



## Project Profile

### Reverse Osmosis Water Treatment Plant

Orange Tree Utility Corporation, FL



**Start Date:** August 2004  
**Completion Date:** January 2005  
**Delays:** None  
**Liquidated Damages:** None  
**Change Orders:** None  
**Contact:**  
Kimberly Retallick, Administrator  
Orange Tree Utility Corp., FL

The Orange Tree Utility Corporation contracted with Layne to design and construct two new reverse osmosis process trains with a design of producing 0.75 MGD without blending. The system provides potable water to the private development and near by residences.

The new reverse osmosis membrane trains were designed in a 6:3 array using seven membrane elements per pressure vessel and initially loaded with Trisep membranes. This was a basic design using a manually set concentrate flow control valve and an manually adjusted variable frequency drive (VFD) for the RO Train feed pump. Because of some initial operational issues, Layne made improvements to the units to ensure long term, consistent operation of the units.

Layne's scope included providing and installing the high-pressure pumps, cartridge filters, membrane process trains, chemical dosing system, clean-in-place system and other process requirements to ensure a properly operating membrane system. The RO Skid was preassembled in Virginia and shipped to Orange Tree Utilities prior to installation. The complete control system including the programmable logic controller (PLC), control panel, programming and installation was also included within our scope.

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