



Dominica Island Project

Integrated treatment system for drinking water

Background

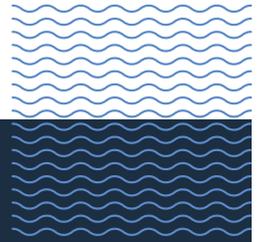
Dominica is an island in the Caribbean Sea that was granted independence by the United Kingdom on December 3rd 1978 after many years as a British colony. The island is comprised of a black volcanic sandy coastal strip, rain forest and mountains rising to a height of over 1,400 meters. The island's area is about 750 km² with a population of 70,000.

One of the island's main sources of income is tourism; cruise ships visit the island and the demand for tourists' services is high. However the island suffers from lack of high quality drinking water for both the local population and the cruise ships visiting the island.

The Challenge

The Dominica project treats river water which is collected into piping and transferred downstream to sedimentation ponds. The accumulated water is then transferred to distribution reservoirs located in the various neighborhoods of Roseau, the capitol of Dominica. The water treatment system is designed to handle a flow of 380m³/h at gravitational pressure of 6atm. The system is installed downstream of the collection piping and produces quality water that is discharged to a reservoir and then transferred to the city's neighborhoods by a distribution system.

Parameter	Raw Water (Max.)	Target
TSS	40 PPM	<2 PPM
NTU	10-40	1-5 NTU

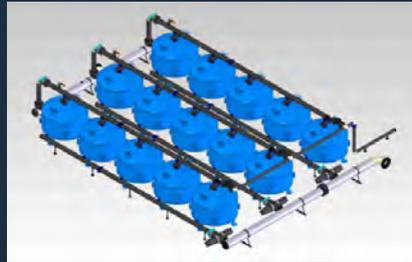


The Solution

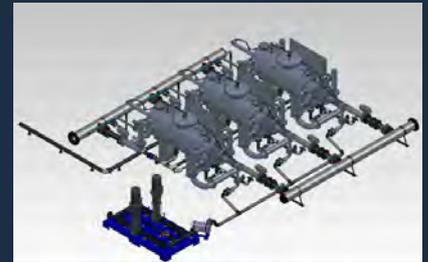
Amiad designed and supplied an integrated water filtration system which combines three main stages of filtration and treatment, providing 22 hours of continuous operation cycle at a flow rate of 380 (m³/h) daily:



1 The first stage of filtration, designed to remove large suspended solids from the raw water, consists of a battery of SAF 6000 series automatic screen filters with 80 micron filtration degree and stainless steel screens.



2 The second filtration stage includes a battery of fifteen Amiad 60" granular filter units, installed in 3 rows of 5 filters each with 60cm bed height, and 25M/h high velocity filtration. The granular filters filtration media is anthracite, capable of removing 40% of the TSS load.



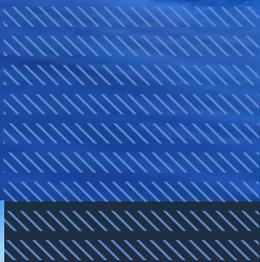
3 The main treatment stage consists of three AMF² 370K microfiber filters at 2 micron filtration degree.

The Results

Parameter	Raw Water (Max.)	Target	Result
TSS	40 PPM	<2 PPM	<1 PPM
NTU	10-40	1-5 NTU	0.45



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