MEMORANDUM

Date: January 19, 2015
To: Madbury Planning Board
From: Jack Mettee, AICP
Mettee Planning Consultants

Re: Local Stormwater Management/Erosion Control

The next task that the Planning Board has asked me to undertake is the review of Madbury's stormwater management regulations (and related erosion and sediment control regulations) and to determine what recommendations should be considered to update/modify these regulations.

This task will consider the following:

- Why consider changes to the existing regulations;
- Madbury's current regulations for stormwater management and erosion control;
- What are the land use regulatory options to manage stormwater; and
- Suggested options to update Madbury's current regulations.

Current Environmental Conditions Have Put a Spotlight on Water Quality and Stormwater Management

Over the past few years, there has been a significant regional policy focus on water quality protection in the Great Bay Watershed, including the protection of the Great Bay Estuary's water and marine resources. Much of this discussion has been centered on the need to better manage storm water at the local level through regulation *(Model Stormwater Standards for Coastal Watershed Communities, NH Stormwater Center and Rockingham Planning Commission, 2012)* and structural Best Management Practices, such as rain gardens and bioretention devices. In addition, there has been a parallel discussion about managing impacts from severe weather events, such as the Mother's Day storm of 2006. Many communities are looking to update their land us regulations to better address such events as extreme flooding.

Both of these issues, as well as the periodic need to update any land use regulation, provide a good basis for Madbury to consider updating its stormwater management-related regulations.

Madbury Has Minimal Standards for Managing Stormwater

At present, Madbury has very minimal regulations for stormwater management and the related regulations for erosion control. Any such controls or standards could be contained within the Zoning Ordinance itself or either the Subdivision or Site Plan Review Regulations. In Madbury, its current regulations are contained in the latter two regulations.

Zoning Ordinance

The current Zoning Ordinance does not contain any direct regulations or standards for stormwater management. Since zoning typically considers types of uses and dimensional standards, not having stormwater standards is not critical. Standards might apply if they were contained in an overlay district such as the Shoreland Protection Overlay District, the Aquifer and Wellhead Protection Overlay District or the Flood Hazard Area Overlay District. For example, the Shoreland District provides setback standards that regulate location of structures. These setbacks indirectly control runoff from these structures by directing stormwater through vegetated swales prior to discharge, thereby providing a measure of water quality protection.

Subdivision Regulations

Madbury's Subdivision Regulations contain two areas that address stormwater management—one is in Article V, Section 12, #'s 8 (Drainage) and 12 (Erosion). See below in yellow shading. These are only qualitative (not quantitative) standards that can be assessed by the Planning Board as part of an impact statement. The other area is Article V, Section 18 that sets a standard for peak storm discharge.

Article V SUBDIVISION STANDARDS

Section 12. Impact Statement

All subdivision applications shall include an impact statement which details the probable effects of that subdivision or development on the following areas of concern to the Town:

1. Schools: Attendance at public schools;
2. Traffic: Changes in vehicular traffic;
3. Population: Changes in the number of legal residents;
4. Municipal Costs: Increases in municipal costs;
5. Utilities: Load on public utilities or future demand on them;
6. Safety: Public safety;
7. Taxes: Changes in tax revenue;
8. Drainage: Changes in surface drainage;
9. Solid Waste: Increased refuse disposal;
10. Groundwater: Increased consumption of groundwater;

11. Pollution: Pollution of water or air;
12. Erosion: Land erosion or loss of tree cover;

Section 18. Stormwater Runoff
Appropriate measures shall be taken to prevent erosion and sedimentation, and in no case shall post-development run-off peak rate of discharge at the perimeter of the subdivided property be permitted to exceed the pre-development rate.

Site Plan Review Regulations

Madbury's Site Plan Review Regulations contain three sections that address stormwater and erosion control—all in Article VI, Standards, that are provided below.

Article VI STANDARDS

Section 1. Off-site Impacts
Development proposal shall be reviewed so as to minimize traffic congestion, traffic hazards, unsightliness, annoyance to abutters, erosion, surface water drainage and other effects detrimental to abutters, the neighborhood and the Town.

Section 5. Erosion
Measures shall be taken to minimize the dust, erosion and storm water run-off that could have a detrimental effect on neighboring properties or the environment.

Section 6. Stormwater Runoff
In no case shall post-development run-off velocity be permitted to exceed the pre-development rate.

While Madbury addresses stormwater management, it is rather minimal and could be updated to reflect current thinking on stormwater regulation and at a minimum recognize the legal documents required by the State of New Hampshire and the EPA for land disturbance in the land development process.

Depending on the preference of the Planning Board for the extent of updates as discussed below, there is at least one instance where a current standard in the Site Plan Regulations, Section 6 uses incorrect language and should be changed. The standard refers to "velocity" of runoff or stormwater and should be changed to "peak storm discharge".

Madbury Has Several Options to Update its Stormwater Regulations/Standards

First, Madbury, like other communities in New Hampshire is guided by NH State enabling legislation or statutes when it comes to land use regulation. These include:

- RSA 674:16—Grant of Power to Zone, particularly 674:16, 1(b)
- RSA 674:17—Purposes of Zoning Ordinances
- RSA 674:21—Innovative zoning, which allows for "flexible and discretionary zoning" as well as "environmental characteristics zoning".
- RSA 674:36—Subdivision Regulations
- RSA 674:44—Site Plan Review Regulations

Second, any land development activity that disturbs 100,000 SF (50,000 SF within a state defined shoreland area) of terrain is subject to NH RSA 485-A:17 and its regulations—Chapter Env-Wq 1500. Furthermore, any activity disturbing more than one (1) acre is subject to an EPA Stormwater General Permit which requires a Stormwater Pollution Prevention Plan. Madbury may continue to rely solely on these regulations and procedures although there are no specific standards then for land disturbance below these thresholds.

Third, Madbury has the option to update its regulations to more closely regulate and monitor land disturbance as part of the land development regulation process in concert with state and federal regulations. These could include:

1. Updates to the Zoning Ordinance
2. Updates to Subdivision or Site Plan Review Regulations or both.

If the Planning Board wishes to incorporate storm water and erosion control standards into the zoning ordinance, it would have to be through one or more of the existing zones or overlay districts or to create a new Stormwater Management/Erosion Control Overlay District that would in effect cover the whole town. The other option would be to update the Subdivision and/or Site Plan Review Regulations with more exact standards and procedures. At a minimum, any updates should make reference to the NH DES and EPA regulations.

Fourth, any update whether through zoning or subdivision/site plan should include some or all of the following items:

1. Purpose— why implement regulation— "to protect stormwater quality…"
2. Applicability—all development (?); developments of that disturb a certain minimum threshold of land such as 25,00 SF; development of greater than a certain number of units, say four or more.
3. Standards for Design and Construction—standards that would apply to any development that falls into #2 Applicability above.

Examples:

- The design of the stormwater management system shall provide for the discharge of stormwater without flooding or functional impairment to streets, adjacent properties, downstream properties, soils or vegetation.
- Best Management Practices—Retain stormwater on site using existing, natural flow patterns, minimum disturbance, minimize impervious cover, buffers, LID's, natural vegetation retained, native plantings, etc. Reference to NH DES Stormwater Manuals
- Prepare plans

a. A stormwater management plan that …..
b. A soil erosion and sedimentation control plan that addresses conditions during construction, provides permanent post-development protection of water quality, and implements best management practices consistent with and as recommended in the NH Department of Environmental Services *New Hampshire Stormwater Manual Volume 3: Erosion and Sediment Controls During Construction* and *Volume 2: Post-Construction Best Management Practices Selection and Design* (2009, as amended).
c. A post-construction stormwater management plan that implements best management practices consistent with and as recommended in the NH Department of Environmental Services *New Hampshire Stormwater Manual Volume 1: Stormwater and Antidegradation* (2009, as amended).

Note: these might be prepared as a single plan.

4. Applicability for Redevelopment—should these be the same or different than new development

5. Approval and Recording—PB approval. Third party review option? Record plan at Registry of Deeds.

6. Operations & Maintenance Criteria/Plan—incorporated as part of the conditions for subdivision and site plan review approval to ensure long-term effectiveness of the stormwater system.

7. Post Construction Inspection and Responsibility—Periodic reports to Town. Town could have access to conduct routine inspections of stormwater plan.