THE SPRAY NOZZLE PEOPLE

Case Study

STORM TANK CLEANING SOLUTION

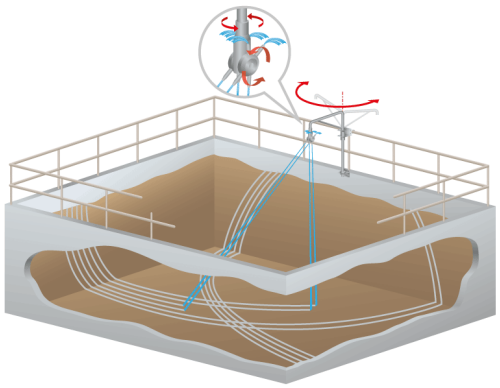
The cleaning of stormwater attentuation tanks (storm basins) is an important issue for the water industry. The heavy unpleasant residues left behind when storm water is returned to the sewage system can cause environmental and odour pollution and can result in significant fines for water companies if not addressed. Traditionally, manual cleaning or tipping bucket systems have been used after storm events but water management companies are increasingly looking for a fully automated, and much more efficient, solution.

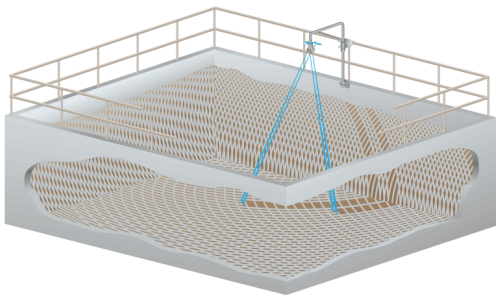
PROBLEM:

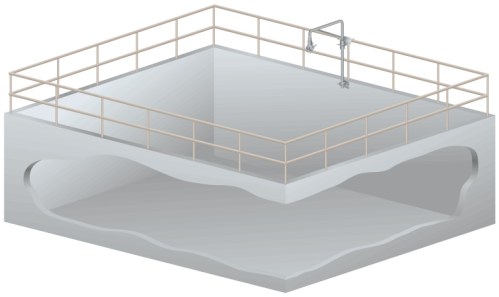
The water and waste management division of Le Mans Metropole, the municipal government of Le Mans in the Sarthe department in the North West of France, approached SNP to discuss finding the best solution to cleaning a new stormwater attenuation tank being built in the western side of the city.

SITUATION

The enclosed tank was circular, had a diameter of 16m and a depth of approximately 10m with a 5% gradient. It had been suggested that a submersible pump be used to clean the tank but the Le Mans engineers wanted to explore other options, in particular a cleaning head which would sit above the tank which would provide a better clean than a pump or eductor system, which would require little maintenance and was robust enough to withstand the environment. They were interested in SNP's innovative StormBlaster tank cleaner, as they were impressed with its effectiveness and low water consumption.







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The Solution

The StormBlaster is based on tried and tested marine tank cleaning systems used to clean large oil tankers. SNP engineers proposed two Stormblaster nozzles mounted through manholes, one at the top of the gradient and one at the bottom, both at the height of the water line and 1.5 metres in from the side of the basin.

Due to the heavy duty detritus, SNP recommended a three phase cleaning process. The first cycle involved cleaning the area at the bottom of the slope, followed by the nozzle at the top then the bottom cycle was run again. This ensured a thorough clean and that all shadowed areas (those areas blocked by obstacles such as concrete pillars) were reached

The initial recommended pressure was 10 bar as this would give the most powerful jets. However, the machine proved to give an excellent clean operating at a much lower pressure of 4 bar which delivered 220 litres/minute, a considerable reduction in water usage.

The client reported that the StormBlaster worked perfectly: "The result is excellent and we are already planning to repeat this on other sites."

CHALLENGES

- Shape of the tank with its 5% gradient
- Heavy duty detritus/residue
- Requirement for lowest possible water consumption
- Obstacles such as concrete supports which could cause shadowing

THE PRODUCT

180° down
316 ss
12mm

ADVANTAGES

- Robust design able to cope with the elements
- Powerful cleaning jets with sufficient length to clean the large tanks
- Sealed gear box allowing high particulate fluid to be used as the cleaning medium
- Operates effectively at even low pressures
- Highly water efficient