

DRAFT Proposed Code Amendments to accommodate the draft proposed Stormwater Management Bylaw for the Town of Brewster, Massachusetts

These proposed local code amendments have been prepared by Horsley Witten Group, Inc. (HW) for the Town of Brewster as part of Phase III of the Town's Integrated Water Resource Management Plan (IWRMP). An audit of the local bylaws was conducted to identify any provisions that would need to be modified to reference the new Stormwater Management Bylaw. The language contained herein includes amendments to the Staff Review Bylaw, Zoning Bylaw and Subdivision Rules and Regulations. The amendments contained in this document do not include provisions that further enhance stormwater management or low impact development (LID) above and beyond the Stormwater Management Bylaw and Regulations. However, HW will be providing additional proposed zoning and subdivision amendments to further enhance LID in a separate document. There are no suggested amendments for the Wetlands Protection Bylaw or Regulations; however, the NOI application package and other administrative documents and forms should be modified to include requirements that the provisions of the Stormwater Management Bylaw and Regulations be met.

Chapter 83, Staff Review

Article II. Procedure

Section 83-3. Applicability. [Amended 5-1-1995 ATM, Art. 17; 5-2-2011 ATM, Art. 29]

A. Proposed developments are required to complete staff review pursuant to this section if they include any one or more of the following:

- (1) A new principal nonresidential building.
- (2) An increase in floor area by more than 500 square feet through a new accessory building or a ~~five-hundred~~ **500** square-foot building addition or an increase in lot coverage by 10% or more; provided, however, that this provision shall not apply to single-family or two-family dwellings or to their accessory buildings, or to the coverage of their lots.
- (3) Alteration to a parking facility having 10 or more spaces.
- (4) Removal of existing vegetative ground cover from more than 10,000 square feet of site area, whether a structure is proposed or not.
- (5) Any change of use of an existing building and/or property as listed in Chapter 179 of the Code of the Town of Brewster, Massachusetts.
- (6) Any use or development required by the Zoning Bylaw to seek staff plan review.
- (7) A new personal wireless services facility.
- (8) A new medium-scale wind energy turbine (MWET) or large-scale wind energy turbine (LWET) as defined in Chapter 179, Article IX, Section 179-40.2C.
- (9) A new utility-scale solar energy installation.

Do the floor area or groundcover removal thresholds that trigger Staff Review need to be adjusted to avoid confusion or to streamline review process given Stormwater Management applicability requirements under 999-4 of the Stormwater bylaw? Solar installation exemption?

B. Review of optional Stormwater Management Concept Plans under Chapter 999 shall be held in conjunction with Staff Review.

~~B. C.~~ Any person proposing a development of any kind wishing to present proposed plans for plan review on an informal basis is encouraged to do so.

~~C. D.~~ This chapter shall not apply to single-family or two-family dwellings or to their accessory buildings and structures **unless associated with an optional Stormwater Management Concept Plan application.**

~~D. E.~~ This chapter shall not apply to developments which, prior to its effective date, have been granted a special permit under § 179-51 of the Zoning Bylaw, or a building permit.

~~E. F.~~ Chapter 179, Article XII (Site Plan Review), requires either a special permit or a waiver for developments subject to review under § 83-3A. The review afforded by the staff review process is believed to greatly benefit the applicant and relevant Town boards, committees and departments. As a result, applicants are required to go through staff plan review prior to appearing before the Planning Board for the special permit.

Section 83-5. Required submissions. [Amended 5-1-1995 ATM, Art. 17; 5-2-2011 ATM, Art. 29]

The following materials shall be submitted for review, except **where staff review is being held solely for a Stormwater Management Concept Plan under Chapter 999, in which case required submissions are provided within Section XX of the Subdivision Rules and Regulations,** or for any determined by staff to not be germane to the specific case, as communicated to the submitter prior to submittal:

Article III, Development Standards

Section 83-8. Environmental protection requirements.

A. Stormwater management. All development **and redevelopment** shall be designed **to be in compliance with the Town of Brewster Stormwater Management Bylaw, Chapter 999.** so that resulting stormwater patterns resemble, as nearly as possible, preexisting conditions of volume, velocity, quality and location of runoff. ~~Any increase over predevelopment runoff peak rate shall be authorized only if the PRC determines that any potential problems with capacity, downstream erosion or siltation will be prevented through on- or off-site improvements or compensatory actions and that the public interest is better served by allowing the increase than by denying it.~~

B. Erosion control. **Erosion and sediment control shall be provided for all development and redevelopment as required by the Town of Brewster Stormwater Management Bylaw, Chapter 999.**

~~(1) Any area of bare earth exposed through building or site development or demolition must be permanently stabilized through replanting, paving or other means of eliminating wind or water erosion. Such stabilization must be completed prior to building occupancy or, where no building~~

1 is committed, within 60 days of exposure, or a performance bond must be posted in an amount
2 sufficient to assure completion of such work.

3 (2) All construction must comply with the following. An erosion control plan shall be submitted
4 for every development which will expose more than 60,000 square feet of bare earth during
5 development through either removal or filling on the same parcel or on contiguous parcels in the
6 same ownership and for developments exposing 20,000 to 60,000 square feet of bare earth where
7 the Plan Review Committee deems such plan to be necessitated by slopes in excess of 10%
8 highly erodible soils or other unusual conditions. Such plan shall have sufficient information on
9 existing and proposed topography, vegetation and control measures to allow determination of
10 compliance.

11 (a) Stripping of vegetation, regrading or other development shall be done in a way which will
12 minimize soil erosion.

13 (b) Whenever practical, trees and other natural vegetation shall be retained, protected and
14 supplemented.

15 (c) The disturbed area shall be kept to a minimum.

16 (d) Where necessary, temporary vegetation and/or mulching shall be used to protect areas
17 exposed during development.

18 (e) Sediment basins (debris basins, desilting basins or silt traps) shall be installed and maintained
19 where necessary to remove from runoff waters any sediment from land undergoing development.

20 (f) The angle of graded slopes and fills shall be no greater than two horizontal to one vertical.
21 Slopes left exposed must immediately be planted or otherwise provided with permanent ground
22 cover or other means sufficient to restrain erosion.

23 (g) A ground cover sufficient to restrain erosion must be planted or otherwise provided within 30
24 working days, season permitting, on any portion of the tract upon which further active
25 construction is not being undertaken.

26 (h) The development plan shall be fitted to the topography and soils so as to minimize erosion
27 potential.

28 (3) The Plan Review Committee may require a report on the erosion control proposals by the
29 Soil Conservation Service or others expert in soil mechanics in cases where doubt as to adequacy
30 of proposed measures exists. Selection of techniques and determination of adequacy of measures
31 shall, unless otherwise specified, be consistent with Guidelines for Soil and Water Conservation
32 in Urbanizing Areas of Massachusetts, United States Department of Agriculture Soil
33 Conservation Service, 1975.

34
35 *The basic ESC requirements were addressed /updated in the Stormwater Regulations, Section 8*
36 *except for the specific reference to the Soil Conservation Service which was removed completely.*
37 *If the Planning Board and ConCom review processes does not already allow for this via other*
38 *code or policy, then we can put it back it. The significant changes to these requirements include:*
39 *smaller disturbance thresholds for triggering erosion control plans and the 7 or 14-day*
40 *timeframe for temporary stabilization.*

41 42 **§ 83-9. Other design requirements.**

43
44 A. Site design. Site designs not complying with any of the following guidelines shall be allowed
45 only upon determination by the PRC that for the given location, use and size of development, no
46 design better serving the purposes of the chapter is reasonably feasible:

(1) Parking and loading areas shall be located to the side or rear of the principal structure, wherever possible. Where site constraints prevent this, visibility of parking areas shall be reduced through location of not more than 1/3 of all parking between the building and the street. [Amended 5-9-1994 ATM, Art. 27]

(2) At least 25% of the required front yard area shall be vegetated.

(3) Existing grade shall be changed minimally, to meet the intent of Chapter 999, Stormwater Management Bylaw, typically departing from existing grade by no more than six feet and resulting in a balance on site between cut and fill, except for basement and cellar excavations:-

(4) Site circulation shall have clarity from the driver's perspective, aided by simple patterns and use of planting islands or other devices in larger circulation areas.

(5) Pedestrian access, or bicycle and wheelchair access where possible, shall be provided among all facilities on the site, between them and the street and between them and adjacent premises developed for uses open to the public. [Amended 5-1-1995 ATM, Art. 17]

Chapter 179. Zoning

Article IX. Special Regulations

Section 179-34. Multifamily dwellings.

D. The developer shall provide, within multifamily developments, including row houses, an internal sewage collection system which shall be of sufficient size and design to collect all sewage from all present and probable structures in the development. The developer shall also provide a communal sewage treatment and disposal system, which ~~must be approved by~~ complies with 310 CMR 15.00, the State Environmental Code Regulating Septic Systems ("Title 5"), ~~known as Title V of the Massachusetts Department of Environmental Quality Engineering Regulations filed May 20, 1977, as amended, and the Brewster Board of Health Regulations,~~ and which is of sufficient size to dispose of all sewage from all present and probable structures in the development. The developer shall provide within multifamily developments, including row houses, a storm drainage system which ~~shall be of sufficient size and design as will collect, carry off and dispose of all surface water runoff within the development determined by the rational method, for a ten year design storm, and shall be so~~ constructed as to conform to the Brewster Stormwater Management Bylaw, Chapter 999 and associated Stormwater Regulations, ~~regulations of the Town of Brewster and the Commonwealth of Massachusetts.~~ The developer shall provide within multifamily developments, including row houses, a water distribution system which shall be approved by the Brewster Water Department and shall be of sufficient size and design to supply potable water to each of the structures to be erected in the development. This distribution system must be connected to and served by the public water supply system of the Town. [Amended 5-14-1984 ATM, Art. 113]

1 *Multifamily units <5,000 sf of disturbance are currently exempted from proposed Stormwater*
2 *Bylaw.*

3 Section 179-36. Planned Residential Development.

4 (C)(4) The developer shall also provide within the planned residential development a storm
5 drainage system which shall be of sufficient size and design as will collect, carry off and dispose
6 of all surface water runoff within the development determined by a rational method of a twenty-
7 year storm and shall be so constructed as to conform with the **Brewster Stormwater**
8 **Management Bylaw, Chapter 999** regulations of the Town of Brewster Department of Public
9 Works Construction Standards, with appropriate computations and drainage schedules attached.

11 Section 179-42. Subsidized elderly housing.

12 E. Design

13 The design of building form, building location, egress points, grading and other elements of
14 development shall:

- 15 (a) Protect pedestrian and vehicular safety within the site and egressing from it.
16 (b) Minimize visual intrusion of parking areas as viewed from public ways or abutting premises.
17 (c) Minimize the volume of earth cut and fill.
18 (d) Minimize the number of removed trees four inches in diameter and larger.
19 **(e) Comply with the Brewster Stormwater Management Bylaw, Chapter 999.**
20 ~~(e) Control soil erosion.~~
21 ~~(f) Avoid more than a 10% increase in peak hour stormwater flow increase from the site.~~
22 ~~(g) (f) Control headlight glare.~~

24 Article XI. Water Quality Protection Bylaw

25 Section 179-56. Use Regulations.

27 D. Uses/Structures Allowed by Special Permit –

28 (2)(d) Any use that will render impervious more than fifteen percent (15%) or two thousand five
29 hundred (2,500) square feet of any lot, whichever is greater. A system for groundwater recharge
30 must be provided which **complies with the Brewster Stormwater Management Bylaw,**
31 **Chapter 999 and associated Regulations.** ~~does not degrade groundwater quality. For~~
32 ~~nonresidential uses, recharge shall be by stormwater infiltration basins or similar systems~~
33 ~~covered with natural vegetation, and dry wells shall be used only where other methods are~~
34 ~~infeasible. For all nonresidential uses, all such basins and wells shall be preceded by oil, grease~~
35 ~~and sediment traps to facilitate removal of contamination. Any and all recharge areas shall be~~
36 ~~permanently maintained in full working order by the owner.~~

38 Section 179-57. Performance Standards.

39 **E. All land uses, structures and related developments shall conform to the standards and**
40 **requirements of the Town of Brewster Stormwater Management Bylaw, Chapter 999.** All

runoff from impervious surfaces shall be recharged on the site and diverted towards areas covered with vegetation for surface infiltration to the extent possible. Dry wells shall be used only where other methods are infeasible and shall be preceded by oil, grease and sediment traps to facilitate removal of contaminated solids. In the vicinity of chemical or fuel delivery points, provision shall be made for spill control.

F. The Planning Board shall ensure that land uses, structures and related developments conform to the following performance standards for storm water management.

(1) No development shall result in a direct discharge of untreated stormwater, either on or offsite.

(2) Post development discharge rates shall not be greater than predevelopment discharge rates.

(3) New development shall maximize recharge to groundwater.

(4) New development shall be required to remove, onsite, no less than 80% of the annual total suspended solids generated from development runoff.

(5) Best management practices shall be maintained for appropriate periods of time.

These requirements have been partially incorporated into the Stormwater regulations, Section 8(B)(2)(c) Recharge Volume and (i) Critical Areas. It should be determined if the Town wants to duplicate them, or have them only in one location, and if acceptable BMPs should be specified. The draft Stormwater Regulations currently include a reference to the WQP Bylaw.

Article XII. Site Plan Review

Section 179-66. Site Plan standards.

F. Environmental Protection Requirements.

1. Stormwater management **and erosion and sediment control.** **All land uses, structures and related development shall conform to the standards and requirements of the Town of Brewster Stormwater Management Bylaw, Chapter 999.** All development shall be designed so that resulting stormwater patterns resemble, as nearly as possible, preexisting conditions of volume, velocity, quality and location of runoff. Any increase over predevelopment runoff peak rate shall be authorized only if Staff Review determines that any potential problems with capacity, downstream erosion or siltation will be prevented through on- or off-site improvements or compensatory actions and that the public interest is better served by allowing the increase than by denying it.

The draft Stormwater Regulations do not specify an off-site mitigation option. However, if this is important to the Town, or might be necessary for redevelopment projects or to provide more flexibility when requiring higher levels of treatment for TMDL compliance, we recommend incorporating a provision in Section 14 of the Stormwater Regulations.

2. Erosion control.

i. Any area of bare earth exposed through building or site development or demolition must be permanently stabilized through replanting, paving or other means of eliminating wind or water erosion. Such stabilization must be completed prior to building occupancy or, where no building is committed, within 60 days of exposure, or a performance bond must be posted in an amount sufficient to assure completion of such work.

1 ~~ii. Existing grade shall be changed minimally, typically departing from existing grade by no~~
2 ~~more than six feet and resulting in a balance on site between cut and fill, except for basement and~~
3 ~~cellar excavations. Existing grade shall be changed minimally, typically departing from existing~~
4 ~~grade by no more than six feet and resulting in a balance on site between cut and fill, except for~~
5 ~~basement and cellar excavations.~~
6 ~~iii. All construction must comply with the following. An erosion control plan shall be submitted~~
7 ~~for every development which will expose more than 60,000 square feet of bare earth during~~
8 ~~development through either removal or filling on the same parcel or on contiguous parcels in the~~
9 ~~same ownership and for developments exposing 20,000 to 60,000 square feet of bare earth where~~
10 ~~the Plan Review Committee deems such plan to be necessitated by slopes in excess of 10%~~
11 ~~highly erodible soils or other unusual conditions. Such plan shall have sufficient information on~~
12 ~~existing and proposed topography, vegetation and control measures to allow determination of~~
13 ~~compliance.~~
14
15 ~~a. Stripping of vegetation, regrading or other development shall be done in a way which will~~
16 ~~minimize soil erosion.~~
17 ~~b. Whenever practical, trees and other natural vegetation shall be retained, protected and~~
18 ~~supplemented.~~
19 ~~c. The disturbed area shall be kept to a minimum.~~
20 ~~d. Where necessary, temporary vegetation and/or mulching shall be used to protect areas exposed~~
21 ~~during development.~~
22 ~~e. Sediment basins (debris basins, desilting basins or silt traps) shall be installed and maintained~~
23 ~~where necessary to remove from runoff waters any sediment from land undergoing development.~~
24 ~~f. The angle of graded slopes and fills shall be no greater than two horizontal to one vertical.~~
25 ~~Slopes left exposed must immediately be planted or otherwise provided with permanent ground~~
26 ~~cover or other means sufficient to restrain erosion.~~
27 ~~g. A ground cover sufficient to restrain erosion must be planted or otherwise provided within 30~~
28 ~~working days, season permitting, on any portion of the tract upon which further active~~
29 ~~construction is not being undertaken.~~
30 ~~h. The development plan shall be fitted to the topography and soils so as to minimize erosion~~
31 ~~potential.~~

32
33 *These basic requirements were addressed /updated in the Stormwater Regulations, except for the*
34 *specific reference to the Soil Conservation Service which was removed completely, since it is*
35 *assumed that the Planning Board and ConCom review processes would allow for this. The*
36 *thresholds for disturbance trigger erosion control plans and the schedule for temporary*
37 *stabilization have been changed.*
38

39 **Chapter 290, Subdivision Rules and Regulations**

40 **Article III. Plan Submission and Approval Procedures**

41 **Section 290-9. Preliminary plans.**

42 (D)(5) The proposed system of drainage **in accordance with Section 7 of the Town of**
43 **Brewster Stormwater Management Regulations.**, including the location of all wetlands, water
44 bodies, streams, open drains and ditches, natural or man-made, and flowage rights, public and

1 private, adjacent to (and to be affected by the drainage from the subdivision) or within the
2 proposed subdivision in a general manner.
3

4 *Consider whether the Concept Plan or Final Plan checklist should be used to best match*
5 *drainage information to be shown on the Preliminary Plans.*
6

7 Article IV. Design and Construction Standards

8 Section 290-19. Drainage. 9

10 A. The construction of a drainage system, including methods of construction and quality of
11 materials used, shall be in conformity with the definitive plan, **the Brewster Stormwater**
12 **Management Bylaw, Chapter 999, and associated Regulations** and the details shall conform
13 to the details of the Massachusetts Highway Department specifications and standards and typical
14 roadway construction details unless specifically excepted by the Board.

15 ~~B. There shall be a drainage basin every 300 feet on continuous grades.~~

16 ~~C. The quantity of stormwater carried by drains normally shall be determined by the Rational~~
17 ~~Formula Method, unless an engineer shows evidence that another approach is more appropriate~~
18 ~~in a specific case. However, in no event shall the protection provided be for a lower design storm~~
19 ~~than specified below. The design storm shall be 25 years in normal cases involving~~
20 ~~developments, 10 years for industrial subdivisions and 100 years for bridge openings.~~

21 ~~D. The engineer shall provide a plan for stormwater runoff based on the method outlined above,~~
22 ~~which shall be attached to the road profiles. Additionally, a topographic plan showing the areas~~
23 ~~of drainage contribution both on and abutting the development shall be furnished.~~
24
25