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MASTEP Technology Review

Technology Name: Aqua-Guard - Aquashield Inc.

Studies Reviewed: Environmental Technology Verification Report of the Low Cost BMP Study (2003)

Date: 2/19/2008

Reviewer: Jerry Schoen

Rating: 3

Brief rationale for rating: The Low Cost BMP study did not provide detailed information on particle size distribution of influent stormwater. Only one target flow rate (215 GPM) was tested, and this was not verified with flow data. There was no test of pollutants escaping via bypass of the catch basin during high flow.

Other Comments:

Low Cost BMP study:

- This BMP study was conducted on 4 catch basin inserts, including the Aqua-Guard.
- The study noted that turbulence in the units make them "less than idealized settling basins, causing smaller particles not to be captured".
- The study reports on sediment size ranges captured in different devices in a qualitative field test. Because these were captured from different catch basins receiving non-uniform quantities and types of stormwater, the results are not comparable among the four units. And because the influent stormwater was not analyzed, this information is not useful to evaluate removal efficiency. Rather, it can be used as a rough estimate of the particle size ranges that the different systems are capable of capturing. Because of their small size, catch basin inserts are prone to bypass in high water flows, and may require frequent maintenance to avoid clogging and consequent diminished pollution removal efficiency. These units would benefit from rigorous testing that measured amount of bypass flow and concentrations of pollutants in bypass flow. This study did not report on these issues.
- The study did include an observational field monitoring component that generated helpful qualitative information on maintenance questions. It also contains cost information.