



UPGRADE TO WATER TREATMENT AT SEA LION POOL BELFAST ZOO

FM Environmental were awarded the contract to Refurbish and Upgrade the Sea Lion Water Treatment process. This was to facilitate the changing of the Sea Lions pool from fresh water to saline water and to modernise the current water treatment facilities to maintain a high level of water clarity for visual display, good hygiene and disinfection for the health and well-being of its three resident Sea Lions. This upgrade represents a major investment by the Zoo and Belfast City Council.

OUTLINE SCOPE OF WORKS

1. Refurbishment of the existing pressure filters which involved abrasive shot blasting and re-spraying, the replacement of internal pipework, the replacement of the sand media with AFM media and the replacement of backwashing valves and pneumatics.
2. The installation of a new saltwater chlorine generation system to replace the existing Sodium Hypochloride dosing system.
3. The installation of a new Ultra-Violet disinfection system.
4. The Installation of two new 22KW circulation pumps, a control panel/controls and a flowmeter.

The current volume of water within the sea lions pool is circa 500m³ and the upgraded filtration system recirculates and filters this water approximately every 2 hours during the day while the Sea Lions are using the pool while at night this is reduced to conserve energy.

The new Chlorine Generation system installed consists of a Hyprolyser[®] Compact 960, a water softener and a day tank and has been selected to provide automatic generation of a sodium hypochlorite solution containing 0.6%wt CL₂, using sodium chloride (Salt), electrical energy and softened water. The resulting solution will be used as a disinfection to replace the current Sodium Hypochloride Dosing system.

To assist the treatment a new Ultra-Violet treatment system was installed to reduce chloramine concentrations in the water after the three pressure filters that are produced by the build-up of organics within the pressure filter media.

Client	Belfast Zoo
Main Contractor	FM Environmental
Consultant	Doran Consulting
Sub-Contractors	Complete Water Treatment Ltd and LMP
COST	£340K





Refurbished Pressure Filters



New Chlorine Generator, Day Tank and Dosing Unit



New Ultra Violet Reactor



New Recirculating Pumps



New MCC



Happy resident Sea Lions