The Specialty Membrane Company

MBR PEAK FLOW MANAGEMENT

PROJECT HIGHLIGHTS

- *i*Sep™ 500-PVDF UF Elements
- Raw sewage treatment
- Private residential community
- 71,000 gpd flow
- Feed TSS: 50-200 mg/l
- Operating Flux: 25-30 gfd
- Alum addition in UF feed

UF Features & Benefits

- No air scour requirement
- Open flow channel design
- Frequent Draining
- Backwashing Capabilities
- High TSS handling
- Durable construction
- High effluent quality
- Vacuum operation

*i*Sep 500 UF SYSTEM

PLANT INFLUENT

*i*Sep UF ELEMENT

Membrane bioreactors (MBRs) have often been viewed as a cost prohibitive technology for wastewater treatment plants (WWTP) that experience high, transient peak flows. In areas with frequent wet weather events, peaking factors can range from two to ten times greater than the rated capacity of a plant. Since MBRs are generally designed to handle peak flows only twice that of the average daily flow rating, it is difficult to implement the technology in plants with frequent infiltration and inflow (I&I) events.

Designing an MBR plant to treat dilute, transient peak flow rates becomes a tremendous challenge due to high capital costs and potential operating inefficiencies. The most effective wastewater treatment plants are ones with the most operating flexibility. However, high flexibility with MBR plants can lead to intensive cost requirements. An innovative process utilizing physical-chemical treatment methods was developed to solve the peak flow problem associated with MBR plants.

A peak flow management process using ultrafiltration (UF) membranes was developed to operate in conjunction with MBR systems. The UF system takes a side-stream of fine-screened (FS) plant influent (i.e, raw sewage) and removes all TSS. For BOD and nutrient removal, the UF system is followed by activated carbon (AC) and zeolite (ZEO) media. The combined unit operations are intended to produce an effluent that meets all regulatory permit requirements.

Delivering Customized Products to Solve Unmet Customer Needs

TriSep Corporation // 93 South La Patera, Goleta, CA 93117 USA // P: 805.964.8003 // www.trisep.com // sales@trisep.com