

PROJECT PROFILE

Key Systems:

Flocculation

ETS Model FC-50-P Flocculation Tank System including an HDPE flocculation tank and an ETS Hellbender Model HBM-125 mixer with VFD control

Dissolved Air Flotation

ETS Model RT-30 DAF, stainless steel construction, 100 gpm capacity, recycle pump, top skimmer, gravity bottom discharge

Polymer Addition

Polymer emulsion blend/feed system interlocked with DAF operation

Controls

NEMA 4X, stainless steel enclosure with motor load protection and interlocked with feed pump system for manual start/automatic shut down operation

DISSOLVED AIR FLOTATION FOR ALGAE REMOVAL

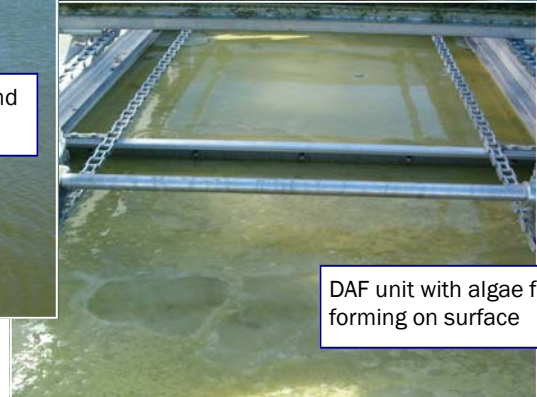
Environmental Treatment Systems, Inc. has recently completed the installation and startup of a DAF-based treatment system for the removal of algae and other suspended solids from a small municipal treatment system in Texas. The primary objective of the system was the reduction of



DAF system with flocculation tank



Municipal treatment pond with algae blooms



DAF unit with algae floc forming on surface

TSS concentrations from 100-300 mg/L (mainly algae) to below discharge limits of 90 mg/L.

The system was installed by the client adjacent to the final of a series of facultative treatment ponds prior to direct discharge to a stream. The municipality had been having problems in meeting their effluent quality limits for TSS due to algae blooms in the ponds

during warm weather months. Other treatment options, including the use of biocides, had failed, leading to the DAF option. Wastewater from the pond is pumped to the flocculation tank ahead of the DAF. A cationic polymer is added to the tank to facilitate flocculation, followed by removal of

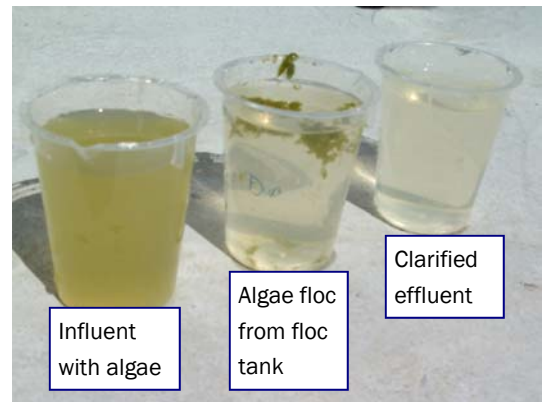
these solids in the DAF. The DAF solids are discharged by gravity to a holding tank for pumping and disposal. The clarified effluent is discharged through an existing flow monitoring system and out to the receiving stream.

COMMENTS: "Members of the city council were very pleased....they could not believe the results."

- CONSULTING ENGINEER FOR MUNICIPALITY

SYSTEM PERFORMANCE

Parameter	Influent mg/L	Effluent mg/L	Removal %
Flow, gpm	75	N/A	N/A
BOD, mg/L	48	10	79.2
TSS, mg/L	116	24	79.3



Influent with algae

Algae floc from floc tank

Clarified effluent