

Ballyragget, Ireland

- Upgrade of existing industrial wastewater treatment plant
- Design to treat effluent from equivalent population of 266,000
- High effluent quality for discharge to salmonoid river
- Additional 3,000 m³/d full flow to treatment, 9,000 m³/d in total
- Scope M&E and process commissioning in 2 weeks



View of the plant (above).

Plant Flow Splitter (below).



Snapshot

Description	Value	Note
Current Status	Operational	Commissioned June 2006
Client	Avonmore Waterford Group (Glanbia)	Industrial Operations
Market Type	Industrial – Dairy	
Population Served	266,000	PE
Flow	3,000 m ³ /d (9000m ³ /d total)	Full Flow to Treatment
Consent/Permit	76.7:10:16.7:10:1.64:1.75 COD:BOD:SS:NO3N:NH3N:TP	mg/L (values as per 2010)
Performance	16:3.5:6:8.4:0.1:0.8 COD:BOD:SS: NO3N:NH3N:TP	mg/L
Brief Description	Membrane bioreactor system used to upgrade existing industrial effluent treatment plant.	

Process Description

The existing MBR dairy effluent treatment plant in Kilkenny, Ireland has been upgraded by the installation of additional Kubota submerged membrane tanks.

The MBR plant takes effluent from the existing oxidation ditch. Physical barrier provided by the membranes allowed the MLSS and loading on the oxidation ditch to be increased. The existing effluent treatment plant, treatment capacity was extended to 9,000m³/d.

New plant consists of 3 tanks with 10 ES200 membrane units each. Two additional air blowers and RAS pumps to anoxic tank were installed

The total plant design incorporates 110 Kubota membrane treatment units within a modular arrangement of eleven steel aeration tanks, operated in two groups of four tanks at a time and one group of three tanks.

There are no buildings or tank covers and plant control is achieved by allowing the level to vary within the aeration tanks in proportion to the incoming flow. There is no odour.

Design Data

Added Flow to full treatment:	3,000 m ³ /d
Average Flow Rate:	9,000 m ³ /d
BOD Load:	16,000 kgBOD/d
COD Load:	24,850 kgCOD/d
Total Ammonia Load:	185 kgN/d

Plant Data

MLSS:	12,000-18,000mg/l
No of membrane units:	30 x 200 80 x 150
Membrane model:	ES150 and ES200
Membrane surface area:	14,400 m ²

Project Status

Commissioned:	June 2006
Operated by:	Glanbia Plc