

Award winning river restoration unlocks £35M for 'unusable' Merseyside site

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An innovative river restoration scheme developed by Ricardo Energy & Environment and commissioned by International Process Plants & Equipment is helping to unlock 'unusable' brownfield land in Merseyside for commercial and residential use – stimulating an investment of £35 million and providing opportunities for approximately 2,000 local jobs.

The 30-acre site in Bromborough on the banks of the Mersey Estuary was previously considered undevelopable due to flood risk and contamination concerns, and offered limited opportunity for conventional flood mitigation. Ricardo Energy & Environment's water and environment team proposed an innovative solution to move a 360 metre section of the heavily canalized Dibbendsdale Brook that flows along the boundary of the site to its more naturalized course. Working closely with the Environment Agency, the project team secured permission to provide volume for volume flood storage compensation (20,000 m3) as part of the restoration scheme, mitigating the risk of flooding.

The proposed plan will enable the production of fully serviced land for employment and the construction of around 180 energy efficient homes, while creating a new marginal intertidal habitat and enhancing in-channel habitat diversity to support improved biodiversity. In recognition of its achievements and impact on the local community, the scheme was awarded the 2016 Planning & Placement award for place-making on brownfield land.

"It was an honour to be part of the award winning project in Bromborough and to have helped prepare the land for redevelopment," said Robert Hinks, senior consultant at Ricardo Energy & Environment. "Unlocking brownfield land is essential to meeting the UK's housing and development needs, and it is important that this regenerative work is underpinned by the highest scientific rigour and commitment to environmental improvement. Our team prides itself on combining technical and regulatory expertise with close stakeholder engagement and open scientific communication. In this way we are able to provide developers, local authorities and communities the confidence they need to unlock land and support local regeneration."

Restoration of brownfield land – that previously used for industry - is often a complex and lengthy process due to the need to develop innovative regeneration strategies that secure stakeholder confidence. The Bromborough site had previously been industrially active, but had been out of use for several years. Although levels of ground contamination were low, half of the site was at serious risk of fluvial flooding from a one in 100-year event, which made the area unsuitable for immediate development.

The Dibbendsdale Brook originally meandered at a further distance to the site, but in the early 20th century was straightened, widened and deepened for use as a dock with access to the Mersey Estuary. In realigning the watercourse to its natural form, the Ricardo Energy & Environment team identified a way to provide a substantial marginal floodplain by removing man-made river banks and infilled material. The team found ways to reuse this material to increase the ground levels for safe access routes and building footprints above the thresholds of a flooding event, saving the cost of importing fresh material or exporting excavated material as waste.

Ricardo Energy & Environment also performed flood risk, ecological and archaeological assessments in close collaboration with planning authorities and environmental regulators. Providing robust and accessible evidence on the specific zones of the site which could achieve acceptable floor threshold heights demonstrated the most suitable areas for development specific to residential and commercial land use, streamlining the planning submission process.

Tom Nash, commercial director at International Process Plants & Equipment said: "the Bromborough site presented a range of unconventional challenges to restoration, so it is fantastic to have developed a solution that is effective and sustainable for the environment and the local community. The Ricardo Energy & Environment team were no small part of this success. By providing vital technical input to design and planning, the team has mapped a path to restoration, helping to turn ambitions for development and growth in the area into reality."

Ricardo Energy & Environment is an international consultancy that provides technical guidance and support to governments, organizations and businesses to overcome their most pressing environmental and sustainability challenges. This includes providing science based risk assessment for planning and

development projects, delivering hydrological and ecological monitoring for UK water companies and supporting environmental charities and NGOs in natural, landscape and cultural conservation.

Find out how Ricardo Energy & Environment is supporting innovative water resource and land restoration projects at <http://ee.ricardo.com/cms/cascade-services-2/>

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