

Blue River Technologies Geotextile Lagoon Remediation

The Blue Rivers Technologies Geotextile Dewatering bags can be used to efficiently remove solids from municipal or industrial waste water settling ponds or lagoons. The bags can be purchased in the container bag configuration or larger bags can be set out on a prepared surface and the sludge in the lagoon pumped into the bag and allowed to dewater. This process guarantees that the solids are removed from the lagoon and the water is left behind. There are several different options available to be used depending on the volume of sludge to be removed and space availability to position the bags. If space is limited and time is not available to use the larger drying bed bags the container bag option may be your best option. If there is available space to lay out and pump into the larger bed bags from a cost basis this would be the best option.



High Solids Retention

Millions of gallons of sludge have been dewatered with the Blue River Technologies Geotextile Dewatering System.



This food processing plant lagoon was pumped with a floating submersible pump pulled around to different spots with ropes. By moving the pump around most of the sludge was pumped over to the bags. Plastic Liner was used to divert the effluent that flowed from the bags back into the lagoon.

A total of (15) 45' circumference X 100' long bags were staged along the side of the lagoon. After they were filled they were allowed to dewater over a period of 8 months, then opened up and the contents land applied on available farm ground.

Blue River Technologies

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With proper chemical selection, injection and mixing clean water will rapidly drain from the bags and can be diverted or pumped back into the lagoon . In most cases over 98% of the solids will be retained by the bags. After a suitable time period the bag can be opened and the solids disposed of by land application or by removal to a landfill. Depending on the type of material going into the bags several weeks or months may be needed for the bags to dewater prior to disposal.



This bag was opened approx 2 weeks after the last pumping. The sludge shown is a municipal waste water sludge. The flocculation process was very well controlled, maximum dewatering allowed these solids to be handled very quickly. Results may vary depending on how well the material is flocculated and the process controlled. Most bags are left to dewater for periods of from 2 months to 12 months depending on available space and time.



This is a small pumping raft that can be used to pump sludge from a lagoon or pond. The pump is a 3” submersible style hydraulic pump and the power source is located on the bank of the lagoon. There is a cable winch mounted on the raft that can be use to raise or lower the pump to allow the user to pump heavier sludge from the bottom of the lagoon or raise it up to pump lighter material as needed. This raft normally is used to pump sludge to a holding tank located right at the edge of the lagoon. A separate pump is used to pump to the bag.

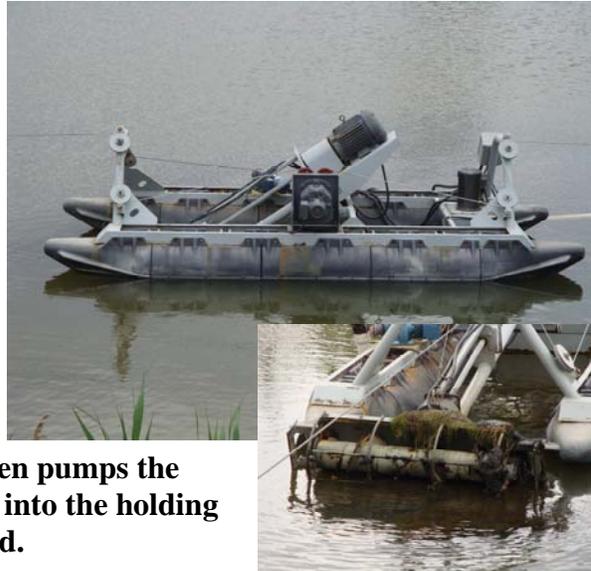


This is a typical storage tank that is used to pump into from the lagoon. This tank has an agitator installed on a bridge over the tank keeping the material in suspension prior to pumping into the bag.



This 24 hp hydraulic unit is used to power the submersible pump on the pumping raft.

A cutterhead style mini dredge can also be used to pump material from the lagoon up to the holding tank. This type of dredge will pump heavier solids and many times is needed if the solids in the bottom of the lagoon are too firm to use a submersible pump alone. This dredge will go down to a depth of 8'. The cutter head is 48" wide. This dredge is electric and is controlled from the bank. The dredge uses 460VAC 3 phase power and if power is not available at the lagoon a generator is used to power the dredge. The cutterhead pulls the material in to the center where a pump head then pumps the material thru floating pipes up to the bank and into the holding tank. These dredges can be purchased or rented.



This small municipal waste water plant needed to completely empty out their lagoon and refurbish the lagoon bottom. Since there was insufficient area for the larger bed bags the container bags were chosen for this project. Eight (8) containers were staged to receive the sludge and pumping was completed with the small submersible pumping raft. As the lagoon was pumped down the sides of the lagoon were washed down with a high pressure water hose, to completely clean the bottom of the lagoon. The sludge was pumped up to an agitated holding tank on the bank and a 11 hp gasoline pump used to pump from the tank over to the container staging area.



Geotextile Container Bags

Solids after Dewatering



Removing this lagoon sludge as a solid instead of liquid saved this small community thousands of dollars in cost.

In this case the bag is set on the bank next to the lagoon. The sludge is pumped over and through a Blue River Technologies sludge flocculator where the chemical solution is mixed with the sludge flow. This causes the solids in the slurry to agglomerate and clear water to separate from the solids. In any geotextile process this is an essential step. Without good chemical mixing and addition the bag will blind over and the process will not be successful.



This picture shows the results of having the proper chemical, injected into the line and properly mixed with the slurry. The solids have come together in clumps and the clear water surrounding the solids will simply exit thru the pores of the geotextile bag, leaving the solids behind. Keeping control of your process will greatly reduce the time needed for the sludge to dry and will reduce the overall cost of the project.



Whether your choice is the larger bed bags or the container bags, dewatering solids from your lagoon can be accomplished at a lower cost and on your own schedule with the Geotextile Dewatering Bag option. Blue River Technologies can supply you with everything you need to complete your project. Call for pricing and application assistance.

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