

April 2006

Greenbush Corridor

Floc Logs required to remove suspended particulates



The Massachusetts Bay Transportation Authority approved the CBB Greenbush project to update and restore commuter rail service to the Greenbush corridor through the towns of Braintree, Weymouth, Hingham, Cohasset and Scituate, Massachusetts. The project extends from the connection with the existing MBTA Old Colony Main Line in East Braintree, along 18 miles of the former New Haven Railroad Greenbush Branch to the terminus in Scituate.

The Greenbush project involves the reconstruction of existing structures, such as road crossings, track for controlled passing, bridges, and stations, as well as the addition of new structures and safety measures. It includes extensive mitigation measures to address noise, vibration, historic, wetland, and other impacts.



APS FlocLog 703D

Jay Cashman Inc/ Balfour Beaty Construction Company is handling the construction on this ongoing project. When a turbidity problem threatened to delay the project, the superintendent, Scott Sartwell, contacted **Mark Thrum of Hydrograss Technologies** for help.

Sartwell reported that they were

having trouble with meeting the water clarity requirements of the project while dewatering. They were attempting to remove the suspended sediments using four gravity-fed dewatering tanks in sequence. The NTU reading on the water as it entered the tanks was around 900 NTU and exiting the tanks was only reduced to around 800 NTU.

After a site visit and some discussion, Thrum and Sartwell decided to install

[PHOTOGALLERY CLICK HERE!](#)



-300 gal min dewatering flow rate through the pipe system
 -Discharge reduced to 22 NTU at the end of the pipe system



The tanks serve as settling basins, allowing the heavy solids to settle out before treatment

a 250 linear foot split pipe Floc Log flocculation system at the outlet of the fractionation tank system. 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.

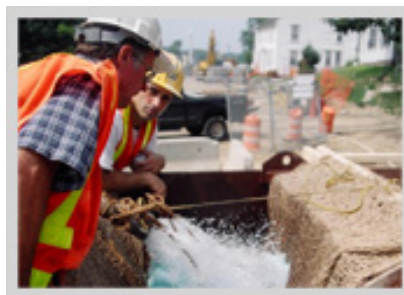
The entire length of split pipe was coated with three layers of coir-jute erosion control matting. The coir-jute matting is a very loose weave material that can easily be draped over the wooden stakes fitted into the split pipe slots to hold it in place. Since the matting acts as a filter and surface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

The 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.

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 **712 Silt Stop** powder was determined to be most effective on the soil. Twenty Floc Logs (ten pairs) and fifteen 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 flow rate through the system was approximately **300 GPM and the turbidity reading at the end of the pipe system was 22 NTU**, well below the projects requirement of 50 NTU. The absence of aquatic toxicity using the APS products allowed the operator to discharge the treated water to any riparian waterway.



Split pipe was coated with 3 layers of coir-jutte erosion control matting

(20) 706b and 703d Floc Logs were installed in the first 50' of the 250 lineal foot split pipe system. 712 Silt Stop powder was also used in the system



Reaction of the turbid water with the Floc Logs caused the sediment to bind together and collect on the jute matting.



Northeast Office

157 Southbridge Rd. North Oxford, MA 01537
Tel: 800.853.5393 Fax: 508.987.8785

info@hydrograsstech.com

Florida Office

1551 Global Ct Sarasota, Florida 34240
Tel: 941.377.3114 Fax: 941.377.3522

bradw@hydrograsstech.com

Visit our website at: www.hydrograsstech.com

To unsubscribe to our newsletter, please [click here](#)