

Staples Water Treatment Plant Improves Lime Softening

The existing lime softening plant in Staples was constructed in 1938 and served the community well during the years. The existing plant however showed signs of wear with some of the equipment showing signs of severe corrosion.

In 1999, the City decided to construct a new 500 gpm softening plant and to demolish the existing plant after the new plant goes on line.

The City retained Progressive Consulting Engineers, Inc. (PCE) to complete a feasibility study and a grant application. After a \$600,000 grant from DTED was approved and a \$500,000 grant and a \$836,000 long term loan from Rural Development was available, the City directed PCE to complete the plans and specifications for the new plant and two new wells to serve the new plant. The new plant is designed with careful attention to security and operator safety. The plant includes an aerator, a solid contact unit, recarbonation chamber, two filters, high service pumps and a 350,000 gallons ground storage reservoir. The filters contain 18" of anthracite and 12" of sand and are designed for an air wash followed by a water backwash. Chemicals include lime, soda ash, sodium aluminate, carbon dioxide, chlorine, ammonia, polyphosphate, and fluoride.

The plant was bid in August 2002 and the construction was awarded to Di-Mar Construction for \$2.96 million. The plant construction started in March 2003 and was completed in May 2004. PCE provided construction administration services for the project. This included resident engineering and review of labor standards to determine compliance with MBE, WBE and prevailing wage rules. The project was completed at a cost of \$2.86 million.

Key staff member involved with the project include: Naeem Qureshi, P.E. Overall supervision, Project Management and Labor Standards Officer

Client: City of Staples

Client Contact: Jerry Brever

Year Completed: 2004

Project Bid: \$2.96 million Final Construction Cost: \$2.86 million

Change Order: 3.38%



Lime Silo and CO₂ Storage



High Service and Backwash Pumps



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