

The SmartDitch System

Water Clarification Channel



Introducing the SmartDitch Water Clarification Channel System --

A portable and reusable construction site dewatering and clarification assembly, the **SmartDitch Water Clarification Channel System** includes a predetermined length of the patented HDPE trapezoidal channels, floc logs for filtering, and jute matting, which is used as a final sediment trap at the downstream end of the channel.



SmartDitch

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Floc Logs

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Jute Matting

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Clarified Water

Why Construction Site Dewatering and Clarification is Necessary:

Construction activities like clearing, excavating, and grading significantly disturb the land. The disturbed soil, if not managed properly, can easily be washed off of the construction site during storms and enter water bodies. Stormwater discharges from construction activities can cause an array of physical, chemical and biological impacts.

Snapshot of the Final Rule for: "Effluent Guidelines for Discharges from Construction and Development Industry" per the EPA.

- The final rule requires permittees (owners) at certain construction sites to collect samples of stormwater discharges and to comply with a numeric turbidity limitation.
- Sites that disturb 20 or more acres of land at one time are required to conduct sampling of discharges and comply with the numeric limitation for turbidity beginning on August 1, 2011.
- In the fall of 2011 the 18 month window for compliance closes, and construction site owners will be required to implement erosion and sediment control best management practices (BMPs) to reduce pollutants in stormwater discharges -- including dewatering, concrete washout, and soil stabilization..
- Initially, construction site owners that disturb 20 acres, or more, will be **required** to conduct monitoring of the discharges which meet minimum effluent limitation guidelines (ELGs). By 2014, the disturbance area will be reduced to 10 acres or more.
- This regulation is projected to reduce the amount of sediment discharged from construction sites by about 4 billion pounds each year.



The SmartDitch Water Clarification Channel System can be easily disassembled, stored, and reused multiple times.



How the SmartDitch Water Clarification Channel System & Program Works

- Once it is determined that the SmartDitch Water Clarification system is the best solution for the construction site owner, he or she will meet with local authorities to determine minimum effluent requirements for the immediate area.
- Construction site owner sends water sample to a Penda approved water testing facility company to determine current water quality and establish a base level. The results of this water test will also help the owner match the right floc log formulation to the water condition.
- The Contractor meets with the site owner and engineers to determine the length of SmartDitch channel, the number floc logs required, and proper amount of jute matting needed to keep the discharged water within acceptable ELGs.
- The SmartDitch Sales Representative will coordinate the project through the SmartDitch Manufacturer (Penda Corporation) to determine final components and cost of complete water clarification system. A recommended plan for floc log and jute mat replenishment will be provided, as well.

System Installation

- Once the water clarification channel system arrives at the job site, the predetermined length of SmartDitch is assembled on top of temporary stand designed to hold the channel in place. Removable screws and gaskets are used to join the SmartDitch channel sections together.
- The floc logs are then placed approximately every 9-10 ft. inside the the entire length of the channel.
- The jute matting is place on top of construction film at the downstream end of the clarification channel. the jute mat will serve as a final sediment trap during the dewatering/clarification process.
- Daily testing and/or monitoring of water clarity is mandatory according to the new regulations. Floc Logs should be replaced as recommended by the manufacturer's guidelines. Jute matting should be replaced daily.
- Once the project is complete, the SmartDitch channel sections are disassembled, stacked onto pallets and transported to the next construction site.

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