

CHAPTER Env-Wq 1500 ALTERATION OF TERRAIN

Statutory Authority: RSA 485-A:6, VIII; RSA 485-A:17, I

PART Env-Wq 1501 PURPOSE; APPLICABILITY; CALCULATION OF TIME

Env-Wq 1501.01 Purpose. The purpose of these rules is to implement the intent of RSA 485-A:1 to protect drinking water supplies, surface waters, and groundwater by specifying the procedures and criteria for obtaining permits required by RSA 485-A:17.

Env-Wq 1501.02 Applicability.

(a) These rules shall apply to any person proposing to undertake any of the following activities, whether as part of developing undeveloped land or redeveloping previously-developed land:

- (1) Dredging, excavating, placing fill, mining, transporting forest products, or undertaking construction in or on the borders of surface waters of the state; or
- (2) Significantly altering the characteristics of the terrain in such a manner as to impede the natural runoff or create an unnatural runoff.

(b) The design standards in this chapter shall apply to:

- (1) Any application filed after the 2017 effective date of this chapter; and
- (2) Any application filed prior to the 2017 effective date of this chapter that is not complete, as determined under Env-Wq 1503.13, as of the 2017 effective date of this chapter, regardless of when the completeness determination is made.

Env-Wq 1501.03 Calculation of Time.

(a) Subject to (b), below, if any deadline or time period established in these rules falls or ends on a Saturday, Sunday, or other day on which state offices are closed, the deadline or time period shall be extended to the first following day on which state offices are open.

(b) A deadline or time period established by statute shall be extended only if the statute expressly provides for such an extension.

PART Env-Wq 1502 DEFINITIONS

Env-Wq 1502.01 “100-year floodplain” means those areas identified as a 100-year floodplain on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps.

Env-Wq 1502.02 “Alteration of terrain (AOT) permit” means a permit issued under RSA 485-A:17 for projects that require a permit and do not qualify for a general permit by rule or a timber harvesting permit by rule.

Env-Wq 1502.03 “Antidegradation” means the provisions of the surface water quality standards that maintain and protect existing water quality and uses.

Env-Wq 1502.04 “Applicant” means a person having a legally-recognized interest in the land on which the work to be covered by an AOT permit will occur that is sufficient for the person to have, or to obtain, an enforceable proprietary interest in the property and legally proceed with the work if an AOT permit is issued.

Env-Wq 1502.05 “Agent” means a person who has been duly authorized in writing by an applicant, owner, or permit holder, as applicable, to:

- (a) Take any action this chapter requires the applicant, owner, or permit holder, as applicable, to take; and
- (b) Interact with the department regarding the application or project, as applicable.

Env-Wq 1502.06 “Assimilative capacity” means the amount of a pollutant that can be added to a waterbody without causing violations of applicable water quality criteria.

Env-Wq 1502.07 “Bioretention system” means a shallow vegetated depression that retains stormwater for treatment by flowing through a filtering media.

Env-Wq 1502.08 “Borrow area” means an area where earth material is removed to be used in other areas for construction purposes.

Env-Wq 1502.09 “Bulk plant or terminal” means that portion of a property where petroleum products or hazardous waste liquids are received by tank vessel, pipeline, tank car, or tank vehicle and are stored or blended in bulk for the purpose of distributing such liquids by tank vessel, pipeline tank car, tank vehicle, portable tank, or container.

Env-Wq 1502.10 “Certified professional erosion and sediment control specialist (CPESC specialist)” means an individual certified by EnviroCert International, Inc.® as competent to develop and implement erosion and sediment control practices.

Env-Wq 1502.11 “cHECK-RAS” means the program developed by FEMA to verify the validity of an assortment of parameters found in the U.S. Army Corps of Engineers (USACE) HEC-RAS hydraulic modeling program, which can be downloaded for free at <https://www.fema.gov/check-ras-hec-ras-validation-tool>.

Env-Wq 1502.12 “Community public water supply well” means an active well used as a source by a community water system as defined in RSA 485:1-a, I.

Env-Wq 1502.13 “Curve number (CN)” means a numerical representation used to describe the stormwater runoff potential for a given drainage area based on land use, soil group, and soil moisture, derived as specified by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS).

Env-Wq 1502.14 “Department” means the department of environmental services.

Env-Wq 1502.15 “Detention basin” means a structure designed to hold stormwater.

Env-Wq 1502.16 “Disconnected impervious cover” means impervious cover that directs stormwater runoff to on-site pervious cover to infiltrate into the soil or be filtered by overland flow such that the stormwater does not contribute directly to runoff from a site, such that the net rate and volume of stormwater runoff from the disconnected impervious cover is not greater than the rate and volume from undisturbed cover of equal area.

Env-Wq 1502.17 “Dredge” as a verb means to make a body of water such as a lake, river, channel, harbor, or other area of surface water or wetlands wider, deeper, or cleaner by the removal of sand, silt, mud, rock, or other such material.

Env-Wq 1502.18 “Earth material” means sand, silt, soil, mud, gravel, rock, or other such naturally-occurring material.

Env-Wq 1502.19 “Earth moving” means filling, grading, dredging, mining, excavation, construction, removal of topsoil, removal of stumps, stockpiling of earth material, or any other activity that results in a change to the preexisting ground conditions or contours, or both.

Env-Wq 1502.20 “Effective impervious cover” means all impervious cover that is not disconnected impervious cover.

Env-Wq 1502.21 “Excavate” means to remove earth material from any land area.

Env-Wq 1502.22 “Extended detention” means the temporary storage of a portion of the water quality volume (WQV) when the WQV is greater than the permanent pool storage volume within a stormwater management system.

Env-Wq 1502.23 “Fill” as a noun means any earth material or other material that has been deposited or caused to be deposited by human activity.

Env-Wq 1502.24 “Filtering practice” means a method that captures and temporarily stores the water quality volume and passes it through a bed of treatment media, including but not limited to earth material, to remove pollutants from the water.

Env-Wq 1502.25 “Forest buffer” means a wooded area of land with a canopy cover and an undisturbed layer of vegetation covering the natural land surface.

Env-Wq 1502.26 “General permit by rule” means authorization to undertake alteration of terrain activities as specified in Env-Wq 1503.03.

Env-Wq 1502.27 “Gravel wetland” means a horizontal-flow filtration system that relies on a dense root mat, crushed stone, and a microbe rich environment to treat stormwater.

Env-Wq 1502.28 “Groundwater protection areas” means:

(a) Wellhead protection areas for an active community and non-transient, non-community public water supply wells; and

(b) Areas of groundwater reclassified as GA1 or classified as GA2 pursuant to RSA 485-C and Env-Dw 901 or predecessor rules in Env-Ws 420.

Env-Wq 1502.29 “Groundwater recharge volume (GRV)” means the volume of water to be infiltrated at a site subsequent to development.

Env-Wq 1502.30 “High-load area” means a land use or activity listed in (a) or (b), below, unless a source control plan for the site on which the use or activity occurs demonstrates that there will be no exposure of regulated substances to precipitation or runoff and no release of regulated substances from any portion of the site:

(a) Any land use or activity in which regulated substances are exposed to rainfall or runoff with the exception of areas where the only regulated substance exposed to rainfall or runoff is road salt that has been applied for deicing of pavement on the site; or

(b) Any land use or activity that typically generates higher concentrations of hydrocarbons, metals, or suspended solids than are found in typical stormwater runoff, including but not limited to the following:

(1) Industrial facilities subject to the NPDES Multi-Sector General Permit, not including areas where industrial activities do not occur, such as at office buildings and their associated parking facilities or in drainage areas at the facility where a certification of no exposure pursuant to 40 CFR §122.26(g) will always be possible;

(2) Petroleum storage facilities;

(3) Petroleum dispensing facilities;

(4) Vehicle fueling facilities;

(5) Vehicle service, maintenance and equipment cleaning facilities;

(6) Fleet storage areas;

(7) Public works storage areas;

(8) Road salt facilities;

(9) Commercial nurseries;

(10) Non-residential facilities having uncoated metal roofs with a slope flatter than 20%;

(11) Facilities with outdoor storage, loading, or unloading of hazardous substances, regardless of the primary use of the facility; and

(12) Facilities subject to chemical inventory under Section 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA).

Env-Wq 1502.31 “Hydrologic Engineering Centers River Analysis System (HEC-RAS)” means a hydraulic modeling program developed by the US Army Corps of Engineers to perform one-dimensional hydraulic calculations for natural and constructed channels, which can be downloaded for free at <http://www.hec.usace.army.mil/software/hecras/>.

Env-Wq 1502.32 “Impervious cover” means a structure or a land surface with a low capacity for infiltration, including but not limited to compacted soils with a curve number of 98 or greater, pavement, roofs, roadways, and driveways.

Env-Wq 1502.33 “In or on the borders of surface waters of the state” means at or below the high water mark of any surface water, or on any land within such a distance of a surface water that direct or immediate water quality degradation could result from the activities occurring on the land.

Env-Wq 1502.34 “Infiltration basin” means an in-ground or underground basin to which runoff is discharged that contains water while it percolates into the surrounding soil.

Env-Wq 1502.35 “Infiltration trench” means an in-ground or underground trench filled with stone to which runoff is either piped directly or flows overland, from which the water percolates into the surrounding soil.

Env-Wq 1502.36 “Infiltration practice” means a method that captures and temporarily stores the water quality volume in order to allow it to infiltrate into the soil, such as an infiltration basin or infiltration trench.

Env-Wq 1502.37 “In-ground basin” means a basin that is in the ground but open to the atmosphere.

Env-Wq 1502.38 “Land surface” means the exposed surface of any land area including road surfaces, parking lots, air strips, shopping centers, roofs, and any other surface, whether in a natural or developed state.

Env-Wq 1502.39 “Larger plan of development” means a project in which:

(a) Different parts of the property or properties are planned to be developed, or actually are developed, in geographical or time-based phases, excluding single family or duplex residential subdivisions in which individual lots will be developed independently of the subdivision’s infrastructure and each other; and

(b) The total contiguous area to be disturbed, as determined pursuant to Env-Wq 1503.12, will be:

(1) For properties not within the protected shoreland as defined in RSA 483-B, less than 100,000 square feet; or

(2) For properties within the protected shoreland as defined in RSA 483-B, less than 50,000 square feet.

Env-Wq 1502.40 “Meadow buffer” means a land area that has a dense cover of tall grasses or a combination of grasses and shrubs or trees, that is maintained as a meadow.

Env-Wq 1502.41 “National Flood Frequency program (NFF)” means a regression equation program developed by US Geological Survey that estimates flood-peak discharges for every state, which can be downloaded for free at <http://water.usgs.gov/software/nff.html>.

Env-Wq 1502.42 “Non-community public water supply well” means an active well used as a source by a non-community water system as defined in RSA 485:1-a, X.

Env-Wq 1502.43 “Non-transient, non-community public water supply well” means an active well used as a source by a non-transient, non-community water system as defined in RSA 485:1-a, XI.

Env-Wq 1502.44 “Normal agricultural operations” as used in RSA 485-A:17 and this chapter means those activities that are customary to, and necessary to sustain, an agricultural operation as described in RSA

21:34-a, II. The term does not include personal agriculture activities but does include constructing farming-related structures, constructing farming-related roads, and preparing land for agricultural operations by removing trees, stumps, rocks and boulders that can be removed without blasting, and structures, or any combination thereof, from land that is not wetland, provided:

- (a) The activities:
 - (1) Are not part of a larger plan of development for a purpose other than agriculture in whole or in part;
 - (2) Will not alter the terrain so as to impede natural runoff or create an unnatural runoff, other than temporary impacts associated with allowable construction; and
 - (3) Are not timber harvesting operations as covered by RSA 485-A:17, IV; and
- (b) The activities:
 - (1) Would not convert more than 10,000 square feet from pervious to impervious cover; or
 - (2) Are part of a farm conservation plan that has been approved by the NRCS, in which case not more than 20,000 square feet may be converted from pervious to impervious cover.

Env-Wq 1502.45 “Owner” means the person who holds record title to the property on which the work for which RSA 485-A:17 requires a permit has occurred or is proposed to occur.

Env-Wq 1502.46 “Person” means “person” as defined in RSA 485-A:2, IX, as reprinted in Appendix C.

Env-Wt 1502.47 “Personal agricultural activities” means activities relating to maintaining livestock, producing food or fiber, or floriculture that are undertaken primarily for personal use.

Env-Wq 1502.48 “Pollutant” means “waste” as defined by RSA 485-A:2, XVI, including but not limited to sediments, total suspended solids (TSS), phosphorus, nitrogen, metals, pathogens, dissolved substances, floatable debris, and oil and other petroleum products.

Env-Wq 1502.49 “Private water supply well” means a water supply well as defined in RSA 482-B:2 that is currently used as a source of water for human consumption and is not a public water supply well.

Env-Wq 1502.50 “Public water supply well” means an active well used as a source by a public water system.

Env-Wq 1502.51 “Public water system” means “public water system” as defined in RSA 485:1-a, XV, as reprinted in Appendix C.

Env-Wq 1502.52 “Qualified engineer” means an individual licensed under RSA 310-A to practice as a professional engineer in New Hampshire, who is competent to practice in the area of civil engineering.

Env-Wq 1502.53 “Receiving waters” means a river, stream, lake, pond, wetland, or any other surface water into which runoff is discharged.

Env-Wq 1502.54 “Regulated substance” means “regulated substance” as defined in Env-Wq 401.03(h).

Env-Wq 1502.55 “Runoff” means any water on or flowing on or across the land surface.

Env-Wq 1502.56 “Seasonal high water table (SHWT)” means the level at which the uppermost soil horizon contains 2% or more distinct or prominent redoximorphic features that increase in percentage with increasing depth.

Env-Wq 1502.57 “Sediment forebay” means a pool at the inlet end of a treatment structure that allows for initial settling of solids and even distribution of flow.

Env-Wq 1502.58 “Significantly alter the characteristics of the terrain” means to undertake any activity anywhere in the state that changes or disturbs the terrain so as to impede the natural runoff or create an

unnatural runoff that has the potential to adversely affect water quality in surface waters of the state. Examples of activities that significantly alter the characteristics of the terrain include, but are not limited to:

- (a) Timber harvesting operations as covered by RSA 485-A:17, IV; and
- (b) Earth moving activities that result in a temporary or permanent disturbance of:
 - (1) An area that:
 - a. Is more than 2,500 square feet in size;
 - b. Is within 50 feet of any surface water;
 - c. Is sloped such that runoff is in the direction of the surface water; and
 - d. Is subject to runoff over 50 feet or more of land having a grade of 25% or greater when measured at 2-foot intervals; or
 - (2) An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area or cumulatively exceeds 50,000 square feet of contiguous area if any portion of the disturbance is within the protected shoreland as defined in RSA 483-B.

Env-Wq 1502.59 “Site specific permit” means a permit issued by the department pursuant to RSA 485-A:17 under Env-Ws 415 as in effect immediately prior to the 2009 effective date of Env-Wq 1500, equivalent to an alteration of terrain permit.

Env-Wq 1502.60 “Slope” means the incline of a land area expressed as the ratio of horizontal distance to vertical distance.

Env-Wq 1502.61 “Stabilized” means in a condition in which the soils on the site will not erode under the conditions of a 10-year storm.

Env-Wq 1502.62 “Stormwater pond” means an artificial structure that is designed to capture runoff, which includes a permanent pool of water and which may include extended detention.

Env-Wq 1502.63 “Stormwater management system” means the totality of stormwater treatment practices, stormwater conveyances, and groundwater recharge practices.

Env-Wq 1502.64 “Stormwater wetland” means a man-made area designed to mimic the ability of a natural wetland to capture and treat runoff, that includes one or more areas of shallow marsh and that also can incorporate one or more small permanent pools, extended detention storage areas, or multi-cell submerged gravel wetlands, or any combination thereof.

Env-Wq 1502.65 “Substratum” means the part of the soil below the layer(s) of the soil profile in which the processes of soil formation are active.

Env-Wq 1502.66 “Surface filter” means a filtering practice that treats stormwater by settling out larger particles in a sediment chamber and then filtering stormwater through a filter media.

Env-Wq 1502.67 “Surface water quality standards (SWQ standards)” means the combination of designated uses of surface waters and the water quality criteria for such surface waters based upon such uses as described in RSA 485-A:8-12 and Env-Wq 1700.

Env-Wq 1502.68 “Surface waters of the state” means surface waters of the state as defined in RSA 485-A:2, XIV, as reprinted in Appendix C. For purposes of this chapter, the term includes all areas regulated under RSA 482-A.

Env-Wq 1502.69 “Temporary diversion practice” means a method that directs stormwater runoff away from disturbed, unstabilized land surfaces, such as a trench or channel.

Env-Wq 1502.70 “Timber harvesting operations” means silviculture activities that have the potential to result in a significant alteration of the characteristics of the terrain, including but not limited to the cutting and removal of forest products, skidding, and the construction of bridges, fords, culverts, roads and landings. The term does not include the removal of timber or cordwood or other forest products for non-commercial personal use.

Env-Wq 1502.71 “Timber harvesting permit by rule” means authorization to undertake timber harvesting operations as specified in Env-Wq 1503.04.

Env-Wq 1502.72 “To mine” means to remove usable earth materials by excavating, dredging, blasting, or any other means which significantly alters the characteristics of the terrain or occurs in or on the borders of surface waters of the state.

Env-Wq 1502.73 “Total impervious cover” means the sum of disconnected impervious cover plus effective impervious cover.

Env-Wq 1502.74 “To transport forest products” means to move or convey timber and related products within an area bounded by permanent roadways.

Env-Wq 1502.75 “To undertake construction” means to perform any fabrication of any structure or any appurtenance to a structure, or any activity preliminary to fabricating such structure or appurtenance, such as earth moving, that involves a significant alteration of the characteristics of the terrain or that occurs in or on the borders of surface waters of the state.

Env-Wq 1502.76 “Underground filter” means a filtering practice that treats stormwater as it flows through underground settling chambers and filter media.

Env-Wq 1502.77 “Undisturbed cover” means a natural land surface whose permeability has not been altered by human activity.

Env-Wq 1502.78 “Vegetated filter strip” means an area of land with natural or planted vegetation designed to receive sheet runoff from up-gradient development.

Env-Wq 1502.79 “Water quality inlet” means an underground, multi-chambered tank designed to remove sediments from and reduce the amount of floatable solids in runoff.

Env-Wq 1502.80 “Water quality depth” means the depth associated with the water quality volume.

Env-Wq 1502.81 “Water quality flow (WQF)” means the peak flow rate associated with the water quality volume.

Env-Wq 1502.82 “Water quality volume (WQV)” means the volume of water equivalent to the volume of runoff attributable to the first one inch of rainfall.

Env-Wq 1502.83 “Wellhead protection area (WHPA)” means “wellhead protection area” as defined in RSA 485-C:2, XVIII, as reprinted in Appendix C.

Env-Wq 1502.84 “Well production volume” means the maximum daily volume produced by or approved for production by a public water supply well and used by the department as the basis for determining the sanitary protective radius for the well.

PART Env-Wq 1503 PERMIT REQUIREMENTS

Env-Wq 1503.01 Applicability.

- (a) The rules in this part relative to permit application submittal and review shall apply to:
 - (1) Any application filed after the 2017 effective date of this chapter; and

(2) Any application filed prior to the 2017 effective date of this chapter that is not complete, as determined under Env-Wq 1503.13, as of the 2017 effective date of this chapter, regardless of when the completeness determination is made.

(b) Any complete application filed prior to the 2017 effective date of this chapter shall be reviewed based on the standards specified in Env-Wq 1500 as in effect on December 1, 2010.

Env-Wq 1503.02 Permit Required.

(a) Subject to (b), below, no person shall dredge, excavate, place fill, mine, transport forest products, or undertake construction in or on the borders of surface waters of the state and no person shall undertake any activity that will significantly alter the characteristics of the terrain without a general permit by rule, a timber harvesting permit by rule, or an alteration of terrain (AOT) permit obtained in accordance with this chapter.

(b) No permit under these rules shall be required for normal agricultural operations as defined in Env-Wq 1502. If a project includes development that requires an AOT permit and normal agricultural operations that do not need a permit, an application shall be submitted only for the development that requires an AOT permit.

(c) For any project for which an AOT permit is required solely based on the criteria specified in Env-Wq 1502.58(b)(1), the area of disturbance subject to an AOT permit shall be limited to the area of activity that meets the criteria specified in Env-Wq 1502.58(b)(1).

(d) A disturbance shall be considered an unpermitted disturbance if it is not a normal agricultural operation as defined in Env-Wq 1502 and does not qualify for a general permit by rule or a timber harvesting permit by rule, and it:

- (1) Is not covered by an AOT permit or a site specific permit that remains in effect; or
- (2) Is covered by an AOT permit or a site specific permit that remains in effect but is not in accordance with the approved plans and specifications.

(e) Any disturbance for which an AOT permit is required that occurs, in whole or in part, prior to the permit being applied for or obtained shall be considered an unpermitted disturbance for which the person undertaking the work shall file an after-the-fact application as specified in Env-Wq 1503.31.

Env-Wq 1503.03 General Permit by Rule. A person shall be deemed to have a general permit by rule to undertake a project in or on the borders of surface waters of the state or that significantly alters the characteristics of the terrain if:

(a) The project is limited to utility work that meets all of the following conditions:

- (1) The work is limited to trench excavation for installing, replacing, or repairing utilities, such as sewer, water, closed drainage systems, gas pipes, or telephone or cable wires;
- (2) There will be no increase in runoff or discharge and no new discharge location;
- (3) The work is done by or at the direction of the entity with responsibility for maintaining the lines for which the work is being done;
- (4) The trench is cut and covered within the same working day;
- (5) The work is conducted in accordance with Env-Wq 1505.05 relative to temporary methods for stormwater management and erosion and sediment control and Env-Wq 1505.06 relative to cold weather site stabilization, as applicable;
- (6) All dewatering work associated with the work is covered under an NPDES permit for construction dewatering activities issued by the U.S. Environmental Protection Agency (EPA), if applicable;

- (7) A permit has been obtained pursuant to RSA 482-A prior to any work in areas subject to RSA 482-A jurisdiction; and
 - (8) Any permit or waiver required under RSA 483-B has been obtained prior to any work in areas subject to RSA 483-B jurisdiction;
- (b) The project is limited to asphalt maintenance work that meets all of the following conditions:
- (1) The work is limited to replacement of the existing asphalt surface to its existing grade;
 - (2) The work is limited to the footprint of the existing surface;
 - (3) There is no change in the existing drainage system; and
 - (4) If base course gravels are replaced, the base course gravels that are removed are replaced within 72 hours of being removed;
- (c) The project is limited to trail work that meets all of the conditions specified in RSA 485-A:17, V, as reprinted in Appendix D;
- (d) The project is limited to trail work that meets all of the following conditions:
- (1) Subject to (4) and (5), below, the trail work is limited to a disturbed area no more than 30 feet wide;
 - (2) The project is being implemented by a non-profit organization, municipality, or government entity;
 - (3) The work is done in accordance with the Best Management Practices For Erosion Control During Trail Maintenance and Construction, NH Trail Construction and Maintenance Manual, published by the New Hampshire department of natural and cultural resources (DNCR), division of parks and recreation, bureau of trails (DNCR-Trails), dated January 2017 (“Trail BMPs”), available as noted in Appendix B;
 - (4) If the trail is greater than 20 feet wide, an environmental monitor shall:
 - a. Inspect the project site at least once every 14 days from the start of terrain alteration activities until all terrain alteration activities are completed and the trail is stabilized;
 - b. In addition to regular bi-weekly inspections, inspect the project once every 7 days during terrain alteration activities in or within 10 feet of a wetland;
 - c. In addition to regular bi-weekly inspections, inspect the project site during any rain event in which 0.5 inch of precipitation or more falls within a 24 hour period, provided that if the environmental monitor is unable to be present during such a storm, the monitor shall inspect the site within 24 hours of the rain event; and
 - d. Submit a written report, by a qualified engineer, a CPESC specialist, a certified wetland scientist, or an employee of the DRED-Trails whose job responsibilities include field inspections to the department, within 24 hours of each inspection that:
 - 1. Describes the progress of the project, including whether all conditions in this section are being met; and
 - 2. Includes photographs of the site that are representative of the project; and
 - (5) If an environmental monitor is required by (4), above, the trail club or organization undertaking the work retains a copy of the report on-site for review during site inspections by federal, state, or local officials;

(e) The project does not qualify under (a) through (d), above, but meets all of the following conditions:

- (1) The contiguous area disturbed, as calculated in accordance with Env-Wq 1503.12, is:
 - a. Less than 50,000 square feet if any of the area disturbed is within the protected shoreland that is subject to RSA 483-B jurisdiction; or
 - b. Less than 100,000 square feet in which all disturbed areas are outside the protected shoreland that is subject to RSA 483-B jurisdiction;
- (2) The work is not part of a larger plan of development that cumulatively will exceed the applicable limit specified (1), above;
- (3) The work will not significantly alter the characteristics of the terrain as defined in Env-Wq 1502.58(b)(1);
- (4) The work is conducted in accordance with Env-Wq 1505.05 relative to temporary methods for stormwater management and erosion and sediment control and Env-Wq 1505.06 relative to cold weather site stabilization, as applicable;
- (5) A permit has been obtained pursuant to RSA 482-A prior to any work in areas subject to RSA 482-A jurisdiction; and
- (6) Any permit or waiver required under RSA 483-B has been obtained prior to any work in areas subject to RSA 483-B jurisdiction;

(f) The work that requires a permit under Env-Wq 1503.02 also needs to be permitted under RSA 482-A or RSA 483-B and review of the AOT permit application would simply duplicate the review that will occur under the RSA 482-A or RSA 483-B permit application;

(g) The work:

- (1) Is limited to establishing temporary access or staging areas for other work being done pursuant to a permit under RSA 482-A; and
- (2) Does not exceed the applicable limits of (e)(1) or (3), above;

(h) The work is limited to transporting forest products as defined in Env-Wq 1502; or

(i) The work is limited to subsurface explorations needed to assist in the design of a project for which an AOT permit or general permit is required, including but not limited to test boring, test pits, observation wells, soil surveys, and other site characterization work.

Env-Wq 1503.04 Timber Harvesting Permit by Rule. A person shall be deemed to have a timber harvesting permit by rule to undertake a timber harvesting operation provided all of the following conditions are met:

(a) The activity is a timber harvesting operation for which a valid New Hampshire department of revenue administration intent to cut permit has been obtained by the property owner(s) or by an agent for the property owner(s);

(b) As specified in RSA 485-A:17, IV, the work is performed in accordance with the Best Management Practices for Erosion Control on Timber Harvest Operations in New Hampshire published by the former New Hampshire department of resources and economic development;

(c) A permit has been issued or a "Notification of Forest Management or Timber Harvest Activities Having Minimum Wetlands Impact" form has been filed pursuant to RSA 482-A prior to any work in areas in RSA 482-A jurisdiction; and

- (d) Timber harvesting roads are not being converted to a non-timber harvesting operational use.

Env-Wq 1503.05 AOT Permit Application Procedures.

(a) As specified in RSA 485-A:17, I, an application for an AOT permit shall be filed at least 30 days prior to the proposed starting date of the proposed activities, and no activities shall commence without prior approval of the application by the department.

(b) The applicant for an AOT permit shall submit a complete application, as specified in (c), below, to the department at the following address:

DES Water Division
Attn: Alteration of Terrain Program
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095

(c) A complete application shall include:

(1) A completed application checklist as specified in Env-Wq 1503.06, as specified in Attachment A to the application form identified in Env-Wq 1503.07;

(2) A completed application form as specified in Env-Wq 1503.07, signed as specified in Env-Wq 1503.10;

(3) The plans and other information specified in Env-Wq 1503.08 and Env-Wq 1503.09, as applicable;

(4) If the applicant has authorized another to act as the applicant's agent, a copy of the written authorization;

(5) If the applicant is not the owner and the owner has authorized another to act as the owner's agent, a copy of the written authorization;

(6) Proof that a copy of the application has been delivered to the governing body of each municipality in which the project is proposed as required by (e), below, and, if required by (f), below, the appropriate local river advisory committee, consisting of:

a. A copy of the certified mail receipt, for each copy that was sent certified mail;

b. A copy of the delivery confirmation, for each copy that was sent via a private delivery service; or

c. A statement signed by the applicant that the copy was delivered in hand, for each copy that was hand-delivered; and

(7) The fee required by Env-Wq 1503.32.

(d) The applicant shall obtain an application form and checklist:

(1) From the department's public information center; or

(2) From the department's website.

(e) The applicant shall send a copy of the application as described in (c)(1)-(3), above, to the governing body of each municipality in which the proposed project is located prior to filing the application with the department.

(f) If any portion of a project is located within 0.25 mile of a river or river segment designated under RSA 483, the applicant shall send a copy of the application as described in (c)(1)-(3), above, to the appropriate local river advisory committee prior to filing the application with the department.

Env-Wq 1503.06 Application Checklist. The application checklist required by Env-Wq 1503.05(c)(1) shall comprise a list of all items required to constitute a complete application, as specified in Attachment A to the permit application form identified in Env-Wq 1503.07.

Env-Wq 1503.07 AOT Permit Application Form. The applicant shall provide the following information on or with an Alteration of Terrain Permit Application form, NHDES-W-01-003, dated 2017, available at <http://des.nh.gov/organization/divisions/water/aot/documents/aot-application.pdf>:

- (a) The name and mailing address of the applicant, and if the applicant does not have an agent, the following:
 - (1) For an applicant who is an individual, not an entity, the applicant's daytime telephone number and e-mail address; and
 - (2) For an applicant that is an entity, such as a business or trust, the name of an individual designated by the applicant as the point of contact and that individual's email address and daytime telephone number;
- (b) If the applicant has authorized an agent, the name, mailing address, daytime telephone number, and email address of the agent, and if the agent is an entity, the name of the individual designated by the agent as the point of contact;
- (c) The name and mailing address of each owner of the property on which the project will occur, if other than the applicant, and if the property owner does not have an agent, the following:
 - (1) For a property owner who is an individual, not an entity, the property owner's daytime telephone number and e-mail address; and
 - (2) For a property owner that is an entity, such as a business or trust, the name of an individual designated by the property owner as the point of contact and that individual's email address and daytime telephone number;
- (d) If the property owner has authorized an agent, the name, mailing address, daytime telephone number, and email address of the agent, and if the agent is an entity, the name of the individual designated by the agent as the point of contact;
- (e) The name, mailing address, and daytime telephone number of the engineering consultant for the project, if any and if other than the applicant's agent, and the consultant's e-mail address;
- (f) For the proposed project:
 - (1) The type of project, namely excavation only, residential, commercial, golf course, school, municipal, agricultural, land conversion, or other;
 - (2) The project name, street or road address, town or city, and county;
 - (3) The town tax map(s) and lot number(s) and if applicable, the block number and unit number;
 - (4) The property's location coordinates based on latitude/longitude, with accuracy to 6 decimals in decimal degree format and to 3 decimals in deg-min-sec format;
 - (5) Whether the project, post-development, will withdraw from or directly discharge to a stream or wetland, a man-made pond formed by impounding a stream or wetland, or an unlined pond formed by digging into the water table, and if so the purpose of the withdrawal or discharge;
 - (6) Whether the project is in a high-load area, and if so the type of high load land use or activity;

- (7) Whether the project is within a water supply intake protection area or a groundwater protection area, and whether the well setbacks identified in Env-Wq 1508.02 will be met;
 - (8) Whether any portion of the property is within the 100-year floodplain, and if so the cut volume in cubic feet within the 100-year floodplain and the fill volume in cubic feet within the 100-year floodplain; and
 - (9) Whether the project is located within ¼ mile of a designated river and if so, the name of the river;
- (g) A brief description of the proposed project, including an outline of the scope of work to be performed, which shall be provided on the application form and not on a separate page;
 - (h) A description of all work commenced prior to receiving a permit, if any;
 - (i) The date the applicant or applicant's agent sent a copy of the application to:
 - (1) The municipality, as required by Env-Wq 1503.05(e); and
 - (2) The local river advisory committee, if required by Env-Wq 1503.05(f);
 - (j) Identification of:
 - (1) The type of plan required by Env-Wq 1503.11(a)-(d); and
 - (2) Any plan(s) required by Env-Wq 1503.11(e)-(g);
 - (k) The area, in square feet, of the following:
 - (1) The total area of disturbance, calculated in accordance with Env-Wq 1503.12;
 - (2) The amount of additional impervious cover resulting from the project and the total final impervious cover; and
 - (3) The total amount of undisturbed cover of the project;
 - (l) For land being subdivided, the total number of lots proposed;
 - (m) The total length of roadway, in linear feet;
 - (n) The name of all receiving waters as shown on a USGS map or, if unnamed, the name of the waterbody to which each receiving water is tributary, as identified on a USGS map;
 - (o) A list of other permits obtainable from the department that are required for the project, and for each, whether an application has been filed, and if so whether the application is pending or, if the approval has been issued, the permit number, registration date, or approval letter date, as applicable;
 - (p) The following information regarding potential impacts to natural resources:
 - (1) A list of each species identified by the department of natural and cultural resources, division of forests and lands, natural heritage bureau as being threatened, endangered, or of concern; and
 - (2) A list of each pollutant for which the receiving water has been identified by the department as being impaired under 40 CFR 130.7 or 40 CFR 130.8, using information obtained from the "Surface Water Impairment" layer of the department's web-based OneStop database.
 - (q) Whether the applicant or applicant's agent had a pre-application meeting with staff of the department's terrain alteration bureau and, if so, the name of the individual staff member; and
 - (r) Whether blasting of bedrock will be required and, if so, the estimated quantity in cubic yards of blast rock.

Env-Wq 1503.08 Additional Information Required for AOT Permit Applications. The applicant shall submit the following with the completed application form:

- (a) A copy of:
 - (1) The appropriate USGS map at a 1:24,000 scale, equivalent to 1 inch equals 2,000 feet, with the property boundaries delineated;
 - (2) The appropriate NRCS county-wide web soil survey from <http://websoilsurvey.nrcs.usda.gov>; and
 - (3) The appropriate aerial photograph at a 1:24,000 scale, equivalent to 1 inch equals 2,000 feet, dated no earlier than 2013, with the property boundaries clearly delineated;
- (b) A letter from the New Hampshire department of natural and cultural resources, natural heritage bureau (NHB), which may be obtained using the NHB DataCheck Tool located at https://www2.des.state.nh.us/nhb_datacheck/, that either:
 - (1) States that no NH Heritage records were found in the vicinity of the project and the corresponding map with the property boundaries delineated; or
 - (2) Assesses the potential impacts the project will have, if NH Heritage records were found;
- (c) Photographs representative of existing site conditions with a description of what each photograph is showing, referenced to the project plans;
- (d) One copy of plans as specified in Env-Wq 1503.11, as applicable for the proposed project, printed on white paper that is 34 to 36 inches wide by 22 to 24 inches high;
- (e) The proposed construction sequence for the project showing compliance with Env-Wq 1505.03 relative to maximum open area allowed;
- (f) For any project that would have an increase in post-development off-site runoff if stormwater control methods were not implemented, the following:
 - (1) Supporting information to demonstrate that the criteria for protecting water quality stated in Env-Wq 1507.02 will be met;
 - (2) One copy of the drainage report, drainage area plans, and hydrologic soil group plans prepared in accordance with Env-Wq 1504.09; and
 - (3) An infiltration feasibility report as specified in Env-Wq 1504.13 for each infiltration or filtration practice proposed as part of the stormwater management system;
- (g) For projects requiring a detailed development plan as described in Env-Wq 1504.05, one copy of the inspection and maintenance manual prepared in accordance with Env-Wq 1507.07;
- (h) For projects requiring a detailed development plan as described in Env-Wq 1504.05, the submission requirements for determining percent effective impervious cover and percent undisturbed cover in accordance with Env-Wq 1504.15;
- (i) For projects within the protected shoreland as defined in RSA 483-B:4, XV, the information required by Env-Wq 1411.01 and a report on the status of the application for a permit under RSA 483-B:5-b or, if the project is exempt, a statement of the statute or rule that exempts the project from needing a permit under RSA 483-B:5-b;

(j) For projects that involve infiltration of stormwater via subsurface leaching or distribution structures, a completed groundwater discharge registration application if required under Env-Wq 402.33(a)(1) or (c) or under Env-Wq 404 relative to underground injection control;

(k) If the project is within the 100-year floodplain, a supplementary report as specified in Env-Wq 1503.09;

(l) If the project is for infrastructure having a projected life that extends beyond 2050 and is within the coastal or great bay region, such additional information as is necessary to address projected storm surge, sea-level rise, and precipitation events identified in the 2014 Science and Technical Advisory Panel Report, Sea-Level Rise, Storm Surges, and Extreme Precipitation in Coastal New Hampshire: Analysis of Past and Projected Future Trends, prepared by the Coastal Risks and Hazards Commission and available at <http://www.nhcrhc.org/stap-report/> ; and

(m) If the applicant is not the property owner, proof that the applicant will have a legal right to undertake the project on the property if a permit is issued to the applicant.

Env-Wq 1503.09 Information Required for Projects Within the 100-year Floodplain. The applicant shall submit a supplementary report for all projects proposed within the 100-year floodplain that includes the following:

- (a) The size of the river's watershed above the project's furthest downstream boundary;
- (b) Photographs of the right bank and left bank;
- (c) A delineation of the 100-year floodplain located within the site's boundaries, using one of the following methods:
 - (1) In Zone AE, where FEMA has performed detailed studies, the 100-year floodplain boundary shall be determined using FEMA's 100-year floodplain elevations in combination with detailed topography for the site; or
 - (2) In Zone A, where FEMA has mapped the floodplain by approximate methods, a study to determine 100-year floodplain elevations and boundaries shall be performed in accordance with (e)(1), below;
- (d) The total volume of fill in acre-feet that is proposed to be placed within the 100-year floodplain between existing grades and the 100-year flood elevations;
- (e) For any project where the total fill volume is greater than 0.5 acre-feet or where a bridge or culvert crossing is proposed, a hydraulic model and analysis check as follows:
 - (1) A HEC-RAS analysis, stamped by a qualified engineer, that includes cross-sections and profiles for the pre- and post-development conditions, wherein the cross-sectional surveys and flow data are completed according to the following:
 - a. A minimum of 6 cross-sections that span the entire river and 100-year floodplain shall be surveyed to analyze the project's effect on flood elevations through the affected reach, where:
 - 1. At least 2 cross-sections are surveyed at the project site in those areas where floodplain encroachment are greatest;
 - 2. At least 2 cross-sections are surveyed upstream of the proposed floodplain fill area with one being located at the upstream property line; and
 - 3. At least 2 cross-sections are surveyed downstream of the proposed floodplain fill area with one being located at the downstream property line;

b. For projects involving bridges or culverts, or both, a minimum of 6 cross-sections shall be required as follows:

1. At least 3 cross-sections shall be surveyed above each proposed bridge or culvert; and
2. At least 3 cross-sections shall be surveyed below each proposed bridge or culvert; and

c. Flood discharges shall be estimated using the first available method listed below:

1. Flood discharges from a FEMA Flood Insurance Studies (FIS) covering the proposed project site, if available;
2. Stream gauge data collected by the USGS, if available; or
3. The USGS National Flood Frequency (NFF) program for the State of New Hampshire, which uses a regression equation to determine flow; and

(2) A cHECK-RAS analysis to verify the parameters used in the HEC-RAS hydraulic model;

(f) The GPS coordinates of the beginning and end points of each of the cross-sections required by (e)(1)a. and b., above, in units of degrees, minutes, and seconds of latitude and longitude, with at least 3 decimal places of precision (DDMMSS.sss) and referenced to the North American Datum of 1983 (NAD 83) or its successor;

(g) If the hydraulic model results indicate that the proposed project will raise flood stages on abutting properties or alter flow and sediment transport characteristics in a manner that could adversely affect channel stability and surface water quality, a proposal for compensatory flood storage or conveyance, or both, that is designed to ensure that:

- (1) There is no increase in flood stages on abutting properties; and
- (2) Flow and sediment transport characteristics will not be affected in a manner which could adversely affect channel stability; and

(h) For any project where the total fill volume is less than 0.5 acre-feet and no bridge or culvert crossing is proposed:

- (1) An on-site cut and fill balance such that there is no net decrease in the 100-year flood storage volume; or
- (2) A hydraulic model per the methods described in (e), above, which demonstrates that there is no increase in flood stages on abutting properties and that flow and sediment transport characteristics will not be affected in a manner that could adversely affect channel stability and surface water quality.

Env-Wq 1503.10 Signatures and Certifications Required.

(a) Each document that is required by this chapter to be submitted to the department, including but not limited to applications, requests, and reports, shall:

- (1) Be signed and dated by:
 - a. For any document submitted prior to a permit being issued, the applicant or agent and each owner or agent, if other than the applicant; and
 - b. For any document submitted after a permit has been issued, each permit holder or agent; and
- (2) Show the typed or printed name and title, if applicable, of the individual who signed.

(b) Each signature required by (a), above, shall constitute certification by the signer that:

- (1) The information contained in or otherwise submitted with the document is true, complete, and not misleading to the best of the signer's knowledge and belief; and
- (2) The signer understands that:
 - a. The submission of false, incomplete, or misleading information constitutes grounds for the department to:
 1. Deny the application;
 2. Revoke any permit that is granted based on the information;
 3. If the signer is a professional engineer, refer the matter to the board of professional engineers established by RSA 310-A:3; or
 4. Undertake any combination of 1. through 3., above; and
 - b. The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.

Env-Wq 1503.11 Types of Plans Required.

- (a) The applicant shall submit a land conversion erosion and sediment control plan, as specified in Env-Wq 1504.02, for any project that includes only conversion of non-wetlands forest to open land, provided:
 - (1) There is no change in the surface contours, except as necessary for temporary and permanent erosion controls;
 - (2) The land conversion is not part of a larger plan of development; and
 - (3) The project does not involve the construction of gravel roads or impervious cover of more than 10,000 square feet.
- (b) The applicant shall submit an excavation, grading, and reclamation plan, as specified in Env-Wq 1504.03, for any project that includes only excavation, grading, and reclamation activities.
- (c) The applicant shall submit a steep slope erosion and sediment control plan, as specified in Env-Wq 1504.04, for any project that requires an AOT permit based solely on meeting the criteria specified in Env-Wq 1502.58(b)(1).
- (d) The applicant shall submit a detailed development plan, as specified in Env-Wq 1504.05, for any project that requires an AOT permit other than one covered by (a), (b), or (c), above.
- (e) The applicant shall submit a stormwater drainage area plans and hydrologic soil group plans as specified in Env-Wq 1504.09 for any project that would cause additional off-site runoff in the absence of stormwater control methods.
- (f) The applicant shall submit a source control plan as specified in Env-Wq 1504.08 for:
 - (1) Any area that would be a high-load area in the absence of the plan; and
 - (2) Any commercial parking area with over 1,000 trip ends per day as determined with reference to Trip Generation, published by Institute of Transportation Engineers, Washington, D.C., 9th Edition, 2012, available as noted in Appendix B.
- (g) For any project that might result in a discharge of stormwater to a surface water impaired for chloride, the applicant shall:
 - (1) Submit a chloride management plan to minimize the discharge of chloride to the surface water; and

(2) Implement the plan if a permit is issued for the project.

(h) For any project that might result in a discharge of stormwater to a surface water impaired for phosphorus or nitrogen, or both, the applicant shall submit information to demonstrate that the project will not cause a net increase of phosphorus or nitrogen, or both, in the impaired water.

(i) For any project that might result in a discharge of stormwater to a Class A surface water or to a surface water that is an Outstanding Resource Water (ORW) as defined in Env-Wq 1708.04(a), the applicant shall submit information to demonstrate that the project will not cause a net increase of phosphorus or nitrogen, or both, in the Class A surface water or ORW.

(j) For any project that might result in a discharge of stormwater to a lake or pond, the applicant shall submit information to demonstrate that the project will not cause a net increase of phosphorus in the lake or pond.

(k) For any project for which blasting of bedrock is anticipated, the applicant shall submit:

(1) A blasting plan that identifies:

- a. Where the blasting is anticipated to occur;
- b. The estimated quantity of blast rock in cubic yards; and
- c. Site-specific blasting best management practices based on Env-Wq 1510; and

(2) If more than 5,000 cubic yards of blast rock will be generated and there are one or more public drinking water supply wells within 2,000 feet of the blasting activities, a plan to monitor groundwater to detect any contamination in sufficient time to protect the water supply wells.

Env-Wq 1503.12 Measurement of Contiguous Area Disturbed; Inclusion in Plans.

(a) Subject to (b)-(d), below, for purposes of determining the need for an AOT permit or the amount of the fee required by RSA 485-A:17, the amount of contiguous area disturbed shall be the sum of the square footage of all areas proposed to be disturbed as part of the total project, including but not limited to areas associated with:

- (1) Roads and communal parking areas;
- (2) Permanent stormwater controls;
- (3) Temporary and permanent methods for protecting water quality;
- (4) Utility installation, including wells and septic systems if applicable;
- (5) Temporary stockpiles;
- (6) Staging areas;
- (7) Borrow areas; and
- (8) Foundations and lot grading.

(b) The areas that will be disturbed for individual lot development shall be excluded from the calculation required by (a), above, only if:

- (1) The project is a single family or duplex residential subdivision where no disturbance on any individual lot will occur until after the construction and stabilization of all other items of construction associated with the subdivision are complete; and
- (2) There will be no earth moving across lot lines at any time.

(c) For any excavation, grading, and reclamation project, any actual or proposed terrain disturbance since May 4, 1981 shall be:

- (1) Deemed part of the total project;
- (2) Included in the calculation of the amount of contiguous area disturbed; and
- (3) Shown on the plans submitted for the project.

(d) Subject to (b) and (c), above, the amount of contiguous area disturbed shall include any actual or proposed terrain disturbance that occurs on the same property as the proposed project or is part of a larger plan of development:

- (1) Within 10 years before the commencement of any terrain alteration activity for the proposed project; and
- (2) Within 10 years after the terrain alteration activity for the proposed project ends.

(e) All areas described in (d)(1), above, and any area(s) described in (d)(2), above, that are already identified at the time of the application shall be shown on the plans for the proposed project.

Env-Wq 1503.13 AOT Permit Applications: Filing and Processing.

(a) Within 14 days after the date an application is received, the department shall determine whether the applicant has submitted everything required by Env-Wq 1503.05(c).

(b) If the application contains everything required by Env-Wq 1503.05(c), the department shall process the application in accordance with RSA 485-A:17, II-b(a)-(d), subject to RSA 485-A:17, II-b(e)-(g).

(c) Except as provided in (f), below, if the application does not contain everything required by Env-Wq 1503.05(c), the department shall notify the applicant in writing of:

- (1) What is missing;
- (2) The deadline for submitting the missing components, established based on the type and volume of the missing component(s);
- (3) The provisions of Env-Wq 1503.15 relative to submitting the information; and
- (4) The provisions of Env-Wq 1503.17 relative to failing to provide the information.

(d) Upon notifying an applicant that the application does not contain everything required by Env-Wq 1503.05(c), the department shall suspend further processing of the application pending receipt of the information missing from the application.

(e) No portion of the time between the date a notice is provided pursuant to (c), above, or (f), below, and the date the applicant responds shall be included in computing the time limits specified in RSA 485-A:17, II-b or RSA 541-A:29 for processing the application.

(f) The department shall notify the applicant by telephone in lieu of providing a written notice pursuant to (c), above, if:

- (1) The anticipated time required of the applicant to supply the missing information is less than the anticipated time required of the department to notify the applicant in writing; and
- (2) The department is able to contact the applicant by telephone.

(g) If the department provides notice pursuant to (f), above, the department shall specify in the telephone notice the same information required by (c)(1)-(4), above.

Env-Wq 1503.14 Requests for Additional Information.

(a) After receiving a response to a notice issued pursuant to Env-Wq 1503.13(c) or (f), if the department determines that the application is complete but that the information provided is insufficient for the department to determine whether the criteria of Env-Wq 1503.19 have been met, the department shall notify the applicant in writing of the additional information believed by the department to be needed to assess the application.

(b) The notice shall specify:

- (1) What information is needed;
- (2) The deadline for submitting the information, established based on the type and volume of the information needed;
- (3) The provisions of Env-Wq 1503.15 relative to submitting the information; and
- (4) The provisions of Env-Wq 1503.17 relative to failing to provide the information.

(c) No portion of the time between the date additional information is requested and the date the applicant responds shall be included in computing any applicable time limits for processing the application.

Env-Wq 1503.15 Response to Notice of Missing Information or Request for Additional Information. In responding to any notice under Env-Wq 1503.13(c) or (f) or to any request for additional information under Env-Wq 1503.14 or RSA 485-A:17, II-b(a), the applicant shall:

- (a) Specifically identify how each request or comment has been addressed;
- (b) If revised plans and specifications are being submitted, call attention to the changes on the revised plans and specifications and add a revision date to each page that has been changed;
- (c) Sign the submittal in accordance with Env-Wq 1503.10; and
- (d) Send a copy of the response, with a cover letter stating the reason(s) for providing the additional information, to all individuals and entities to whom the applicant was required to provide a copy of the initial application.

Env-Wq 1503.16 Revisions to Applications.

(a) Prior to a decision being made on an application, the applicant may substitute a revised plan for the plan submitted with the application only if the revisions do not materially alter the scope or nature of the project.

(b) If a revision proposed by the applicant materially alters the scope or nature of the project, the applicant shall file a new application.

Env-Wq 1503.17 Failure to Provide Information.

(a) The department shall deny an application if the applicant fails to:

- (1) Complete an application within the time specified in the notice sent pursuant to Env-Wq 1503.13(c) or (f), unless the applicant requests an extension of the deadline pursuant to Env-Wq 1509 prior to the deadline and the request is granted;
- (2) File a complete response to a request for additional information within the time specified in the request sent pursuant to Env-Wq 1503.14, unless the applicant requests an extension of the deadline pursuant to Env-Wq 1509 prior to the deadline and the request is granted; or
- (3) File a complete response to a request for additional information within 120 days of the date of a request sent pursuant to RSA 485-A:17, II-b(a).

(b) A partial response to a request for additional information sent pursuant to RSA 485-A:17, II-b(a) shall be deemed a complete and timely response for purposes of avoiding the statutory requirement for the department to deny the application if the applicant:

- (1) Provides as much information as is reasonably available;
- (2) Explains why the remaining information cannot be provided within the specified time; and
- (3) Agrees in writing to extend the time for response and the department's review thereof pursuant to RSA 485-A:17, II-b(b)(3).

Env-Wq 1503.18 Notice of Opportunity to Comment on AOT Permit Application.

(a) Upon receipt of a complete application for an AOT permit, the department shall send notice to:

- (1) Affected municipalities in accordance with RSA 541-A:39; and
- (2) If any portion of the project is located within 0.25 mile of a river or river segment designated under RSA 483, to the rivers coordinator as required by RSA 483:12-a.

(b) The notice sent pursuant to (a), above, shall specify the deadline for submission of comments on the application to the department, as follows:

- (1) From a municipality, not sooner than 14 days from the date of the notice; and
- (2) From the rivers coordinator, not sooner than 40 days from the date of the notice.

(c) The department shall not act on an application for an AOT permit sooner than deadline specified in the notice sent pursuant to (b), above, unless:

- (1) Notified prior to the end of that period by the municipality that the municipality supports the application; and
- (2) If applicable, notified prior to the end of that period by the rivers coordinator that the proposed activity would not violate a protection measure as specified in RSA 483:12-a or by the local river advisory committee that the local river advisory committee supports the application.

Env-Wq 1503.19 Criteria for Issuance of AOT Permits. The department shall not issue an AOT permit unless the applicant demonstrates that all of the following criteria are met:

(a) Temporary water quality protection measures in accordance with Env-Wq 1505.05 that are adequate to prevent violations of the surface water quality (SWQ) standards will be used during the construction phase of the proposed activity and maintained until all areas are stabilized;

(b) The permanent methods for protecting water quality proposed in the application meet the requirements of Env-Wq 1507.02 and are adequate to prevent violations of the SWQ standards;

(c) Changes in runoff hydrology, determined in accordance with Env-Wq 1504.09, will be within the limits allowed by Env-Wq 1507.05 and Env-Wq 1507.06;

(d) Cold weather site stabilization measures, as specified in Env-Wq 1505.06, will be implemented as part of the project if applicable;

(e) The project does not use naturally-occurring wetlands to treat or detain stormwater runoff from the proposed development, unless a permit that specifically allows the impacts has been issued pursuant to RSA 482-A;

(f) There are no violations of RSA 482-A, RSA 483-B, or RSA 485-A on the property for which the project is proposed, or, if violations exist, the applicant agrees to a legally-binding schedule on which the violations will be eliminated and any required restoration will be completed;

- (g) The project meets the requirements and intent of RSA 430:51-57 and Agr 3800 relative to invasive species;
- (h) The project has been designed in a manner that will not result in adverse impacts to state- or federally-listed threatened or endangered species or habitat for such species that has been determined by the executive director of the New Hampshire fish and game department to be critical pursuant to RSA 212-A:9;
- (i) The applicant has the legal right to undertake the project on the property; and
- (j) No reason specified in Env-C 209 exists for denying the permit.

Env-Wq 1503.20 Issuance or Denial of Permits.

- (a) The department shall deny the application for an AOT permit if:
 - (1) The applicant does not submit the information needed to complete the application in response to a notice sent pursuant to Env-Wq 1503.13(c);
 - (2) The applicant does not submit the additional information requested pursuant to Env-Wq 1503.14; or
 - (3) The criteria specified in Env-Wq 1503.19 are not met.
- (b) If the application and supporting information submitted by the applicant demonstrate that the criteria specified in Env-Wq 1503.19 have been met, the department shall issue an AOT permit to the applicant.
- (c) The approved plans and stormwater drainage report and documentation contained in the permit application file shall be considered part of the issued AOT permit.
- (d) The issued AOT permit shall include project-specific conditions as necessary to ensure compliance with the requirements of:
 - (1) RSA 482-A and Env-Wt 100 et seq. relative to wetlands;
 - (2) RSA 483-B and Env-Wq 1400 relative to protected shoreland;
 - (3) RSA 485-A and Env-Wq 1700 relative to surface water quality; and
 - (4) RSA 485-A, RSA 485-C, and Env-Wq 401 relative to groundwater quality.
- (e) Within one week after permit approval, the permit holder shall submit a copy of all approved documents to the department in PDF format on portable media that is compatible with current department technology.
- (f) If the permit holder's interest in the property is conditional or contingent, the permit holder shall obtain an enforceable proprietary interest in the property prior to commencing any work under the permit.
- (g) Prior to commencing any work under the permit, the permit holder shall submit to the department copies of the recorded easement(s) for all off-site drainage easements as required by Env-Wq 1504.07.

Env-Wq 1503.21 Notification; Certifications.

- (a) The permit holder shall notify the department in writing at least one week prior to commencing any work under the permit.
- (b) The project shall be constructed in accordance with the approved plans and specifications unless:
 - (1) The deviations are within the scope allowed under (d), below;
 - (2) An amended permit is obtained pursuant to Env-Wq 1503.22; or
 - (3) A new permit is obtained in accordance with Env-Wq 1503.05.

- (c) Upon completion of construction, the permit holder shall submit to the department the following:
- (1) A written notice signed as required by Env-Wq 1503.10 by the permit holder and the qualified engineer, if the approved plans and specifications were prepared by a qualified engineer, certifying that:
 - a. The project was completed in accordance with the approved plans and specifications; or
 - b. Deviations from the approved plans and specifications were made, but the deviations did not require an amended permit or a new permit;
 - (2) If any deviations from the approved plans were made, as-built drawings and a description of all deviations from the approved plans that have been stamped by a qualified engineer if the approved plans were stamped by a qualified engineer; and
 - (3) If any underground detention systems, infiltration systems, or filtering systems were installed, the following for each such system:
 - a. Representative photographs of the system after completion but prior to being backfilled; and
 - b. A letter signed by a qualified engineer stating that the individual observed the system prior to the system being backfilled, and that in his or her professional opinion, the system conforms to the approved plans and specifications.

(d) The permit holder shall not deviate from the approved plans and specifications without applying for an amended permit or a new permit unless all of the following criteria are met:

- (1) The project as modified will comply with Env-Wq 1507.02 relative to permanent methods of protecting water quality;
- (2) The modifications have not and will not result in any changes to wetlands or protected shoreland impacts and will not decrease any buffers required by law or established by a permit or other approval, unless a permit that specifically allows the impacts has been obtained pursuant to RSA 482-A or RSA 483-B, respectively;
- (3) The proposed disturbance is within the area originally proposed for disturbance, except as necessitated by (6) through (8), below;
- (4) As compared to the project as originally approved, the total impervious area has decreased, remained the same, or increased by the smaller of 5% or 2,500 square feet;
- (5) No change is made to a stormwater management system that:
 - a. Adds, removes, or relocates any treatment practice, pretreatment practice, groundwater recharge practice, or detention structure; or
 - b. Increases the peak inflow rate to any treatment practice, pretreatment practice, groundwater recharge practice, or detention structure during the 2-year 24-hour storm;
- (6) The roadway centerline has not been relocated or has been relocated to no more than 20 feet from the center line of the roadway as originally approved;
- (7) The center point of a parking area has not been relocated or has been relocated to no more than 20 feet from the center point of the parking area as originally approved;
- (8) The center point of a structure has not been relocated or has been relocated to no more than 20 feet from the center point of the structure location as originally approved; and
- (9) The permit holder:

- a. Notifies the department in writing that modifications within the scope allowed by (d)(1)-(8) have been, are being, or will be made, by filing revised plans with a narrative description of each deviation; and
- b. Signs and certifies the written submission as specified in Env-Wq 1503.10.

Env-Wq 1503.22 Amended Permits for Modifications to Approved Projects.

- (a) If the permit holder wishes to modify the project as approved in a way that exceeds any of the criteria specified in Env-Wq 1503.21(d)(1)-(8) but is within all of the criteria specified in (c), below, then prior to making any of the changes the permit holder shall apply for an amended permit.
- (b) To apply for an amended permit, the permit holder shall:
 - (1) Submit a complete application for amended permit, as described in (d), below, to the department;
 - (2) If any portion of a project is located within 0.25 mile of a river or river segment designated under RSA 483, send a copy of the complete application for amended permit to the rivers coordinator and the appropriate local river advisory committee at the time of filing with the department; and
 - (3) If a copy of the complete application for amended permit has not already been submitted to each municipality in which the project is proposed, send a copy of the complete application to the governing body of the municipality at the time of filing with the department.
- (c) A deviation from the approved plans and specifications shall be made under an amended permit only if all of the following criteria are met:
 - (1) The project as modified will comply with Env-Wq 1507.02 relative to permanent methods of protecting water quality;
 - (2) The modifications have not and will not result in any changes to wetlands or protected shoreland impacts and will not decrease any buffers required by law or established by a permit or other approval, unless a permit that specifically allows the impacts has been obtained pursuant to RSA 482-A or RSA 483-B, respectively;
 - (3) The proposed disturbance, exclusive of any disturbance associated with (6) through (9), below, is not more than 40,000 square feet outside the area of disturbance originally approved;
 - (4) The total impervious area has not increased from the project as originally approved by more than the smaller of 10% or 10,000 square feet;
 - (5) A change is made to a stormwater management system but:
 - a. The change does not add more than one stormwater treatment practice, stormwater conveyance, or groundwater recharge practice; and
 - b. The peak inflow rate to any component of the existing stormwater management system has not increased from that as originally approved by more than 1 cfs during the 2-year 24-hour storm;
 - (6) If the roadway centerline has been relocated, it is no more than 100 feet from the center line of the roadway as originally approved;
 - (7) If the center point of a parking area has been relocated, it is no more than 100 feet from the center point of the parking area as originally approved;
 - (8) If the center point of a structure has been relocated, it is no more than 100 feet from the center point of the structure location as originally approved; and

(9) For excavation, grading, and reclamation plans, the footprint originally approved is not expanded more than 50 feet in any direction.

(d) A complete application for amended permit shall include the following:

(1) An “Amendment Request Form”, NHDES-W-01-001, dated 2017, available at <http://des.nh.gov/organization/divisions/water/aot/categories/forms.htm>, completed as described in Env-Wq 1503.27 and signed as specified in Env-Wq 1503.10;

(2) The fee required by Env-Wq 1503.32(b); and

(3) Proof that a copy of the complete application for amended permit has been delivered to the governing body of each municipality in which the project is proposed and, if required by (b)(2), above, to the rivers coordinator and the appropriate local river advisory committee, which proof shall consist of:

- a. A copy of the certified mail receipt, for each copy that was sent certified mail;
- b. A copy of the delivery confirmation, for each copy that was sent via a private delivery service; or
- c. A statement signed by the applicant that the copy was delivered in hand, for each copy that was hand-delivered.

(e) The department shall review a request for permit amendment and amend the permit if the department determines that the permit holder has demonstrated that the criteria specified in (c), above, are met and the project as modified would have been approved originally.

(f) If conditions are necessary to ensure that the project as modified will conform to the requirements of this chapter, the department shall include such conditions in the permit amendment.

(g) If the deviations exceed the scope of (c), above, the permit holder shall submit a new application if the permit holder wants to proceed with the project as modified.

(h) The amendment of a permit pursuant to this section shall not:

- (1) Modify the expiration date of the original permit; or
- (2) Subject any provision of the original permit that was not amended to a new appeal period.

Env-Wq 1503.23 Permit Amendment to Reflect Change in Ownership of Property, Permit.

(a) Within 10 days of transferring any property identified in (b), below, or of transferring an AOT permit for any property identified in (b), below, to a new property owner or permit holder, or both, the transferor(s) shall notify the department and request a transfer of the permit as specified in (c) - (e), below.

(b) The requirements of this section shall apply to:

- (1) Any site, or portion thereof, that is subject to an AOT permit and on which any permit-related activities are incomplete; and
- (2) Any site, or portion thereof, that was developed for commercial or industrial use under an AOT or site specific permit on which all permit-related activities are complete but that has a stormwater management system for which on-going inspection and maintenance is required.

(c) The transferor(s) shall notify the department of the change and request an amendment to reflect the new permit holder or the new property owner, or both, as applicable, by submitting an “Amendment Request Form”, NHDES-W-01-001, dated 2017, available at <http://des.nh.gov/organization/divisions/water/aot/categories/forms.htm>, completed as specified in Env-Wq 1503.27 and signed as specified in (d) and (e), below.

(d) Subject to (f), below, each transferor shall sign and date the Amendment Request Form as specified in Env-Wq 1503.10, which in addition to the certifications specified in that section shall constitute certification that the transferor:

- (1) Has provided the original permit or a complete copy thereof, including all approved plans and specifications, to the transferee(s) ; and
- (2) Is relinquishing all rights to the permit as originally issued.

(e) Each transferee shall sign and date the Amendment Request Form as specified in Env-Wq 1503.10, which in addition to the certifications specified in that section shall constitute certification that the transferee:

- (1) Has received the original permit or a complete copy thereof, including all approved plans and specifications; and
- (2) Agrees to comply with RSA 485-A:17, Env-Wq 1500, the permit, and all conditions contained in the permit, including the requirement for on-going inspection and maintenance of the stormwater management system if applicable.

(f) If property ownership has been transferred at the time the notice is provided to the department, the transferee(s) may substitute a copy of the recorded deed for the signature(s) of the transferor(s).

(g) The department shall amend the permit as requested and send a copy of the amended permit to the new permit holder upon receipt of the information required by (c), above, and the signed certifications required by (d) and (e), above.

(h) The amendment of a permit pursuant to this section shall not:

- (1) Modify the expiration date of the original permit; or
- (2) Subject any provision of the original permit that was not amended to a new appeal period.

(i) If a permit is issued to an applicant that has a contingent or conditional interest in the property and the applicant does not obtain an enforceable proprietary interest in the property, the department shall not transfer the permit unless the applicant requests the transfer.

Env-Wq 1503.24 Permit Expiration.

(a) As specified in RSA 485-A:17, II-d, any permit issued under the authority of RSA 485-A:17 other than for the ongoing excavation or mining of earth materials shall expire 5 years from the date of issuance, except that the department shall grant one extension of up to 5 additional years if the requirements specified in RSA 485-A:17, II-d (a)-(g), as reprinted in Appendix D, are met.

(b) Any permit condition(s) or other requirement(s) relative to implementing and maintaining permanent methods of protecting water quality shall survive the expiration of the permit and any suspension, revocation, or refusal to renew the permit.

Env-Wq 1503.25 Permit Amendment to Extend Permit Duration.

(a) To request an extension of a permit's duration, the permit holder shall:

- (1) Submit an "Amendment Request Form", NHDES-W-01-001, dated 2017, available at <http://des.nh.gov/organization/divisions/water/aot/categories/forms.htm>, completed as specified in Env-Wq 1503.27 and signed as specified in Env-Wq 1503.10; and
- (2) File the written request with the department prior to the expiration of the permit, but no more than 90 days prior to the expiration of the permit.

(b) If changes to the original permit have been, are being, or will be made, the permit holder shall identify the changes and:

- (1) If the changes meet the criteria of Env-Wq 1503.21(d)(1)-(8) for deviations allowed without a permit amendment, submit the plans and narrative required by Env-Wq 1503.21(d)(9); or
- (2) If the changes meet the criteria of Env-Wq 1503.22(c) for changes allowed to be made under a permit amendment, submit a request for a permit amendment under Env-Wq 1503.22 in addition to a request for a permit extension.

Env-Wq 1503.26 Effect of Extension Request; Action on Request.

(a) A request for extension that meets all requirements of Env-Wq 1503.25 shall be timely and sufficient for purposes of RSA 541-A:30, I, such that the permit holder may continue working under the permit until:

- (1) If the extension is granted, the new expiration date specified in the extended permit; or
- (2) If the extension is denied:
 - a. The last day for appealing the denial to the water council, if an appeal is not filed within that time;
 - b. The last day for seeking judicial review of the water council's decision, if a request for judicial review is not filed within that time; or
 - c. If a request for judicial review is filed, the date on which decision of the reviewing court becomes final.

(b) If a request for extension is not filed or does not meet all requirements of Env-Wq 1503.25, no work shall be done on the project after the expiration of the permit. In such cases, any person who wishes to continue the project shall submit an application for a new permit that meets current requirements.

(c) After reviewing an extension request submitted in accordance with Env-Wq 1503.25, the department shall extend the permit for a reasonable amount of time, but in no case more than 5 years, based on considerations of the amount of work left to be done on the project and weather or other seasonal factors, if the department determines that:

- (1) The requested extension will not violate any statute or rule;
- (2) Surface water quality and groundwater quality will continue to be protected as under the original permit;
- (3) The project is proceeding in accordance with the permit, including all plans approved and made part of the permit;
- (4) None of the grounds for suspending or revoking the permit as provided in Env-Wq 1503.29 or for refusing to renew a license as specified in Env-C 209.02 apply to the permit holder;
- (5) If applicable, an inspection report has been completed and submitted as required by Env-Wq 1503.27(g)(3); and
- (6) The permit has not previously been extended.

(d) The decision to extend or to not extend a permit pursuant to this section may be appealed, but no provision of the original permit shall be subject to appeal.

Env-Wq 1503.27 Amendment Request Form. The person requesting an amendment under Env-Wq 1503.22, Env-Wq 1503.23, or Env-Wq 1503.25 shall provide the following information on the "Amendment

Request Form”, NHDES-W-01-001, dated 2017 (form), available at <http://des.nh.gov/organization/divisions/water/aot/categories/forms.htm>:

- (a) The type of amendment being requested;
- (b) Information to identify the project, including the project name and location by street or road address, town or city, and county, and the tax map and lot, block, or unit number;
- (c) Information to identify the current permit, including the permit number, current expiration date, and name of the department employee who signed the permit;
- (d) Information to identify the current permit holder and the current permit holder’s agent, if any, including the information specified in Env-Wq 1503.07(a) and (b);
- (e) Information to identify the current property owner, if other than the permit holder, and the property owner’s agent, if any, including the information specified in Env-Wq 1503.07(c) and (d);
- (f) If the form is being submitted to request a permit transfer under Env-Wq 1503.23, the following additional information:
 - (1) The full legal name, mailing address, and daytime telephone number of each new owner to whom the permit should be transferred, and, if available, an e-mail address for that owner; and
 - (2) If any new owner is a corporation, partnership, trust, or other entity, the name, mailing address, and daytime telephone number of the individual representing that owner for the project with whom the department can communicate regarding the project and, if available, an e-mail address for the representative;
- (g) If the form is being submitted to request a permit extension under Env-Wq 1503.25, the following additional information:
 - (1) An explanation of why the extension is being sought;
 - (2) An explanation of whether changes to the original permit and approved plans have been, are being, or will be made; and
 - (3) If any work on the property has been done, a report based on an inspection that occurred no more than 30 days prior to the date the permit extension request is submitted by a certified professional erosion and sediment control specialist (CPESC specialist), or a qualified engineer, based on an inspection of the site without snow cover, that contains:
 - a. A description of the progress of the project, including whether the project as originally proposed and permitted meets all current requirements for such projects and, if not, which requirements are not being met;
 - b. If any requirements are not being met, an explanation of the corrective actions that will be or are being taken to bring the project into compliance with applicable requirements and the deadline by which such actions will be completed; and
 - c. Photographs of the site that are representative of the project; and
- (h) If the form is being submitted to request modifications to an approved project under Env-Wq 1503.22, the following additional information:
 - (1) A description of the changes the permit holder wishes to make, including the area of disturbance associated with the changes in square feet;
 - (2) An explanation of why the changes are needed;
 - (3) Which plan sheets show the proposed changes, together with the revised plan sheets;

- (4) Revised calculations, if necessary; and
- (5) If the area proposed to be disturbed under the amended permit is outside the area allowed to be disturbed under the original permit, a letter from NHB as specified in Env-Wq 1503.08(b) for the area proposed to be disturbed under the amended permit.

Env-Wq 1503.28 Duration of Permits for Excavation, Grading, and Reclamation Projects; Required Updates.

- (a) As specified in RSA 485-A:17, II-e, a permit for an excavation, grading, and reclamation project shall not expire for the life of the project identified in the permit, provided that the permit holder submits a written update of the project's status as specified in (b), below, every 5 years from the date of the permit using a form obtained from the department.
- (b) The written update shall:
 - (1) Include the information and photographs specified in (c), below, and revised plans as specified in (d), below; and
 - (2) Be signed as specified in Env-Wq 1503.10.
- (c) The information and photographs required by (b), above, shall include the following:
 - (1) The name, mailing address, and daytime telephone number of each permit holder, and, if available, the e-mail address for that permit holder;
 - (2) If the permit holder is a corporation, partnership, trust, or any other entity, the name, title, mailing address, and daytime telephone number of the individual representing the permit holder, and, if available, the e-mail address of the representative;
 - (3) If the permit holder is represented by an agent, the name, title, mailing address, and daytime telephone number of the individual representing the permit holder, and, if available, the e-mail address of the agent;
 - (4) A description of the progress of the project, including whether the project as originally proposed and permitted meets all current requirements for such projects and, if not, which requirements are not being met;
 - (5) If any applicable requirements are not being met, an explanation of the corrective action(s) that will be or are being taken to bring the project into compliance with applicable requirements and the deadline by which such actions will be completed;
 - (6) Photographs taken in a period of no snow cover that are representative of existing site conditions, with a description of what each photograph is showing that is referenced to the project plans;
 - (7) A schedule for reclamation of any area(s) that have not been reclaimed and have not been active in the last 24 months; and
 - (8) The due date of the next status report.
- (d) The revised plans required by (b), above, shall show the following:
 - (1) Existing and proposed contours of the site clearly delineated at 5-foot intervals, created with a computer-aided design software if available;
 - (2) An outline on the grading plans showing the limits of permitted disturbance and the existing limits;
 - (3) A delineation of the areas that have been reclaimed;

(4) A delineation of the areas that have not been reclaimed and have not been active in the last 24 months; and

(5) The schedule and date provided pursuant to (c)(7)-(8), above.

(e) If a permit holder fails to submit a written update and revised plans as required by (a), above, the permit shall be subject to suspension or revocation pursuant to Env-Wq 1503.29.

(f) Any permit condition(s) or other requirement(s) relative to implementing and maintaining permanent methods of protecting water quality shall survive any suspension or revocation of the permit.

Env-Wq 1503.29 Suspension or Revocation of Approvals.

(a) For purposes of this section, “approval” means an issued permit or waiver, as applicable.

(b) Upon finding that good cause as specified in (i), below, exists to suspend or revoke an approval, the department shall initiate an action pursuant to RSA 541-A:30, II, RSA 541-A:31, and the provisions of Env-C 200 applicable to adjudicative proceedings to suspend or revoke the approval.

(c) The notice issued to initiate the action shall comply with RSA 541-A:31, III.

(d) The department shall suspend the approval if the department determines, as a result of the proceeding initiated under (b), above, that:

(1) The deficiencies can be corrected such that the project conforms to applicable requirements; and

(2) If the basis for the action is that the information on which the approval was issued was incorrect, incomplete, or misleading:

a. The deficient information was submitted inadvertently or negligently; and

b. The approval would have been issued if correct, complete, and not misleading information had been submitted originally.

(e) If the department suspends the approval, the decision issued pursuant to (h), below, shall:

(1) Specify a reasonable time in which the person to whom the approval was issued may correct the deficiencies which formed the basis for the suspension; and

(2) Notify the person to whom the approval was issued that if the deficiencies are not corrected within the time specified, the approval will be revoked.

(f) A decision to suspend an approval pending receipt of adequate and correct information shall not be considered a final decision from which an appeal may be taken.

(g) The department shall revoke the approval if the department determines, as a result of the proceeding initiated under (b), above, that:

(1) The deficiencies cannot be corrected such that the project conforms to applicable requirements; or

(2) If the basis for the action is that the information on which the approval was issued was incorrect, incomplete, or misleading:

a. The permit holder submitted deficient information with the intent to mislead or to avoid one or more requirements of the statute or rules; or

b. The approval would not have been issued if correct, complete, and not misleading information had been submitted originally.

(h) The department shall issue a written decision to the person to whom the approval was issued. If the approval is suspended or revoked, the decision shall specify the reason(s) for the decision.

(i) Good cause to suspend or revoke an approval shall include the following:

- (1) Information material to the decision to issue the approval was incorrect, incomplete, or misleading;
- (2) The project is not in compliance with the terms of the approval, including the plans approved and made part of the approval; or
- (3) The person to whom the approval was issued is a chronic non-complier as defined in Env-C 209.01(b).

Env-Wq 1503.30 Appeal.

(a) Any person aggrieved by a final decision of the department to issue or deny a permit or other approval based on the merits of the application who wishes to appeal the decision shall appeal the decision as a permitting decision to the water council in accordance with RSA 21-O:14 and the water council's procedural rules, currently Env-WC 200.

(b) Any person aggrieved by a final decision of the department to revoke or refuse to renew a permit based on non-compliance with RSA 485-A:17 or this chapter shall appeal the decision as an enforcement decision to the water council in accordance with RSA 21-O:14 and the water council's procedural rules, currently Env-WC 200.

Env-Wq 1503.31 After-the-Fact Applications.

(a) Any application received by the department after the work has been initiated or completed shall be subject to:

- (1) All requirements that would have applied if the application had been submitted as required by law; and
- (2) The additional requirements specified in (c), below.

(b) The department's acceptance or consideration of an after-the-fact application, or issuance of an after-the-fact permit, shall not in any way limit the exercise of any enforcement authority conferred by law on the department, the attorney general, or any other federal, state, or local authority relative to the work that was done without a permit.

(c) In addition to all information required by Env-Wq 1503 and Env-Wq 1504, an after-the-fact application shall include the following:

- (1) An erosion control and stabilization plan prepared by a qualified engineer or CPESC specialist;
- (2) If the work is on-going, a construction monitoring plan with inspection reports prepared by a qualified engineer or CPESC specialist;
- (3) A current conditions plan that clearly identifies all disturbances and construction that was done without a permit;
- (4) A description of all prior disturbances on the property; and
- (5) An explanation as to why work was done without a permit.

Env-Wq 1503.32 Fees.

(a) For any application submitted pursuant to Env-Wq 1503.05, the application fee shall be as follows:

(1) For projects that disturb more than 100,000 square feet of contiguous area, or more than 50,000 square feet if any portion of the disturbance is within the protected shoreland as defined in RSA 483-B, the fee shall be as specified in RSA 485-A:17, II; and

(2) For all other projects, the fee shall be \$500 plus \$0.005 per square foot of disturbance.

(b) For permit amendment requests submitted pursuant to Env-Wq 1503.22, the fee shall be \$250 plus \$0.005 per square foot of disturbance associated with the amendment request.

PART Env-Wq 1504 PLANS AND CALCULATIONS

Env-Wq 1504.01 Preparation of Reports and Plans; Scale; Construction Sequence Noted.

(a) Each permit application shall contain only one cohesive set of plans, such that each sheet has the same orientation and continuing sheets clearly show match lines.

(b) Any plan that depicts property boundaries or other aspects of the practice of land surveying as defined in RSA 310-A:54, IV shall bear the seal of a land surveyor licensed in accordance with RSA 310-A:53-74.

(c) Any plan that depicts the location of wetlands and surface waters and their banks, including perennial and intermittent streams, vernal pools, tidal buffer zones, and designated prime wetlands as identified under RSA 482-A shall bear the seal of a certified wetland scientist (CWS) as defined in RSA 310-A:76, II-a.

(d) If the property does not contain any of the water features described in Env-Wq 1504.06(d), the plans shall include a statement from a CWS that the CWS has investigated the property and no water features were found.

(e) Stormwater drainage reports, drainage area plans, hydrologic soil group plans, and any other reports or plans that require the practice of engineering as defined in RSA 310-A:2, III shall:

(1) Be prepared by or under the direct supervision of a qualified engineer;

(2) Bear the signature and seal of the qualified engineer who is responsible for them; and

(3) Be dated.

(f) Plans and soil maps shall be at a scale appropriate to clearly depict the information provided, subject to the following:

(1) If a particular scale is specified in the rule for certain information, that scale shall be used for that information; and

(2) If a detail is not drawn to scale, the detail shall clearly so indicate.

(g) The construction sequence showing compliance with Env-Wq 1505.03 relative to maximum open area shall be noted on the plans so as to clearly inform the contractor of the construction sequence and any limitations contained therein.

(h) Information to show compliance with Env-Wq 1506.12 relative to temporary stormwater diversion shall be noted on the plans.

Env-Wq 1504.02 Land Conversion Erosion and Sediment Control Plans. Land conversion erosion and sediment control plans shall be drawn at a scale of one inch equals 100 feet, or at a scale that provides greater detail, to show the following:

(a) Existing and proposed contours of the site at 5-foot intervals;

- (b) The information specified in Env-Wq 1504.06(a) through (m); and
- (c) A seeding or crop planting plan.

Env-Wq 1504.03 Excavation, Grading, and Reclamation Plans. Excavation, grading, and reclamation plans shall be drawn at a scale of one inch equals 100 feet, or at a scale that provides greater detail, to show the following:

- (a) Existing and proposed contours of the site at 5-foot intervals;
- (b) All of the information specified in Env-Wq 1504.06; and
- (c) Proposed details for site reclamation, including specifications for permanent seeding and any other planned plantings.

Env-Wq 1504.04 Steep Slope Erosion and Sediment Control Plans. Steep slope erosion and sediment control plans shall be drawn at a scale of one inch equals 50 feet, or at a scale that provides greater detail, to show the following:

- (a) Existing and proposed final contours at 2-foot intervals or less;
- (b) The information specified in Env-Wq 1504.06(a) through (m), as applicable, limited to a distance of 250 feet from the area of activity that meets the criteria of Env-Wq 1502.58(b)(1); and
- (c) Proposed specifications for permanent seeding and any other planned plantings.

Env-Wq 1504.05 Detailed Development Plans. Detailed development plans shall be drawn at a scale of one inch equals 50 feet, or at a scale that provides greater detail to show the following:

- (a) Existing and proposed final contours at 2-foot intervals or less;
- (b) All of the information specified in Env-Wq 1504.06; and
- (c) Proposed specifications for permanent seeding and any other planned plantings.

Env-Wq 1504.06 Plan Information. Plans shall depict or otherwise include the following:

- (a) The boundaries of the property on which the project will occur;
- (b) For the area of activity and within 250 feet, the following:
 - (1) All existing or proposed lot lines;
 - (2) All existing and proposed impervious or otherwise disturbed surfaces, including but not limited to borrow areas, roadways, driveways, parking areas, sidewalks, roofs, and structures, provided that if the applicant does not have survey access to abutting properties or other access to survey information, the information for abutting properties shall be provided using aerial photographs; and
 - (3) All areas of undisturbed cover that will remain undisturbed;
- (c) All areas on the property for which a permit under RSA 485-A:17, I, was or should have been obtained, with identification of the permit by number if a permit was obtained;
- (d) The location(s) and type(s) of all existing vegetative cover;
- (e) All water features as applicable, including but not limited to:
 - (1) The direction of water flow;

- (2) The maximum high-water mark and usual shorelines;
 - (3) The reference line as defined by RSA 483-B;
 - (4) The location of wetlands and surface waters and their banks, including perennial and intermittent streams, vernal pools, tidal buffer zones and designated prime wetlands as identified under RSA 482-A;
 - (5) The limits of the 100-year floodplain; and
 - (6) The 0.25-mile designated river limit as identified under RSA 483;
- (f) All drinking water supply well sources, whether private or public, with set-backs as specified in Env-Wq 1508.02;
- (g) Soil types from NRCS maps or site-specific soil mapping if done per Env-Wq 1504.09(b)(2);
- (h) A clear delineation of the total area to be disturbed, including proposed improvements or modifications;
- (i) Proposed temporary methods for protecting water quality in accordance with Env-Wq 1505.05, including devices and timing of implementation for erosion, sediment, and runoff control, that are adequate to prevent violations of the SWQ standards;
- (j) A note requiring fugitive dust to be controlled in accordance with Env-A 1000;
- (k) A note requiring the project to meet the requirements and intent of RSA 430:51-57 and Agr 3800 relative to invasive species;
- (l) Construction phasing and sequencing that shows the maximum area that can be disturbed at one time in compliance with Env-Wq 1505.03, including but not limited to methods for limiting the length of time that soils remain unstabilized;
- (m) Proposed cold weather stabilization techniques in accordance with Env-Wq 1505.06, if applicable;
- (n) Proposed permanent methods for protecting water quality from degradation due to runoff from any developed land area, including but not limited to paved surfaces, commercial and industrial roofs, parking lots, commercial and industrial areas, and other developed surfaces, in accordance with Env-Wq 1507, that are adequate to prevent violations of the SWQ standards;
- (o) A complete storm drainage system, including size, slope, and invert elevations of all pipes and culverts, and detention measures;
- (p) A note explaining the intended use of the site or, if the intended use is unknown at the time the permit is issued, a note indicating whether or not local zoning allows for high-load uses and acknowledging that if a high-load use is proposed, the property owner or permit holder shall submit a source control plan as per Env-Wq 1504.08 for approval prior to the commencement of operations of a high-load use;
- (q) Roadway stations shown every 100 feet; and
- (r) If applicable, existing and proposed drainage easement boundaries and maintenance access easement boundaries for proposed methods for protecting water quality as described in Env-Wq 1507, together with a statement signed by the applicant as specified in Env-Wq 1503.10 that the deeds for all proposed easements will be recorded as required by Env-Wq 1504.07.

Env-Wq 1504.07 Deed Restrictions; Easements.

- (a) The applicant shall submit the following with the application:

- (1) Site plans showing the project boundaries, lot lines, surface waters, drainage system and drainage divides, areas of undisturbed cover, and the location of all existing and proposed impervious areas, including but not limited to roadways, sidewalks, roofs, buildings, and driveways;
- (2) Calculations of the percent effective impervious cover (% EIC);
- (3) Calculations of the percent undisturbed cover (% UDC); and
- (4) As applicable, deed restrictions and easements per (b), and (c), below, provided that no deed restrictions or easements related to a shared stormwater management system shall be created on any lot that will be sold for a private residence that will not directly contribute stormwater to the system.

(b) Subject to (c), below, the owner shall prepare written deed restrictions or easements, as applicable, and submit them to the department for review whenever the original or amended plans show:

- (1) That the drainage for individual lots or portions of individual lots will be maintained within the individual lot boundary and not connected to the site drainage network, in which case the deed restrictions for each lot shall state that current and future connection of the lot drainage to the site drainage network is prohibited and that all stormwater must be treated, and drainage maintained, on the individual lot;
- (2) Areas of undisturbed cover (UDC) that will be used to meet antidegradation requirements, in which case the easements or deed restrictions for each area of UDC shall state that current and future development of the UDC areas is prohibited;
- (3) Drainage easement(s) including but not limited to easements established to protect vegetated buffers; or
- (4) Maintenance access easement(s).

(c) The requirements of (b)(1) and (2), above, shall not apply to activities that require an excavation, grading, and reclamation plan if no permanent structures will be built.

(d) If a permit is issued based on plans that show one or more proposed easements or deed restrictions, the permit holder shall record the easement(s) and deed restrictions, as applicable, and provide copies of the recorded documents to the department prior to offering any of the property for sale or otherwise developing the property.

Env-Wq 1504.08 Source Control Plans.

(a) A source control plan required by Env-Wq 1503.11(f) shall be designed to:

- (1) Minimize the volume of stormwater and runoff that can contact regulated substances; and
- (2) Segregate relatively clean stormwater and runoff from stormwater and runoff that has a higher concentration of pollutants.

(b) The owner of a site from which stormwater will discharge that requires an NPDES permit as defined under 40 CFR 122.26 may submit a stormwater pollution prevention plan (SWPPP) to meet the requirements of this section for a source control plan if such SWPPP also identifies:

- (1) The location(s) of groundwater protection areas, if any, within 1,000 feet of the site perimeter; and
- (2) Procedures and practices to protect groundwater quality.

(c) The source control plan may exclude the items described in (e)(2) through (e)(10), below, if the plan demonstrates that the site is designed in a manner that will prevent the exposure of regulated substances to precipitation or runoff, taking into account the possibility of accidental spills.

(d) The source control plan may exclude the items described in (e)(3) through (e)(10), below, if the plan covers only a commercial parking lot where the only regulated substance exposed to rainfall or runoff is road salt that has been applied for deicing of pavement on the site, provided that snow and ice management will be done by a commercial applicator certified under Env-Wq 2200.

(e) A source control plan shall consist of:

- (1) An overview of how source controls, including structural or operational management practices, will prevent or minimize the amount of regulated substances from mixing with clean stormwater;
- (2) A plan showing the location(s) of snow storage areas;
- (3) A list of regulated substances expected to be present on the site in quantities of 5 gallons or more;
- (4) The location(s) of groundwater protection areas, if any, within 1,000 feet of the site perimeter;
- (5) A plan depicting the drainage area with exposed regulated substances and the location(s) of stormwater management systems or discharge point(s) serving those areas, including latitude-longitude point(s) of the practice or discharge point(s) to within plus or minus 5 meters of the practice or discharge point;
- (6) The location(s) and containment method(s) to be employed for storage of regulated substances;
- (7) A plan depicting the location(s) where regulated substances will be handled, including the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product;
- (8) A description of spill prevention and control or containment measures;
- (9) A list of the phone numbers and mailing addresses of the owner of the facility; and
- (10) A program of training to familiarize employees with the plan and to ensure its implementation.

(f) The owner of a site for which a source control plan is required shall:

- (1) Update the source control plan as necessary to reflect changes in the storage of regulated substances;
- (2) Submit the updated source control plan to the department whenever it is updated; and
- (3) Certify once every 3 years that the site is in compliance with its permit with respect to the implementation of its source control plan, by submitting to the department a completed and signed Source Control Plan Certification Form dated 2017.

(g) The owner shall provide the following information and certifications on the Source Control Plan Certification Form required by (f), above:

- (1) The AOT permit number;
- (2) The town or city in which the project is located;
- (3) The name and title of the individual who has been authorized to sign the form on behalf of the owner;

- (4) The mailing address, telephone number including area code, and email address of the authorized individual;
- (5) The date of the plans that were originally approved as part of the AOT permit and the date of the most recent amendment of such plans, if any;
- (6) The date of the originally-approved source control plan and the date of the most recent revision of such plan, if any;
- (7) As applicable, certification that:
 - a. No changes have occurred in the storage, handling, or use of regulated substance or to the structural or non-structural controls as described in the most recently-approved source control plan;
 - b. Activities that expose regulated substances to precipitation or runoff that were not identified in the most recently-approved source control plan are now occurring, and:
 1. An updated source control plan was submitted to the department, with the date of such submission; or
 2. An updated source control plan is attached to the certification; or
 - c. There are no longer any activities on the property that expose regulated substances to precipitation or runoff and so a source control plan is no longer required; and
- (8) Certification that:
 - a. The information provided on or otherwise submitted with the certification form is true, complete, and not misleading to the knowledge and belief of the signer; and
 - b. The signer understands that if the information is untrue, incomplete, or misleading, the signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.

Env-Wq 1504.09 Stormwater Drainage Report; Drainage Area Plans; Hydrologic Soil Group Plans. A stormwater drainage report, associated drainage area plans, and associated hydrologic soil group plans shall include the following:

- (a) A narrative with the following information:
 - (1) A description of the pre-development and post-development conditions affecting drainage;
 - (2) The total impervious area assumed per lot, as applicable;
 - (3) A discussion of how the proposed development is likely to impact downstream surface waters and properties;
 - (4) A comparison between the pre-development peak discharge rates and the post-development peak discharge rates, for the one-year, 2-year, 10-year, and 50-year, 24-hour storms;
 - (5) A discussion of how treatment criteria will be met in accordance with Env-Wq 1507.03; and
 - (6) A discussion of how groundwater recharge is met in accordance with Env-Wq 1507.04;
- (b) Calculations for pre- and post-construction stormwater drainage, for 24-hour duration storms with minimum return frequencies of once in one year, 2 years, 10 years, and 50 years using the NRCS “National Engineering Handbook”, part 630, hydrology, dated November 2015 or Win TR-20, version 3.10, as developed by the NRCS for determining the rate of runoff, both available as noted in Appendix B, subject to the following:

(1) Depth of precipitation shall be determined using either of the following, both available as noted in Appendix B:

- a. “Extreme Precipitation in a Changing Climate for New York and the New England States”, version 1.12, published by the USDA, NRCS and Cornell University’s Northeast Regional Climate Center; or
- b. “NOAA Atlas 14, Precipitation-Frequency Atlas of the United States”, Volume 10, Version 2.0, 2015, published by the National Oceanic and Atmospheric Administration, National Weather Service;

(2) The time of concentration shall be determined as follows:

- a. If using the Lag method for determining the time of concentration, identify the hydraulic length in feet and provide calculations for determining the average land slope in percent for each sub-basin;
- b. If using the velocity method for determining the time of concentration, identify the sheet flow path(s), the shallow concentrated flow path(s), and the channel flow path(s) for each sub-basin; and
- c. Sheet flow shall be limited to 100 feet;

(3) The curve number for each sub-basin shall be calculated as follows:

- a. For proposed areas of disturbance, including lot development, the hydrologic condition for woods, meadows, or pastures shall be assumed to be “good”;
- b. For proposed areas of disturbance, including lot development, soil types shall be identified in accordance with the Society of Soil Scientists of Northern New England (SSSNNE) Special Publication No. 3, Site-Specific Soil Mapping Standards for New Hampshire and Vermont, February 2011, available as noted in Appendix B; and
- c. For all other areas that contribute runoff to the project site, soil types shall be:
 - 1. Taken from the NRCS county-wide web soil survey at <http://websoilsurvey.nrcs.usda.gov>; or
 - 2. Identified in accordance with SSSNNE Special Publication No. 3, Site-Specific Soil Mapping Standards for New Hampshire and Vermont, February 2011, available as noted in Appendix B; and

(4) If the calculations are done using software that provides error messages, warnings, or other such indicators, such as HydroCAD®, a copy of the calculations shall be submitted that shows all error messages, warnings, and other such indicators;

(c) WQV, WQF, and GRV calculations;

(d) Calculations for designing outlet protection;

(e) Drainage area plans for pre- and post-construction that delineate each sub-basin, including off-site areas which flow onto the project area, at a scale for off-site areas of one inch equals 100 feet, or at a scale of one inch equals 2,000 feet if delineated from a USGS map, and at a scale of one inch equals 50 feet for on-site areas, identifying the following:

- (1) The location of sub-basins, reaches, ponds, and all points of interest, as modeled in the stormwater drainage report;
- (2) The hydraulic length or time of concentration flow path;

- (3) Contours for on-site areas at the same intervals as the plans prepared pursuant to Env-Wq 1504.02 through Env-Wq 1504.05, as applicable, and contours for off-site areas at the same interval or at the intervals on the applicable USGS map;
- (4) Roadway station numbering, if applicable; and
- (5) Drainage structures such as detention basins, culverts, and treatment practices;

(f) If the plans prepared pursuant to (e), above, for the on-site areas comprise more than 3 sheets at the specified scale, an overview sheet which shows the location of each 50-foot scale sheet and an outline of the area to be impacted by the proposed project; and

(g) Hydrologic soil group plans for pre- and post-construction that delineate each sub-basin, including off-site areas which flow onto the project area, identifying the following:

- (1) The location of sub-basins, as modeled in the stormwater drainage report;
- (2) If hydrologic soil groups are determined in accordance with (b)(3)b. or (b)(3)c.2., above, the locations of the different soil groups using the following color-coding:
 - a. Hydrologic soil group A soils shall be shaded green;
 - b. Hydrologic soil group B soils shall be shaded yellow;
 - c. Hydrologic soil group C soils shall be shaded orange;
 - d. Hydrologic soil group D soils shall be shaded red;
 - e. Open water features shall be shaded blue; and
 - f. Impervious cover shall be shaded gray;
- (3) If hydrologic soil groups are determined in accordance with (b)(3)c.1., the locations of the different soil groups using the color-coding assigned by the NRCS;
- (4) The map symbol identifying the soil mapped; and
- (5) A map legend.

Env-Wq 1504.10 Calculation of Water Quality Volume (WQV). Water quality volume (WQV) shall be calculated using the Unified Sizing Criteria as follows:

- (a) “P” means one inch of rainfall;
- (b) “A” means the total area draining to the design structure;
- (c) “I” means the percent impervious area draining to the design structure, in decimal form;
- (d) “Rv” means the unit-less runoff coefficient calculated as the sum of 0.05 plus the product of I multiplied by 0.9, as in the formula below:

$$Rv = 0.05 + (0.9 \times I)$$

(e) To calculate the WQV, the applicant shall multiply the product of Rv and A by P, as shown in the formula below:

$$WQV = P \times A \times Rv$$

Env-Wq 1504.11 Calculation of Water Quality Flow (WQF).

- (a) “WQV” means water quality volume calculated in accordance with Env-Wq 1504.10.

(b) “ q_u ” means the unit peak discharge from exhibits 4-II and 4-III of TR-55, Urban Hydrology for Small Watersheds, NRCS, June 1986 (TR-55), available as noted in Appendix B, using the values for P, A, Q, CN, S, and Ia as described in (c) through (h), below.

(c) “P” as used in exhibits 4-II and 4-III of TR-55 and for the calculation of CN in (f), below, means one inch of rainfall.

(d) “A” as used for the calculation of Q in (e), below, means the total area draining to the design structure.

(e) “Q” as used for the calculation of CN in (f), below, means the water quality depth, calculated as WQV divided by A, as shown in the formula below:

$$Q = WQV / A$$

(f) “CN” as used for the calculation of S in (g), below, means the unit peak discharge curve number, calculated by dividing 1000 by the value obtained by adding 10 to 5 times P and adding 10 times Q, and then subtracting 10 times the value obtained by adding Q squared to the product of 1.25 times Q times P and raising the sum to the 0.5 power, as shown in the formula below:

$$CN = 1000 / (10 + 5P + 10Q - 10 \times [Q^2 + 1.25 \times Q \times P]^{0.5})$$

(g) “S” as used for the calculation for Ia in (h), below, means the potential maximum retention in inches, calculated by subtracting 10 from the value obtained by dividing 1000 by CN, as shown in the formula below:

$$S = (1000 / CN) - 10$$

(h) “Ia” as used in TR-55 exhibits 4-II and 4-III means the initial abstraction, calculated by multiplying 0.2 by S, as shown in the formula below:

$$Ia = 0.2 \times S$$

(i) To calculate the WQF, the applicant shall multiply q_u by WQV, as shown in the formula below:

$$WQF = q_u \times WQV$$

Env-Wq 1504.12 Calculation of Groundwater Recharge Volume (GRV).

(a) “GRV” means the groundwater recharge volume.

(b) “ A_I ” means the total area of impervious cover that will exist on the site after development minus the area of any impervious cover that existed on the site prior to the development, regardless of whether the existing impervious area was disturbed.

(c) “ R_d ” means the groundwater recharge depth based on the NRCS hydrologic soil group, as follows, subject to (d), below:

- (1) For hydrologic soil group A, the R_d shall be 0.40 inches;
- (2) For hydrologic soil group B, the R_d shall be 0.25 inches;
- (3) For hydrologic soil group C, the R_d shall be 0.10 inches; and
- (4) For hydrologic soil group D, recharge shall not be required.

(d) Where more than one hydrologic soil group is present, a weighted recharge depth shall be computed based on the area of each soil group present.

(e) The applicant shall calculate the GRV by multiplying A_I by R_d , as shown in the formula below:

$$GRV = A_I \times R_d$$

Env-Wq 1504.13 Infiltration Feasibility Report. The infiltration feasibility report required by Env-Wq 1503.08(f)(3) shall contain the following:

- (a) The location of the practice;
- (b) A description of the existing topography at the location of the practice;
- (c) The locations of the test pits or borings which constitute the following required number of test pits or borings:
 - (1) At least one test pit in each infiltration basin area of less than 2,500 square feet;
 - (2) At least 2 test pits in each infiltration basin area of 2,500 square feet or greater, with an additional one test pit or boring in every 10,000 square feet of infiltration basin area; or
 - (3) At least one test pit in each infiltration trench with an additional one test pit or boring in every 100 linear feet of trench;
- (d) The elevation of the location of the seasonal high water table (SHWT) and bedrock, if within 5 feet below the base of the practice;
- (e) Profile descriptions written in accordance with the descriptive procedures, terminology and interpretations found in the Field Book for Describing and Sampling Soils, Version 3.0, NRCS, 2012, available as noted in Appendix B;
- (f) A plan showing the soil series for the soils at the location of the proposed practice and within 100 feet of the area's perimeter, in accordance with the Society of Soil Scientists of Northern New England (SSSNNE) Special Publication No. 3, Site-Specific Soil Mapping Standards for New Hampshire and Vermont, February 2011, available as noted in Appendix B;
- (g) The number and location of test locations, as specified in Env-1504.14(f), and the number of repetitions at each testing location;
- (h) The date(s) on which data was collected;
- (i) A summary of the design infiltration rate results as determined from Env-Wq 1504.14;
- (j) Data sheets for measurements obtained in accordance with the method described in Env-Wq 1504.14(e) that is implemented; and
- (k) If the design infiltration rate is for proposed fill soils, the data obtained using the method described in Env-Wq 1504.14(g).

Env-Wq 1504.14 Calculation of the Design Infiltration Rate.

- (a) The method for determining the design infiltration rate of the soils in which the practice will be placed shall be as follows:
 - (1) Subject to (b), below, for existing natural soils, the applicant shall use the selected default values as presented in (c), below, or the results from the field measurement method described in (d), below;
 - (2) For existing manmade soils, the applicant shall use the results from the field measurement method described in (d), below; or
 - (3) For proposed fill, the applicant shall use the results from the laboratory testing method described in (g), below, as confirmed after the fill is placed but before the practice is installed by results from field measurement method described in (d), below.

(b) If an infiltration practice used to meet the stormwater treatment requirements in accordance with Env-Wq 1507.03 infiltrates into soil classified as Abenaki, Adams, Agawam, Boscawen, Caesar, Champlain, Colton, Croghan, Deerfield, Haven, Hermon, Hinckley, Hoosic, Metallak, Quonset, or Warwick, or any combination thereof, the applicant shall use the results from the field measurement method described in (d), below.

(c) The default values for the design infiltration rate shall be as follows:

- (1) Using SSSNNE Special Publication No. 5, Ksat Values for New Hampshire Soils, September 2009, available as noted in Appendix B, record the saturated hydraulic conductivity (Ksat) for the lowest Ksat value in the range for the most limiting layer located 0 to 5 feet below the proposed bottom of the practice;
- (2) Where more than one soil series is present, compute a weighted Ksat based on the area of each soil series present; and
- (3) Multiply the recorded Ksat value by 0.5 and use the result as the default design infiltration rate.

(d) The field measurement method for determining the design infiltration rate shall be as follows:

- (1) Using one of the methods as described in (e), below, perform the test the specified number of times in a location and, if the specified number is greater than one, average the results, then move to the next test location and repeat; and
- (2) After obtaining an average infiltration rate for each of the requisite number of locations as specified in (f), below, average the results and multiply the result by 0.5 to obtain the design rate.

(e) The Ksat shall be measured by a CPESC, certified soil scientist, professional geologist, qualified engineer, or other qualified professional licensed to practice in the state of New Hampshire, using one of the following:

- (1) A Guelph Permeameter, per the manufacturer's instructions, which shall be done at least 2 additional times, for a minimum of 3 observations in each location;
- (2) A Compact Constant Head Permeameter, per the manufacturer's instructions, which shall be done at least 2 additional times, for a minimum of 3 observations in each location;
- (3) A Double Ring Infiltrometer, in accordance with ASTM 3385 standards and using an inner ring that is at least 12 inches in diameter, which shall be done at least one time, for a minimum of one observation in each location; or
- (4) A Borehole Infiltration test, in accordance with the following protocol:
 - a. Install a solid 4- to 6-inch diameter by 30-inch long casing to a depth of 24 inches below the proposed bottom of the practice;
 - b. Remove any smeared soil surfaces and provide a natural soil interface into which water can percolate;
 - c. Remove all loose material from inside the casing;
 - d. Fill the casing with water to a depth of 24 inches and allow to pre-soak for 24 hours;
 - e. After pre-soaking in accordance with d., refill the casing with 24 inches of water and record the drop in water level from the top of the casing at the end of one hour;
 - f. Divide the drop in water elevation by one hour to obtain the infiltration rate for the given observation;
 - g. Repeat e. and f., above, at least 3 additional times, for a minimum of 4 observations in each location; and
 - h. Use the lower of the average of the calculated infiltration rates or the last observation.

- (f) The number and location of test locations shall be as follows:
- (1) Locate the field tests within the footprint of the proposed practice, sufficiently spaced apart to be representative of the overall conditions;
 - (2) Conduct the test at the base elevation of the proposed practice;
 - (3) For infiltration basins, perform:
 - a. One field test in every 2,500 square feet of infiltration basin area if no manmade soils are present; or
 - b. One field test in every 1,000 square feet of infiltration basin area for infiltration basins to be located on existing manmade soils; and
 - (4) For infiltration trenches, perform:
 - a. One field test in every 100 linear feet of the infiltration trench area if no manmade soils are present; or
 - b. One field test in every 50 linear feet of the infiltration trench area for infiltration trenches to be located on existing manmade soils.
- (g) The laboratory method for determining the design infiltration rate for proposed fill soils shall be as follows:
- (1) Determine the Ksat of the proposed fill in accordance with test methods described in ASTM D-5856, "Standard Test Method for Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter", June 2015, available as noted in Appendix B; and
 - (2) Apply a minimum factor of safety by multiplying the representative Ksat by 0.5 and use the result as the design infiltration rate.
- (h) The limitations on discharging stormwater into the ground shall be as follows:
- (1) Infiltration practices are prohibited in the areas listed in Env-Wq 1508.06(a);
 - (2) Filtering practices are prohibited in the areas listed in Env-Wq 1508.07(a) and (b); and
 - (3) Groundwater recharge is prohibited in the areas listed in Env-Wq 1507.04(e).

Env-Wq 1504.15 Calculation of Percent Effective Impervious Cover (% EIC) and Percent Undisturbed Cover (% UDC).

(a) The applicant shall calculate the percent effective impervious cover (%EIC) by dividing the area of effective impervious cover within the property on which the project will occur by the drainage area within the property, using equal units of measure and multiplying the result by 100.

(b) The applicant shall calculate the percent undisturbed cover (%UDC) by dividing the area of undisturbed cover within the property on which the project will occur by the drainage area within the property, using equal units of measure and multiplying the result by 100.

Env-Wq 1504.16 Erosion Control Notes.

(a) The plans shall include the following erosion control notes:

- Perimeter controls must be installed prior to earth moving operations.
- Stormwater treatment ponds and drainage swales must be installed before rough grading the site.
- Runoff must be directed to temporary practices until stormwater BMPs are stabilized.

- Basins, ditches and swales must be stabilized prior to directing runoff to them.
- Roadways and parking areas must be stabilized within 72 hours of achieving finished grade.
- Cut and fill slopes must be stabilized within 72 hours of achieving finished grade.
- All areas of unstabilized soil must be stabilized as soon as practicable but no later than 45 days after initial disturbance.
- Erosion control practices must be inspected at least weekly and after every rain event of 0.5 inch or more.
- In areas that will not be paved, “stable” means that:
 - a. A minimum of 85% vegetative cover has been established;
 - b. A minimum of 3 inches of non-erosive material such as stone or riprap has been installed; or
 - c. Erosion control blankets have been installed in accordance with Env-Wq 1506.03.
- In areas to be paved, “stable” means that base course gravels meeting the requirements of NHDOT Standard for Road and Bridge Construction, 2016, Item 304.2 have been installed.”

(b) Unless a larger area is allowed under Env-Wq 1505.03(c), the plan shall include the following:

“- No more than 5 acres shall be disturbed (not stabilized) at any time.”

(c) The plans also shall include:

- (1) Specifications for temporary and permanent seeding; and
- (2) If applicable, winter construction notes that reflect the requirements of Env-Wq 1505.06.

Env-Wq 1504.17 Blasting Plan Notes. Any plans for a project that will entail blasting shall include the blasting best management practices specified in Env-Wq 1510.

PART Env-Wq 1505 REQUIREMENTS TO PROTECT WATER QUALITY DURING TERRAIN ALTERATION ACTIVITIES

Env-Wq 1505.01 Water Quality Degradation Prohibited During Terrain Alteration Activities. No person undertaking any terrain-alteration activity shall cause or contribute to, or allow the activity to cause or contribute to, any violations of the SWQ standards, whether or not a permit is required or obtained for the activity.

Env-Wq 1505.02 Required Construction Practices. The following construction practices shall apply:

- (a) Perimeter controls shall be installed prior to earth moving operations;
- (b) Stormwater treatment ponds and drainage swales shall be installed before rough grading the site;
- (c) Runoff shall be directed to temporary practices until stormwater BMPs are stabilized;
- (d) Basins, ditches and swales shall be stabilized prior to directing runoff to them; and
- (e) Erosion control practices shall be inspected at least weekly and after every rain event of 0.5 inch or more, provided that the inspections shall be conducted by the environmental monitor if one is required pursuant to Env-Wq 1505.03(b).

Env-Wq 1505.03 Maximum Open Area Allowed.

- (a) All areas of unstabilized soil shall be:
 - (1) Temporarily stabilized as soon as practicable but in all cases within 45 days of initial disturbance, unless a shorter time is specified by local authorities, the construction sequence approved as part of the issued permit, or an independent monitor; and
 - (2) Permanently stabilized as soon as practicable but in all cases within 3 days of final grading.

(b) Subject to (c) and (f), below, the area of unstabilized soil shall not exceed 5 acres at any time.

(c) The department shall authorize an applicant to disturb more than 5 acres at one time if the applicant:

- (1) Submits documentation that the required areas of earth cuts and fills are such that an area of disturbance of 5 acres or less would unreasonably limit the construction schedule;
- (2) Submits a construction sequence plan, developed by a qualified engineer or a CPESC specialist; and
- (3) Employs an environmental monitor during construction.

(d) Subject to (e), below, the environmental monitor shall:

- (1) Inspect the project site at least once each week from the start of terrain alteration activities until all terrain alteration activities are completed and the site is stabilized;
- (2) In addition to regular weekly inspections, inspect the project site during any rain event in which 0.5 inch of precipitation or more falls within a 24 hour period, provided that if the environmental monitor is unable to be present during such a storm, the monitor shall inspect the site within 24 hours of the rain event;
- (3) Submit a written report, stamped by a qualified engineer or a CPESC specialist, to the department within 24 hours of each inspection that:

- a. Describes the progress of the project, including whether all conditions of the permit are being met and, if not, which requirements are not being met;
- b. If any requirements are not being met, an explanation of the corrective action(s) that will be or are being taken to bring the project into compliance with applicable requirements and the deadline by which such actions will be completed; and
- c. Includes photographs of the site that are representative of the project; and

(4) Retain a copy of the report prepared pursuant to (3), above, on-site for review during site inspections by federal, state, and local officials.

(e) Routine inspection frequency may be reduced from once each week to at least once each month if either of the following conditions is met:

- (1) Work has been suspended and the entire site is stabilized in accordance with Env-Wq 1505.04; or
- (2) Runoff is unlikely because:
 - a. The ground is frozen or the site is covered with snow or ice; and
 - b. The project is in an area where frozen conditions are anticipated to continue for more than one month.

(f) If the site is within 50 feet of surface water, has a grade of 25% or greater, or contains soils having an erodibility factor of 0.4 or greater, or any combination of these, the owner shall, regardless of the size of the open area:

- (1) Submit a construction sequence plan, developed by a qualified engineer or a CPESC specialist;
- (2) Employ an environmental monitor; and
- (3) Comply with (d) and (e), above.

Env-Wq 1505.04 Stabilization. A site shall be deemed to be stabilized when it is in a condition in which the soils on the site will not erode under the conditions of a 10-year storm, such as but not limited to:

(a) In areas that will not be paved, a minimum of 85% vegetative cover has been established, a minimum of 3 inches of non-erosive material such as stone or riprap has been installed, or erosion control blankets have been installed in accordance with Env-Wq 1506.03; or

(b) In areas to be paved, base course gravels meeting the gradation requirements of NHDOT Standard Specification for Road and Bridge Construction, 2016, Table 304-1, Item No. 304.1, 304.2, or 304.3, available at <http://www.nh.gov/dot/org/projectdevelopment/highwaydesign/specifications/documents/2016NHDOTSpecBookWeb.pdf> have been installed.

Env-Wq 1505.05 Stormwater Management and Erosion and Sediment Control. The methods described in Env-Wq 1506, used individually or in combination to meet the requirement of Env-Wq 1505.01, shall be acceptable methods for minimizing pollutant discharges from any terrain-alteration project, including projects that are subject to Env-Wq 1503.03 relative to general permits by rule, from the time that work starts on a project until the site is permanently stabilized, provided that the methods:

(a) Shall be considered as minimum standards, with the more protective requirements applying for projects subject to Env-Wq 1503.05; and

(b) Are implemented in accordance with the individual criteria specified for each method.

Env-Wq 1505.06 Cold Weather Site Stabilization.

(a) To adequately protect water quality during cold weather and during spring runoff, the additional stabilization techniques specified in this section shall be employed during the period from October 15 through May 1.

(b) Subject to (c), below, the area of exposed, unstabilized soil shall be:

(1) Limited to one acre; and

(2) Protected against erosion by the methods described in this section prior to any thaw or spring melt event.

(c) The allowable area of exposed soil may be increased if a winter construction plan is developed by a qualified engineer or a CPESC specialist and submitted to the department for approval as a request to waive the one-acre limit.

(d) Subject to (f) and (g), below, all proposed vegetated areas having a slope of less than 15% that do not exhibit a minimum of 85% vegetative growth by October 15, or that are disturbed after October 15, shall be seeded and covered with 3 to 4 tons of hay or straw mulch per acre secured with anchored netting or tackifier or with at least 2 inches of erosion control mix meeting the criteria of Env-Wq 1506.05(b).

(e) Subject to (f) and (g), below, all proposed vegetated areas having a slope of 15% or greater that do not exhibit a minimum of 85% vegetative growth by October 15, or that are disturbed after October 15, shall be seeded and covered with a properly installed and anchored erosion control blanket or with at least 4 inches of erosion control mix meeting the criteria of Env-Wq 1506.05(b).

(f) Anchored hay mulch or erosion control mix that meets the criteria of Env-Wq 1506.05(b) shall not be installed over snow greater than one inch in depth.

(g) Erosion control blankets shall not be installed over snow greater than one inch in depth or on frozen ground.

(h) All proposed stabilization in accordance with (d) or (e), above, shall be completed within a day of establishing the grade that is final or that otherwise will exist for more than 5 days.

(i) All ditches or swales that do not exhibit a minimum of 85% vegetative growth by October 15, or that are disturbed after October 15, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions, as determined by the owner's engineering consultant.

(j) After October 15, incomplete road or parking areas where active construction of the road or parking area has stopped for the winter season shall be protected with a minimum 3-inch layer of base course gravels meeting the gradation requirements of NHDOT Standard Specification for Road and Bridge Construction, 2016, Table 304-1, Item No. 304.1, 304.2, or 304.3, available as noted in Appendix B.

PART Env-Wq 1506 METHODS FOR EROSION AND SEDIMENT CONTROL DURING TERRAIN ALTERATION ACTIVITIES

Env-Wq 1506.01 Erosion Control Methods: Temporary and Permanent Mulching. Mulching shall comply with the following:

(a) Hay and straw mulches shall be anchored with mulch netting or tackifier so that they are not blown away by wind or washed away by flowing water;

(b) Mulch materials shall be selected based upon soils, slope, flow conditions, and time of year;

(c) Hay or straw mulch shall be applied at a rate of 1.5 to 2 tons per acre, equivalent to 70 to 90 pounds per 1,000 square feet;

(d) Wood chips or ground bark shall be applied at 2 to 6 inches deep at a rate of 10 to 20 tons per acre, equivalent to 460 to 920 pounds per 1,000 square feet;

(e) Jute and fibrous mats and wood excelsior shall be installed according to the applicable manufacturer's instructions; and

(f) Erosion control mix shall:

(1) Meet the criteria of Env-Wq 1506.05(b); and

(2) Be placed at a thickness of 2 inches or more.

Env-Wq 1506.02 Erosion Control Methods: Vegetation. Vegetating disturbed areas shall be completed only as specified below:

(a) Stones and trash shall be removed from the area to be seeded so as not to interfere with the seeding;

(b) On slopes 4:1 or steeper, final preparation of the area to be seeded shall include creating grooves in the soil perpendicular to the direction of the slope to catch seed and reduce runoff;

(c) If needed to ensure growth, fertilizer or other organic soil amendments shall be applied during the growing season;

(d) Fertilizer applied to any area within 100 feet of any river, stream, pond, or lake shall be low phosphate, slow release nitrogen fertilizer only;

(e) Fertilizer applied to any area that is subject to RSA 483-B, the Comprehensive Water Quality Protection Act (Act), shall meet or be more protective of water quality than the minimum standards of the Act;

(f) Runoff shall be diverted from the seeded area;

(g) Subject to (h) below, seeding shall occur prior to September 15th of the year in which the area being seeded was disturbed;

(h) Areas seeded between May 15th to August 15th shall be covered with hay or straw mulch meeting the criteria of Env-Wq 1506.01(a) through (c); and

(i) If vegetated growth covering at least 85% of the disturbed area is not achieved prior to October 15th, one or more additional erosion control methods shall be implemented.

Env-Wq 1506.03 Erosion Control Methods: Temporary Erosion Control Blankets. Erosion control blankets shall comply with the following:

- (a) Stones and trash shall be removed from the area to be seeded so as not to interfere with seeding; and
- (b) Blankets shall be:
 - (1) Placed within 24 hours after sowing seed in the area being covered;
 - (2) Laid loosely over the soils, maintaining contact with the soil, and not stretched; and
 - (3) Installed per the manufacturer's specifications and the following, even if not in the manufacturer's instructions:
 - a. Blankets shall be anchored at the top of the slope in a trench; and
 - b. Blankets shall be unrolled in the direction of the water flow, overlapping the edges and stapling.

Env-Wq 1506.04 Sediment Control Methods: Silt Fences. The use of silt fences shall comply with the following:

(a) Fences shall be used in areas where erosion will occur only in the form of sheet erosion and there is no concentration of water in a channel or other drainage way above the fence;

(b) The maximum contributing drainage area above the fence shall be less than ¼-acre per 100 linear feet of fence;

(c) The maximum length of the slope above the fence shall be 100 feet;

(d) The maximum slope of the area above the fence shall be 2:1;

(e) Fences shall be installed as follows:

(1) Fences shall follow the contour of the land as closely as possible;

(2) The ends of the fence shall be flared up-slope;

(3) The base of the fence shall be:

a. Folded such that not less than 4 inches of the fence is placed along the bottom of a trench that is excavated at least 4 inches deep into the ground, with the soil compacted over the embedded fabric; or

b. If site conditions include frozen ground, ledge, or the presence of heavy roots, embedded in a minimum thickness of 8 inches of ¾-inch stone;

(4) Support posts shall be sized and anchored according to the manufacturer's instructions; and

(5) Adjoining sections of the fence shall be overlapped by 6 inches, folded and stapled to a support post;

(f) Fences shall be inspected and maintained immediately after each rainfall and at least daily during prolonged rainfall; and

(g) Sediment that accumulates at the fence shall be removed with sufficient frequency to prevent the depth of the sediment from reaching one-third the height of the fence.

Env-Wq 1506.05 Sediment Control Methods: Erosion Control Mix (ECM); ECM Berms.

(a) Erosion control mix berms shall be:

- (1) Used only in areas where erosion will occur in the form of sheet erosion only and there is no concentration of water in a channel or other drainage way above the berm;
- (2) Installed following the contour of the land as closely as possible;
- (3) Used only if the area upslope of the berm has a slope of less than 5%; and
- (4) At least 12 inches high and at least 2 feet wide.

(b) Erosion control mix shall:

- (1) Have an organic portion between 25% and 65%, dry weight basis that is:
 - a. Fibrous and elongated such as from shredded bark, stump grindings, composted bark, or equivalent manufactured products; and
 - b. Not comprised of wood chips, bark chips, ground construction debris, or reprocessed wood products;
- (2) Not contain silts, clays, or fine sands;
- (3) Have a particle size by weight of 100% passing a 3-inch screen, 90% to 100% passing a 1-inch screen, 70% to 100% passing a 0.75-inch screen, and 30% to 75% passing a 0.25-inch screen; and
- (4) Have a pH between 5.0 and 8.0.

Env-Wq 1506.06 Sediment Control Methods: Straw or Hay Bale Barriers. Straw or hay bale barriers shall be used only as follows:

(a) The barriers shall be used in areas where erosion will occur only in the form of sheet erosion and there is no concentration of water in a channel or other drainage way above the barrier;

(b) The maximum contributing drainage area above the barrier shall be less than 0.25 acre per 100 linear feet of barrier;

(c) The maximum length of the slope above the barrier shall be 100 feet;

(d) The maximum slope of the area above the barrier shall be 2:1;

(e) The barriers shall be installed as follows:

- (1) The barriers shall follow the contour of the land as closely as possible;
- (2) The ends of the barrier shall be flared up slope;
- (3) The bale ends shall be tightly adjoined;
- (4) Each bale shall be embedded at least 4 inches into the ground; and
- (5) A minimum of 2 anchoring stakes per bale shall be used, with all stakes penetrating at least 18 inches into the ground;

(f) The barriers shall be inspected and maintained immediately after each rain event and at least daily during prolonged rain events; and

(g) Sediment that accumulates at the barriers shall be removed with sufficient frequency to prevent the depth of the sediment from reaching one-third the height of the barrier.

Env-Wq 1506.07 Sediment Control Methods: Temporary Check Dams. Temporary check dams shall comply with the following:

- (a) The maximum contributing drainage area to the dam shall be less than one acre;
- (b) The maximum height of the dam shall be 2 feet;
- (c) The center of the dam shall be at least 6 inches lower than the outer edges;
- (d) The maximum spacing between the dams shall be such that the toe of the upstream dam is at the same elevation as the overflow elevation of the downstream dam;
- (e) The dam shall not be used in a flowing stream;
- (f) The dams shall be checked after each rainfall and at least daily during prolonged rainfall and necessary repairs shall be made immediately;
- (g) Hay bale check dams shall be embedded into the ground at least 4 inches but no more than 6 inches;
- (h) Stone check dams shall be constructed of a well-graded angular 2-inch to 3-inch stone; and
- (i) Timber check dams shall be constructed of 4-inch to 6-inch logs and embedded at least 18 inches deep into the soil.

Env-Wq 1506.08 Sediment Control Methods: Temporary Catch Basin Inlet Protection. Temporary catch basin inlet protection measures shall comply with the following:

- (a) The maximum contributing drainage area to the trap shall be less than one acre;
- (b) If hay bales are used, the following requirements also shall be met:
 - (1) The bale ends shall be tightly adjoined;
 - (2) Each bale shall be embedded at least 4 inches into the ground; and
 - (3) A minimum of 2 anchoring stakes per bale shall be used, penetrating at least 18 inches into the ground.
- (c) If a gravel and wire mesh filter is used, the following requirements shall be met:
 - (1) The wire mesh shall be placed over the drop inlet so that the entire opening and a minimum of 12 inches around the opening are covered by the mesh;
 - (2) The wire mesh shall be hardware cloth or wire with openings up to one half inch;
 - (3) The gravel filter shall be clean coarse aggregate;
 - (4) The gravel shall be at least 18 inches on all sides of the drain opening; and
 - (5) The gravel shall be at least 12 inches in depth.
- (d) If a concrete block and gravel drop inlet sediment filter is used, the following requirements shall be met:
 - (1) The blocks shall be placed lengthwise in a single row around the perimeter of the inlet;
 - (2) The block ends shall abut one another;

- (3) A hardware cloth or wire mesh shall be placed over the openings of the concrete blocks and extend at least 12 inches around the opening to prevent aggregate from being transported through the openings in the blocks;
- (4) The gravel filter shall be clean coarse aggregate;
- (5) The gravel shall be placed against and along the outside edges of the blocks; and
- (6) The gravel filter shall be a minimum of 12 inches high and no more than 24 inches high.

Env-Wq 1506.09 Sediment Control Methods: Temporary Construction Exits. Temporary construction exits, also called anti-tracking pads, shall be used only as follows:

- (a) The minimum stone used shall be 3-inch crushed stone;
- (b) The minimum length of the pad shall be 75 feet, except that the minimum length may be reduced to 50 feet if a 3-inch to 6-inch high berm is installed at the entrance of the project site;
- (c) The pad shall extend the full width of the construction access road or 10 feet, whichever is greater;
- (d) The pad shall slope away from the existing roadway;
- (e) The pad shall be at least 6 inches thick;
- (f) A geotextile filter fabric shall be placed between the stone pad and the earth surface below the pad; and
- (g) The pad shall be maintained or replaced when mud and soil particles clog the voids in the stone such that mud and soil particles are tracked off-site.

Env-Wq 1506.10 Sediment Control Methods: Temporary Sediment Trap. Temporary sediment traps shall comply with the following:

- (a) The trap shall be installed as close to the disturbed area or source of sediment as possible;
- (b) The maximum contributing drainage area to the trap shall be less than 5 acres;
- (c) The minimum volume of the trap shall be 3,600 cubic feet of storage for each acre of drainage area;
- (d) The side slopes of the trap shall be 3:1 or flatter, and shall be stabilized immediately after their construction;
- (e) The outlet of the trap shall be a minimum of one foot below the crest of the trap and shall discharge to a stabilized area;
- (f) The trap shall be cleaned when 50 percent of the original volume is filled; and
- (g) The materials removed from the trap shall be properly disposed of and stabilized.

Env-Wq 1506.11 Sediment Control Methods: Construction Dewatering. Dewatering shall comply with the following:

- (a) The discharge shall be stopped immediately if the receiving area shows any sign of instability or erosion;
- (b) All channels, swales, and ditches dug for discharging water from the excavated area shall be stable prior to directing discharge to them;
- (c) If a construction equipment bucket is used, it shall empty the material to a stable area;

- (d) No dewatering shall occur during periods of intense, heavy rain;
- (e) Flow to the sediment removal structure shall not exceed the structure's capacity to settle and filter flow or its volume capacity; and
- (f) Wherever possible, the discharge from the sediment removal structure shall drain to a well-vegetated buffer by sheet flow while maximizing the distance to the nearest water resource and minimizing the slope of the buffer area.

Env-Wq 1506.12 Sediment Control Methods: Temporary Stormwater Diversion. Temporary stormwater diversion shall comply with the following:

- (a) When necessary to minimize release of sediment-laden runoff prior to stabilization of the site and the permanent stormwater management system components, sediment-laden water shall be diverted and stored in temporary diversion practices such as sediment basins or trenches;
- (b) Subject to (c), below, temporary diversion practices shall be stabilized prior to receiving runoff;
- (c) Temporary diversion channels with a gradient of 2 percent or greater shall be stabilized, however channels with a slope of less than 2% shall be stabilized only if erosion is observed;
- (d) The area draining to each temporary diversion practice shall be less than 5 acres;
- (e) Temporary diversion channels shall convey, and temporary basins and trenches shall contain, the 2-year, 24 hour design storm without overtopping the banks;
- (f) The bed slope of diversion channels shall have a positive grade to assure drainage;
- (g) Where diversions carry concentrated flows, energy dissipation methods shall be implemented to disperse flow into areas downstream of the disturbed area;
- (h) If erosion of temporary diversion practices occurs during construction, corrective action shall be taken to stabilize the basin, channel, and berm; and
- (i) Diversion basins and trenches shall be cleared of sediment whenever sediment accumulates.

Env-Wq 1506.13 Sediment Control Methods: Flocculants.

- (a) Flocculants shall only be used as specified in this section.
- (b) Flocculants shall not be applied directly to or within 100 feet of any surface water unless specifically approved by the department in writing in accordance with this section.
- (c) The department shall not approve the use of flocculants unless the person requesting approval demonstrates that due to the presence of on-site clay colloidal particles, other erosion control measures, alone or in combination, will not be sufficient to prevent turbidity violations and sedimentation in downstream receiving waters.
- (d) Sites shall be stabilized as soon as possible using conventional measures to minimize the need to use flocculants.
- (e) A request for approval to use flocculants shall be submitted as soon as the need for such use is anticipated, whether with an application, while an application is pending, or after a permit has been issued.
- (f) The applicant or permit holder, as applicable, shall submit the following for each type of flocculent proposed:
 - (1) Manufacturer's name;

- (2) Product name;
 - (3) Material safety data sheets (MSDS) for the product;
 - (4) The results of chronic and acute toxicity testing of the product conducted in accordance with Env-Wq 1706.01 for wastewater;
 - (5) Proof from the manufacturer that the flocculants are anionic and certified for compliance with ANSI/NSF Standard 60 drinking water treatment standards;
 - (6) Certification by the applicant or permit holder, as applicable, that:
 - a. All proposed flocculants are the same as those used in the toxicity tests and will not be altered in any way for the project; and
 - b. No additional chemicals are needed or will be used to enhance performance of the flocculent;
 - (7) An explanation as to why conventional erosion control measures, alone or in combination, will not be sufficient to prevent turbidity violations and sedimentation in downstream receiving waters;
 - (8) A flocculant application plan as specified in (g), below, prepared in consultation with the flocculant manufacturer or authorized manufacturer's representative; and
 - (9) A water quality sampling plan as specified in (i), below, for all discharges treated with flocculants and all surface waters receiving such discharges.
- (g) The flocculant application plan required by (f)(8), above, shall include the following:
- (1) A plan of the project showing where the flocculant will be applied and the name, location, and distance to all surface waters immediately downstream that might receive discharge from areas treated with flocculants;
 - (2) The expected start and end dates for using flocculants, including a schedule and list of measures which will be taken to stabilize the site as soon as possible using conventional stabilization practices;
 - (3) Test results for representative soils from the site, and recommendations from the manufacturer based on the soil tests, indicating the type of flocculant and the recommended application rate;
 - (4) Frequency, method, and rates of application designed to ensure that flocculant concentrations will not exceed 50% of the IC25 or NOEC value, whichever is less, for the flocculant product used;
 - (5) Frequency of inspection and maintenance of the flocculant application system; and
 - (6) Method for the collection, removal, and disposal or stabilization of flocculated particles to prevent resuspension.
- (h) Flocculant application systems shall be operated, inspected, and maintained only by qualified personnel with experience in the use of the type of system(s) being used.
- (i) The water quality sampling plan required by (f)(9), above, shall include the following:
- (1) At least 3 proposed water quality sample locations for each discharge and each receiving water, at least one of which shall be to establish background concentrations in the receiving water;
 - (2) The latitude and longitude of each sampling location in degrees, minutes, and seconds, with at least 3 decimal places of precision (DDMMSS.sss) and referenced to the North American Datum of 1983 (NAD 83) or its successor;

(3) For each piece of equipment used for water quality testing, the make, model, and accuracy of the equipment, subject to the following:

- a. Turbidimeters shall have an accuracy of 0.05 or +/-2%, whichever is greater, for readings below 100 NTUs and +/- 3% above 100 NTUs; and
- b. pH meters shall have an accuracy of +/- 0.2 pH units;

(4) Standard procedures for calibration and quality assurance;

(5) A sampling plan that meets the requirements of (j), below;

(6) A copy of the field data sheet that will be used that accommodates the collection of all data specified in (k), below;

(7) Contact information for each individual who will be conducting water quality sampling, including name, mailing address, and daytime telephone number, and, if available, an e-mail address and fax number; and

(8) The qualifications of each individual who will be conducting water quality sampling.

(j) The sampling plan required by (i)(5) shall require the following:

(1) All water quality sampling shall be conducted by qualified personnel with experience in water quality testing and analysis;

(2) For all parameters, one duplicate sample shall be taken as a quality control measure for every 10 samples taken;

(3) Unless otherwise approved by the department based on site-specific conditions, sampling for pH and turbidity shall be conducted:

- a. In at least one stormwater discharge location prior to the application of flocculants;
- b. In all treated discharges that discharge to a surface water at a point downstream of the area where flocculant has been applied but upstream of the receiving surface water;
- c. In each receiving surface water at a point upstream of the area of the application of flocculants and at a point approximately 100 feet downstream of the confluence of the treated discharge and the receiving water;
- d. For all wet weather events that produce a discharge; and
- e. Every hour for the first 2 hours once a discharge commences, every 2 hours for the next 6 hours and every 8 hours thereafter until the discharge has ceased; and

(4) Information shall be provided regarding how the concentration of flocculant will be measured in each discharge that discharges to a surface water of the state to ensure that toxicity concentrations are not exceeded. If a surrogate parameter such as turbidity is proposed to meet this requirement, data shall be provided showing the relationship between the surrogate parameter concentration and the concentration of flocculant in the surface water.

(k) Sampling results shall include the date, time, sample location, value of the results, applicable water quality criteria, a summary of any violation(s) and actions taken to correct the violation(s).

(l) Whenever flocculants are used and a discharge occurs, the permit holder shall submit a summary report to the department on a weekly basis that includes the following:

- (1) The type and quantity of flocculant used;
- (2) The date, duration of discharge, and estimated discharge rate;

- (3) The total volume of water treated;
- (4) The concentration of flocculant in the discharge, with supporting calculations; and
- (5) A comparison of the amount of flocculant used to that which was originally proposed in the approved flocculant application plan and an explanation for any deviations from the plan.

Env-Wq 1506.14 Other Erosion and Sediment Control Methods. Other erosion and sediment control methods shall be approved by the department if the applicant can demonstrate that the proposed method will control erosion to at least the same extent as the other methods listed in Env-Wq 1506.01 through Env-Wq 1506.13.

PART Env-Wq 1507 REQUIREMENTS FOR PERMANENT METHODS FOR PROTECTING WATER QUALITY

Env-Wq 1507.01 Water Quality Degradation Prohibited After Terrain Alteration Completed. No person who has undertaken any terrain-alteration activity shall allow the completed project to cause or contribute to any violations of the SWQ standards, whether or not a permit was required or obtained for the activity.

Env-Wq 1507.02 Criteria for Permanent Methods for Protecting Water Quality.

(a) Permanent methods for protecting water quality, including all stormwater management practices, shall be designed to:

- (1) Minimize the discharge of pollutants in accordance with Env-Wq 1507.03;
- (2) Recharge groundwater in accordance with Env-Wq 1507.04;
- (3) Protect channels in accordance with Env-Wq 1507.05;
- (4) Control peak runoff rates in accordance with Env-Wq 1507.06; and
- (5) Implement long term maintenance practices in accordance with Env-Wq 1507.07.

(b) No component of a stormwater management system shall be:

- (1) Constructed below the elevation of the 10 year floodplain for any project within the 100-year floodplain; or
- (2) Located in an area of RSA 482-A jurisdiction, unless a permit that specifically allows the proposed impacts has been issued pursuant to RSA 482-A and Env-Wt 100 et seq.

(c) Subject to any practice-specific requirement or exception, no infiltration practice, filtering practice, groundwater recharge practice, treatment swale, pretreatment swale, or sediment forebay shall be located in any of the following areas:

- (1) Areas where the stormwater comes from:
 - a. A high-load area, including but not limited to groundwater protection areas where the stormwater comes from one or more areas where petroleum products are dispensed or otherwise transferred for commercial or industrial purposes; or
 - b. Areas that have contaminants in soil above site-specific soil standards developed pursuant to Env-Or 600;
- (2) Areas that have contaminants:
 - a. In groundwater above the ambient groundwater quality standards established in Env-Or 603.03; or
 - b. In soil above site-specific soil standards developed pursuant to Env-Or 600; and

(3) Areas with slopes greater than 15%, unless calculations are provided demonstrating that resulting seepage forces do not cause slope instability.

(d) An overflow structure associated with a stormwater management system shall be designed to convey, in a controlled manner, any flows that exceed the system's capacity.

Env-Wq 1507.03 Pollutant Discharge Minimization Requirements.

(a) The stormwater treatment practices described in Env-Wq 1508.03 through Env-Wq 1508.10 shall be acceptable methods for minimizing pollutant discharges to surface waters of the state, provided that the requirements of this section are met along with all method-specific criteria.

(b) Stormwater treatment practices shall be accessible for proposed maintenance activities.

(c) Infiltration rates for designing stormwater treatment practices shall be determined in accordance Env-Wq 1504.14.

(d) Stormwater treatment practices shall meet the water supply well setback criteria identified in Env-Wq 1508.02.

(e) Stormwater treatment practices shall be designed for the water quality volume (WQV) or water quality flow (WQF), as applicable, calculated in accordance with Env-Wq 1504.10 and Env-Wq 1504.11, respectively.

Env-Wq 1507.04 Groundwater Recharge Requirements.

(a) The purpose of this section is to protect groundwater resources by requiring the amount of water diverted off-site by the proposed development to be reduced to the maximum extent practicable by using groundwater recharge practices as described in Env-Wq 1508.16.

(b) Subject to (e), below, the applicant shall capture and infiltrate the GRV calculated pursuant to Env-Wq 1504.12.

(c) Infiltration rates for designing groundwater recharge practices shall be determined in accordance with Env-Wq 1504.14.

(d) The groundwater recharge practices shall meet the water supply well setback criteria identified in Env-Wq 1508.02.

Env-Wq 1507.05 Channel Protection Requirements.

(a) The purpose of this section is to protect channels, downstream receiving waters, and wetlands from erosion and associated sedimentation resulting from urbanization within a watershed.

(b) The combined flow to a single water body from a project site shall meet one of the following criteria:

(1) The 2-year, 24-hour post-development peak flow rate generated from the proposed disturbance shall be equal to or less than the 2-year, 24-hour pre-development peak flow rate and:

a. The 2 year, 24-hour post-development storm volume, directed to the nearest water body has not increased over the pre-development volume by more than 0.1 acre-feet;

b. The 2-year, 24-hour post-development peak flow rate directed to the nearest water body is less than 2 cfs; or

c. The area directly discharges into a fourth order or greater river, a pond or lake greater than 10 acres, or tidal water;

(2) The 2-year, 24-hour post-development peak flow rate shall be less than or equal to 50 percent of the 2-year, 24-hour pre-development peak flow rate; or

(3) The 2-year, 24-hour post-development peak flow rate shall be less than or equal to the 1-year, 24-hour pre-development peak flow rate.

(c) When determining “equal to or less than”, allowances shall be made for scientific uncertainty and mathematical rounding.

Env-Wq 1507.06 Peak Runoff Control Requirements.

(a) The purpose of this section is to address increases in the frequency and magnitude of flooding caused by development.

(b) Subject to (d), below, the 10-year, 24-hour post-development peak flow rate shall not exceed the 10-year, 24-hour pre-development peak flow rate for all flows leaving the site.

(c) Subject to (d), below, the 50-year, 24-hour post-development peak flow rate shall not exceed the 50-year, 24-hour pre-development peak flow rate for all flows leaving the site.

(d) A project area that directly discharges to a stream, waterbody, estuary, or tidal water shall be exempt from (b) and (c), above, if the applicant has provided supporting off-site drainage calculations for the 10-year and 50-year, 24-hour storm in accordance with Env-Wq 1504.09, showing that at a point immediately downstream from the project site the post-development peak flow rate from the site and the off-site contributing area does not exceed the pre-development peak flow rate at that point.

(e) The applicant shall provide supporting information in accordance with Env-Wq 1503.09, showing that there is no impact to properties as a result of developing within the 100-year floodplain.

Env-Wq 1507.07 Long-Term Maintenance.

(a) In order to ensure the long-term effectiveness of approved stormwater practices, the applicant shall establish a mechanism to provide for on-going inspections and maintenance (I&M) of the practices for so long as the practices are reasonably expected to be used.

(b) Subject to (f), below, the mechanism shall include an I&M manual for the practices which includes, at a minimum:

(1) The name of each responsible party who will implement the required reporting, inspection, and maintenance activities identified in the I&M manual;

(2) The frequency of inspections;

(3) An inspection checklist to be used during each inspection;

(4) A requirement to photograph each practice that is subject to the I&M requirement at each inspection of that practice;

(5) An I&M log to document each I&M activity;

(6) A deicing log to track the amount and type of deicing materials applied to the site;

(7) A plan showing the locations of all the stormwater practices described in the I&M manual; and

(8) Actions to be taken if any invasive species begin to grow in the stormwater management practices.

(c) All record keeping required by the I&M manual shall be maintained by the responsible party(ies) and be made available to the department upon request.

(d) Upon the completion of all terrain alteration activities that direct stormwater to a particular practice, the responsible party(ies) shall initiate the I&M activities.

(e) The responsible party(ies) may contract with one or more third parties to conduct the I&M activities, but shall remain responsible for ensuring the long-term effectiveness of the stormwater practices.

(f) If a federal or state agency or a political subdivision of the state agrees to assume the responsibility for some or all components of the stormwater management system, the following shall apply:

(1) The transferor responsible party(ies) shall document the transfer of responsibility in writing to the department;

(2) No I&M manual shall be required for those components for which the agency or political subdivision assumes responsibility, unless required by the agency or political subdivision as a condition of accepting responsibility; and

(3) The agency or political subdivision that agrees to assume responsibility shall document that maintenance activities are being performed as necessary to ensure the long-term effectiveness of those components of the stormwater management system for which the agency or political subdivision assumed responsibility.

(g) If ownership of commercial or industrial property is transferred, the new property owner(s) shall become the responsible party(ies).

(h) If the property is a residential development for which a homeowners' association will be established, then:

(1) The homeowners' association shall become the responsible party as specified in the documentation that establishes the association; and

(2) If the homeowners' association is dissolved or otherwise discontinued, the individual homeowners shall have joint and several liability for all I&M obligations.

PART Env-Wq 1508 PERMANENT METHODS FOR PROTECTING WATER QUALITY

Env-Wq 1508.01 Definition. For purposes of this part, "water supply intake protection area" means, for a surface water used as a source by a public water system:

(a) The area within 250 feet of the normal high water mark of the surface water source within one-quarter mile radius of the public water system's intake, excluding areas outside the watershed of the surface water; and

(b) The area within 250 feet of the normal high water mark of any tributary that is within one-quarter mile radius of the public water system's intake, excluding areas outside the watershed of the surface water.

Env-Wq 1508.02 Setback Requirements from Water Supply Sources.

(a) Except as specified in (c), below, no component of a stormwater management system shall discharge stormwater directly to groundwater or to the ground surface in an area where the stormwater will infiltrate the groundwater within a sanitary protective area for a water supply well as specified in:

(1) For any large production well and any well for a large community water system, the larger of the sanitary protective radius established under Env-Dw 302.10, reprinted in Appendix E, or the approval issued under Env-Dw 302;

(2) For any small production well for a small community water system, the larger of the sanitary protective radius established under Env-Dw 305.10, reprinted in Appendix F, or the approval issued under Env-Dw 305;

(3) For any non-community water system, the applicable distance from Env-Dw 406.12, reprinted in Appendix G; or

(4) Table 1008-4 in Env-Wq 1008.06, reprinted in Appendix H, for private water supply wells, whether commercial or non-commercial.

(b) Within a water supply intake protection area, a stormwater management system shall not discharge to the surface water that defines the protection area, or to the ground surface, subsurface, or groundwater within 100 feet of that surface water, except as specified in (c), below.

(c) Stormwater management systems that discharge stormwater from areas less than 0.5 acre and that do not and will not receive stormwater from a high-load area shall be exempt from the private well and surface water setbacks of (a) and (b), above, provided that no component of the stormwater management system is located within 50 feet of a well and flow is directed away from the well.

(d) A stormwater management system that discharges within a water supply intake protection area or to a storm sewer system that discharges within a water supply intake protection area shall incorporate water-tight designs that allow for shut-down or containment in the event of a spill if the system serves a bulk plant or terminal where bulk petroleum products or hazardous materials are transferred.

Env-Wq 1508.03 Stormwater Treatment Practices: Stormwater Ponds. Stormwater ponds, including but not limited to micropool extended detention ponds, wet ponds, wet extended detention ponds, multiple pond systems, and pocket ponds, shall comply with the following:

(a) The stormwater pond design shall include a sediment forebay for pretreatment that meets the criteria specified in Env-Wq 1508.11;

(b) Stormwater ponds shall have a permanent pool, or combination of permanent pool and extended detention, greater than or equal to the WQV;

(c) If extended detention is provided, then:

(1) The extended detention volume shall:

- a. Not comprise more than 50% of the WQV; and
- b. Have a minimum 24-hour drawdown; and

(2) The outlet shall discharge at a maximum flow rate of twice the average flow rate, where the average flow rate is calculated as the extended detention volume divided by 24 hours;

(d) The perimeter of each pond shall be curvilinear;

(e) The side slopes of the pond shall be no steeper than 3:1 and no flatter than 20:1;

(f) The minimum length to width ratio shall be 3:1, where:

(1) Length is measured along the flow path between the inlet and outlet at mid-depth; and

(2) Width is computed by summing the average top width and the average bottom width and dividing by 2;

(g) The permanent pool depth shall be:

(1) Not less than 3 feet; and

(2) Demonstrated by providing:

- a. A stormwater pond having a pond floor at least 5 feet below the SHWT or the lowest elevation pond outlet, whichever is lower; or

b. A hydrologic budget that accounts for the inflow to, outflow from, and storage in the stormwater pond, showing that sufficient water is available to maintain the water depth in the permanent pool;

- (h) The permanent pool depth shall not be greater than 8 feet;
- (i) The inlet and outlet shall be located as far apart as possible;
- (j) Energy dissipation shall be provided at the inlet and outlet to prevent scour;

(k) Any outlet structure having a 6-inch or smaller diameter orifice or a 6-inch wide or narrower weir shall have a trash rack to minimize clogging;

(l) If elevations allow, a manually-controlled drain shall be provided to dewater the pond over a 24-hour period;

(m) The stormwater pond shall be able to discharge the 50-year, 24-hour storm without overtopping the embankment crest; and

(n) A planting plan that does not include any invasive species and that replicates the spatial and compositional diversity of a natural wetland shall be developed by an individual having knowledge of wetlands ecosystems and, in particular, wetlands plant species.

Env-Wq 1508.04 Stormwater Treatment Practices: Stormwater Wetlands. Stormwater wetlands, including but not limited to shallow wetlands, extended detention wetlands, and pond/wetland systems but excluding gravel wetlands, shall comply with the following:

(a) The stormwater wetland design shall include a sediment forebay for pretreatment that meets the criteria specified in Env-Wq 1508.11;

(b) The stormwater wetland shall have a permanent pool, or a combination of permanent pool and extended detention, greater than or equal to the WQV;

(c) If extended detention is used, then:

(1) The extended detention volume shall:

- a. Not comprise more than 50% of the WQV; and
- b. Have a minimum 24 hour drawdown; and

(2) The outlet shall discharge at a maximum flow rate of twice the average flow rate, where the average flow rate is calculated as the extended detention volume divided by 24 hours;

(d) The perimeter of each wetland shall be curvilinear;

(e) The side slopes of each wetland shall be no greater than 3:1 and no flatter than 20:1;

(f) The minimum length to width ratio shall be 3:1, where:

(1) Length is measured along the flow path between the inlet and outlet at mid-depth; and

(2) Width is computed by summing the average top width and the average bottom width and dividing by 2;

(g) The permanent pool elevation of the wetland shall be based upon:

(1) An outlet control structure at an elevation 2 feet below the SHWT; or

(2) Preparation of a hydrologic budget that accounts for the inflow to, outflow from, and storage in the stormwater pond, showing that sufficient water is available to maintain the wetland and that the wetland will not be inundated with an excess of water;

- (h) The permanent pool depth shall not be greater than 8 feet;
- (i) The inlet and outlet shall be located as far apart as possible;
- (j) Energy dissipation shall be provided at the inlet and outlet to prevent scour;

(k) Any outlet structure having a 6-inch or smaller diameter orifice or a 6-inch wide or narrower weir shall have a trash rack to minimize clogging;

(l) If elevations allow, a manually-controlled drain shall be provided to dewater the pond over a 24-hour period;

(m) The stormwater wetland shall be able to discharge the 50-year, 24-hour storm without overtopping the embankment crest; and

(n) The maximum water surface elevation shall not extend more than 4 feet above the permanent pool during the 50-year, 24-hour storm;

(o) A planting plan that does not include any invasive species and that replicates the spatial and compositional diversity of a natural wetland shall be developed by an individual having knowledge of wetlands ecosystems and, in particular, wetlands plant species.

Env-Wq 1508.05 Stormwater Treatment Practices: Gravel Wetlands. If a gravel wetland is used, the system shall be designed in accordance with “UNHSC Subsurface Gravel Wetland Design Specifications”, June 2016, available as noted in Appendix B, with the stipulation that the system shall have:

- (a) A sediment forebay as specified in Env-Wq 1508.11; and
- (b) Two treatment bays, each of which is designed to filter at least 45% of the WQV.

Env-Wq 1508.06 Stormwater Treatment Practices: Infiltration Practices. Infiltration practices, including but not limited to infiltration trenches, infiltration basins, dry wells, and drip edges, shall comply with the following:

(a) Infiltration practices shall be prohibited in the following areas in addition to those identified in Env-Wq 1507.02:

- (1) Into soils where the infiltration rate, prior to adding a factor of safety, is less than 0.5 inches per hour, as calculated per Env-Wq 1504.14; and
- (2) Subject to (b), below, into soils where the infiltration rate, prior to adding a factor of safety, is more than 10 inches per hour, unless the stormwater directed to the infiltration practice has been treated in accordance with a practice described in Env-Wq 1508.03 through Env-Wq 1508.10 prior to entering the infiltration practice;

(b) Soils may be amended to reduce the infiltration rate to less than or equal to 10 inches per hour, prior to adding a factor of safety, as confirmed by results from field measurement methods described in Env-Wq 1504.14(e), provided that if soils are amended, they shall be amended to 24 inches or deeper;

(c) Pretreatment as described in Env-Wq 1508.11 through Env-Wq 1508.15 shall be provided if stormwater other than or in addition to roof run-off will be discharged to the practice;

(d) If a sediment forebay is used to meet (c), above, it shall be designed to contain 25% of the WQV and otherwise meet the criteria specified in Env-Wq 1508.11;

- (e) The volume of the practice, excluding any sediment forebay areas, shall be large enough to contain the WQV without depending on infiltration;
- (f) The practice shall completely drain the WQV within 72 hours;
- (g) The design infiltration rate shall be determined in accordance with Env-Wq 1504.14;
- (h) Subject to (i) and (j), below, the SHWT and bedrock shall be at least 3 feet below the bottom of the practice;
- (i) If the practice is located within a groundwater protection area or a water supply intake protection area, the SHWT and bedrock shall be at least 4 feet below the bottom of the practice;
- (j) If the stormwater directed to the infiltration practice has been treated in accordance with a practice described in Env-Wq 1508.03 through Env-Wq 1508.10 prior to entering the practice, the SHWT and bedrock may be reduced to not less than one foot below the bottom of the practice;
- (k) If the practice includes an infiltration trench, the following requirements also shall be met:
 - (1) The trench shall be 4 to 10 feet deep;
 - (2) The infiltration media shall be clean, washed, well-graded aggregate with a diameter of 1.5 to 3 inches such that the porosity is 40%;
 - (3) An observation well along the trench center line shall be provided; and
 - (4) The overflow structure shall comply with Env-Wq 1507.02(d);
- (l) If the practice includes an in-ground infiltration basin, the following requirements also shall be met:
 - (1) The perimeter of the pond shall be curvilinear;
 - (2) Side slopes shall be no steeper than 3:1 and no flatter than 20:1;
 - (3) The basin floor shall be flat, or zero percent slope;
 - (4) The basin floor shall be prepared with one of the following:
 - a. A 6-inch layer of coarse sand or 3/8 inch pea gravel;
 - b. Grass turf that can survive inundation for up to 72 hours and still provide a dense, vigorous turf layer; or
 - c. A layer of coarse organic material, such as erosion control mix or composted mulch, that is tilled into the soil, soaked, and allowed to dry; and
 - (5) The total volume of the basin shall:
 - a. Be large enough to infiltrate the 50-year, 24-hour storm without overtopping; or
 - b. Have an overflow structure that complies with Env-Wq 1507.02(d).
- (m) If the practice includes an underground infiltration basin, the following requirements also shall be met:
 - (1) An observation well or accessible manhole structure shall be provided; and
 - (2) The outfalls shall be designed to discharge the 10-year, 24-hour storm;
- (n) If the practice includes one or more dry wells, each dry well shall be equipped with an overflow structure that complies with Env-Wq 1507.02(d); and
- (o) If the practice includes one or more stone drip edges, runoff shall be from roofs only.

Env-Wq 1508.07 Stormwater Treatment Practices: Filtering Practices. Filtering practices, including but not limited to surface sand filters, underground sand filters, tree box filters, bioretention systems, pervious asphalt, and pervious concrete, shall comply with the following:

- (a) Filtering practices shall not be located in:
 - (1) An area where a filtering practice sidewall is adjacent to hydrologic soil group A soils, unless an impermeable liner is installed along the side wall so as to separate the practice from the group A soils; or
 - (2) The areas identified in Env-Wq 1507.02(c)(1)-(4) unless the practice has an impermeable liner;
- (b) Pretreatment as described in Env-Wq 1508.11 through Env-Wq 1508.15 shall be provided unless:
 - (1) The practice is pervious pavement or a tree box filter; or
 - (2) Roof runoff is the only stormwater discharged to the practice;
- (c) If a sediment forebay is used to meet (b) above, it shall be designed to contain 25% of the WQV and otherwise meet the criteria specified in Env-Wq 1508.11;
- (d) The practice shall completely drain the WQV within 72 hours or less;
- (e) If the practice has an impermeable liner, (f) through (i), below, shall not apply;
- (f) The design infiltration rate of the underlying native soil or fill soil shall be determined in accordance with Env-Wq 1504.14;
- (g) If the infiltration rate, prior to adding a factor of safety, of the underlying soil or proposed fill, as determined pursuant to (f), above, is less than 0.50 inches per hour, an underdrain system shall be provided as follows:
 - (1) The underdrain shall consist of a 6-inch diameter perforated pipe set in ¾-inch to 2-inch diameter stone or gravel washed free of fines and organic material;
 - (2) The stone or gravel layer shall extend at least 4 inches above the drainage pipes and 4 inches below the drainage pipes;
 - (3) The stone or gravel layer shall be separated from the filter media with a 3-inch layer of 3/8-inch pea gravel; and
 - (4) Underdrains shall be provided at a maximum spacing of 25 feet center-to-center;
- (h) If the practice is not located within a groundwater protection area or water supply intake protection area, the SHWT and bedrock may be reduced to not less than one foot below the bottom of the filter course material, provided, however, that underdrains may be installed to achieve the minimum one-foot separation between the SHWT and the bottom of the filter course material;
- (i) If the practice is located within a groundwater protection area or water supply intake protection area, the practice shall have a filter course depth of 24 inches and have at least one foot of separation between:
 - (1) The bottom of the filter course material and bedrock; and
 - (2) The bottom of the filter course material and the SHWT, provided, however, that underdrains may be installed to achieve the minimum one-foot separation between the SHWT and the bottom of the filter course material;
- (j) An overflow structure that complies with Env-Wq 1507.02(d) shall be included;
- (k) If the practice includes a surface filter, the following requirements also shall be met:

- (1) The filter, including the storage area above the filter, the filter media voids, and the pretreatment area, shall store at least 75% of the WQV;
 - (2) The contributing drainage area shall be less than 10 acres;
 - (3) The filter media shall be a minimum 18 inches deep;
 - (4) The filter media shall consist of one of the following mixtures volume:
 - a. 50% to 55% by volume sand that is certified by its producer as meeting the requirements for ASTM C-33 concrete sand, 20% to 30% by volume of loamy sand topsoil with 15% to 25% fines passing the number 200 sieve, and 20% to 30% by volume moderately fine shredded bark or wood fiber mulch with less than 5% passing the number 200 sieve;
 - b. 20% to 30% by volume of moderately fine shredded bark or wood fiber mulch that has no more than 5% fines passing the number 200 sieve, with 70 to 80% by volume loamy coarse sand used in the mixture meeting the following sieve analysis specification:
 1. From 85 to 100 percent by weight shall pass the number 10 sieve;
 2. From 70 to 100 percent by weight shall pass the number 20 sieve;
 3. From 15 to 40 percent by weight shall pass the number 60 sieve; and
 4. From 8 to 15 percent by weight shall pass the number 200 sieve;
 - (5) The filter shall have an access grate; and
 - (6) The filter shall not be covered with grass;
- (l) If the practice includes an underground filter, the following requirements also shall be met:
- (1) The filter, including the filter media voids and the pretreatment chamber, shall store at least 75% of the WQV;
 - (2) The contributing drainage area shall be less than 10 acres;
 - (3) The filter media shall be a minimum 18 inches deep;
 - (4) The filter media shall consist of one of the mixtures specified in (l)(4) above; and
 - (5) The filter shall have an access grate;
- (m) If the practice includes a bioretention system, the following requirements also shall be met:
- (1) The ponding area, including the storage area above the filter and the filter media voids, shall store 100% or more of the WQV;
 - (2) The contributing drainage area shall be less than 5 acres;
 - (3) The filter media shall be a minimum 18 inches deep;
 - (4) The filter media shall consist of one of the mixtures specified in (l)(4), above;
 - (5) Side slopes shall not exceed 3:1;
 - (6) The surface shall be covered with a minimum of 3-inches of organic material; and
 - (7) The surface area shall be covered with grasses or have the following planting design plan:
 - a. Only native, non-invasive species shall be used;
 - b. Plant layout shall be random and natural;
 - c. Woody vegetation shall not be used near inflow locations;

- d. Vegetation directly over the filter media shall be limited to facultative wetland species as specified in National List of Plant Species that Occur in Wetlands: Northeast (Region 1), May 1988, published by U.S. Fish and Wildlife Services, available at <https://digitalmedia.fws.gov/cdm/ref/collection/document/id/1348>, or other species that can withstand periodic inundation, as determined by a certified wetland scientist;
 - e. Trees or large shrubs shall be planted along the perimeter; and
 - f. The plan shall establish a perimeter tree canopy with an understory of shrubs and herbaceous plants;
- (n) If the practice includes pervious asphalt, the following requirements also shall be met:
 - (1) The practice shall be designed and installed in accordance with UNHSC Design Specifications for Porous Asphalt Pavement and Infiltration Beds, February 2014, revised September 2016, published by University of New Hampshire Stormwater Center, available as noted in Appendix B;
 - (2) The thickness of the filter course shall be at least 12 inches; and
 - (3) The ratio of the total contributing area to the area of the pervious surface shall be no more than 5:1;
 - (o) If the practice includes pervious concrete, the following requirements also shall be met:
 - (1) The filter course material shall consist of NHDOT Standard Specification for Road and Bridge Construction, 2016, Table 304-1, item number 304.1, available as noted in Appendix B, modified to have 0-6% passing the number #200 sieve;
 - (2) The practice shall be designed and installed in accordance with American Concrete Institute, 522.1-13, Specification for Pervious Concrete Pavement, 2013, available as noted in Appendix B;
 - (3) The practice shall be installed by a contractor certified in pervious concrete installation by the National Ready Mix Concrete Association (NRMCA);
 - (4) The thickness of the filter course shall be at least 12 inches; and
 - (5) The ratio of the total contributing area to the area of the pervious surface shall be no more than 5:1; and
 - (p) If the practice includes a tree box filter, then:
 - (1) The tree box filter shall be not less than 6 feet in diameter and not less than 4 feet deep; and
 - (2) The contributing drainage area shall be less than 0.1 acres.

Env-Wq 1508.08 Stormwater Treatment Practices: Treatment Swales. Treatment swales shall be used only as follows:

- (a) Swales shall not be used in any of the areas identified in Env-Wq 1507.02(c)(1)-(4) unless the practice has an impermeable liner;
- (b) The swale length shall be at least 100 feet long;
- (c) Any portion of the swale that is in a roadside ditch which collects runoff from the adjacent roadway surface shall not count towards the minimum length specified in (c), above;
- (d) The bottom of the swale shall be no more than 8 feet wide, provided that widths up to 16 feet shall be allowed if a dividing berm or structure is used such that neither channel is more than 8 feet wide;

- (e) The bottom of the swale shall not be within the SHWT;
- (f) The swale side slopes shall be no steeper than 3:1 and no flatter than 20:1;
- (g) The swale shall have a longitudinal slope between 0.5% and 2% without check dams or 2% to 5% with check dams;
- (h) The maximum flow depth in the swale shall be:
 - (1) Four inches at the WQF; or
 - (2) If a detention structure is used immediately upstream of the treatment swale, the maximum flow depth in the swale shall be 4 inches at the 2-year, 24-hour post-development peak flow rate;
- (i) The swale's hydraulic residence time shall be greater than 10 minutes for:
 - (1) The WQF; or
 - (2) The 2-year, 24-hour post-development peak flow rate routed through a detention structure;
- (j) The swale shall be sized to discharge the 10-year, 24-hour storm; and
- (k) The swale shall have at least 85% vegetated growth prior to directing runoff to it.

Env-Wq 1508.09 Stormwater Treatment Practices: Vegetated Buffers. Vegetated buffers, including but not limited to residential or small pervious area buffers, developed area buffers, roadway buffers, and ditch turn-out buffers, shall be used only as follows:

- (a) Buffers shall not be located in an area of RSA 482-A jurisdiction;
- (b) The buffer shall be directly adjacent to the area being treated;
- (c) The runoff shall enter the buffer as sheet flow;
- (d) The buffer shall not be interrupted by any intermittent or perennial stream channel or other drainage way;
- (e) Only the continuous flow path length shall be counted toward the buffer length;
- (f) The vegetative cover type shall be forest or meadow or a combination of forest and meadow, and if a combination, the required sizing of the buffer shall be determined as a weighted average based on the percent of buffer in forest and the percent of buffer in meadow;
- (g) The hydrologic soil group shall be identified, and if the buffer contains more than one soil group, the required sizing of the buffer shall be determined as a weighted average based on the percent of the buffer in each soil type;
- (h) The buffer area shall be identified on the plans and protected by deed restrictions or covenants, or both, so that it remains in an unaltered state;
- (i) If the practice is for a residential or small impervious area, the following requirements also shall be met:
 - (1) Runoff shall be received only from one or more of the following:
 - a. A single family or duplex residential lot;
 - b. A developed area with less than 10% imperviousness where the flow path over the developed area does not exceed 150 feet; or
 - c. An impervious area not greater than one acre where the flow path across the impervious area does not exceed 100 feet;

- (2) Runoff shall enter the buffer as sheet flow without the aid of a level spreader;
- (3) The buffer slope shall be uniform and not exceed 15%; and
- (4) The minimum flow path through the buffer shall be the sum of the following distances or 45 feet, whichever is greater:
 - a. The base flow path through the buffer shall be:
 1. For hydrologic group A soils, 25 feet;
 2. For hydrologic group B soils, 45 feet;
 3. For hydrologic group C soils, 60 feet;
 4. For hydrologic group D soils, 142 feet; and
 5. For buffers containing more than one hydrologic soil group, a weighted average of the distances in 1. through 4., above, based on the hydrologic group(s) of the soils in the buffer;
 - b. For every 1% slope of the buffer, 2 feet shall be added to the base flow path length through the buffer; and
 - c. For every 10% of the buffer area that is meadow, 3 feet shall be added to the base flow path length through the buffer;

(j) If the practice is for a developed area using a buffer with a stone berm level spreader, the following requirements also shall be met:

- (1) Runoff shall be received from a developed area where the runoff is concentrated;
- (2) A stone berm level spreader that meets the requirements of Env-Wq 1508.18 and is no less than 20 feet and no greater than 50 feet in length shall be provided to distribute the flow to the buffer;
- (3) The minimum flow path length through the buffer shall be 50 feet;
- (4) The buffer slope shall be uniform and not exceed 15%;
- (5) Subject to (10), below, the total buffer area required shall be determined by multiplying the total area draining to the buffer, in acres, by the sum of the following:
 - a. The base buffer area per acre, determined pursuant to (6), below;
 - b. The impervious area adjustment, determined pursuant to (7), below;
 - c. The slope adjustment, determined pursuant to (8), below; and
 - d. The meadow adjustment, determined pursuant to (9), below;
- (6) The base buffer area per acre shall be determined based on the hydrologic group of the soils and the area draining to the buffer, as follows:
 - a. For hydrologic group A soils, 400 square feet per acre draining to the buffer;
 - b. For hydrologic group B soils, 1,000 square feet per acre draining to the buffer;
 - c. For hydrologic group C soils, 1,500 square feet per acre draining to the buffer;
 - d. For hydrologic group D soils, 2,200 square feet per acre draining to the buffer; and
 - e. For buffers containing more than one hydrologic soil group, a weighted average of the areas in a. through d., above, based on the hydrologic group(s) of the soils in the buffer;
- (7) For every 1% of the area draining to the buffer that is impervious, the following impervious area adjustment shall be added to the base buffer area per acre:

- a. For hydrologic group A soils, 45 square feet per acre draining to the buffer;
 - b. For hydrologic group B soils, 66 square feet per acre draining to the buffer;
 - c. For hydrologic group C soils, 83 square feet per acre draining to the buffer; and
 - d. For hydrologic group D soils, 132 square feet per acre draining to the buffer; and
 - e. For buffers containing more than one hydrologic soil group, a weighted average of the areas in a. through d., above, based on the hydrologic group(s) of the soils in the buffer;
- (8) For every 1% slope of the buffer, the slope adjustment shall be an additional 100 square feet per acre draining to the buffer;
- (9) For every 1% of the buffer area that is meadow, the meadow adjustment shall be an additional 24 square feet per acre draining to the buffer; and
- (10) If a detention structure is used upstream of the level spreader, the drainage area to the buffer shall be deemed to be 1.0 acre of impervious area for every 1.0 cfs of peak 2-year, 24-hour outflow from the detention structure;
- (k) If the practice is a roadway buffer, the following requirements also shall be met:
- (1) Runoff shall be received from the road surface and shoulder and sheet directly into the buffer;
 - (2) No areas other than the adjacent road surface and shoulder shall be directed to the buffer;
 - (3) The road shall be parallel to the contour of the buffer slope;
 - (4) Except as provided in (5) below, the man-made buffer slope shall be uniform and not exceed 15%;
 - (5) A maximum of 20 feet of vegetated roadway embankment slope of 3:1 or flatter shall count toward the required buffer length as required in (8) below;
 - (6) The natural buffer slope shall be uniform and not exceed 20%;
 - (7) The buffer shall be vegetated; and
 - (8) The buffer flow path shall be at least 50 feet for one travel lane draining to the buffer and at least 30 additional feet for each additional travel lane draining to the buffer; and
- (l) If the practice is a ditch turn-out buffer, the following requirements also shall be met:
- (1) No areas other than road surface, road shoulder, and road ditch shall be directed to the buffer;
 - (2) No more than 6,000 square feet of pavement shall be directed to a level spreader;
 - (3) A stone berm level spreader that meets the requirements of Env-Wq 1508.18 and is no less than 20 feet and no greater than 50 feet in length shall be provided at the end of the ditch to distribute runoff to the buffer;
 - (4) The buffer slope shall be uniform and not exceed 15%; and
 - (5) For every 1,000 square feet of area draining to the buffer, the minimum flow path length through the buffer shall be the sum of the following distances or 50 feet, whichever is greater:
 - a. The base flow path through the buffer shall be:
 - 1. For hydrologic group A soils, 7 feet;
 - 2. For hydrologic group B soils, 8 feet;
 - 3. For hydrologic group C soils, 15 feet;

4. For hydrologic group D soils, 30 feet; and
5. For buffers containing more than one hydrologic soil group, a weighted average of the distances in 1. through 4., above, based on the hydrologic group(s) of the soils in the buffer;
- b. For every 1% slope of the buffer, 2 feet shall be added to the base flow path length through the buffer; and
- c. For every 10% of the buffer that is meadow, 3 feet shall be added to the base flow path length through the buffer.

Env-Wq 1508.10 Other Stormwater Treatment Practices.

- (a) An applicant who wishes to use a stormwater treatment practice not specified in these rules shall submit a written request to the department for approval of the practice.
- (b) The request shall include the following:
 - (1) A copy of the plan(s) submitted pursuant to Env-Wq 1503.05(c)(3) with the location where the practice is proposed to be used clearly marked;
 - (2) A narrative description of the proposed practice, together with any diagrams or schematics that are helpful to understanding the proposed practice, including how the proposed practice meets the requirements specified in (f), below;
 - (3) If the proposed practice includes components for which the manufacturer has provided a design, installation, and/or operations manual, a copy of such manual(s);
 - (4) A description of the operation and maintenance procedures required to ensure the practice remains functional;
 - (5) A description of any advantages of the proposed practice over the practice(s) specified in these rules, including in particular environmental and operational benefits;
 - (6) A description of the protocol used for the field-based assessment of the practice, including the length of time the practice has been in use; and
 - (7) If the practice has been used in other states or provinces having climate and geological features like those found in New Hampshire, a list of where the practice has been used and, for each such state or province, the name and daytime telephone number and, if available, an e-mail address, of an official at a state or provincial agency who has knowledge of, and who can be contacted regarding, the practice.
- (c) The department shall approve the proposed stormwater treatment practice if the information provided by the applicant demonstrates that:
 - (1) The field-based assessment was performed in accordance with a protocol which produces the same quality and quantity of data as the protocols established by the University of New Hampshire Stormwater Center, the Technology Acceptance and Reciprocity Partnership, or the Washington State Department of Ecology Technology Assessment Protocol; and
 - (2) The proposed practice meets the criteria specified in (f), below.
- (d) The department shall notify the applicant of its decision in writing. If the request is denied, the notice shall specify the reason(s) for the denial.
- (e) If the department approves the proposed practice, the approval shall:
 - (1) Require compliance with Env-Wq 1507.07 relative to long-term maintenance;

(2) Require annual inspections of the practice with an evaluation of the functionality of the practice, and the annual submission to the department of a report of the findings of the inspection and evaluation if the information submitted pursuant to (b), above, does not show the proposed practice to have operation longevity of at least 5 years in the field; and

(3) Include any other conditions that are necessary to ensure the practice meets the criteria specified in (f), below.

(f) A proposed stormwater treatment practice shall be approved only if the practice:

(1) Captures and treats the WQV or WQF;

(2) Achieves a minimum removal rate of 80% of total suspended solids at the WQF;

(3) Does not discharge floatable debris, including oil and petroleum products, for all flow rates up to the design WQF, either alone or in combination with pretreatment; and

(4) Has automatic operation during runoff events.

Env-Wq 1508.11 Pretreatment Practices: Sediment Forebays. Sediment forebays shall comply with the following:

(a) Sediment forebays shall not be located in any of the areas identified in Env-Wq 1507.02(c)(1)-(4) unless the practice has an impermeable liner;

(b) Unless otherwise specified, a sediment forebay shall be designed to contain 10% of the WQV;

(c) Sediment forebays for gravel wetland systems shall be designed to drain within 72 hours of storm events;

(d) Forebays shall be no less than 2 feet and no more than 6 feet in depth;

(e) Forebay side slopes shall be no steeper than 3:1;

(f) A fixed vertical sediment marker shall be installed to measure sediment depth; and

(g) Upon completion of maintenance, all disturbed areas shall be re-stabilized in accordance with the approved plans.

Env-Wq 1508.12 Pretreatment Practices: Vegetated Filter Strips. Vegetated filter strips shall comply with the following:

(a) The vegetative cover type of the filter strip shall be forest, meadow, or a combination of forest and meadow;

(b) The overland flow length to the filter strip shall not exceed 75 feet for impervious surfaces and 150 feet for pervious surfaces;

(c) Longitudinal slopes shall be no less than 0.5 percent and no greater than 15 percent; and

(d) The vegetated filter strip shall be at least 25 feet long and as wide as the area draining to the strip.

Env-Wq 1508.13 Pretreatment Practices: Pretreatment Swales. Pretreatment swales shall comply with the following:

(a) Swales shall not be used in any of the areas identified in Env-Wq 1507.02(c)(1)-(4) unless the practice has an impermeable liner;

(b) The swale length shall be at least 50 feet long;

- (c) Any portion of the swale that is in a roadside ditch which collects runoff from the adjacent roadway shall not count towards the minimum length specified in (b), above;
- (d) The bottom of the swale shall be no more than 8 feet wide;
- (e) The bottom of the swale shall not be within the SHWT;
- (f) The swale side slopes shall be no steeper than 3:1 and no flatter than 20:1;
- (g) The swale shall have a longitudinal slope between 0.5% and 2% without check dams or 2% to 5% with check dams;
- (h) The maximum flow depth in the swale shall be 4 inches at the WQF;
- (i) The swale shall be sized to discharge the 10-year, 24-hour storm; and
- (j) The swale shall be vegetated.

Env-Wq 1508.14 Pretreatment Practices: Flow-Through Devices. Flow through devices such as hydrodynamic separators, water quality inlets, and oil/particle separators shall comply with the following:

- (a) The devices shall be designed according to the manufacturer's recommendations based on the WQF to remove a minimum of 80% of U.S. Silica grade OK-110 sand at the WQF;
- (b) Water quality inlets and oil/particle separators shall have a 4 foot minimum sump;
- (c) Water quality inlets shall be a 3-chamber design, with the first and second chambers having a minimum of 400 cubic feet of storage per acre of contributing impervious area;
- (d) Each water quality inlet and oil/particle separator chamber shall be accessible by means of a separate manhole;
- (e) The contributing area to the oil/particle separator shall not exceed 1.0 acre of impervious area;
- (f) Oil/particle separators shall only be used in an off-line configuration to treat the WQF; and
- (g) Oil/particle separators shall have a minimum of 400 cubic feet of permanent pool storage per acre of contributing impervious area.

Env-Wq 1508.15 Pretreatment Practices: Deep Sump Catch Basins. Deep sump catch basins shall comply with the following:

- (a) The contributing area shall not exceed 0.25 acres of impervious area;
- (b) The distance from the bottom of the outlet pipe to the bottom of the catch basin shall be at least 4 feet;
- (c) The diameter of the catch basin shall be at least 4 feet; and
- (d) A hooded outlet pipe shall be provided that extends at least one foot below the bottom of the outlet pipe.

Env-Wq 1508.16 Groundwater Recharge Practices. The following methods shall be acceptable methods for infiltrating groundwater, provided that all method-specific criteria are met:

- (a) Infiltration practices accordance with Env-Wq 1508.06;
- (b) Filtering practices in accordance with Env-Wq 1508.07 that infiltrate into the native soil below the practice; and

(c) Other groundwater recharge practices, including but not limited to permeable surfaces, modular concrete paving blocks, modular concrete or plastic lattice, cast-in-place concrete grids, soil enhancement technologies, and other materials such as gravel, cobbles, wood, mulch, brick, or natural stone, provided that the following criteria are met:

- (1) The practice shall completely drain within 72 hours;
- (2) Bedrock and the SHWT shall be at least one foot below the base of the practice; and
- (3) Prior to adding a factor of safety, the underlying soil has a design infiltration rate of 0.5 inches per hour or more, as calculated per Env-Wq 1504.14.

Env-Wq 1508.17 Stormwater Control and Conveyance Practices: Detention Basins. Underground and in-ground detention basins shall comply with the following:

- (a) Untreated stormwater shall not be directed to unlined detention basins;
- (b) Basins shall not be located in an area of RSA 482-A jurisdiction, unless a permit that specifically allows the detention basin has been issued pursuant to RSA 482-A;
- (c) Underground detention basins shall have access manholes located upstream, downstream, and at intermediate locations to provide access for maintenance; and
- (d) If the practice includes one or more in-ground detention basins, the following requirements also shall be met:
 - (1) The side slopes of the basin shall be 2:1 or flatter;
 - (2) The crest shall be at least 4 feet wide;
 - (3) Any outlet structure having a 6-inch or smaller diameter orifice or a 6-inch wide or narrower weir shall have a trash rack to minimize clogging;
 - (4) The lowest orifice shall be at least 6 inches above the basin floor;
 - (5) Energy dissipation shall be provided at the inlet and outlet to prevent scour;
 - (6) The detention basin shall be:
 - a. Constructed with an emergency spillway; and
 - b. Able to discharge the 100-year, 24-hour storm without overtopping the embankment crest;
 - (7) All areas of the detention basin, including the basin floors, side slopes, berms, impoundment structures, or other earth structures shall have vegetation suitable for the soil type, the moisture content, the amount of sun exposure, and the level of inundation to which it is exposed; and
 - (8) If RSA 482 requires a dam permit to be obtained for the basin, then:
 - a. The permit shall be obtained prior to construction; and
 - b. Any conditions imposed under such permit that are more stringent than those listed above shall apply.

Env-Wq 1508.18 Stormwater Control and Conveyance Practices: Stone Berm Level Spreaders. Stone berm level spreaders shall comply with the following:

- (a) The level spreader shall discharge to a vegetated receiving area with the capacity to convey the discharge without erosion;
- (b) The receiving area shall:

- (1) Have a slope of less than 15 percent; and
- (2) Be stable prior to construction of the level spreader;
- (c) The level spreader shall:
 - (1) Be a 6-inch deep trapezoidal trough; and
 - (2) Have a minimum bottom width of 3 feet;
- (d) The level spreader base and top of berm shall be at 0% grade;
- (e) The level spreader side slopes and berm side slopes shall be 2:1 or flatter;
- (f) The berm shall:
 - (1) Be at least 18 inches high; and
 - (2) Have a top width of at least 2 feet; and
- (g) The stone used in the berm shall be graded within the following limits:
 - (1) 100 percent by weight shall pass the 12-inch sieve;
 - (2) From 84 to 100 percent by weight shall pass the 6-inch sieve;
 - (3) From 68 to 83 percent by weight shall pass the 3-inch sieve;
 - (4) From 42 to 55 percent by weight shall pass the 1-inch sieve; and
 - (5) From 8 to 12 percent by weight shall pass the number 4 sieve;

Env-Wq 1508.19 Stormwater Control and Conveyance Practices: Conveyance Swales. Conveyance swales shall comply with the following:

- (a) Swales shall not be used in groundwater protection areas where the stormwater comes from one or more high-load areas, unless the practice has an impermeable liner;
- (b) The side slopes shall be designed to convey non-erosive velocities; and
- (c) The swale shall be sized to convey the 50-year, 24-hour storm.

Env-Wq 1508.20 Stormwater Control and Conveyance Practices: Earthen Terraced Slope or Benching.

- (a) For purposes of this section, “bench” means a terrace having a reverse grade to the grade of the slope.
- (b) If diversion swales are incorporated to keep upstream drainage off a constructed slope, benches shall be provided wherever the vertical height between the top of the slope and the bottom of the slope exceeds 40 feet.
- (c) If diversion swales are not incorporated to keep upstream drainage off the constructed slope, benches shall be provided wherever the vertical height of:
 - (1) Any 2:1 slope exceeds 20 feet;
 - (2) Any 3:1 slope exceeds 30 feet; or
 - (3) Any 4:1 slope exceeds 40 feet.
- (d) Benches shall be located to divide the slope face into equal parts.
- (e) Each bench shall:

- (1) Convey the stormwater to a stable outlet;
 - (2) Be a minimum of 6 feet wide; and
 - (3) Be designed with a reverse slope of 6:1 or flatter from the top of the lower slope to the toe of the upper slope and with a minimum of one foot in depth.
- (f) The channel gradient from the bench to the outlet shall be between 2 and 3 percent.
- (g) The flow length within a bench shall not exceed 800 feet.

PART Env-Wq 1509 WAIVERS AND DEADLINE EXTENSIONS

Env-Wq 1509.01 Purpose. The purpose of this part is to establish the procedures and criteria for requesting and obtaining:

- (a) Waivers, to accommodate those situations where strict adherence to the rules in Env-Wq 1500 would not be in the best interest of the public or the environment; and
- (b) Extensions of deadlines specified in a notice of incompleteness or request for additional information.

Env-Wq 1509.02 Waiver Requests.

- (a) An applicant for a permit or a permit holder who is or would be directly and adversely affected by the strict application of a rule in Env-Wq 1500 may request a waiver thereof.
- (b) Each request for a waiver shall be filed in writing and contain the information specified in Env-Wq 1509.03.
- (c) Any request for a waiver that relates to an application for an AOT permit shall be submitted with the application or as soon thereafter as the need for the waiver is identified by the applicant or the department.

Env-Wq 1509.03 Content and Format of Waiver Requests.

- (a) The person requesting the waiver shall provide the following information to the department:
 - (1) The name, mailing address, and daytime telephone number of the requestor and, if available, the requestor's e-mail address;
 - (2) The name, mailing address, and daytime telephone number of the property owner, if other than the requestor and, if available, the property owner's e-mail address;
 - (3) The location of the property to which the waiver request relates, if other than the mailing address of the requestor or owner, or a statement that the mailing address is the location of the property;
 - (4) The specific rule section or paragraph for which a waiver is being requested;
 - (5) A full explanation of why a waiver is being requested, including an explanation of the economic and operational consequences of complying with the rule as written;
 - (6) Whether the need for the waiver is temporary, and if so, the estimated length of time that the waiver will be needed;
 - (7) If applicable, a full explanation of the alternative that is proposed to be substituted for the requirement in the rule, including written documentation or data, or both, to support the alternative; and
 - (8) A full explanation of why the applicant believes that having the waiver granted will meet the criteria in Env-Wq 1509.04.

(b) The property owner(s) and the person(s) requesting the waiver, if other than the property owner(s), shall sign the request as specified in Env-Wq 1503.10.

Env-Wq 1509.04 Waiver Criteria.

(a) Subject to (b), below, the department shall grant a waiver if:

(1) Granting the request will not result in an adverse impact on the environment, public health, public safety, or abutting properties that is more significant than the impact that would result from complying with the rule as written; and

(2) One or more of the following conditions is satisfied:

a. Granting the request is consistent with the intent and purpose of the rule being waived; or

b. Strict compliance with the rule in the circumstances presented will provide no benefit to the public or the environment.

(b) No waiver shall be granted:

(1) If the effect of the waiver would be to waive or modify a statutory requirement; or

(2) To any of the criteria for obtaining a permit specified in Env-Wq 1503.19.

Env-Wq 1509.05 Decision on Waiver Requests; Conditions.

(a) The department shall notify the person requesting the waiver of the decision in writing.

(b) If the request is denied, the department shall identify the specific reason(s) for the denial.

(c) The department shall include such conditions in a waiver as are necessary to ensure that the criteria of Env-Wq 1509.04 will be met.

(d) If the need for a waiver is temporary, the waiver shall specify the date on which it will expire.

Env-Wq 1509.06 Requests to Extend Deadlines.

(a) An applicant for a permit who has received a notice of incompleteness pursuant to Env-Wq 1503.13(c) who is unable to provide the missing application component(s) by the specified deadline may request an extension of the deadline.

(b) An applicant for a permit who has received a request for additional information pursuant to Env-Wq 1503.14 who is unable to provide the additional information requested by the specified deadline may request an extension of the deadline.

(c) Each request for a deadline extension shall be filed in writing and contain the information specified in Env-Wq 1509.07.

(d) Any request for a deadline extension shall be filed as soon as the applicant realizes the need for an extension.

Env-Wq 1509.07 Content and Format of Deadline Extension Requests.

(a) The person requesting the deadline extension shall provide the following information to the department:

(1) The name, mailing address, and daytime telephone number of the requestor and, if available, the requestor's e-mail address;

(2) A brief description of the application to which the request relates, such as project name and town;

- (3) The date of the notice of incompleteness or request for additional information in which the deadline for which an extension is being sought was established;
- (4) The deadline that was established;
- (5) A full explanation of why an extension is needed;
- (6) If the extension is not needed for all of the missing components or additional information, the specific item(s) to which the request applies; and
- (7) The alternative deadline proposed by the requestor.

(b) If the deadline extension does not apply to all of the missing components or additional information, the applicant shall submit the item(s) to which the request does not apply by the deadline originally established.

(c) The person(s) requesting the deadline extension shall sign the request as specified in Env-Wq 1503.10.

Env-Wq 1509.08 Criteria for Deadline Extensions.

(a) Subject to (d), below, the department shall extend a deadline for completing an application or submitting additional information if:

- (1) The applicant demonstrates that good cause to extend the deadline exists; and
- (2) A complete request for deadline extension was submitted prior to the established deadline.

(b) Good cause to extend a deadline shall be deemed to exist if:

- (1) In order to submit the missing component(s) or additional information, the applicant requires information from a third party not under the applicant's control, and the applicant has not received the information despite making diligent efforts to obtain it; or
- (2) The applicant has otherwise been prevented by circumstances beyond the applicant's control from obtaining or preparing the missing component(s) or additional information.

(c) The inability to obtain requisite information from a third party based on the applicant's failure to pay the third party for services rendered shall not constitute good cause to extend a deadline.

(d) A deadline shall not be extended for more than one year past the original date established in the notice of incompleteness or request for additional information.

Env-Wq 1509.09 Decision on Deadline Extension Requests.

(a) The department shall notify the person requesting the deadline extension of its decision in writing.

(b) If the request is denied, the department shall identify the specific reason(s) for the denial in the notice sent pursuant to (a), above.

(c) If the request is granted, the department shall establish the new deadline in the notice sent pursuant to (a), above.

PART Env-Wq 1510 BEST MANAGEMENT PRACTICES FOR BLASTING

Env-Wq 1510.01 Purpose. The purpose of this part is to establish best management practices for blasting to minimize the potential for groundwater contamination, to ensure that the groundwater can be used for existing and future drinking water supply sources.

Env-Wq 1510.02 Applicability. This part shall apply to all projects for which an AOT permit is required that will involve blasting of bedrock.

Env-Wq 1510.03 Loading Practices. The following blast hole loading practices shall be implemented:

- (a) The driller shall maintain drilling logs to document:
 - (1) The depths and lengths of voids, cavities, and fault zones or other weak zones encountered; and
 - (2) Groundwater conditions;
- (b) The driller shall communicate the contents of the drilling logs directly to the blaster;
- (c) Explosive products shall be managed on-site such that they are:
 - (1) Used in the borehole;
 - (2) Returned to the delivery vehicle; or
 - (3) Placed in secure containers for off-site disposal;
- (d) Spillage around the borehole shall be:
 - (1) Placed in the borehole; or
 - (2) Cleaned up and returned to an appropriate vehicle for handling or placement in secured containers for off-site disposal;
- (e) Loaded explosives shall be detonated as soon as possible and not left in the blast holes overnight, unless weather or other safety concerns reasonably dictate that detonation should be postponed;
- (f) Loading equipment shall be cleaned in an area where wastewater can be properly contained and handled in a manner that prevents release of contaminants to the environment; and
- (g) Explosives shall be loaded in accordance with industry standard practices for priming, stemming, decking and column rise to maintain good continuity in the column load to promote complete detonation.

Env-Wq 1510.04 Explosive Selection. Explosive products shall be selected that are:

- (a) Appropriate for site conditions and safe blast execution; and
- (b) Have the appropriate water resistance for the site conditions present.

Env-Wq 1510.05 Prevention of Misfires. Industry-standard practices shall be implemented to prevent misfires.

Env-Wq 1510.06 Muck and Rock Management.

- (a) For purposes of this part, the following definitions apply:
 - (1) “Blasted material” means all of the earth material loosened as a result of the blasting;
 - (2) “Muck” means the blasted material remaining after the rocks have been removed; and
 - (3) “Rocks” means the larger pieces of blasted material that are separated from the muck for use elsewhere, including for feedstock of a rock crushing operation.
- (b) Muck shall be removed from the blast area as soon as reasonably possible.
- (c) Rocks shall be managed so as to prevent water supply wells or surface waters from being contaminated by runoff.

Env-Wq 1510.07 Spill Prevention Measures and Spill Mitigation.

- (a) Fuel and other regulated substances shall be managed as required by Env-Wq 401.04.
- (b) Personnel working at the blast site shall be trained in how to respond to a spill of the regulated substances being used at the site.

Env-Wq 1510.08 Fueling and Maintenance of Construction Equipment.

(a) If any construction equipment, including but not limited to earthmoving, excavation, and boring equipment, will be fueled from a tank truck or other container that is moved around the site, the following shall apply:

- (1) Portable containment equipment that is sized to contain the most likely volume of fuel to be spilled during a fuel transfer shall be used, where the most likely volume to be spilled is determined based on the fuel transfer rate, the amount of fuel being transferred, the distance between the hose nozzle and pump shut off switch, and the response time of personnel and equipment available at the facility;
- (2) The containment equipment shall be positioned to catch any fuel spills due to overfilling the equipment and any other spills that might occur at or near the fuel filler port to that equipment;
- (3) The type of containment equipment used and its positioning and use shall account for all of the drip points associated with the fuel filling port and the hose from the fuel delivery truck; and
- (4) Personnel shall not leave the immediate area while fuel is being transferred, to ensure that any spills will be of limited volume.

(b) If the site will have a fixed location for fueling construction equipment, the following shall apply:

- (1) All fuel containers, including but not limited to skid-mounted tanks, drums, and five gallon cans, shall have secondary containment that:
 - a. Is capable of containing 110% of the volume of the largest fuel storage container; and
 - b. Has an impervious floor;
- (2) Secondary containment for tanks may comprise a metal, plastic, polymer or precast concrete vault providing 110 percent of the volume of the largest fuel storage container;
- (3) For fuel containers, secondary containment may comprise containment pallets;
- (4) The area where fuel is transferred shall be a flat, impervious area that:
 - a. Is adjacent to the fuel container(s); and
 - b. Extends beyond the full reach, or length, of the fuel hose; and
- (5) Secondary containment areas may be in the form of a basin that is:
 - a. Sloped down to a central low point or bermed along the perimeter;
 - b. Lined with a continuous sheet of 20 mil or thicker polymer material or appropriate geomembrane liner; and
 - c. Backfilled with at least 6 inches of sand.

APPENDIX A: STATE STATUTES IMPLEMENTED

Rule Section(s)	State Statute(s) Implemented
Env-Wq 1501	RSA 485-A:1; RSA 485-A:17
Env-Wq 1502	RSA 485-A:1; RSA 485-A:17
Env-Wq 1503	RSA 485-A:1; RSA 485-A:17
Env-Wq 1504	RSA 485-A:1; RSA 485-A:17
Env-Wq 1505	RSA 485-A:1; RSA 485-A:17
Env-Wq 1506	RSA 485-A:1; RSA 485-A:17
Env-Wq 1507	RSA 485-A:1; RSA 485-A:17
Env-Wq 1508	RSA 485-A:1; RSA 485-A:17
Env-Wq 1509	RSA 485-A:1; RSA 485-A:17; RSA 541-A:16, I(b); RSA 541-A:22, IV
Env-Wq 1510	RSA 485-A:1; RSA 485-A:17; RSA 485-C

APPENDIX B: INCORPORATED REFERENCES

Rule (Env-Wq)	Reference [Date/Edition]	How to Obtain
1503.03(d)(3)	Best Management Practices For Erosion Control During Trail Maintenance and Construction, NH Trail Construction and Maintenance Manual [January 2017]	NH Department of Resources and Economic Development, Division of Parks and Recreation, Bureau of Trails 172 Pembroke Road Concord, NH 03301 No cost to download from http://www.nhstateparks.org/uploads/pdf/BMP-Manual.pdf
1503.08(l)	2014 Science and Technical Advisory Panel Report, Sea-Level Rise, Storm Surges, and Extreme Precipitation in Coastal New Hampshire: Analysis of Past and Projected Future Trends	NH Coastal Risks and Hazards Commission Available at no cost at http://www.nhcrhc.org/stap-report/
1503.11(f)(2)	Trip Generation Manual [9th Edition, 2012]	Institute of Transportation Engineers 1627 Eye Street, NW, Suite 600 Washington, DC 20006 USA Telephone: 202-785-0060 ite_staff@ite.org Can be ordered for \$325 (members) or \$500 (non-members) at http://ecommerce.ite.org/IMIS/ItemDetail?iProductCode=IR-016G
		U.S. Department of Agriculture, Natural Resources Conservation Service https://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/
1504.09(b) intro	WinTR-20 [version 3.10]	No cost to download from https://www.nrcs.usda.gov/wps/portal/nrcs/detail/full/null/?cid=stelprdb1042793
1504.09(b) intro	National Engineering Handbook, Part 630, Hydrology Chapters [November 2015]	No cost to download from https://www.nrcs.usda.gov/wps/portal/nrcs/detail/full/?cid=stelprdb1043063

Rule (Env-Wq)	Reference [Date/Edition]	How to Obtain
1504.11(b), (c)	TR-55, Urban Hydrology for Small Watersheds	https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf
1504.13(e)	Field Book for Describing and Sampling Soils [Version 3.0, September 2012]	No cost to download from https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052523.pdf Can be ordered from https://nrcspad.sc.egov.usda.gov/DistributionCenter/product.aspx?ProductID=991
1504.09(b)(1)a.	Extreme Precipitation in a Changing Climate for New York and the New England States [version 1.12]	NRCS and Cornell University Northeast Regional Climate Center Available at no cost at http://precip.eas.cornell.edu
1504.09(b)(1)b.	NOAA Atlas 14, Precipitation-Frequency Atlas of the United States; Volume 10, Version 2.0 [2015]	National Oceanic and Atmospheric Administration, National Weather Service Available at no cost at http://www.nws.noaa.gov/oh/hdsc/PF_documents/Atlas14_Volume10.pdf or directly at http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=nh
		Society of Soil Scientists of Northern New England (SSSNNE) P.O. Box 76 Durham, NH 03824
1504.09(b)(3) b. & c.2. 1504.13(f)	Special Publication No. 3, Site-Specific Soil Mapping Standards for New Hampshire and Vermont [February 2011]	No cost to download from https://sssnne.files.wordpress.com/2013/03/nh-vt.pdf OR Can be ordered for \$8.00 from SSSNNE at above address
1504.14(c)(1)	SSSNNE Special Publication No. 5, Ksat Values for New Hampshire Soils [September 2009]	No cost to download from https://sssnne.files.wordpress.com/2013/03/ksatnh.pdf
		ASTM International Headquarters 100 Barr Harbor Drive PO Box C700 West Conshohocken, PA 19428-2959 http://www.astm.org/
1504.14(g)(1)	ASTM D-5856, "Standard Test Method for Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter" [June 2015]	Order at http://www.astm.org/Standards/D5856.htm PDF download available for \$45.00 Hardcopy available for \$45.00 + \$6.40 S&H* *as of 06-01-17

Rule (Env-Wq)	Reference [Date/Edition]	How to Obtain
1505.04(b) 1505.06(j) 1508.07(o)(1)	Standard Specifications for Road and Bridge Construction, Table 304-1 [2016]	N.H. Department of Transportation John O. Morton Building PO Box 483 7 Hazen Drive Concord, NH 03302-0483 Available at no cost at http://www.nh.gov/dot/org/projectdevelopment/highwaydesign/specifications/documents/2016NHDOTSpecBookWeb.pdf
		University of N. H. Stormwater Center Gregg Hall 35 Colovos Road Durham, NH 03824-3534
1508.05	UNHSC Subsurface Gravel Wetland Design Specifications [June 2016]	Available at no cost at http://www.unh.edu/unhsc/sites/default/files/media/unhsc_gravel_wetland_spec_6-2016.pdf
1508.07(n)(1)	UNHSC Design Specifications for Porous Asphalt Pavement and Infiltration Beds [February 2014, revised September 2016]	Available at no cost at https://www.unh.edu/unhsc/sites/default/files/media/unhsc_pa_spec_-_feb-2014_-_rev_9-16.pdf
1508.07(o)(2)	522.1-13, Specification for Pervious Concrete Pavement [2013]	American Concrete Institute 38800 Country Club Dr. Farmington Hills, MI 48331-3439 Phone: 1.248.848.3700 Fax: 1.248.848.3701 Purchase for \$42.50 (non-members) or \$26.00 (members) for: https://www.concrete.org/store/productdetail.aspx?ItemID=522113

APPENDIX C: STATUTORY DEFINITIONS

RSA 485:1-a:

XV. “Public water system” means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Any water system which meets all of the following conditions is not a public water system:

- (a) Consists only of distribution and storage facilities (and does not have any collection and treatment facilities);
- (b) Obtains all of its water from, but is not owned or operated by, a public water system; and
- (c) Does not sell water to any person.

RSA 485-A:2:

IX. “Person” means any municipality, governmental subdivision, public or private corporation, individual, partnership, or other entity.

XIV. "Surface waters of the state" means perennial and seasonal streams, lakes, ponds, and tidal waters within the jurisdiction of the state, including all streams, lakes, or ponds bordering on the state, marshes, water courses, and other bodies of water, natural or artificial.

RSA 485-C:2:

XVIII. "Wellhead protection area" means the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield.

APPENDIX D: OTHER STATUTORY PROVISIONS

RSA 485-A:17:

II. The department shall charge a fee for each review of plans, including project inspections, required under this section. The fee shall be based on the extent of contiguous area to be disturbed. Except for RSA 483-B:9, the fee for plans encompassing an area of at least 100,000 square feet but less than 200,000 square feet shall be \$1,250. For the purposes of RSA 483-B:9, the fee for plans encompassing an area of at least 50,000 square feet but less than 200,000 square feet shall be \$1,250. An additional fee of \$500 shall be assessed for each additional area of up to 100,000 square feet to be disturbed. No permit shall be issued by the department until the fee required by this paragraph is paid. All fees required under this paragraph shall be paid when plans are submitted for review and shall be deposited in the terrain alteration fund established in paragraph II-a.

...

II-d. All permits issued, except for projects covered by paragraph II-e, pursuant to this section shall be valid for a period of 5 years. Requests for extensions of such permits may be made to the department. The department shall grant an extension of up to 5 additional years, provided the applicant demonstrates all of the following:

- (a) The permit for which extension is sought has not expired prior to the date on which a written extension request from the permittee is received by the department.
- (b) The permit for which extension is sought has not been revoked or suspended without reinstatement.
- (c) Extension would not violate a condition of statute or rule.
- (d) Surface water quality will continue to be protected as under the original permit.
- (e) The project is proceeding towards completion in accordance with plans and other documentation referenced by the permit.
- (f) If applicable, any inspection reports have been completed and submitted as required by the permit.
- (g) The permit has not previously been extended, unless the subdivision plat or site plan associated with the permit has been deemed substantially complete by the governing municipal planning board in accordance with RSA 674:39, II, in which case subsequent extensions of the permit are allowed.

II-e. A permit issued under this section that is associated with the ongoing excavation or mining of materials from the earth shall not expire for the life of the project identified in the permit application, provided that the permit holder submits a written update of the project's status every 5 years from the date of the permit issuance using a form obtained from the department as specified in department rules.

...

V. Trail construction operations for the purposes of modifying existing biking and walking trails shall be exempt from the provisions of this section. Such operations shall be considered in compliance with this section and shall be issued a general permit by rule provided such operations are implemented by a non-profit organization, municipality, or government entity, are limited to a disturbed area no more than 12 feet in width, and are in accordance with procedures prescribed in the Best Management Practices for Erosion Control During Trail Maintenance and Construction, published by the department of resources and economic development, bureau of trails in 2004.

APPENDIX E: ENV-DW 302.10

Env-Dw 302.10 Sanitary Protective Area.

(a) The sanitary protective area shall be a circle, centered on the well, having a radius based on the permitted production volume of the well as set forth in Table 302-1:

Table 302-1 Sanitary Protective Area Radii

Permitted Production Volume (gallons in a 24-hour period)	Radius (feet)
less than 14,400	150
14,401 to 28,800	175
28,801 to 57,599	200
57,600 to 86,400	250
86,401 to 115,200	300
115,201 to 144,000	350
greater than 144,000	400

(b) When more than one well is within a sanitary protective area, the individual sanitary protective area for each well shall be based on the combined permitted production volume of all of the wells, unless the applicant proves by clear and convincing evidence that the wells are not hydraulically connected.

(c) The department shall not approve a source unless the applicant owns the land within the sanitary protective area, provided that if the applicant does not own and cannot purchase the land, the applicant shall control the land by perpetual easement, covenant, or similarly legally-binding means.

(d) If the well is approved, the sanitary protective area shall be maintained in a natural state at all times except as necessary for:

- (1) Limited land clearing and terrain alteration required for well access and construction of a pump house or other structure(s) related to the well or water system; and
- (2) Activities necessary for the use and maintenance of the production wells that do not pose a contamination risk to groundwater.

(e) No person shall discharge to the sanitary protective area any drainage from:

- (1) Any area where fertilizer or pesticides, or both, have been applied;
- (2) Any roadway, parking lot, or other area on which motor vehicles of any type travel or are parked; or
- (3) Any detention or retention pond, infiltration ditch, drainage swale, or similar structure.

(f) No underground utilities shall be installed in the sanitary protective area except for drinking water supply and electrical or communications conduits.

APPENDIX F: ENV-DW 305.10

Env-Dw 305.10 Sanitary Protective Area.

(a) The sanitary protective area shall be a circle, centered on the well, having a radius based on the permitted production volume of the well as set forth in Table 305-1:

Table 305-1: Sanitary Protective Area Radii

Permitted Production Volume (gallons in a 24-hour period)	Radius (feet)
less than 14,400	150
14,401 to 28,800	175
28,801 to less than 57,600	200

(b) When more than one well is within a sanitary protective area, the individual sanitary protective area for each well shall be based on the combined permitted production volume of all of the wells, unless the applicant proves by clear and convincing evidence that the wells are not hydraulically connected.

(c) The department shall not approve the source unless the applicant owns the land within the sanitary protective area, provided however, that if the applicant does not own the land, the applicant shall control the land by perpetual easement, covenant, or similarly legally binding means.

(d) If the well is approved, the sanitary protective area shall be maintained in a natural state at all times except for:

(1) Limited land clearing and terrain alteration required for well access and construction of a pump house or other structure(s) associated with the well or water system; and

(2) Activities necessary for the maintenance of the well that do not pose a contamination risk to groundwater.

(e) No person shall discharge to the sanitary protective area any drainage from:

(1) Any area where fertilizer or pesticides, or both, have been applied;

(2) Any roadway, parking lot, or other area on which motor vehicles of any type travel or are parked; or

(3) Any detention and retention pond, infiltration strip, drainage swale, or similar structure.

(f) No underground utilities shall be installed in the sanitary protective area except for drinking water supply and electrical or communications conduits associated with the well or water system.

APPENDIX G: ENV-DW 406.12

Env-Dw 406.12 Sanitary Protective Area and Permitted Production Volume for Groundwater Sources.

(a) To protect the long-term quality of each public water system, a sanitary protective area shall be established around each groundwater source and a permitted production volume shall be assigned to the source based on the size of the sanitary protective area established. The sanitary protective area shall be a circle with a specified radius, centered on the well.

(b) The permitted production volume shall not be greater than the source capacity based on a 24 hour period defined by the pumping test in accordance with Env-Dw 406.13 or the well driller’s well completion report.

(c) The sanitary protective area, based on the permitted production volume established by the system, shall be as shown in Table 406-2 below.

Table 406-2: Sanitary Protective Area

Permitted Production Volume (gpd)	Sanitary Protective Radius Length (ft.)
0 - 750	75
751 - 1440	100
1441 - 4320	125
4321 - 14,400	150
14,401 - 28,800	175
28,801 - 57,600	200
57,601 - 86,400	250
86,401 - 115,200	300
115,201 - 144,000	350
Greater than 144,000	400

(d) When more than one well is inside another well’s sanitary protective area, then the individual sanitary protective areas for the wells shall be based on their combined permitted production volume unless the applicant demonstrates through hydrogeological means that these wells are not interconnected.

(e) The following land uses shall be specifically excluded from within the sanitary protective areas of non-community water systems:

- (1) Wastewater disposal systems, including septic tanks, grease traps, and effluent disposal areas;
- (2) Soil fertilization areas;
- (3) Nitrate set-back areas;
- (4) Dumpsters;
- (5) Detention ponds or infiltration basins;
- (6) Storage tanks for oil, gasoline, propane, or natural gas, or other hazardous chemicals; and
- (7) Any uses associated with hazardous materials.

(f) Acceptable uses of the sanitary protective area for non-community water systems shall include those uses listed below:

- (1) Roadways, with the exception of the required setback in Env-Dw 406.11(c);
- (2) Parking lots, with the exception of the required setback in Env-Dw 406.11(c);
- (3) Tennis courts;
- (4) Surface water such as lakes, rivers, and streams;
- (5) Permanently protected or undevelopable land;
- (6) Wastewater piping which passes within the sanitary protective area only if:
 - a. The type of pipe is ductile iron or approved equal pressure-type pipe that is tested for water-tight construction after installation; and
 - b. All wastewater piping is located a minimum distance of the greater of 50 feet or a distance equal to at least one-half the total amount of the well radius length from the well;
- (7) Pump house and permanent buildings; and
- (8) Other compatible uses proposed in writing to the department by the water system owner if the submittal demonstrates that:
 - a. The type(s) and volume(s) of contaminant(s) associated with the activity, when subject to any best management practices proposed by the owner, will not pose a threat to water quality;
 - b. The owner has a contaminant mitigation plan that will prevent the contaminant(s) from rendering the water unfit for use by the water system; and
 - c. The overall risk of groundwater contamination is outweighed by the benefit expected from the activity.

(g) The NTNC water system's potential for future waivers from a portion of its chemical monitoring requirements shall be diminished by the location of buildings, roadways, parking lots, and other such construction within the well's protective radius.

(h) For non-community water systems, the water system owner shall control the sanitary protective area. The water system owner shall, where possible, locate the well and sanitary protective area entirely on the property owned by the water system. Once established, the sanitary protective area shall not be subdivided. Where the sanitary protective area cannot be located fully on the property owned by the water system, written legal easements from abutters shall be obtained. Such easements shall specifically exclude the uses described in (e), above, from the area within the sanitary protective area.

APPENDIX H: ENV-WQ 1008.06, TABLE 1008-4Table 1008-4: Protected Well Radii for Shallow or Dug Wells or Drilled Bedrock Wells

Daily Sewage Flow (GPD)	Radius (ft.)
0-750	75
751-1440	100
1441-4320	125
4321-14,400	150
14,401-28,800	175
28,801-57,600	200
57,601-86,400	250
86,401-115,200	300
115,201-144,000	350
greater than 144,001	400