

Client
City of Pompano Beach

Scope of Services
Professional engineering services for preparation of a needs assessment and conceptual designs.

Contact
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Start Date
07/2018

Completion Date
03/2020

Key MBC Staff
Frank A. Brinson, P.E.
Andrew Barba, E.I.

Key Features
Evaluation of existing filter system needs, identification and evaluation of alternate treatment technologies, preliminary opinions of probable project and operating costs.

Gravity Filter Refurbishment and Alternative Treatment Technology Study Pompano Beach, Florida



Background

The City of Pompano Beach owns and operates a 50 million gallon per day (mgd) capacity water treatment plant which utilizes a combination of conventional lime softening (40 mgd) and nanofiltration membrane treatment (10 mgd). The conventional lime softening process stream includes a multimedia gravity filtration system downstream of the lime softening units. The gravity filter system was constructed in 1983 and is exhibiting signs of age, deterioration, and is in need of repair and refurbishment. The City authorized MBC to conduct an engineering evaluation of the performance and condition of the gravity filter system (filters seven through fourteen) to determine specific repair and rehabilitation needs in preparation for a gravity filter refurbishment project. Additionally, under this study, MBC was authorized to identify and evaluate the alternate treatment technologies to potentially replace the gravity filter system.

The Project

The City authorized MBC to provide professional engineering services to complete a study that evaluated the existing gravity filter system and the feasibility of implementing alternate treatment technologies.

MBC's scope of services for the project included the following:

- Evaluation of Existing Filter System Needs
- Identification and Evaluation of Alternate Treatment Technologies
- Preliminary Opinions of Probable Project and Operating Costs
- Preparation of Draft and Final Study Reports

The Final Report was delivered to the City in March 2020 and provided treatment and cost analyses associated with rehabilitating the existing gravity filter system, implementing three separate alternate treatment technologies in the existing gravity filter basins, and expanding the Nanofiltration process.