

# Clean Water Service Provider Guidance Document

## Chapter 7 – Operations and Maintenance

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## Introduction and Scope of Chapter

The purpose of this chapter is to outline the process and requirements for Verification and Operation and Maintenance (O&M) of clean water projects funded by Water Quality Restoration Formula Grants within the context of Vermont's Act 76 of 2019. This chapter provides guidance to Clean Water Service Providers (CWSPs), Basin Water Quality Councils (BWQCs), project implementers, project landowners, Operation and Maintenance (O&M) responsible parties, stakeholders, and the public on the verification, operation, and maintenance of clean water projects. Specifically, this chapter includes instructions for using the Department of Environmental Conservation (DEC) developed site access agreements, expectations and methods for Clean Water Project Verification, roles and responsibilities related to conducting Verification and O&M, existing project adoption, DEC trainings, and reporting.

## Definition of Terms

**Adequate Maintenance:** A satisfactory measure of the quality and quantity of CWSP performance on all required verification and maintenance responsibilities across all projects in their portfolio as discussed in this chapter.

**Adoption:** The process for Clean Water Service Providers (CWSPs) to take on Operation and Maintenance responsibilities of previously established projects and receive an adopted project's associated phosphorus reduction credits starting at time of adoption.

**Clean Water Project<sup>1</sup>:** A best management practice or other program designed to improve water quality to achieve a target established under section 922 of Act 76 of 2019.

**Clean Water Project Loss:** When an implemented or adopted project is damaged or destroyed as a result of unforeseen circumstances or unavoidable acts of nature.

**Cumulative Phosphorus Reduction Target:** The sum of the annual pollution reduction allocations assigned to a CWSP in their Formula Grant agreements using DEC's Fund Allocation Methodology over the CWSPs term.

**Design Life<sup>2</sup>:** The period of time that a clean water project is designed to operate according to its intended purpose. Typically, the design life is determined by the project designer following the DEC Tracking and Accounting Standard Operating Procedures (SOPs) where available.<sup>3</sup>

**Inactive Operating Period:** A status of the operating period where a project will no longer provide phosphorus credits to the CWSP.

**Landowner Liaison:** The primary entity to communicate between the landowner and the CWSP about site visits and project concerns.

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<sup>1</sup> Pursuant to Act 76 of 2019 § 921 "Clean Water Project" means a best management practice or other program designed to improve water quality to achieve a target established under section 922 of Act 76 of 2019.

<sup>2</sup> Pursuant to Act 76 of 2019 § 921 "Design life" the period of time that a clean water project is designed to operate according to its intended purpose.

<sup>3</sup> DEC Tracking and Accounting Standard Operating Procedures can be found here: <https://dec.vermont.gov/water-investment/cwi/projects/tracking-accounting>

**Operation and Maintenance<sup>4</sup> (O&M):** Actions taken with the goal of holding installed projects up to standards that ensure clean water projects provide water quality benefits throughout their design life.

**Operating Period:** For the purposes of tracking and accounting, the operating period is the start date and end date that a clean water project contributes to estimated pollutant (phosphorus) reductions. An operating period may be either paused or restarted to reflect compliance with verification and Operation and Maintenance standards.

**Project Decommission:** The removal of a project from CWSP portfolio following specific procedures.

**Phosphorus Credits:** The estimated phosphorus reduction achieved through implementation of a clean water project that is used to monitor CWSPs progress towards reaching their phosphorus reduction target. Phosphorus credits demonstrate progress towards reaching the Lake Champlain and Lake Memphremagog Total Maximum Daily Load (TMDL) targets.

**Project Portfolio:** List of completed, implementation phase projects with active operating periods CWSPs have funded and/or adopted.

**Repair:** Actions above and beyond what is outlined in Operation and Maintenance plan to fix or rebuild a project that was identified to have failed or deemed compromised during verification (or other site visit type).

**Routine/Ongoing Maintenance:** Anticipated actions as outlined in the Operations and Maintenance plan to sustain a clean water project's functional condition.

**Site Access Agreements:** General term that encompasses both site access license and site access easements and their accompanying O&M plan, which are signed agreements between the landowner(s) and CWSP to allow access to a project area for planned visits to implement, verify, conduct maintenance, and if necessary, repair damage to a project.

**Verification:** The use of visual and measured indicators to assess clean water project function.

**Watershed Projects Database:** Vermont DEC database that is used to track, review, screen, prioritize, and report on clean water projects identified through DEC Tactical Basin Plans and/or funded through DEC programs.

## Roles and Responsibilities

This section outlines the expected roles to execute the Verification and Operation and Maintenance (O&M) activities. A single entity may serve more than one role depending on the needs of a given basin and available expertise or capacity (e.g., an organization serving as maintainer may also serve as verifier). CWSPs may not serve as a verifier within their own basin unless expressly authorized by DEC. All entities serving a role in this process should coordinate closely to identify and confirm a single, consistent, and trusted organization as the point of contact for the landowner (i.e., the Landowner Liaison).

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<sup>4</sup> Pursuant to Act 76 of 2019 § 921 "Maintenance" means ensuring that a clean water project continues to achieve its designed pollution reduction value for its design life.

## The Department of Environmental Conservation (DEC)

DEC is the department of state government responsible for coordinating work that will result in compliance with the Lake Champlain and Lake Memphremagog Total Maximum Daily Loads (TMDLs). Act 76 established a new paradigm for the completion of projects that will reduce phosphorus levels as called for by the TMDLs. As a result of Act 76, much emphasis is now placed on implementation and operation of non-regulatory clean water projects. Many of these projects will be advanced through a system of Clean Water Service Providers (CWSPs), which have access to funding as a result of agreements executed with DEC. Agreement amounts are tied to phosphorus reduction targets in place in each basin, DEC as the program funder having ultimate interest in the achievement of phosphorus reduction will:

- Adaptively manage Verification and O&M program as new projects are implemented and the program develops. This includes updating guidance, the O&M manual, site access agreement templates, and verification process, tools, and templates.
- Periodically audit the Verification and O&M activities. DEC will collaborate with CWSPs and partners to arrange project site visits and communicate auditing frequencies and expectations.
- Develop and provide training modules for clean water project verification and O&M capacity development. Track and certify trained participants.
- Provide Survey123 development and technical support to CWSPs and trained verifiers.
- Provide a Technical Project Manager (TPM) for the Formula Grant agreements. The DEC TPM assists with grant agreement drafting and execution, performs oversight of milestones and deliverables, processes invoices, and serves as a point of contact for regular check-ins with the CWSP to workshop and address challenges as they arise.
- Collect and aggregate Verification and O&M data, including costs, across CWSPs to inform budgets and understand how the program is going, including sharing knowledge acquired from implemented projects about their ongoing maintenance.
- Communicate with stakeholders about Verification and O&M resources and updates.
- Update WPD for phosphorus reduction accounting purposes based on Verification and O&M reporting.<sup>5</sup>
- Review annual Verification and O&M reporting results for the evaluation of CWSPs adequate maintenance: CWSPs' fulfillment of required Verification and O&M activities across all projects in their portfolios.

## The Clean Water Service Provider (CWSP)

The CWSP is responsible for, among other things, overseeing Verification and Operation and Maintenance<sup>6</sup> (O&M) for clean water projects in the CWSP's project portfolio. CWSPs will:

- Serve as signatory on site access agreements and uphold the terms of the agreement, maintain proper documentation of site plans, site access agreements, O&M plans, and update the agreements as needed.
- Assist with conflict resolution between entities involved in O&M and enforcing terms of site access agreements.

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<sup>5</sup> This process is subject to change with the development of new reporting tools and processes.

<sup>6</sup> Pursuant to Act 76 of 2019 § 39-101 Purpose. The CWSP bears responsibility for overseeing clean water project identification, prioritization, development, design, construction, verification, inspection, and operation and maintenance to be administered in accordance with this Rule.

- Perform verifier and maintainer procurement (if not completing maintenance role in-house). CWSPs should consider partners' and implementers' essential role in the Verification and O&M of implemented projects when procuring entities. Furthermore, they should consider project needs, landowner preferences, potential conflict of interest, expertise, and location.
- Track and report on verification status and completed O&M activities in a manner as requested by DEC.
- Acquire and maintain appropriate maintenance tools and equipment as needed to adequately perform required maintenance duties (optional).<sup>7</sup>
- Work collaboratively with BWQCs to develop and implement a method for identifying and prioritizing suitable previously constructed projects for adoption ([see Adoption section](#)).
- Solicit input from the design engineer and/or implementer to resolve project-specific technical maintenance questions or issues.
- Attend DEC Verification and O&M trainings as they become available.

## The Landowner Liaison

The landowner liaison is the agent designated by the landowner as their preferred point of contact (often the project implementer) and may or may not be the CWSP.

The landowner liaison will:

- Communicate with the CWSP, verifier, and maintainer to schedule site visits with the landowner.
- Communicate to the CWSP any landowner concerns or issues regarding the project.
- May be paid for their time in their role communicating with landowner (if a different entity than the verifier, maintainer or CWSP).
- The landowner liaison organization and their contact info shall be indicated in the required site access agreement cover letter.

## The Project Verifier

The verifier is responsible for routine, and as needed, project visits to assess condition and function. The verifier shall be trained and certified in DEC verification methods. Depending on the project, the verifier may also be the project implementer, maintainer, or another contracted entity. CWSPs may not verify projects within their own basin without explicit written approval from DEC ([see Clean Water Project Verification section](#)).

Verifiers will:

- Attend DEC verification trainings as they become available ([see Training section](#)).
- Stay up to date with future DEC training and program updates.
- Coordinate site visits to assigned project sites on a general schedule determined by the CWSP.
- Obtain and review project designs and O&M plans.
- Contact the landowner liaison to alert landowner of upcoming site visit. Landowner should be given at least 48-hours in advance notice.

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<sup>7</sup> Under the CWIP Funding Policy the purchase of tools and equipment is an eligible expense in order to maintain a project, see funding policy for more information: <https://dec.vermont.gov/water-investment/cwi/grants/applicant-recipient-resources>

- Visit site and collect information and photos following DEC's Verification Standard Operating Procedure (SOP) ([see DEC Verification & Maintenance Webpage](#)).
- Conduct QA/QC of collected data following site visit.
- Report to CWSP on project status and any project maintenance needs.

## The Maintainer

The maintainer is responsible for conducting maintenance tasks described in the O&M plan, or maintenance tasks as needed if identified by DEC staff, CWSP, or verifiers. The maintainer role can be filled by the same entity that serves as the verifier, project implementer, or the CWSP, or another hired entity. Depending on the project and varied needs for maintenance expertise, multiple entities could conduct maintenance responsibilities on a single site. Note that, on occasion, the landowner may be a suitable party to handle routine maintenance requirements. In such cases the project implementer should propose landowner maintenance as early in the project-development process as possible. CWSPs should assess the landowner's capabilities to ensure the execution of high-quality maintenance. CWSPs may determine if it is reasonable and cost effective to pay landowners for their time performing maintenance activities specifically outlined in the O&M plan. Landowners may donate their time performing maintenance activities. CWSPs should include donated time in the annual Verification and O&M reporting template to aid in accurate cost analysis of maintenance activities per project type (see Reporting section).

Maintainers will:

- Complete routine maintenance on a schedule that is determined and defined in the O&M plan within the site access agreement.
- Complete maintenance tasks that are identified following a verification visit to keep the project in functional condition.
- Report completed maintenance including labor, materials, and equipment costs to CWSP.
- Acquire and maintain appropriate maintenance tools and equipment as needed to adequately perform required maintenance duties.<sup>8</sup> CWSPs should use best judgement as to whether CWSPs will pay for assets themselves or owned by the maintainer.
- Attend DEC led trainings, as available.

## The Project Implementer

The project implementer has a key role in working with the landowner through all stages of project development and may have a continuing role in the Verification and O&M process once a project is implemented. They are likely to have one of the closest relationships with the existing landowner and might serve as a landowner liaison, verifier, or maintainer. If the landowner doesn't select the project implementer as their liaison long term, the implementer may also play a role in transitioning relationships with the new liaison or the CWSP and may still provide consulting support to the CWSP if maintenance or design questions arise.

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<sup>8</sup> CWSPs should refer to the current edition of the Clean Water Initiative Funding Policy for guidance on the eligibility of tool and equipment purchase. If assets are purchased, CWSPs should use best judgement and negotiate with the maintainer about who holds/owns the tools/equipment.

## Site Control and Access

CWSPs are required by rule to maintain site control and access to a project site to allow the implementation of a non-regulatory project, to conduct standard operation and maintenance, and verify a project's continued function. CWSPs must continue to maintain site control and access of a clean water project and maintain compliance with a project's site access agreement to receive the phosphorus credits associated with that project.<sup>9</sup>

### Site Access Agreements and Cover Letter

There are two types of site access agreement forms available: the Site Access Easement Agreement and the Site Access License Agreement (Table 1). Both site access agreements formally establish and preserve access to a CWSP funded or adopted project for planned site visits to implement, inspect, verify, conduct maintenance, and if necessary, repair a project. In addition to establishing site access, both templates include an Operation and Maintenance Plan that should be completed by the project designer or implementer. Accompanying the site access agreements is a required cover letter that provides a plain language explanation of the intent and contents of the site access agreements.

Site Access Agreements and Cover Letter template forms are available for download on the [Clean Water Initiative Program Applicant and Recipient Resources webpage](#). These template forms are subject to review and updates and CWSPs should use the most current templates at the time of agreement drafting. Note that it is likely and anticipated that altered templates may be required for projects located on State-owned lands. Connect with DEC Verification and Maintenance specialist if you are planning a project on State-owned lands regarding site access.

**Site Access Easement<sup>10</sup>:** The site access easement is a signed agreement between landowner(s) and CWSPs that is filed in the municipal land record to allow access to a project area. The term of the easement is at minimum the design life of the project. At the end of the easement term, the agreement automatically renews for consecutive terms, unless renewal is declined by either party within the notice period. The renewal term length shall be mutually decided upon at the time of signing the agreement. DEC strongly encourages the easement form of access agreement for all projects where possible as it ensures the access agreement will run with the land (and pass from landowner to landowner) for the entire applicable design life. The easement form of access agreement is required for projects that have equal to or more than \$200,000 of state funds invested into its implementation.

**Site Access License:** The site access license is a signed agreement between the landowner(s) and CWSP to allow access to a project area. The term of the license is at minimum the project's design life. At the end of the license term, the agreement automatically renews for consecutive terms, unless terminated by either party at any time. The renewal term length shall be mutually decided upon at the time of signing the agreement. Unlike an easement, the license may be terminated more easily and does not run with the land (pass from landowner to landowner). The license conveys less

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<sup>9</sup> Pursuant to Clean Water Service Provider Rule § 39-403 (j) Quality Control and Site Control. The CWSP shall ensure site control to access property where clean water projects are installed, which may include acquisition of a fee simple interest, a maintenance and access easement, or a maintenance and access agreement. Any site control in fee simple, easement, or agreement shall be documented on a form provided by the Secretary. Such fee simple interest, easement, or agreement may be secured by or assigned to a third-party following Secretary approval.

<sup>10</sup> Note that this access easement template is not a conservation easement (such as a river corridor conservation easement) and may not last in perpetuity.

certainty that the CWSP will maintain site control for the design life of a project. If the landowner decides to terminate the agreement, they shall provide at least 60 days' written notice with concerns for termination and the CWSP should attempt to reconcile or respond to those concerns within 60 days.

Agreement Type	Terms	Duration	DEC Policy
<p><b>Site Access License</b></p>	<p>A signed agreement between landowner(s) and CWSP to allow access to project area for planned visits to install, inspect, conduct maintenance, and if necessary, repair damage to a project.</p>	<p>Initial term lasts for the project's design life.</p> <p>Following initial term, agreement automatically renews for consecutive terms, until the agreement is terminated by either party. Does not run with the land (i.e., if land is sold CWSP/Landowner liaison will need to renegotiate terms to maintain access)</p>	<p>Can be used for projects with state investment implementation costs below \$200K.</p>
<p><b>Site Access Easement</b></p>	<p>A signed agreement between landowner(s) and CWSP that is <b>filed in the municipal land record</b> to allow access to project area for planned visits to install, inspect, conduct maintenance, and if necessary, repair damage to a project.</p>	<p>Initial term lasts for the project's design life.</p> <p>Following initial term, the agreement automatically renews for consecutive terms, until renewal is declined by either party. <b>Runs with the land (i.e., even if the land is sold the easement still applies).</b></p>	<p>Can be used for all project types, if desired by landowner/CWSP, and is <b>required for projects with state investment implementation costs equal to/over \$200K.</b></p>

Table 1. Comparison between the terms, duration and DEC policy for site access license and easement agreements.

**Cover letter:** The site access agreement license and easement templates include a cover letter addressed to the landowner that must accompany every site access agreement.

The cover letter:

- Provides detailed information about the language and content in the chosen type of site access agreement.
- Expresses gratitude to the landowner for voluntarily hosting a clean water project on their property.
- Encourages collaboration between the landowner and the project team to ensure a successful project.



- Designates a single entity to be the landowner liaison and provides their contact information. The landowner liaison is the primary entity to communicate between the landowner and CWSP about site visits and project concerns.

Within the cover letter there is a location to add directions for O&M work<sup>11</sup> that the landowner themselves can do (if applicable) and activities they should not do that could harm the project and its function.

## Drafting of a Site Access Agreement

Planning for Site Access and Operation & Maintenance begins during the project review and eligibility screening phase.<sup>12</sup> Drafting the Site Access Agreement and Operation & Maintenance plan begins during final design of a project. All possible outcomes, including the possibilities of decommissioning in the event of project failure, should be discussed with the landowner at this time. During the implementation phase, but in advance of breaking ground on a project, a signed site access agreement with identified entities to serve as the landowner liaison, verifier, and maintainer(s) including final Operation & Maintenance plan must be fully executed and housed in CWSP records.

## Adding Supplemental Provisions

A CWSP may consider the addition of supplemental provisions so long as they do not conflict with or negate the original terms of the Site Access Agreement template form. Any added provisions should be clearly documented in the CWSPs project records, including a statement of reason(s) for the supplemental provision(s) and the CWSPs determination that it is highly unlikely to negatively impact the CWSPs site access obligations and the project implementation.

## Landowner Changes

If a landowner transfers their property, they are required per the site access agreement and outlined in the cover letter, to communicate this landowner change to the CWSP directly or via the landowner liaison at least 30 days prior to the transfer. If this occurs, CWSPs in coordination with the landowner liaison are recommended to:

- Connect with the new landowner and inform them of the current site access agreement.
  - If site access easement, inform new landowner of their responsibilities and terms of the agreement. Noting that the easement runs with the land even in the event of landowner change.
  - If a site access license, talk with the new landowner about signing a new agreement.
- Use the cover letter as way to introduce the clean water project's water quality benefits and how their participation is a valuable contribution to Vermont's water quality goals.
- Discuss the expected frequency of visits (maintenance and verification) and what they should expect during these visits.

CWSPs must maintain site control of a clean water project in order to receive the associated phosphorus credits. In the event that a new landowner of a clean water project that was under a site access license declines continued site access to the CWSP, this project should be decommissioned, where the project is removed from the CWSP's project portfolio ([see Decommission section](#)).

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<sup>11</sup> The DEC O&M manual contains guidance on O&M activities and required equipment needed by project type.

<sup>12</sup> For more details on project eligibility see CWIP Funding Policy Eligibility Screening Form (available here: <https://dec.vermont.gov/water-investment/cwi/grants/resources#Policy>)

## Operation & Maintenance Plan

The site access agreement includes an Operation & Maintenance (O&M) plan that outlines routine maintenance tasks and how often they should occur (e.g., seasonally, yearly). This site-specific plan may be written by the project designer or implementer and is informed by professional expertise and standards in the O&M manual. Upon implementation, CWSPs should establish a routine maintenance schedule and contract with qualified entities to complete the work that reflects what is documented in the O&M plan. O&M plans may be amended, but in general, amendment of O&M plans should not be a frequent occurrence, except where precipitated by findings of verification visits. In the case of a site access easement, if O&M plans are updated to reflect new knowledge and best practices, they may be mutually signed and placed in the CWSP's files without the need to update the easement itself.

## Clean Water Project Verification

The purpose of Clean Water Project Verification (Verification)<sup>13</sup> is to ensure that a clean water project, implemented or adopted using CWSP formula grant funding continues to function as intended throughout the project's design life. The term "verification" refers to the use of visual and measured indicators to determine the status and condition of a clean water project following a set of questions in standard checklists based on project type. Verification provides accountability for pollutant reduction benefits that count toward CWSP phosphorus targets and DEC Total Maximum Daily Load (TMDL) tracking and accounting. Findings from a verification visit are an important factor in determining if a project has failed and no longer provides the pollutant reduction benefits assumed.

### Entities Eligible to be Verifiers

As noted above, depending on the project, the verifier may also be the project implementer, maintainer, or another contracted entity. CWSPs may not verify projects within their own basin without express written approval from DEC. DEC recognizes that all clean water partners involved in a project may have degrees of conflict of interest as a verifier. Due to the CWSP model where phosphorus credits are impacted by verification score, the CWSP conflict of interest was identified as holding the closest nexus to, and therefore highest risk to the integrity of the verification findings and the phosphorus accounting system. There is a pathway for a CWSP to become a verifier in their basin through DEC approval. On the occasion that a CWSP cannot successfully procure verification services, they may seek DEC approval to perform verification for projects in their basin.

Verifiers must attend DEC-led/required trainings ([see Training section](#)), use their professional experience, and be unbiased in their assessments of the clean water project. A Verification Standard Operating Procedure (SOP) and training materials are provided by DEC to standardize expectations and give certified verifiers full authority to determine a clean water project's condition and ultimate verification "score."

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<sup>13</sup> Verification visits are not regulatory inspections and are not intended to meet regulatory requirements. Other DEC programs have their own methods for regulatory inspections. Regulatory visits and verification visits to a single project can be coordinated as appropriate to maximize efficiency.

## The Verification Process

Methods for conducting Verification of clean water projects are outlined in a Verification Standard Operating Procedures located on the Clean Water Project Verification and O&M DEC website<sup>14</sup>. The SOP includes tools, methods, and reporting and will be updated as needed. DEC has developed a series of training courses to certify an individual as a verifier ([see Training section](#)).

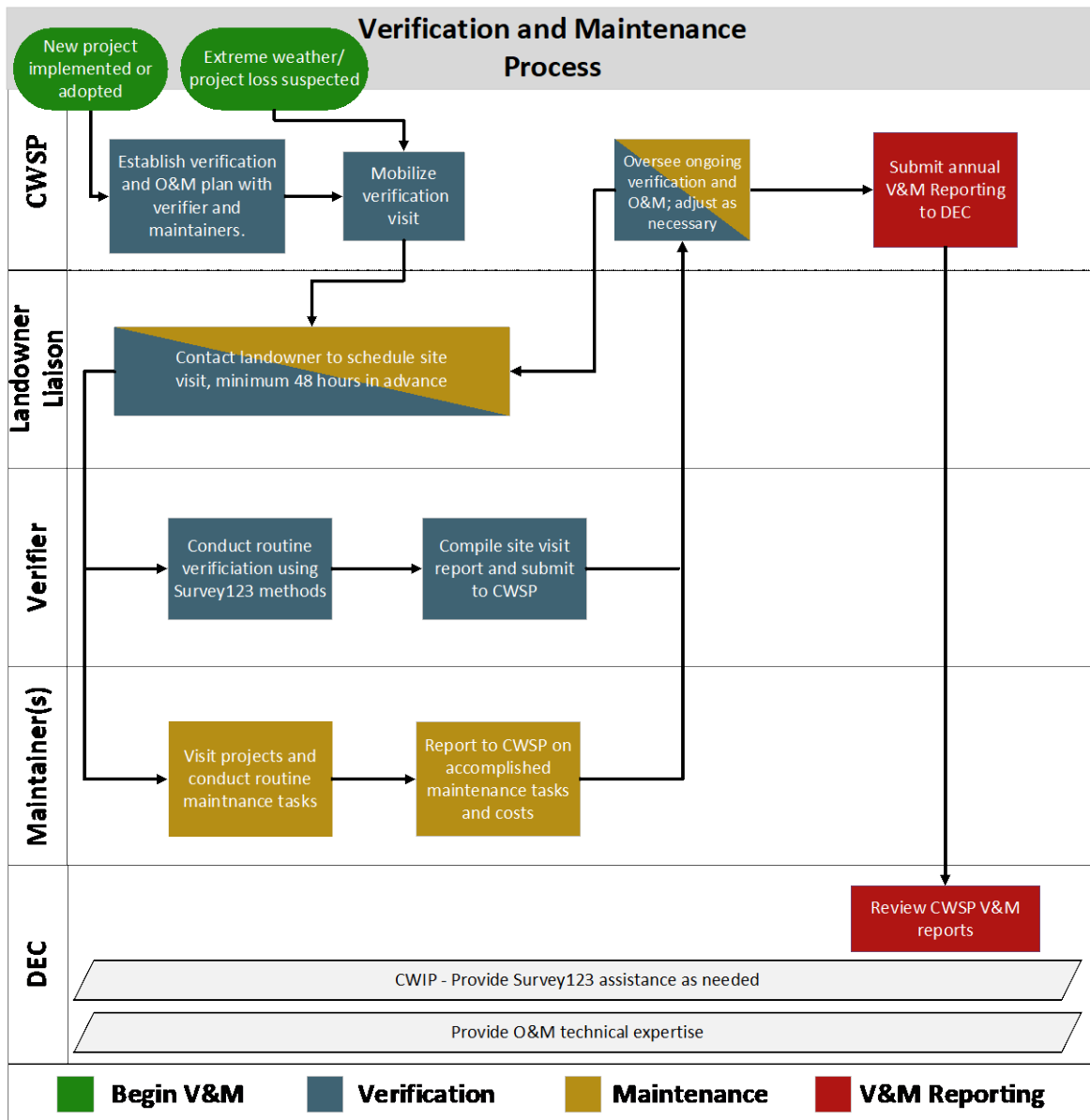


Figure 1. A process map showing at a high level the flow of Verification and Maintenance actions and the responsible parties (on the far left). This is a simplified version of a larger process map that can be found in [Appendix A](#).

<sup>14</sup> For more information view the Clean Water Project Verification and O&M webpage: <https://dec.vermont.gov/water-investment/cwi/projects/verification>.

## Frequency of Verification Visits

Upon each project's implementation or adoption, CWSPs must establish a verification schedule or contract that includes both routine and as-needed trigger points for verification. At minimum, verification should take place according to the following timeline:

### Within first year of project implementation

The purpose of the first verification site visit is to collect information on baseline conditions, photo points, and ensure that projects are established and functioning as expected.

### Every three years

- Projects should be verified once every three years until the end of design life, at a minimum. In the event an off-schedule or “as needed” verification visit takes place, this frequency can shift, and the project can be verified three years after the most recent verification visit. See figures 2 and 3 below.
  - Verification visits can occur more frequently than every three years based on performance or other risk factors.
- If, at the end of design life, the project is continuing to function in good condition and the operating period is extended, routine verification visits should continue at the same frequency<sup>15</sup>.

### Within first year of the projected end of design life

A verification visit must occur near or at the end of the design life to determine if the project is appropriate for an operating period extension.<sup>16</sup> [See Operating Period End and Extension section.](#)

### As Needed Verification

CWSPs should establish a list of circumstances that trigger as needed verification and ensure verification services are contracted in anticipation of these events. DEC suggests verification visits should be performed in the following circumstances:

- On request from the landowner, landowner liaison, or other project partner.
- Following large, damaging storm events.
- Upon learning that the property has changed ownership. [See section on Landowner Changes.](#)
- If the landowner is maintaining a project on their own property.
- Following a recent repair.
- Upon significant changes to the O&M plan (i.e., routine maintenance activities and frequency of tasks).

When setting up verification contracts, CWSPs should refer to the O&M plan in the site access agreement, as some projects may have additional verification considerations or needs.

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<sup>15</sup> At the time of establishing this guidance chapter this applies to all project types. However, in the future this could be reevaluated in the case that more concrete data regarding long term project lifespan becomes available,

<sup>16</sup> Connect with DEC if an end of design life verification visit is to occur past the design life end date.

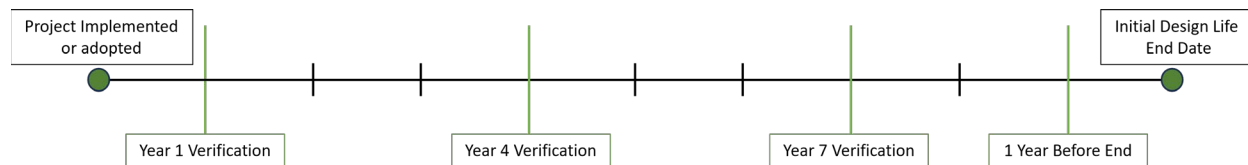


Figure 2. An example timeline of verification visits that occur every three years since project was implemented or adopted.

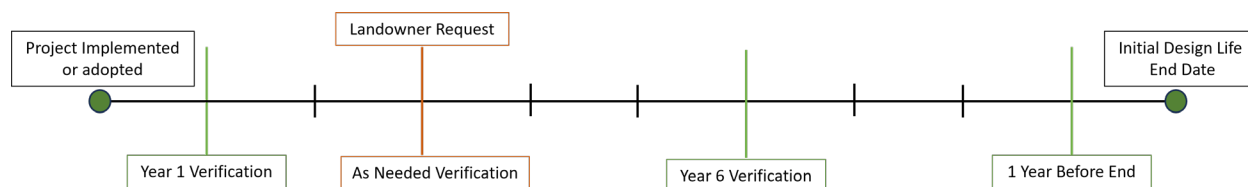


Figure 3. An example of a shifted timeline due to an as-needed verification visit at the request of landowner at year three. The next verification visit isn't required to occur until three years after the most recent verification.

## Verification Findings

During a verification site visit, the Survey 123 tool auto-calculates a score for each verified clean water practice based on answers the user provides. If a project consists of multiple practices, each practice is evaluated using a separate survey. Questions in the checklists ask the user to evaluate the project for the presence of factors that negatively impact the function of the project. For example, a question may ask about the presence of erosion within the project area. In aggregate, if a practice has multiple factors that negatively impact it and impede its function, the practice will receive a low Verification score for that site visit.<sup>17</sup>

The need for additional maintenance above and beyond routine maintenance may be determined based on a practice's verification score. CWSPs should review the O&M Manual and consult with project designers and implementers about project level maintenance needs or concerns that arise after a verification or maintenance visit. CWSPs may consult with DEC staff if technical maintenance questions remain. This includes the need to update the O&M plan or schedule larger repairs. CWSPs will report regularly on practice verification score findings and follow up actions taken (see Reporting section for more details). CWSP response to these findings may be considered in the evaluation of their achievement of adequate maintenance.

## Verification Auditing

DEC may flag some projects for a verification audit visit where DEC will work with the CWSP to coordinate separate verification visits and compare findings.

<sup>17</sup> A list of all possible verification scores, what they mean, and what actions should be taken based on the received score is available in a Verification SOP.

# Project Decommission, Repair, and Project Loss

## Project Repair

Results from verification visits may determine that a project has major issues causing it no longer to function as intended. If the project is deemed to have failed, the project operating period and thus the phosphorus credits counted towards the CWSP's phosphorus reduction target will be paused until the project is repaired ([see Project Status and Phosphorus Accounting section](#)).

For failed projects, the CWSP should consider whether and how to repair or replace the project and return it to full functionality.<sup>18</sup> Further, if the project is to be repaired:

1. And if repair costs are less than 75% of the original implementation cost or \$100,000 (whichever is the lower value), then the CWSP can repair the project without BWQC input.
2. And if repair costs are greater than 75% of original implementation cost or more than \$100,000 (whichever is the lower value) then the BWQC needs to vote and approve project for repair.

If the CWSP or BWQC decides not to make repairs to a failed project, the project must be decommissioned. Decommissioning is required so the CWSP is no longer responsible for the Operations and Maintenance (O&M) of the project.

## Decommissioning of Projects

Project decommissioning is the process to remove a clean water project from the CWSPs project portfolio and will result in a project's operating period becoming inactive ([see Operating Period Status section](#)).

Causes to decommission a project can include:

- When a CWSP no longer has site access to a clean water project ([see Site Access Section](#)).
- If a project has received a "failed" verification score and the CWSP and BWQC have determined that repair is not cost effective and/or feasible.

The CWSP should consider and develop a procedure for project decommissioning, determined on a case-by-case basis. As noted above, the possibility for decommissioning and landowners' ultimate responsibility should be communicated to landowners up front before installation of the project.

Decommissioning practices differ depending on which site access agreement type the project is under:

- If the project is maintained under a Site Access License, the agreement can be cancelled under the process and terms described in the access license templates. As such, the CWSP and BWQC can decide not to repair the project and instead, choose to initiate cancellation of the access license terms and decommission the project. If the Site Access License is terminated, then CWSP will no longer be responsible for performing maintenance or repairs on the project and the responsibility will default to the landowner. The CWSP/BWQC may choose to do this when there may be more cost-effective ways to restore the phosphorus reduction losses through new project implementation.

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<sup>18</sup> There may be several reasons a project is not suitable for repair, including but not limited to the costs associated with repair or decommission, if a project is no longer suitable for that location, or landowner is no longer willing.

- If the project is maintained under a Site Access Easement, the project can only be decommissioned by not renewing the easement agreement for additional terms following the process and terms described in the access easement template form. See Site Access Agreement section.

## Project Loss and Accessing Risk Reserve Funds

1. Project Loss occurs when projects receive a failed verification score. If the cause follows the Risk of Clean Water Project Loss provisions of § 39-404, the CWSP may request access to the Clean Water Fund Contingency Reserve to repair, reconstruct or replace.

### *Clean Water Service Provider Rule “§ 39-404. Risk of Clean Water Project Loss”*

*In the event of a total, partial, or temporary loss of a clean water project during installation or following completion, the CWSP shall cease counting the project’s performance towards pollution reduction goals as of the date the performance issue is identified until the project is rehabilitated. Project losses shall be addressed as follows:*

- (a) When project costs have been incurred, but the project is not completed due to unforeseen circumstances or Acts of God and not due to an act or omission of the CWSP, and there is no functional pollution reduction value: The CWSP may use the Water Quality Restoration Formula Grant to cover costs already incurred up to the date of such circumstances or Acts of God. Leftover funds are also allowed to cover such costs if such funds are available.*
- (b) When a completed project was appropriately designed, installed, operated, and maintained, but inspection reveals lack of performance due to damage or unforeseen factors, not from negligence or intentional acts of others: The CWSP may use the Water Quality Restoration Formula Grant to rehabilitate the project, but will not receive continuing payment for operation and maintenance of the project for ongoing pollution reduction, unless that project is rehabilitated. Risk reserve and leftover funds are also allowed for rehabilitation if such funds are available.*
- (c) When the project is removed due to the negligence or intentional acts of others and not the CWSP: Risk reserve and leftover funds are allowed for rehabilitation if such funds are available.*
- (d) When the completed project is damaged or lost due to Acts of God: Risk reserve and leftover funds are allowed for rehabilitation if such funds are available.*
- (e) When the project is installed but is damaged or lost due to a negligent or intentional act or omission: the Secretary may exercise authority pursuant to 10 V.S.A. § 924(f) and Subchapter 7 of this Rule*

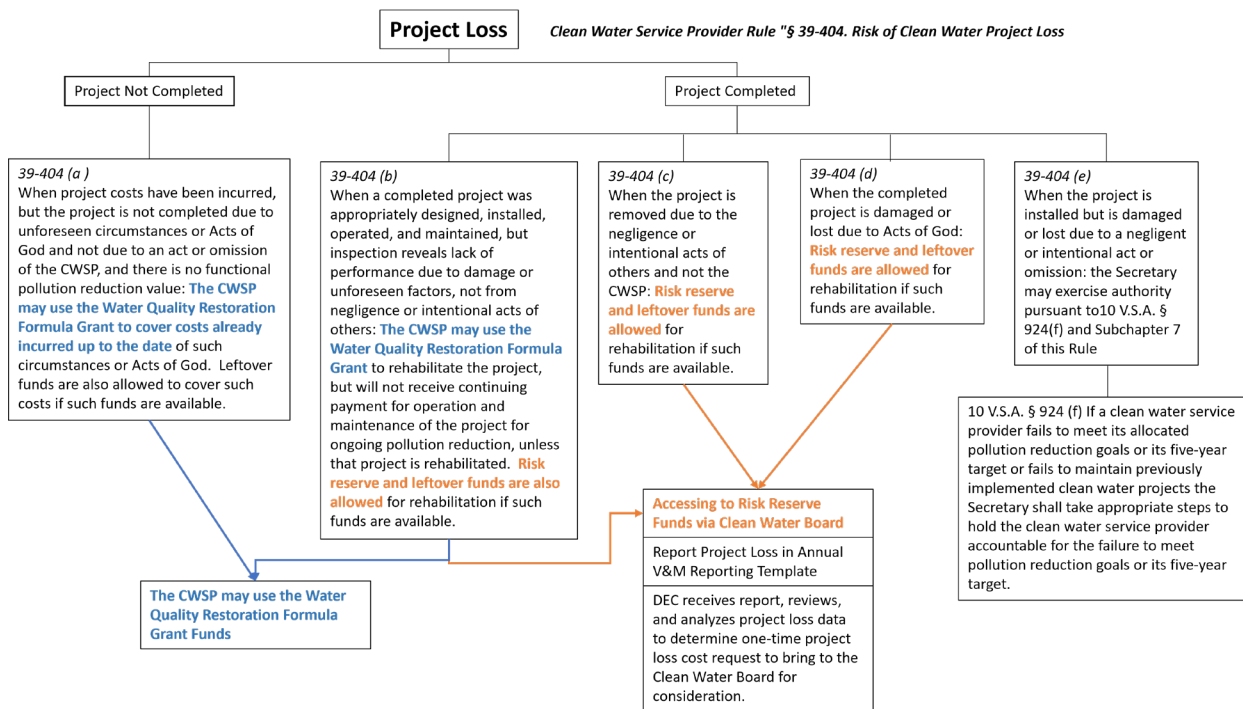


Figure 4: A visual representation of the Clean Water Service Provider Rule “§ 39-404. Risk of Clean Water Project Loss” to aid understanding of rule as it relates to project loss and accessing risk reserve funds. Blue lines and text draw connection to using Water Quality Restoration Formula Grant Funds while orange lines and text point towards accessing risk reserve funds.

2. Project loss information will be reported by the CWSP to DEC via annual reporting ([see Reporting section](#)). The reported information must include:
  - Cause of project loss;
  - Associated Phosphorus reduction value of project loss; and
  - Intent of CWSP to repair or replace the project.
3. DEC will compile reported project loss information to identify a budget request for consideration by the Clean Water Board<sup>19</sup> during the annual Clean Water Budget process. DEC will generate a budget request using the Formula Grant Targets and Fund Allocation Methodology.<sup>20</sup>
4. The Clean Water Board may consider funding the request from the Clean Water Fund Contingency Reserve.<sup>21</sup> In the event the Clean Water Board allocates Clean Water Fund Contingency Reserve funds to address clean water project loss, the funds will be added to the Formula Grant line item of the Clean Water Budget to cover all or some of the project loss costs.

<sup>19</sup> For more information on the Clean Water Board visit the Clean Water Board webpage: <https://dec.vermont.gov/water-investment/cwi/board>

<sup>20</sup> Final Water Quality Restoration Formula Grant Targets and Fund Allocation Methodology can be found here: <https://dec.vermont.gov/water-investment/statutes-rules-policies/act-76/law-rule-guidance>

<sup>21</sup> The Clean Water Fund Contingency Reserve Plan sets aside a portion of Clean Water Fund revenues to function as a contingency reserve for two purposes. The primary purpose of the Fund is to manage risk in the event of revenue underperformance. The secondary purpose of the Fund is to manage risk in the event of Clean Water Project Loss. To learn more and to view the Reserve Plan document, visit the Clean Water Board webpage: <https://dec.vermont.gov/water-investment/cwi/board>



5. If the Clean Water Board does not allocate additional or sufficient funds to cover project loss costs, DEC will adjust Formula Grant targets to account for the need to use Formula Grant funds to restore project loss.

## Project Status and Phosphorus Accounting

Phosphorus accounting for clean water projects occurs within the Clean Water Initiative Program (CWIP) Watershed Projects Database (WPD). For more information on the process and requirements for tracking and reporting clean water project data managed under the Water Quality Restoration Formula Grants see [Chapter 8 guidance on data management](#).

### Operating Period Status

The operating period of a clean water project is the start and end date that a clean water project contributes to estimated pollutant (phosphorus) reductions for the purposes of tracking and accounting in WPD. The status of the operating period is either active, the default status, or inactive.

### Operating Period Pause/Restart

An operating period becomes inactive when it is paused. Below are factors that affect an operating period status and what actions can restart an operating period. A project is presumed to provide a phosphorus reduction benefit for its active operating period. During the time that an operating period is paused, the project will not receive phosphorus credits.

Operating periods can be paused for the following reasons:

- The CWSP no longer has an active site access agreement for the project ([see Site Control and Access section](#)).
- The project has reached the end of its design life and there is no recent verification visit finding that the project is either optimal or functional.
- A verification visit has resulted in a “failed” finding. The operating period is paused at the date of the verification visit finding.<sup>22</sup>

Operating periods can be restarted for the following reasons:

- The project has reached the end of its design life but there is a recent verification visit finding that the project is functional (operating period extension).
- A repair/reconstruction/replacement is completed, and a successful verification visit is reported as complete by the CWSP. The operating period is restarted at the documented date of the completed repair.

### Operating Period End and Extension

When an operating period expires within WPD, the project is no longer recorded as providing a phosphorus reduction benefit and that phosphorus credit is no longer counted towards the CWSP’s phosphorus reduction target. Deliberate actions are needed to renew or extend the operating period

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<sup>22</sup> Pursuant to Clean Water Service Provider Rule § 39-404. Risk of Clean Water Project Loss. In the event of a total, partial, or temporary loss of a clean water project during installation or following completion, the CWSP shall cease counting the project’s performance towards pollution reduction goals as of the date the performance issue is identified until the project is rehabilitated.

of either newly implemented or adopted projects. This is the intent behind requiring a verification visit in the final year of the design life of a project, so that the verification visit findings can determine if an extension of the operating period is warranted. If so, operating period must be updated in WPD. Operating periods should be renewed for the project's full estimated design life.<sup>23</sup>

## Project Adoption

Project adoption entails a CWSP assuming maintenance responsibilities for a previously implemented clean water project. To be eligible for adoption, the project cannot have been funded using a Water Quality Restoration Formula Grant and must meet other eligibility criteria enumerated below. The ability for CWSPs to adopt projects provides several benefits to the Water Quality Restoration Formula Grant program and to the State as a whole. Adoption of existing installed clean water projects can:

1. Be a low cost and effective way for a CWSP to make early progress towards their phosphorus reduction targets.
2. Allow CWSPs to begin verification and maintenance work earlier on in the Water Quality Restoration Formula Grant implementation process than would otherwise occur. Jumpstarting verification and maintenance will allow the State to collect information about maintenance costs and any challenges to better inform future guidance and policy decisions.
3. Increase the likelihood that clean water projects will receive needed routine maintenance and continue to function for at least the duration of the design life. While the State expects standard maintenance to continue for previously implemented clean water projects, CWSPs are currently unique in their access to funding to support maintenance needs.

## Finding Projects for Adoption

Potential projects can reach the CWSP/BWQC for evaluation and possible adoption in several ways:

- The CWSP may actively solicit proposals or requests from landowners, O&M responsible parties, and/or project implementers in their basin.
- The BWQC and consulting DEC Watershed Planner may have knowledge of existing projects that are good candidates for adoption.
- The CWSP may use existing public facing tools such as the Clean Water Project Explorer<sup>24</sup> to learn about the location and status of existing clean water projects. Note: not all projects displayed in the explorer may be eligible for adoption, as a result of funding source or other reasons.

## Projects Eligible for Adoption

For a project to be adopted, it must meet the eligibility criteria listed below:

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<sup>23</sup> Note that Site Access Agreements automatically renew for consecutive terms until the license is terminated or the easement renewal is declined. Ensure during operating period extension that the landowner is willing to renew. See Site Access Agreement section for more information.

<sup>24</sup> The [Clean Water Project Explorer](#) is an interactive application that displays information on projects that have been funded or completed and includes potential projects in various stages of development, identified through Tactical Basin Planning and listed in the Watershed Projects Database (WPD).

- Be classified as a non-regulatory Clean Water Project.<sup>25</sup>
- Have a preexisting implementation phase Watershed Projects Database (WPD)<sup>26</sup> ID that was funded by the Clean Water Initiative Program or WISPr program<sup>27</sup>.
  - Funding source type can be filtered using WPD. Eligible funding sources are:
    - Capital Funds
    - Clean Water Funds
    - WISPr Funds
- Have an implementer and/or current O&M responsible party amenable to the project being adopted.
- Have a landowner willing to enter into a site access agreement.

## Adoption Process

1. CWSP identifies eligible project(s) to propose for adoption.

Once a project has been screened and determined to meet adoption eligibility criteria, CWSPs can consider which eligible project(s) to bring forward to the BWQC for an adoption vote. Landowner liaisons and original project implementers, if known or available, should be engaged and consulted with before reaching out to project landowners when said project is under consideration for adoption, and when the project's potential as an adopted site was not identified through a formal request by the landowner, liaison, or project implementer.

2. It is suggested that the CWSP, with assistance of the BWQC, establish a scoring and ranking process to prioritize projects proposed for adoption.

Adoption commitments impact CWSP's long term Operation and Maintenance (O&M) obligations, therefore, demands on their Water Quality Restoration Formula Grant budgets should be considered. Below is a non-exclusive list of factors that may be used in scoring and ranking processes.

### Considerations:

- **Current Condition:** What is the current condition of the project and does the project require any upfront repairs to restore its intended function? If yes, what are the estimated upfront repairs and long-term maintenance costs of the project? CWSPs can have a qualified verifier conduct an initial verification visit to determine the current condition of project, as long as the project implementer and landowner accept. This can take the place of the initial verification visit that is required in the adoption process (as described below) as long as a verification visit has been conducted.

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<sup>25</sup> Regulatory projects are those required/compelled by water quality-related federal or state regulatory programs. For example, projects that are included in or added to MS4 Pollution Control Plans or Flow Restoration Plans are considered regulatory and therefore not eligible for CWSP adoption, including any project originally implemented as non-regulatory and subsequently added to the MS4 permit. If a CWSP is unsure if a project is regulatory or not, they should refer to the current funding policy, Chapter 6 Guidance, and/or consult with DEC.

<sup>26</sup> Adoption of projects not currently existing in WPD presents duplicative reporting/accounting concerns. Given the current limits of the system, DEC will only be allowing adoption of projects already existing within WPD. In the future, there is a potential the eligibility will be expanded beyond existing WPD projects.

<sup>27</sup> Learn more about the WISPr program here: <https://dec.vermont.gov/water-investment/water-financing/cwsrf/wispr-water-infrastructure-sponsorship-program>

- **Maintenance Requirements:** What level of maintenance activity and complexity is required to keep the project functional? Some project types require more active and consistent maintenance that can increase overtime for the project to continue to function. Other project types are relatively self-sustaining after implementation.
  - **Status of Ongoing Maintenance:** Is there already an existing qualified and resourced responsible party who is performing maintenance? If so, it may not be a high priority for adoption.
  - **Co-Benefits:** Are there valuable co-benefits associated with restoring/maintaining the project?
  - **End of Design Life:** Is the project near the end of its initial design life? If a project is at end of its design life, but receives a functional verification score, then that project's initial design life may be extended as long as required maintenance continues (see Operation and Maintenance plan section), and the phosphorus reductions associated with the project will continue to count towards CWSP phosphorus reduction progress.
3. Absent a BWQC approved policy addressing project adoption, BWQC votes and approves project(s) for adoption.<sup>28</sup>
  4. CWSP works with landowner and/or landowner liaison to execute Site Access Agreement for approved adopted project(s).

CWSPs are required to maintain site control of implementation projects they fund, together with the projects that they adopt (see site control and access section). Initial term length of a site access agreement for an adopted project should at minimum cover the remaining design life of the project and can be longer if desired.

5. CWSP arranges for a certified verifier to conduct an initial verification visit to identify any maintenance or repair concerns.

If the CWSP had a qualified verifier conduct a verification visit to determine current condition of the project during project adoption identification process (see above: step 2, considerations, condition) then that visit can serve as the initial verification visit that is required in the adoption process.

6. CWSP or designee updates project information to reflect current accounting methodologies, if necessary.

As new tracking and accounting methods are implemented, there may be instances where a project listed in WPD does not have a phosphorus reduction estimate due to prior gaps in accounting methods at time of implementation. During the adoption process these projects should be updated to reflect current accounting methodologies.

7. CWSP adds BWQC approved adopted project(s) into routine schedule of verification and maintenance visits for projects in their portfolio and procures project repairs if needed.

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<sup>28</sup> Pursuant to Act 76 Guidance Chapter 4, the roles and responsibilities of the BWQC include to “establish policy and make decisions for the CWSP regarding the most significant water quality impairments that exist in the basin and prioritizing the clean water projects that will address those impairments based on the basin plan.

8. CWSP reports projects that were adopted over the reporting period by submitting information through the required annual Verification and O&M Reporting spreadsheet ([see Reporting section](#)) and elsewhere as identified in other Guidance chapters (e.g., BWQC meeting minutes on voting).

## Adoption Crediting and Limitations

A CWSP should aim to achieve no more than 15% of its cumulative phosphorus reduction allocation for a basin<sup>29</sup> through adoption of previously implemented clean water projects with a currently active operating period at time of adoption. The purpose of the 15% adoption limit is to strike a balance between CWSPs leveraging benefits of existing projects and the State's need for CWSPs to implement new projects. Project adoption alone will not achieve Vermont water quality targets. Newly constructed clean water projects are necessary to further progress towards achieving both CWSP and broader TMDL phosphorus reduction targets. Adopted projects whose operating period has expired at the time of adoption are not subject to this 15% limitation because they are not otherwise contributing to the state's phosphorus reduction progress ([see Operating Period End and Extension section](#)).

## Operating Period of Adopted Projects

The start date of the adopted project's operating period becomes the date the project was formally adopted and then continues until its original operating period end date. For example, a project adopted at year 5 of a 10-year operating period is adopted, the adoption date becomes the operating period start, and end date is still 10 years from the original start date. The CWSP will receive phosphorus reduction credit starting at date of adoption.

## Reporting Verification and Maintenance Activities

The CWSP is responsible for completing and submitting quarterly financial information and annual reports on Verification and Maintenance activities conducted during the year using DEC provided reporting templates.

### Quarterly

Within the quarterly State Financial Report (SFR), CWSPs are expected to report on the use of funds on Verification and Operation and Maintenance activities.

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<sup>29</sup> The cumulative target is the sum of the annual pollution reduction allocations assigned to a CWSP in their Formula Grant agreements using DEC's Fund Allocation Methodology over the CWSPs term.

## Annually

Clean Water Service Providers (CWSPs) are expected to report on activities and costs associated with Verification and Operation and Maintenance activities annually.<sup>30</sup> The Annual Verification and Maintenance Reporting template<sup>31</sup> enables the CWSP to track and report to DEC all verification and operation and maintenance activities and associated costs as well as satisfy other reporting required by statute and/or rule.

## Adequate Maintenance

Clean Water Service Providers (CWSPs) are expected to ensure adequate maintenance of implementation projects they fund, and the previously implemented projects that they adopt.<sup>32</sup> Ongoing maintenance is essential for long term clean water project function. Verification provides accountability for CWSPs' progress towards meeting/maintaining annual and cumulative phosphorus reduction targets. Adequate maintenance will be established through the annual evaluation of CWSPs' facilitation of required verification and operation and maintenance activities across all projects in their portfolios. DEC will evaluate CWSPs adequate maintenance, operation, and maintenance activities by reviewing annual Verification and Operation and Maintenance reporting spreadsheets. The evaluation will consist of using a mix of qualitative and quantitative metrics to evaluate CWSP compliance with performance expectations and responsibilities. More specifically, DEC will review for the following:

- CWSP ability to maintain site control/access for all implementation projects CWSPs fund and adopt.
- CWSP ability to meet required frequency of verification and operation and maintenance activities per guidance expectations.
- CWSP ability to restore function for projects that receive marginal, compromised or failed verification scores.
- CWSP ability to submit accurate and complete reporting via the annual Verification and Operation and Maintenance reporting template.

After review of adequate maintenance, results will be shared with CWSP TPM to inform the review of CWSP adequate annual progress performance. See Guidance Chapter 9.

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<sup>30</sup> Pursuant to Clean Water Service Provider Rule § 39-308. Reporting to the Secretary (a) Quarterly Reporting. The CWSP shall report to the Secretary quarterly, as specified in applicable grant documents. (b) annual reporting...(2) A summary of any inspection, verification, and operation and maintenance activities of previously implemented clean water projects and whether those projects continue to operate in accordance with their design; (3) All costs incurred by the CWSP, including administrative, project development, design, construction, verification, inspection, operation and maintenance, and other costs incurred under Formula Grant awards; (4) A list of all subgrants and subcontracts awarded by the CWSP in the basin for the period of performance; and (5) All data necessary for the Secretary to determine the pollutant reduction achieved by the CWSP during the period of performance.

<sup>31</sup> This template is subject to review and updates and CWSPs should use the most current template at the time of reporting. Visit [The Applicant and Recipient Resources webpage](#) for the most up to date version of the template.

<sup>32</sup> Pursuant to Clean Water Service Provider Rule § 39-701. Review. (a) The CWSP shall be subject to the Secretary's review of adequate progress toward the CWSP's allocated pollution reductions and five-year target and adequate maintenance of clean water projects, pursuant to 10 V.S.A. § 924(f). (d) The CWSP shall ensure that the Secretary has the right to reasonably access and, if necessary, to inspect and verify maintenance of all projects established under Formula Grants and to take emergency measures if necessary to secure ongoing functioning of clean water projects. The Secretary's emergency measures shall not affect any CWSP obligation or liability.

## Training

DEC provides trainings for CWSPs and other clean water partners to learn DEC verification methods and tools. Trainings on methods and tools are held online and video recordings are made available for later viewing. Field based trainings are conducted in person.

<b>Tier I</b>	<u>Verification and O&amp;M Program Overview</u>
<b>Tier II</b>	<u>Verification</u>
<b>Tier III</b>	<u>Clean Water Project Maintenance</u>

Table 3. Verification and O&M Training Tiers offered by VT DEC.

Tier I and Tier II have both optional and required training. For a verifier to be certified they must complete all trainings flagged as required to be eligible to perform CWSP verification services. The purpose is to equip verifiers with the necessary knowledge to ensure consistent verification across the CWSP network. DEC maintains a list of trained individuals and CWSPs can request this list to ensure verifiers have completed the required training.

All training information is posted on the [Verification and Maintenance webpage](#) on the DEC website and updated as new trainings become available.

# Appendix A – Full Verification and Maintenance Process Map

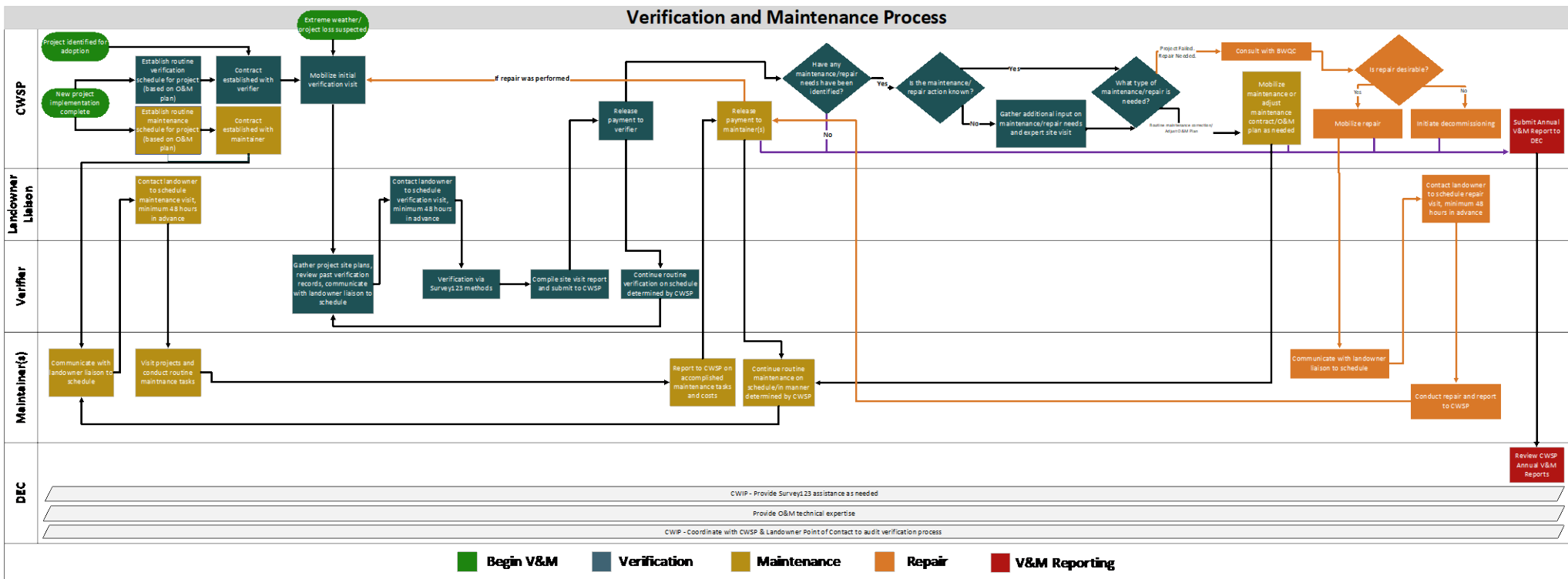


Figure 5. A process map showing the flow of Verification and Maintenance actions and the responsible parties (on the far left).