

CSO Case Study

Heliscreen® Upgrades Urban Sheffield CSO

Hydro
International 
turning water around ...

Project Profile:

- Watercourse protection.
- Twin Heliscreen®s supplied.

Product Profile:

- Self-cleansing - by rotating helical brushes.
- All screenings retained on foul side of the weir.
- Low headloss.
- Operates under surcharged conditions.

At Stalker Walk in Sheffield, a large Combined Sewer Overflow upgrade was undertaken as part of Yorkshire Water Services Ltd AMP3 programme to improve the city's water quality to the 6 mm in two direction screening standard set by the Environment Agency. The project included building a new weir chamber for the installation of twin Heliscreen®s.

The project was designed to improve existing CSO arrangements which consisted of a flow control and existing CSO chamber. The intake of domestic effluent, solids were previously retained within the chamber to be passed to the treatment works but, in high volume conditions, this overflowed to the watercourse.

To upgrade this to a positive screening method, at an economical cost, Yorkshire Water installed two patented Heliscreen®s, each 500 mm x 3000 mm in double high-sided weirs. The installation is designed for a maximum flow of 1602 l/s (1 in 5 year), and retains the existing orifice flow control.



A typical Heliscreen®

Yorkshire Water's Contracts Manager, Peter Myerscough, commented: "The Heliscreen® is an efficient, versatile and cost-effective unit".

Hydro International's patented Heliscreen® is a self-cleansing, low head loss screening device that protects CSO outfalls by retaining all matter greater than 6 mm (in 2 directions) in the foul continuation flow to the treatment works. The robust, minimal maintenance Heliscreen® works effectively in totally flooded chambers with surcharged outflow pipes and is able to handle high screening concentrations.

The Heliscreen® uses a semi-cylindrical perforated stainless steel plate on the foul side of the overflow weir of the screening chamber, which is cleaned by an efficient rotating helical brush mechanism triggered when the water level reaches the weir level. Debris is brushed from the screen and carried away with the foul flow.



A Heliscreen® during testing.

The main contractor on the Stalker Walk site was ETM.

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Hydro International offer a complete range of screening and treatment devices for combined sewer overflows. These include:

- Hydro-Static® Screen - Simple screening
- Hydro-Jet Screen® - Non-powered, self-cleansing screening.
- Storm King® Overflow with Swirl-Cleanse™ Screen - Storage, treatment and screening.

This information is for guidance only and not intended to form part of a contract. Hydro International pursues a policy of continual product development and reserves the right to amend specifications without prior notice. Equipment is patented in countries throughout the world.

