



September 2026

**GENERAL USE LEVEL DESIGNATION FOR
BASIC (TSS) TREATMENT**

For

**Convergent Water Technologies
FocalPoint – High Performance Modular Biofiltration System**

Ecology's Decision

Based on Convergent Water Technologies (Convergent) application submission for the FocalPoint – High Performance Modular Biofiltration System (FocalPoint HPMBS), Ecology hereby issues the following use level designation:

- 1) General Use Level Designation (GULD) for Basic Treatment:
 - Sized at a hydraulic loading rate of 1.6 gallon per minute (gpm) per square foot (sq ft) of media surface area.
- 2) Maintenance data collected during the initial TAPE GULD testing and the post GULD maintenance assessment demonstrated the system was able to treat the following percentage of a water year before needing maintenance:

	Site Location	Land Use	Average TSS (mg/L)	D ₅₀ PSD (µm)	Maintenance Cycle ¹ (% water year)
GULD Testing	Portland, OR	Highway	131	12	1.6
Maintenance ² Assessment					

¹ Ecology recommends considering maintenance cycle information when sizing the system. Sizing may need to be increased to meet the project, permit, or jurisdiction maintenance cycle.

² Maintenance Assessment data are collected after issues of the GULD. Maintenance assessment shall be completed by September 30, 2029.

- 3) Ecology approves the FocalPoint HPMBS at the hydraulic loading rate listed above, to achieve the maximum water quality design flow rate. The water quality design flow rates are calculated using the following procedures:

- Western Washington: For treatment installed upstream of detention or retention, the water quality design flow rate is the peak 15-minute flow rate as calculated using the latest version of the Western Washington Hydrology Model or other Ecology- approved continuous runoff model and as described in section III-2.6 of the 2024 Stormwater Management Manual for Western Washington (SWMMWW).
 - Eastern Washington: For treatment installed upstream of detention or retention, the water quality design flow rate is the peak 15-minute flow rate as calculated using one of the three methods described in Chapter 6.5.1 of the 2024 Stormwater Management Manual for Eastern Washington (SWMMEW) or local manual.
 - Entire State: For treatment installed downstream of detention, the water quality design flow rate is the full 2-year release rate of the detention facility.
- 4) The General Use Level Designation has no expiration date, but Ecology may revoke or amend the designation and is subject to the conditions specified below.

Ecology's Conditions of Use

The FocalPoint HPMBS shall comply with these conditions:

1. Applicants shall design, assemble, install, operate, and maintain the FocalPoint HPMBS in accordance with the Convergent applicable manuals and the Ecology Decision.
2. Applicants shall determine the minimum size filter surface-area for use in Washington by using the design water quality flow rate (as determined in Ecology Decision, Item 3, above, and the Hydraulic Loading Rate (as identified in Ecology Decision, Item 1, above). Calculate the required area by dividing the water quality design flow (cu-ft/sec) by the Hydraulic Loading Rate (converted to ft/sec/sq ft) to obtain the required surface area (sq ft) of the FocalPoint HPMBS unit. Runoff must pass through the full media depth and not flow horizontally from the media into existing soils. Take care to ensure that this will occur. The calculated surface area must have full media depth and shall not include areas with sloped sides.
3. Each site plan must undergo Convergent review before Ecology can approve the unit for site installation. This will ensure that design parameters including site grading and slope are appropriate for use of a FocalPoint HPMBS unit.
4. The FocalPoint HPMBS may be lined with an impermeable liner or, if the long-term infiltration rate of the native soils is less than 10 in/hr, lined with a permeable liner. A permeable liner allows a portion of the treated flow to infiltrate into the surrounding soil to help recharge the groundwater. Systems using permeable liners must be constructed with at least 3" of drain rock beneath the invert of the underdrain. The basin for a system with a permeable liner must not be over excavated since no imported backfill can be placed adjacent to the mulch, media, or drain rock.
5. Evaluate site characterization and suitability, as outlined in the 2024 Stormwater Management Manual for Western Washington Section V-5.6 or 2024 Stormwater

Management Manual for Easter Washington Chapter 6.5.6, before installing the FocalPoint HPBMS.

6. Convergent tested the FocalPoint HPMBMS without plants. The GULD applies whether plants are included in the final product or not.
7. Maintenance: The required inspection/maintenance interval for stormwater treatment devices is often dependent on the efficiency of the device and the degree of pollutant loading from a particular drainage basin. Therefore, Ecology does not endorse or recommend a “one size fits all” maintenance cycle for a particular model/size of manufactured treatment device.
 - Convergent designs FocalPoint HPMBMS systems for a target maintenance interval of 6 months in the Pacific Northwest. Typical maintenance includes cleaning the inlet area, removing and replacing the mulch layer, and trimming plants to encourage growth.
 - A FocalPoint HPMBMS tested at the Stormwater Testing Technology Center (STTC) in Portland, OR was on average able to treat 1.6 percent of a water year before needing maintenance. Monitoring personnel have observed similar maintenance issues with other systems evaluated at sites that receive predominantly highway runoff. The runoff from the STTC may not be indicative of maintenance requirements for all sites.
 - Owners/operators must inspect the FocalPoint HPMBMS systems for a minimum of twelve months from the start of post-construction operation to determine site-specific inspection/maintenance schedules and requirements. Owners/operators must conduct inspections monthly during the wet season, and every other month during the dry season (According to the SWMMWW, the wet season in western Washington is October 1 to April 30. According to the SWMMEW, the wet season in eastern Washington is October 1 to June 30). After the first year of operation, owners/operators must conduct inspections based on the findings during the first year of inspections.
 - Conduct inspections by qualified personnel following manufacturer’s guidelines.
8. The distance from point of entry of water to the most distant point on the surface of the FocalPoint HPMBMS treatment media shall not exceed 12-feet. The FocalPoint HPMBMS requires the water to flow across the entire surface area to obtain optimal performance.
9. Install the FocalPoint HPMBMS in such a manner that you bypass flows exceeding the maximum operating rate and you will not resuspend captured sediment.
10. Discharges from the FocalPoint HPMBMS shall not cause or contribute to water quality standard violations in receiving waters.

Applicant: Convergent Water Technologies

Applicant’s Address: 13100 Wortham Center Dr., 3rd Floor, Suite 3134
Houston, TX 77065

Application Documents:

Technical Evaluation Report: FocalPoint High Performance Modular Biofiltration System Performance Verification, Convergent Water Technologies, July 2026

Quality Assurance Project Plan: Convergent FocalPoint High Performance Modular Biofiltration System Performance Verification, Convergent Water Technologies, June 2024

Initial Application for Certification, Emerging Stormwater Treatment Technologies for the FocalPoint – High Performance Modular Biofiltration System (HPMBS), A Biofiltration Stormwater Treatment System, Convergent Water Technologies, April 2023

Applicant's Use Level Request:

General Use Designation as a Basic Treatment device in accordance with Ecology's *Stormwater Management Manual for Eastern Washington* and *Stormwater Management Manual for Western Washington*

Applicant's Performance Claims:

Based on field testing at a hydraulic loading rate of 1.6 gpm/sq ft the FocalPoint HPMBS will meet TAPE performance goals for TSS.

Ecology's Recommendations:

Ecology finds that Convergent has shown, through field-testing in the Pacific Northwest, that the FocalPoint HPMBS is capable of attaining Ecology's Basic treatment goals at a hydraulic loading rate of 1.6 gpm/sq ft.

Findings of Fact:Field Testing

Herrera Environmental Consultants, Inc. conducted monitoring of the FocalPoint HPMBS at the STTC in Portland, Oregon between October 2024 and December 2025. Herrera collected flow-weighted composite samples during 19 separate storm events. The system was sized at a hydraulic loading rate of 1.6 gpm/sq ft.

- The average D50 of the influent PSD was 12 microns.
- TAPE influent range requirements and/or testing criteria were met for 15 of the storm events. For these events influent concentrations ranged from 23.4 mg/L to 474 mg/L with a mean concentration of 131 mg/L. All but four influent samples were below 100 mg/L so the results were assessed against the 20 mg/L effluent performance goal. The bootstrap estimate of the upper 95 percent confidence limit (UCL95) of the mean TSS effluent concentration was 19.8 mg/L. The influent concentrations greater than 200 mg/L (the upper end of the TAPE influent concentration range) were capped at 200

mg/L before performing the bootstrap analysis.

- The system needed to be maintained twice during the monitoring period: after 1.6 percent of a water year and 1.3 percent of a water year. The system then treated another 1.9 percent of a water year without needing maintenance before the evaluation was completed. On average the system could treat 1.6 percent of a water year before needing to be maintained. Monitoring personnel have observed similar maintenance issues with other systems evaluated at sites that receive predominantly highway runoff. The runoff from the STTC may not be indicative of maintenance requirements for all sites. Maintenance performed consisted of replacing the mulch and upper few inches of the media.

ACF Environmental (ACF) conducted monitoring of the FocalPoint HPMBS in Pittsburgh, PA between July 2015 and May 2016. The system was sized at a hydraulic loading rate of 1.0 gpm/sf. ACF collected flow-weight composite samples during 20 separate storm events.

- Influent TSS concentrations ranged from 4.9 mg/L to 1560 mg/L, with a mean concentration of 303 mg/L. For samples with an influent concentration between 20-100 mg/L (n=6) the bootstrap estimate of the upper 95 percent confidence limit (UCL 95) of the mean TSS effluent concentration was 18 mg/L. For samples with an influent concentration greater than 100 mg/L (n=12) the bootstrap estimate of the lower 95 percent confidence limit (LCL 95) of the mean TSS reduction was 91%. Influent concentrations greater than 200 mg/L were capped at 200 mg/L (the upper end of the allowed TAPE range) before doing the analysis.
- Total phosphorus influent concentrations ranged from 0.0397 mg/L to 2.04 mg/L, with a mean concentration of 0.538 mg/L. For samples with concentrations greater than 0.1 mg/L (n=14) the bootstrap estimate of the LCL 95 of the mean total phosphorus reduction was 53%. Influent concentrations greater than 0.5 mg/L were capped at 0.5 mg/L (the upper end of the allowed TAPE range) before doing analysis.

The NAVFAC Environmental Laboratory conducted monitoring of the FocalPoint HPMBS at the Naval Base Point Loma (CA) between February 2018 and May 2019. The system was evaluated as part of a treatment train, but influent and effluent samples were also collected from the FocalPoint HPMBS to evaluate it as a standalone treatment device. The system was sized at a hydraulic loading rate of 0.5 gpm/sf. NAVFAC Environmental Laboratory collected flow-weight composite samples during 14 separate storm events.

- Influent TSS concentrations ranged from 8.1 mg/L to 100 mg/L with a mean concentration of 31.8 mg/L. The majority of influent samples had concentrations below 20 mg/L (the lower end of the allowed TAPE range). This is likely due to an upstream pretreatment gabion filter that was part of the treatment train. For the remaining samples with an influent concentration between 20-100 mg/L (n=5) the bootstrap estimate of the UCL 95 of the mean TSS effluent concentration was 25.7 mg/L.
- Total phosphorus influent concentrations ranged from 0.044 mg/L to 0.827 mg/L, with a mean concentration of 0.27 mg/L. For samples with concentrations greater than 0.1 mg/L (n=7) the bootstrap estimate of the LCL 95 of the mean total phosphorus reduction was 72%. Influent concentrations greater than 0.5 mg/L were capped at 0.5 mg/L (the upper end of the allowed TAPE range) before doing analysis.

Laboratory Testing

Alden Research Laboratory conducted laboratory testing on a FocalPoint HPMBS in accordance with the New Jersey Department of Environmental Protection “Laboratory Protocol to Assess Total Suspended Solids Removal by a Filtration Manufactured Treatment Device”.

- The test unit was 4.04 ft wide by 5 ft long with a resulting filtration area of 20.21 square feet. The unit was tested at a hydraulic loading rate of 1.6 gpm/sf which resulted in a design flow of 32 gpm.
- The test sediment used during the testing was comprised of 1-1000 micron silica particle sands and had an average d50 of 58 µm.
- Alden Research Laboratory evaluated removal efficiency over 12 events using a targeted influent SSC concentration of 200 mg/L. Two events were omitted from the cumulative removal efficiency since the influent concentration exceeded the 10% allowable tolerance. The FocalPoint HPMBS, operating at 100% flow capacity with an average influent SSC concentration of 198 mg/L, had a cumulative removal efficiency of 94.6%.
- Alden Research Laboratory evaluated sediment mass loading capacity over an additional 13 events using a targeted influent SSC concentration of 200 mg/L. During these events, operating at 100% flow capacity with an average influent SSC concentration of 196 mg/L, the FocalPoint HPMBS had a cumulative removal efficiency of 95%.
- The FocalPoint HPMBS demonstrated a mass loading capture capacity of 75.02 lbs (3.56 lbs/sf of filter area).

Other FocalPoint HPMBS Related Issues to be Addressed by the Company:

1. Conduct post GULD maintenance assessment to obtain additional information about maintenance longevity and requirements. Complete testing by September 30, 2029.

Technology Description: <https://convergentwater.com/the-innovations/focalpoint-biofiltration-system/>

Contact Information:

Applicant: Scott Gorneau
Convergent Water Technologies
13100 Wortham Center Dr., 3rd Floor, Suite 3134
Houston, TX 77065
(408) 427-7571
sgorneau@convergentwater.com

Applicant website: convergentwater.com/

Ecology web link: <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies>

Ecology: Douglas C. Howie, P.E.
Department of Ecology
Water Quality Program
(360) 870-0983
douglas.howie@ecy.wa.gov

Revision History

Date	Revision
May 2023	CULD Granted
September 2026	GULD Granted for Basic Treatment