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Innovations

Shadowbrook Estates Development

In Sediment Control

When a South Hadley condominium developer and contractor were fined \$50,000 for water violations of the FOC and Massachusetts State laws, they were recommended to contact Mark Thrum with Hydrograss Technologies to help clean up their site.

South Hadley, MA
Winter 2005 – Spring 2006

The construction site had opened large areas of fine-grained sediment to the elements, causing erosion and sedimentation into adjacent wetlands, stream, and pond areas. Sediment laden water, reading at 600 NTU, was migrating out of a large sediment basin through a concrete storm box into an underground pipe and discharging into a nearby stream.



The water was pumped out of the sediment pond up to the top of the hill and fed into a pair of split pipe water treatment systems.

The Floc Logs® were placed at the top of the pipe and the water flowed over them down the split pipe lined with three layers of jute matting before re-entering the pond.

After a site visit and some discussion, it was decided to install two 100 linear foot split pipe Floc Log® flocculation systems to feed into the concrete storm box. The split pipe system consists of a 36" diameter HDPE pipe cut in half and connected by male/female connections. Pitch can also be used to waterproof the pipe section seams, though it was not used here.

The entire length of split pipe was coated with three layers of coir-jute erosion control matting. The coir-jute matting is a very loose weave material that can easily be draped over the wooden stakes fitted into the split pipe slots to hold it in place. Since the matting acts as a filter and surface area, allowing the flocculated material to adhere to it, care was taken to assure that the matting was hanging in the water flow.



The Floc Logs® were secured along the treatment pipe using the stakes that held the split pipe in place.



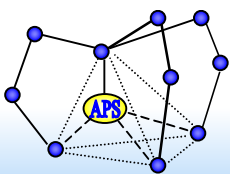
Even in frozen conditions, this system could be run. Reaction times are prolonged with colder temperatures, however the Floc Logs® still work.

A hole was cut in the ice to allow the pump-feed to draw water out of the pond. The water was pumped up the hill before reaching the pair of split pipe treatment systems. The water was allowed to flow back down the split pipe before being discharged into the concrete storm box where the initial turbidity problem had come from.

To get the sediment to form into flocculant, Thrum proposed the use of Applied Polymer Systems' Floc Log® and Silt Stop® products. Since the polymers are site-specific, samples were sent to the APS lab to determine which polymers blends would be most effective on the soil lithology.

The 703d and 706b Floc Log® duplex system and the 705 Silt Stop® powder was determined to be most effective on the soil. Twenty Floc Logs® (ten pairs) and ten pounds of powder were installed in the first 50 feet of the split pipe system. The placement at the beginning portion of the system ensured adequate mixing within the split pipe system. The turbidity reading at the end of the pipe system was less than 10 NTU. The absence of aquatic toxicity using the APS products allowed the operator to discharge the treated water to any riparian waterway.

For Technical Information or questions please contact:



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