innovative turf solutions
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Construction Site Sediment Basins

The USEPA has developed treatment requirements to mitigate storm water contamination in the construction industry. These requirements are implemented through Best Management Practices included within the state approved Storm Water Pollution Prevention Plan (SWPPP).

The current methods of reporting within the SWPPP are collecting rain water samples during storm events at designated points on the construction site.

One of the most commonly used BMPs (Best Management Practices) are sediment ponds to slow the velocity of the stormwater in able to settle the larger sediment particulate. This BMP has been effective in reducing the turbidity (NTU) values from the runoff water, but are not efficient in removing the fines in the stormwater runoff therefore leaving high turbidity (NTU) values not meeting current limitations.

An effective BMP used to “flocculate” these fines in sediment ponds and stormwater runoff currently in use are “flocculants”. With the use of these products along with other BMPs the NTU values are able to be mitigated to be in compliance of current state limitations.

Floc Bags (4 lbs. each) were installed into a sediment basin on a current North Carolina Deprtment of Transportation (NCDOT) jobsite in Orange County, NC #C-202266 on August 5, 2011 that contained “coir baffles” to collect the larger sediment as stormwater flowed through the basin along with a skimmer to pump out the settled water in the last retention area. One 4 lb. Floc Bag was installed in each of the 5 retention zones. Total volume of water in the sediment pond was 5,411.25 gallons and filtration capacity of the Floc Bags is 4 lbs/1,000 gallons. Jar testing was performed before installation of the Floc Bags, before and after treatment values are shown below.

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Untreated	Treated
153 mg/l	76 mg/l

On August 6th, 2011 the jobsite experienced a .45" rain event in the sediment pond and surrounding unprotected sediment basin walls. Turbity Values were taken after the rain event with the unprotected soils draining into the basin along with stormwater from stormwater inlet drain. Readings were taken again in each of the 5 baffle areas again on August 9, 2011. Results are shown below:

Baffle #	After Rain Event-Aug.6th	After Treatment-Aug. 9th
#1	234 mg/l	51mg/l
#2	245 mg/l	No water present
#3	213 mg/l	75 mg/l
#4	76 mg/l	68 mg/l
#5	85 mg/l	81 mg/l

A rain event of .75" occurred on 8/13/11 and again on 8/14/11, below are testing numbers after the rain event with treated water:

Baffle #	After rain events
#1	66 mg/l
#2	77 mg/l
#3	93 mg/l
#4	91 mg/l
#5	86 mg/l

Turbidity testing was performed again on Aug. 19th after both rain events in Baffle #5 which read 40 mg/l.