Palm Coast Water Treatment Plant No.2 – Concentrate ZLD System

Owner: City of Palm Coast
Client: Wharton-Smith, Inc.
Location: Florida, USA
Capacity: 1.8MGD
Start-up: 2015
Application: Municipal drinking water; zero liquid discharge (ZLD); UF

“This project is the result of years of collaborations with the local authorities. The brackish nature of the city’s ground water led them looking for solutions and this ZLD system design proved to be the most energy efficient high water recover option.”

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As a result of a change in their discharge permit, City of Palm Coast was faced with the challenge of eliminating their liquid NF concentrate.

Our engineers began working on this project from the conceptual stage with piloting and assisting the owner’s design consultant with full-scale plant design. SafBon provided design, fabrication, supply and delivery of the system to treat and recover the NF concentrate through clarification, ultrafiltration and then treatment of the sludge. The filtrate from the UF system is fed back to the front of their NF process for treatment and distribution.

SWT supplied lime clarifiers with chemical feed, lime and soda ash silos, UF trains with hollow fiber membranes, valves and local instruments. Installation supervision, testing, start-up, commissioning, and owner training were provided. SWT also assisted with operational issues to reduce TOC through enhanced coagulation during the testing phase.