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To all,

Based on my review, evaluation and assessment of the testing conducted on the Environment 21 StormPro V510 and observed by Barr Environmental Co., the test protocol requirements contained in the "New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device" (NJDEP HDS Protocol) were met or exceeded. Specifically:

### *Test Sediment Feed*

The PSD of Environment 21's test sediment complies with the PSD criteria established by the NJDEP HDS protocol (Figure 5). The median particle size of the Environment 21 gradation is less than 60 microns; the NJDEP HDS protocol requires a mean particle size of 75 microns.

### *Removal Efficiency Testing*

In accordance with the NJDEP HDS Protocol, removal efficiency testing was executed on the Environment 21 StormPro V510 in order to establish the ability of the unit to remove the specified test sediment at 25%, 50%, 75%, 100% and 125% of the target MTFR. Prior to the start of testing, Environment 21 reviewed existing data and decided to utilize a target MTFR of 2.02 cfs. This target was chosen based on the ultimate goal of demonstrating greater than 50% annualized weighted solids removal as defined in the NJDEP HDS Protocol. The flow rates, feed rates and influent concentration met the Test Protocol's requirements and the background concentration for all five test runs never exceeded 1.6 mg/L. The water flow rate COVs were all below the NJDEP protocol requirement of < 0.03; the feed rate calibration samples COVs were 0.070 or less, meeting the NJDEP protocol requirement of  $\leq 0.10$ .

### *Scour Testing*

In order to demonstrate the ability of the StormPro V510 to be used as an online treatment device, scour testing was conducted at greater than 200% of the MTFR in accordance with the NJDEP HDS Protocol. The average flow rate during the online scour test was 4.42 cfs, which is 219% of the MTFR (MTFR = 2.02 cfs). Sediment loading was 83% of the recommended maintenance level and exceeded the 50% protocol requirement. The maximum background sample was 2.1 mg/L and the maximum effluent sample was 5.8 mg/L. These results confirm that the StormPro V510 did not scour at 219% MTFR and meets the criteria for online use.

### *Maintenance Frequency*

The predicted maintenance frequency for all models is slightly more than 14 years.

Sincerely,



Richard S. Magee, Sc.D., P.E., BCEE