

Treated Water Service Reservoirs



Once treated, water enters the treated water distribution network and is either sent directly into supply or to one of five Treated Water Storage Reservoirs located in St Helier, Trinity and St Lawrence.

The treated water storage reservoirs hold sufficient water so as to enable the system to meet peak flow levels and spread the demand placed on the treatment works over the whole day (service reservoirs are refilled overnight when demand is low).

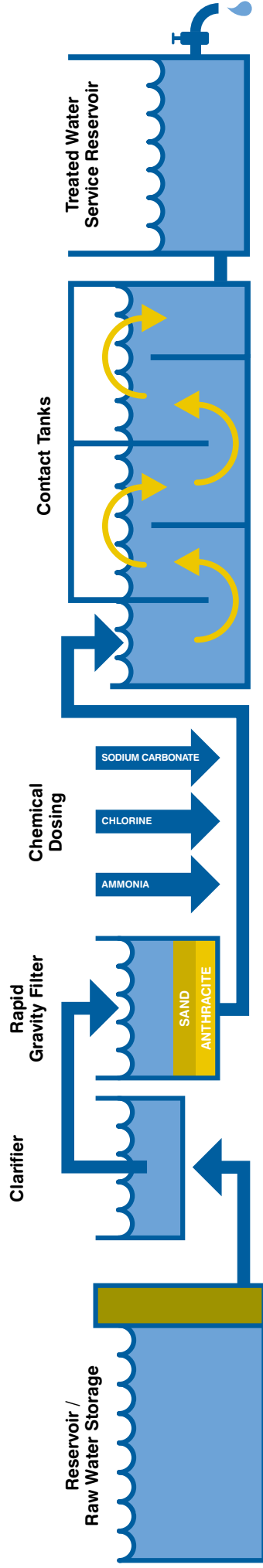
The storage reservoirs are generally located on high ground allowing water to gravitate down into the reservoirs distribution area. The storage reservoirs in St Helier, St Lawrence and Augrès feed areas located below approximately 30 metres above sea level (the south and east coasts), whilst the storage reservoir at Les Platons feeds water to the higher areas (north coast, west and south west of the Island).

The Company has recently commissioned a new high level gravity distribution system which feeds most of the high level areas on the Island. The system comprises a new 9MI service reservoir at Les Platons connected to a new bi-directional trunk main linking the treatment works at Augrès and Handois with the existing high level distribution network. The gravity system replaces a pumped system which used 13 booster stations to pump water from the south coast of the Island to high level areas.

Technical Facts

Name	Year constructed	Location	Capacity (megalitres)	Type of construction
Augres WTW	1964	Trinity	1.4	Reinforced concrete
Handois WTW	1931	St Lawrence	2.2	Reinforced concrete
Les Platons	2002	Trinity	9.0	Reinforced concrete
Westmount No1	1924	St Helier	4.0	Reinforced concrete
Westmount No2	1963	St Helier	5.6	Reinforced concrete

The treatment process overview



Untreated water is selected so as to obtain the best quality of water available.

Aluminium Sulphate and Polyelectrolyte are added to the untreated water. This is an upward flow process. These chemicals form a "flocculation" blanket in the clarifier. The blanket strips out particulate matter and suspended solids from the water as it travels up through it. This stage of the process removes around 80% of suspended solids.

Water passes from the clarifiers into the Rapid Gravity Filters. These use a layer of Sand and Anthracite to filter out those particles that were not removed in the Clarifiers (in a downward flow process). Once the water has passed through the filters it will not contain any particles bigger than around 20 microns - by comparison a human hair is around 70 microns thick.

Once filtered, the water will be clean but still needs disinfecting to ensure that any remaining bacteria are removed and to protect the water from bacteria as it travels through the pipe network. At this stage measured doses of Ammonia and Chlorine are added to disinfect the water. Sodium Carbonate is also added to the water to raise the pH, reducing the acidity of the water.

The contact tanks are designed to ensure that the ammonia and chlorine are thoroughly mixed with the water and to give the chemicals sufficient time to remove any remaining bacteria before the water passes into the distribution system.

The Ammonia and Chlorine remain in the water, slowly decreasing with time.