



Office of the Planning Board

Incorporated December 15, 1727

**NEWMARKET PLANNING BOARD
TUESDAY, FEBRUARY 22, 2022
TOWN COUNCIL CHAMBERS WORK SESSION
7:00 PM**

AGENDA

- 1. Pledge of Allegiance**
- 2. Public Comments**
- 3. Review and Approval of Minutes**
- 4. Regular Business**
 - a. Stormwater Regulations Amendments-Draft & Summary
 - b. Discussion of Planning Board's review of possible zoning changes to permitted uses and density regulations in the Residential Districts and changes to current B-1 Zoning along North Main Street corridor in order to allow opportunities for mixed-use (commercial/residential) development.
- 5. New/Old Business**
- 6. Chairman's Report**
- 7. Committee Reports**
- 8. Planner's Report**
- 9. Adjourn**



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Chartered January 1, 1991

TOWN OF NEWMARKET, NEW HAMPSHIRE

ATTACHMENTS:

Description	Upload Date	Type
Site Plan Amendment	2/14/2022	Backup Material
Subdivision Amendment	2/14/2022	Backup Material
Changes & Summary	2/14/2022	Backup Material

Draft Revisions to Newmarket's Site Plan Regulations

Appendix B – Site Plan

Sec. 3.07 – Stormwater Management

(A) Purpose and Goals

The purpose of stormwater management standards is to provide reasonable guidance for the regulation of stormwater runoff that protects local natural resources from degradation and prevents adverse impacts to adjacent and downstream land, property, facilities and infrastructure. These standards regulate discharges from stormwater and runoff from land development projects and other construction activities to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff. Through these regulations, the Planning Board seeks to balance the public's interest in promoting orderly growth and development and protecting and enhancing water quality with the individual rights of private property owners. These regulations also provide measures for construction site stormwater runoff control as well as stormwater management for new development and redevelopment and post construction stormwater management.

These regulations seek to meet the above goals through the following objectives:

- (1) Mitigate stormwater runoff from development to reduce flooding, siltation and streambank erosion and maintain the integrity of stream channels.
- (2) Minimize the water quality impact from all new and redevelopment projects. This applies to projects if the project is part of a larger common plan of development or redevelopment.
- (3) Manage nonpoint source pollution caused by stormwater runoff from development which otherwise would degrade local water quality.
- (4) Control the total volume and peak flow rates of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic conditions.
- (5) Reduce stormwater runoff rates and volumes, soil erosion and non-point source pollution through stormwater management controls that are properly maintained and pose no threat to public health and safety or cause excessive municipal expenditures.
- (6) Protect the quality of groundwater resources, surface water bodies, and wetlands.
- (7) Control for other wastes on construction sites such as demolition debris, litter, and sanitary wastes.

(B) Definitions

Definitions shall be those provided in the Newmarket Zoning Ordinance adopted February 14, 1996, as amended in Chapter 32 Zoning Sec 32-111, Appendix A - Subdivisions, Sec 1.03, Appendix B: Site Plan Regulations, and other additional definitions referenced below. These definitions are to be used strictly for Stormwater Regulations under Appendix B – Site Plans and Appendix A – Subdivisions. In a case where there are alternative or inconsistent definitions elsewhere in Chapter 32 Zoning, the definitions in the stormwater management section shall apply.

Best Management Practices (BMPs): A structural or non-structural device designed to temporarily store or treat stormwater runoff to mitigate flooding, reduce pollution, and provide other amenities. BMPs also include treatment requirements, operating procedures, maintenance protocols, and management practices to prevent and/or reduce the discharge of pollutants to waters of the United States.

Bioretention: A water quality practice that utilizes vegetation and soils to treat urban stormwater runoff by collecting it in shallow depressions, before filtering through an engineered bioretention planting soil media

Buffer: A regulated area along a watercourse or wetland where development is restricted or prohibited. Buffers protect and physically separate a resource from development. Buffers also provide stormwater control flood storage and habitat values.

Disturbed Area: An area in which the existing vegetation, impervious cover and/or underlying soils have been removed or altered through grubbing, grading, excavation or other site work activity that alters existing drainage patterns, runoff generation or increases susceptibility to erosion.

Effective Impervious Cover (EIC): The total impervious surface areas less the area of disconnected impervious cover (area where runoff is captured and infiltrated or otherwise treated).

Filtration: The process of physically or chemically removing pollutants from runoff; practices that capture and store stormwater runoff and pass it through a filtering media such as sand, organic material, or the native soil for pollutant removal. Stormwater filters are primarily water quality control devices designed to remove particulate pollutants and, to a lesser degree, bacteria and nutrients

Groundwater Recharge: The process by which water seeps into the ground, eventually replenishing groundwater aquifers and surface waters such as lakes, streams, and the oceans. This process helps maintain water flow in streams and wetlands and preserves water table levels that support drinking water supplies.

Groundwater Recharge Volume: Volume of stormwater runoff to be infiltrated to mimic the existing annual pre-development groundwater recharge based on underlying soil types and calculated in accordance with New Hampshire Code Admin. R. Part Env-Wq 1504.12.

Impaired Waters: Those waterbodies not meeting water quality standards. Pursuant to Section 303(d) of the federal Clean Water Act, each state prepares a list of impaired waters (known as the 303(d) list) which is presented in the state's Integrated Water Report as Category 5 waters. Those impaired waters for which a total maximum daily load (TMDL) has been approved by US EPA and is not otherwise impaired.

Impervious Cover: Those surfaces that cannot effectively infiltrate rainfall such as building rooftops, pavement, sidewalks, driveways and compacted gravel (e.g., driveways and parking lots).

Infiltration: The process of runoff percolating into the ground (subsurface materials). Stormwater treatment practices designed to capture stormwater runoff and infiltrate it into the ground over a period of days.

Low Impact Development (LID): Low impact development is a site planning and design strategy intended to maintain or replicate predevelopment hydrology through the use of site planning, source control, and small-scale practices integrated throughout the site to capture, infiltrate, and manage runoff as close to its source as possible. Examples of LID strategies are pervious pavement, rain gardens, green roofs,

bioretention basins and swales, filtrations trenches, and other functionally similar BMPs located near the runoff source.

Maximum Extent Practicable (MEP): A proposed development meets a standard to the maximum extent practicable, by demonstrating the following:

- (1) All reasonable efforts have been made to meet the standard;
- (2) A complete evaluation of all possible management measures has been performed; and
- (3) If full compliance cannot be achieved, the highest practicable level of management is being implemented.

Mitigation: Activities, strategies, policies, programs, and actions that, over time, will serve to avoid, minimize, or compensate for (by treating or removing pollution sources) the impacts to or disruption of water quality and water resources.

MS4 Program: Refers to the Small Municipal Separate Storm Sewer System (MS4) General Permit issued by the EPA under the Clean Water Act. The MS4 Permit applies to municipalities, of which Newmarket is one, that contain any portion of an urbanized area as defined by the federal Census. It applies to stormwater conveyances owned by a State, city, town, or other public entity that discharge to 'Waters of the United States'. The MS4 Permit requires permittees to adopt appropriate Best Management Practices (BMPs) for each of the six minimum control measures required in the MS4 permit under National Pollution Discharge Elimination System (NPDES), including construction site stormwater runoff control and stormwater management for new development and redevelopment (also referred to as post construction stormwater management).

Native Vegetation and Plantings: Plants that are indigenous to the region, adapted to the local soil and rainfall conditions, and require minimal supplemental watering, fertilizer, and pesticide application.

New Development: Any construction, land alteration, or improvement of a site or structure on an existing parcel where less than 40 percent of the parcel area consists of existing impervious surface, calculated by dividing the total existing impervious surfaces, by the size of the parcel, and convert to a percentage.

Pollutant Load: An amount of pollutants that is introduced into a receiving waterbody measured in units of concentration of mass or weight over a specified time period (i.e. lbs/day or lbs/year).

Redevelopment: For purposes of determining whether a site must meet either new development or redevelopment requirements, a site is considered redevelopment if 40 percent or more of the existing parcel is comprised of existing impervious cover, calculated by dividing the total existing impervious cover area by the size of the parcel, and converting it a percentage. Otherwise, the project must meet the new development treatment standards. The following activities are not considered redevelopment:

- a. Interior and exterior building renovation
- b. Resurfacing of an existing paved surface (e.g. parking lot, walkway or roadway)
- c. Pavement excavation and patching that is incidental to the primary project purpose, such as replacement of a collapsed storm drain or repairs to stormwater structures.
- d. Landscaping installation and maintenance.

Regulated Substances: petroleum, petroleum products, regulated contaminants for which an ambient groundwater quality standard has been established under RSA 485-C:6, and substances listed under 40 CFR 302, 7-1-05 edition, as amended, excluding substances used in the treatment of drinking water or wastewater at town facilities.

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 by incorporating the measures outlined in New Hampshire Code Admin. R. Part Env-Wq 1505.04.

Subdivision: Division of a lot into two or more lots, plats, sites, or other divisions of land for the purpose, whether immediate or future, of sale, rent, lease, condominium conveyance or building development. It includes re-subdivision and, where appropriate to the context, relates to the process of subdividing or to the land or territory subdivided. The division of a parcel of land held in common and subsequently divided into parts among several owners shall be deemed a subdivision. The granting of an easement in gross for public utilities shall not be deemed a subdivision.

Surface Water Body: Surface waters, including lakes, rivers and other navigable waters, streams, wetlands, coastal areas protected under the federal Clean Water Act.

Total Suspended Solids (TSS): The total amount of soils and particulate matter which are suspended in the water column.

Water Quality Volume: The amount of stormwater runoff generated by the first one-inch of rainfall to be treated to remove the majority of stormwater pollutants on an average annual basis and is calculated in accordance with New Hampshire Code Admin. R. Part Env-Wq 1504.10.

Watershed: All land and water area from which runoff may run to a common (design) discharge point.

(C) Minimum Thresholds for Applicability

(1) All proposed new development and redevelopment projects that are subject to the Town of Newmarket Site Plan Review regulations and will disturb more than 5,000 but less than 20,000 square feet of area or will disturb more than 2,500 square feet of area within 100 feet of a surface water body, which shall comply with the following stormwater management requirements, to the maximum extent practical, except Parts B and C in Section E, or unless the proposed activity is listed as exempt or the Planning Board grants an approved waiver for specific components based on an Applicant's written request and the conditions for granting waivers described below.

(2) All proposed new development and redevelopment projects proposing to disturb more than 20,000 square feet or will add more than 5,000 square feet of impervious area shall comply with all of the following stormwater management requirements as outlined below as well as the enhanced post-construction stormwater management standards outlined in Parts B and C of Section E for new and redevelopment projects, respectively, unless the activity is listed as exempt or the Planning Board grants an approved waiver for specific components based on an Applicant's written request and the conditions for granting waivers described below.

(2) Conditions for Granting Waivers

1 The Planning Board may grant a waiver from these regulations as set forth in Section 5.01 (A) and
2 upon the submission of appropriate demonstration by the applicant as to why these regulations
3 should not apply and with consideration by the Planning Board.

4 (3) The following activities are considered exempt from preparing and submitting a stormwater
5 management plan:

- 6 a. Agricultural and forestry practices in accordance with BMP's published by the NH
7 Department of Agriculture.
- 8 b. Resurfacing and routine maintenance of roads and parking lots.
- 9 c. Exterior and interior alterations and maintenance to existing buildings and structures.
- 10 d. Repairs and replacement of culverts, stormwater drains and other stormwater structures

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12 (4) All applications shall be accompanied by a completed Site Plan Review Application and
13 Stormwater Management Checklist to the Planning Board prior to consideration for review. Prior
14 to commencement of land disturbance, the applicant must obtain an approved permit under
15 these regulations.

16 (5) All projects of magnitude under review by the Planning Board may require a stormwater permits
17 from EPA Construction General Permit (CGP) program or NH Department of Environmental
18 Services (NHDES) and shall comply with the standards of EPA and/or NH DES permits and this
19 section, where the stricter standards apply. Copies of the following permits shall be required, as
20 applicable, as conditions of approval.

21 a. EPA Construction General Permit – A permit issued by EPA that authorizes the discharge
22 of pollutants to waters of the United States. For a cumulative disturbance of one (1) acre of
23 land that is considered "construction activity" which includes, but is not limited to clearing,
24 grading, excavation, and other activities that expose soil typically related to landscaping,
25 demolition, and construction of structures and roads, a federal permit is required, in addition
26 to any state or local permits)

27 b. Alteration of Terrain Permit (AOT) - RSA 485-A:1 requires a permit from the New
28 Hampshire Department of Environmental Services (NH DES) Water Supply and Pollution
29 Control Division for "any person proposing to significantly alter the characteristic of the
30 terrain, in such a manner as to impede natural runoff and unnatural runoff. Under this
31 program, a permit is required for a project involving more than 100,000 contiguous square
32 feet of disturbance or if such an activity occurs in or on the border of surface waters of the
33 state.

34 (D) Submission Requirements for Stormwater Management and Erosion Control Plan (SMECP)

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36 A Stormwater Management and Erosion Control Plan (SMECP) shall be submitted with the Site Plan
37 Review Application, as applicable, and shall be prepared and certified by a NH licensed Professional
38 Engineer, specializing in Civil Engineering. This plan shall include the following information:
39

1. A narrative description and an existing conditions site plan showing all pre-development impervious surfaces, buildings, and structures; surface water bodies and wetlands; sub-catchment and watershed boundaries, drainage patterns; building setbacks and buffers, locations of various hydrologic group soil types, mature vegetation, land topographic contours with minimum 2-foot intervals and spot grades, where necessary, for sites that are flat.
2. A narrative description and a proposed conditions site plan showing all post-development important hydrologic features created or preserved on the site; subcatchment and watershed boundaries, drainage patterns, channelized flow areas; proposed areas of disturbance; temporary stock pile areas, construction refueling areas; proposed impervious surfaces, buildings, and structures; all temporary and permanent stormwater treatment BMPs and management elements, including BMP GIS coordinates and GIS files; building and buffer setbacks; proposed tree clearing and topographic contours with minimum 2-foot intervals; erosion control measures, stormwater discharge locations and any drainage and maintenance access easements. The plan shall provide calculations and identify the total area of disturbance proposed on site (and off-site if applicable) and total area of new impervious surface created.
3. A summary of the drainage analysis showing a comparison of the estimated peak flow and volumes for various design storms (see attached Table 1: Stormwater Infrastructure Design Criteria) at each point of analysis shall be included.
4. A description of the general approach and strategies implemented, analyses, calculations and assumptions relied upon, to meet the purpose and goals for stormwater management. The SMP shall include design plans and/or graphic sketches of all proposed LID practices.
5. Calculations of the change in impervious area, pollutant removal efficiencies for each best management practice, if applicable. GIS files containing the coordinates of all stormwater infrastructure elements (e.g., catch basins, swales, detention/bioretenion areas, and piping) upon request.
6. A description and a proposed site plan showing proposed erosion and sediment control measures, limits of disturbance, temporary and permanent soil stabilization measures in accordance with the NHDES "Stormwater Manual Volume 3" and any subsequent revisions, as well as a construction site inspection plan including phased installation of best management practices and final inspection upon completion of construction.
7. A drainage analysis that includes a description of all methods, assumptions and estimates of pre- and post-development peak stormwater flow rates (cubic feet per second) and volumes (acre-feet) for the 2-, 10-, 25-, 50- and 100-year, 24-hour frequency storm events.
8. An Operations and Maintenance Plan that outlines the proposed inspection protocols, frequency and maintenance schedule for all temporary erosion control measures. The Plan shall identify the responsible individuals or parties that will perform these activities, including their contact

information and a description of the thresholds for determining when maintenance activities are needed. Sample inspection and reporting forms shall be included.

9. Covenant documents for filing with the Rockingham County Registry of Deeds which demonstrate the owner's obligation for future stormwater BMP maintenance, which runs with the land and that the Town has legal access to inspect and/or maintain, if necessary, onsite stormwater infrastructure (See Sections L and M).
10. A listing and copies of any additional federal or state permit application documents and associated correspondence that may be required.
11. A description of any proposed onsite deicing chemical storage facilities and identified locations for snow storage areas. If deicing chemicals will be stored onsite, the SMP shall describe how deicing chemicals will be stored under permanent or semi-permanent roofed enclosure and will be minimized or used more efficiently.
12. All stormwater management practices involving bioretention and vegetative cover as a key functional component must have a landscaping plan detailing both the type and quantities of plants and vegetation to be in used in the practice and how and who will manage and maintain this vegetation. The landscaping plan must be prepared by a registered landscape architect.

(E) Construction Erosion Control Design Standards

The following standards shall be applied in selecting and designing appropriate stormwater management and erosion control measures during the construction phase. If a Stormwater Pollution Prevention Plan (SWPPP) has been prepared to comply with the EPA Construction General Permit (CGP), relevant portions of the SWPPP can also be utilized to satisfy the required Stormwater Management Plan contents, provided the listed required elements included for this Section D and Section H below are included in the SWPPP.

- (1) The selection, sizing, installation and maintenance of all erosion and sediment control measures shall be consistent with the design guidance set forth in the NH Stormwater Manual, Volume 3 (as amended).
- (2) Whenever practical, natural vegetation (not including invasive species) shall be retained, protected and/or supplemented. Clearing of any vegetation shall be done in a manner that minimizes soil erosion. Vegetated areas to be retained should be clearly marked and protected using construction fencing or similar means.
- (3) Soil disturbance shall be avoided within established buffer setbacks as established in the Town's Wetland Protection Overlay District.
- (4) The area of disturbance shall be kept to a minimum through innovative site design and treatment methods that preserve and protect existing onsite and adjacent natural resources to the greatest extent practical.

- (5) Construction site disturbance should be phased to disturb only the amount of area needed to accommodate each phase of development and limit the amount of exposed soil area especially during winter months.
- (6) The site design shall include provisions to properly contain and dispose of waste materials, including, but not limited to, discarded building materials, concrete truck wash-out, chemicals, litter and sanitary wastes, all of which shall not discharged into the stormwater system.
- (7) Prior to any soil disturbance or tree clearing, appropriate erosion and sediment control measures shall be installed and areas to be protected shall be clearly marked and delineated using construction fencing or some other appropriate means to prevent damage from construction equipment
- (8) An onsite pre-construction meeting shall be held with the Town Engineer or designated representative prior to initiating earth moving activities and after perimeter erosion control measures, protective fencing, waste disposal and construction access pads have been installed
- (9) Adequate construction stone access pads shall be installed and maintained at the site entrance and exit locations to prevent mud and sediment from being tracked on to pavement.
- (10) Disturbed areas shall be either temporarily or permanently stabilized by measures consistent with the guidelines included in the NH Stormwater Manual. In areas where final grading has not occurred, temporary stabilization measures shall be implemented as soon as practicable but no later than (7) calendar days from the initial disturbance or as requested by the Town Engineer. Disturbed soil areas that have achieved final grading shall be permanently stabilized within (5) calendar days after final grading.
- (11) Upgradient surface runoff from undisturbed areas shall be diverted away from disturbed areas where feasible or carried non-erosively through the project area. Integrity of downstream drainage systems shall be maintained.
- (12) Natural drainage patterns and conveyances, including intermittent streams, swales, and drainage ditches shall be maintained to the extent practical to convey runoff from the project area. Perimeter controls shall not be placed within wetlands or intermittent and perennial streams.
- (13) Winter stabilization measures shall be deployed on disturbed areas that will remain idle over the winter period as described in the NH Stormwater Manual, as amended.
- (14) All erosion and sediment control measures shall be designed and installed in accordance with guidelines including in the NH Stormwater Manual, as amended.
- (15) All erosion control measures, and related drainage ways shall be routinely inspected and maintained by a qualified professional to ensure measures remain in functioning condition until final site stabilization is accomplished.
- (16) The Planning Board may request weekly erosion control inspections to be conducted by either the Town Engineer or another qualified professional at the expense of the applicant, depending on the development size, anticipated construction period, time of year and sensitivity of adjacent resources.
- (17) During the construction period, inspections shall be conducted at least once every seven (7) calendar days or once every 14 calendar days and within 24 hours of the end of a storm event

of 0.5 inch or greater.

- (18) All temporary control measures shall be removed after final site stabilization. Any trapped sediment contained within the storm drain system or treatment areas shall be removed using appropriate measures consistent with the maintenance plan included in the approved Stormwater Management Plan.

(F) Post-Construction Stormwater Management Performance Standards for New Development

All proposed new development and redevelopment projects subject to these regulations shall meet the following minimum post-construction stormwater management performance standards to the maximum extent practicable:

Part A: Minimum Post-Construction Stormwater Management Standards

1. Low Impact Development (LID) site planning and design strategies shall be used to reduce the development footprint, maintain predevelopment site hydrology and protect water quality, to the maximum extent practicable. LID techniques seek to preserve existing vegetation, minimize runoff potential, and limit the amount of contiguous impervious area. Efforts shall be made to limit any single, contiguous section of impervious area draining to one storm drain outlet by disconnecting with vegetated BMP's such as raingardens, bioretention systems, tree box filters, permeable pavement or other landscaping techniques. The capture and reuse of stormwater is strongly encouraged. The applicant must document in writing why LID strategies are not appropriate or practical if not used to manage stormwater.
2. The design of the stormwater drainage systems shall provide for the discharge of stormwater without flooding or functional impairment to adjacent and downstream properties, streets, drainage structures, culverts, soils, wetlands, stream channels or vegetation.
3. The design of the stormwater management systems shall account for upstream and upgradient runoff within the watershed that flows onto, over, or through the site to be developed. Any runoff that flows through the site from upgradient properties shall be included in the calculations.
4. Measures shall be taken to control the post-development peak rate runoff so that it does not exceed pre-development peak rate. Drainage analyses shall include calculations comparing pre- and post-development stormwater runoff rates (cubic feet/second) and volumes (cubic feet) for the 1-inch rainstorm and the 2-year, 10-year, 25-year and 50-year, 24-hour storm events.
5. Similar measures shall be taken to minimize increases in the post-development runoff volume and maintain the existing groundwater recharge volume (GRV) according to ratios referenced in the NHDES "Stormwater Manual Volume 2" and any subsequent revisions. For sites where infiltration is limited or not practicable, the applicant must demonstrate that the project will not create or contribute to water quality impairment. Infiltration structures should be in locations with the highest permeability on the site, to the extent possible.
6. Stormwater system design performance standards shall be provided as prescribed in the attached Table 1: Stormwater Infrastructure Design Criteria. Calculations shall include sizing of

all structures and best management practices. Sizing of emergency overflow structures shall be based on assessment of the 100-year 24-hour frequency storm discharge rate.

7. The sizing and design of stormwater management practices shall be based on the extreme precipitation data tables developed by the Northeast Region Climate Center (NRCC) or the most recent extreme event precipitation atlas published by the National Oceanic and Atmospheric Administration (NOAA). See the NRCC website at <http://precip.eas.cornell.edu/>.
8. All proposed stormwater practices and measures shall be installed and maintained in accordance with manufacturer's specifications and performance standards in the NH Stormwater Manual Volume 2 (December 2008 or current revision), a copy of which is available from the NH DES website. www.des.nh.gov/organization/divisions/water/stormwater/manual
9. The use of native plantings appropriate for site conditions is strongly encouraged for these types of stormwater treatment areas. All invasive plant species identified in [Chapter Agr 3800](#), pursuant to RSA 430:55 are prohibited. All non-native plant species identified in the [New Hampshire Restricted Invasive Plant Species/Watch List](#) (as amended) are prohibited.
10. The physical, biological, and chemical integrity of receiving water shall not be degraded by the stormwater runoff from the site.
11. Efforts shall be made to use pervious parking surfaces as an alternative to impervious asphalt or concrete for general and overflow parking areas. Pervious pavement shall be appropriately sited and designed for traffic and vehicle loading conditions.
12. Stormwater management and erosion and sediment control practices shall be located outside any regulated buffer zones.
13. Alternatives to stream and wetland crossings that eliminate or minimize environmental impacts shall be considered whenever possible.
12. All stormwater treatment areas shall be planted with native plantings appropriate for the site conditions: grasses, shrubs, trees, and/or other native plants in sufficient numbers and density to prevent soil erosion and achieve the water quality treatment requirements of this section.
13. Onsite storage of any deicing material shall be contained within a fully covered, permanent, or semi-permanent structure and loading/offloading areas shall be located and designed to not drain directly to receiving waters and be maintained with good housekeeping measures in accordance with NHDES published guidance. Runoff from snow and salt storage areas shall enter treatment areas as specified above before being discharged to receiving waters or allowed to infiltrate into the groundwater. Reference guidance fact sheets on road salt storage: <https://www4.des.state.nh.us/nh-ms4/wp-content/uploads/2020/11/Salt-Storage.pdf>
14. All newly generated stormwater shall be treated on the development site prior to being discharged to municipal drainage systems or private drainage systems (whether enclosed or open drainage) or to surface water bodies and wetlands and at flow rates no greater than that discharged under existing conditions. Any new development that proposes to connect to the municipal storm drainage system shall comply with Section K: Municipal Storm Connections.

15. All stormwater installations and areas that receive rainfall runoff shall be designed to drain down within a maximum of 72 hours for vector control.
16. The applicant shall submit as-built drawings of the constructed stormwater management system within 2 years following construction as set forth in the "As-Built Survey Checklist" in Appendix B.

Part B: Enhanced Post-Construction Stormwater Management Standards for New Development Projects Disturbing more than 20,000 square feet or adding more than 5,000 square feet of Impervious Area.

Proposed projects meeting the definition of new development and will disturb more than 20,000 square feet of area or add more than 5,000 square feet of impervious area shall meet the minimum stormwater management requirements listed above in Part A as well as the following enhanced treatment requirements to the maximum extent practical

- (1) Runoff from impervious surfaces shall be treated to achieve at least 80% removal of Total Suspended Solids and at least 50% removal of both total nitrogen and total phosphorus using appropriate treatment measures, as specified in the NHDES "Stormwater Manual Volume 1 and Volume 2", and any subsequent revisions (refer to Volume 2, for Summary of Design Criteria, Water Quality Volume, as amended, for treatment criteria) or other equivalent means.
- (2) Pollutant removal efficiencies for stormwater BMPs shall be based on the EPA BMP Performance Curves included in Attachment 3 of Appendix F of the NH MS4 Permit or Appendix E of the NHDES Stormwater Manual, Vol. 1, whichever is more appropriate for the proposed BMP type.
- (3) Where practical, the proposed stormwater BMPs shall be designed to optimize nitrogen removal using filtration and/or infiltration practices or gravel wetlands for water quality treatment.

Part C : Enhanced Post-Construction Stormwater Management Standards for Redevelopment Projects

Proposed projects meeting the definition of a redevelopment project and proposes to disturb more than 20,000 square feet of area or add more than 5,000 square feet of impervious area shall meet the minimum post-construction stormwater management requirements included in Part A of this section as well as the following enhanced stormwater treatment requirements for the entire developed area to the maximum extent practical.

- (1) For sites meeting the definition of a redevelopment project, stormwater shall be managed for water quality in accordance with one the following techniques:
 - a. Implement measures onsite that result in disconnection or treatment of 30% of the existing impervious surface area and at least 50% of the additional proposed impervious area, preferably using filtration and/or infiltration practices.
 - b. Implement LID practices to the maximum extent practicable to provide treatment of runoff generated from at least 50% of the entire developed site area.
- (2) Pollutant removal efficiencies for stormwater BMPs shall be based on either the EPA BMP Performance Curves included in Attachment 3 of Appendix F of the NH MS4 Permit or Appendix

E of the NHDES Stormwater Manual, Vol. 1, whichever is more appropriate for the proposed BMP type.

(3) Where practical, the use of natural, vegetated filtration and/or infiltration practices or subsurface gravel wetlands for water quality treatment is preferred given their relatively higher nitrogen removal efficiency. All new impervious areas draining to surface waters listed as nutrient shall be treated with stormwater BMP's designed to optimize pollutant removal efficiencies for such nutrients based on design standards and performance data published by the UNH Stormwater Center and/or included in the latest version of the NHDES Stormwater Manual.

(4) All newly generated stormwater from redevelopment shall be treated on the development site. Runoff shall not be discharged from the redevelopment site to municipal drainage systems or privately owned drainage systems (whether enclosed or open drainage) or to surface water bodies and wetlands in rates greater than that discharged under existing system shall comply with Section K: Municipal Storm Connections.

(G) Options to Allow for Off-Site Mitigation for Redevelopment

For proposed projects, that meet the definition of redevelopment and cannot meet the enhanced post-construction stormwater treatment requirements listed in Part C of Section E through onsite measures due to limited space or other physical constraints, the applicant may propose an equivalent level or stormwater treatment for existing impervious area at an off-site location under an approved agreement with the existing landowner, as set forth below:

(1) In cases where the applicant demonstrates, to the satisfaction of the Planning Board, that on-site treatment has been implemented to the maximum extent possible or is not feasible, off-site mitigation will be an acceptable alternative. Off-site mitigation shall be implemented within the same subwatershed as the redevelopment, within the project's drainage area, or within the drainage area of the receiving waterbody.

(2) Off-site mitigation shall treat no less than the total area of impervious area not treated on-site. Treatment of the impervious area shall comply with all standards of this regulation.

(3) The Applicant shall submit a concept plan of the specific management measure to be installed at a specific off-site location with a written agreement signed by the current property owner and an implementation schedule for Planning Board's review. Municipally-owned land should be considered as a first priority in the selection of lands for off-site mitigation..

(4) As part of their request to utilize the off-site mitigation option for redevelopment, the applicant shall also demonstrate there are no adverse downstream flooding impacts that would result from not providing appropriate on-site management from the 50-yr or greater storm event.

(H) Stormwater BMP Inspection and Maintenance Plans.

The applicant shall develop and submit an enforceable long-term inspection and maintenance (I&M) plan for permanent stormwater treatment measures to maintain their effectiveness for the duration of their useful life. The I&M Plan shall contain relevant protective covenants and access easements in a long-term agreement that specifies who will be responsible for inspecting and maintaining the long-

term integrity and the stormwater BMP functions. The I&M Plan shall be provided to the Planning Board as part of the Site Plan application review process or prior to issuance of any other local permits for land disturbance and construction activities. The Plan shall include the following items at a minimum:

1. An I&M agreement that identifies the Owner/ Operator and their successor that will be responsible for perform the inspections and maintenance and the ability to access these BMPs including all maintenance easements required to access and inspect the stormwater treatment practices, and to perform routine maintenance as necessary to ensure proper functioning of the stormwater system.
2. A blank Inspection form that identifies the anticipated BMP features and relative condition assessment to be inspected annually and the anticipated condition thresholds that may trigger maintenance activity.
3. The I&M plan shall specify the parties responsible for maintenance of stormwater treatment practices, if different than the party inspecting the BMP.
4. The I&M plan shall be incorporated into the agreement of the property on which such measures are located and recorded at the Rockingham County Registry of Deeds. The narrative shall be in the form of a typical Development agreement, or as otherwise set forth by the Planning Board.
5. Inspection reports are to be maintained on-site and submitted to the Planning Department by June 1st of each year as outlined in Section M below.
6. If the Applicant is unable to adequately provide the required inspection and maintenance activities, the Town may require additional escrow funding upfront to be used by the Town to inspect, repair, replace and/or maintain the required measures.

(l) Pollutant Tracking and Accounting Program (PTAP) Submittal Requirements .

All Applicants subject to Site Plan Review shall submit relevant PTAP information using the most recent online data portal currently managed by the UNH Stormwater Center and included on their website. This may include, but not be limited to, the following information which will be submitted as part of the site plan application:

1. Property address, parcel map no., parcel size, property owner and contact information, Applicant's Engineer contact information,
2. Current property use, amount of existing developed area, impervious area and vegetated area draining to each receiving water body.
3. Proposed property use, amount of disturbed area, impervious area and vegetated area draining to each receiving water body.
4. Description of existing and proposed stormwater drainage conveyances and treatment BMPs and amount of impervious area expected to be treated before discharging to specific water bodies,
5. Direct Receiving Water Body, NHDES HUC Assessment Unit No. and any listed water quality impairments.
6. For purposes of these regulations, the total impervious area of a lot or site is defined as the total area of impervious parking lots, accessways, driveways, roof area, decks, paved walkways, sidewalks, and any concrete stone, brick, asphalt or compacted gravel surface.

7. Impervious surfaces may be disconnected from the stormwater drainage network to reduce the total effective impervious surface cover through such techniques as infiltration or sheet flow over pervious area.
8. Estimates of pollutant load reductions or pollutant removal efficiencies provided by the proposed BMPs based on the impervious area and expected WQV volume to be treated and removal efficiencies provided in Appendix F or the NH MS4 Permit, published data reported by the UNH Stormwater Center or Appendix E of the NH Stormwater Manual, as amended.
9. Information on the long-term stormwater BMP maintenance plan for the proposed BMP(s) including identifying the responsible party, inspection frequency and the reporting procedures consistent with the details identified in Section H above and Sections L and M below.

(J) Spill Prevention, Control, and Response (SPCR) Plan

- (1) For any application under this section for a proposed commercial or industrial use having regulated substances in amounts greater than 55 gallons or 660 lbs. of a regulated substance, the applicant shall submit a spill prevention, control, and response plan to the Fire Department. The Fire Department shall determine whether the plan will prevent, contain, and minimize releases from ordinary or catastrophic events as spills, floods, or fires that may cause large releases of regulated substances, which shall include the following:
 - a. Disclosure statements describing the types, quantities, and storage locations of all regulated substances.
 - b. Owner and spill response manager's contact information.
 - c. Location of all surface waters and drainage patterns.
 - d. A narrative of spill prevention practices to be employed when routinely using such substances.
 - e. Containment controls, both structural and non-structural.
 - f. Spill reporting procedures, including a list of personnel or agencies to be contacted
 - g. A description of equipment to prevent regulated substances from infiltrating into the ground and discharging to the Town's stormwater system.
- (2) All regulated substances in a container with a capacity of five (5) gallons or more shall be stored in product tight containers, on an impervious surface, and maintained to prevent flow to exposed soils, flow drains, and outside drains.

(K) Municipal Storm Connections

Connections to the municipal storm drainage system shall be allowed only, as necessary, after required provisions to control the peak rate and volume of post-development run-off through onsite detention, water quality treatment and groundwater recharge have been fully explored and included in the site design to the maximum extent practicable, as determined by the Board, after a review and recommendation by the Town's engineer. If onsite stormwater management

is not feasible due to site constraints, the applicant must fully demonstrate why onsite LID strategies and stormwater BMPs are not feasible and submit a written request for a waiver pursuant to Appendix B – Site Plans Section 5.01 Waivers or Substitutions.

(1) Any proposed connection to the municipal stormwater drainage system shall be designed and constructed in accordance with standards and specifications of the Town of Newmarket.

(2)

(3) Stormwater contributions to the Town's sanitary sewer system are strictly prohibited.

(3) Where adequate municipal stormwater drainage facilities are not available at the time of application and are deemed necessary due to site constraints or if onsite treatment has been determined to potentially result in adverse impacts to abutting properties (e.g., wet basements, flooding, etc.) or natural resources, it will be the applicant's responsibility to install the necessary municipal storm drain system improvements including additional capacity needed downgradient of the site, as determined by the Public Works Director and/or Town Engineer

(3) Any new connections or extensions to the municipal storm drain as approved by the Planning Board shall be in the form of a subsurface piped storm sewer system. Such drainage facilities shall be located in the street rights-of-way where feasible. Where topography or other conditions make installation within the right-of way impractical, a perpetual unobstructed easement for future maintenance, repair and upgrade of the system shall be provided across all properties. Such easements shall be 25' or more in width and shall have satisfactory access to the road. Any new connection or extension to municipal storm drain system shall include water quality treatment provisions to capture sediment and petroleum products that may be generated onsite from driveways, roads and parking lots prior to exiting the site.

(L) Stormwater Management Plan Recordation

(1) The Stormwater BMP Inspection and Maintenance (I&M) Plan shall be incorporated as part of any approved site plan. A Notice of Decision acknowledging the Planning Board approval of these plans shall be recorded at the County Registry of Deeds. The Notice of Decision shall be referenced to the property deed (title/book/page number) and apply to all persons that may acquire any property subject to the approved stormwater management and sediment control plans. The Notice of Decision shall reference the requirements for maintenance pursuant to the stormwater management and erosion and sediment control plans and the Stormwater BMP (I&M) as approved by the Planning Board

(2) The applicant shall submit as-built drawings of the constructed stormwater management system within 2 years following construction in accordance with "As Built Survey Checklist" as found in Appendix B.

(M) Responsibilities and Enforcement of Inspection, Maintenance, and Reporting

- (1) The property owner shall bear responsibility for the installation, construction, inspection, and maintenance of all stormwater management and erosion control measures required by the provisions of these regulations and as approved by the Planning Board, including emergency repairs completed by the Town.
- (2) The Code Enforcement Officer or other duly, appointed designee of the Town Manager shall be responsible for enforcement [as referenced in Sec. 5.08 and have site access to undertake routine inspections to ensure compliance with the approved stormwater management and sediment and erosion control plans. Such inspections shall be performed at a time agreed upon with the landowner during project construction.
- (3) If violations or non-compliance with a condition(s) of approval are found on the site during routine inspections, the inspector shall provide a report to the Code Enforcement Officer, documenting these violations of non-compliance including recommended corrective actions. The Code Enforcement Officer shall notify the property owner in writing of these violations of non-compliance and corrective actions necessary to bring the property into full compliance.
- (4) If a property is abandoned or becomes vacant; and in the event a property owner refuses to repair infrastructure that is damaged or is not functioning properly, the Code Enforcement Officer or other duly, appointed designee of the Town Manager or, shall be responsible for enforcement [as referenced in Sec. 5.08].
- (5) Landowners shall be responsible for submitting an annual report to the Planning Department by June 1st of each year. Such documents shall be prepared by a Professional Engineer or stormwater professional certifying that all stormwater management and erosion control measures are functioning per the approved stormwater management plan. The annual report shall note if any stormwater infrastructure has needed any repairs other than routine maintenance and the results of those repairs. If the stormwater infrastructure is not functioning per the approved stormwater management plan the landowner shall report on the malfunction in their annual report and include details regarding when the infrastructure shall be repaired and functioning as approved.
- (6) If no report is filed by June 1, the Code Enforcement Officer or other duly, appointed designee of the Town Manager, shall be responsible for enforcement [as referenced in

1 Sec. 5.07] and to complete routine inspections to ensure compliance with the approved
2 stormwater management and sediment and erosion control plans. Such inspections shall
3 be performed at a time agreed upon with the landowner and the costs of such
4 inspections shall be borne by the landowner.

- 5
6 (7) The Planning Board reserves the right to request the applicant to post a performance
7 guarantee or other security to cover the costs of future inspections or maintenance
8 activities associated with any onsite or offsite BMPs, if these inspections and/or
9 maintenance activities are not performed by the landowner(s) or other responsible party

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1 Table 1: Stormwater Infrastructure Design Criteria

Design Criteria	Description										
Water Quality Volume (WQV)	$WQV = (P)(R_v)(A)$ $P = 1$ inch of rainfall $R_v =$ unitless runoff coefficient, $R_v = 0.05 + 0.9(I)$ $I =$ percent impervious cover draining to the structure converted to decimal form $A =$ total site area draining to the structure										
Water Quality Flow (WQF)	$WQF = (q_u)(WQV)$ $WQV =$ water quality volume calculated as noted above $q_u =$ unit peak discharge from TR-55 exhibits 4-II and 4-III Variables needed for exhibits 4-II and 4-III: $I_a =$ the initial abstraction = 0.2S $S =$ potential maximum retention in inches = $(1000/CN) - 10$ $CN =$ water quality depth curve number $= 1000 / (10 + 5P + 10Q - 10[Q^2 + 1.25(Q)(P)]^{0.5})$ $P = 1$ inch of rainfall $Q =$ the water quality depth in inches = WQV/A $A =$ total area draining to the design structure										
Groundwater Recharge Volume (GRV)	$GRV = (A_i)(R_d)$ $A_i =$ the total area of effective impervious surfaces that will exist on the site after development $R_d =$ the groundwater recharge depth based on the USDA/NRCS hydrologic soil group, as follows: <table> <tr> <th>Hydrologic Group</th><th>R_d (inches)</th></tr> <tr> <td>A</td><td>0.40</td></tr> <tr> <td>B</td><td>0.25</td></tr> <tr> <td>C</td><td>0.10</td></tr> <tr> <td>D</td><td>0.00</td></tr> </table>	Hydrologic Group	R_d (inches)	A	0.40	B	0.25	C	0.10	D	0.00
Hydrologic Group	R_d (inches)										
A	0.40										
B	0.25										
C	0.10										
D	0.00										
Channel Protection Volume (CPV)	If the 2-year, 24-hour post-development storm volume <u>is project to not increase</u> due to development then: control the 2-year, 24-hour post-development peak flow rate to the 2-year, 24-hour predevelopment level. If the 2-year, 24-hour post-development storm volume <u>is projected to increase</u> due to development then: control the 2-year, 24-hour post-development peak flow rate to ½ of the 2-year, 24-hour pre-development level or to the 1-year, 24-hour pre- development level.										
Peak Control	Post-development peak discharge rates shall not exceed pre-development peak discharge rates for the 10-year and 50-year, 24-hour storms										
EIC and UDC	$\%EIC =$ area of effective impervious cover/total drainage areas within a project area x 100 $\%UDC =$ area of undisturbed cover/total drainage area within a project area x 100										

NHDES Stormwater Manual: Volume 2 Post-Construction Best Management Practices Selection & Design (December 2008)

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Draft Revisions to Newmarket's Subdivision Regulations

Appendix A - Subdivisions

Sec. 3.03 – Stormwater Management

(A) Purpose and Goals

The goals of this section is to set forth stormwater management standards for the development and redevelopment of subdivisions for the purposes of preventing both onsite and downstream flooding; reducing the water quality impacts of such development, providing effective water quality treatment; and minimizing erosion and maintaining sediments on construction sites and adjacent downgradient areas so they are not transported in stormwater and allowed to discharge into the waters of the U.S, thereby degrading water quality. Through these regulations, the Planning Board seeks to balance the public's interest in promoting orderly growth and development and protecting and enhancing water quality and the individual rights of private property owners.

These regulations seek to meet those goals through the following objectives:

- (1) Mitigate stormwater runoff from development to reduce flooding, siltation and streambank erosion and maintain the integrity of stream channels.
- (2) Minimize the water quality impacts from all new development and redevelopment projects considered subdivisions under the Town's subdivision regulations. This applies to projects if the project is part of a larger common plan.
- (3) Manage nonpoint source pollution caused by stormwater runoff from new development and redevelopment which otherwise would degrade local water quality.
- (4) Control the total volume and peak flow rates of surface water which flows from any specific site during and following development to not exceed pre-development hydrologic conditions.
- (5) Reduce stormwater runoff rates and volumes, soil erosion and non-point source pollution through stormwater management controls that are properly maintained and pose no threat to public health and safety or cause excessive municipal expenditures.
- (6) Protect the quality of groundwater resources, surface water bodies, and wetlands.
- (7) Control waste on construction sites involving subdivisions; such as demolition debris, litter, and sanitary wastes.

(B) Definitions

Definitions shall be those provided in the Newmarket Zoning Ordinance adopted February 14, 1996, as amended in Chapter 32 Zoning Sec 32-111, Appendix A - Subdivisions, Sec 1.03, Appendix B: Site Plan Regulations, and other additional definitions referenced below. The definitions in this section are to be used strictly for Stormwater Regulations under Appendix B – Site Plans and Appendix A – Subdivisions.

1 In a case where there are alternative or inconsistent definitions elsewhere in Chapter 32 Zoning, the
2 definitions in the stormwater management section shall apply.

3
4 Best Management Practices (BMP's): A structural or non-structural device designed to temporarily store
5 or treat stormwater runoff to mitigate flooding, reduce pollution, and provide other amenities. BMP's
6 also include treatment requirements, operating procedures, maintenance protocols, and management
7 practices to prevent and/or reduce discharges of pollutants to waters of the United States.

8
9 Bioretention: A water quality practice that utilizes vegetation and soils to treat urban stormwater runoff
10 by collecting it in shallow depressions, before filtering through an engineered bioretention planting soil
11 media.

12
13 Buffer: A regulated area along a watercourse or wetland where development is restricted or prohibited.
14 Buffers protect and physically separate a resource from development. Buffers also provide stormwater
15 control and flood storage and protect habitat values.

16
17 Disturbed Area: An area in which the existing vegetation, impervious cover and/or underlying soils have
18 been removed or altered through grubbing, grading, excavation or other site work activity that alters
19 existing drainage patterns, runoff generation or increases susceptibility to erosion.

20
21 Effective Impervious Cover (EIC): The total impervious surface area less the area of disconnected
22 impervious cover (area where runoff is captured and infiltrated or otherwise treated).

23
24 Filtration: The process of physically or chemically removing pollutants from runoff; practices that capture
25 and store stormwater runoff and pass it through a filtering media such as sand, organic material, or
26 native soil for pollutant removal. Stormwater filters are primarily water quality control devices designed
27 to remove particulate pollutants and, to a lesser degree, bacteria and nutrients.

28
29 Groundwater Recharge: The process by which water seeps into the ground, eventually replenishing
30 groundwater aquifers and surface waters such as lakes, streams, and oceans. This process helps maintain
31 water flow in streams and wetlands and preserves water table levels that support drinking water supplies.

32
33 Groundwater Recharge Volume: : Volume of stormwater runoff to be infiltrated to mimic the existing
34 annual pre-development groundwater recharge based on underlying soil types and calculated in
35 accordance with New Hampshire Code Admin. R. Part Env-Wq 1504.12.

36
37 Impaired Waters: Those waterbodies not meeting water quality standards. Pursuant to Section 303(d) of
38 the federal Clean Water Act, each state prepares a list of impaired waters (known as the 303(d) list) which
39 is presented in the state's Integrated Water Report as Category 5 waters. Those impaired waters for which
40 a total maximum daily load (TMDL) has been approved by US EPA and is not otherwise impaired.

1 Impervious Cover: Those surfaces that cannot effectively infiltrate rainfall such as building rooftops,
2 pavement, sidewalks, driveways and compacted gravel (e.g., driveways and parking lots).

3
4 Infiltration: The process of runoff percolating into the ground (subsurface materials). Stormwater
5 treatment practices designed to capture stormwater runoff and infiltrate it into the ground over a period
6 of days.

7
8 Low Impact Development (LID): Low impact development is a site planning and design strategy intended
9 to maintain or replicate predevelopment hydrology through the use of site planning, source control, and
10 small scale practices integrated throughout the site to capture, infiltrate, and manage runoff as close to
11 its source as possible. Examples of LID strategies are pervious pavement, rain gardens, green roofs,
12 bioretention basins and swales, filtration trenches, and other functionally similar BMPs located near the
13 runoff source.

14
15 Major Subdivision:

- 16 (1) The division of a lot into a greater number of lots, but which does not fit the definition of a Minor
17 Subdivision.
18 (2) An increase in the number of residential units on a single lot, but which does not fit the definition
19 of a Minor Subdivision.
20

21 Maximum Extent Practicable (MEP): A proposed development meets a standard to the maximum extent
22 practicable, by demonstrating the following:

- 23 (1) All reasonable efforts have been made to meet the standard;
24 (2) A complete evaluation of all possible management measures has been performed; and
25 (3) If full compliance cannot be achieved, the highest practicable level of management is being
26 implemented.
27

28
29 Mitigation: Activities, strategies, policies, programs, and actions that, over time, will serve to avoid,
30 minimize, or compensate for (by treating or removing pollution sources) the impacts to or disruption of
31 water quality and water resources.
32

33 MS4: Refers to the Small Municipal Separate Storm Sewer System (MS4) General Permit - issued by the
34 EPA under the Clean Water Act. The MS4 Permit applies to municipalities that contain any portion of an
35 urbanized area as defined by the Census. It applies to stormwater conveyances owned by a state, city,
36 town, or other public entity that discharge to the 'Waters of the United States'. The MS4 Permit requires
37 that operators of small MS4s develop a Stormwater Management Program that uses appropriate Best
38 Management Practices (BMPs) for each of the six minimum control measures required in the MS4 permit.
39

40 Native Vegetation and Plantings: Plants that are indigenous to the region, adapted to the local soil and
41 rainfall conditions, and require minimal supplemental watering, fertilizer, and pesticide application.
42

1 New Development: Any construction, land alteration, or improvement of a site or structure on an existing
2 parcel where less than 40% of the parcel area consists of existing impervious surface, calculated by
3 dividing the total existing impervious surface by the size of the parcel, and converting it to a percentage.
4

5 Pollutant Load: An amount of pollutants that is introduced into a receiving waterbody measured in units
6 of concentration or mass over a specific time period (i.e. (lbs/day or lbs per year).
7

8 Redevelopment: For purposes of determining whether a site must meet either new development or
9 redevelopment requirements, a site is considered redevelopment if 40 percent or more of the existing
10 parcel is comprised of impervious cover, calculated by dividing the total existing impervious cover area
11 by the size of the parcel and converting it to a percentage. Otherwise, the project must meet the new
12 development treatment standards. The following activities listed below are, by definition, not considered
13 redevelopment:

- 14 a. Interior and exterior building renovation
- 15 b. Resurfacing an existing paved surface (e.g. parking lot, walkway, or roadway)
- 16 c. Pavement excavation and patching that is incidental to the primary project purpose such
17 as replacement of a collapsed storm drain or repairs to stormwater structures.
- 18 d. Landscaping installation and maintenance
19

20 Regulated Substances: petroleum, petroleum products, regulated contaminants for which an ambient
21 groundwater quality standard has been established under NH RSA 485-C:6, and substances listed under
22 40 CFR 302, 7-1-05 edition, as amended, excluding substances used in the treatment of drinking water
23 or wastewater at town facilities.

24 Stabilization. A site shall be deemed to be stabilized when it is in a condition in which the soils on the
25 site will not erode under the conditions of a 10-year storm by incorporating the measures outlined in
26 New Hampshire Code Admin. R. Part Env-Wq 1505.04.

27 Subdivision: Division of a lot into two or more lots, plats, sites, or other divisions of land for the purpose,
28 whether immediate or future, of sale, rent, lease, condominium conveyance or building development. It
29 includes re-subdivision and, where appropriate to the context, relates to the process of subdividing or to
30 the land or territory subdivided. The division of a parcel of land held in common and subsequently divided
31 into parts among several owners shall be deemed a subdivision. The granting of an easement in gross
32 for public utilities shall not be deemed a subdivision.
33

34 Surface Water Body: Surface waters, including lakes, rivers, and other navigable waters, streams, wetlands,
35 and coastal areas protected under the federal Clean Water Act.
36

37 Total Suspended Solids (TSS): The total amount of soil and particulate matter which are suspended in the
38 water column.
39

40 Water Quality Volume: The amount of stormwater runoff generated by the first one-inch of rainfall to be
41 treated to remove the majority of stormwater pollutants on an average annual basis. The recommended
42 volume is that associated with the first one-inch of rainfall, which is equivalent to capturing and treating

the runoff from the 90th percentile of all rainfall. Source: New Hampshire Stormwater Manual: Volume 2 Post Construction Best Management Practices: Selection and Design, December 2008.

Watershed: All land and water area from which runoff may run to a common (design) discharge point.

(C) Minimum Threshold for Applicability

These stormwater management regulations shall apply to all subdivisions, whether for new development or redevelopment, as defined in Section 3.03 (B) that result in the creation of a private or private road and will disturb one of the following two thresholds to the maximum extent practical unless the proposed activity is listed as exempt or the Planning Board grants an approved waiver for specific components based on an Applicant's written request and the conditions for granting waivers described below.

(1) Subdivisions disturbing more than 5,000 but less 20,000 square feet of area or will disturb more than 2,500 square feet of area within 100 feet of a surface water body shall comply with all of the following stormwater management requirements to the maximum extent practical, except Parts B and C of Section E, or unless the proposed activity is listed as exempt or the Planning Board grants an approved waiver for specific components based on an Applicant's written request and the conditions for granting waivers described below. ,

(2) All proposed new development and redevelopment projects proposing to disturb more than 20,000 square feet or will add more than 5,000 square feet of impervious area shall comply with all of the following stormwater management requirements as outlined below as well as the enhanced post-construction stormwater management standards outlined in Parts B and C of Section E for new and redevelopment projects, respectively, unless the activity is listed as exempt or the Planning Board grants an approved waiver for specific components based on an Applicant's written request and the conditions for granting waivers described below.

(3) For subdivisions on existing private and public roadways, roadside drainage and any other stormwater runoff from the new lots discharging to the roadside drainage system must be managed for stormwater runoff quantity and quality.

(3) Conditions for Granting of Waivers.

The Planning Board may grant a waiver from these regulations as set forth in Section 5.01 (A) and upon the submission of appropriate demonstration by the applicant as to why these regulations should not apply and with consideration by the Planning Board.

(4) The following activities are considered exempt from preparing and submitting a stormwater management plan for Major Subdivisions for new development and redevelopment.

- a. Agricultural and forestry practices in accordance with BMP's published by the NH Department of Agriculture.
- b. Resurfacing and routine maintenance of roads and parking lots.
- c. Exterior and interior alterations and maintenance to existing buildings and structures.
- d. Repairs and replacement of culverts, stormwater drains and other stormwater structures

(4) All applications shall be accompanied by a completed Subdivision Application and Stormwater Management Checklist to the Planning Board prior to consideration for review. Prior to commencement of land disturbance, the applicant must obtain an approved permit under these regulations.

(5) All subdivisions of magnitude under review by the Planning Board may require a stormwater permits from EPA Construction General Permit (CGP) program or NH Department of Environmental Services (NHDES) and shall comply with the standards of EPA and/or NH DES permits and this section, where the stricter standards apply. Copies of the following permits shall be required, as applicable, as conditions of approval.

- a. EPA Construction General Permit – A permit issued by EPA that authorizes the discharge of pollutants to the waters of the United States. For a cumulative disturbance of one (1) acre or more of land that is considered "construction activity" which includes, but is not limited to clearing, grading, excavation, and other activities that expose soil typically related to landscaping, demolition, and construction of structures and roads, a federal permit is required, in addition to any state or local permits.
- b. Alteration of Terrain Permit (AOT) – RSA 485-A:1 requires a permit from the New Hampshire Department of Environmental Services (NH DES) Water Supply and Pollution Control Division for "any person proposing to significantly alter the characteristic of the terrain, in such a manner as to impede natural and unnatural runoff. Under this program, a permit is required for projects involving more than 100,000 contiguous square feet of disturbance or if such an activity occurs in or on the border of surface waters of the state.

(D) Submission Requirements for Stormwater Management and Erosion Control Plan (SMECP)

A Stormwater Management Plan and Erosion Control (SMECP) shall be submitted with the Site Plan Review Application, as applicable, and shall be prepared and certified by a NH licensed Professional Engineer, specializing in Civil Engineering. This plan shall include the following information:

- (1) A narrative description and an existing conditions site plan showing all pre-development impervious surfaces, buildings, and structures; surface water bodies and wetlands; sub-catchment and watershed boundaries, drainage patterns; building setbacks and buffers, locations of various hydrologic group soil types, mature vegetation, land topographic contours with minimum 2-foot intervals and spot grades, where necessary, for sites that are flat.
- (2) A narrative description and a proposed conditions site plan showing all post-development important hydrologic features created or preserved on the site; subcatchment and watershed

1 boundaries, drainage patterns, channelized flow areas; proposed areas of disturbance;
2 temporary stock pile areas, construction refueling areas; proposed impervious surfaces,
3 buildings, and structures; all temporary and permanent stormwater treatment BMPs and
4 management elements, including BMP GIS coordinates and GIS files; building and buffer
5 setbacks; proposed tree clearing and topographic contours with minimum 2-foot intervals;
6 erosion control measures, stormwater discharge locations and any drainage and maintenance
7 access easements. The plan shall provide calculations and identify the total area of disturbance
8 proposed on site (and off-site if applicable) and total area of new impervious surface created.
9

- 10 (3) A summary of the drainage analysis showing a comparison of the estimated peak flow and
11 volumes for various design storms (see attached Table 1: Stormwater Infrastructure Design
12 Criteria) at each point of analysis shall be included.
13
- 14 (4) A description of the general approach and strategies implemented, analyses, calculations and
15 assumptions relied upon, to meet the purpose and goals for stormwater management. The SMP
16 shall include design plans and/or graphic sketches of all proposed LID practices.
17
- 18 (5) Calculations of the change in impervious area, pollutant removal efficiencies for each best
19 management practice, if applicable. GIS files containing the coordinates of all stormwater
20 infrastructure elements (e.g., catch basins, swales, detention/bioretention areas, and piping)
21 upon request.
22
- 23 (6) A description and a proposed site plan showing proposed erosion and sediment control
24 measures, limits of disturbance, temporary and permanent soil stabilization measures in
25 accordance with the NHDES "Stormwater Manual Volume 3" and any subsequent revisions, as
26 well as a construction site inspection plan including phased installation of best management
27 practices and final inspection upon completion of construction.
28
- 29 (7) A drainage analysis that includes a description of all methods, assumptions and estimates of
30 pre- and post-development peak stormwater flow rates (cubic feet per second) and volumes
31 (acre-feet) for the 2-, 10-, 25-, 50- and 100-year, 24-hour frequency storm events.
32
- 33 (8) An Operations and Maintenance Plan that outlines the proposed inspection protocols, frequency
34 and maintenance schedule for all temporary erosion control measures. The Plan shall identify
35 the responsible individuals or parties that will perform these activities, including their contact
36 information and a description of the thresholds for determining when maintenance activities are
37 needed. Sample inspection and reporting forms shall be included.
38
- 39 (9) Covenant documents for filing with the Rockingham County Registry of Deeds which
40 demonstrate the owner's obligation for future stormwater BMP maintenance, which runs with
41 the land and that the Town has legal access to inspect and/or maintain, if necessary, onsite
42 stormwater infrastructure (See Sections L and M).
43

- (10) A listing and copies of any additional federal or state permit application documents and associated correspondence that may be required.
- (11) A description of any proposed onsite deicing chemical storage facilities and identified locations for snow storage areas. If deicing chemicals will be stored onsite, the SMP shall describe how deicing chemicals will be stored under permanent or semi-permanent roofed enclosure and will be minimized or used more efficiently.
- (12) All stormwater management practices involving bioretention and vegetative cover as a key functional component must have a landscaping plan detailing both the type and quantities of plants and vegetation to be in used in the practice and how and who will manage and maintain this vegetation. The landscaping plan must be prepared by a registered landscape architect.

(E) Construction Erosion Control Design Standards

The following standards shall be applied in selecting and designing appropriate stormwater management and erosion control measures during the construction phase. If a Stormwater Pollution Prevention Plan (SWPPP) has been prepared to comply with the EPA Construction General Permit (CGP), relevant portions of the SWPPP can also be utilized to satisfy the required Stormwater Management Plan contents, provided the listed required elements included for this Section D and Section H below are included in the SWPPP.

- (1) The selection, sizing, installation and maintenance of all erosion and sediment control measures shall be consistent with the design guidance set forth in the NH Stormwater Manual, Volume 3 (as amended).
- (2) Whenever practical, natural vegetation (not including invasive species) shall be retained, protected and/or supplemented. Clearing of any vegetation shall be done in a manner that minimizes soil erosion. Vegetated areas to be retained should be clearly marked and protected using construction fencing or similar means.
- (3) Soil disturbance shall be avoided within established buffer setbacks as established in the Town's Wetland Protection Overlay District.
- (4) The area of disturbance shall be kept to a minimum through innovative site design and treatment methods that preserve and protect existing onsite and adjacent natural resources to the greatest extent practical.
- (5) Construction site disturbance should be phased to disturb only the amount of area needed to accommodate each phase of development and limit the amount of exposed soil area especially during winter months.
- (6) The site design shall include provisions to properly contain and dispose of waste materials, including, but not limited to, discarded building materials, concrete truck wash-out, chemicals, litter and sanitary wastes, all of which shall not discharged into the stormwater system.
- (7) Prior to any soil disturbance or tree clearing, appropriate erosion and sediment control measures shall be installed and areas to be protected shall be clearly marked and delineated using construction fencing or some other appropriate means to prevent damage from construction equipment

- (8) An onsite pre-construction meeting shall be held with the Town Engineer or designated representative prior to initiating earth moving activities and after perimeter erosion control measures, protective fencing, waste disposal and construction access pads have been installed
- (9) Adequate construction stone access pads shall be installed and maintained at the site entrance and exit locations to prevent mud and sediment from being tracked on to pavement.
- (10) Disturbed areas shall be either temporarily or permanently stabilized by measures consistent with the guidelines included in the NH Stormwater Manual. In areas where final grading has not occurred, temporary stabilization measures shall be implemented as soon as practicable but no later than (7) calendar days from the initial disturbance or as requested by the Town Engineer. Disturbed soil areas that have achieved final grading shall be permanently stabilized within (5) calendar days after final grading.
- (11) Upgradient surface runoff from undisturbed areas shall be diverted away from disturbed areas where feasible or carried non-erosively through the project area. Integrity of downstream drainage systems shall be maintained.
- (12) Natural drainage patterns and conveyances, including intermittent streams, swales, and drainage ditches shall be maintained to the extent practical to convey runoff from the project area. Perimeter controls shall not be placed within wetlands or intermittent and perennial streams.
- (13) Winter stabilization measures shall be deployed on disturbed areas that will remain idle over the winter period as described in the NH Stormwater Manual, as amended.
- (14) All erosion and sediment control measures shall be designed and installed in accordance with guidelines including in the NH Stormwater Manual, as amended.
- (15) All erosion control measures, and related drainage ways shall be routinely inspected and maintained by a qualified professional to ensure measures remain in functioning condition until final site stabilization is accomplished.
- (16) The Planning Board may request weekly erosion control inspections to be conducted by either the Town Engineer or another qualified professional at the expense of the applicant, depending on the development size, anticipated construction period, time of year and sensitivity of adjacent resources.
- (17) During the construction period, inspections shall be conducted at least once every seven (7) calendar days or once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inch or greater.
- (18) All temporary control measures shall be removed after final site stabilization. Any trapped sediment contained within the storm drain system or treatment areas shall be removed using appropriate measures consistent with the maintenance plan included in the approved Stormwater Management and Erosion Control Plan.

(F) Post-Construction Stormwater Management Performance Standards for New Development Subdivisions

All proposed new development and redevelopment projects subject to these regulations shall meet the following minimum post-construction stormwater management performance standards to the maximum extent practical:

Part A: Minimum Post-Construction Stormwater Management Standards

1. Low Impact Development (LID) site planning and design strategies shall be used to reduce the development footprint, maintain predevelopment site hydrology and protect water quality, to the maximum extent practicable. LID techniques seek to preserve existing vegetation, minimize runoff potential, and limit the amount of contiguous impervious area. Efforts shall be made to limit any single, contiguous section of impervious area draining to one storm drain outlet by disconnecting with vegetated BMP's such as raingardens, bioretention systems, tree box filters, permeable pavement or other landscaping techniques. The capture and reuse of stormwater is strongly encouraged. The applicant must document in writing why LID strategies are not appropriate or practical if not used to manage stormwater.
2. The design of the stormwater drainage systems shall provide for the discharge of stormwater without flooding or functional impairment to adjacent and downstream properties, streets, drainage structures, culverts, soils, wetlands, stream channels or vegetation.
3. The design of the stormwater management systems shall account for upstream and upgradient runoff within the watershed that flows onto, over, or through the site to be developed. Any runoff that flows through the site from upgradient properties shall be included in the calculations.
4. Measures shall be taken to control the post-development peak rate runoff so that it does not exceed pre-development peak rate. Drainage analyses shall include calculations comparing pre- and post-development stormwater runoff rates (cubic feet/second) and volumes (cubic feet) for the 1-inch rainstorm and the 2-year, 10-year, 25-year and 50-year, 24-hour storm events.
5. Similar measures shall be taken to minimize increases in the post-development runoff volume and maintain the existing groundwater recharge volume (GRV) according to ratios referenced in the NHDES "Stormwater Manual Volume 2" and any subsequent revisions. For sites where infiltration is limited or not practicable, the applicant must demonstrate that the project will not create or contribute to water quality impairment. Infiltration structures should be in locations with the highest permeability on the site, to the extent possible.
6. Stormwater system design performance standards shall be provided as prescribed in the attached Table 1: Stormwater Infrastructure Design Criteria. Calculations shall include sizing of all structures and best management practices. Sizing of emergency overflow structures shall be based on assessment of the 100-year 24-hour frequency storm discharge rate.
7. The sizing and design of stormwater management practices shall be based on the extreme precipitation data tables developed by the Northeast Region Climate Center (NRCC) or the most recent extreme event precipitation atlas published by the National Oceanic and Atmospheric Administration (NOAA). See the NRCC website at <http://precip.eas.cornell.edu/>.
8. All proposed stormwater practices and measures shall be installed and maintained in accordance with manufacturer's specifications and performance standards in the NH Stormwater Manual Volume 2 (December 2008 or current revision), a copy of which is available from the NH DES website. www.des.nh.gov/government/organization/divisions/water/stormwater/manual
9. The use of native plantings appropriate for site conditions is strongly encouraged for these types of stormwater treatment areas. All invasive plant species identified in [Chapter Agr 3800](#), pursuant

to RSA 430:55 are prohibited. All non-native plant species identified in the [New Hampshire Restricted Invasive Plant Species/Watch List](#) (as amended) are prohibited

10. The physical, biological, and chemical integrity of receiving water shall not be degraded by the stormwater runoff from the site.

11. Efforts shall be made to use pervious parking surfaces as an alternative to impervious asphalt or concrete for general and overflow parking areas. Pervious pavement shall be appropriately sited and designed for traffic and vehicle loading conditions.

12. Stormwater management and erosion and sediment control practices shall be located outside any regulated buffer zones.

13. Alternatives to stream and wetland crossings that eliminate or minimize environmental impacts shall be considered whenever possible.

12 All stormwater treatment areas shall be planted with native plantings appropriate for the site conditions: grasses, shrubs, trees, and/or other native plants in sufficient numbers and density to prevent soil erosion and achieve the water quality treatment requirements of this section.

13. Onsite storage of any deicing material shall be contained within a fully covered, permanent, or semi-permanent structure and loading/offloading areas shall be located and designed to not drain directly to receiving waters and be maintained with good housekeeping measures in accordance with NHDES published guidance. Runoff from snow and salt storage areas shall enter treatment areas as specified above before being discharged to receiving waters or allowed to infiltrate into the groundwater. Reference guidance fact sheets on road salt storage: <https://www4.des.state.nh.us/nh-ms4/wp-content/uploads/2020/11/Salt-Storage.pdf>

14. All newly generated stormwater shall be treated on the development site prior to being discharged to municipal drainage systems or private drainage systems (whether enclosed or open drainage) or to surface water bodies and wetlands and at flow rates no greater than that discharged under existing conditions. Any new development that proposes to connect to the municipal storm drainage system shall comply with Section K: Municipal Storm Connections.

15. All stormwater installations and areas that receive rainfall runoff shall be designed to drain down within a maximum of 72 hours for vector control.

16. The applicant shall submit as-built drawings of the constructed stormwater management system within 2 years following construction as set forth in the "As-Built Survey Checklist" in Appendix B.

Part B: Enhanced Post-Construction Stormwater Management Standards for New Development Projects Disturbing more than 20,000 square feet or adding more than 5,000 square feet of Impervious Area.

Proposed projects meeting the definition of new development and will disturb more than 20,000 square feet of area or add more than 5,000 square feet of impervious area shall meet the minimum stormwater management requirements listed above in Part A as well as the following enhanced treatment requirements to the maximum extent practical

- (1) Runoff from impervious surfaces shall be treated to achieve at least 80% removal of Total Suspended Solids and at least 50% removal of both total nitrogen and total phosphorus using

appropriate treatment measures, as specified in the NHDES "Stormwater Manual Volume 1 and Volume 2", and any subsequent revisions (refer to Volume 2, for Summary of Design Criteria, Water Quality Volume, as amended, for treatment criteria) or other equivalent means.

(2) Pollutant removal efficiencies for stormwater BMPs shall be based on the EPA BMP Performance Curves included in Attachment 3 of Appendix F of the NH MS4 Permit or Appendix E of the NHDES Stormwater Manual, Vol. 1, whichever is more appropriate for the proposed BMP type.

(3) Where practical, the proposed stormwater BMPs shall be designed to optimize nitrogen removal using filtration and/or infiltration practices or gravel wetlands for water quality treatment.

(G) Enhanced Post-Construction Stormwater Management Standards for Redevelopment Subdivisions

For proposed projects meeting the definition of a redevelopment and proposes to disturb more than 20,000 square feet of area or add more than 5,000 square feet of impervious area the applicant shall meet the minimum stormwater management requirements of Part A of this Section as well as the following enhanced stormwater treatment requirements for the entire developed area to the maximum extent practical.

(1) For sites meeting the definition of a redevelopment project, stormwater shall be managed for water quality in accordance with one the following techniques:

a. Implement measures onsite that result in disconnection or treatment of 30% of the existing impervious surface area and at least 50% of the additional proposed impervious area, preferably using filtration and/or infiltration practices.

b. Implement LID practices to the maximum extent practicable to provide treatment of runoff generated from at least 50% of the entire developed site area.

(2) Pollutant removal efficiencies for stormwater BMPs shall be based on either the EPA BMP Performance Curves included in Attachment 3 of Appendix F of the NH MS4 Permit or Appendix E of the NHDES Stormwater Manual, Vol. 1, whichever is more appropriate for the proposed BMP type.

(3) Where practical, the use of natural, vegetated filtration and/or infiltration practices or subsurface gravel wetlands for water quality treatment is preferred given their relatively higher nitrogen removal efficiency. All new impervious areas draining to surface waters listed as nutrient shall be treated with stormwater BMP's designed to optimize pollutant removal efficiencies for such nutrients based on design standards and performance data published by the UNH Stormwater Center and/or included in the latest version of the NHDES Stormwater Manual.

(4) All newly generated stormwater from redevelopment shall be treated on the redevelopment site. Runoff shall not be discharged from the redevelopment site to

municipal drainage systems or privately owned drainage systems (whether enclosed or open drainage) or to surface water bodies and wetlands in rates greater than that discharged under existing conditions and in accordance with (I) Municipal Storm Connections.

(H) Options to Allow for Off-Site Mitigation for Redevelopment

For proposed projects, that meet the definition of redevelopment and cannot meet the enhanced post-construction stormwater treatment requirements listed in Part C of Section E through onsite measures due to limited space or other physical constraints, the applicant may propose an equivalent level or stormwater treatment for existing impervious area at an off-site location under an approved agreement with the existing landowner, as set forth below:

- (1) In cases where the applicant demonstrates, to the satisfaction of the Planning Board, that on-site treatment has been implemented to the maximum extent possible or is not feasible, off-site mitigation will be an acceptable alternative. Off-site mitigation shall be implemented within the same subwatershed as the redevelopment, within the project's drainage area, or within the drainage area of the receiving waterbody.
- (2) Off-site mitigation shall treat no less than the total area of impervious area not treated on-site. Treatment of the impervious area shall comply with all standards of this regulation.
- (3) The Applicant shall submit a concept plan of the specific management measure to be installed at a specific off-site location with a written agreement signed by the current property owner, and an implementation schedule for Planning Board's review. Municipally-owned land should be considered as a first priority in the selection of lands for off-site mitigation..
- (4) As part of the request to utilize the off-site mitigation option for redevelopment, the applicant shall also demonstrate there are no adverse downstream flooding impacts that would result from not providing appropriate on-site management from the 50-yr or greater storm.

(I) Stormwater BMP Inspection and Maintenance Plans.

The applicant shall develop and submit an enforceable long-term inspection and maintenance (I&M) plan for permanent stormwater treatment measures to maintain their effectiveness for the duration of their useful life. The I&M Plan shall contain relevant protective covenants and access easements in a long-term agreement that specifies who will be responsible for inspecting and maintaining the long-term integrity and the stormwater BMP functions. The I&M Plan shall be provided to the Planning Board as part of the Site Plan application review process or prior to issuance of any other local permits for land disturbance and construction activities. The Plan shall include the following items at a minimum:

1. An I&M agreement that identifies the Owner/ Operator and their successor that will be responsible for perform the inspections and maintenance and the ability to access these BMPs including all maintenance easements required to access and inspect the stormwater treatment practices, and to perform routine maintenance as necessary to ensure proper functioning of the stormwater system.
2. A Blank form that identifies the anticipated BMP features and relative condition assessment to be inspected annually and the anticipated condition thresholds that may trigger maintenance activity.
3. The I&M plan shall specify the parties responsible for maintenance of stormwater treatment practices, if different than the party inspecting the BMP.
4. The I&M plan shall be incorporated into the agreement of the property on which such measures are located and recorded at the Rockingham County Registry of Deeds. The narrative shall be in the form of a typical Development agreement, or as otherwise set forth by the Planning Board.
5. Inspection reports are to be maintained on-site and submitted to the Planning Dept. by June 1st of each year as outlined in Section M below.
6. If the Applicant is unable to adequately provide the required inspection and maintenance activities, the Town may require additional escrow funding upfront to be used by the Town to inspect, repair, replace and/or maintain the required measures.

(J) Pollutant Tracking and Accounting Program (PTAP) Submittal Requirements

All Applicants subject to Site Plan Review shall submit relevant PTAP information using the most recent online data portal currently managed by the UNH Stormwater Center and included on their website. This may include, but not be limited to, the following information which will be submitted as part of the site plan application:

1. Property address, parcel map no., parcel size, property owner and contact information, Applicant's Engineer contact information,
2. Current property use, amount of existing developed area, impervious area and vegetated area draining to each receiving water body.
3. Proposed property use, amount of disturbed area, impervious area and vegetated area draining to each receiving water body.
4. Description of existing and proposed stormwater drainage conveyances and treatment BMPs and amount of impervious area expected to be treated before discharging to specific water bodies,
5. Direct Receiving Water Body, NHDES HUC Assessment Unit No. and any listed water quality impairments.
6. For purposes of these regulations, the total impervious area of a lot or site is defined as the total area of impervious parking lots, accessways, driveways, roof area, decks, paved walkways, sidewalks, and any concrete stone, brick, asphalt or compacted gravel surface.
7. Impervious surfaces may be disconnected from the stormwater drainage network to reduce the total effective impervious surface cover through such techniques as infiltration or sheet flow over pervious area.
8. Estimates of pollutant load reductions or pollutant removal efficiencies provided by the proposed BMPs based on the impervious area and expected WQV volume to be treated and removal

1 efficiencies provided in Appendix F or the NH MS4 Permit, published data reported by the UNH
2 Stormwater Center or Appendix E of the NH Stormwater Manual, as amended.

- 3 9. Information on the long-term maintenance plan for the proposed BMP(s) including identifying the
4 responsible party, inspection frequency and the reporting procedures consistent with the details
5 identified in Section H above and Sections L and M below.

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10 **(K) Municipal Storm Connections**

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12 Connection to the municipal storm drainage system shall be allowed only if the use of vegetated or
13 on-site materials are not available or infeasible due to existing soils, space limitations or other
14 property constraints, or as otherwise determined necessary by the Planning Board. All projects shall
15 meet the criteria below to the maximum extent practicable, whether or not the onsite drainage
16 facilities are connected to the municipal system.

- 17
18 (1) The design and installation of any on-site structural BMP measure shall be in accordance with
19 the NH DES Stormwater Manual, Vols. 1 and 2, dated Dec. 8, 2008, or as amended, and meet
20 the requirements therein.
21
22 (2) The applicant shall demonstrate that adequate on-site stormwater provisions and drainage
23 facilities are included to prevent increases in the pre-development peak runoff rate leaving the
24 site for various design storm frequencies up to a 50-year, 24-hour design storm, consistent with
25 the requirements of § 3.03(B) of these Subdivision Regulations. Provisions for water quality
26 treatment and groundwater recharge shall also be included. Runoff potentially generated from
27 additional lot development aside from the roadway itself shall be included in the analysis.
28
29 (3) Such drainage facilities shall be located in the street rights-of-way, where feasible, to allow
30 convenient access for future maintenance. Where topography or other conditions are such as
31 to make this impractical, perpetual unobstructed easement for future maintenance, repair and
32 upgrade of the system shall be provided across all properties. Such easements shall be 25' or
33 more in width, and shall have satisfactory access to the road
34
35 (4) Where curbing is included in the road design to channel stormwater into the drainage system,
36 the curbing shall consist of granite.
37
38
39

40 **(L) Stormwater Management Plan Recordation**
41

- 1 (1) Stormwater Management BMP Inspection and Maintenance (I&M) Plan shall be incorporated as
2 part of any approved subdivision plan. A Notice of Decision acknowledging the Planning Board
3 approval of these plans shall be recorded at the County Registry of Deeds. The Notice of
4 Decision shall be referenced to the property deed (title/book/page number) and apply to all
5 persons that may acquire any property subject to the approved stormwater management and
6 sediment control plans. The Notice of Decision shall reference the requirements for maintenance
7 pursuant to the stormwater management and erosion and sediment control plans and
8 Stormwater BMP (I&M) Plan as approved by the Planning Board.
9
- 10 (2) The applicant shall submit as-built drawings of the constructed stormwater management system
11 within 2 years following construction in accordance with "As-Built Survey Checklist: as found in
12 Appendix B.
13

14 **(M) Responsibilities and Enforcement of Inspection, Maintenance, and Reporting**
15

- 16 (1) The property owner shall bear responsibility for the installation, construction, inspection,
17 and maintenance of all stormwater management and erosion control measures
18 required by the provisions of these regulations and as approved by the Planning
19 Board, including emergency repairs completed by the Town.
20
- 21 (2) The Code Enforcement Officer or other duly, appointed designee of the Town Manager shall be
22 responsible for enforcement [as referenced in Sec. 5.08] and have site access to undertake
23 routine inspections to ensure compliance with the approved stormwater management and
24 sediment and erosion control plans. Such inspections shall be performed at a time agreed upon
25 with the landowner during project construction.
26
- 27 (3) If violations or non-compliance with a condition(s) of approval are found on the site during
28 routine inspections, the inspector shall provide a report to the Code Enforcement Officer,
29 documenting these violations of non-compliance including recommended corrective actions.
30 The Code Enforcement Officer shall notify the property owner in writing of these violations of
31 non-compliance and corrective actions necessary to bring the property into full compliance.
32
- 33 (4) If a property is abandoned or becomes vacant; and in the event a property owner refuses to
34 repair infrastructure that is damaged or is not functioning properly, the Code Enforcement
35 Officer or other duly, appointed designee of the Town Manager, shall be responsible for
36 enforcement [as referenced in Sec. 5.08].
37
- 38 (5) Landowners shall be responsible for submitting an annual report to the Planning Department
39 by June 1 each year. Such documents shall be prepared by a Professional Engineer or stormwater
40 professional certifying that all stormwater management and erosion control measures are
41 functioning per the approved stormwater management plan. The annual report shall note if any
42 stormwater infrastructure has needed any repairs other than routine maintenance and the results
43 of those repairs. If the stormwater infrastructure is not functioning per the approved stormwater

1 management plan the landowner shall report on the malfunction in their annual report and
2 include details regarding when the infrastructure shall be repaired and functioning as approved.
3

4 (6) If no report is filed by June 1, the Code Enforcement Officer or other duly, appointed designee
5 of the Town Manager, shall be responsible for enforcement [as referenced in Sec. 5.07] and to
6 complete routine inspections to ensure compliance with the approved stormwater management
7 and sediment and erosion control plans. Such inspections shall be performed at a time agreed
8 upon with the landowner and the costs of such inspections shall be borne by the landowner.
9

10 (7) The Planning Board reserves the right to request the applicant to post a performance guarantee
11 or other security to cover the costs of future inspections or maintenance activities associated
12 with any onsite or offsite BMPs, if these inspections and/or maintenance activities are not
13 performed by the landowner(s) or other responsible party.
14

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1 Table 1: Stormwater Infrastructure Design Criteria

Design Criteria	Description										
Water Quality Volume (WQV)	$WQV = (P)(R_v)(A)$ P = 1 inch of rainfall R _v = unitless runoff coefficient, $R_v = 0.05 + 0.9(I)$ I = percent impervious cover draining to the structure converted to decimal form A = total site area draining to the structure										
Water Quality Flow (WQF)	$WQF = (q_u)(WQV)$ WQV = water quality volume calculated as noted above q _u = unit peak discharge from TR-55 exhibits 4-II and 4-III Variables needed for exhibits 4-II and 4-III: I _a = the initial abstraction = 0.2S S = potential maximum retention in inches = $(1000/CN) - 10$ CN = water quality depth curve number = $1000/(10+5P+10Q-10[Q^2 + 1.25(Q)(P)]^{0.5})$ P = 1 inch of rainfall Q = the water quality depth in inches = WQV/A A = total area draining to the design structure										
Groundwater Recharge Volume (GRV)	$GRV = (A_i)(R_d)$ A _i = the total area of effective impervious surfaces that will exist on the site after development R _d = the groundwater recharge depth based on the USDA/NRCS hydrologic soil group, as follows: <table> <tr> <th>Hydrologic Group</th><th>R_d (inches)</th></tr> <tr> <td>A</td><td>0.40</td></tr> <tr> <td>B</td><td>0.25</td></tr> <tr> <td>C</td><td>0.10</td></tr> <tr> <td>D</td><td>0.00</td></tr> </table>	Hydrologic Group	R _d (inches)	A	0.40	B	0.25	C	0.10	D	0.00
Hydrologic Group	R _d (inches)										
A	0.40										
B	0.25										
C	0.10										
D	0.00										
Channel Protection Volume (CPV)	If the 2-year, 24-hour post-development storm volume <u>does not increase</u> due to development then: control the 2-year, 24-hour post-development peak flow rate to the 2-year, 24-hour predevelopment level. If the 2-year, 24-hour post-development storm volume <u>does increase</u> due to development then: control the 2-year, 24-hour post-development peak flow rate to ½ of the 2-year, 24-hour pre-development level or to the 1-year, 24-hour pre- development level.										
Peak Control	Post-development peak discharge rates shall not exceed pre-development peak discharge rates for the 10-year and 50-year, 24-hour storms										
EIC and UDC	%EIC = area of effective impervious cover/total drainage areas within a project area x 100 %UDC = area of undisturbed cover/total drainage area within a project area x 100										

2 NHDES Stormwater Manual: Volume 2 Post-Construction Best Management Practices Selection & Design (December 2008)

3

DRAFT

To: Newmarket Planning Board

Date: February 9, 2022

Project #: 52848.00

From: Bill Arcieri

Re: **Summary of Proposed Changes to Site Plan Regs per
MS4 Stormwater Mgt Requirements**

The following summarizes recent suggested changes to Section 3.07 Stormwater Management of the Town's Site Plan Regulations to comply with the 2017 NH MS4 Stormwater Permit. Essentially, Section 3.07 would be replaced.

Summary of Recent Changes

<u>Page</u>	<u>Section</u>	<u>Description of Recent Change</u>
1	B	Definitions Revised several definitions
5	C	Applicability: Two disturbance thresholds; 1) Minimum Requirements: All projects subject to Site Plan Approval and will disturb more 5,000 square feet or 2,500 sq ft within 100 feet of a surface water body will need to meet all relevant Sections including Part A of Section F: Minimum Stormwater Mgt Requirements (<i>similar to existing Regs except the smaller projects at these lower disturbance threshold do not need to meet Pollutant Removal Efficiencies required by the MS4 permit</i>) 2) Enhanced Treatment Requirements: All projects subject to Site Plan Approval and will disturb 20,000 sq feet of area or add 5,000 sq feet of impervious area will need to meet all relevant sections and the Enhanced Stormwater Treatment requirements included in Section F; Parts B and C for new and redevelopment projects, respectively. (this is the same as current requirements) Note: The proposed 2017 Draft Revisions suggested that projects meeting lower disturbance threshold 5,000 sq ft and 2,500 sq ft would need to meet both the minimum and enhanced treatment requirements
6	D	Moved Stormwater Mgt Plan Submittal Requirements from previous Section F to new Section D (the current regs refer to it as a Stormwater Management and Erosion Control Report (SMECR) - we did we add any new provisions here
8	E	New Section E. Construction Erosion Control Standards. – nearly all these items were in current regs or the previous DRAFT Reg Updates but consolidated into this Construction Section – the premise was to list this separately from the Post-Construction Stormwater Standards in Section F
9	F	New Section F. Post-Construction Stormwater Management Performance Standards: see subsections below
9-12	F	Part A- Minimum Post Construction Stormwater Standards – apply to all small and larger projects that are subject to Site Plan review and will disturb at least 5,000 but less 20,000 sq, ft of area or 2,500 sq ft within 100 feet of a surface water body unless Exempt
		Part B- Enhanced Post-Construction Stormwater Standards – applies to all projects subject to Site Plan review, meets the definition of New Development and will disturb at least 20,000 sq feet of area or add 5,000 sq ft of impervious surface – must meet all Part A requirements plus provide Stormwater Treatment BMPs that achieve 80% TSS Removal and at least 50% Total Phosphorus and Total N removal for the total Impervious Area to the Maximum Extent Practical
		Part C- Enhanced Post-construction Stormwater Standards – applies to all projects subject to Site Plan review, meets the definition of Redevelopment and will disturb at least 20,000 sq feet of area or add 5,000 sq ft of impervious surface – must meet all Part A requirements plus must provide Stormwater Treatment BMPs for at least 30% of the Existing IC area and at least 50% of the newly proposed IC area or 50% of the total IC area on the site
12	G	Off-Site Mitigation for Redevelopment Projects if Onsite Stormwater Treatment is impractical
13	H	New Section H- Stormwater BMP Inspection and Maintenance Plan Submittal Requirements
14	I	New Section I – Pollutant Tracking and Accounting Program (PTAP) Submittal Requirements
14	J	Spill Prevention, Control and Response (SPCR) Plan - No Changes
15	K	Municipal Storm Drain Connection – Minor Clarity Changes
16	L	Stormwater management Plan Recording at Registry of Deeds _ Minor Edits – Added SW BMP I&M Plan
16	M	Responsibilities and Enforcement of Inspection, Maintenance, and Reporting _ Minor Edits



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Founded December 15, 1727
Chartered January 1, 1991

TOWN OF NEWMARKET, NEW HAMPSHIRE