

# **STORMWATER MANAGEMENT & EROSION CONTROL REGULATIONS**



**TOWN OF NEW DURHAM**

**ADOPTED 1/17/2012  
AMENDED 9/17/2013**



**TABLE OF CONTENTS**

**ARTICLE I: PURPOSE..... 5**

**ARTICLE II: DEFINITIONS ..... 5**

**ARTICLE III: LEVELS OF PERMITTING..... 6**

    A. SLOPE..... 6

    B. PERMIT CATEGORIES FOR EXISTING LOTS OF RECORD ..... 7

    C. PERMITTING FOR NEW SUBDIVISIONS ..... 8

**ARTICLE IV: APPLICATION AND APPROVAL PROCESS..... 8**

    A. SUBMISSION PROCESS..... 8

    B. REQUIRED APPLICATION MATERIALS..... 9

    C. COPIES..... 11

**ARTICLE V: STORMWATER MANAGEMENT PLAN REQUIREMENTS ..... 11**

    A. NO CONFLICT WITH ALTERATION OF TERRAIN: ..... 11

    B. GENERAL GUIDELINES:..... 12

    C. PROTECTION OF NATURAL HYDROLOGIC FEATURES AND FUNCTIONS..... 14

    D. MAINTAINING EXISTING SURFACE WATERS AND SYSTEMS ..... 15

    E. PRE- AND POST- DEVELOPMENT RATES ..... 15

    F. PRE- AND POST-DEVELOPMENT RUNOFF VOLUME ..... 16

    G. WATER QUALITY..... 17

    H. RECHARGE TO GROUNDWATER..... 17

    I. PRE-TREATMENT REQUIREMENTS ..... 18

    J. SIZING AND DESIGN OF INFILTRATION (RECHARGE) BMPs ..... 18

    K. LAND USES WITH HIGHER POTENTIAL POLLUTANT LOADS ..... 19

    L. PARKING..... 20

    M. REDEVELOPMENT OR REUSE..... 20

    N. EASEMENTS ..... 21

    O. PERFORMANCE BOND..... 21

**ARTICLE VI: OPERATION AND MAINTENANCE PLAN..... 21**

    A. OPERATIONS AND MAINTENANCE PLAN ..... 21

    B. OWNER..... 22

    C. O&M PLAN CONTENTS..... 22

    D. FAILURE TO IMPLEMENT O & M PLAN..... 22

**ARTICLE VII: RECORDING..... 23**

    A. COVENANTS ..... 23

    B. MODIFICATIONS ..... 23

    C. RECORD KEEPING ..... 23

**ARTICLE VIII: MONITORING & ENFORCEMENT ..... 24**

    A. DISTURBANCE WITHOUT PERMIT..... 24

    B. FEES ..... 24

***ARTICLE IX: EROSION AND SEDIMENTATION CONTROL PLAN ..... 24***  
    A. PLAN REQUIREMENTS..... 24  
***ARTICLE X: AUTHORITY..... 26***  
***APPENDIX A: METHOD FOR WEIGHTING SLOPES: ..... 27***  
***APPENDIX B: STORMWATER CONDITIONAL USE PERMIT REQUIREMENTS  
FOR EXISTING LOTS ..... 28***  
***APPENDIX C: STORMWATER CONDITIONAL USE PERMIT REQUIREMENTS  
FOR NEW SUBDIVISIONS..... 29***

# STORMWATER MANAGEMENT AND EROSION CONTROL REGULATIONS

## ARTICLE I: PURPOSE

The goals of these regulations are to:

1. Protect the quality of all water bodies in the Town of New Durham;
2. Reduce the danger and destruction from flooding in New Durham
3. Protect the financial security of the Town of New Durham whose tax base is significantly dependent on high quality water bodies
4. Allow opportunities for expanding existing structures and building new structures adjacent to water bodies in ways that protect water quality and protect against flooding

## ARTICLE II: DEFINITIONS

The following terms are defined in the Stormwater Management and Erosion Control Ordinance, Article XIV.K. of the Zoning Ordinance:

1. Best Management Practice (BMP):
2. Curve Number (CN):
3. Developer:
4. Development
5. Disconnected Impervious Cover
6. Drainage Area
7. Erosion
8. Impervious Cover
9. Infiltration
10. Land Disturbance or Land Disturbing Activity
11. Owner
12. Pervious Cover
13. Recharge
14. Redevelopment
15. Regulated Substance
16. Sediment

17. Sensitive Area
18. Sheet flow
19. Site
20. Stormwater
21. Stormwater Runoff
22. Stormwater Management System Owner
23. Total Impervious Cover
24. Undisturbed Cover
25. Vegetation
26. Wellhead Protection Area

The following definitions are found in Article XVIII: Definitions of the Zoning Ordinance

27. Conditional Use Permit
28. Slope

### **ARTICLE III: LEVELS OF PERMITTING**

Three levels of permitting are established depending upon the size of the area to be disturbed and the steepness of the slopes on which the disturbance will occur. All permitting must be completed before any disturbance to soil or vegetation occurs.

#### **A. SLOPE**

Unless your disturbance of the land is exempt from permitting (See B.1 below), you must know the slope of the land you will be disturbing before you can know which permit category you are in. If you are working with a surveyor or an engineer, they will be able to tell you. If your land is essentially flat then the slope will be less than 15%. For your guidance, there is a map on the town's website at [http://www.newdurhamnh.us/Pages/NewDurhamNH\\_Maps/SteepSlopes\\_Final.pdf](http://www.newdurhamnh.us/Pages/NewDurhamNH_Maps/SteepSlopes_Final.pdf) that shows the approximate slope in all areas of the town. In most cases, these slopes will need to be confirmed on the ground. The Building Inspector can loan you an "inclinometer" that you can use to measure the slope.

## **B. PERMIT CATEGORIES<sup>1</sup> FOR EXISTING LOTS OF RECORD**

1. Permit exempt: Disturbances are exempt from permitting if:
  - a. None of the disturbances are on slopes greater than 30%; and
  - b. Less than 2,000 square feet of disturbance on slopes less than 25%; and
  - c. The Weighted average of Disturbance<sup>2</sup> is less than 1.00; and
  - d. The disturbance is less than 25% of the area of the lot; and
  - e. The disturbance will create less than 5,000 square feet of new impervious surface.
2. A Permit by Notification is required for disturbances that are:
  - a. Entirely on slopes less than 15%; and are
  - b. Between 2,000 and 12,000 square feet; and are
  - c. Less than 25% of the area of the lot; and
  - d. Create less than 5,000 square feet of new impervious surface.
3. A Minor Conditional Use Permit issued by the Building Inspector is required:
  - a. For disturbances that are greater than 12,000 and less than 20,000 square feet on slopes less than 15%; or are
  - b. Between 2,000 and 10,000 square feet on slopes between 15% and 25%; or are
  - c. Between 500 and 6,000 square feet on slopes between 25% and 30%.
4. A Major Conditional Use Permit issued by the Planning Board is required for any disturbance on an existing lot that is:
  - a. Greater than 20,000 square feet on slopes less than 15%;
  - b. Greater than 10,000 square feet on slopes between 15% and 25%; or
  - c. Between 500 and 12,000 square feet on slopes between 25% and 30%;
  - d. Any amount on slopes greater than 30%.
5. No Disturbance Allowed: of more than 6,000 square feet on slopes greater than or equal to 30%; or of more than 12,000 square feet on slopes greater than or equal to 25%.
6. When the disturbance is on more than one category of slope, a weighted average will determine the type of permit required. See ARTICLE X: 2. b. Appendix A: for a description of the weighting process.

---

<sup>1</sup> These permit categories are shown graphically in Appendix B.

<sup>2</sup> The Weighted Average of Disturbance is explained in Appendix A

## C. PERMITTING FOR NEW SUBDIVISIONS

1. Applicants for any new subdivision must submit an application for a Stormwater Management Permit along with their subdivision application
2. The Planning Board will issue all Stormwater Management Conditional Use Permits for new subdivisions.
3. No construction or disturbance of the land will be allowed on slopes >25% in new subdivisions.
4. When the disturbance is on more than one category of slope, a weighted average will determine the type of permit required. See ARTICLE X: 2. b. Appendix A: for a description of the weighting process.

## ARTICLE IV: APPLICATION AND APPROVAL PROCESS

### A. SUBMISSION PROCESS

1. Any disturbance of the land of more than 500 square feet, or any disturbance of the land of any amount in the Shore Front Conservation Zone (within 300 feet of the water), or in the Steep Slopes Conservation Zone (slopes > 15%) requires notification of the Code Enforcement Officer.
2. Permit Exempt: If the disturbance is permit exempt as defined in ARTICLE III: B. 1. the property owner or contractor shall submit a copy of the Land Disturbance Notification Form. This form shall be publicized by the town, and made readily available on the Town's website and other locations that are frequently visited by the public.
3. Permit by Notification: Complete Permit by Notification application form and submit the form and required application materials (B. 2. below) to the Code Enforcement Officer. Property owners are expected to utilize the stormwater management techniques that are described in the [Shoreland Homeowners Guide to Stormwater Management](#) that can be downloaded from <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/nhdes-wd-10-8.pdf>. The CEO will contact the applicant if there are any questions. Otherwise, the application takes effect as a permit 7 working days from the date of submission.
4. Minor Conditional Use Permit from the Code Enforcement Officer: Complete the [Conditional Use Application Form](#) and submit the form and all required application materials to the Code Enforcement Officer. The CEO will

contact the applicant if there are any questions or additional materials required. The CEO will issue a permit within 15 working days of having all necessary application materials.

5. Major Conditional Use Permit from the Planning Board. Complete the Conditional Use Application Form and submit the form and required application materials to the Planning Board staff at least 21 days prior to the next Planning Board Business meeting. The Planning Board will review the application at the next Planning Board business meeting.

## **B. REQUIRED APPLICATION MATERIALS**

1. Certification of Exemption: Completed Land Disturbance Notification Form.
2. Permit by Notification:
  - a. Completed application form.
  - b. Certification by the applicant that the disturbance is entirely on slopes less than 15% and is less than 12,000 square feet of disturbance..
  - c. Sketch of the entire lot made on graph paper or overlaid on a septic design or survey of the lot.
  - d. Location of driveway, all structures on the lot, and any existing impermeable surfaces (patio, gazebo, basketball court, etc.)
  - e. Location, dimensions, and estimated square feet of area to be disturbed.
  - f. Location of the proposed Best Management Practices.
  - g. Sketch or manufacturer's brochure of the proposed stormwater controls to be installed.
  - h. The Code Enforcement Officer may require additional submissions if they are necessary to confirm that the plan meets requirements of the ordinance and regulations.
3. Minor Conditional Use Permit by the Code Enforcement Officer
  - a. Completed application form
  - b. Sketch of the entire lot made on graph paper or overlaid on a septic design or survey of the lot and showing contours at 4' intervals.
  - c. Location of driveway, all structures on the lot, and any existing impermeable surfaces (patio, gazebo, basketball court, etc.)
  - d. Location, dimensions, and estimated square feet of area to be disturbed.

- e. Location of the proposed Best Management Practices.
  - f. Sketch or manufacturer's brochure of the proposed stormwater controls to be installed.
  - g. The Code Enforcement Officer may require additional submissions if they are necessary to confirm that the plan meets requirements of the ordinance and regulations.
4. Major Conditional Use Permit by the Planning Board
- In addition to any information generally required by the town for subdivision or site plan application, the applicant must submit the following items (if applicable) to the planning board for review:
- a. Tax map of the area in which the disturbances will occur.
  - b. Plan for disturbances, including:
    - i. North arrow, scale, and date of plan and any changes to the plan made during the application and review process;
    - ii. Surveyed property lines of parcel showing their bearings, Structures, roads, and utilities;
    - iii. Topographic contours at two-foot intervals;
    - iv. Critical areas relating to natural resources as defined by a regional, state, or local level natural resource inventory;
    - v. Identified wildlife corridors if referenced in a local, regional, or state level natural resources plan;
    - vi. All surface waters and water bodies that are within the project area, within 400 feet of project boundary, or are up gradient within the watershed or appropriate portions thereof;
    - vii. Current types of vegetation on the area to be disturbed;
    - viii. Soil type identification from a National Cooperative Soils Survey soil series map; or a High Intensity Soil Survey if an application for Alteration of Terrain is required by the State;
    - ix. Areas of poorly or very poorly drained soils, including any portion to be disturbed or filled;
    - x. All areas of soil disturbance and estimated square feet of disturbance;
    - xi. Location of all stormwater Best Management Practices (also referred to as BMPs. These are the structural, non-structural, and vegetative stormwater management and erosion control structures that the applicant is proposing to install.);

- xii. Grading plan, including areas of cut and fill;
- c. Records of any timbering activities within the past five years or a statement that there have been none;
- d. Easements or covenants;
- e. Phasing plan, Inspection schedule, and construction schedule;
- f. Earth movement and grading schedule;
- g. Erosion and Sediment Control Plan for the Construction Phase that complies with the provisions of this regulation.
- h. A future operations and maintenance plan describing how the permanent Best Management Practices will be operated and maintained. This needs to include a spill prevention plan and emergency management plan for spills of potentially hazardous materials.
- i. Design calculations for all temporary and permanent BMPs and a narrative description of each measure, its purpose, construction sequence, and installation timing.
- j. Drainage report with calculations indicating compliance with the ordinance.
- k. Landscaping Plan

### **C. COPIES**

Additional copies of all plans, engineering studies, and additional information as requested by the planning board describing the proposed permanent post-construction stormwater management system shall be provided as necessary to allow for a thorough outside engineering review.

## **ARTICLE V: STORMWATER MANAGEMENT PLAN REQUIREMENTS**

### **A. NO CONFLICT WITH ALTERATION OF TERRAIN:**

Best Management Practices installed to meet Town requirements shall not conflict with minimum N.H. Department of Environmental Services requirements for Alteration of Terrain or other environmental permits required.

## B. GENERAL GUIDELINES:

All development activity must comply with the following provisions to reduce and properly manage stormwater post-construction:

1. The total overall net impervious cover shall not exceed 20% percent of a site. If other sections of the Town of New Durham Zoning Ordinance or regulations require a lower impervious percentage, the stricter regulation shall apply.
2. Impervious cover may be disconnected from the stormwater drainage network to decrease the net impervious cover. In this case, total impervious surface before counting reductions shall not exceed 30%.
3. Stormwater management structures that allow for disconnection include:<sup>3</sup>
  - a. Rainwater barrels,
  - b. Dry wells, and
  - c. Infiltration or sheet flow over a pervious area
4. The use of site design stormwater management measures to reduce runoff rates, volumes, and pollutant loads, are preferred and shall be implemented to the maximum extent practical. Such techniques include, but are not limited to:
  - a. Minimization and/or disconnection of impervious surfaces;
  - b. Development design that reduces the rate and volume of runoff;
  - c. Restoration or enhancement of natural areas such as riparian areas, wetlands, and forests; and
  - d. Use of practices throughout the site that intercept, treat, and infiltrate runoff from developed areas, e.g.
    - i. Bioretention,
    - ii. Infiltration dividers or islands
    - iii. Planters and
    - iv. Rain gardens.
5. Applicants may use legacy structural stormwater management measures (e.g., stormwater ponds, vegetated swales) only if they demonstrate why the Best management Practices listed in Section 4 above are not possible or effective on this site.

---

<sup>3</sup> See [Innovative Land Use Planning Techniques: A handbook for Sustainable Development 2008](#) or as amended

6. The applicant shall demonstrate how the proposed control(s) will comply with the requirements of this ordinance, including the control of peak flow and total volume of runoff, protection of water quality, and recharge of stormwater to groundwater. The applicant must provide design calculations and other back-up materials necessary.
7. At the discretion of the planning board, stormwater management systems shall incorporate designs that allow for shutdown and containment in the event of an emergency spill or other unexpected contamination event.
8. Stormwater management systems shall not discharge to surface waters, ground surface, subsurface, or groundwater within 100 feet of a public water supply intake protection area located in a surface water or water body.
9. Stormwater management systems in new subdivisions shall not discharge within the setback area for a water supply well specified in the following table.<sup>4</sup>

**TABLE 1: WELL SETBACKS**

Well Type	Well Production Volume (gallons per day)	Setback from Well (feet)
Private Water Supply Well	Any Volume	75
Non-Community Public Water Supply Well	0 to 750	75
	751 to 1,440	100
	1,441 to 4,320	125
	4,321 to 14,400	150
Community Public Water Supply Well	0 to 14,400	150
Non-Community and Community Public Water Supply Well	14,401 to 28,800	175
	28,801 to 57,600	200
	57,601 to 86,400	250
	86,401 to 115,200	300

10. Stormwater Management structures (BMPs) shall be designed to carry the stormwater from the following storm events (Table 2) without overtopping or causing damage to the stormwater management facility.

---

<sup>4</sup> This rule does not apply if the contributing area is less than .5 acres and it does not receive any stormwater from high load areas.

**TABLE 2: STORM EVENTS TO DESIGN FOR**

<b>Treatment Practice</b>	<b>Design Storm Event</b>
Stormwater Pond	50-year, 24-hour storm
Stormwater Wetland	50-year, 24-hour storm
In ground Infiltration Practices	50-year, 24-hour storm
Underground Infiltration Practices	10-year, 24-hour storm
Filtering Practices	10-year, 24-hour storm
Flow through Treatment Swales	10-year, 24-hour storm

**C. PROTECTION OF NATURAL HYDROLOGIC FEATURES AND FUNCTIONS.**

1. Site disturbance shall be minimized.
  - a. Vegetation outside the project disturbance area shall be maintained.
  - b. The project disturbance area shall include only the area necessary to reasonably accommodate construction activities.
  - c. The applicant may be required to install construction fencing around the perimeter of the proposed project disturbance area prior to commencing land disturbance activities.
2. Soil compaction on site shall be minimized by:
  - a. Using the smallest (lightest) equipment possible;
  - b. Minimizing travel over areas that will be revegetated (e.g., lawn areas) or used to infiltrate stormwater (e.g., bioretention areas); and
  - c. Minimizing loads on soils.
  - d. In no case shall excavation equipment be placed in the base of an infiltration area during construction.
3. Development shall follow the natural contours of the landscape to the maximum extent possible.
4. Cut and fill shall be minimized.
5. No ground disturbed during site construction and development shall be left as exposed bare soil at project completion. All areas exposed by construction shall be loosened (scarified) and covered with a minimum thickness of four inches of non-compacted topsoil, and shall be planted with a combination of vegetation (such as grass, groundcovers, trees, and shrubs) and other landscaping materials (mulch, loose rock, gravel, stone).

## **D. MAINTAINING EXISTING SURFACE WATERS AND SYSTEMS**

The applicant shall identify all existing surface waters and systems, including, but not limited to, perennial and intermittent streams, wetlands, vernal pools, and natural swales. These waters and systems shall be maintained in the post development state according to the following minimum requirements. Greater restrictions may be required by other sections of State or Town of New Durham Regulations, Ordinances, or laws.

1. Existing site hydrology shall not be modified to disrupt on-site and adjacent surface waters. The applicant must provide evidence that this standard can be achieved and maintained over time.
2. Existing surface waters, including lakes, ponds, rivers, perennial and intermittent streams, wetlands, vernal pools, and natural swales, shall be protected by a minimum 50 foot no disturbance, vegetated buffer.<sup>5</sup>
3. Stormwater management structures (BMPs) may be located within the 50 foot no disturbance, vegetated buffer only if that is the only location for managing stormwater in that zone.
4. Stormwater management structures (BMPs) may only be located on or within 50 feet of steep slopes (greater than 15 percent) if that is the only location for managing stormwater on those steep slopes.
5. Stream and wetland crossings shall not be allowed unless there is no feasible alternate route. State agency approval shall be required where appropriate; and such crossings shall comply with state recommended design standards to minimize impacts to flow and animal passage,<sup>6</sup> and
  - a. Disturbance to the surface water shall be minimized,
  - b. Hydrologic flows shall be maintained,
  - c. There shall be no direct discharge of runoff from the roadway to the surface water, and
  - d. The area shall be revegetated post-construction.

## **E. PRE- AND POST- DEVELOPMENT RATES**

The applicant shall provide a drainage analysis identifying pre-and post-development peak flow rates

---

<sup>5</sup> Wider buffers may be required by the Water Quality Protection Article, X.1.2

<sup>6</sup> See University of New Hampshire Stream Crossing Guidelines May 2009, as amended.

1. Any site that was wooded in the last five years shall be considered undisturbed woods for the purposes of calculating pre-development total runoff volumes.
2. The combined flow to a single water body from a project site shall meet one of the following criteria:
  - a. 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:
    - i. 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; or
    - ii. The 2-year, 24-hour post-development peak flow rate directed to the nearest water body is less than 2 cubic feet per second (cfs); or
    - iii. The area directly discharges into a fourth order or greater river, a pond or lake greater than 10 acres, or;
  - b. 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. The 10 and 50 - year, 24-hour post-development peak flow rates shall not exceed the 10 and 50 – year, 24-hour post-development peak flow rate respectively.
4. Measurement of peak flow discharge rates shall be calculated using point of discharge at the down-gradient property boundary. The topography of the site may require evaluation at more than one location if flow leaves the property in more than one direction. The Board or an applicant may demonstrate that a feature beyond the property boundary is more appropriate as a design point.

## **F. PRE- AND POST-DEVELOPMENT RUNOFF VOLUME**

1. The post-development total runoff volume shall be equal to 90 to 110 percent of the pre-development total runoff volume (based on a two-year, 10-year, 25-year, and 50-year, 24-hour storms).
2. The Planning Board may provide adjustments to the standards in Section E and F above for projects that directly discharge to a stream or water body. To request an adjustment the applicant must provide off-site drainage calculations for the 10-year and 50-year, 24-hour storm. The calculations

must show that at a point immediately downstream from the project site the post-development peak flow rate and volume from the site and the off-site contributing area does not exceed the pre-development peak flow rate at that point.

## G. WATER QUALITY

1. If more than 35 percent of the total area of the site will be disturbed or the site will have greater than 20 percent impervious cover, the applicant shall demonstrate that their stormwater management system will:
  - a. Remove 80 percent of the average annual load of total suspended solids (TSS), floatables, greases, and oils after the site is developed.
  - b. Remove 40 percent of the phosphorus loading.
  - c. Provide recharge of clean water to the groundwater supply equal to that lost to impervious surface.
2. The applicant can meet the recharge requirements of the previous section (ARTICLE V: G. 1. ) by showing that the guidelines of the following section (ARTICLE V: H. ) are met. The board may require a more sophisticated technique in very large subdivisions, very large site plans, or proposals for high potential pollution load lots. Applicants not able to employ Section H must provide suitable documentation, including a pollutant loading analysis from an approved model that the treatment standards specified in ARTICLE V: G. 1. will be met to the extent practicable.

## H. RECHARGE TO GROUNDWATER

1. Stormwater management designs shall demonstrate that the annual average pre-development groundwater recharge volume (GRV) for the major hydrologic soil groups found on-site are and shown in Table 3: Soil Group Recharge Depth are maintained.
2. For all areas covered by new impervious cover, the total volume of new recharge that must be generated by new BMPs such as drywells, ponds, or rain gardens shall be calculated as follows:
3.  $\text{REQUIRED GROUNDWATER RECHARGE VOLUME (GRV)} = (\text{New Impervious Cover in square feet}) \times (\text{Groundwater Recharge Depth in inches}) / 12 \text{ inches/foot} = \text{GRV in cubic feet.}$ 
  - a. Where New Impervious Cover is the area of proposed impervious cover that will exist on the site after development;

- b. And where Groundwater Recharge Depth is expressed as shown in Table 3:

<i>Table 3: Soil Group Recharge Depth</i>	
USDA/NRCS Hydrologic Soil Group (HSG)*	Groundwater Recharge Depth (inches)
A	0.40
B	0.25
C	0.10
D	Not required
*These are standard soil types related to quality of soil and steepness of slope.	

4. Example: Applicant proposes 30,000 square foot parking lot over C soils. REQUIRED GRV = 30,000 X 0.10/12 inches/foot = 250. REQUIRED GRV= 250 cu ft.
5. Where more than one hydrologic soil group is present, a weighted soil recharge factor shall be computed.

#### **I. PRE-TREATMENT REQUIREMENTS**

1. All runoff (with the exception of non-metal roofs) must be pretreated prior to its entrance into the groundwater recharge device to remove materials that would clog the soils receiving the recharge water.
2. Pretreatment devices shall be provided for each BMP, shall be designed to capture anticipated pollutants, and be designed and located to be easily accessible to facilitate inspection and maintenance. Design shall be in accordance with Alteration of Terrain standards.
3. Examples of pre-treatment devices include May be found in Volume 2 of the New Hampshire Stormwater Manual II.

#### **J. SIZING AND DESIGN OF INFILTRATION (RECHARGE) BMPS**

1. All units shall be designed to drain within 72 hours from the end of the storm.
2. The floor of the recharge device shall be at least three feet above the seasonal high water table and bedrock.
3. Soils under BMPs shall be scarified or tilled according to BMP specifications to improve infiltration. Infiltration BMPs shall not be located in areas with materials or soils containing regulated or hazardous substances or in areas

known to DES to have contaminants in groundwater above ambient groundwater quality standards or in soil above site-specific soil standards.

4. Infiltration may be prohibited or subject to additional pre-treatment requirements under the following circumstances:
  - a. The facility is located in a well-head protection area or water supply intake protection area; or
  - b. The facility is located in an area where groundwater has been reclassified to GAA, GA1 or GA2 pursuant to RSA 485-C and Env-Dw 901; or
  - c. Stormwater is generated from a “high-load area”, as described under Section K.

#### **K. LAND USES WITH HIGHER POTENTIAL POLLUTANT LOADS**

The following uses or activities are considered “high-load areas”, with the potential to contribute higher pollutant loads to stormwater, and must comply with the requirements set forth in subsections 3. and 4. below:

1. Areas where regulated substances are exposed to rainfall or runoff; or
2. Areas that typically generate higher concentrations of hydrocarbons, metals, or suspended solids than are found in typical stormwater runoff, including but not limited to the following:
  - a. Industrial facilities subject to the NPDES Multi-Sector General Permit (MSGP); 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 will always be possible [see Federal Regulations 40CFR122.26(g), current version].
  - b. Petroleum storage facilities.
  - c. Petroleum dispensing facilities.
  - d. Vehicle fueling facilities.
  - e. Vehicle service, maintenance, and equipment cleaning facilities.
  - f. Fleet storage areas.
  - g. Public works storage areas.
  - h. Road salt storage and loading facilities.
  - i. Commercial nurseries.
  - j. Non-residential facilities having uncoated metal roofs with a slope flatter than 20 percent.

- k. Facilities with outdoor storage, loading, or unloading of hazardous substances, regardless of the primary use of the facility.
  - l. Facilities subject to chemical inventory under Section 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA).
  - m. Commercial parking areas with over 1,000 trips per day.
3. If a high-load area demonstrates, through its source control plan, the use of best management practices that result in no exposure of regulated substances to precipitation or runoff or release of regulated substances, it shall no longer be considered a high-load area.
  4. Infiltration of stormwater from high-load areas, except commercial parking areas, is prohibited. Infiltration of areas of no exposure within a site that contains high-load areas, with appropriate pre-treatment (e.g., oil/water separation) is allowed in commercial parking areas and others areas of a site that do not involve potential “high-load” uses or activities.
  5. For high-load areas, except commercial parking areas, filtering and infiltration practices, including but not limited to, sand filters, detention basins, wet ponds, gravel wetlands, constructed wetlands, swales or ditches, may be used only if sealed or lined.

## **L. PARKING**

1. Snow may not be plowed to, dumped in, or otherwise stored within 15 feet of a wetland or water body, except for snow that naturally falls into this area. Snow storage areas shall be shown on the site plan to comply with these requirements.
2. At the discretion of the planning board, parking spaces may be required, to be constructed of a pervious surface (i.e. grass, pervious asphalt, and pervious pavers).
3. Infrequently used emergency access points or routes shall be constructed with pervious surfaces suitable for their use (i.e. grass, pervious asphalt, and pervious pavers).

## **M. REDEVELOPMENT OR REUSE**

1. Redevelopment or reuse of previously developed sites must meet the stormwater management standards set forth herein to the maximum extent possible as determined by the planning board. To make this determination the planning board shall consider the benefits of redevelopment as compared to development of raw land with respect to stormwater.

2. Redevelopment or reuse activities shall not infiltrate stormwater through materials or soils containing regulated or hazardous substances.
3. Redevelopment or reuse of a site shall not involve uses or activities considered “high-load areas” unless the requirements under Section H. are met.

## **N. EASEMENTS**

1. Where a site is traversed by or requires construction of a watercourse or drainage way, an easement of adequate width may be required for such purpose.
2. There shall be at least a ten-foot wide maintenance easement path on each side of any stormwater management system element. For systems using underground pipes, if a maintenance easement is determined necessary the width will depending on the depth of the pipe.

## **O. PERFORMANCE BOND**

1. To ensure that proposed stormwater management controls are installed as approved, a performance bond may be required as a condition of approval in an amount determined by the planning board.
2. To ensure that stormwater management controls function properly, a performance bond may be required, as a condition of approval, which may be held after final certificate of occupancy is issued.

# **ARTICLE VI: OPERATION AND MAINTENANCE PLAN**

## **A. OPERATIONS AND MAINTENANCE PLAN**

1. All stormwater management systems shall have an operations and maintenance (O&M) plan to ensure that systems function as designed. This plan shall be reviewed and approved as part of the review of the proposed permanent (post-construction) stormwater management system and incorporated in the Permanent Stormwater Management Plan, if applicable.
2. Execution of the O&M plan shall be considered a condition of approval of a subdivision or site plan.
3. If the stormwater management system is not dedicated to the town pursuant to a perpetual offer of dedication, the planning board may require an applicant to establish a homeowners association or similar entity to maintain the stormwater management system.

4. For uses and activities under ARTICLE V: K. above) Land Uses with Higher Potential Pollutant Loads, the O&M plan shall include implementation of the Stormwater Pollution Prevention Plan (SWPPP) as described in the Federal Environmental Protection Agency guidelines.

## **B. OWNER**

The stormwater management system owner is generally considered the landowner of the property, unless other legally binding agreements are established.

## **C. O&M PLAN CONTENTS**

The O & M plan shall, at a minimum, identify the following:

1. Stormwater management system owner(s).
  - a. For a single home this will be the homeowner.
  - b. For a subdivision this could be the developing property owner, the homeowners' association, or some other group who will become owners of the system at some point in the future
2. The party or parties responsible for operation and maintenance and, if applicable, implementation of the Stormwater Pollution Prevention Plan (SWPPP).
3. A schedule for inspection and maintenance.
4. A checklist to be used during each inspection.
5. The description of routine and non-routine maintenance tasks to be undertaken.
6. A plan showing the location of all stormwater management facilities covered by the O&M plan.
7. A certification signed by the owner(s) attesting to their commitment to comply with the O&M plan.

## **D. FAILURE TO IMPLEMENT O & M PLAN**

When the designated official for the Town of New Durham finds that the responsible party has failed to maintain the O&M plan he or she shall notify the responsible party of the requirement to maintain the plan. If three (3) weekly notifications fail to generate a response, the Code Enforcement Officer or the Health Officer, on behalf of the Town, is authorized to assume responsibility for its maintenance and to secure reimbursement for associated expenses from the responsible party, including, if necessary, placing a lien on the subject property.

## **ARTICLE VII: RECORDING**

### **A. COVENANTS**

The owner shall provide covenants for filing with the registry of deeds in a form satisfactory to the planning board, which provide that the obligations of the maintenance plan run with the land; and which allow the town or its designee to inspect or maintain the stormwater management systems for compliance with the O&M plan.

### **B. MODIFICATIONS**

1. The owner shall keep the O&M plan current, including making modifications to the O&M plan as necessary to ensure that BMPs continue to operate as designed and approved.
2. Proposed modifications of O&M plans including, but not limited to, changes in inspection frequency, maintenance schedule, or maintenance activity along with appropriate documentation, shall be submitted to the planning board for review and approval within thirty days of change.
3. The owner of any property with an Operations & Maintenance plan must notify any new owner or party responsible for implementing the plan.
4. The planning board may, in its discretion, require increased or approve decreased frequency of inspection or maintenance or a change in maintenance activity. For a reduced frequency of inspection or maintenance, the owner shall demonstrate that such changes will not compromise the long-term function of the stormwater management system.
5. The planning board shall notify the owner of acceptance of the modified plan or request additional information within 60 days of receipt of proposed modifications. No notification from the planning board at the end of 60 days shall constitute acceptance of the plan modification. The currently approved plan shall remain in effect until notification of approval has been issued, or the 60-day period has lapsed.

### **C. RECORD KEEPING**

1. Parties responsible for the operation and maintenance of a stormwater management system shall keep records of the installation, maintenance, and repairs to the system, and shall retain records for at least five years.
2. The parties shall provide all such records to the designated official for the Town of New Durham during inspections and/or upon request.

## **ARTICLE VIII: MONITORING & ENFORCEMENT**

### **A. DISTURBANCE WITHOUT PERMIT**

The Code Enforcement Officer may issue a cease and desist order if the Officer finds through measurements conducted by tape and inclinometer that a person is creating a disturbance without the necessary permit.

### **B. FEES**

1. The Town shall charge a monitoring fee of \$25 for the first BMP and \$10 each for each additional BMP.
2. If the Town must monitor more frequently, due to failure of the owner to maintain the O & M plan, or to report its implementation, the Town may charge the fees stated above for each additional monitoring or inspection carried out during the year.
3. The owner will pay the fee for the first two years as a condition precedent of final approval, and will pay future fees in advance according to a schedule established by the Planning Board.
4. If the owner provides all information needed by the code enforcement officer voluntarily and in advance of the deadline, the fee will be waived.
5. The applicant upon request shall submit a fee, to cover the cost of outside engineering review of the proposed stormwater management and erosion and sedimentation control plan if determined necessary by the Planning Board.

## **ARTICLE IX: EROSION AND SEDIMENTATION CONTROL PLAN**

Erosion and sedimentation control plans shall be required to describe the nature and purpose of the land disturbing activity, the amount of grading involved, description of soils, topography, vegetation, drainage patterns and the specific methods that will be used to control soil erosion and sedimentation, soil disturbance and removal, grading and the stormwater collection systems. Erosion and Sedimentation Control Plans shall not conflict with minimum N.H. Department of Environmental Services requirements for Alteration of Terrain or other environmental permits required.

### **A. PLAN REQUIREMENTS.**

The Erosion and Sedimentation Control plan shall incorporate the following strategies.

1. Minimize the areas of disturbed soil. Limit site preparation activities such as grading and clearing to where they are absolutely necessary and consistent with the phasing plan and the daily schedule of construction activities.
2. Maximize the protection and on-site use of native vegetation. Protect all vegetation not intended for removal by adequately marking, fencing around the drip line of trees, protectively wrapping, and temporarily transplanting as necessary.
3. Reduce the time that soil is left disturbed. Utilize construction management and phasing; soil disturbed by construction activities shall be stabilized within 14 days of ceasing disturbance.
4. Stabilize soil with seeding and mulch as soon as possible after disturbance. Minimize soil disturbance between October 15 and May 1.
5. Control water at upslope site perimeters. Prevent stormwater from entering areas of disturbed soil from outside the site and from other parts of the site. Utilize diversion swales and vegetated strips to reduce the amount of water entering a construction site.
6. Control water on-site. On the site, water must be controlled and kept to low velocities so that erosion is minimal. This can be achieved through immediate seeding and mulching or the application of sod, as well as the use of structural measures including silt fences, check dams, mulch filter socks, and mechanical tracking of hillsides.
7. Control sediment on site. Reduce the amount of sediment produced from areas of disturbed soils, and control the sediment produced on site through seeding, mulching, and structural measures.
8. Control sediment at the down slope site perimeters. Prevent the off-site transport of all sediment produced on the construction site using vegetated strips, diversion dikes, and swales, sediment traps and basins, stabilized construction entrances, and silt fences or mulch filter socks.
9. Utilize biological or recyclable materials. To the extent possible, developers should utilize natural biological materials or recyclable materials as temporary measures that can remain on site after the completion of construction such as mulch berms or other methods as opposed to silt fences, which must be removed and disposed after the completion of construction activities in order to reduce waste and reduce costs of removal.

## **ARTICLE X: AUTHORITY**

1. Article XIV.L of the Town of New Durham Zoning and Land Use Ordinance grants the following authority to the Planning Board:
  - a. To issue a Conditional use permit; and
  - b. To delegate permit granting authority for specific categories of applications
2. The authority of the Board or a delegated agent to issue a Conditional Use Permit includes the authority to allow variations from the requirements and restrictions set forth in this section; provided the development design and proposed stormwater management approach satisfy the following conditions:
  - a. Such modifications are consistent with the general purpose and standards of this section and shall not be detrimental to public health, safety or welfare;
  - b. The modified design plan and storm water management approach shall satisfy all state and/or federal permit requirements, as applicable.

**APPENDIX A: METHOD FOR WEIGHTING SLOPES:**

Based on topographic analysis, fill in the numbers in the following chart:

Slope of Ground	<15%	15-24.99%	25-29.99%	30% or more	Total
Square Feet of Disturbance	1.	2.	3.	4.	5.
Trigger #	2000	2000	500	1	
Percent: Divide Square Feet of Disturbance by Trigger #.	6.	7.	8.	9.	10.
Total Square Feet in Lot	11.	12.	13.	14.	15.
Percentage of Lot Disturbed	16.	17.	18.	19.	20.

Box 11: Fill in the total square feet of the lot.

Calculate the area to be disturbed in each of the following categories:

Box 1: Enter total number of square feet disturbed on slopes < 15%.

Box 2: Enter total number of square feet disturbed on slopes from 15-24.99%.

Box 3: Enter total number of square feet disturbed on slopes from 25-29.99%.

Box 4: Enter total number of square feet disturbed on slopes > 30%.

Add up Box 1 – Box 4 and enter into Box 5.

Divide Box 1 by 2000 and enter into Box 6.

Divide Box 2 by 2000 and enter into Box 7.

Divide Box 3 by 500 and enter into Box 8

Divide Box 4 by 1 and enter into Box 9.

Add up Box 6 – Box 9 and enter into Box 10.

Divide Box 5 by Box 11 and enter into Box 12.

If the number in Box 10 is greater than 1.0 you will need a permit, or if the number in Box 12 is greater than .25 you will need a permit. Bring or send this calculation box to the Building Inspector/Code Enforcement Officer or the Land Use Administrative Assistant to determine which kind of permit you will need.

**APPENDIX B: STORMWATER CONDITIONAL USE PERMIT  
REQUIREMENTS FOR EXISTING LOTS**

	<i>Slope of the Land</i>			
<i>Amount of Disturbance</i>	<i>&lt;15%</i>	<i>15-25%</i>	<i>25-30%</i>	<i>&gt;30%</i>
<i>&lt;500 sq ft</i>	<i>Exempt</i>			<i>Major Permit-PB</i>
<i>500-2000 sq ft</i>	<i>Exempt</i>		<i>Major Permit -PB</i>	
<i>2-6,000 sq ft</i>	<i>Permit by Notification</i>	<i>Minor Permit-CEO</i>		<i>Major Permit -PB</i>
<i>6-10,000 sq ft</i>				
<i>10-12,000 sq ft</i>				
<i>12-20,000 sq ft</i>	<i>Minor Permit-CEO</i>	<i>Major Permit-PB</i>	<i>Not allowed</i>	
<i>&gt; 20,000 sq ft</i>	<i>Major Permit-PB</i>			

**APPENDIX C: STORMWATER CONDITIONAL USE PERMIT  
REQUIREMENTS FOR NEW SUBDIVISIONS**

**All new Subdivisions Require Conditional Use Permits at the time of  
Subdivision. A request for a Revised Conditional Use Permit may be  
Submitted at any Time in Advance of Disturbance**

Slope of the Land				
Amount of Disturbance	<15%	15-25%	25-30%	>30%
< 500 ft	Exempt	Conditional Use Permit from Planning Board		Not Allowed
500-2000 sq ft				
2-6,000 ft				
6-10,000 ft				
10-12,000 ft				
>12,000 ft				

STORMWATER MANAGEMENT & EROSION  
CONTROL DRAFT REGULATIONS

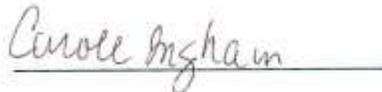
TOWN OF  
NEW DURHAM

### CERTIFICATION

Public Hearing held	September 17, 2013
Revised	September 17, 2013
Certified by the Planning Board	September 17, 2013
Certified by the Town Clerk	September 19, 2013
Effective	September 17, 2013

  
Chair, New Durham Planning Board


  
Town Clerk