

Client
 Lake Worth
 MBC was a subconsultant to the prime consultant.

Scope of Services
 Evaluation of existing membrane performance, raw and finished water quality, finished water quality goals, and selection of replacement membrane elements. Selection of membranes were presented in a Preliminary Design Report.

Contact
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Start Date
 10/2018

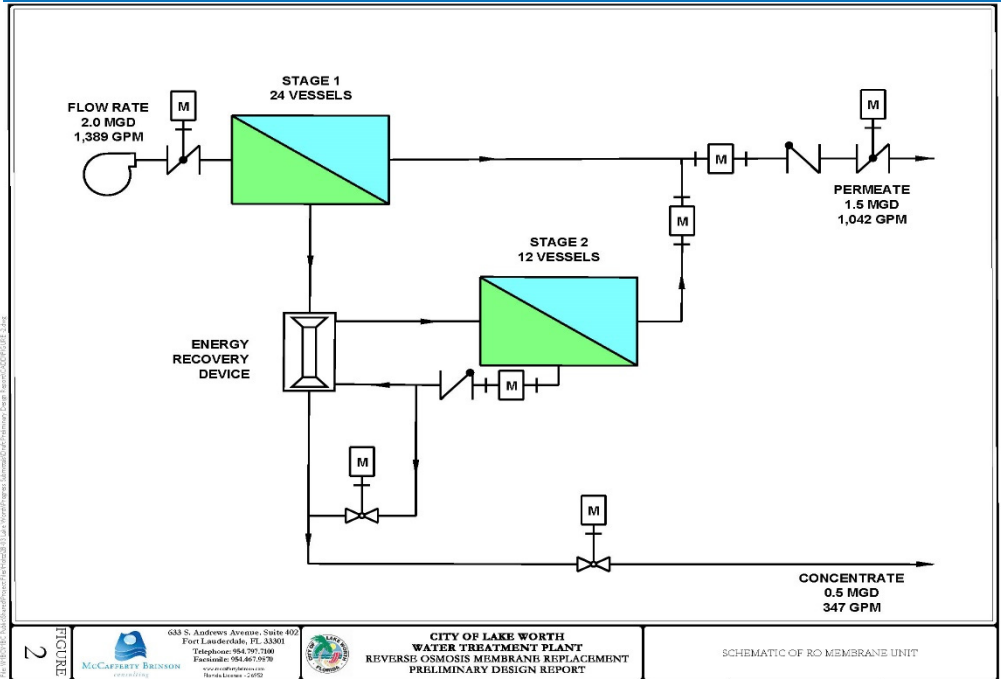
Completion Date
 05/2019



Construction Cost
 TBD

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

Key Features
 Development of a desk-top blending analysis and preliminary technical specifications.

Water Treatment Plant RO Membrane Element Replacement Evaluation and Selection Lake Worth, Florida



 633 S. Andrews Avenue, Suite 402 Fort Lauderdale, FL 33301 Telephone: 954.797.7100 Facsimile: 954.677.0970 <small>MEMBER OF THE BRINSON GROUP</small> <small>Florida License # 22052</small>	 CITY OF LAKE WORTH WATER TREATMENT PLANT REVERSE OSMOSIS MEMBRANE REPLACEMENT PRELIMINARY DESIGN REPORT	SCHEMATIC OF RO MEMBRANE UNIT
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The City of Lake Worth owns and operates a 7.5 million gallon per day (mgd) capacity water treatment plant (WTP) which consists of a 4.5 mgd capacity brackish water reverse osmosis (RO) process in parallel with a 3.0 mgd conventional lime softening process. The essential component of the RO process is 756 membrane “elements”. RO membrane elements typically have a useful service life of 7 to 10 years. The existing RO membrane elements have performed satisfactorily since they were installed in mid-2011, and the City’s Capital Improvement Plan (CIP) has funds budgeted for replacement of the RO elements. The City retained MBC, as a subconsultant to Holtz Consulting Engineers, to prepare a Preliminary Design Report (PDR) for the membrane element replacement. The PDR included a review and updating of the City’s finished water quality goals, a review of historical raw water, lime softened water, and membrane permeate quality, development of a desk-top blending analysis based on updated finished water quality goals and historical lime softened water quality, for the purpose of developing required permeate quality parameters for membrane selection, development of preliminary technical specifications for the replacement RO membrane elements and associated MEM services, preliminary selections of replacement membrane elements, and identification of regulatory/permitting requirements for the membrane replacement.