TEST PLAN APPLICATION TEMPLATE

for Field Verification of

Advanced Onsite Pretreatment Units for Nitrogen Reduction

Chesapeake Bay Watershed States

This document is a template to be used by applicants seeking approval of advanced onsite pretreatment units for nitrogen reduction in states within the Chesapeake Bay Watershed. The focus is on nitrogen reduction as nitrogen is a critical nutrient impacting water quality within Chesapeake Bay. The Test Plan Application Template is only for field verification of treatment systems with rated capacities between 400 – 1500 gallons/day, and does not include soil treatment with the leaching field as part of the process.

An applicant will submit a Test Plan Application, based on this template. The sampling procedure outlined in this document is for field verification testing. It assumes that initial data collection for the system performance has been completed and that the system is approved for field verification in the states where final approval is requested. If a system has received approval from one or more Chesapeake Bay Watershed States prior to the adoption of these protocols, they can elect to apply for approval from the other states. Additional testing may be required for some of the states.

Systems that have applied but did not receive approval in the past can elect to apply again using these testing protocols with sufficient justification. Examples of sufficient justification include modification of the treatment unit to address performance shortcomings and/or the discovery of errors in the initial testing – including laboratory errors – sufficient to invalidate the original test's data and conclusions.

This template describes specific data collection protocols required by all of the Chesapeake Bay Watershed States. The Test Plan Application will be reviewed by the states, who will then either: 1) approve the Test Plan Application and allow field verification testing to begin, 2) request changes to the Test Plan Application prior to approval, or 3) deny the request for field verification if the Test Plan Application does not meet the requirements to move forward.

Each state has individual performance standards that must be met to receive approval for general use of an advanced onsite system. General approval of the product is not guaranteed and is subject to review by each state. The applicant should recognize that there may be some risk when installing systems in a state, such as Maryland, that may allow installation of products prior to general approval. Applicants should review the performance standards in each state, where they would like to receive approval, to fully understand the level of system performance required for approval.

Directions

This Test Plan Application template is designed to clearly describe the data collection requirements to be included in the field verification testing. Some states may have additional submission requirements that the applicant will need to verify. It is the responsibility of the applicant to complete the Test Plan Application according to this template; along with any additional state(s) requirements.

Italicized text in this Test Plan Application template indicates requirements specific to the Chesapeake Bay Watershed States, while the non-italicized text is adopted from NSF/ANSI Standard 360 (2010). The Test Plan Application must comply with all the requirements, including those in italics. The applicant is to submit the Test Plan Application to each state in this agreement, regardless if they are requesting approval in every state.

TABLE OF CONTENTS

Field Verification Test Plan for

System Name

System Model(s) and Model(s) Number

Applicant Name

Section 1 Test Plan Approval

Verification Organization – Representative Name	**Title**
Verification Organization Representative– Signature	**Date**
Testing Organization – Representative Name	**Title**
Testing Organization Representative – Signature	**Date**
Applicant – Representative Name	**Title**
Applicant – Signature	**Date**

Section 2 Project Description and Objectives

2.1 Project Description

The Test Plan shall provide a description of the project, an overview of the testing to be performed, the test objectives, and *any previous certifications (e.g., NSF 40/245). The applicant must identify the model(s) that will be used in the test population and the associated design flow(s). Information for all models for which approval is sought should be identified, including engineering diagrams, O&M manuals, and installation requirements. In the future, if the design specifications for an approved model are altered, approval of the new model will be at the discretion of each individual state depending on the extent of change to the system design and associated treatment processes.*

2.2 Project Objectives

Identification of critical measurements, data quality objectives, data quality indicator goals, the schedule for completing testing, and milestones shall be addressed. *The applicant is to include expected product field performance based on previous data collection, including but not limited to data collected in compliance with the initial data collection protocol developed by the Chesapeake Bay Watershed States (see Section 3.3). Pennsylvania requires initial data collection to be either NSF Standard 245 certified or qualified by NSF as being equivalent to NSF 245, in addition to the other additional requirements specific by the Chesapeake Bay Watershed states Initial Data Collection Protocol.*

Additionally, the applicant will be required to make a presentation regarding their application to the Chesapeake Bay States before the Test Plan is approved. The presentation will most likely be in the form of a webinar, so that all states can participate.

Section 3 Project Organization

3.1 Key Project Contacts

In addition to the manufacturer ("applicant"), who is the entity that develops, designs, and produces residential wastewater treatment systems, there are two other important entities in this process to ensure that the product undergoes third-party testing. Third-party testing is testing conducted by an independent party under contract to the Verification Organization to test a particular product pursuant to an approved Test Plan, with an obligation to report all results.

The Testing Organization is defined as an independent third-party that implements the technology-specific Test Plan described herein, including documentation and sample reporting to the Verification Organization. One or more Testing Organizations can be chosen to conduct third-party testing for the product.

The Verification Organization is an independent third-party that is responsible for the oversight of the Testing Organization in preparation and completion of testing, and in preparation, review and completion of the final report. The Verification Organization must be independent; a person or body that is recognized as being independent of the person or organization that sells the treatment unit, as well as independent from the manufacturer and user of the treatment unit. They are independent because they are not affiliated with the producer, the seller, or the end user of the item being tested (i.e., no commercial bias is present). An individual, such as professional engineer, geologist, university professor, or other qualified professional, can also act as a

Verification Organization. *The qualifications of the Verification Organization must be provided and will be subject to review and approval as part of the test plan application review.*

The Chesapeake Bay Watershed States have chosen NSF International as an acceptable Verification Organization. An applicant may propose another organization for review and approval by the states. Only one Verification Organization should be used for all systems tested under this application. A state may also conduct its own independent review and verification of the data collected during field testing.

Table 1: Project Contacts

Verification Organization	Name
Contact Person Name	Phone Number: Address: Email Address:
Testing Organization	Name
Contact Person Name	Phone Number: Address: Email Address:
Applicant	Name
Contact Person Name	Phone Number: Address: Email Address:

3.2 Chesapeake Bay States Contact Information

Questions on test plan template or the approval process in each state can be addressed to the contacts provided in Table 2 below.

Table 2. State Agency Contacts

State	Name	Phone	Email
DE	Dave Schepens	(303) 739-4762	Dave.Schepens@state.de.us
MD	Jay Prager	(410) 537-3599	Jay.Prager@maryland.gov
NY	Ben Pierson (DOH) Thomas Boekeloo (DEC)	(518) 402-7650 (518) 402-8243	Ben.Pierson@health.ny.gov Thboekel@gw.dec.state.ny.us
PA	John Diehl, P.G.	(717) 783-2941	Jdiehl@pa.gov
VA	Marcia Degen	(804) 387-1883	Marcia.Degen@vdh.virginia.gov
WV	Rick Hertges	(304) 356-4340	Rick.A.Hertges@wv.gov

3.3 State Approval Request

In the table below, indicate the state(s) in which the applicant is requesting system approval. Some states require that a certain amount of units be field tested in-state. Please indicate the proposed number of units to be installed in the states where approval is sought.

Table 3: Summary of Requested Approvals

State	Date of pre-approval of initial data	Units installed in-state		Approval Requested
		Required	Proposed	
Delaware		0		
Maryland		6		
Pennsylvania		6		
Virginia		0		
West Virginia		0		
New York		N/A*		

* While New York State is supportive of the data sharing efforts across the Chesapeake Bay Watershed states, the current number of nitrate removing residential or small private/commercial/institutional systems in New York State is very limited. As a result, New York State chooses not to participate in requiring a field verification test plan at this time. Both the New York State Department of Health and New York State Department of Environmental Conservation request that they be kept up to date on the progress of this project and similar data-sharing opportunities.

Existing Data on System Performance

Documentation of the performance of the system according to the Initial Data Collection Protocol agreed to by the Chesapeake Bay states should be provided. Some systems may have received initial or provisional approval prior to the adoption of the initial data collection protocols. In those cases, the approval documentation should also be submitted so each state can confirm the proposed system is eligible to proceed to the field verification stage. Pennsylvania requires initial data collection to be either NSF Standard 245 certified or qualified by NSF as being equivalent to NSF 245, in addition to the other additional requirements specific by the Chesapeake Bay Watershed states Initial Data Collection Protocol. Where available, the applicant will provide the date for which each state gave approval of the initial data submitted in Table 3 above.

3.4 Location of Installed Units

The table in Appendix A is to be used by the applicant to submit the locations for the units to be tested during field verification with the following requirements:

- *20 sites must be submitted by the applicant for review and approval by all states where approval is sought;*
- *15 sites will be selected, with a minimum of 12 units to be tested and 3 sites to remain as reserves. More sampling and reserve sites can be approved if the manufacturer has a reason to test additional sites; and*
- *At least 25% of the total tested units must be installed at locations underlain by a non-carbonaceous geologic formation with an alkalinity concentration of 200 mg/L or less in the potable water discharged into the septic system. The applicant should disclose if any water treatment system is used in the home and provide information on the type of treatment used.*

States do not require field test locations until the Test Plan is approved. The applicant must submit this information prior to sampling and is subject to approval by the states. Site

identification labels should include the state abbreviation for which the site is located. The table must include the following information:

- Site location (street address, town, county, state)
- *Occupancy*
- Property owner contact information
- Any stipulations on access to the treatment system

Copies of all signed homeowner permissions to enter the property should be attached to this plan. *This information is required to be submitted after the Test Plan is approved and prior to sampling. Due to the potential complications of finding appropriate locations, the list provided in Appendix A can be reviewed and updated as needed.*

All systems shall be representative of residential use and should meet the following requirements:

- System is used in a manner consistent with the manufacturer's guidelines; and
- Homeowner certifies that they are not being compensated with direct remuneration by the manufacturer for being part of the evaluation. Exceptions to compensation include a reduced cost for the installation of the system being tested or the offer of an extended warranty or service contract.

Section 4 Experimental Approach

4.1 Sampling Points

Describe the sampling/monitoring points for all measurements, including locations and access points.

4.2 Frequency and Number of Samples

The Test Plan shall include the frequency of sampling/monitoring events, as well as the number of each sample type and/or location, including QC and reserve samples. The sampling strategy and procedures shall be included and evidence must be presented to demonstrate that the strategy is appropriate for meeting verification objectives.

Sampling shall include, at a minimum:

- *Sampling on an individual unit will not begin until the unit has operated continuously for at least three consecutive months.*
- *Effluent samples will be 24-hour time composite samples using the same sampling method for all sites being tested. The applicant must describe how the composite sample will be collected and how it represents an accurate composite of the 24-hour flow through the system.*
- *Influent samples will not be collected; however, an assumed default value of 60 mg/L of total nitrogen is used. An alkalinity sample will be taken quarterly from the homeowners tap.*
- *Samples will be collected once per quarter for four consecutive quarters at each field site. One sample per site will be taken between December 15 and March 15, to be representative of cold weather samples. A minimum of 45 days between sample events at each site is required. Only four samples per site can be taken without preapproval from the Verification Organization. The applicant has a maximum of three years from the Test*

Plan approval date to complete the testing program and submit all required deliverables without preapproval from the states.

4.3 Data Measurements

All measurements shall be identified for each sample type, and test-specific target analytes shall be listed and classified as critical or non-critical in the Test Plan.

Measurements to be conducted on effluent samples include $CBOD_5$, TSS, DO, pH, NO2, NO3, TKN, ammonia-N, total-nitrogen, and alkalinity. Wastewater temperature and ambient air temperature will also be recorded. For purposes of evaluating the nitrogen treatment performance of a system, it will be assumed that the influent nitrogen concentration to the treatment system will be 60 mg/L.

Additionally, an estimate of influent flow shall be included based on the site's water bill. If no water bill is available, the pump event counter or telemetry system can be used to estimate the flow. If no counter is available through the system, an assumed occupancy flow estimate of 45 gallons/person/day[1] shall be used.

The samples collected shall be analyzed as shown in Table 4.

Table 4: Sampling Summary

Parameter	Sample Type	Testing Location
CBOD5	24 h composite	Laboratory
Total suspended solids	24 h composite	Laboratory
pH	Grab	Test site
Temperature (wastewater)	Grab	Test site
Temperature (ambient air)	Grab	Test site
Dissolved Oxygen	Grab	Test site
Influent Alkalinity (as CaCo3)	Grab from tap	Laboratory
Effluent Alkalinity (as CaCO3)	24 h composite	Laboratory
TKN (as N)	24 h composite	Laboratory
Ammonia-N (as N)	24 h composite	Laboratory
Nitrite-N (as N)	24 h composite	Laboratory
Nitrate-N (as N)	24 h composite	Laboratory

4.4 Data Evaluation

The planned approach (statistical and/or non-statistical) for evaluating data, including formulas, units, and definitions of terms, shall be included in the Test Plan, *and be in accordance with NSF 360 Section 8: Statistical evaluation of data. The statistical data analysis shall include at a minimum:*

- *Median;*
- *Mean;*
- *Standard Deviation;*
- *Variance "within" and "between" sites; and*
- *Percent Exceedance Curve, with all data.*

[1] WERF 2009 "Influent Constituent Characteristics of the Modern Waste Stream from Single Sources"

The effluent data will be evaluated separately by each state based on their state performance standards for system approval. If the system is determined to not be performing as expected, the state has the authority to revoke or delay approval for additional product construction.

4.5 Safety and Hygiene Plans

The Test Plan shall include or reference safety and hygiene plans for the relevant testing organization and laboratory.

Section 5 Sampling Procedures

5.1 Site Evaluation and Factors

Site evaluation shall include general site description such as access to system, access to outlet, power availability, security, site drawings and photos, and installation instructions and details. The Test Plan shall identify known site-specific factors that may affect sampling/monitoring procedures.

5.2 Site Preparation

Any site preparation needed prior to sampling/monitoring shall be described in the Test Plan.

5.3 Sampling Procedure

Each sampling/monitoring procedure to be used shall be discussed or referenced in the Test Plan. *Any components added to the system to facilitate sampling that would not otherwise be a part of the system installation must be identified in the Test Plan.*

5.4 Representative Samples

The Test Plan shall include discussion of the procedures to be used to assure that representative samples are collected.

5.5 Sample Volumes

A list of sample volumes to be collected and the amount of sample required for each analysis, including QC sample analysis, shall be specified in the Test Plan. *Information on sample volumes should be provided in a table similar to the example provided in Appendix B.*

5.6 Split Samples

For samples requiring a split sample for either QA/QC purposes or for shipment to a different laboratory, the Test Plan shall identify who is responsible for splitting samples and where the splitting is performed.

5.7 Sample Containers and Preservation Methods

Sample containers and preservation methods (i.e., refrigeration, acidification, etc.) including specific reagents, equipment, and supplies required for sample preservation shall be described in the Test Plan. *Information on sample preservation should be provided in a table similar to the example provided in Appendix B.*

5.8 Hold Time Requirements

Hold time requirements shall be specified in the Test Plan *and provided in a table similar to the example provided in Appendix B.*

5.9 Sample Transportation

Procedures for transporting samples shall be described in the Test Plan.

5.10 Sample Archiving

Sample archiving requirements, or sample retention policies, for the organizations conducting the sampling and analysis shall be provided in the Test Plan.

Section 6 System Operation and Maintenance

The system Operation and Maintenance manual should be attached to the Test Plan.

6.1 System Operation

Each unit will be operated under residential use and occupied by at least two people for the duration of the study. Intermittent periods of time with a lower to no occupancy shall not be considered as disqualifying but shall be recorded in the field log book and reported in the final report.

When, in the course of verifying field performance, a system is discovered that fails to meet the site selection criteria, or is being operated outside the limits established by the manufacturer; the system may be disqualified from field performance testing by the Verification Organization. Should a system initially identified for testing be found during testing to be unqualified, the results from a reserve system may be substituted for the unqualified system. All data collected shall be reported; however, only the twelve systems identified at the end of the study *and before the final report is submitted* as the primary systems shall be used to established the field performance results. Changes in occupancy or the manner of use, which occur over the period of field evaluation, shall be noted.

Systems selected for evaluation under this field verification shall be occupied by at least two people for the duration of the study. Intermittent periods of time with a lower occupancy such as may occur during a vacation or normal travel shall not be considered as disqualifying, but shall be recorded in the site log and reported in the final report.

6.2 System Maintenance

All units must be operated under a valid maintenance agreement or contract, or in accordance with the system O&M manual and any state requirements, and shall extend through the period covering the final sample collection. System inspections shall be conducted according to both the applicant specifications and state requirements. At a minimum, inspections will occur twice per year. No maintenance will be performed on the unit outside of routine maintenance, as specified in the system O&M manual. Any maintenance conducted on the unit cannot be done on the same day as sampling. The system maintenance provider shall be independent of the testing organization.

6.3 Field Log Book

A log will be kept to include any observations during the duration of field testing including information on site conditions or factors specified in Section 5.1. All maintenance performed on the unit will be recorded in the field log book and submitted along with the other deliverables (Section 9.2).

Additionally, any changes in operation or disruptions to sampling will be described in the log book. Notes will be made in the field log book to record any site conditions that could impact operation of the system or collection of samples, such as the number of residents in the home,

changes in resident conditions that could impact system operation (such as medications), mechanical or electrical problems with the system, etc.

Section 7 Analytical Procedures

Sample analysis will be conducted using an appropriate EPA method or method in Standard Methods for the Examination of Water and Wastewater.

7.1 Measurement Methods

Each measurement method to be used shall be described in detail or referenced in the Test Plan. Where appropriate, modifications to EPA approved or similarly validated methods shall be specified. Methods shall be appropriate to the matrix/analyte being tested. *Details on the sample methods, and accuracy and precision criteria for the analytical methods should be provided in a manner similar to the example provided in Appendix C.*

7.2 Calibration Procedures

For measurements requiring a calibrated system, the Test Plan shall include specific calibration procedures applicable to each target analyte, and the procedures for verifying both initial and continuing calibrations (including frequency and acceptance criteria, and corrective actions to be performed if acceptance criteria are not met).

Section 8 Quality Assurance Project Plan (QAPP)

The applicant is responsible for submitting a QAPP that follows the guidelines in NSF 360 Section 7: Quality Assurance/Quality Control. The QAPP shall be attached to this Test Plan and address the following points:

- Procedures to maintain chain-of-custody (e.g., custody seals, records) during sample transfer from the field to the laboratory, in the laboratory, among contractors, and subcontractors shall be described in the QAPP to ensure that sample integrity is maintained.
- The QAPP shall include quantitative acceptance criteria for QA objectives associated with accuracy, precision, detection limits, and completeness for critical measurements (process, physical, and analytical, as applicable) for each matrix.
- Any additional test-specific QA objectives shall be presented in the QAPP, including acceptance criteria. This includes items such as mass balance requirements.
- The specific procedures used to assess all identified QA objectives shall be fully described in the QAPP.
- The QAPP shall list and define all other QC checks and/or procedures (i.e., blanks, surrogates, controls, etc.) used for the verification testing, both field and laboratory.
- For each specified QC check or procedure, required frequencies, associated acceptance criteria, and corrective actions to be performed, if acceptance criteria are not met, shall be included in the QAPP.
- The QAPP shall describe how the sampling equipment is calibrated and the frequency of calibration.
- The QAPP shall describe how cross-contamination between samples is avoided.

- All QA Managers and their relationship in the organizations (i.e. location within each organization) shall be identified in the QAPP with evidence that the QA Manager is independent of project management.
- Responsibilities of all other project participants shall be identified in the QAPP, meaning that organizations responsible for planning, coordination, sample collection, sample custody, measurements (i.e. chemical, physical, and process), data reduction, data validation, and report preparation shall be clearly identified in the QAPP.
- Any change from the approved plan, in sampling procedure, must be approved in advance by the states where approval is being requested.
- All treatment units being sampled must be designed, installed and configured precisely as the treatment units that received initial approval.

Section 9 Data Reporting and Data Reduction

9.1 Data Reporting Requirements

The reporting requirements (e.g., units, method) for each measurement and matrix shall be identified in the Test Plan.

9.2 Expected Deliverables

The deliverables expected from each organization responsible for field and laboratory activities shall be listed in the Test Plan. *The data shall be provided in Microsoft Excel format. Data will also be submitted using the template in Appendix D. The Field Log Book must be included as a deliverable.*

9.2.1 Final Report

The final report shall be submitted to each state for its individual evaluation.

The test plan should provide the outline for a final report, including:

1. Description of site selection;
2. Specifications for the tested system;
3. Description of typical installation;
4. Geographic location of systems tested;
5. List of key participants;
6. Complete description of sampling and analytical methods;
7. All testing results including *all sample data* and any statistical analyses or other data summaries or evaluations; and
8. Rationale for exclusion of data or removal of a system from statistical analysis.

Appendix A: Field Log Book
Appendix B: Completed Data Submission (Appendix D)

9.3 Data Storage

Data storage requirements for each organization shall be provided in the Test Plan. *Each organization should keep all relevant documents that support the project's outcome (i.e., chain-of-custody forms, laboratory bench sheets, field log records) for a minimum of ten years unless another timeframe is approved by the states reviewing the plan.*

Section 10 Assessments

10.1 Audits

The Test Plan shall identify all audits (i.e., both internal systems audits and internal performance audits, where applicable) to be performed, who will perform these audits, and who will receive the audit reports. Additional supervised inspections may be conducted.

10.2 Procedures for Corrective Actions

The Test Plan shall provide procedures to be followed to ensure that necessary corrective actions will be performed in response to audit findings. The responsible party(s) for implementing corrective actions shall be identified.

Section 11 References

References shall be provided in the Test Plan either in the body of the text as footnotes or in a separate section.

NSF International Standard/American National Standard. NSF/ANSI 245 – 2010a: Wastewater Treatment Systems- Nitrogen Reduction. NSF International, November 2010.

NSF International Standard/American National Standard. NSF/ANSI 360 – 2010: Wastewater Treatment Systems-Field Performance Verification. NSF International, November 2010.

Water Environment Research Foundation (WERF). Influent Constituent Characteristics of the Modern Waste Stream from Single Sources. IWA Publishing: 2009.

Appendix A

Appendix A: Location of Installed Units

Site Identification	Street Address	Town/County	State	Occupancy	Intended Use	Contact Name	Contact Phone	Stipulations on Access
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								
19.								
20.								

Footnote: 20 sites must be submitted by the applicant for review and approval by all states where approval is sought. 15 sites will be selected, with a minimum of 12 units to be tested and 3 sites to remain as reserves, and 25% of the total tested units must be installed in a non-carbonaceous geologic formation. If the applicant would like to test more than 12 units then additional sites should be proposed for selection as sampling and reserve sites.

Appendix B

Appendix B: Preservation, Sample Size, and Hold Time by Analysis

Analysis	Analytical Method	Sample Volume	Preservation	Maximum Holding Time
BOD_5	SM 5210B	1 liter	Cool, 4ºC	48 hours
$CBOD_5$	SM 5210B	1 liter	Cool, 4ºC	48 hours
TSS	EPA 160.2	500 mL	Cool, 4ºC	7 days
Alkalinity	SM 2320	250 mL	Cool, 4ºC	14 days
TKN	EPA 351.2	500 mL	Cool, 4ºC, H_2SO_4 to pH<2	28 days
Ammonia-N	EPA 350.1	500 mL	Cool, 4ºC, H_2SO_4 to pH<2	28 days
NO_3-N	EPA 353.2	500 mL	Cool, 4ºC/Cool, 4ºC, H_2SO_4 to pH<2 0.008% $Na_2S_2O_3$ (if chlorinated)	48 hours/28 days (if preserved) 28 days
NO_2-N	EPA 353.2	500 mL	Cool, 4ºC/Cool, 4ºC, H_2SO_4 to pH<2 0.008% $Na_2S_2O_3$ (if chlorinated)	48 hours/28 days (if preserved) 28 days
pH	SM 4500 H^+B	250 mL	None required	Immediate (field)
Temperature	SM 2550B	250 mL	None required	Immediate (field)
Total Dissolved Oxygen	SM 4500	In-situ	None required	Immediate (field)

Note: This is an example of this information should be presented in the application.

Appendix C

Appendix C: Summary of Analytical Methods, and Accuracy and Precision Criteria

Analysis	**Analytical Method**	**Units**	**Precision (Relative % Difference)**	**Accuracy (%)**
BOD_5	SM 5210B	mg/L	0-20	±25
$CBOD_5$	SM 5210B	mg/L	0-20	±25
TSS	EPA 160.2	mg/L	0-10	N/A
Alkalinity	SM 2320	mg/L as $CaCO_3$	0-10	N/A
TKN	EPA 351.2	mg/L as N	0-10	±20
Ammonia-N	EPA 350.1	mg/L as N	0-10	±20
NO_3-N	EPA 353.2	mg/L as N	0-10	±40
NO_2-N	EPA 353.2	mg/L as N	0-10	±40
pH	SM 4500 H^+B	S. U.	0-10	N/A
Temperature	SM 2550B	ºC	0-10	N/A
Total Dissolved Oxygen	SM 4500	mg/L	0-10	N/A

Note: This is an example of this information should be presented in the application.

Appendix D

APPENDIX D: DATABASE SUBMISSION TEMPLATE

A. Model Information

Model Name		**Model Number**	

B. Manufacturer Information

Name	
Address	
Phone	
Email	

C. Local Distributer Information

Name	
Address	
Contact	
Phone	
Email	

D. Existing Certifications

Please check all that apply.

☐ Third Party Certification:_____

☐ NSF 40 Certification

☐ NSF 245 Certification

☐ EPA ETV Certification

☐ Canadian BNQ Certification

☐ EN 12566-3 Certification

☐ Other:_____

E. Approval in Chesapeake Bay Watershed States (*to be completed by the States*)

☐ Delaware Date:

☐ Maryland Date:

☐ New York Date:

☐ Pennsylvania Date:

☐ Virginia Date:

☐ West Virginia Date:

WATER QUALITY DATA

Model Name	
Manufacturer Name	

Sample Location	Sample Date	Influent TN (mg/L)*	Effluent TN (mg/L)
		60 mg/L	
		60 mg/L	
		60 mg/L	
		60 mg/L	
		60 mg/L	
		60 mg/L	
		60 mg/L	
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		60 mg/L	
		60 mg/L	
		60 mg/L	
		60 mg/L	
		60 mg/L	
		60 mg/L	

*Unless approved by the States to conduct influent sampling, the assumed influent TN concentration is 60 mg/L

Mean TN Effluent Concentration (mg/L)	

VERIFICATION STATEMENT

As a recognized third party verification organization, I certify that the data submitted herein accurately represents the system.

Verification Organization	
Name	
Signature	
Date	