



Applied Polymer Systems, Inc.

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Innovations

In Sediment Control

Residential Dredging Operation



Imagine having a pond behind your house. Peaceful. Idyllic. A crystal clear pool nestled in your own backyard. However as dreams can easily slip into nightmares, a beautiful pond can easily become a murky mess. This was the case in North Fulton County, where a small lake had been filled in by sediment when a nearby construction site's sediment BMPs failed. The owner contacted David Hire from the Cherokee Silt Fence Company to remove the sediment from the pond.

Since APS's polymer products are matched to the specific lithology of each site they are used at, David sent water samples to the APS testing lab to match the PAM blend to the site. It was determined that APS 706b Floc Logs would work best for this project. After consulting with Applied Polymer Systems, a closed-loop system was designed to deal with the sediment in the dredge water.



The clarification system consisted of a settling pit, a mixing chamber for the polymers, and a baffle grid system. Using a barge with a vacuum agitator, the sediment was disturbed, sucked up, and pumped into a settling pit designed to hold 250 yd³ of sediment to settle out the bulk of the dredge spoils.



The overflow water was directed into a mixing chamber containing APS 706b Floc Logs, where the polymers began reacting with the smaller sediment particles, clumping them together so they would settle out faster. The water was then sent through a baffle grid system, with a line of jute panels to catch the sediment. The water was finally sent over a series of jute-covered checks before being discharged back into the pond.

The job took 15 days to complete, at a cost of \$27,000. The footprint of the dredge water clarification system was roughly 85'x60'x3'. The dredge water was pumped into the settling pit at a rate of 700-800 gpm with the solids content fluctuating between 8-15%. The initial turbidity of the dredge water was 1830 NTUs, and the turbidity of the water discharged back into the pond was reduced to 13 NTUs.



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