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## MASTEP Technology Review

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**Technology Name:** HydroGuard HG6 Hydrodynamic Separator. Hydroworks, LLC

**Studies Reviewed:** Verification Testing of the HydroGuard HG6 Hydrodynamic Separator Stormwater Treatment Unit. Mailloux and Humphrey, December 2008.

**Date:** January 29, 2009

**Reviewers:** Jerry Schoen

**Rating:** 2

**Brief rationale for rating:**

This laboratory study is generally well conducted and documented. Quality control data is lacking.

**TARP Requirements Not Met\*:**

- No documentation of a Quality Assurance Project Plan, no QC data
- Sediment removal efficiency was calculated by modified mass balance method. Although this is an accurate method, TARP specifies use of TSS analysis method.

**Other Comments**

- Sediment removal efficiency, calculated according to the NJDEP weighted formula, was 60.3%.
- The 100% treatment flow rate for this system is 1.8 CFS.
- Sediment removal was evaluated using modified mass balance method, considered to be a particularly accurate method of evaluating sediment removal in a laboratory setting.
- Particle Size Distribution (with d50 of 70 microns) closely matched the 55% sand, 40% silt, 5% clay mix recommended by NJDEP.
- A full range of flows (25% - 125%) was tested.
- Scour test was performed. Some scour was observed at flows exceeding capacity (effluent concentrations ranged from 14 mg/l when tested with F60 sediment to 42 mg/l when tested with mix similar to NJDEP mix). Given that 75% of material resuspended was < 18 microns and that the smallest particles retained in the system were 26 microns, this test suggests that little scouring of captured materials will occur.

\* Criteria also based on NJDEP laboratory testing guidelines.