

## Wastewater Treatment Works

Northern Ireland Water, Bushmills, Northern Ireland

### Brief

We were contracted by Northern Ireland Water to design and build a wastewater treatment works for the village of Bushmills, home to the world's oldest licensed whiskey distillery, which celebrated its 400th anniversary in 2008. Located within an Area of Outstanding Natural Beauty and next to the River Bush, a modern wastewater treatment works had to be designed and built to harmonize with its surroundings and to maintain consent limits during construction of a new Activated Sludge Treatment system. Maintaining existing plant operations also necessitated operating in a seriously constrained space.

### Solution

Portballintrae (approximately 3km from Bushmills) is another of Northern Ireland's most popular tourist destinations. An existing treatment plant at Portballintrae was

decommissioned, and its terminal pumping station and pipework used to transfer effluent to the new Bushmills facility for treatment before being discharged to the River Bush. The wastewater treatment facility at Portballintrae was then refurbished to provide additional storage capacity for stormwater. Existing services have been used in order to keep project costs within budget and every effort made to minimize disruption to the public. The vast majority of pipes were laid in agricultural land and no pipe-laying under roads was undertaken during the busy summer months. A significant amount of landscaping was also carried out including provision of an area for walking and angling (the River Bush is one of the region's most popular rivers for salmon fishing). Special attention was paid to the local landscape and ecology and to the visual impact of the site. This involved working with Northern Ireland Water's architects and designing and building rural-style

buildings with curved roofs and natural stone cladding to complement local architecture.

### Outcome

The Bushmills wastewater treatment plant achieves a consistently high level of treatment (20:30:3 mg/l, BOD:SS:NH4+) suitable for discharge to the River Bush whilst accommodating huge fluctuations in population, which in peak season can double to almost 9000 PE. Dermott McCurdy, Head of Wastewater Capital Procurement (N&E) at Northern Ireland Water comments: "The Bushmills and Portballintrae Wastewater Treatment Project is yet another example of NI Water's commitment to implementing modern sewerage infrastructure and effective treatment processes that will bring about significant environmental benefits for local communities. The new plant will cater for residential and commercial growth to the year 2035".



Before



After

### How we created value

- Facility designed to harmonize with an Area of Outstanding Natural Beauty
- Accommodating huge changes in loading
- Achieving high effluent quality
- Maintaining existing treatment operations whilst installing new plant

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