Hydro Vortex Drop™ Shaft Key to Undersea Sewage Line

Project Profile

Objective

To convey sewage 14 metres from street level down to the existing main sewage line below the water level in the dock.

Solution

The Hydro Vortex Drop™ Shaft technology dissipates the energy of the falling liquid and protects the surrounding infrastructure from undue stresses, delivering an economical solution in terms of time, space and cost.

Product Profile

- Self-activating system
- No moving parts
- Space-saving design
- Avoids noise and vibration that could damage network infrastructure

Find out more at: **www.hydro-int.com**

Welsh Water's challenge to upgrade the sewage infrastructure within the £multi-million Swansea Waterfront re-development was facilitated with an innovative Hydro Vortex Drop™ shaft solution.

Raw sewage needed to be conveyed down a 14-metre drop in a constrained space within the former Prince of Wales Dock as part of an innovative and cost-saving solution, which enabled construction within a tight 14-week project window.

As part of the £200 million development of the Swansea docks known as SA1 Swansea Waterfront, a 2-year sewage infrastructure redevelopment was undertaken by Welsh Water.

"The solution recommended to Welsh Water involved installing the Hydro Vortex Drop™ Shaft in an existing 4-metre bore access shaft within the dock," said Len Burgess, project engineer for Hyder Consulting. "The Hydro Vortex Drop™ Shaft takes the sewage 14 metres from street level down to the existing main sewage line below water level in the dock.

"The Hydro Vortex Drop™ Shaft uses a hydrodynamic vortex to dissipate the energy of the falling liquid and protect the surrounding infrastructure from undue stresses. This solution was much more economical in terms of time, space and cost than trying to incorporate a new cascade or other alternative in the dock."

Swansea Waterfront re-development

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Len Burgess - Project Engineer
Hyder Consulting