



Desalination Designs Quench Coastal Thirst for Drinking Water

The availability of drinking water is an increasingly important issue across the nation, particularly among coastal communities that must deal with brackish ground water. Buchart Horn's design of the Five Forks Water Treatment Facility in James City County, near Williamsburg, Virginia demonstrates an innovative technology that will help many coastal communities meet their drinking water needs. The reliability and performance of the Five Forks Facility sets the standard for future desalination plants on the Gulf Coast and many areas along the eastern seaboard of the United States.

The \$12.5 million plant uses reverse osmosis, a process that forces brackish water through semi-permeable membranes under high pressure, leaving behind salts and

minerals that had been dissolved in water from deep wells. The Buchart Horn project team evaluated various water treatment options and available aquifers for the James City Service Authority and then designed the facility with pleasing and appropriate architectural features that easily blend into an area with residences and a school.

The 2.5 million gallon per day (MGD) facility has been operating at capacity for about a year. With help from Buchart Horn, the James City Service Authority is in the process of doubling the plant's capacity to 5 MGD. That upgrade requires minimal construction because the initial design was done with the planned expansion in mind. The upgrade will be on line by late summer.