Like many localities in the US today, Lake City, Florida faces issues related to water shortage and increasingly stringent regulations. In response to these water-related challenges, the city saw an opportunity to extend its water resources. By upgrading its 1970s era Wastewater Treatment Plant to Public Access Reuse (PAR), it would satisfy nitrogen permit requirements, reduce water consumption, and provide an inexpensive water source to the public. Beyond these minimal requirements, the city viewed the PAR as a potential opportunity to generate additional revenue.

After vetting numerous technologies, decision-makers in Lake City opted for an innovative, low-cost solution for the upgrade: Entex Technologies’ FlowTex Disc Filter. The user-friendly, high performance filter removes suspended solids as small as 10 microns and is Title 22 approved, which means that it is proven to meet California’s strict performance requirements. While these requirements are frequently used as guidelines outside of California, the Lake City PAR provided the occasion to define permit requirements with the Florida Department of Environmental Protection, thus setting a precedent for future water reuse projects throughout the state. Testing from the Lake City PAR has shown effluent to be superior to targeted design objectives.

The city achieved cost savings of 33% or 1.5 million dollars by upgrading to this reuse system instead of an advanced treatment plant that would remove additional nitrogen. In fact, the nitrogen is considered a benefit for local businesses, since the recycled water is used to irrigate farms, subdivisions, and golf courses where synthetic nitrogen is typically used in fertilizers. Additional benefits include protection against chlorine, a small footprint, ease of operation, flexible configurations, and the ability to monitor discharge quality from individual disc segments.

Hugh K. Van-Skyhawk
Lake City, FL Wastewater Director

Throughout my 40 year career, I have found the Entex Cloth Disc Filter system to be superior to any I have worked with. The service is outstanding and the company has been very attentive to our needs, working closely with us to make our system as user friendly as possible. I highly recommend the Entex FlowTex Cloth Disc Filter.*

Lake City, Florida

A 21st Century Upgrade for Lake City

A system expansion with never before seen effluent results

Upgrading to FlowTex™ Disc Filters led to cost savings of 33%

Location
Lake City, FL

Project
Wastewater Retrofit

Start-up Date
2011

Hydraulic Capacity
4 Million GPD

Technology Applied
FlowTex™ Disc Filter
Technological Description

FlowTex™ is a user friendly, high performance, tertiary filter suitable for both small and large flow applications. Its design incorporates a fixed disk with a rotating vacuum head. This outside-to-inside flow ensures that solids stay trapped within the basin and the stationary disc offers a visual check for clarity of the effluent. The suction head is designed to keep from touching the cloth media.

This low-cost system can be used in a wide variety of applications and configurations, including plants with smaller flows or space limitations. Each disc can easily be replaced. The FlowTex filter system is a complete, factory built pre-fabricated system, shipped to site, ready to be installed. The Lake City system utilizes one 12-disc FlowTex polyester pile cloth media filter, which provides added protection against chlorine.

System Process

Design Parameters - Local Standards

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Influent (mg/L)</th>
<th>Effluent (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSS</td>
<td>10</td>
<td>5</td>
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Site Plan