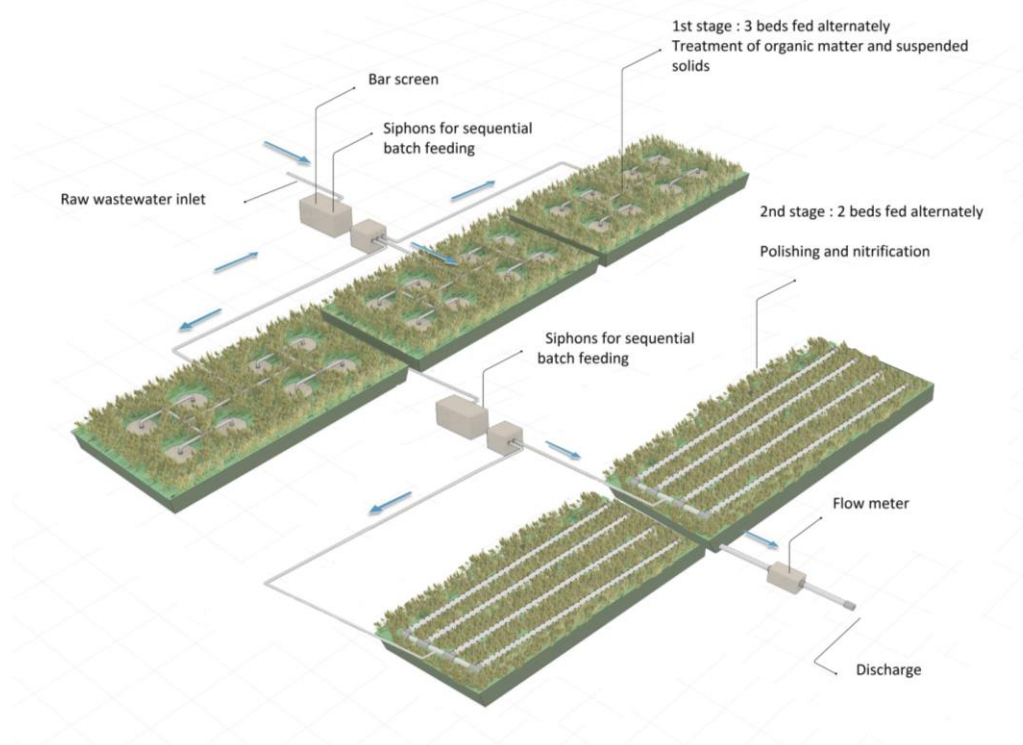




June 2014

Natural primary treatment system – a UK first



For the first time in the UK a leading water company has commissioned the installation of a constructed wetland as a full primary treatment system at a sewage works.

Working in partnership with reed bed specialists ARM and construction firm MWH Treatment, Severn Trent has started work at its Hulland Ward Sewage Treatment Works (STW) in Derbyshire to replace a 50 year old conventional, biological filter works with a revolutionary primary treatment system – Phragmifiltre®. Hulland Ward STW currently treats wastewater from a population of just under 900.

Brought to the UK by ARM through its official French partner EpurNature, Phragmifiltre® is a vertical flow constructed wetland which has been successfully used as a primary treatment system throughout rural communities in France since the 1990s.

Typically designed to have two stages; wastewater is fed to each bed in rotation allowing each bed to have a rest period.

Conventional STWs generate sludges which have to be taken from small rural works to larger STW's for treatment but as Phragmifiltre® does not generate sludges there are no



tankering costs (OPEX) meaning no extensive, tanker compliant internal roadways (CAPEX).

Tori Sellers, a director at ARM, explains: “The introduction of Phragmifiltre[®] signifies a major change in thinking towards a natural and sustainable alternative for sewage treatment in the UK.

“In the past constructed wetlands have generally been used as a tertiary treatment to polish effluent prior to discharge. Phragmifiltre[®] has added a new dimension to constructed wetland technology and Severn Trent Water is once again leading the way when it comes harnessing the benefits of natural wastewater treatment systems,” says Tori.

A growing need to meet stringent discharge consents was just one of the reasons Severn Trent chose the Phragmifiltre[®] system as Dan Cunliffe, a programme manager at Severn Trent, explains: “We have been planning the improvements at Hulland Ward for some time as it is part of our plans to improve land and water environments in the Ecclesbourne Valley.

“Following extensive research we went to France to see the Phragmifiltre[®] full treatment system in action and we were impressed with its results.

“Not only does it provide a cost-effective and sustainable solution, the creation of a natural habitat was favoured by the local community.

“Using constructed wetlands as a primary treatment resource is a first in the UK but it is proven technology. Once it is fully established we will also be able to demolish part of the old sewage works making for a more attractive landscape,” added Dan.

Work is due to start on site in July 2014 and is expected to complete by March 2015.

For more information about ARM, visit:

W: www.armreedbeds.co.uk; T: 01889 583 811 E: info@armreedbeds.co.uk

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For further information:
Nicola Pledger/Vicci Mace

Kinetic
Nicola.Pledger@kineticpr.co.uk

0121 212 6250