



Pond Cleaning with Divers

Objective

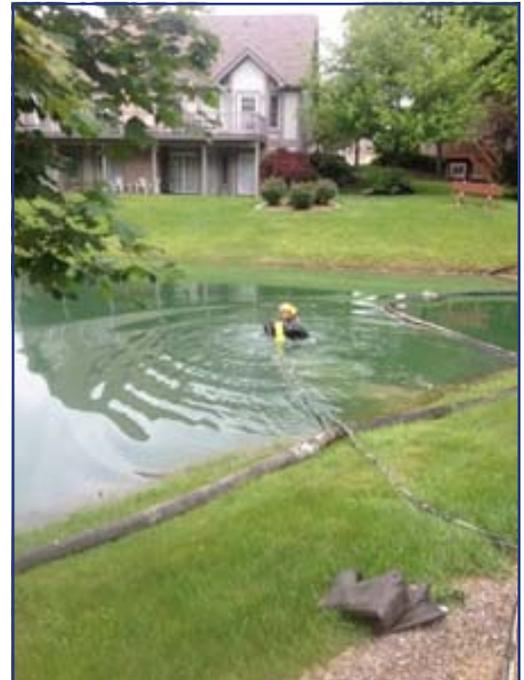
Watersolve LLC, was tasked to remove the sediment from two ponds owned by a homeowners association in Southern Ohio and transfer the residual to a lot owned by the developer. The ponds were located near homes and mechanical excavating was not an option. Divers went into the pond and harvest the sediment with a 4" suction hose. The sediment was then pumped in a 6" pipeline to the disposal site. WaterSolve treated the sediment in the pipeline with a cationic polymer to speed up the settling and clear up the water so it could be pumped back to the pond or released to a waterway near the disposal site.

Conditioning Chemical

A representative sample of pond sediment was tested by a technician in the WaterSolve lab. Dewatering polymers were evaluated based on water release rate, water clarity, and flocculent appearance. In addition, dosing rate(s) were determined during bench-top dewatering experiments and recommendations provided to the homeowners association during this phase of the program. Solve 137 was the recommended polymer for dewatering this residual in this settling application. The results of this testing indicated a flow of 8% dry wt. solids of the residual from the ponds would require 100-ppm of the Solve 137 polymer.



Treatment Products, Solutions & Services
Through Science, Engineering & Management



The diver enters the pond and will take the suction hose to the bottom to harvest the sediment.



The bottom jar is without polymer treatment and the top jar demonstrates the clarity the Solve 137 polymer accomplishes in the settling pond.



The residual is sprayed to the center of the pond while the divers continue sucking the center.

The Result

WaterSolve LLC was contracted by the homeowners association to remove the sediment from two ponds and transfer it to a disposal site owned by a developer. The developer had agreed to have a dam built at the lower end of a watercourse to contain the sediment and allow the solids to settle. This served as the disposal site. Divers were subcontracted to enter the ponds and manipulate a 4" suction hose to remove the sediment. A 6" diesel pump transferred the sediment 1400' to the disposal site. Solve 137 polymer was injected into the 6" hose transferring the sediment to the disposal site. Solve 137 flocculated the solids and sped up the settling process. This allowed the water to be returned to the ponds or pumped to a nearby waterway. A polymer make-down unit was used to activate the polymer by diluting it with water and meter in the proper dose. A WaterSolve technician was present to make adjustments to the polymer dose based on visual observations of pail samples taken from an inline sample port. The ponds had a maximum depth of 10' with 5' of sediment in some areas. One of the ponds was stocked with fish and divers used full diving gear with supplied air to enter the pond and remove the sediment. The water table was lowered in the other pond and the divers used dry suits to enter the pond and gather the sediment. Approximately 600 cubic yards of sediment was removed in 5 days which included moving the equipment from pond to pond one time. The project manager for the homeowners association was very happy with the results and offered to be a reference if needed.



The diver suits up with total air supply gear.



The polymer make-down unit is diluting the polymer with water and injecting it into the white mixing manifold on the right.



The divers are wearing dry suits while pulling the sediment to the suction hose and removing debris from the pond.