



Metropolitan North Georgia Water Planning District

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Post-Construction Stormwater Technology Assessment Protocol Review Summary **Modular Wetland System** March 13, 2019

Introduction

Bio Clean Environmental Services, Inc. (Bio Clean) submitted field data, with some lab data as additional supporting material, for review of their Modular Wetland System – Linear filtration system (MWS-Linear) stormwater treatment product. The Metro Water District’s Post-Construction Stormwater Technology Assessment Protocol (PCSTAP) review committee reviewed all data and documentation submitted for adherence to the Metro Water District’s protocol. This review is not an approval or detailed verification of the device, technology, or real-world performance itself. Rather, this review provides concurrence to local jurisdictions and other as to the completeness of data and document submitted with regards to making local determinations. Local jurisdictions are free to allow or not any device, technology, performance claim, load reduction, etc. as needed to accommodate local geography, policy, or review of the manufacturer’s claims.

Performance Claim

The manufacturer provided the following performance claim:

“The Modular Wetland System - Linear filtration system is capable of exceeding 80% Total Suspended Solids (TSS) removal efficiency at stated flow rates as evidenced by 2-years of field testing under Washington TAPE protocols. According to the TAPE results, the system also exceeds 60% total phosphorus (TP) removal, 50% total copper removal, 45% of nitrogen removal and 69% of total Zinc removal.”

The review committee did not evaluate claims for phosphorus, copper, nitrogen or zinc removal, only TSS as pursuant to our protocol and existing stormwater quality requirements. However, jurisdictions are encouraged to contact the Metro Water District for the full engineering report for review if other pollutants are of local concern.

Summary of Review

The PCSTAP reviewed data submitted for field tests.

Field tests were conducted by Bio Clean in Portland Oregon under the Washington TAPE protocol. The TAPE protocol is very similar to the Metro Water District protocol. Data was collected over the course of 2 years and included appropriate rain fall analogous to the Atlanta Metro area. Field tests showed a minimum 80% reduction in TSS per manufacturer claims when the median particle size (d50) was between 8 and 30 microns. This d50 range is within allowances for particle size distribution

for Metro Atlanta's Piedmont soils. Actual field data shows a TSS removal of 85%, this supporting the claims of 80%.

Conclusion

After reviewing all data and documentation submitted, the committee believes there is enough information per the PCSTAP for local jurisdictions to make determinations on allowing the Modular Wetland System – Linear filtration system by Bio Clean Environmental Services, Inc., for use in post-construction stormwater controls per the manufacturer claims. As stated above, jurisdictions may use the information in this summary for their determinations or the full submission will be made available upon request if a jurisdiction chooses to conduct their own review.