

## CHAPTER Env-Wt 900 STREAM CROSSINGS; CERTIFIED CULVERT MAINTAINER PROGRAM

Statutory Authority: RSA 482-A:11

PART Env-Wt 901 PURPOSE; APPLICABILITY; EXEMPTIONS; INCORPORATED DEFINITIONS;  
ABBREVIATIONS AND ACRONYMS

Env-Wt 901.01 Purpose. The purpose of this chapter is to:

- (a) Enhance public safety by establishing standards for stream crossings that are designed to lessen the risk of blockages and wash-outs of culverts and bridges, and the associated flooding, which can jeopardize property and human lives upstream and downstream of such crossings;
- (b) Preserve and enhance the functions and values of existing streams, support the restoration of impacted streams to their natural state, and improve aquatic organism passage and sediment transport, while recognizing that:
  - (1) Well-managed forest management activities, normal agricultural operations, and trail activities play important roles in New Hampshire's economy; and
  - (2) Such activities, when designed and undertaken in accordance with established BMPs, can protect and maintain water quality; and
- (c) Implement the program established by RSA 482-A:3, XVII - XIX to certify certain individuals to maintain, repair, replace, or modify certain culverts.

Env-Wt 901.02 Applicability.

- (a) This chapter shall apply as specified in Env-Wt 305.02, provided that "this chapter" shall mean Env-Wt 900.
- (b) All crossings of perennial streams and intermittent streams shall be subject to Env-Wt 903 and Env-Wt 904 unless the work on the crossing is:
  - (1) Exempted under Env-Wt 901.03; or
  - (2) Undertaken in accordance with the certified culvert maintainer program established by RSA 482-A:3, XVII - XIX and Env-Wt 905.
- (c) This chapter shall not apply to crossings of drainage swales or ephemeral streams.

Env-Wt 901.03 Exemptions. The following activities and crossings shall be exempt from Env-Wt 903 and Env-Wt 904, provided they are conducted in accordance with all applicable conditions:

- (a) Minimum impact routine roadway maintenance activities conducted in accordance with Env-Wt 308.04 or Env-Wt 309.03;
- (b) Minimum impact projects to allow vehicular access to a piece of property for forest management activities, conducted in accordance with Env-Wt 520;
- (c) Minimum impact agricultural activities conducted in accordance with Env-Wt 522;
- (d) Minimum impact trail activities conducted in accordance with Env-Wt 517; and
- (f) Temporary crossings, so long as the area in which the crossing was placed is restored to pre-installation conditions when the crossing is removed.

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Env-Wt 901.04 Incorporated Definitions, Abbreviations, and Acronyms. Any term, abbreviation, or acronym used in this chapter that is defined in Env-Wt 100 shall have the meaning established therein, as summarized in Appendix E.

## PART Env-Wt 902 DEFINITIONS

Env-Wt 902.01 “Aggradation” means the raising of the grade or level of the bed of a watercourse by the deposition of detritus, sediment, or other material.

Env-Wt 902.02 “Aquatic organism” means any plant or animal species that spends at least a portion of its life-cycle submerged in fresh water, salt water, or both. The term includes but is not limited to fish, amphibians, reptiles, and macroinvertebrates. The term does not include any exotic aquatic weed as defined in RSA 487:16, II, reprinted in Appendix C, or any exotic aquatic species of wildlife as defined in RSA 487:16, I-a, reprinted in Appendix C, that has been identified by the exotic aquatic weeds and species committee pursuant to RSA 487:30.

Env-Wt 902.03 “Bankfull depth” means the distance from the water surface to the bed of the channel during bankfull flow.

Env-Wt 902.04 “Bankfull flow” means the volume of flow in a watercourse at which water begins to overflow one or both banks.

Env-Wt 902.05 “Bankfull width” means the width of the surface water flow at bankfull flows.

Env-Wt 902.06 “Closed-bottom culvert” means a culvert that has a solid top, solid sides, and solid bottom, such that its cross-section is continuous. The term includes a closed-bottom culvert of any shape in cross-section, including but not limited to square, rectangular, circular, or oval.

Env-Wt 902.07 “Connectivity” means the upstream and downstream reaches of a watercourse that meet at or via a stream crossing are hydrologically and geomorphically uninterrupted.

Env-Wt 902.08 “Design storm” means a rainfall event of a specified duration, intensity, and return frequency that is used when determining runoff rate and volume.

Env-Wt 902.09 “Embedded” means, when referring to a stream crossing structure, buried within the stream bed to such an extent that the natural substrate material, water depths, and velocities at a variety of flows within the crossing structure are comparable to those found in the reference reach.

Env-Wt 902.10 “Entrenchment ratio” means the ratio of the flood-prone width to the bankfull width.

Env-Wt 902.11 “Existing legal crossing” means a stream crossing for which:

(a) All applicable federal, state, and local requirements were met when the crossing was originally installed; and

(b) If the crossing was modified, repaired, or reconstructed subsequent to its original installation, the work, when undertaken, met all applicable federal, state, and local requirements.

Env-Wt 902.12 “Flood-prone width” means the width of flow at 2 times the maximum bankfull depth.

Env-Wt 902.13 “Geomorphic compatibility” means the long-term ability of a stream crossing to:

(a) Minimize potential for obstruction by sediment, wood, and debris;

(b) Preserve the natural alignment of the stream; and

(c) Accommodate the entrenchment ratio, bank full depth, and channel slope of the stream.

Env-Wt 902.14 “Grade control” means a structure, typically made of stone, wood, or concrete, that sits on the bed of a watercourse to prevent or arrest bed erosion by controlling the energy and velocity of water that passes over it.

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Env-Wt 902.15 “High bank erosion” means a condition in a watercourse, or in a waterbody where the banks are subject to waves or currents, where the lower portion of the bank has been eroded to such an extent that the upper portion of the bank has collapsed.

Env-Wt 902.16 “Hydraulic capacity” means a measure of the ability of a stream, channel, or conduit to allow water to pass.

Env-Wt 902.17 “Longitudinal profile” means a graphical representation of stream gradient surveyed along the reference reach to illustrate elevation changes shown along a stream reach.

Env-Wt 902.18 “NH stream crossing guidelines” means the New Hampshire Stream Crossing Guidelines published by the University of New Hampshire dated May 2009, which can be downloaded for free at <http://des.nh.gov/organization/divisions/water/wetlands/documents/nh-stream-crossings.pdf>.

Env-Wt 902.19 “Open-bottom culvert” means a bottomless culvert that preserves the natural stream substrate and does not disturb the streambed. The term includes semicircular arch culverts, elliptical arch culverts, and 3-sided concrete box culverts.

Env-Wt 902.20 “Permanent crossing” means a crossing that is intended to remain in place for 2 years or more after installation, regardless of the purpose for its installation.

Env-Wt 902.21 “Pipe arch” means a culvert that has rounded sides, a rounded top, and a flat bottom.

Env-Wt 902.22 “Reference reach” means a section of the stream unaffected by existing infrastructure, typically the length of 7 to 10 bankfull widths, that is used to establish the baseline conditions the stream crossing should replicate to the greatest extent practicable.

Env-Wt 902.23 “Rehabilitation” as applied to a stream crossing means installation of new structural components in or on an existing legal structure to allow the structure to remain in place that does not qualify as repair or replacement. The term includes but is not limited to slip-lining and installation of wing-walls or toe walls or any combination thereof.

Env-Wt 902.24 “Repair” as applied to a stream crossing means work on an existing legal structure to allow the structure to remain in place where the necessary work does not include the installation of new structural components.

Env-Wt 902.25 “Replace in-kind” as applied to a stream crossing means the removal of all or a portion of an existing legal structure and the installation of a new structure or new portion of the structure that is the same or functionally equivalent to the original structure in all material aspects, including size, dimensions, location, and configuration.

Env-Wt 902.26 “Replacement” as applied to a stream crossing means the removal of all or a portion of an existing legal structure and the installation of a new structure or new portion of the structure that does not qualify as a repair or a replacement in-kind.

Env-Wt 902.27 “Self-mitigating” as applied to stream crossings means the design of the crossing incorporates measures or features to offset the loss of the affected resource’s functions and values in an area where the new functions and values are sustainable. Examples of self-mitigating measures or features include, but are not limited to, eliminating a barrier to aquatic organism passage, improving the hydraulic capacity of an under-sized crossing, and improving geomorphic compatibility.

Env-Wt 902.28 “Sinuosity” means, for a selected reach, the ratio of the length of the reach measured along the lowest elevation within the channel to the straight-line distance between the starting point of the reach and ending point of the reach.

Env-Wt 902.29 “Span structure” means a structure that crosses from the top of one bank to the top of the opposite bank, such that no portion of the structure, including but not limited to supports and buttresses, disturbs the stream channel or its banks or any other jurisdictional area.

Env-Wt 902.30 “Stream channel” means a channel that carries the bankfull flow of a watercourse.

Env-Wt 902.31 “Stream enhancement” means the manipulation of the physical, chemical, or biological characteristics of a stream, or any combination thereof, undertaken to heighten, intensify, or improve one or more specific stream functions, where the work does not qualify as total stream restoration because it does not result in a gain of natural stream reach. The term includes but is not limited to in-stream or stream bank stabilization activities that restore one or more of the natural riverine attributes such as dimension, pattern, or profile.

Env-Wt 902.32 “Stream simulation” means a method of designing and constructing a stream crossing structure, in which the structure created within the channel is as similar as possible to the natural channel in both physical structure and function, and which takes into account appropriate bed forms and streambed characteristics so that water depths and velocities within the crossing structure at a variety of flows are comparable to those found in the natural channel upstream and downstream of the stream crossing.

Env-Wt 902.33 “Temporary crossing” means a crossing that will remain in place for less than 2 years after installation.

Env-Wt 902.34 “Tier 1 stream crossing” means a crossing that meets the criteria specified in Env-Wt 904.03(a).

Env-Wt 902.35 “Tier 2 stream crossing” means a crossing that meets the criteria specified in Env-Wt 904.04(a).

Env-Wt 902.36 “Tier 3 stream crossing” means a crossing that meets the criteria specified in Env-Wt 904.05(a).

Env-Wt 902.37 “Tier 4 stream crossing” means a crossing that meets the criteria specified in Env-Wt 904.06(a).

## PART Env-Wt 903 STREAM CROSSINGS: CLASSIFICATIONS AND APPLICATIONS

### Env-Wt 903.01 Classification of Stream Crossings and Stream Crossing Projects.

(a) Stream crossings shall be classified as tier 1, tier 2, tier 3, or tier 4 as specified in Env-Wt 904.03(a), Env-Wt 904.04(a), Env-Wt 904.05(a), or Env-Wt 904.06(a), respectively.

(b) A stream crossing project shall be classified as minimum impact, minor impact, or major impact based on (e) through (g), below.

(c) The requirements for the design of a stream crossing and the information that must be submitted with the application shall be based on the tier classification of the crossing, regardless of whether the project is a minimum impact, minor impact, or major impact project, except that if a tier 3 stream crossing is downgraded to a tier 2 or tier 1 crossing pursuant to Env-Wt 904.05(b) or (c), the design and application submission requirements of the final classification shall apply.

(d) The classification of a stream crossing project as minimum impact, minor impact, or major impact shall be used to determine the fee that must be submitted with the application and how the application is processed.

(e) A project shall be classified as a minimum impact project if (f) and (g), below, do not apply, only one stream crossing is included in the project, and the sole stream crossing is:

(1) A new tier 1 stream crossing that:

- a. Meets the criteria of Env-Wt 904.03(b); and
  - b. Impacts less than 50 LF as measured along the thread of the channel;
- (2) A repair of a tier 1 or tier 2 stream crossing that meets the criteria of Env-Wt 904.08, with no size limitation;
  - (3) A repair of a tier 3 stream crossing that meets all criteria of Env-Wt 904.09, with no size limitation;
  - (4) A replacement tier 1 stream crossing that:
    - a. Meets the criteria of Env-Wt 904.08; and
    - b. Impacts less than 50 LF as measured along the thread of the channel;
  - (5) A tier 1 or tier 2 temporary crossing that meets all criteria of Env-Wt 904.07; or
  - (6) A repair of a tier 4 crossing provided:
    - a. The project is reviewed with department staff in a pre-design meeting;
    - b. The impacts are less than 3,000 SF or less than 50 LF, measured as specified in Env-Wt 407.03;
    - c. There are no documented occurrences of protected species or habitat; and
    - d. No waivers of any requirements in Env-Wt 300, Env-Wt 600, or Env-Wt 900 are needed.
- (f) A project shall be classified as a minor impact project if (g), below, does not apply, and:
- (1) Only one stream crossing is included in the project, and that stream crossing is:
    - a. A new tier 1 stream crossing for which a waiver or approval of an alternative design is being sought as specified in Env-Wt 904.03(c);
    - b. A new tier 2 stream crossing that meets the criteria of Env-Wt 904.04(b);
    - c. A repair of a tier 1 or tier 2 stream crossing that impacts less than 200 LF for which one or more waivers of the criteria in Env-Wt 904.08 are being requested;
    - d. A repair of a tier 4 crossing that meets all criteria of Env-Wt 904.09 and impacts less than 200 LF;
    - e. A replacement tier 2 stream crossing that meets the criteria of Env-Wt 904.08; or
    - f. Rehabilitation of a tier 1 or tier 2 stream crossing that meets the criteria of Env-Wt 904.08; or
  - (2) The crossing is part of a larger crossing that meets the criteria for a minor impact project specified in Env-Wt 400.
- (g) A stream crossing project shall be classified as a major impact project if:
- (1) The stream crossing is a new tier 3 or tier 4 crossing;
  - (2) The project is a repair of a tier 3 crossing or a repair of a tier 4 crossing for which one or more waivers is needed;
  - (3) The project is the replacement or rehabilitation of:
    - a. A tier 1 or tier 2 stream crossing for which one or more waivers is needed; or
    - b. A tier 3 or tier 4 stream crossing;

- (4) The stream crossing is:
  - a. A temporary tier 1 or tier 2 for which waivers are needed; or
  - b. A temporary tier 3 or tier 4; or
- (5) The crossing is part of a larger crossing that meets the criteria for a major project specified in Env-Wt 400, regardless of the tier classification of the stream crossing that is part of the project.

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Env-Wt 903.02 Application Fees.

- (a) The application fee for a stream crossing project classified as minimum impact shall be as specified in RSA 482-A:3, I(c) for a minimum impact project.
- (b) The application fee for a stream crossing project that does not qualify as a minimum impact project shall be calculated as specified in RSA 482-A:3, I(c) based upon the sum of the square feet of impacts to the banks and channel bottom and other associated jurisdictional areas.

Env-Wt 903.03 Information Required for a Stream Crossing SPN, LSA, or EXP. In addition to the information required in Env-Wt 300, the applicant shall submit the following for any stream crossing project that is subject to an SPN, LSA, or EXP:

- (a) A USGS map or updated elevation data based on LiDAR on which the following are clearly delineated or otherwise noted:
  - (1) The approximate boundaries of the contributing watershed;
  - (2) The size of the contributing watershed; and
  - (3) Identification of the stream tier based on watershed size;
- (b) Plans that show the following:
  - (1) The scale of the plan and a north arrow;
  - (2) The extent of disturbance;
  - (3) Road locations, including road edges, centerline, and boundaries of the right-of-way;
  - (4) Proposed channel work including bank erosion control features, grade control, and channel linings; and
  - (5) All dimensions of the proposed structure and of the existing structure, if any, including inlet and outlet invert elevations;
- (c) The hydraulic capacity of the proposed crossing, in terms of flood frequency event, and of the existing crossing, if any;
- (d) The type of crossing, such as a culvert or span, that is proposed and that exists, if any;
- (e) The following information about the dewatering system proposed to be used:
  - (1) Estimated maximum flow anticipated during construction;
  - (2) The location, height, and width of the diversion dam;
  - (3) The location and capacity of each sump; and
  - (4) Backwater prevention method; and

- (f) The following information about erosion and pollution controls:
  - (1) The sediment treatment plan, including methods, release point(s), and extent;
  - (2) Any additional methods proposed to control erosion; and
  - (3) All methods of preventing and controlling releases from pumps, fuel stations, and equipment storage.

Env-Wt 903.04 Information Required for All Stream Crossing Standard Permit Applications. In addition to the information required by Env-Wt 311, the applicant shall submit the following for all stream crossing projects that require a standard permit:

- (a) On the USGS map or updated data based on LiDAR required by Env-Wt 311.06, the following:
  - (1) The approximate boundaries of the contributing watershed;
  - (2) The size of the contributing watershed; and
  - (3) Identification of the stream tier based on watershed size;
- (b) Plans showing the following:
  - (1) The scale, a north arrow, and at least 3 cross-sections outside of the construction disturbance area that are representative of the stream system away from the area of direct influence by the crossing;
  - (2) Clearing limits showing all proposed work areas;
  - (3) For both the existing structure, if any, and the proposed structure, the following:
    - a. Location;
    - b. Type;
    - c. Dimensions; and
    - d. Inlet and outlet invert elevations;
  - (4) The extent of channel excavation and filling;
  - (5) Road locations, including road edges, centerline, and boundaries of the right-of-way;
  - (6) Proposed channel work including bank erosion control features, grade control, and channel linings; and
  - (7) For the proposed structure, cross-sections showing the water surface elevation resulting from the applicable design storm, with bed material and backfill zones;
- (c) Existing crossing metrics, including:
  - (1) Existing riparian zone, including the extent and type of existing vegetation surrounding or in the stream bank; and
  - (2) Existing tailwater control, including its location and materials, and pool configuration;
- (d) The dewatering system, as follows:
  - (1) Estimates of the maximum flow anticipated during construction, including any summer storm estimates;
  - (2) The hydraulic calculation for the bypass pipe or channel size, length, and gradient;

- (3) Location, height, and width of the diversion dam;
- (4) Sump locations, including estimate of necessary flow and sump capacity;
- (5) Backwater prevention method; and
- (6) Sediment treatment plan with methods, release point, and extent;
- (e) Erosion and pollution controls, as follows:
  - (1) Any additional methods of controlling erosion;
  - (2) A soil stabilization plan, including but not limited to where to cover stockpiles and place straw bales; and
  - (3) Pollution control methods for pumps, fuel stations, and equipment storage;
- (f) The number and location of footings, if any, and the following for each:
  - (1) Estimate of bearing capacity;
  - (2) Dimensions of each footing; and
  - (3) Footing depth;
- (g) A narrative explaining why the cross-sections identified pursuant to (b)(7), above, are representative;
- (h) The design features used to improve aquatic organism passage and the expected distance, in linear feet, of downstream and upstream improvement for aquatic organism passage or fish passage;
- (i) The hydraulic capacity of the proposed crossing, in terms of flood frequency event, and of the existing crossing, if any; and
- (j) The following channel information at the crossing and for the reference reach:
  - (1) The classification of the stream using the Rosgen classification system as described in Applied River Morphology by Dave Rosgen, 1996, available as noted in Appendix B, at the crossing and upstream and downstream of the crossing;
  - (2) Bankfull width;
  - (3) Bankfull depth;
  - (4) Entrenchment ratio;
  - (5) Sinuosity; and
  - (6) Flood-prone width.

Env-Wt 903.05 Information Required for Certain Stream Crossing Standard Permit Applications. In addition to the information required by Env-Wt 311 and Env-Wt 903.04, for new and replacement stream crossing projects that require a standard permit the applicant shall submit the following as applicable:

- (a) For tier 2 and tier 3 crossings, the following additional channel information at the crossing and for the design reference reach including:
  - (1) A longitudinal profile that is 7 to 10 bankfull widths long with grade controls, pools, and gradients shown; and
  - (2) Particle size distribution of the reference reach;

- (b) For tier 2, tier 3, and tier 4 crossings, streambed details, with figures, that show the following:
  - (1) The distance from the top of the right bank to the top of the left bank;
  - (2) The streambed simulation materials and the extent, depth, and length of the streambed within the proposed crossing;
  - (3) Approximate elevations, spacing, diameters, and locations of structures for steps, bank stabilization, and other channel rocks for roughness; and
  - (4) Details for sediment retention structures, if any, within embedded structures;
- (c) For tier 2, tier 3, and tier 4 crossings, the following information on the proposed crossing:
  - (1) The openness ratio, namely the ratio of the area of a cross-section of an individual cell or barrel of a crossing structure, excluding any embedded area, to the length of the structure along the channel;
  - (2) A narrative assessment of the streambed details provided pursuant to (b), above, channel information of existing crossing metrics relative to the proposed structure, as discussed in the NH stream crossing guidelines, available as noted in Appendix B;
  - (3) A narrative assessment of the long-term erosion and stability consequences of constructing the proposed stream crossing, and methods and structures to be implemented to minimize any consequences identified;
  - (4) A narrative assessment of the bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream reaches;
  - (5) The percent of increase in the hydraulic capacity of the stream crossing; and
  - (6) A narrative analysis of how connectivity considerations were addressed focusing on stream reach, stream type, stream stability, and existing and potential for erosion in siting and modifying or replacing an existing stream crossing;
  - (7) A narrative explanation of the detrimental geomorphic consequences that have occurred as a result of the existing stream crossing, if any; and
  - (8) A narrative explanation of the crossing's contribution to flooding that damages the crossing or other human infrastructure;
- (d) For tier 3 crossings, structural details of the crossing, including the following:
  - (1) Structural section, gauge or thickness, and material, minimum and maximum cover limits;
  - (2) Structures, drawn to scale, on elevation view showing bed material location relative to structure, and special backfill zones; and
  - (3) Structural excavation quantity and total excavation estimate;
- (e) For tier 2 and tier 3 crossings, a demonstration that all design and construction considerations outlined in the NH stream crossing guidelines, available as noted in Appendix B, have been addressed; and
- (f) For tier 4 crossings, the a narrative explanation of the effect of the crossing on the tidal hydrograph, and the corresponding effect on the upstream and downstream tidal resource.

Env-Wt 903.06 Hydraulic Capacity Report. The applicant shall submit a hydraulic capacity report that includes drainage calculations and a narrative to demonstrate that the proposed stream crossing has sufficient hydraulic capacity to meet the applicable design standard with any application for:

- (a) A new tier 3 or tier 4 stream crossing for which an alternative design is being submitted pursuant to Env-Wt 904.10; or
- (b) A replacement tier 3 or tier 4 stream crossing for which the existing stream crossing cannot accommodate the design storm flow.

#### PART Env-Wt 904 DESIGN AND CONSTRUCTION OF STREAM CROSSINGS

##### Env-Wt 904.01 General Design Considerations.

- (a) All stream crossings, whether over tidal or non-tidal waters, shall be designed and constructed so as to:
  - (1) Not be a barrier to sediment transport;
  - (2) Not restrict high flows and maintain existing low flows;
  - (3) Not obstruct or otherwise substantially disrupt the movement of aquatic organisms indigenous to the waterbody beyond the actual duration of construction;
  - (4) Not cause an increase in the frequency of flooding or overtopping of banks;
  - (5) Maintain or enhance geomorphic compatibility by:
    - a. Minimizing the potential for inlet obstruction by sediment, wood, or debris; and
    - b. Preserving the natural alignment of the stream channel;
  - (6) Preserve watercourse connectivity where it currently exists;
  - (7) Restore watercourse connectivity where:
    - a. Connectivity previously was disrupted as a result of human activity(ies); and
    - b. Restoration of connectivity will benefit aquatic organisms upstream or downstream of the crossing, or both;
  - (8) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing; and
  - (9) Not cause water quality degradation.
- (b) For stream crossings over tidal waters, the stream crossing shall be designed to:
  - (1) Match the velocity, depth, cross-sectional area, and substrate of the natural stream; and
  - (2) Be of sufficient size to not restrict bi-directional tidal flow over the natural tide range above, below, and through the crossing.

Env-Wt 904.02 Conditions Applicable to All Stream Crossing Work. All stream crossing work shall be subject to all applicable conditions in Env-Wt 307, and in particular:

- (a) In-stream work shall be done only during:
  - (1) Low flow or dry conditions, in non-tidal areas; or
  - (2) When the tide is seaward of the work area, in tidal areas; and
- (b) Work on stream crossings that requires any work in areas that are subject to flowing water shall maintain normal flows and prevent water quality degradation during the work by using best management practices, such as temporary by-pass pipes, culverts, or cofferdams.

Env-Wt 904.03 Tier 1 Stream Crossings.

- (a) A tier 1 stream crossing shall be a crossing located on a watercourse where the contributing watershed is less than or equal to 200 acres.
- (b) Tier 1 stream crossings shall:
- (1) Meet the general design considerations specified in Env-Wt 904.01;
  - (2) Be sized so as to accommodate the greater of:
    - a. The 50-year design storm; or
    - b. Applicable federal, state, or local requirements; and
  - (3) Be a span structure, pipe arch, open-bottom culvert, or closed-bottom culvert, with or without being embedded with stream simulation.
- (c) An applicant may propose a design that does not meet the criteria of (b)(1) or (b)(2)a., above, by submitting a request for approval of an alternate design as specified in Env-Wt 904.10. In accordance with Env-Wt 903.01(f)(1)a., a project that includes a request to approve an alternative design for a tier 1 stream crossing shall be a minor impact project.
- (d) An existing legal crossing that would be classified as tier 1 under (a), above, may be repaired or replaced in-kind as specified in Env-Wt 904.08 pursuant to:
- (1) A routine roadway maintenance SPN as specified in Env-Wt 308.04 or registration as specified in Env-Wt 309.03; or
  - (2) If the crossing is part of a trail, a trail SPN as described in Env-Wt 308.04.
- (e) Compensatory mitigation shall not be required for any tier 1 minimum impact project.

Env-Wt 904.04 Tier 2 Stream Crossings.

- (a) A tier 2 stream crossing shall be a crossing located on a watercourse where the contributing watershed is greater than 200 acres and less than 640 acres.
- (b) Subject to (c), below, any new tier 2 stream crossing and any replacement tier 2 stream crossing that does not meet the criteria specified for in-kind replacement in Env-Wt 904.08 shall be a span structure, pipe arch embedded with stream simulation, open-bottom culvert with stream simulation, or closed-bottom culvert embedded with stream simulation.
- (c) The applicant may propose an alternative design by submitting a request as specified in Env-Wt 904.10.
- (d) Compensatory mitigation shall not be required for:
- (1) Any new tier 2 stream crossing that meets the requirements of this section and Env-Wt 904.07;
  - (2) Any tier 2 stream crossing that is self-mitigating; or
  - (3) Any tier 2 stream crossing that is repaired, rehabilitated, or replaced in-kind pursuant to Env-Wt 904.08.
- (e) Plans for a tier 2 stream crossing shall be dated and bear the signature and seal of the professional engineer who prepared or had responsibility for and approved them, as required by RSA 310-A:18.

Env-Wt 904.05 Tier 3 Stream Crossings.

- (a) Subject to (b), below, a tier 3 stream crossing shall be a crossing located:
- (1) On a watercourse where the contributing watershed is 640 acres or greater;
  - (2) Within a designated river corridor, unless:
    - a. The crossing would be a tier 1 stream based on contributing watershed size; or
    - b. The structure does not create a direct surface water connection to the designated river as depicted on the national hydrography dataset as found on GRANIT;
  - (3) Within a 100-year flood plain;
  - (4) In a jurisdictional area having any protected species or habitat; or
  - (5) In a prime wetlands or within a duly-established 100-foot buffer, unless a waiver has been granted pursuant to RSA 482-A:11, IV(b) and Env-Wt 706.
- (b) The applicant for a project in which a stream crossing is categorized as tier 3 based solely on being in a 100-year floodplain may request that the crossing be categorized as a tier 1 or tier 2 stream crossing, as applicable based on watershed size, if the impacts to the floodplain are specifically mitigated in accordance with Env-Wt 800.
- (c) The applicant for a project in which a stream crossing is categorized as tier 3 based solely on being in a jurisdictional area having any protected species or habitat may request that the crossing be categorized as tier 1 or tier 2 based on watershed size, provided:
- (1) The applicant consults with NHB to determine whether any protected plant species or habitat would be impacted;
  - (2) The applicant consults with NHF&G to determine whether any protected species or habitat is impacted; and
  - (3) The NHB, NHF&G, or both, as applicable, recommend(s) such a downgrade to the department in writing.
- (d) A tier 3 stream crossing shall be a span structure or an open-bottomed culvert with stream simulation, not a closed-bottom culvert or pipe arch.
- (e) The applicant may propose an alternative design by submitting a request as specified in Env-Wt 904.10.
- (f) Compensatory mitigation shall not be required for:
- (1) Any new tier 3 stream crossing that:
    - a. Meets the general design criteria in Env-Wt 904.01 and the tier-specific criteria of Env-Wt 904.07;
    - b. Is self-mitigating; and
    - c. Improves aquatic organism passage, connectivity, and hydraulics; or
  - (2) Any replacement of a crossing that met all applicable requirements when originally installed but is in a location that results in the crossing being classified as tier 3 under these rules, provided the proposed stream crossing meets the requirements of Env-Wt 904.09.
- (g) Plans for a tier 3 stream crossing shall be dated and bear the signature and seal of the professional engineer who prepared or had responsibility for and approved them, as required by RSA 310-A:18.

Env-Wt 904.06 Tier 4 Stream Crossings.

- (a) A tier 4 stream crossing shall be a crossing located on a tidal watercourse.
- (b) A tier 4 stream crossing shall be a span structure or a culvert specifically designed for the geomorphic and habitat conditions of the tidal environment.
- (c) The applicant may propose an alternative design by submitting a request as specified in Env-Wt 904.10.
- (d) Compensatory mitigation shall be required for any new tier 4 stream crossing unless the crossing:
  - (1) Meets the general design criteria in Env-Wt 904.01 and the tier-specific criteria in Env-Wt 904.07;
  - (2) Is self-mitigating;
  - (3) Improves aquatic organism passage, connectivity, and hydraulics; and
  - (4) Is not an alternative design or any design for which a waiver is needed.
- (e) In addition to meeting Env-Wt 903.07(c) and (d), plans for a tier 4 stream crossing shall be dated and bear the signature and seal of the professional engineer who prepared or had responsibility for and approved them, as required by RSA 310-A:18.

Env-Wt 904.07 Design Criteria for Tier 2, Tier 3, and Tier 4 Stream Crossings.

- (a) Unless otherwise specified, all design criteria in this section shall apply to new and replacement tier 2, tier 3, and tier 4 stream crossings.
- (b) Tier 2 and tier 3 stream crossings shall be designed in accordance with the NH stream crossing guidelines, available as noted in Appendix B;
- (c) Tier 2, tier 3, and tier 4 stream crossings shall be designed:
  - (1) To meet the general design considerations specified in Env-Wt 904.01;
  - (2) Of sufficient size to accommodate the greater of:
    - a. The 100-year 24-hour design storm;
    - b. Flows sufficient to:
      - 1. Prevent an increase in flooding on upstream and downstream properties; and
      - 2. Not affect flows and sediment transport characteristics in a way that could adversely affect channel stability; or
    - c. Applicable federal, state, or local requirements;
  - (3) With the bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing;
  - (4) To provide a vegetated bank on both sides of the watercourse or to provide a wildlife shelf of suitable substrate and access to allow for wildlife passage;
  - (5) To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the functioning of the natural floodplain;
  - (6) To simulate a natural stream channel;

- (7) So as not to alter sediment transport competence; and
- (8) To avoid and minimize impacts to the stream in accordance with Env-Wt 313.03.

(d) In addition to meeting the criteria specified in (c), above, new, repaired, rehabilitated, or replaced tier 4 stream crossing shall be designed:

- (1) Based on a hydraulic analysis that accounts for daily fluctuating tides, bidirectional flows, tidal inundation, and coastal storm surge;
- (2) To prevent creating a restriction on tidal flows; and
- (3) To account for tidal channel morphology and potential impacts due to sea level rise.

Env-Wt 904.08 Repair, Rehabilitation, or Replacement of Tier 1 or Tier 2 Existing Legal Crossings.

(a) Repair, rehabilitation, or replacement of a tier 1 or tier 2 stream crossing shall be limited to stream crossings where:

- (1) The contributing watershed is as specified for the tier; and
- (2) The certification specified in (b), below is provided.

(b) A project to repair, rehabilitate, or replace a tier 2 crossing shall qualify under this section only if a professional engineer certifies that:

- (1) The existing stream crossing does not have a history of causing or contributing to flooding that damages the crossing, other human infrastructure, or protected species or habitat, or any combination thereof; and
- (2) The proposed stream crossing will:
  - a. Meet or exceed the general criteria specified in Env-Wt 904.01;
  - b. Maintain or enhance the hydraulic capacity of the crossing;
  - c. Maintain or enhance the capacity of the crossing to accommodate aquatic organism passage, or both;
  - d. Maintain or enhance the connectivity of the stream reaches upstream or downstream of the crossing, or both; and
  - e. Not cause an increase in the frequency of flooding or overtopping of banks upstream or downstream of the crossing, or both.

(c) Rehabilitation of a culvert or other closed-bottom stream crossing structure pursuant to this section may be accomplished by concrete repair, slip lining, cured-in-place lining, or concrete invert lining, or any combination thereof, except that slip lining shall not occur more than once.

Env-Wt 904.09 Repair, Rehabilitation, or Replacement of Tier 3 and Tier 4 Existing Legal Crossings.

(a) The repair, rehabilitation, or replacement of tier 3 stream crossings shall be limited to existing legal crossings where the tier classification is based only on the size of the contributing watershed.

(b) Rehabilitation of a culvert or other closed-bottom stream crossing structure pursuant to this section may be accomplished by concrete repair, slip lining, cured-in place lining, or concrete invert lining, or any combination thereof, except that slip lining shall not occur more than once.

(c) A project shall qualify under this section only if a professional engineer certifies, and provides supporting analyses to show, that:

- (1) The existing crossing does not have a history of causing or contributing to flooding that damages the crossing or other human infrastructure or protected species habitat; and
- (2) The proposed stream crossing will:
  - a. Meet the general criteria specified in Env-Wt 904.01;
  - b. Maintain or enhance the hydraulic capacity of the stream crossing;
  - c. Maintain or enhance the capacity of the crossing to accommodate aquatic organism passage;
  - d. Maintain or enhance the connectivity of the stream reaches upstream or downstream of the crossing; and
  - e. Not cause or contribute to the increase in the frequency of flooding or overtopping of the banks upstream or downstream of the crossing.
- (d) Repair, rehabilitation, or replacement of a tier 4 stream crossing shall comply with Env-Wt 904.07(d).

Env-Wt 904.10 Alternative Designs.

(a) If the applicant can demonstrate that installing the structure specified in the applicable rule is not practicable, as that term is defined in Env-Wt 103, the applicant may propose an alternative design in accordance with this section.

(b) To request approval of an alternative design, the applicant shall submit a written request to the department, accompanied by a technical report that:

- (1) Clearly explains how the proposed alternative meets the criteria for approval specified in (c) or (d), below, as applicable; and
- (2) Has been prepared by:
  - a. An environmental scientist or professional engineer for a tier 1 stream crossing; or
  - b. A professional engineer for a tier 2, tier 3, or tier 4 stream crossing.
- (c) The department shall approve an alternative design for a tier 3 or tier 4 stream crossing if:
  - (1) The report submitted pursuant to (b), above, demonstrates that adhering to the stated requirements is not practicable, by providing:
    - a. A detailed financial comparison of the costs of a structure that complies with all applicable design requirements, the proposed structure, and a structure that requires fewer waivers than the proposed structure, with a range of costs estimates for each;
    - b. A detailed description of the physical limitations of the site; and
    - c. A hydraulic analysis to show that the proposed stream crossing can accommodate the applicable design storm or that the crossing, together with the associated roadway and roadway embankment, can safely accommodate overtopping flows; and
  - (2) The proposed alternative meets:
    - a. The general design criteria established in Env-Wt 904.01; and
    - b. The applicable design criteria established in Env-Wt 904.07 to the maximum extent practicable.
- (d) The department shall approve an alternative design for a new tier 1 or tier 2 crossing if:

- (1) The report submitted pursuant to (b), above, demonstrates that adhering to the rules is not practicable;
- (2) The proposed alternative design meets:
  - a. The general design criteria established in Env-Wt 904.01; and
  - b. The applicable design criteria, established in Env-Wt 904.03(b) for tier 1 stream crossings and in Env-Wt 904.07 for tier 2 stream crossings, to the maximum extent practicable; and
- (3) A hydraulic analysis shows that the proposed stream crossing can accommodate the applicable design storm or that the crossing, together with the associated roadway and roadway embankment, can safely accommodate overtopping flows.

(e) The department shall notify the applicant in writing of its decision on the request. If the request is denied, the notice shall specify the reason(s) for the denial. If the request is approved, the permit issued shall include such conditions as are needed to ensure that the project's impacts are minimized.

#### PART Env-Wt 905 CERTIFIED CULVERT MAINTAINER PROGRAM

##### Env-Wt 905.01 Applicability.

(a) The rules in this part shall apply to any employee of a state or municipal public works agency who wishes to be certified to maintain, repair, replace, or modify culverts as provided in RSA 482-A:3, XVII, reprinted in Appendix D.

(b) Nothing in this part shall be construed to prevent routine roadway maintenance activities from being undertaken in accordance with Env-Wt 308.04 or Env-Wt 309.03.

(c) Nothing in this part shall be construed to prevent a certified individual from undertaking culvert maintenance activities for a state or municipal public works agency other than the one by which the individual is employed, for example pursuant to an inter-municipal agreement.

##### Env-Wt 905.02 Definitions.

(a) "Approved provider" means an organization that has been approved by the department pursuant to Env-Wt 905.11 to offer one or more of the courses, including field work, necessary for an individual to become knowledgeable in one or more of the areas identified in Env-Wt 905.03(b).

(b) "Certificate" means the document identified in RSA 482-A:3, XVII - XIX as a certification or installer's permit that is issued by the department to authorize a state or municipal public works employee to maintain, repair, replace, or modify culverts as provided in RSA 482-A:3, XVII - XIX.

(c) "Certified culvert maintainer program" means the program established by RSA 482-A:3, XVII - XIX to certify individuals to maintain, repair, replace, or modify culverts.

(d) "Culvert project" means a discrete endeavor undertaken to maintain, repair, replace, or modify a specific culvert.

(e) "Incidental damage" means disturbances to areas outside of the immediate work area that are corrected in the normal course of a culvert project but does not include any disturbance or other action that:

- (1) Causes any injury to any individual who is not working on the culvert project;
- (2) Causes injury to an individual who is working on the culvert project to the extent that the individual is hospitalized or otherwise cannot work; or
- (3) Results in harm to public or private property in an amount that triggers an insurance claim by the state or municipal public works agency undertaking the culvert project or by the owner of the property.

(f) “Public way” means a paved or unpaved path upon which travel occurs, such as a lane, alley, street, avenue, boulevard, road, turnpike, highway, or railway bed, that is maintained by a state or municipal public works agency for the benefit of the general public.

Env-Wt 905.03 Qualifications for Initial Certificate. Any state or municipal public works employee who wishes to become qualified to maintain culverts under RSA 482-A:3, XVII, reprinted in Appendix D, shall:

(a) Fulfill the requirements of the certification program established in this part or be a professional engineer;

(b) Be knowledgeable in the following areas:

(1) State rules and federal regulations governing culvert replacement and maintenance;

(2) Culvert purpose and function;

(3) Culvert design, including proper sizing, and installation;

(4) Culvert replacement and maintenance techniques; and

(5) Best management practices for culvert replacement and maintenance, including identifying those areas that are not within the scope of the Routine Roadway BMPs; and

(c) Apply to the department for a certificate in accordance with Env-Wt 905.04.

Env-Wt 905.04 Application for Initial Certificate.

(a) Any individual wishing to be certified shall:

(1) Provide the information and documentation specified in (b), below, on or with an “Application for Initial or Renewal NH Culvert Maintainer Certification”, NHDES-W-06-078, dated the 2019 effective date of this chapter (CCM Application);

(2) Sign the CCM Application as specified in Env-Wt 905.05; and

(3) Submit the completed, signed CCM Application to the department.

(b) The information and documentation required by (a)(1) shall be as follows:

(1) The applicant’s name, mailing address, daytime telephone number including area code, and email address;

(2) The name, address, and daytime telephone number of the state or municipal public works agency by which the individual is employed, and the URL of the agency’s web site if one exists;

(3) If the applicant wishes to qualify as a professional engineer, the applicant’s P.E. license number and written confirmation from the New Hampshire board professional engineers that the applicant is a professional engineer licensed by the board and in good standing; and

(4) If the applicant wishes to qualify based on specific training, documentation from the approved provider(s) whose course(s) the applicant attended to show that the applicant has met the requirements for certification under this program.

Env-Wt 905.05 Signature Required.

(a) The applicant for an initial or renewal certificate shall sign and date the CCM Application.

(b) The applicant’s signature shall constitute certification that:

- (1) The applicant is aware that:
  - a. The certification applies only for culverts 48 inches in diameter and smaller;
  - b. The certification does not apply to culverts that have a history of being overtopped;
  - c. The certification does not apply to culverts within 100 feet of a prime wetland or within ¼ mile of a designated river; and
  - d. The Routine Roadway BMPs can be found at:  
[https://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/documents/RR\\_V.9\\_FINAL\\_3-14-19.pdf](https://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/documents/RR_V.9_FINAL_3-14-19.pdf);
- (2) The applicant will:
  - a. Follow the Routine Roadway BMPs; and
  - b. Submit the required quarterly reports to the department;
- (3) The applicant has successfully completed an approved training program and exam or is a professional engineer licensed in the state of New Hampshire in good standing and with appropriate knowledge to oversee culvert maintenance projects, or both;
- (4) The information provided on or with the application form, as applicable, is true, complete, and not misleading to the best of the applicant's knowledge and belief; and
- (5) The applicant understands that:
  - a. The submission of false, incomplete, or misleading information is grounds for denying the application or revoking any certificate that is issued based on the information; and
  - b. He or she is subject to the penalties for falsification in official matters, currently in RSA 641.

Env-Wt 905.06 Issuance of Certificate.

- (a) Within 10 working days of receiving a complete application as specified in Env-Wt 905.04(a), the department shall determine whether the information submitted demonstrates that the applicant meets the requirements for becoming a certified culvert maintainer specified in RSA 482-A:3, XVII - XIX and this part.
- (b) If the department determines that the applicant meets the requirements, the department shall issue a certificate that identifies the individual as a certified culvert maintainer.
- (c) As provided in RSA 482-A:3, XIX and subject to (d) and (e), below, certificates shall be issued for a 2-year term, from January 1 of the year of issue through December 31 of the following year.
- (d) An initial certificate shall be issued for a term that begins on the date of issuance and extends through December 31 of the year following the year of issuance.
- (e) A certificate shall remain valid for its full term provided the certified individual remains employed by a state or municipal public works agency, unless sooner suspended or revoked pursuant to Env-Wt 905.10.
- (f) If the department determines that the individual does not meet the requirements for becoming a certified culvert maintainer, the department shall send a written notice to the applicant that:
  - (1) Specifies the reason(s) why the applicant was not certified; and
  - (2) Informs the individual that an appeal may be taken as provided in RSA 21-O:14.

Env-Wt 905.07 Certificate Renewal; Continuing Education Required.

- (a) As provided in RSA 482-A:3, XIX, certificates shall be renewable.

(b) To apply for renewal, a certified culvert maintainer shall submit an application for renewal as specified in (c) and (d), below, to the department no later than December 15 of the year of expiration.

(c) An applicant for renewal shall provide the following information and documentation to the department on or with a CCM Application:

- (1) The applicant's name, mailing address, daytime telephone number including area code, and email address;
- (2) The name, address, and daytime telephone number including area code of the state or municipal public works agency by which the applicant is employed, and the URL of the agency's web site if one exists;
- (3) Documentation that the applicant has completed 2 hours of instruction from an approved provider in one or more of the areas identified in Env-Wt 905.03(b) within the 2-year term of the individual's current certificate; and
- (4) A statement that the applicant currently holds a valid certificate as a culvert maintainer and has not acted or failed to act in any way that would constitute just cause to suspend, revoke, or refuse to renew the certificate.

(d) The applicant shall sign the application for renewal in accordance with Env-Wt 905.05.

(e) Within 10 working days of receiving a complete application for a renewal certificate as specified in (b) through (d), above, the department shall determine whether the information submitted demonstrates that the applicant:

- (1) Currently holds a valid culvert maintainer certificate;
- (2) Is employed at the time of renewal by a state or municipal public works agency;
- (3) Has filed all required reports; and
- (4) Has not acted or failed to act in any way that would constitute just cause to suspend, revoke, or refuse to renew the certificate.

(f) If the department determines that the applicant meets the requirements, the department shall issue a certificate that:

- (1) Identifies the individual as a certified culvert maintainer; and
- (2) As provided in RSA 482-A:3, XIX, is valid from January 1 of the year of issue through December 31 of the following year.

(g) If the department determines that the applicant does not meet the requirements for renewal, the department shall send a written notice to the applicant that:

- (1) Specifies the reason(s) why the applicant's certificate was not renewed; and
- (2) Informs the individual that an appeal may be taken as provided in RSA 21-O:14.

Env-Wt 905.08 Obligations and Responsibilities of Certified Individuals. Each individual certified under this part shall:

- (a) Undertake or supervise work performed pursuant to RSA 482-A:3, XVII;
- (b) Use reasonable care, judgment, and application of his or her knowledge when maintaining, repairing, replacing, or modifying a culvert;

- (c) Not submit any information that is false, incomplete, or misleading on, in, or with any application for an initial or renewal certificate or quarterly report;
- (d) Repair, replace, or modify each culvert in compliance with:
  - (1) RSA 482-A, exclusive of the requirement to obtain a permit;
  - (2) Env-Wt 100 et seq., exclusive of the requirements pertaining to applying for and obtaining a permit; and
  - (3) Best management practices to protect water quality; and
- (e) Correct any work that is identified as defective by the department or by the state or municipal public works agency for which the work was performed.

Env-Wt 905.09 Quarterly Reporting Required.

- (a) As required by RSA 482-A:3, XVIII, all individuals certified under this program shall submit a quarterly report to the department to fully identify the work performed in the prior quarter.
- (b) If more than one certified individual works on or supervises the same culvert project, each individual shall identify the project in her or his quarterly report.
- (c) Quarterly reporting periods and due dates for reports shall be as specified in Table 905-1, below:

Table 905-1: Quarterly Reporting Periods with Corresponding Due Date for Report

<b>Reporting Period</b>	<b>Report Due</b>
January 1 through March 31	April 15
April 1 through June 30	July 15
July 1 through September 30	October 15
October 1 through December 31	January 15

- (d) Each quarterly report shall contain the following information for each culvert maintained, repaired, replaced, or modified during the reporting period:
  - (1) The state or municipal public works agency for which the work was done;
  - (2) The municipality in which the work was done;
  - (3) The name or other identification of the public way that crosses the culvert;
  - (4) The location of the culvert, as follows:
    - a. If the public way has numbered buildings along it, the numbers of the 2 closest buildings that bracket the culvert;
    - b. If the public way has utility poles along it, the identification numbers of the 2 closest utility poles that bracket the culvert;
    - c. If there are no numbered buildings or utility poles but the public way has mile markers, the numbers of the 2 closest markers that bracket the culvert;
    - d. If none of the information identified in a. through c., above, is available, the distance from the culvert to the nearest identifiable intersection, to the nearest 0.1 mile, plus any other information that is helpful in locating the culvert; and
    - e. If possible, the GPS latitude/longitude coordinate, as DDMMSS.s, of the road centerline at the culvert location, collected from any handheld device that is capable of receiving and displaying such information, together with the date and time of latitude/longitude point

collection and the name and model of the unit on which the reported latitude/longitude point was collected;

- (5) Whether the culvert was maintained, repaired, replaced, or modified;
- (6) Whether the work was done as part of a planned routine maintenance procedure or was unexpected;
- (7) If the work was not part of a planned routine maintenance procedure, an assessment of what caused the culvert to need to be repaired, replaced, or modified;
- (8) The size, type, and condition of the culvert prior to the maintenance, repair, replacement, or modification;
- (9) The size, type, and condition of the culvert following the maintenance, repair, replacement, or modification; and
- (10) The latitude and longitude of the stream crossing.

Env-Wt 905.10 Suspension, Revocation, or Refusal to Renew Certificate.

(a) As provided in RSA 482-A:3, XIX, a certificate issued under this part may be suspended, revoked, or not renewed for just cause.

(b) Just cause to suspend, revoke, or refuse to renew a certificate shall include the following;

- (1) Installing culverts in violation of the requirements specified in Env-Wt 905.08(d);
- (2) Refusing to correct defective work;
- (3) Failing to use reasonable care, judgment, and application of his or her knowledge in the performance of his or her duties;
- (4) Failing to submit required quarterly reports;
- (5) Submitting false or misleading information regarding any application for an initial or renewal certificate; and
- (6) Obtaining any certificate through fraud, deceit, or intentional falsification.

(c) If after issuing a certificate the department receives information which indicates that just cause, as specified in (b), above, exists to suspend or revoke the certificate, the department shall proceed in accordance with RSA 541-A:30 and the provisions of Env-C 200 that apply to adjudicative proceedings.

(d) After proceeding in accordance with (c), above, the department shall revoke the certificate if the department determines that the certified individual:

- (1) Intentionally submitted false or misleading information on any application for an initial or renewal certificate or otherwise obtained a certificate through fraud, deceit, or falsification;
- (2) Repaired, replaced, or modified a culvert in violation of the requirements specified in Env-Wt 905.08(d) more than once in any 2-year period or in such a way as to cause water quality violations;
- (3) Refused to correct defective work;
- (4) Failed to use reasonable care, judgment, and application of his or her knowledge when maintaining, repairing, replacing, or modifying a culvert where such failure resulted in more than incidental damage to public or private property;
- (5) Intentionally submitted false or misleading information on any quarterly report; or

(6) Intentionally failed to submit one or more required quarterly reports.

(e) An individual whose certificate has been revoked shall not be eligible to reapply for a new certificate for 2 years.

(f) After proceeding in accordance with (c), above, the department shall suspend the certificate if the department determines that the certified individual:

(1) Negligently or inadvertently submitted false or misleading information regarding any application for an initial or renewal certificate, but the certificate would have been issued even with correct information that was not misleading;

(2) Repaired, replaced, or modified a culvert in violation of RSA 482-A, Env-Wt 100 et seq., and best management practices to protect water quality, but:

a. Did not do so more than once in any 2-year period; and

b. Did not cause water quality violations;

(3) Failed to use reasonable care, judgment, and application of his or her knowledge when maintaining, repairing, replacing, or modifying a culvert, where such failure resulted in no damage or only incidental damage to public or private property;

(4) Negligently or inadvertently submitted false or misleading information on any quarterly report; or

(5) Negligently failed to submit more than one required quarterly report.

(g) If a certificate is suspended pursuant to (f), above, or (i)(2), below, the department shall not reinstate the certificate until the certified individual:

(1) Remedies all violations, including as applicable:

a. Providing accurate and complete information regarding an application for an initial or renewal certificate;

b. Correcting any defective work that has not already been corrected;

c. Providing corrected quarterly reports; and

d. Submitting all required quarterly reports;

(2) Completes an extra 2 hours of instruction from an approved provider in the area in which the reason for the suspension occurred; and

(3) Submits a written request to the department requesting that the certificate be reinstated, together with documentation that the requirements of (1) and (2), above, have been met.

(h) If after receiving a request for renewal of a certificate the department receives information which indicates that just cause, as specified in (b), above, exists to refuse to renew the certificate, the department shall proceed in accordance with (c), above.

(i) After proceeding in accordance with (c), above, the department shall:

(1) Refuse to renew the certificate, if the department determines that one or more of the reasons to revoke a certificate, as listed in (d), above, applies; or

(2) Renew the certificate and suspend it, if the department determines that one or more of the reasons to suspend a certificate, as listed in (f), above, applies.

(j) An individual whose certificate has been refused renewal shall not be eligible to reapply for a new certificate for 2 years.

(k) If the department renews a certificate and suspends it as specified in (i)(2), above, the department shall not reinstate the certificate until the certified individual has complied with (g)(1)-(3), above.

Env-Wt 905.11 Approved Provider Application. An organization that wishes to become an approved provider shall submit the following information to the department in writing, with the signature and certifications specified in Env-Wt 905.13:

- (a) A description of the organization, including:
  - (1) The organization's name, mailing address, and daytime telephone number including area code; and
  - (2) If the organization is required by RSA 292, RSA 293, RSA 293-A, or other applicable New Hampshire law to register with the New Hampshire secretary of state, proof of being registered and in good standing to do business in New Hampshire;
- (b) The name, mailing address, daytime telephone number including area code, and email address of an individual at the organization who can be contacted regarding the application;
- (c) If approval is being sought for an entire curriculum, a list of the courses to be offered; and
- (d) A complete description of each course for which the organization is seeking approval, including:
  - (1) The name of the course;
  - (2) The name and qualifications of each individual who will present the course;
  - (3) The length of time attendees of the course will be under the direct supervision of the instructor;
  - (4) A syllabus for the course and the written materials to be used in the course;
  - (5) The method to be used to evaluate attendees at the conclusion of the course; and
  - (6) The format the organization will use to provide the documentation required by Env-Wt 905.04(b)(4) and Env-Wt 905.07(c)(3).

Env-Wt 905.12 Designation as Approved Provider.

(a) Within 45 days of receiving a complete application to become an approved provider, the department shall:

- (1) Determine whether the applicant has met the criteria specified in (c), below; and
- (2) Notify the applicant in writing of its determination.

(b) If the department determines that the applicant has not met the criteria specified in (c), below, the notice sent pursuant to (a)(2) shall specify the reason(s) for the determination.

(c) The department shall designate an organization as an approved provider for the proposed curriculum or for one or more specific courses if the information submitted demonstrates that the curriculum or course(s), as applicable, will impart the information necessary for attendees to become knowledgeable in one or more of the areas identified in Env-Wt 905.03(b).

(d) An organization that has received approval for less than all of the courses it offers shall be an approved provider only as to the courses that have been submitted pursuant to Env-Wt 905.11 and approved by the department.

Env-Wt 905.13 Signature and Certification.

(a) The individual who has been authorized by the organization to submit a request under Env-Wt 905.11, Env-Wt 905.14, or Env-Wt 905.16 or to submit information under Env-Wt 905.15 shall:

- (1) Sign and date the document containing the required information; and
- (2) Print or type his or her name and title on the document.

(b) The signature provided pursuant to (a), above, shall constitute certification by the signer that:

- (1) The signer has been duly authorized by the organization to submit the request to the department;
- (2) The information contained in or otherwise submitted with the request is true, complete, and not misleading to the best of the signer's knowledge and belief; and
- (3) The signer, on behalf of the organization, understands that:
  - a. The submission of false, incomplete, or misleading information constitutes grounds for the department to deny the request or to revoke any decision that is made based on the information; and
  - b. The signer and the organization are subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.

Env-Wt 905.14 Expiration and Renewal of Designation.

(a) Subject to renewal as provided below, designation as an approved provider shall expire 2 years from the date of the notice issued pursuant to Env-Wt 905.12(a)(2).

(b) An approved provider that wishes to renew its designation shall submit a written statement to the department, signed and certified in accordance with Env-Wt 905.13, attesting that:

- (1) No changes to the information identified in Env-Wt 905.11 have occurred; or
- (2) Changes to the information identified in Env-Wt 905.11 have occurred but are not material to the organization's compliance with the criteria specified in Env-Wt 905.12(c).

(c) If changes to the information identified in Env-Wt 905.11 have occurred, the organization shall provide updated information with the written statement submitted pursuant to (b), above.

(d) The department shall renew the organization's designation as an approved provider if the information submitted pursuant to (b) and (c), above, demonstrate that the organization continues to meet the criteria specified in Env-Wt 905.12(c).

(e) A renewed designation shall be valid for 2 years from the date of the renewal and shall itself be renewable by the same process described in (b) through (d), above.

Env-Wt 905.15 Obligations of Approved Providers.

(a) Each approved provider shall notify the department in writing of any change in any of the information identified in Env-Wt 905.11 within 7 working days of the change.

(b) Information submitted pursuant to (a), above, shall be signed and certified as specified in Env-Wt 905.13.

(c) If any change reported pursuant to (a), above, is material to the organization's ability to meet the criteria specified in Env-Wt 905.12(c), the written notification shall explain what the organization is doing to remedy the situation and when the organization expects to meet the criteria again.

(d) The organization shall notify the department in writing within 7 working days of reestablishing compliance with the criteria specified in Env-Wt 905.12(c).

(e) The organization shall not offer any course affected by the noncompliance with the criteria specified in Env-Wt 905.12(c) while the noncompliance exists.

Env-Wt 905.16 Delegation of Certain Administrative Functions to Approved Providers.

(a) An approved provider that wishes to undertake one or more of the administrative functions of the certified culvert maintainer program specified in (c), below, shall submit a written request to the department that contains the following information:

- (1) The name and mailing address of the approved provider;
- (2) The name, title, mailing address, daytime telephone number including area code, and email address of an individual who is authorized to represent the approved provider for purposes of the request;
- (3) The specific function(s) for which the approved provider is requesting delegation;
- (4) A complete description of the resources available to the approved provider to perform the functions, if delegated; and
- (5) The period of time for which the delegation is requested, which shall extend no later than the approval issued pursuant to Env-Wt 905.12.

(b) A request submitted pursuant to (a), above, shall be signed and certified as specified in Env-Wt 905.13.

(c) An approved provider may request delegation of any or all of the following:

- (1) Receiving and processing applications for initial certificates as specified in Env-Wt 905.04;
- (2) Issuing certifications as specified in Env-Wt 905.06;
- (3) Receiving and processing applications for renewal as specified in Env-Wt 905.07; and
- (4) Receiving and processing the quarterly reports as specified in Env-Wt 905.10.

(d) The department shall delegate the requested authority to the approved provider if it determines that the approved provider has sufficient resources to undertake the specified administrative functions. Such delegation shall be valid for so long as the organization is an approved provider, provided that the organization may discontinue undertaking the delegated authority by providing written notice to the department at least 30 days prior to the discontinuance.

**APPENDIX A: STATE STATUTES IMPLEMENTED**

<b>Rule(s)</b>	<b>State Statute Implemented</b>
Env-Wt 900 (see Part below for specific paragraphs)	RSA 482-A:1 & 3; RSA 482-A:11
Env-Wt 905	RSA 482-A:3, XVII through XIX

**APPENDIX B: INCORPORATED REFERENCES**

<b>Rule</b>	<b>Name (Date)</b>	<b>Available from</b>
Env-Wt 902.18, Env-Wt 903.05(c)(2), Env-Wt 903.05(e), Env-Wt 904.07(b)	NH Stream Crossing Guidelines (May 2009)	University of New Hampshire  Download at no charge from: <a href="https://www.des.nh.gov/organization/divisions/water/wetlands/documents/nh-stream-crossings.pdf">https://www.des.nh.gov/organization/divisions/water/wetlands/documents/nh-stream-crossings.pdf</a>
Env-Wt 903.04(j)(1)	Applied River Morphology, Dave Rosgen (1996)	Wildland Hydrology 11210 N. County Road 19 Fort Collins, CO 80524 Phone: (970) 568-0002 Email: <a href="mailto:wildland@wildlandhydrology.com">wildland@wildlandhydrology.com</a>  Available new for \$71.76 + \$10.00 shipping from <a href="https://wildlandhydrology.com/books/?id=32&amp;course=Applied+River+Morphology">https://wildlandhydrology.com/books/?id=32&amp;course=Applied+River+Morphology</a>  Available used or new from Amazon.com and other sellers from ~\$63 (used) to ~\$155 (new).

**APPENDIX C: STATUTORY DEFINITIONS****487:16**

I-a. "Exotic aquatic species of wildlife" means wildlife, as defined in RSA 207:1, XXXV, that:

(a) Depend on a freshwater aquatic environment; and

(b) Are not naturally occurring in New Hampshire or have not become established in New Hampshire as a result of an intentional introduction program by a state agency.

II. The term "exotic aquatic weeds" includes only those species of vascular aquatic plants which were not part of New Hampshire's native aquatic flora before 1950. *Cabomba caroliniana* and *Myriophyllum heterophyllum* are examples of exotic aquatic weeds.

**APPENDIX D: OTHER STATUTORY PROVISIONS****482-A:3, XVII**

XVII. State and municipal public works employees who have fulfilled the requirements of a certification program developed by the department may maintain, repair, replace, or modify culverts up to a maximum diameter of 48 inches, or the hydraulic equivalent, as long as the structure can pass flows from the contributing watershed without causing damage to upstream or downstream properties, and in accordance with best management practices to protect water quality, without prior notification to the department. Federal employees who otherwise meet the requirements of the program developed by the department may maintain, repair, replace, or modify culverts as specified in this paragraph on any land within the state that is owned or managed by the federal government.

XVIII. The department shall develop an installer's certification program, in accordance with paragraph XVII, and shall determine the educational requirements for certification, including continuing education requirements. Professional engineers who are duly licensed by the New Hampshire board of professional engineers are exempt from the program requirements of this section. All certified individuals who perform such work shall submit a quarterly report to the department fully identifying work that they performed during each quarter and documentation of continuing education requirements.

XIX. The department shall issue an installer's permit to any individual who submits an application provided by the department, and has satisfactorily completed the program in accordance with paragraphs XVII and XVIII. Permits shall be issued from January 1 and shall expire December 31 of every other year. Permits shall be renewable upon proper application, and documentation of compliance with the continuing education requirement of paragraph XVIII. The installer's permit may be suspended, revoked, or not renewed for just cause, including, but not limited to, the installation of culverts in violation of this chapter or the refusal by a permit holder to correct defective work. The department shall not suspend, revoke, or refuse to renew a permit except for just cause until the permit holder has had an opportunity to be heard by the department. An appeal from such decision to revoke, suspend, or not renew a permit may be taken pursuant to RSA 21-O:14.

#### APPENDIX E: SUMMARY OF ABBREVIATIONS AND ACRONYMS

<b>Term</b>	<b>Meaning</b>
Agriculture BMWPs	"Best Management Wetlands Practices for Agriculture" dated 2019, published by the NH Department of Agriculture, Markets, and Food
A/M BMPs	"Wetlands Best Management Practice Techniques For Avoidance and Minimization" dated 2019, published by the New England Interstate Water Pollution Control Commission
CPESC specialist	Certified Professional Erosion and Sediment Control specialist - an individual certified by EnviroCert International, Inc.® as competent to develop and implement erosion and sediment control practices
CY	Cubic Yard
Federal classification method	Method established in "Classification of Wetlands and Deepwater Habitats of the United States", adapted from Cowardin, Carter, Golet and LaRoe (1979), August 2013, FGDC- STD-004-2013
Federal delineation method	Method established in "Wetlands Delineation Manual", Technical Report Y-87-1, Corps of Engineers, January 1987, and "Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region", Version 2.0, U.S. Army Corps of Engineers, January 2012
Forestry BMPs	"New Hampshire Best Management Practices for Erosion Control on Timber Harvesting Operations" dated 2016, published by the University of New Hampshire Cooperative Extension
HOTL	Highest Observable Tide Line
Invasive Plant BMPs	"Best Management Practices For the Control of Invasive and Noxious Plant Species" dated 2018, published by the NHDOT
Marina BMPs	"Best Management Practices For New Hampshire Marinas" dated 2001, published by the NHDES Pollution Prevention Program
LAC	Local [River] Advisory Committee
LiDAR	Light Detection and Ranging - A surveying method that measures distance to a target by illuminating the target with pulsed laser light and measuring the reflected pulses with a sensor, with the differences in laser return times and wavelengths then being used to make digital 3-D representations of the target.
LF	Linear Foot
NH Method	"Method for Inventorying and Evaluating Freshwater Wetlands in New Hampshire" dated 2013 and revised 2015 and 2016, available at <a href="https://nhmethod.org/">https://nhmethod.org/</a>
NHB	Natural Heritage Bureau of the NH DNCR
NH DNCR	NH Department of Natural and Cultural Resources
NHF&G	NH Fish and Game Department
NHDOT	NH Department of Transportation
NRCS	Natural Resources Conservation Service of the U.S. Department of Agriculture

<b>Term</b>	<b>Meaning</b>
PBN	Permit-by-Notification (created in the rules)
PRA	Priority Resource Area - a jurisdictional area that: <ul style="list-style-type: none"> <li>(a) Has documented occurrences of protected species or habitat;</li> <li>(b) Is a bog;</li> <li>(c) Is a floodplain wetland contiguous to a tier 3 or higher watercourse;</li> <li>(d) Is a designated prime wetlands or a duly-established 100-foot buffer zone;</li> <li>(e) Is a sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone; or</li> <li>(f) Is any combination of (a) through (e), above.</li> </ul>
Professional engineer	RSA 310-A:2, II. "Professional engineer" means a person who by reason of advanced knowledge of mathematics and the physical sciences, acquired by professional education and practical experience, is technically and legally qualified to practice engineering, <b>and who is licensed by the board or otherwise authorized by this subdivision to engage in the practice of engineering.</b>
Routine Roadway BMPs	"Best Management Practices for Routine Roadway Maintenance Activities in New Hampshire" dated 2019, published by the NHDOT
SF	Square Foot
SPN	Statutory Permit-by-Notification (established in RSA 482-A)
Subject property	<ul style="list-style-type: none"> <li>(a) For projects in surface water for which any kind of permit is required, the parcel(s) of land adjacent to and associated with the area in which the project will occur or has occurred; or</li> <li>(b) For all other projects for which any kind of permit is required, the parcel(s) of land on which the project will occur or has occurred.</li> </ul>
Trail BMPs	"New Hampshire Best Management Practices for Erosion Control During Trail Maintenance and Construction" dated 2017, published by the NH DNCR
US ACE	U.S. Army Corps of Engineers
USGS	United States Geological Survey
Utility BMPs	"Best Management Practices Manual, Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire" dated 2019, published by the NH DNCR
WAP	Wildlife Action Plan prepared and published by NHF&G
Water Quality BMPs	Recommended practices for minimizing or preventing the direct or indirect discharge of sediment or other pollutants into surface waters and wetlands, including those listed in Env-Wt 307 and the Agriculture BMPs, Forestry BMPs, Marina BMPs, Invasive Plant BMPs, Roadway Maintenance BMPs, Trail BMPs, and Utility BMPs, as applicable
WPPT	Wetlands Permit Planning Tool - a GIS tool that provides access to data for planning projects near or in jurisdictional areas, available at <a href="http://des3.sr.unh.edu/Html5Viewer/Index.html?configBase=http://jointagencyvm.sr.unh.edu/Geocortex/Essentials/des3.sr.unh.edu/REST/sites/NH_DES/viewers/gvh/virtualdirectory/Resources/Config/Default">http://des3.sr.unh.edu/Html5Viewer/Index.html?configBase=http://jointagencyvm.sr.unh.edu/Geocortex/Essentials/des3.sr.unh.edu/REST/sites/NH_DES/viewers/gvh/virtualdirectory/Resources/Config/Default</a>