Technology Assessment Protocol - Ecology (TAPE)

Process Overview

Washington State Department of Ecology
Olympia, Washington

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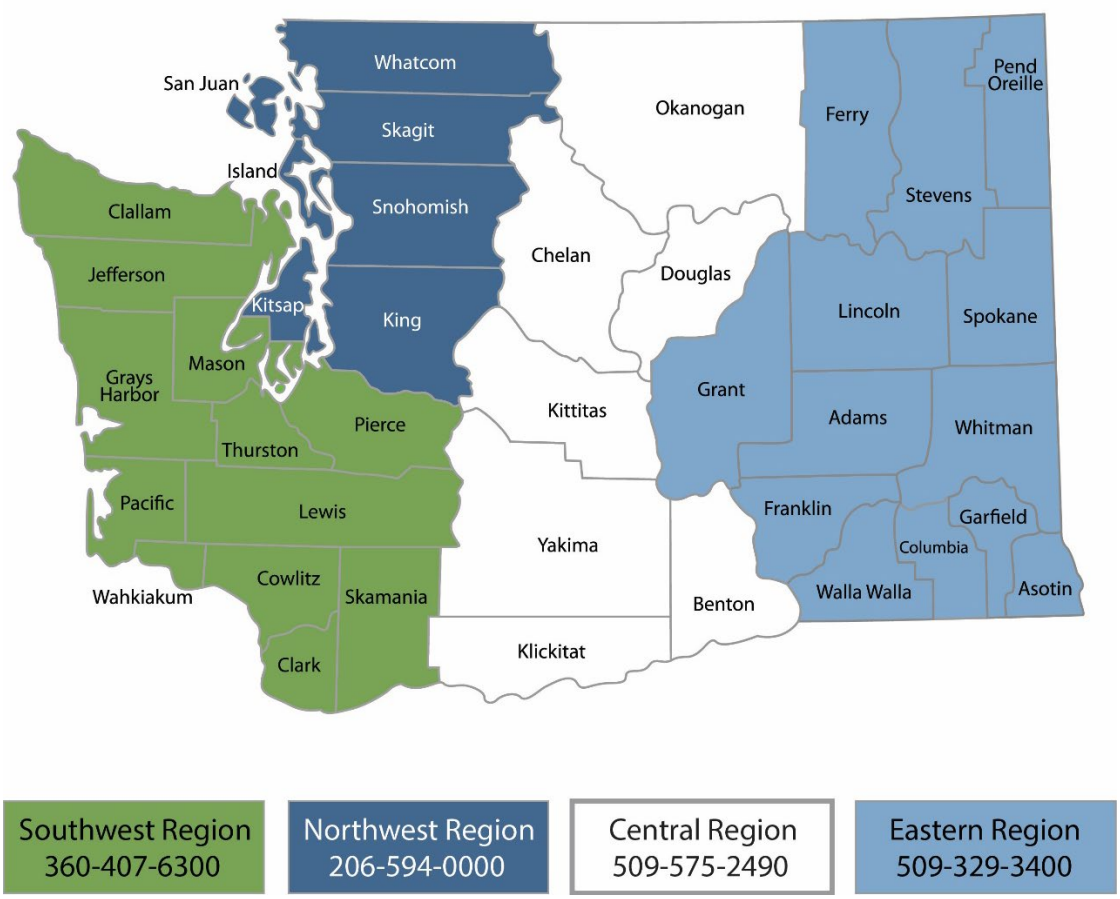
[1] https://ecology.wa.gov/contact

Department of Ecology's Regional Offices

Map of Counties Served



Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	P.O. Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	P.O. Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 West Alder Street Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 North Monroe Spokane, WA 99205	509-329-3400
Headquarters	Statewide	P.O. Box 46700 Olympia, WA 98504	360-407-6000

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Water Quality Program
Washington State Department of Ecology
Headquarter Office
Olympia, WA

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Acknowledgements

Ecology manages the TAPE program with considerable assistance from a Stakeholders Advisory Group (SAG) and Board of External Reviewers (BER). Ecology appreciates the efforts of the committee members and their willingness to share their expertise. The authors of this report thank the following people for their contribution to this study:

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Abstract

Ecology manages the Technology Assessment Protocol – Ecology (TAPE) process to evaluate the ability of Manufactured Treatment Devices (MTDs) to meet the removal criteria set by the Municipal Stormwater General Permits. This document provides an overview of the program for potential applicants. A second publication provides more detailed guidance to applicants for the development of the Quality Assurance Project Plan (QAPP) and the Technical Evaluation Report (TER).

Introduction

This document provides an overview of the Technology Assessment Protocol-Ecology (TAPE) process for vendors, designers, and manufacturers (referred to as 'proponents') who wish to have their stormwater treatment technologies verified and certified by the Washington State TAPE program. This guide walks proponents through the TAPE process, providing an overview of the program and the specific steps required for certification. Specific guidance for designing, executing, and reporting on performance monitoring is detailed in two companion Ecology documents:

- *Technical Guidance Manual for Evaluating Emerging Stormwater Treatment Technologies Technology Assessment Protocol – Ecology (TAPE)*[1] (Publication 18-10-038) *(aka,* TAPE Technical Guidance Manual*)*
- *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies*[2] (Publication 04-03-030).

Ecology updated the TAPE Technical Guidance Manual in September 2024[3]. Ecology may consider stormwater control measure (SCM) field data collected prior to September 2024 to satisfy the performance goals of TAPE. Previously collected field data must meet either the 2018 or the 2024 TAPE guidelines and include an Ecology approved Quality Assurance Project Plan and third-party review confirming that monitoring was conducted, and samples were analyzed in accordance with the cited TAPE protocol and the approved QAPP. TAPE requires all new applicants to pay a fee at three stages in the certification process. Please refer to the Fee Structure Program for a description of these fees.

Overview of TAPE

The TAPE program provides a peer-reviewed regulatory verification and certification process for emerging stormwater treatment technologies. The TAPE program is administered by the Washington State Department of Ecology (Ecology), with assistance from staff at the Washington Stormwater Center (www.wastormwatercenter.org), which provides stormwater technical and management assistance including guidance on certification of emerging treatment technologies.

The stormwater management manuals for western and eastern Washington include design criteria and performance goals for stormwater treatment facilities in the state of Washington (stormwater management manuals[4]). Sections within each manual discuss Ecology's evaluation and approval process for emerging treatment technologies. The stormwater manuals do not provide criteria for the selection and sizing of emerging technologies because the technologies and the knowledge of them are rapidly evolving.

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[1] https://apps.ecology.wa.gov/publications/summarypages/1110061.html
[2] https://apps.ecology.wa.gov/publications/summarypages/0403030.html
[3] Proponents accepted into the TAPE program prior to May 2024 may choose to follow either the new protocol (May 2024) or the old protocol (September 2018). Proponents submitting a technology to the TAPE program for the first time can choose between the new protocol and the old protocol until March 31, 2024, after which your QAPP must follow the new protocol. Your QAPP must state which of the two protocols is followed.
[4] https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/stormwater-permittee-guidance-resources/stormwater-manuals

Ecology and the Washington Stormwater Center established a Board of External Reviewers (BER) to:

- Review emerging treatment technology design and performance data and recommend whether or not to certify the technology.
- Provide overall advice and guidance as the TAPE program evolves and improves.

Proponents must demonstrate performance by testing their stormwater treatment technology at field sites in the Pacific Northwest or at pre-approved testing sites located in other parts of the United States. The testing protocol is specifically designed to evaluate stormwater control measures (SCMs) with relatively short detention times and may not be suitable for all stormwater treatment technologies. Ecology developed an alternative monitoring protocol that applies to long-detention SCMs (e.g., wet ponds and wet vault) (Ecology 2018b) and could apply to some proprietary manufactured facilities. This document is included as an Appendix in the *Technical Guidance Manual for Evaluating Emerging Stormwater Treatment Technologies*[5].

Based on BER technical reviews, Washington Stormwater Center staff advise Ecology regarding which new stormwater treatment technologies meet performance goals and therefore, should be added to the list of approved technologies in the stormwater management manuals, as listed on the Ecology TAPE website https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies. Ecology makes the final decision to certify new stormwater treatment technologies.

[5] https://apps.ecology.wa.gov/publications/summarypages/1110061.html

Criteria for certification

Certification of emerging technologies depends on their performance relative to one or more of five performance goals (Table 1).

Table 1TAPE Performance Goals[a]

Performance Goal	Influent Range	Criteria
Basic Treatment	20-100 mg/L TSS	Effluent goal < 20 mg/L TSS
	100-200 mg/L TSS	≥ 80% TSS removal
Metals Treatment	Dissolved copper 0.005 – 0.02 mg/L	Must meet basic treatment goal and exhibit ≥ 30% dissolved copper removal
	Dissolved zinc 0.02 – 0.3 mg/L	Must meet basic treatment goal and exhibit ≥ 60% dissolved zinc removal
Phosphorus Treatment	Total phosphorus (TP) 0.1 to 0.5 mg/L	Must meet basic treatment goal and exhibit ≥ 50% TP removal
Oil Treatment	Total petroleum hydrocarbon (TPH) > 10 mg/L	1) 24-hour average effluent TPH concentration < 10 mg/L 2) Maximum effluent TPH concentration of 15 mg/L for a discrete (grab) sample
Pretreatment [b]	50-100 mg/L TSS	< 50 mg/L TSS
	100-200 mg/L TSS	≥ 50% TSS removal

mg/L - milligrams per liter

TP - total phosphorus

TPH - total petroleum hydrocarbons

TSS - total suspended solids

a. See TAPE Technical Guidance Manual Table 2 for further details.

b. Pretreatment technologies generally apply to (1) project sites using infiltration treatment and (2) treatment systems where pretreatment is needed to ensure and extend performance of the downstream treatment facilities.

Use level designations

To enter the TAPE program, proponents must complete the *Emerging Stormwater Treatment Technologies Application for Certification* and submit it to Ecology for review. Ecology evaluates the performance data included in the application to assign use level designations. The use level designation defines how a treatment technology can be used and the allowable number of installations in Washington State. Depending on the relevance, amount, and quality of performance data provided with the application for certification, Ecology will initially place the technology into one of two use level designation categories: pilot use level designation (PULD) or conditional use level designation (CULD) (Table 2). PULDs are typically given when there are sufficient laboratory data available to indicate a treatment technology may meet the performance goals for TAPE that are described in Table 1. Ecology typically issues CULDs when there are both laboratory and field data available for a treatment technology that would indicate an even greater likelihood of meeting these performance goals. Applicants may use field data that does not meet the data requirements of TAPE for CULD approval. The PULD and CULD allow installation and operation of the technology in the state of Washington in order to gather the performance data required for final general use level designation (GULD) certification. More information on the TAPE program[6] is available on Ecology's website.

[6] https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies

Table 2 TAPE Use Level Designations

Use Level Designation	Minimum Data Required for Certification [a]	Time Limit (months) [b]	Maximum Number of Installations in Washington State	Field Testing Required Under Designation to achieve GULD
Pilot (PULD)	Laboratory data from a minimum of 8 sample events at the proposed hydraulic loading rate.	30	5[c]	A minimum of one site located in the Pacific Northwest or at a pre-approved Alternative Stormwater Technology Evaluation Facility; *all* sites installed in Washington state must be monitored [d]
Conditional (CULD)	Field data from a minimum of 8 storm events at the proposed hydraulic loading rate; laboratory data may supplement but not substitute for required field data.	30	10[c]	A minimum of one site located in the Pacific Northwest or at a pre-approved Alternative Stormwater Technology Evaluation Facility; if installing within Washington state, Proponent must monitor at least one installation
General (GULD)	Field data following TAPE protocol required; laboratory data may supplement but not substitute for required field data	Unlimited	Unlimited [e]	None

a. Proponent must supply all available performance data with the initial application. PULD and CULD approvals will depend on the relevance, amount, and quality of data. Submittal of data does not ensure approval.

b. From the time the original use level designation is received from Ecology. Proponents with a PULD or CULD are typically allowed a maximum of 30 months to prepare a QAPP, receive QAPP approval, conduct stormwater monitoring according to the QAPP, and prepare a TER requesting CULD or GULD certification for their stormwater treatment technology. Proponents requiring extensions on the 30-month use level designation, or the submittal of a QAPP or TER, must submit a request to Ecology at least 2 weeks before the due date. Ecology will grant extensions only if the proponent shows that

progress is being made toward completing required TAPE components.

c. Installation limit applies to devices installed to meet new and redevelopment treatment criteria. There is no installation limit for stormwater retrofit or projects to meet Industrial Permit Level 3 Corrective Actions.
d. Local governments covered by a municipal stormwater National Pollutant Discharge Elimination System (NPDES) permit must submit a Notice of Intent form to (https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies) Ecology when a PULD technology is proposed for installation in their jurisdiction.
e. Subject to conditions imposed by Ecology (i.e., maximum flow rates, limitations on drainage basin size, locations for use, and others as appropriate) listed in the GULD document posted on Ecology's website. Local jurisdictions may impose additional conditions.

What does certification mean?

Ecology designed the TAPE certification process to ensure that the approved treatment technologies meet applicable design criteria and performance goals for new development and redevelopment. TAPE certification means that the technology has successfully met the TAPE performance goals, when properly installed, operated, and maintained. TAPE certification does not mean the technology is appropriate for any and all stormwater treatment applications. Local governments can use TAPE certification as one of many factors (cost, maintainability, availability, etc.) when selecting or allowing specific stormwater control and treatment solutions for use in their jurisdiction. Although TAPE is a Washington State protocol, several other states, counties, and cities use TAPE certification to determine whether to allow installation of a technology within their jurisdiction.

The TAPE performance goals do not address capital costs, costs for operation & maintenance (O&M), or costs for material disposal; however, proponents are encouraged to provide this supplemental information in their Technical Evaluation Report (TER). In addition, the TAPE certification process represents specific influent concentration ranges and does not typically include an assessment of long-term performance. Local governments should take these and other factors, into account when evaluating the potential use of a TAPE-certified treatment technology.

There is no performance goal for maintenance, however the TAPE program requires a maintenance assessment for all Basic Treatment devices. This assessment is completed after receiving a GULD and provides an evaluation of the maintenance frequency and procedures needed to ensure an SCM is operating effectively. Ecology recommends considering maintenance frequency when selecting and sizing the system, as sizing may need to be adjusted to meet a target maintenance cycle.

Steps to certification

Step 1. Complete the *Emerging Stormwater Treatment Technologies: Initial Application for Certification (Initial Application)* and pay the application fee. A copy of the Initial Application form is included in the *Technical Guidance Manual for Evaluating Emerging Stormwater Treatment Technologies Technology*

Assessment Protocol – Ecology (TAPE)[7]. The *Initial Application* includes information about your technology and the performance data you have collected to help us evaluate whether your technology shows promise of meeting the TAPE performance goals. Ecology recommends contacting the TAPE program to discuss your device prior to submitting your application.

If an application contains confidential business information (CBI), you must identify the information in your application. Ecology will consider if the information, according to WA state law, is confidential and inform you of our findings. Ecology will not share confidential information with others. The TAPE confidentiality agreement is included as Appendix 4.

When we receive a completed *Initial Application,* we will assign your technology a case number and contact you if any additional information is required. The Washington Stormwater Center may ask up to three members of the BER to review and provide comments on the application. If after reviewing this information Ecology finds that your technology shows promise of meeting TAPE goals, Ecology will grant your technology either a pilot or a conditional use level designation (PULD or CULD). Our goal is to grant a use level designation within one to two months from receipt of your complete *Initial Application*. Once the proponent finds a suitable monitoring site and notifies Ecology, the deadlines for QAPP and TER submittal are set.

Initial Application

Submit one (1) text-searchable electronic (.pdf) copy, and one (1) signed copy of the TAPE confidentiality agreement

Your *Initial Application* must include as much of the following information as possible. If using data from testing following other protocols, describe how data is similar to or differ from TAPE guidelines (e.g., storm depth, sample type). If you provide insufficient information in your *Initial Application,* Ecology will return the application to you without review, pending receipt of adequate information. At a minimum, applicants should submit the following information:

- Description of physical, chemical, and/or biological treatment functions.
- Design drawings/photographs.
- Description of construction materials.
- Equipment dimensions.
- Design hydraulic loading rate (gallons per minute [gpm] per square foot (sq. ft.) or inches per hour [in/hr]).
- Explanation of site installation requirements (e.g., necessary soil characteristics, hydraulic grade requirements, depth to groundwater limitations, utility requirements).
- Description of any pretreatment requirements or recommendations.
- Description of any components of the treatment system that may contain copper, zinc, or phosphorus or any other constituent of concern that might contribute to increased pollutant concentrations in the effluent.

[7]https://apps.ecology.wa.gov/publications/summarypages/1110061.html

- Description of any components (i.e., concrete) that may result in effluent pH fluctuations.
- Detailed description of the sizing methodology.
- Expected treatment capabilities.
- Maintenance procedures.
- Description of bypass process.
- Comparison of size of laboratory unit to typical field units (if laboratory testing data is submitted).
- Raw water quality data.
- Summary of water quality data and removal calculations.
- Statistical analysis.
- Flow rate(s) used for laboratory testing.
- Influent and effluent flow data.
- Storm event information.
- Any other information or data that will help determine if your treatment technology can meet or does meet TAPE's performance goals.

Step 2. Design a performance evaluation study and write a Quality Assurance Project Plan (QAPP). The study must generate performance data of sufficient quality and quantity to evaluate with adequate statistical power how the technology performs in the field. Detailed guidance for designing your study, including how to write the QAPP is provided in the *TAPE Technical Guidance Manual* and in Ecology's *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies* (Website links identified earlier). Finding a field site with suitable stormwater flows and influent ranges specified in the *TAPE Technical Guidance Manual* and Table 1 of this document is often challenging; consequently, proponents are encouraged to identify sites early in the process of designing the study.

Selecting multiple field sites is often advantageous to the proponent; the QAPP must address field conditions at each field site where data collection will occur. Local governments covered by a municipal stormwater National Pollutant Discharge Elimination System (NPDES) permit must submit a Notice of Intent form (Appendix 3) to Ecology for every PULD technology proposed for installation in their jurisdiction.

QAPP:

Submit one (1) text-searchable electronic (.pdf) copy. Proponents with a PULD must include a copy of the completed Notice of Intent form (Appendix 3) with the QAPP.

Refer to the TAPE confidentiality section below for submittal requirements for QAPPs containing confidential business information.

At least three experts chosen from the BER will review the completed QAPP along with TAPE staff. The BER member review addresses the following question:

If the monitoring program described in the proponent's QAPP is substantively followed and completed, will the resulting data and statistical analyses allow Ecology to rigorously evaluate the technology's performance against the stated TAPE performance goals?

Washington Stormwater Center staff will consolidate comments from the three BER members and forward the consensus recommendation to Ecology. There may be several steps in the review process as Ecology requests additional information from the applicant. If there is substantial disagreement among the external reviewers, we may request that additional BER members review the QAPP. The final decision to approve the QAPP rests with Ecology.

The proponent must submit a QAPP that meets Ecology's QAPP guidance and *TAPE Technical Guidance Manual* requirements within six months of finding a suitable monitoring site and notifying Ecology. Within three months[8] of receipt of the final QAPP, Ecology will complete the review and make a decision whether field testing can commence.

Step 3. Install, operate, and monitor the technology at one or more field sites in the Pacific Northwest or at an Ecology pre-approved Alternative Stormwater Technology Evaluation Facility. A list of pre-approved facilities can be found on the Ecology website.

Ecology must approve the QAPP prior to the start of field-testing. The proponent must use the approved QAPP to guide project management during this phase of the certification process. While Ecology and the Washington Stormwater Center staff are available to discuss issues arising during the field study, the proponent's project team is responsible for monitoring the site(s) according to the QAPP.

Step 4. Send the results to Ecology. Upon completion of the field sampling, use the data analysis and statistical techniques described in your approved QAPP to summarize the results and write the Technical Evaluation Report (TER). Instructions for completing the TER are found in the *TAPE Technical Guidance Manual.* Note that an independent professional third party must review key elements of the TER for all submittals that contain field monitoring data collected by a vendor or manufacturer of a stormwater treatment technology before you send it to us for review. Proponents must fill out the Excel database template with raw field data, storm data, and site information. Ecology will forward this information to the International Stormwater Database following final GULD approval.

TER:

Submit one (1) text-searchable electronic (.pdf) copy, and one (1) .CSV file with raw analytical and storm event data.

Refer to the TAPE confidentiality section below for submittal requirements for TERs containing confidential business information.

We will review each TER for completeness and then ask at least three members of the BER to conduct a thorough examination of your results, interpretations, and findings. For consistency whenever possible, TAPE will aim to use the same reviewers who evaluated your QAPP for the review of the TER. TAPE will compile the results of the external reviews and will send a summary recommendation to Ecology. There may be requests for more information from the BER or Ecology during the TER review. Ecology intends

[8] If circumstances prevent completion of Ecology's review within the stated review period, Ecology will notify the proponent of the reason for the delay and provide an estimated review schedule.

to complete the review of your TER and make a final certification decision within three months of receiving the TER. If Ecology approves the TER, the technology receives a GULD. At a minimum the GULD identifies the type of approved treatment (basic, dissolved metals, phosphorus, and/or oil), the design flow rate, and the required maintenance interval. Ecology is responsible for the final certification decision.

Step 5. Within 3 years of receiving a GULD or installing the first unit in Washington State (whichever occurs first) complete a Post GULD Maintenance Assessment on all Basic Treatment devices. The proponent must submit a monitoring plan for approval by Ecology prior to the start of the field assessment. Details on the required components of the assessment are provided in the *TAPE Technical Guidance Manual.* Note that the assessment must be completed or observed by an independent third party.

Post GULD Maintenance Assessment for Basic Treatment Devices:

Submit one (1) text-searchable electronic (.pdf) copy of the monitoring plan for review and approval prior to monitoring.

Submit one (1) text-searchable electronic (.pdf) copy of the maintenance assessment report at the conclusion of the assessment.

Refer to the TAPE confidentiality section below for submittal requirements for monitoring plans containing confidential business information.

At least three experts chosen from the BER will review the completed maintenance assessment monitoring plan. Washington Stormwater Center staff will consolidate comments from the three BER members and forward the consensus recommendation to Ecology. There may be several steps in the review process as Ecology requests additional information from the applicant. The final decision to approve the monitoring plan rests with Ecology.

At the conclusion of the assessment, send Ecology the results in a maintenance assessment report. Details on the required components of the monitoring report are provided in the *TAPE Technical Guidance Manual.*

We will review each maintenance assessment report for completeness and then ask at least three members of the BER to conduct a thorough examination of your results, interpretations, and findings. For consistency whenever possible, TAPE will aim to use the same reviewers who evaluated your monitoring plan for the review of the maintenance assessment report. TAPE will compile the results of the external reviews and will send a summary recommendation to Ecology. There may be requests for more information from the BER or Ecology during the monitoring report review. If Ecology approves the maintenance assessment report, the GULD will be updated to include the results of the assessment.

Submitting information to Ecology

Initial Applications, QAPPs, TERs, maintenance assessment monitoring plans, and maintenance assessment reports, along with the appropriate fees should be sent to the Washington State Department of Ecology, using the contact information provided below. Fee information is provided at the end of this document.

Documents	Fees
Email electronic copies of the following: • Applications • QAPPs • TERs • Maintenance assessment monitoring plans • Maintenance assessment reports	**Please make checks payable to**: *Department of Ecology* **Send to:** *TAPE Program* *Washington State Department of Ecology* *Cashiering* *P.O. Box 47611* *Olympia, WA 98504-7611*
Questions? (360) 870-0983 douglas.howie@ecy.wa.gov	

Confidentiality

Proponents must submit a signed confidentiality agreement (Appendix 4) with their application. Proponents may request that certain records or other information be considered confidential. Such requests will be considered by Ecology consistent with Washington State law (RCW 43.21A.160). In order for such records or information to be considered confidential, the proponent must certify that the records or information is unique to the design and construction of the technology, or release to the public or to a competitor would adversely affect the competitive position of the proponent. The proponent must request that such records or information be made available only for the confidential use of Ecology. All monitoring data including, but not limited to, laboratory results and field measurements, QA/QC data, data qualifiers, and monitoring site information cannot be considered confidential.

To make a request for confidentiality, the proponent must clearly mark only those pages that contain confidential material with the word “confidential” and submit these pages as a separate file to Ecology. Placeholder pages must be placed in the document that state “confidential material has been provided as a separate document to Ecology.” The proponent must also provide a letter of explanation as to why these pages are confidential. Ecology will review the request and send notice to the proponent either granting or denying the confidentiality request. Proponents may request return of material if Ecology denies the request for confidentiality. At a minimum, requests for confidentiality require a 1-month review.

TAPE Fee Structure

Fee Structure for Program Participation

Fee category	Amount	Due
Initial Application	$ 5,000	Upon submittal of *Initial Application*
Quality Assurance Project Plan (QAPP) review	$ 10,000	Upon submittal of final QAPP [a]
Technical Evaluation Report (TER) review	$ 15,000	Upon submittal of final TER [b]
a - Fee must be paid before Ecology updates the TAPE website to reflect the change in the technology's status. Collection of fee does not guarantee approval of QAPP. b - Fee must be paid before Ecology updates the TAPE website to reflect the technology's new General Use Level Designation (GULD). Collection of fee does not guarantee approval of TER or guarantee GULD status.		
Please make checks payable to: Department of Ecology and send to: TAPE Program Washington State Department of Ecology, Cashiering, P.O. Box 47611, Olympia, WA 98504-7611		

TAPE is administered by the Washington State Department of Ecology with assistance from staff at the Washington Stormwater Center. The Washington Stormwater Center is a partnership between the City of Puyallup, the University of Washington Tacoma, and the Washington State University Puyallup Research and Extension Center.

Appendix 1. Acronyms

BER	Board of External Reviewers
BMP	Best management practices
CULD	Conditional Use Level Designation
GULD	General Use Level Designation
MTD	Manufactured Treatment Device
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and maintenance
PULD	Pilot Use Level Designation
QAPP	Quality Assurance Project Plan
SCM	Stormwater Control Measure
TAPE	Technology Assessment Protocol-Ecology
TER	Technical Evaluation Report
TP	Total phosphorus
TPH	Total petroleum hydrocarbons
TRC	Technical Review Committee
TSS	Total suspended solids

Appendix 2. References

- Ecology 2004. *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies,* No. 04-03-030. Washington State Department of Ecology, Olympia, WA. (www.ecy.wa.gov/programs/eap/qa/docs/QAPPtool/Mod3%20Guidelines/GuidelinesforPreparingQAPPS.pdf)
- Ecology 2018. *Guidance for Evaluating Emerging Stormwater Treatment Technologies-Technology Assessment Protocol—Ecology (TAPE) Appendix: Modification: Evaluating Stormwater Treatment Technologies with Long Detention Times.* Washington State Department of Ecology, Olympia, Washington.
- Ecology 2019a. *Stormwater Management Manual for Western Washington*, No. 19-10-021. Washington State Department of Ecology, Olympia, WA. July 2019 (www.ecy.wa.gov/programs/wq/stormwater/manual.html)
- Ecology 2019b. *Stormwater Management Manual for Eastern Washington*, No. 18-10-044. Washington State Department of Ecology, Olympia, WA. August 2019 (www.ecy.wa.gov/programs/wq/stormwater/easternmanual/manual.html)
- Ecology 2024. *Guidance for Evaluating Emerging Stormwater Treatment Technologies. Technology Assessment Protocol – Ecology (TAPE),* No. 18-10-038, a revision of No. 11-10-061. Washington State Department of Ecology, Olympia, WA. (www.ecy.wa.gov/biblio/0210037.html)

Appendix 3. Notice of Intent Form for PULD Technologies

DEPARTMENT OF ECOLOGY
State of Washington

Notice of Intent

Pilot Use Level Designation Technologies

Treatment Facility Vendor Information				
Company:		Contact Name:		
Business Phone:	Fax (optional):	Street Address:		
Company Web Address:				
Email:		City:	State:	Zip+4:
Facility Name and Size:				
Development Level Designation Sought:				
Target Pollutants:				

Project Information	
Project Name:	Contact Name:
Local Agency with Jurisdiction:	Street Address:
Desired Installation Date:	City:
Project Type:	
Facility Discharge Receiving Water:	

Describe Proposed Testing Plan (e.g. number storms, parameters, test period, who will do work, etc.):

Local Government Certification and Acceptance

Printed/Typed Name	Agency	Title
Signature		Date

Submit completed forms to the following address:

Washington Department of Ecology – TAPE Coordinator
Water Quality Program
PO Box 47696
Olympia, WA 98504-7696

If you have questions about this form, contact the following Ecology staff:

Douglas Howie at (360) 870-0983 or douglas.howie@ecy.wa.gov

Background Information

Local governments with a National Pollutant Discharge Elimination System (NPDES) permit must submit this Notice of Intent Form to Ecology, and receive Ecology's approval prior to installing a pilot-designated technology (except in retrofit situations). All other jurisdictions are also encouraged to notify Ecology when a Pilot Use Level Designation (PULD) technology is proposed.

Local governments may allow PULD technologies to be installed provided that the vendor and/or developer agree(s) to conduct additional field testing based on the TAPE at all installations to obtain a general use level designation (GULD). Field-testing must be completed at a minimum of one site in the Pacific Northwest*, or at a pre-approved testing site located in other parts of the United States, to obtain a general use level designation.

* *Pacific Northwest refers to locations in Washington, Oregon, Northern California or British Columbia with rainfall distributions typical of a Pacific Northwest maritime climate, where long duration, low intensity storms predominate and stormwater contains mostly silt sized particles.*

Appendix 4. TAPE Confidentiality Agreement

Technology Assessment Protocol – Ecology

Confidentiality Agreement

Company Name	Name of Technology

All documents or records submitted to the Washington State Department of Ecology (Ecology) in pursuit or support of a General Use Level Designation (GULD) under the Technology Assessment Protocol – Ecology (TAPE) program are considered public information. This is including, but not limited to, Quality Assurance Project Plans (QAPPS) and Technology Evaluation Reports (TERs). As such, these documents are subject to the Washington State Public Records Act, RCW 42.56, (PRA) and Ecology will make these documents available in the event of a public disclosure request submitted under the PRA unless the documents or portions of the documents have been designated as confidential business information (CBI).

The Director of Ecology has the sole authority to designate a document or record as CBI, as outlined in RCW 43.21A.160. Information that has been designated by the Director of Ecology as being CBI can be withheld from public disclosure. Proponents may request that Ecology make certain records or other information submitted to the TAPE program available only for the confidential use of Ecology.

- Such requests will be considered by Ecology consistent with Washington State law (RCW 43.21A.160).
- The proponent must certify that the records or information is unique to the design and construction of the technology, or that release to the public or to a competitor would adversely affect the competitive position of the proponent.
    - Examples of confidential business information may include proprietary technology, media information, trade secrets, or other commercial information.
    - Ecology considers neither monitoring data including, but not limited to, laboratory results and field measurements, QA/QC data, data qualifiers, and monitoring site information nor information available on the internet as confidential.
- Requests to grant CBI should be as narrow as possible. Broad claims of what materials are requested as CBI may delay review of documents submitted to the TAPE program. Materials may be returned to the proponent requesting a more narrow proposal for CBI.

Applicants must make their request for confidentiality for these documents along with the submittal of the materials. To make a request for confidentiality, the proponent must:

- Clearly mark only those pages or portions of pages in the approved documents that contain confidential material with the word “confidential” and submit these pages as a separate file to Ecology.

- Place placeholder pages in the document that state "confidential material has been provided as a separate document to Ecology."
- Submit a copy of the document with the confidential information redacted[10].
- Provide a letter of explanation as to why the material proposed for confidentiality meets the standard found in RCW 43.21A.160.
- Understand that at a minimum, requests for confidentiality require a 1-month review.

Ecology will review the request and send notice to the proponent either granting or denying the confidentiality request. Proponents may request return of material if Ecology denies the request for confidentiality, however, GULDs will not be granted until confidentiality requests for all documents submitted to Ecology in support of that GULD have been submitted and either granted or denied.

Once Ecology grants a GULD, Ecology will create a public version of the QAPP and TER provided to Ecology for release to the public following any request. Ecology will redact the information we consider confidential from these versions of the documents.

I understand that, with very limited exception, all documents submitted to the TAPE program are subject to the Washington State Public Records Act, RCW 42.56. The exception are documents that have been designated by the Director of Ecology as being CBI. To be considered by Ecology for designation as CBI, I understand that I must specifically identify all information that I believe should be designated as CBI. I understand that information is not considered CBI until my request has been granted by Ecology. I understand this request must be made within one month of the date of the document approval, and that if I do not submit a request for CBI by that date, all documents that I have submitted to Ecology will be considered disclosable under the PRA. I understand that each document requires a separate request for CBI, and that any new document(s) submitted to the TAPE program that is not either currently under review as CBI or designated as CBI by the Director of Ecology may be disclosed to the public upon request. I will hold the TAPE program and its administrators harmless for any such releases.

_____

Name/Title/Organization

_____ _____

Signature Date

_____

[10] Per the TAPE technical guidance document, the approved QAPP must be included as an appendix to the final TER. When submitting final TER containing confidential information, it is the responsibility of the proponents to ensure they provide the approved redacted version of the QAPP as an appendix, if applicable.