

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 |