



Hydraulic dredging for removal of stormwater pond sediments

Removing sediment from stormwater collection ponds is needed periodically to maintain proper function and restore capacity to prevent localized flooding from heavy rainfall events.

Traditionally, sediment is excavated with heavy machinery during the winter, or in the summer during dry conditions. Another method of removing sediment from stormwater ponds is hydraulic dredging. Unlike traditional methods that rely on heavy excavation equipment, hydraulic dredging uses smaller and lighter equipment and the process is only performed during the summer months with wet conditions.

How does hydraulic dredging work?

The process utilizes a small floating barge with a dredging device and a large centrifugal pump that grinds up and removes sediment build-up. Saturated mud and sand (referred to as muck) is removed from the bottom of the stormwater pond and discharged into a large filter bag (or, depending on the size of the project, a series of bags). The filter bag is placed upland near the pond. Sediment can be pumped hundreds and sometimes thousands of feet away from the pond depending on site conditions. Water that drains from the filter bag is returned to the stormwater pond.



Hydraulic dredging barge in operation at Roseville Villa Park.



An alternative

Hydraulic dredging has advantages and disadvantages compared with traditional methods, and there's a long list of factors and site-specific conditions to consider before selecting a method to remove accumulated sediment. Hydraulic dredging may not be the best method for your project, but it provides options and alternatives for projects that may need to take place during the summer months and/or during wet conditions.



Geo-fabric bag containing stormwater sediment removed via hydraulic dredging.



Geo-fabric bags containing stormwater sediment during the de-water phase of the project. Sediment is contained in the bags and filtered water is returned to the stormwater pond.