 100ml. However, monitoring of shellfish flesh for food hygiene purposes (2012) indicates faecal contamination in this shellfish area. The bivalve mollusc production areas in Baltimore/Sherkin are classified as 'Class A' (seasonal) and 'Class B' for the purposes of EC Regulation 854/2004. The results of shellfish water monitoring for the other parameters do not indicate any other water quality issues within/ in the vicinity of this shellfish area.

Condition 5.6 of the RL requires the licensee to carry out an assessment of the impact of the discharges from the waste water works on the microbiological quality (including viruses) of the shellfish in the adjacent designated shellfish waters in consultation with the Sea Fisheries Protection Authority (SFPA), the Marine Institute and Bord Iascaigh Mhara (BIM). Condition 5.7 further requires that where the assessment indicates that the discharges are having a deleterious microbiological effect on the quality of shellfish in the adjacent designated shellfish waters, the licensee must install UV or other appropriate disinfection system within a timeframe agreed by the Agency.

3. Ambient Monitoring

Schedule B: Ambient Monitoring of the RL specifies the parameters, analysis method and frequency for which ambient monitoring of the primary discharge shall be carried out. The requirements for ambient monitoring in *Schedule B: Ambient Monitoring* are sufficient to ensure that there will be no deterioration in the status of the receiving water as a result of the discharge.

4. Combined Approach

The Wastewater Discharge (Authorisation) Regulations, 2007, as amended, specify that a 'combined approach' in relation to licensing of waste water works must be taken, whereby the emission limits for the discharge are established on the basis of the stricter of either or both, the limits and controls required under the Urban Waste Water Treatment Regulations, 2001, as amended, and the limits determined under statute or Directive for the purpose of achieving the environmental objectives established for surface waters, groundwater or protected areas for the water body into which the discharge is made. The RL as drafted gives effect to the principle of the Combined Approach as defined in Wastewater Discharge (Authorisation) Regulations, 2007, as amended.

5. Programme of Improvements

The WWTP in Skibbereen provides secondary treatment for wastewater from the Skibbereen agglomeration. Condition 5.1 of the RL requires the licensee to prepare and submit to the Agency a programme of infrastructural improvements to maximise the effectiveness and efficiency of the waste water works. The conditions and emission limit values specified in the RL will ensure no deterioration in the quality of the receiving waters as a result of the discharge.

6. Compliance with EU Directives

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

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

The population equivalent of the agglomeration is above the Directive's 2,000 p.e. threshold for discharges to estuarine/freshwater waters, at which secondary treatment for the agglomeration must have been provided by the 31st December 2005. The agglomeration only achieved compliance with this aspect of the Directive in May 2012 with the completion of the new WWTP; Discharge monitoring data supplied by the applicant indicates that the discharges since this completion date are in compliance within the limits specified in the definition of secondary treatment.

The Ilen Estuary is not designated as a sensitive water under the Urban Wastewater Treatment Regulations.

Water Framework Directive [2000/60/EC]

The RL, as drafted, transposes the requirements of the Water Framework Directive. In particular, *Condition 3: Discharges* provides conditions regulating discharges to waters. *Schedule A: Discharges & Discharge Monitoring* specifies limit values for those substances contained within the waste water discharge. Those limits specified in the RL are determined with the aim of achieving good water quality status by the end of 2015.

In addition, the Skibbereen agglomeration discharges 7.6 km from the boundary of the Baltimore/Sherkin designated shellfish waters. Shellfish Waters are on the Register of Protected Areas, under Article 6 and Annex IV of the Water Framework Directive. One of the stated objectives of this Directive (recital 51) is to 'ensure a level of protection at least equivalent to that provided in certain earlier acts'. Condition 5.6 of the RL requires the licensee to carry out an assessment of the impact of the discharges from the waste water works on the adjacent designated shellfish waters. Condition 5.7 further requires that where the assessment indicates that the discharges are having a deleterious microbiological effect on the quality of shellfish in the adjacent designated shellfish waters, the licensee must install UV or other appropriate disinfection system within a timeframe agreed by the Agency.

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

The Skibbereen WWTP discharges to the Ilen Estuary, which in turn flows into the Roaringwater Bay, part of which forms the Roaringwater Bay and Islands SAC². (SAC site code: 000101) The site is protected for habitats listed under Annex 1 of the Habitats Directive. It is also selected for protection of species listed under Annex II of the same directive. The site is also designated an SPA³ (Sheep's Head to Toe Head SPA, SPA site code: 004156) under the Birds Directive for the conservation of wild birds.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects is likely to have a significant effect on a European Site(s). In this context, particular attention was paid

² SAC: Special Area of Conservation designated under the *Habitats Directive*, Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

³ SPA: Special Protection Area designated under the *Birds Directive*, Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.

to the European sites at Roaringwater Bay and the Agency considered, for the reasons set out below, that the activity is not directly connected with or necessary to the management of those sites as European Sites and that it can be excluded on the basis of objective scientific information, that the activity, individually or in combination with other plans or projects, will have a significant effect on a European site, and accordingly the Agency determined that an Appropriate Assessment of the activity is not required.

As determined in the receiving water impact assessment of this report, the recently constructed Skibbereen WWTP discharges effluent that has received secondary treatment (including nitrogen removal) and is adequately dispersed and diluted within relatively short distances of the discharge point in the upper estuary. Furthermore, data from monitoring stations in the lower part of the estuary (which are in or near the European sites) indicate that oxygenation and nutrient conditions are at high status/background levels.

Environmental Impact Assessment Directive [85/337/EEC]

An EIS and a copy of the planning approval were submitted in accordance with the Wastewater Discharge (Authorisation) Regulations (2007, as amended). In assessing the application regard was had to the matters mentioned therein in so far as they related to the risk of environmental pollution of Ilen Estuary from the waste water discharges associated with this agglomeration. Should any further EIS be required as part of any programme of improvements, it will be dealt with as per Condition 1.8 of the RL.

Table 4: Compliance with other EU Directives/Regulations

Compliance with Directives/Regulations	Description and Conditions in RL
EC Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009), as amended	Compliant. Schedule A of RL sets ELVs to contribute towards achieving good status water quality standards.
Drinking Water Abstraction Regulations	There are no drinking water abstractions downstream.
Bathing Water Directive [2006/7/EC]	No bathing waters present.
Dangerous Substances Directive [2006/11/EC]	Condition 4 requires screening for priority substances.
Environmental Liability Directive	Condition 7.2 of the RL satisfies the requirements of the Environmental Liabilities Directive in particular those requirements outlined in Article 3(1) and Annex II of 2004/35/EC.

7. Cross Office Liaison

Shane O'Boyle and Robert Wilkes of the Office of Environmental Assessment (OEA) provided a trophic status assessment of the Ilen Estuary, as well as general guidance on estuary monitoring, which proved useful for the assessment of the receiving water quality and setting requirements in the RL.

Advice and guidance issued by the Technical Working Group (TWG) was followed in my assessment of this application. Advice and guidance issued by the TWG is prepared through a detailed cross-office co-operative process, with the concerns of all sides taken into account. The Board of the Agency has endorsed the advice and guidance issued by the TWG for use by licensing inspectors in the assessment of wastewater discharge licence applications.

8. Submissions

No submissions were received in relation to this 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

A handwritten signature in blue ink is written over a solid black horizontal line. The signature is stylized and appears to consist of the letters 'G' and 'C'.

Gavin Clabby

Environmental Licensing Programme

Appendix 1: Map showing location of Skibbereen WWTP primary discharge point and various ambient monitoring points in the Ilen Estuary.

