Attachment 1

Proprietary Best Management Practice (BMP) Registration Statement

Complete this form and submit it along with supporting documents to the Virginia Department of Environmental Quality (Department) at BMPClearinghouse@deq.virginia.gov. If approved by the Department, the device will be assigned a total phosphorus (TP) removal efficiency and listed on the Virginia Stormwater BMP Clearinghouse.

1. **Proprietary BMP / Manufactured Treatment Device (MTD) Name (as it is to appear on the Virginia Stormwater BMP Clearinghouse):**

   Aqua-Ponic™ Stormwater Biofiltration System

2. **Company Name:** AquaShield™, Inc.
   Mailing Address: 2733 Kanasita Drive, Suite 111
   City: Chattanooga
   State: TN **Zip**: 37343

3. **Contact Name** (of person to be listed on the Virginia Stormwater BMP Clearinghouse)**:**
   Mark B. Miller
   Mailing Address: 2733 Kanasita Drive, Suite 111
   City: Chattanooga
   State: TN **Zip**: 37343
   Phone number: (423) 870-8888
   Fax number: (423) 826-2112
   E-mail address: mmiller@aquashieldinc.com
   Web address: www.aquashieldinc.com

4. **Treatment Type**
   ☐ Hydrodynamic Structure
   ☐ Filtering Structure
   X Manufactured Bioretention System
   Provide Infiltration Rate (in/hr): 674 (7.0 gpm/ft^2 of filter surface area)
   ☐ Other (describe):

5. **Certification** (check all that apply and submit all certification letters from TAPE and/or NJDEP):

   ☐ **TAPE**
   ☐ TP (include Technical Evaluation Report if applying for greater than 50% TP removal efficiency)
   ☐ TSS

   X NJDEP (TSS)

NJDEP Certification Letter dated January 21, 2021 attached (includes Inspection & Maintenance Manual). The Aqua-Ponic™ has been certified for 80% TSS removal according to the NJDEP 2013 laboratory testing protocol for filtration MTDs.

6. Proprietary BMP History:
How long has this specific model/design been on the market?

Since June 2020.

7. Maintenance:
What is the generic inspection and maintenance plan/procedure? (Attach necessary documents):

Aqua-Ponic™ Inspection & Maintenance Manual attached.

Maintenance frequency for the Aqua-Ponic™ will ultimately be determined by site-specific pollutant loading conditions. Inspections of the, plants, top gravel layer and the upper portion of the plant stabilization filter media can be accomplished from the surface without special tools. In general, quarterly inspections should be performed during the first year of operation to better anticipate maintenance frequency in the first year and subsequent years of operation.

An Aqua-Ponic™ maintenance event should first determine any obvious signs of degradation, displacement, sediment or trash accumulation, or oil in the upper layers of the unit. The top gravel layer should be completely replaced and can be removed by shoveling or vacuuming. The top several inches of the underlying plant stabilization filter media may be replaced at the same time if warranted.

Depending on site conditions, it may be necessary to remove all the media and all the plants and completely replace these components of the system. It is recommended that the wicks be replaced if a system is fully replaced with stabilization media and plants.

Sediment can accumulate in the base of the water supply sump over a period of time. After removing the pea gravel layer, the plants and the plant stabilization filter media bed, the perforated metal plate should be removed to access the water supply sump from the surface for the purpose of vacuuming water and any accumulated sediment. The wicking ropes should also be replaced at this time. The perforated metal plate with the new wicking ropes should be set in place prior to installing the plant stabilization filter media on top of the plate.

AquaShield™ can provide the plant stabilization filter media, wicks and any associated grommets. Although unlikely, the supporting stainless-steel plate can also be supplied by AquaShield™ if its replacement is necessary. While we recommend that the pea gravel be replaced as warranted, it may be feasible to wash the gravel during a maintenance event. However, in most cases it is more efficient to replace the pea gravel or any landscaping glass to avoid disposal of water that was used to clean either of those materials.

All I&M activities can be performed from the surface without the need for AquaShield™ personnel to be present. We recommend that all materials removed during the maintenance process be handled and disposed in accordance with all applicable federal, state and local guidelines.

Is the maintenance procedure and/or are materials/components proprietary?

X Yes, proprietary

The plant stabilization filter media is proprietary.

X No, not proprietary

The pea gravel, geosynthetic fabric, grommets, wicks and perforated steel plate(s) are not proprietary. However, AquaShield™ can facilitate maintenance events for any replacement of the geosynthetic fabric, grommets, wicks and steel plate. Pea gravel can be easily acquired by the site stakeholder.

8. **Comments**
Include any additional explanations or comments:

The NJCAT Verification Report dated November 2020 is available at http://www.njcat.org/uploads/newDocs/NJCATAquaPonicReportFinal.pdf.

This application seeks approval for 40% Total Phosphorus (TP) Removal according to Table 1 in DEQ Guidance Memo No. GM21-2006, effective date December 29, 2021.

9. **Certification**
Signed by the company president or responsible officer of the organization:

"I certify that all information submitted is to the best of my knowledge and belief true, accurate, and complete."

Signature: E. B. R

Name: Eric B. Rominger

Title: General Manager

Date: 3/25/22

NOTE: All information submitted to the Virginia Department of Environmental Quality will be made publicly accessible to all interested parties. If the device is approved by the Department, this Proprietary BMP registration form will be posted on the Virginia Stormwater BMP Clearinghouse.