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Innovations

In Stormwater Clarification

Florida Project

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The large unstabilized site contained 8 lakes and interconnecting key ditches that discharged directly into state waters. This meant that water discharging from the site was closely monitored to ensure it was within compliance. The large areas of bare ground and the highly erosive soil composition posed a potential problem with possible set-backs and fines.

A split pipe treatment system was created using 36 inch HDPE pipe cut in half and lined with jute matting. The site-specific Floc Logs were installed inside.



The project had been trying to control the discharge of turbid water by treating the lakes on a monthly basis, with poor results. It was decided to install a continuous flow-through treatment system to treat the turbid water before discharge off site. A split pipe treatment system was designed to clarify the water before discharging into state waters.

Samples of the turbid water on the site were sent to the APS lab for testing, free of charge, to determine the correct site-specific Floc Log to clarify the water. It was found that the 703d and 703d#3 Floc Logs would work best on the settled water from the final lake, and the 706b Floc Logs would work better with the higher sediment loads in the key ditches.

The sides of the key ditches were stabilized with jute matting and the 705 Silt Stop powder. Check dams were installed in the key ditches and covered with jute matting and 712 Silt Stop powder to help control the movement of sediment and reduce the sediment load in the turbid water.

The water was pumped out of the lake with a 6 inch pump and discharged into the 100 foot long split pipe system which was constructed using 36 inch pipe, cut in half.

Check dams made with rock bags were placed every 10 feet along the length of the split pipe; these checks helped increase the turbulence and create mixing conditions.

The site-specific Floc Logs were placed on the downstream side of the check dams, where the polymers would dissolve and react with the suspended sediment.



The split pipes were lined with jute matting, which provided surface area for the flocculated particulate to adhere to. The clarified water was then discharged off site.

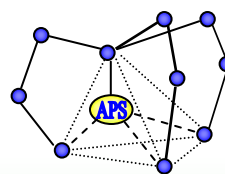
Turbidity readings taken on the final lake, where the water was pumped into the treatment system, showed the turbidity to be at 40 NTU. The water being discharged was consistently measured at 18 NTU, well within compliance.



Above, Right: The sediment was reacted with the Floc Logs, binding the particles together and attaching them to the jute matting in the split pipe system.

Above: The clarified water was discharged into a section of stream protected by turbidity barriers and passed through particle curtains.

For Technical Information or questions contact:



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