SNP | THE SPRAY NOZZLE PEOPLE

Case Study

STORM TANK CLEANING

Cleaning circuar tanks without costly new infrastructure

THE SITUATION

An engineering firm engaged SNP to retrofit a cleaning solution to an existing stormwater attenuation tank using our StormBlaster™ system. This project formed part of a broader regional initiative to upgrade wastewater treatment infrastructure, with a focus on improving stormwater management, sludge treatment and inlet works.

The project centered on a circular, covered tank with a 16m diameter, originally designed without provision for modern cleaning solutions. To address this, our client sought a cost-effective and sustainable cleaning method. They identified SNP's expertise in retrofitting tanks with the StormBlaster system as the ideal solution - delivering efficient cleaning without the need for additional infrastructure like a new pumping station.

CHALLENGES

- Cost constraints: Avoiding the construction of a new pumping station was crucial to controlling expenditure.
- Existing tank retrofit: The tank design was incompatible with other contemporary cleaning systems so an innovative solution was needed.
- Roof constraints: The covered tank required strategic placement of openings for cleaning system installation but there was limited space for modifications.

THE SOLUTION

SNP recommended the use of four StormBlaster cleaning heads specifically tailored to address the challenges posed by the tank's unique design. Cleaning heads were strategically mounted through roof-installed lances, with the openings carefully positioned to maximise coverage within the tank's constrained interior.

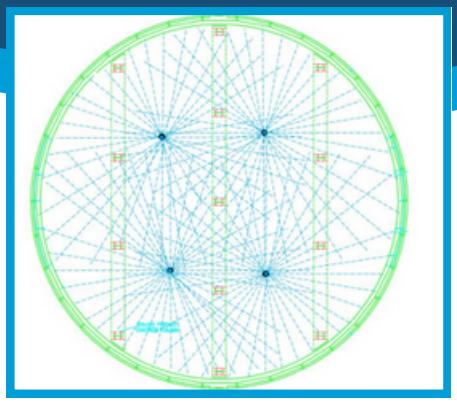
The StormBlaster is a fluid driven rotary jet cleaner. Cleaning fluid, usually final effluent in the case of storm tanks, is pumped through the nozzle arms which produce powerful jets. As the arms rotate, the main body of the device also rotates in a set pattern. This is geared so that over a specific length of time (the cleaning cycle), the cleaning jets are brought to bear on all parts of the walls. StormBlasters are specifically engineered for cleaning dirty or corrosive environments with little or no maintenance requirements.

SNP's design ensured that the cleaning heads were positioned optimally to avoid shadowing from the internal columns. The jets were able to reach every corner, even behind columns, to ensure a complete clean.

THE PRODUCT

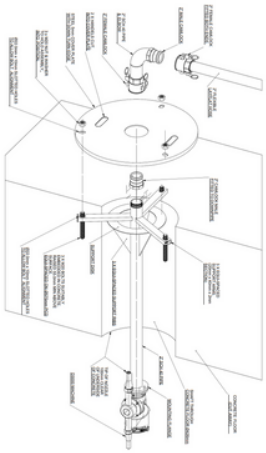
StormBlaster™

- 4 StormBlaster units
- 2 x 7mm
- 316 stainless steel
- Tested to 10 bar
- 4 x downpipes (see far right)



Tank Shape	Diameter (m)	Tank Depth (m)	Nozzle Size (mm)	Jet length (m)	Flow Rate (l/min)	Cycle Time (min)	Required water for 4 nozzles (l)
Circular	16.21	2.6	7	11	125	36	18 000

Water Consumption and Cycle Time @ 6 bar pressure



RESULTS

The implementation of SNP's innovative StormBlaster solution delivered the following benefits:

- Cost savings: It eliminated the need for a new pumping station.
- Adaptability: The solution was efficiently retrofitted to existing infrastructure.
- Comprehensive cleaning: Uniform spray ensured all areas of the tank were covered.
- Water efficiency: It reduced water consumption during cleaning cycles.
- Accessibility: SNP's downpipe design meant there did not have to be expensive access modificatons

CONCLUSION

SNP's innovative approach enabled the engineering firm to retrofit the attenuation tank efficiently and sustainably. The StormBlaster system proved to be a cost-effective and practical solution, helping their client meet its regional wastewater treatment upgrade objectives with minimal disruption and optimised performance.

TO DISCUSS YOUR STORM TANK CLEANING PROJECT, CONTACT OUR TEAM

+44 (0)1273 400092 enquiries@spray-nozzle.co.uk www.spray-nozzle.co.uk