## Key Issues
Sustainability was the key driver for Scottish Water which underpinned the WTW site selection, design and construction.

## WTW Location and Design
The project brief was to have the raw water travelling over 50 km by gravity, from a number of reservoirs in the Scottish Borders, through pipes to the WTW and then into the Edinburgh supply network avoiding the need for pumping. This required careful consideration when selecting the site, designing the WTW and routing the pipelines.

An energy recovery turbine was fitted within the gravity fed pipeline at the WTW providing over a third of the power required to run the facility.

## Environmental Impacts
Building a large scale facility within the Green Belt, close to sensitive visual receptors and next to an area of archaeological importance required careful sensitive design. Impact of construction traffic on the rural road network was also a key issue.

## Purpose of the Project
Glencorse WTW was an essential project to ensure that 450,000 customers receive drinking water supplies that meet European Union Directives quality requirements. Scottish Water was also required to ensure that it had the necessary supplies to serve the growing demands of the City of Edinburgh and part of Midlothian. To achieve this there was a need to replace the old works with a modern water treatment and storage facility.

## Description of the Project
The new WTW is located at Glencorse, to the north-west of Penicuik and adjacent to the A702 near Edinburgh, Scotland. The project was completed in 2012 and comprised:
- a 175 million litre per day WTW, housed in two separate buildings; a treatment building 147 m x 61 m and a chemical building 130 m x 26 m;
- a 90 million litre treated water storage tank 202 m x 92 m; and
- new 8 km long twin pipelines connecting the WTW to the existing water supply network.
**Lessons Learnt**

Early and continuing stakeholder communication was key to the success of the project. Consulting with the local community, regulators and other interested parties commenced early in the site selection process and continued through the detailed design and EIA process. Making sure all parties were aware of the project’s design development, the proposed mitigation measures, and the planning application and construction timescales helped to ensure that the determination of the planning applications was a smooth and successful process. Early enabling works started on site less than 6 months from submission of the planning applications.

In 2013 the project was awarded a CEEQUAL outstanding achievements award for Relations with the Local Community & Other Stakeholders.

To reduce the landscape and visual impacts of a large facility within the highly sensitive Edinburgh Green Belt and visible from the nearby Pentland Hills Regional Park, the works were substantially buried in the ground and covered with the largest ‘grass’ roof in Scotland.

**Lessons Learnt Cont.** –

The works were redesigned and moved following the discovery of a Roman marching camp which has now been recorded and left in situ within the site.

To reduce approximately one million HGV miles on the road network a temporary mobile pipe production plant was established on the 8 km pipeline corridor and the main water supply pipes from the works were installed directly into the ground. This innovative solution was a world first.

Dr Richard Dixon, Director of WWF Scotland said: "Scottish Water should be commended for its efforts in adopting a number of sustainable measures at the new Glencorse WTW". Stan Blackley, Chief Executive, Friends of the Earth Scotland, added: “These factors, along with the sensitive and eco-friendly design and landscaping of the works, make them a very welcome addition to the city of Edinburgh's infrastructure.”

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