



Fabens, TX Brackish Groundwater Treatment System

Project Details

- **Project completed to comply with TCEQ Secondary Standards for TDS and chlorides**
 - TDS – 1000 mg/L
 - Chlorides – 300 mg/L
- **New Mexico follows EPA Standards - TDS and Chlorides are Secondary Standards (non-enforceable)**
 - TDS – 800 mg/L
 - Chlorides – 250 mg/L
- **Three active wells - TDS and chlorides in two wells met TCEQ Standards, third exceeded standards**
- **Third well only used in summer to meet peak demands**

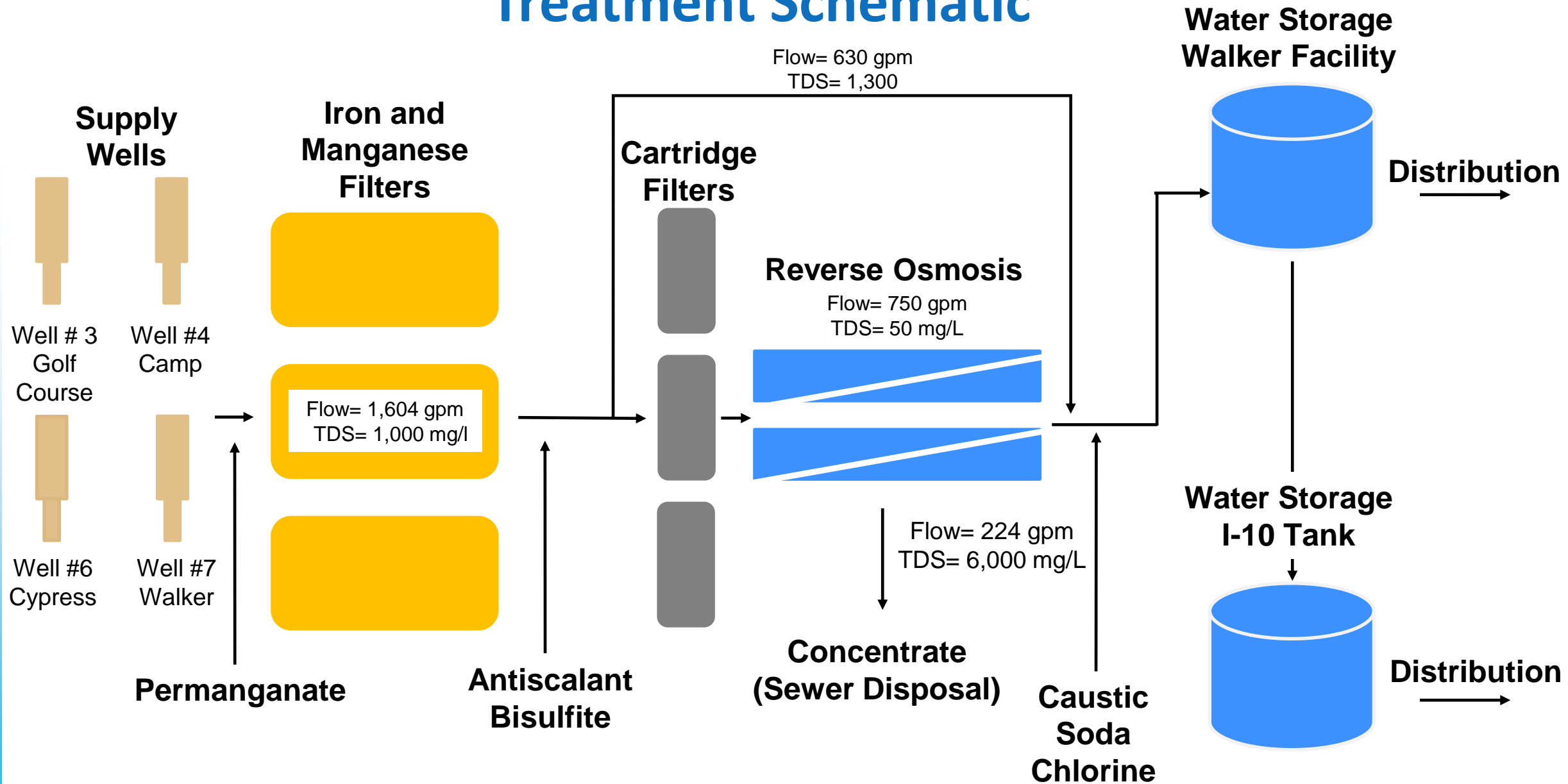
Plant Design Criteria

- RO plant designed assuming water quality decreased over time > TDS
- Finished water quality goals of 700 mg/L TDS and 250 mg/L
- Water quality of wells allowed for reduced treatment capacity – treat 60% of total flow and bypass/blend with 40%.
- Incorporate with Fe/Mn System
- Design for future wells
- Provide pre-treatment and post treatment (pH adjustment and disinfection)
- Locate at 10th Street Booster Station Facility (Main Storage and Booster Station in Fabens)

Brackish Groundwater Plant Operational Criteria

- Plant production capacity is 1380 gpm.
- RO system designed to produce 750 gpm (1.08 MGD) of permeate
- Use two 375 gpm skids for operational flexibility
- 70% Recovery on RO System
- Bi-sulfate system for pre-treatment
- Anti-scalant system
- Booster Feed Pumps – 120 psi operating pressure
- Concentrate disposal to sanitary sewer (224 gpm)

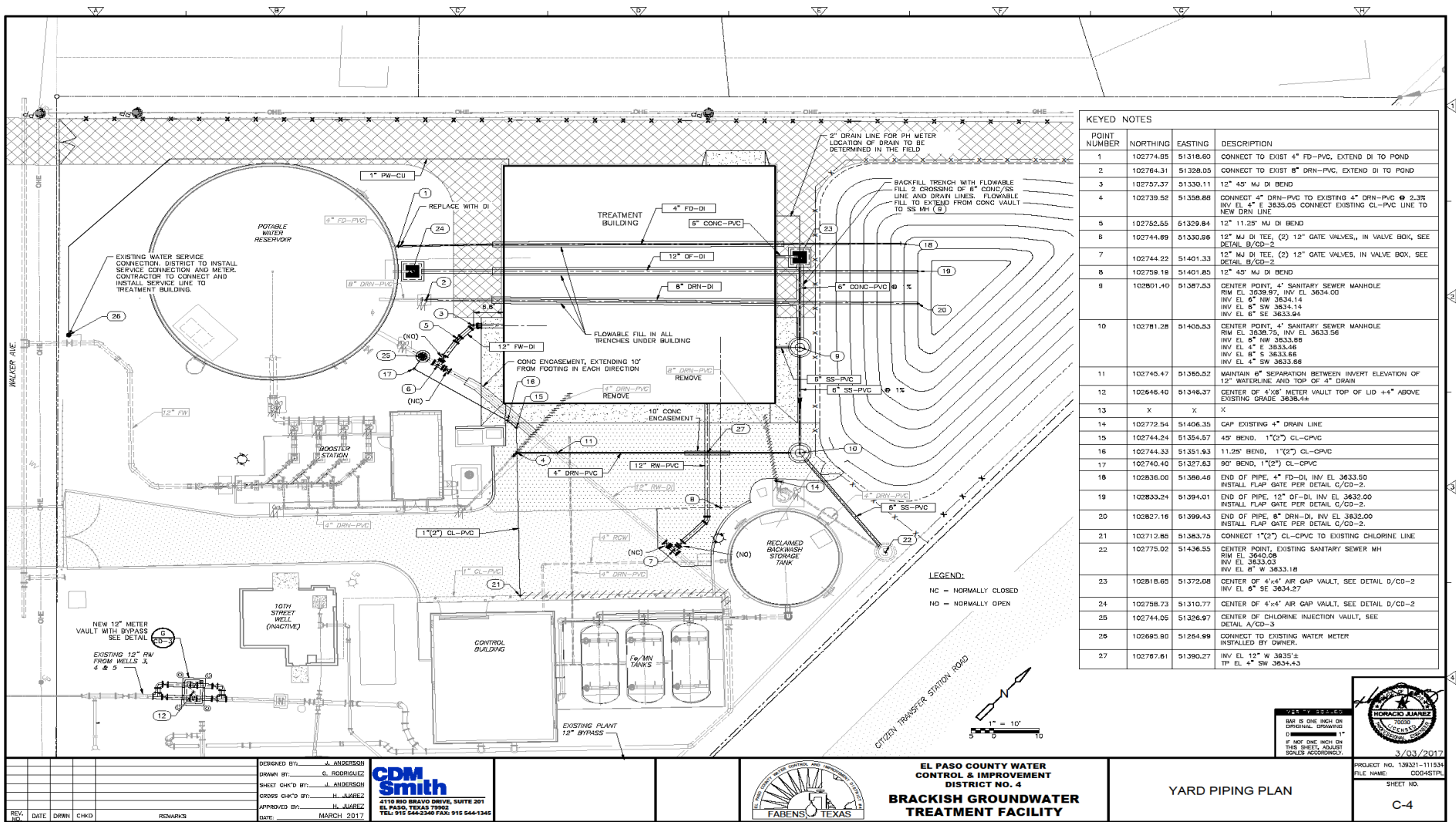
Treatment Schematic



Costs and Operational Summary

- **\$3,200,000 construction cost. \$3/gallon**
- **Operational costs: \$20,000/Year for electricity and chemicals**
- **Plant does not operate 24/7**
- **Produces about 120,000 gallons of permeate a day (250,000 in summer)**
- **Produces very high-quality water**

Site Plan



Photos



Photos



Fabens Brackish Water Treatment Facility

