

WELLFLEET ENVIRONMENTAL PROTECTION REGULATIONS

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1.01: Introduction and Purpose

(1) Introduction

The Wellfleet Environmental Protection Regulations (hereinafter referred to as “WEPR or the Regulations”) are promulgated by the Town of Wellfleet Conservation Commission (hereinafter referred to as the “Commission”) pursuant to the authority granted under the WEP Bylaw as approved on April 28, 1986 at Town Meeting as amended (hereinafter referred to as the “Bylaw”). These Regulations shall complement the Bylaw and shall have the force of law upon their effective date.

(2) Purpose

These Regulations set forth a public review and decision-making process by which activities affecting Areas Subject to Protection Under the Bylaw are to be regulated in order to contribute to the following public interests and environmental values:

- (a) protection of public and private water supply
- (b) protection of ground water quality and supply
- (c) flood control
- (d) erosion and sedimentation control
- (e) storm damage prevention
- (f) prevention of pollution
- (g) protection of land containing shellfish
- (h) protection of fisheries
- (i) protection of wildlife habitat
- (j) protection of ecologically important plants and trees

Commentary: HW gave the list above letters for reference and added letter j as a new line.

The purpose of the Regulations is to define and clarify the process by which the Conservation Commission may carry out its responsibility under the Bylaw.

1.02: Statement of Jurisdiction

(1) Areas Subject to Protection (ASPs) Under the Bylaw

The following areas are subject to protection under the Bylaw and Regulations:

- (a) Wetland Resource Areas as defined in **Section 1.04**.
- (b) Buffer Zones as established in **Section 2.01**
- (c) Inundation Protection Zones as defined in **Section 2.05**

Commentary: This section #1 above was simplified. However, the reader will see that, in fact, the jurisdiction area is expanded in this draft. As a matter of

housekeeping, HW has tried to capture lengthy lists (e.g., estuary, creek, river, stream...) and lengthy descriptions (e.g., the ACEC) into definitions like "Wetland Resource Area." This makes the regulations easier to read.

(2) Activities Subject to Regulation Under the Bylaw

- (a) Activities Within an ASP. Any activity which is proposed or undertaken within an ASP which, in the judgment of the Commission, will constitute removing, filling, dredging or otherwise altering any such area, is subject to jurisdiction under the Bylaw and Regulations and shall require the filing of a Notice of Intent and permission, in the form of an Order of Conditions, from the Commission to proceed. Applicants shall refer to **WEPR 1.05 Procedures** for more information on how to file an application with the Commission.
- (b) Activities Outside an ASP. Activities outside of an ASP shall be under the jurisdiction of the WEP Bylaw where:
1. The proposed activity occurs on a lot where work in an ASP is under review or where an Order of Conditions is being carried out.
 2. The proposed activity occurs on a lot that contains some portion of an ASP, and includes activity relevant to **Section 2.02 Nutrient Management**.
 3. The proposed activity will, or has had in the past, a significant or cumulative adverse effect upon the interests and values as set forth at **WEPR 1.01(2)**.

Commentary: This section (b) above is altered from the current regulations. HW would like to review this language with the Commission.

(3) Request for Determination of Applicability

Any property owner that wishes to formally question whether a portion of property is located within an ASP, or whether an activity shall be subject to approval by the Commission may file a Request for Determination of Applicability with the Commission pursuant to the procedures in **Section 1.05**.

Commentary: This section #3 above was added by HW just to add emphasis. The existing Regulations make a very quick mention of this process. HW thinks this process is particularly important, so we propose to give it its own subsection.

1.03: General Provisions

(1) Burden of Proof

- (a) For activities within the jurisdiction of the WEP Bylaw and Regulations, the applicant shall have the burden of proving by a preponderance of credible

evidence that:

1. The activity proposed is not significant to the protection of the public interests or environmental values as identified under WEPR 1.01(2), or
2. The activity proposed will contribute to the protection of the public interests and environmental values as identified under WEPR 1.01(2) by complying with the performance standards established for that particular resource area. If performance standards for a particular ASP are not set forth in these Regulations, the Commission shall apply the performance standards for work in that particular resource area as are established at 310 CMR 10.00.
3. The activity proposed will not have an adverse impact of either an immediate or cumulative nature upon the public interests and environmental values as identified under WEPR 1.01(2).

(2) Burden of Going Forward

- (a) The applicant shall have the burden of going forward with credible evidence from a competent source in support of all matters asserted by the applicant in accordance with his/her burden of proof pursuant to WEPR 1.03(1).

(3) Continuing Liability for Compliance with M.G.L. Ch. 131 s. 40 and the Bylaw

- (a) Any person who purchases, inherits or otherwise acquires real estate upon which work has been done in violation of the provisions of this Regulation or in violation of any Order issued under this Regulation shall forthwith comply with any such order to restore such real estate to its condition prior to such violation.

(4) Amendments

These regulations may be amended in accordance with Article 9 of the Bylaw.

(5) Variances

- (a) Upon petition from an applicant, the Commission may, in its discretion, grant variances from one or more of the regulations pursuant to the provisions of this section. variances shall be granted on a case-by-case basis and shall not set a precedent for future Variance requests.
- (b) The review and decision on variance applications are subject to the following:
 1. The Commission shall only grant a variance upon clear and convincing proof, provided by the applicant, that the proposed work and its impacts

and effects, will not adversely affect the public interests and environmental values protected by the Bylaw. To make this determination, consideration shall include, but shall not be limited to:

- a. The completeness and accuracy of the information provided in the application.
- b. The documented history of performance of best management practices that are proposed.
- c. The capacity of proposed structures or best management practices to withstand impacts from severe weather or future flooding events.
- d. The demonstrated nexus between the proposed activity and the protection of the public interest.
- e. The inability to pursue a reasonable alternative that would result in less adverse impact to an ASP.

Commentary: This section #1 above was expanded by HW to provide the Commission with a series of criteria that would assist with deliberation of variances and writing decisions.

2. In exercising its discretion, the Commission shall require an analysis of reasonable alternatives for the proposed activity which comply with the WEP Bylaw and Regulations. The applicant shall provide the Commission with a written alternatives analysis and any other information the Commission requires to make a decision. Failure of the applicant to provide information within a time period specified by the Commission may result in the denial for a Variance request.

(6) Severability

The invalidity of any section or provision of this Regulation shall not invalidate any other section or provision thereof, nor shall it invalidate any permit or determination which previously has been issued.

1.04: Definitions

(1) Relationship to Wetlands Protection Act

Unless otherwise defined in the Bylaw or Regulations, those definitions set forth in the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 s. 40) and 310 CMR 10.00 shall apply to the Wellfleet Environmental Protection Regulations.

(2) Additional Definitions

Commentary: New definitions, or those significantly changed are highlighted in blue. Several definitions were pulled from the body of the Regulations and placed in this Definitions section.

ACEC (Area of Critical Environmental Concern) is a natural and cultural resources with state designation for their high quality, uniqueness, and significance. ACECs within Wellfleet include the Wellfleet Harbor ACEC designated in 1989 (as amended or clarified) totaling 12,480 acres within the towns of Eastham, Truro, and Wellfleet.

Activity means any form of draining, dumping, dredging, damming, discharging, excavating, filling or grading; the erection, reconstruction or expansion of any buildings or structures; the driving of pilings; the construction or improvement of roads and other ways; the changing of run-off characteristics; the intercepting or diverging of ground or surface water; the installation of drainage, sewage and water systems; the discharging of pollutants; the destruction of plant life; and any other changing of the physical characteristics of land.

Alter means to change the condition of any ASP. Examples include, but are not limited to, the following:

- (a) the changing of pre-existing drainage characteristics, flushing characteristics, salinity distribution, sedimentation patterns, flow patterns and flood retention areas;
- (b) the raising or lowering of the water level or water table;
- (c) the destruction of vegetation;
- (d) the changing of water temperature, biochemical oxygen demand (BOD), and other physical, biological or chemical characteristics of the receiving water.

Armored shoreline is a CES that uses stone, wood, metal plates, or similar materials to cover and protect a shoreline from erosion.

Buffer Zone means the area of jurisdiction established in Section 2.01.

Coastal bank means the seaward face or side of any elevated landform, other than a coastal dune, which lies at the landward edge of a coastal beach, land subject to tidal action, or other coastal wetland. Coastal banks shall be delineated in accordance with the Massachusetts Department of Environmental Protection Wetlands and Waterways Policy: Coastal Banks: Definition and Delineation Criteria for Coastal Banks (DWW Policy 92-1).

Coastal engineering structure (CES) means, but is not limited to, any breakwater, bulkhead, groin, jetty, revetment, seawall, weir, riprap, gabions, marine mattress, sandbags, or any other structure that is designed to alter wave, tidal or sediment transport processes in order to protect inland or upland structures from the effects of such processes. Planting of vegetation and placement of biodegradable netting or fabric shall not be considered a CES.

Coastal Wetland shall mean any coastal bank, marsh, swamp, meadow, flat, land under the ocean, land subject to tidal action, land containing shellfish and land subject to coastal storm flowage.

Competent Source shall refer to an expert in a particular field and may include a registered land surveyor, professional engineer, wetland scientist, soil scientist, geologist, hydrologist, botanist, ecologist, oceanographer or forester.

Diffraction, relating to coastal banks and inundation, is the apparent bending of waves around small obstacles and the spreading out of waves past small openings.

Ecological Restoration Project a project whose primary purpose is to restore or otherwise improve the natural capacity of a resource area(s) to protect and sustain the interests identified in M.G.L. c131 §40, when such interests have been degraded or destroyed by anthropogenic influences. This term shall not include projects intended to provide mitigation for the alteration of a resource area authorized by a Final Order or Variance issued pursuant to 310 CMR 10.00 or a 401 Water Quality Certification issued pursuant to 314 CMR 9.00: *401 Water Quality Certification for Discharge of Dredged or Fill Material, Dredging, and Dredged Material Disposal in Waters of the United States Within the Commonwealth*, other than projects implemented pursuant to a US Army Corps of Engineers approved in-lieu fee program.

Fill means to deposit any material so as to raise an elevation, either temporarily or permanently. Fill materials may include, but are not limited to, sand, gravel, loam, shells, stone, concrete and pavement. Untreated wood materials used for pilings shall not constitute fill.

Freshwater Wetland is defined at [WEPR 2.02\(2\)](#).

Hydric Soil shall mean a soil that is saturated, ponded or flooded long enough during the growing season to cause anaerobic conditions in the upper part as evidenced by hydric soil indicators.

Hydric Soil Indicators include histosols; histic epipedons; presence of sulfidic materials; gleyed soils; soils with a matrix chroma of 0 or 1 and values of 4 or higher within 12 inches from the bottom of the O-horizon; soils with a chroma of 2 or less and values of 4 or higher in the matrix and mottles with a chroma of 3 or higher within 12 inches from the bottom of the O-horizon; and within 12 inches of the bottom of the O-horizon, soils with a matrix chroma of 3 and values of 4 or higher, with 10 percent or more low-chroma mottles, as well as indicators of saturation (i.e., mottles, oxidized rhizospheres, concretions, nodules) within 6 inches of the soil surface. In sandy soils, hydric soil indicators include soils with

a high organic content in the surface layer (typically darker colors with values less than 3 and chroma of 2 or less) with mottles or other indicators of saturation directly below; soils with organic streaking directly below the A-horizon; or soils with a matrix chroma of 3 in the top 12 inches of soil measured from the bottom of the O-horizon, with distinct or prominent mottling.

Isolated Wetlands are freshwater wetlands and may include wet meadows, marshes, swamps, bogs and vernal pools which do not border on any creek, river, stream, pond or lake. Isolated wetlands are areas where the soils are saturated and/or inundated such that they support a preponderance of wetland indicator plants, hydric soils or other indicators of hydrology.

Land Subject to Coastal Storm Flowage are lands subject to tidal water, flooding, or any inundation caused by coastal storms up to and including that caused by the 100-year storm, the surge of record or the storm of record, whichever is greatest. Land Subject to Coastal Storm Flowage is delineated as the 100-year flood plain (Zones, A, AO, AH, A1-A30, A99, V, and V1- V30) on the Flood Insurance Rate Maps, prepared by the National Flood Insurance Program for the Town of Wellfleet or as otherwise documented.

- (a) A Zone (including A-, AE, A1-30, and A99) – A zones are those portions of the land subject to coastal storm flowage which are subject to inundation by types of 100-year flooding where still water predominates
- (b) AO Zone, over wash – Those portions of land subject to coastal storm flowage which are subject to inundation by moving water where average depths are between one and three feet. AO Zones are commonly associated with over wash and generally border on the landward side of a Velocity Zone.
- (c) AH Zones – Those portions of land subject to coastal storm flowage which correspond to the areas of 100-year shallow flooding with a constant water-surface elevation (usually areas of ponding) where average depths are between 1 and 3 feet.
- (d) V Zone – Those portions of land subject to coastal storm flowages which are subject to inundation by velocity hazard (wave action)

Living Shoreline is a type of CES that is used to protect coast banks from erosion through the use of newly installed vegetation, which may or may not be fortified by subsurface structural elements or small-scale aboveground structural features. These are distinct from armored shorelines.

Pond means any open body of fresh water. Ponds may be naturally occurring or man-made by impoundment, excavation, or otherwise. Ponds shall contain standing water except for periods of extended drought.

Notwithstanding the above, the following man-made bodies of open water shall

not be considered ponds:

- a. basins or lagoons which are part of a wastewater treatment plant;
- b. swimming pools;
- c. storm water retention basins;

Pruning shall refer to the act of removal of dead, dying, diseased or undesirable plant parts to reduce a hazard, to improve plant structure, to provide a vista, or to improve plant health.

Reflection, relating to coastal banks and inundation, is the change in direction of a wave front at an interface between two different media so that the wave front returns into the medium from which it originated.

Refraction, relating to coastal banks and inundation, is the change in direction of a wave due to a change in its speed.

Selective Cutting shall mean the selective removal of trees, shrubs, invasive or exotic plants within an Area Subject to Protection under the Bylaw.

Small Vessel shall mean any canoe, kayak, dory, skiff, dinghy, sail or paddle board, or similar watercraft without a motor for use in the waterways.

Subdivision shall mean the division of a tract of land into two or more lots, including divisions where approval is required and approval is not required under the Subdivision Control Law M.G.L. C. 41 s. 81K through 81 GG.

Vernal Pool means any confined depression which, in most years, holds water for a period of time during the year, is free of adult fish populations and provides wildlife habitat for vernal pool indicator species. All vernal pools, whether certified by the Massachusetts Natural Heritage and Endangered Species Program or not, are protected under these Regulations as freshwater wetlands.

Vernal Pool Indicator Species include but are not limited to Blue-spotted salamander (*Ambystoma laterale*), Jefferson salamander (*Ambystoma jeffersonianum*), Marbled salamander (*Ambystoma opacum*), Four-toed salamander (*Hemidactylium scutatum*), Wood Frog (*Rana sylvatica*), Eastern Spadefoot toad (*Scaphiopus holbrooki*), Spotted turtle (*Clemmys guttata*), Wood turtle (*Clemmys insculpta*), Blanding's turtle (*Emydoidea blandingi*), Fairy shrimp (*Eubranchipus spp.*), and Fingernail clams (*Psidiidae spp.*).

Wetland Resource Area shall include:

- (a) any freshwater wetland, inland bank, coastal wetland, coastal bank, beach, dune, flat, marsh, wet meadow, vernal pool, bog or swamp
- (b) any estuary, creek, river, stream, pond, lake and lands under these bodies of

- water; land under the ocean
- (c) land subject to tidal action, land subject to coastal storm flowage, bordering land subject to flooding, isolated land subject to flooding

WEP shall mean Wellfleet Environmental Protection.

1.05: Procedures

(1) General

The procedures, requirements and definitions set forth in the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 s. 40) and 310 CMR 10.00 are hereby incorporated and made a part of these Regulations subject to the following:

- (a) Where the procedures and requirements set forth in the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 s. 40) and its implementing regulations (310 CMR 10.00) differ or depart from these Regulations or the Bylaw, the Bylaw and Regulations shall prevail except when making an application for an Ecological Restoration Project. Ecological Restoration

Projects shall conform to the procedures set forth in 310 CMR 10.11 Actions Required Before Submitting a Notice of Intent for an Ecological Restoration Project and 10.12: Notice of Intent for an Ecological Restoration Project.

- (b) Where the language and definitions of the Bylaw or Regulations are more definitive or protective than those set forth in the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 s. 40) and 310 CMR 10.00, the language and definitions of the Bylaw and Regulations shall prevail.
- (c) Where the General Performance Standards of the Bylaw or Regulations are more definitive or protective than those set forth in the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 s. 40) and 310 CMR 10.00, the General Performance Standards of the Bylaw and Regulations shall prevail.

(2) Filing Requirements

- (a) All applications (Request for Determination of Applicability, Notice of Intent, Abbreviated Notice of Intent, Abbreviated Notice of Resource Area Delineation) shall include, at a minimum, all of the following:
 1. A written narrative that completely describes the proposed work, including the methods, materials and equipment to be used, the proposed means of access to the site, the area(s) where materials are proposed to be stored/staged, proposed mitigating measures and means of erosion control.
 2. Locus map showing the location of the property where work is proposed

3. Site Plan including but not limited to all of the following:
 - a. Delineation of all Areas Subject to Protection Under the Bylaw as set forth at **WEPR 1.02(1)** and the Massachusetts Wetlands Protection Act.
 - b. Property Boundaries
 - c. The names of the abutting property owner(s).
 - d. Location of existing and proposed structure(s).
 - e. Square footage of areas of existing and proposed disturbances.
 - f. Existing and proposed grading in a minimum two-foot contour.
 - g. Elevations must be in NAVD 88 datum. If using an older plot plan the datum must be clearly marked on the site plan.
4. Landscaping and Re-Vegetation Plan **including a species list and planting schedule (if applicable)**
5. Proper filing fees

- (b) Applications that include changes in the topography, elevation or grade on a property shall include a site plan that shows the existing and proposed site conditions including topography/elevation; the location of all existing and proposed structures; and the boundaries of all Wetland Resource Areas.
- (c) Where Coastal Engineering Structures (CES) are proposed, the applicant shall refer to **WEPR 2.03** for additional filing requirements:

(3) Fees

(a) Fee Schedule

Request for Determination of Applicability	\$ 30.00
Notice of Intent	\$ 100.00
Certificate of Compliance	\$ 15.00
Amended Order of Conditions	\$ 50.00
Coastal Engineering Structure	\$ 2.00/ linear ft.
Docks	\$ 2.00/ linear ft.
Re-issuance of a permit*	\$ 20.00
After-the-Fact filing of a Request for Determination of Applicability	\$ 300.00
After-the-fact filing of a Notice of Intent	\$ 1000.00
Jurisdictional Opinion	\$15.00

Small Vessel Permit	See Section 2.06 of this Regulation
Continuance after two hearings due to a lack of appearance or at the request of the applicant	\$5.00 / Additional Hearing

(4) Certificate of Compliance

- (a) Upon Completion of the work described in the Order of Conditions, the applicant shall request in writing the issuance of a Certificate of Compliance stating that the work has been satisfactorily completed.
- (b) If the Commission determines, after review and inspection, that the work has not been done in compliance with the Order of Conditions, it may refuse to issue a Certificate of Compliance. Such a refusal shall be in writing and shall specify the reasons for denial.
- (c) If a project has been completed in accordance with plans stamped by a registered professional engineer, architect or land surveyor, a written statement by such a professional person certifying substantial compliance with the plans and setting forth what deviation, if any, exists from the plans approved in the Order shall accompany the request for a Certificate of Compliance.
- (d) If the Order of Conditions contains conditions which continue past the completion of the work, such as maintenance, nourishment or monitoring, the Certificate of Compliance shall specify which, if any, of such conditions shall continue. The Certificate shall also specify to what portions of the work it applies, if it does not apply to all the work regulated by the Order.
- (e) The Certificate of Compliance shall be recorded in the Land Court or Registry of Deeds, whichever is appropriate. Certification of recording shall be sent to the Commission on the form at the end of Form 8.

(5) Enforcement

- (a) Pursuant to the provisions of M.G.L. Ch. 40 § 21D and the **Town of Wellfleet General Bylaw Article IX** §1, the Conservation Commission may issue fines of up to \$200 per violation per day for any violation of any provision of the Wellfleet Environmental Protection Bylaw and Regulations.

2.00: Additional Regulations for Environmental Resource Areas

2.01: Wetland Resource Area Buffer Zone

Commentary: In an attempt to consolidate some text and limit some redundant language, HW proposed to combine the “Preamble” in each of these major sections with the “Presumption of Significance.” Also, each finding was given its own subsection letter.

(1) Presumption of Significance

As background to its deliberations on applications for activity within the Wetland Resource Area Buffer Zone (hereafter referred to as “the Buffer Zone”), the Commission puts forth the findings in this subsection. In accordance with these findings, the Commission presumes the Buffer Zone to be significant to the public interest and environmental values protected by these regulations. These findings serve as the foundation for performance standards provided herein.

- (a) Vegetated buffer zones contribute to the protection of public and private water supply, ground water quality and supply, flood control, erosion and sedimentation control, storm damage prevention, prevention of pollution, the protection of land containing shellfish, the protection of fisheries and the protection of wildlife habitat.
- (b) The composition of the vegetation, topography, and soils within undisturbed buffer zones is widely variable, the diversity of which contributes to the public interests and environmental values protected under the WEP Bylaw and Regulations.
- (c) Vegetated buffer zones reduce impacts to wetland resource areas by moderating the effects of stormwater flow. Undisturbed vegetation stabilizes the soil, which prevents erosion, filters suspended solids, nutrients, and harmful or toxic substances, and moderates water level fluctuations.
- (d) Vegetated buffer zones, and the woody debris, fallen leaves, and organic matter associated with naturally vegetated areas, reduce the velocity and erosive force of stormwater flow through the Buffer Zone, and allow suspended sediments to settle out and the stormwater to infiltrate into the ground before reaching wetlands and surface waters. Nutrients and contaminants associated with stormwater runoff are taken up and utilized by plants and microorganisms or are adsorbed into the soils. The removal of sediment and nutrients by the plants and soils within the buffer zone protects wetlands and waterways from potential algal blooms and other impacts to surface water quality. Trees and shrubs within the buffer zone provide soil stability and shade to adjacent wetlands and water bodies which helps to control water temperature, aquatic vegetation, dissolved oxygen concentration and nuisance algae growth within surface waters.

- (e) The diversity of trees, shrubs and woody debris provides important food, cover, thermal protection, nesting, roosting and breeding sites for large and small mammals, birds, reptiles and amphibians. Contiguously vegetated buffer strips also provide valuable wildlife corridors. The Town of Wellfleet is host to a variety of rare plants and wildlife that depends on habitat requirements provided by the Buffer Zone.
- (f) Exotic and/or invasive vegetation within the Buffer Zone reduces the natural productivity and value of these areas.
- (g) The Buffer Zone is essential to the protection of wetland resource areas. The ability of the Buffer Zone to provide the benefits and environmental values that are protected under the WEP Bylaw and Regulations correlates positively with the width of the Buffer Zone provided.

(2) Definition, Critical Characteristics, and Boundary

The Buffer Zone is herein established and includes two distinct areas:

- (a) The No Disturb Zone shall refer to that area of land extending 50 feet horizontally outward from any Wetland Resource Area as defined in the WEPR.
- (b) The Protection Zone shall refer to that area of land extending 50 feet horizontally outward from the boundary of the No Disturb Zone.

Commentary: The language of this section #2 above is a simplification of the language in current Regulations, but the effect is the same in terms of the areas that are reviewed.

The following sections (3 through 5) represent a re-organization of material in the Regulations today. HW believes this is a more intuitive structure for the buffer regulations.

(3) General Standards for the Buffer Zone

General standards for activities proposed in the entire Buffer Zone, including both the No Disturb and Protection Zones, are as follows:

- (a) Any activity proposed within the Buffer Zone shall avoid, minimize, and/or mitigate any adverse impacts in order to provide the greatest level of protection to the public interests and environmental values protected under the WEP Bylaw and Regulations.
- (b) Notwithstanding the provisions of **WEPR 2.01(3)(a)**, the Commission may issue an Order of Conditions permitting work in the Buffer Zone. In order to receive an Order of Conditions for activities proposed within the Buffer Zone, the Commission shall find the activities comply with the performance standards within these documents. Proposed activities that cannot comply with these performance standards shall require a variance.

(c) Where the Buffer Zone overlays other resource areas subject to protection under the Bylaw, the applicable performance standards for each resource area shall be independently and collectively applied and the project appropriately conditioned to protect all stated interests. Where the applications of separate performance standards may be in conflict, strict application shall be for those standards which, in the discretion of the Commission, most fully meet the intended protections for the regulations.

(4) Standards for the No Disturb Zone

Commentary: The language related to the 50-foot buffer is basically the same here when compared with the current Regulations.

(a) Within the No Disturb Zone, the Commission may issue an Order of Conditions allowing the following activities:

1. Pruning to reduce a hazard, to improve tree or plant structure, to provide a reasonable vista, or to improve the health of trees and shrubs.
2. Selective Cutting of vegetation.
3. Elevated stairways over a Coastal Bank and Inland Bank.
4. Removal of invasive species.
5. Planting of native vegetation.
6. Habitat management activities designed to enhance the values protected by the WEP Bylaw.
7. Construction and maintenance of unpaved pedestrian access paths not more than four (4) feet in width.
8. Maintenance of existing structures, utilities, stormwater management structures.
9. Construction and maintenance of water dependent structures and uses.
10. Construction of new utility lines where the proposed route is the best environmental alternative.
11. Septic system maintenance and, if a system has failed, repair/replacement meeting state/local standards where the disturbance to the buffer zone is avoided and/or minimized to the maximum extent practicable.
12. Construction, maintenance, repair/replacement of drinking water wells.
13. Maintenance, repair and drainage improvements on existing roadways and driveways.
14. Repair, replacement, or construction of a new CES as may be allowed pursuant to **Section 2.04 Coastal Bank**.

(b) The following activities are prohibited within the No Disturb Zone. Prohibitions of these uses in the No Disturb Zone does not imply they shall be allowed in any other ASP.

1. New and/or expanded lawn and garden areas.
2. New structures including but not limited to homes, buildings, garages, sheds, and decks.
3. Expansion of existing structures including but not limited to homes, buildings, garages, sheds, and decks.

(5) Performance Standards for the Protection Zone

Commentary: The language related to the 100-foot buffer was reshuffled and altered significantly by HW. Despite the extent of our changes to the text, the goal of our work was to try to maintain the intent of today's regulations as we interpreted it.

- (a) Activities shall occur outside and upgradient of the Protection Zone to the maximum extent practicable.
- (b) Activities located upgradient of the Protection Zone shall have no significant adverse impact to the Protection Zone as a result of site grading, stormwater discharge, or any other activity that would directly contribute to the degradation of the Protection Zone.
- (c) If locating a project entirely outside and upgradient to the Protection Zone is not practicable, an alternatives analysis shall be offered in the Notice of Intent and evaluated by the Commission in order to locate the project as far as possible from the ASP and to minimize impacts to the Buffer Zone. An alternative shall be considered practicable if it is available and capable of being done. Practicable alternatives may include, without limitation, realignment, reconfiguration or re-sizing of project components to minimize impacts to the Buffer Zone.
- (d) On lots recorded prior to November 19, 2003, disturbance shall not exceed the lesser of 3,000 square feet or 20% of the total area of the Protection Zone in accordance with the following:

Commentary: Note the important change to subsection (d) above, the addition of the 20% maximum standard.

1. Any area where vegetation is to be removed or where soils are to be disturbed shall be included in the calculation.
2. Land area within the Protection Zone that is disturbed at the time of the application shall be included in the calculations for total allowable disturbed area.
3. For lots and subdivisions recorded after **November 19, 2003**, the alternatives analysis shall include all alternatives available prior to the subdivision of the lot(s) and all work shall be located outside the Protection Zone.

Commentary: This standard #3 is carried over from the existing

Regulations. But HW would like clarification as to what is being said here.

On lots recorded on or after November 19, 2003, disturbance shall be limited to the maximum extent practicable.

- (e) Projects involving demolition of an existing structure and reconstruction of a new structure in its place shall be subject to an alternatives analysis and the provisions of 2.01(4)(d).
- (f) The Commission shall only allow disturbance within the Protection Zone through an Order of Conditions where it finds compliance with the following standards:
 - 1. The No Disturb Zone (50-foot buffer) shall be maintained as an undisturbed vegetated buffer with the exception of any activities allowed pursuant to [insert citation]. If there is not a 50-foot-wide area of undisturbed vegetation within the Buffer Zone, the existing vegetative cover shall be preserved and/or extended beyond 50-feet in some areas by re-vegetating with native plants to the maximum amount feasible in order to approximate a 50-foot-wide corridor of native vegetation.
 - 2. On previously developed or disturbed sites, all work proposed within the Protection Zone shall result in an improvement of the existing conditions and the capacity of the resource area(s) and Buffer Zone to protect the public interests and environmental values protected under these Regulations. The Commission may require, as mitigation for new alteration within the Buffer Zone: re-vegetation and restoration of areas previously altered or disturbed within the Buffer Zone; re-routing existing roof runoff through gutters and roof drains which direct roof drainage into drywells or leaching pits; and may require drainage improvements and/or other mitigating measures.
 - 3. Expansion of existing structures constructed before [insert date of regulations approval] within the Protection Zone may be allowed provided that:
 - a. No new structure or addition to an existing structure shall be located closer to a wetland resource area than existing conditions.
 - b. The area of the proposed disturbance and all previously disturbed areas shall not, cumulatively, exceed the lesser of 3,000 square feet or 20% of the Protection Zone on the lot in question.

Comment: This standard #3 above, particularly subsection b, represents a significant change.

- 4. Projects which include substantial demolition (i.e., removal of more than one exterior wall) and subsequent reconstruction of a dwelling shall be

considered a new building and shall site as much of the project as possible outside of the Protection Zone. Projects for expansion of existing homes greater than 25% of the existing size, as measured in square footage of the foundation or cubic footage of the structure, shall be considered a new building and shall site as much of the project as possible outside of the Protection Zone.

5. The limit of work will normally reflect the limit of the altered area and shall be shown clearly and accurately on all plans submitted to the Commission at the time of filing.
6. All new construction within or upgradient of the Protection Zone shall incorporate gutters and roof drains which direct roof drainage into drywells or leaching pits or incorporate drip lines with crushed stone sufficient to prevent soil erosion.
7. Driveways within or upgradient of the Protection Zone shall be constructed with pervious materials. The Commission may allow paved driveways, where special circumstances exist (e.g. steep slopes), provided that stormwater from the contributing area is managed according to Stormwater Best Management Practices that are consistent with the Massachusetts Stormwater Policy.

Comment: This standard #7 above has slightly expanded language related to stormwater management.

8. Cutting, pruning, lifting the canopy, limbing or other destruction of above ground vegetation shall be limited. View clearing or vista pruning will not be permitted until construction is complete and a specific view identified after occupancy.
 - a. When pruning is permitted, it shall be for the removal of dead, diseased, obstructing and weak branches as well as thinning of branches to lessen wind resistance. Shrubs must retain their natural shape and features such as fruits and flowers by selecting the optimum height and pruning different branches in alternate years.
 - b. When vista cutting is the only viable option in a heavily vegetated lot, the Commission may allow the removal of up to 5% of existing trees greater than or equal to 6" diameter at breast height or 10% of existing trees less than or equal to 6" diameter in breast height in any three-year period and no more than 20% of the tree canopy. All trees proposed to be removed must be clearly delineated on site and on a certified plot plan. When vista pruning, and cutting is proposed, specific windows of view (containing top, sides, and bottom and not devoid of one species) be identified and shown on a plan. Filtered vistas are encouraged and can be accomplished through pruning and lifting although topping may be permitted in specific cases. Clear cutting and cutting from property line to property line is prohibited.

- c. When lifting is proposed, the health of the tree must be considered as well as the impact to wildlife. In no instance, shall more than 1/3 of the above ground trunk be pruned.
 - d. Dead and diseased trees may be removed if they endanger a structure or live vegetation. Flush cutting of dead and diseased trees is preferred and uprooting will only be allowed where such action provides clear environmental benefit.
 - e. The Commission may require the replacement planting of native shrubs and trees in areas proposed for tree removal. A 3:1 replacement of shrubs for mature trees (6" dbh or greater) and a 2:1 replacement for sapling trees (less than 6" dbh).
- (g) Septic system maintenance is allowed in the Protection Zone for systems that were approved before the adoption of these regulations (insert date). If a pre-existing system has failed, repair/replacement is allowed provided it meets state/local standards and disturbance to the buffer zone is avoided and/or minimized to the maximum extent practicable.
- (h) Leaching fields for new septic systems are not allowed in the Protection Zone.

2.02: Nutrient Management

Comment: This entire section is new and is an attempt to address many of the concerns related to nutrient producing activities.

(1) Presumption of Significance

As background to its deliberations on applications for activity within ASPs as defined by these regulations, the Commission puts forth the following findings. In accordance with these findings, the Commission presumes nutrient management to be significant to the public interest and environmental values protected by these regulations. These findings serve as the foundation for performance standards provided herein.

- (a) Nutrients produced by anthropogenic activities have been shown, through numerous scientific studies, to have the potential to significantly harm the health and function of Wetland Resource Areas and groundwater quality. In surface waters, nutrients can trigger growth of algae and other plant species in a manner that eventually disrupts the natural balance of the aquatic ecosystem. Early stage impacts from increased nutrients include disruption of habitat from excessive vegetation growth and associated species imbalance. Later stage impacts include excessive die-off of vegetation, leading to plummeting levels of dissolved oxygen and eventual ecosystem crash.
- (b) Sources of nutrients that can be harmful to the public interest and

environmental values protected by these Regulations include, but are not limited to, effluent from on-site septic systems, soaps and detergents, fertilizer applied to lawns and gardens, and stormwater runoff from impervious surfaces or areas that were cleared of vegetation.

- (c) Maintaining vegetated buffers between developed areas and Wetland Resource Areas is one of the most effective ways to mitigate impacts from nutrients. Vegetated buffers encourage uptake of nutrients by plants and recharge of runoff into the ground where some nutrients (i.e., phosphorus) will bind with the soil, keeping it from entering the Wetland Resource Area.
- (d) Lawn areas and landscaping that uses non-native species or plant/grass varieties that are intolerant to drought and coastal conditions create a situation where property owners are much more likely to use excessive amounts of fertilizer.
- (e) The proper location and design of amenities like outdoor showers can significantly limit the amount of runoff that may escape these areas, carrying soaps and detergents toward Wetland Resource Areas.
- (f) Limiting disturbance of existing vegetated communities and managing impervious areas with proper grading and strategies to recharge runoff can limit negative impacts to adjacent resources by limiting the quantity and quality of runoff that reaches these resources.

(2) Landscaping

- (a) No tree, shrub or plant shall be planted that has been identified as an Invasive Species by the Massachusetts Plant Advisory Group in the latest version of *The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts* (with annotated list), has been identified as invasive or banned on the *Massachusetts Prohibited Plant List* as periodically updated by the Massachusetts Department of Agricultural Resources, or in any other reputable scientific publication that may be acceptable to the Commission.
- (b) Planting to restore or expand areas within the No Disturb or Protection Zones shall be native species chosen specifically for the climate and habitat on the site. Applicants are encouraged to consult the latest version of *The Vascular Plants of Massachusetts: A County Checklist* as published by the Massachusetts Division of Fisheries and Wildlife and Natural Heritage & Endangered Species Program to determine which plants are native to Barnstable County.
- (c) Planting designed to be ornamental shall use varieties shall be selected for resistance to drought and the specific stressors anticipated for different areas of the site. Plants shall be selected so that landscaping can be maintained with minimal care and the need for watering, pesticides, or fertilizers can be minimized or eliminated.
- (d) Lawn seed mixes or installed turf shall be drought resistant. To achieve a high level of drought tolerance, lawn mixes may include, but shall not be limited to, a predominance of fine fescues.

(3) On-Site Septic Systems

- (a) On-site septic systems shall meet the standards of the Wellfleet Board of Health
- (b) On-site septic system leach fields shall be located at least two-hundred (200) feet from the nearest Wetland Area Resource as measured laterally on a site plan.

(4) Outdoor Rinsing Stations

- (a) Outdoor rinsing stations shall be designed in such a manner that no water can escape the rinsing area to become surface runoff.

Commentary: "Outdoor showers" have caused some controversy as Title V requires a true shower to be connected with a septic system. However, there has been public debate between Health Officials as to whether this can be enforced, as a practical matter, and whether showers that are not connected to a septic system represents a legitimate threat to water resources. HW recommends the Town proceed with the language above, which uses the proper terminology of Title V and limits enforcement to issues related to surface runoff. This is a more appropriate approach for the Conservation Commission.

2.03: Freshwater Wetland

(1) Presumption of Significance

As background to its deliberations on applications for activity that may impact a freshwater wetland, the Commission puts forth the following findings. In accordance with these findings, the Commission presumes freshwater wetlands be significant to the public interest and environmental values protected by these regulations. These findings serve as the foundation for performance standards provided herein.

- (g) Freshwater Wetlands are shown to be significant to the public interests and environmental values of public and private water supply, groundwater supply and quality, flood control, storm damage prevention, erosion and sedimentation control, prevention of pollution, to the protection of fisheries, wildlife habitat and rare species habitat.
- (h) The plants and soils of freshwater wetlands remove and detain nutrients and toxic substances that occur in storm water run-off and flood waters. Some nutrients and toxic substances are detained for years in plant root systems and in the soil. Others are detained by plants during the growing season and released as the plants decay in the fall and winter. This latter phenomenon delays the impacts of nutrients and toxins until the cold weather period,

when such impacts are less likely to impact water quality.

- (i) Freshwater wetlands are areas where groundwater discharges to the land's surface. Hydrology is the driving force which creates wetlands, some of which can be transient and temporal in nature. The presence of water at or near the ground surface during a portion of the year supports, and in fact promotes, the growth of wetland indicator plants. Prolonged or frequent saturation or inundation also produces hydric soils, and creates anaerobic conditions that favor the growth of wetland indicator plants. Hydric soils are direct indicators of long-term hydrologic conditions and are present throughout the year.
- (j) Freshwater wetlands provide important wildlife habitat. Wetland vegetation supports a wide variety of insects, reptiles, amphibians, small mammals, and birds which may serve as a source of food for fisheries. Wetland vegetation also provides shade which moderates water temperatures important to fish and also to species that occupy vernal pools. The hydrologic regime, plant community composition and structure, soil composition and structure, topography, and water chemistry of freshwater wetlands provide important food, shelter, migratory and over-wintering areas, and breeding areas for many birds, mammals, amphibians and reptiles. The diversity of freshwater wetlands in terms of the structure and composition of the vegetation, soils and hydrology provide a variety of habitats for various species of wildlife which may use these areas seasonally or year round.
- (k) Although the vegetational community alone can often be utilized to establish an accurate wetland boundary, the presence of hydric soils and hydrology can supplement the vegetative criteria and enhance the technical accuracy, consistency and credibility of wetland boundary delineations, and are especially useful for analyzing disturbed sites.

(2) Definition, Critical Characteristics, and Boundary

- (a) Freshwater wetlands include, but are not limited to, wet meadows, marshes, swamps and bogs. Freshwater wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants or, in the absence of vegetation and in areas where the vegetational community has been disturbed or altered, are areas that have characteristics of hydric soils or other indicators of wetland hydrology including, but not limited to the presence of oxidized rhizospheres and buttressed or water-stained tree trunks.
- (b) Freshwater wetlands include Vernal Pools as defined at **WEPR 1.04(2)**.

(3) Performance Standards

Removing, filling, dredging or draining of freshwater wetlands, whether they are bordering or not, is prohibited.

2.04: Coastal Bank

(1) Presumption of Significance

As background to its deliberations on applications for activity within or directly affecting a coastal bank, the Commission puts forth the following findings. In accordance with these findings, the Commission presumes coastal banks to be significant to the public interest and environmental values protected by these regulations. These findings serve as the foundation for performance standards provided herein.

- (a) Coastal Banks are important to the public interests and environmental values of storm damage prevention, flood control, prevention of pollution, erosion and sedimentation control, protection of land containing shellfish, and protection of wildlife habitat.
- (b) Coastal Banks are variable in their form and function. Coastal Banks composed of unconsolidated sediment that are subject to wave action serve as a continuous source of sediment for beaches, dunes, barrier beaches and other land forms that exist due to coastal processes. Sediment is removed from Coastal Banks by wave action and deposited in down-drift areas. The amount and timing of sediment removal is dependent on beach and sea conditions which may change over time. Coastal erosion and sediment removal from coastal banks is a naturally occurring process that is necessary to the continued existence of coastal beaches, coastal dunes and barrier beaches which, in turn, dissipate storm wave energy, thus protecting the structure and function of coastal wetlands landward of them from storm damage and flooding and protecting land containing shellfish and wildlife habitat.
- (c) Waves and currents associated with coastal processes also remove fine grained sediments (e.g. fine sand & silt) from Coastal Banks which serve as source material for inter-tidal and sub-tidal areas. These areas serve to reduce destructive energy associated with storm waves, and also allow continued vertical build-up of substrate. As relative sea level continues to rise, and possibly accelerate as predicted, it is important to provide source material to allow these inter-tidal and sub-tidal areas to vertically accrete and continue to provide storm damage prevention, flood control, protection of land containing shellfish, and protection of wildlife habitat.
- (d) Coastal Banks, because of their height and stability, may act as a buffer, or natural wall, which protects adjacent lands from storm damage, flooding. While erosion caused by wave action is an integral part of shoreline processes and furnishes important sediment to down-drift landforms, erosion of a Coastal Bank by wind, rain and storm water runoff, which plays only a minor role in beach nourishment, shall not be increased unnecessarily. Therefore, disturbances to a Coastal Bank which reduce its natural resistance to wind and rain erosion, cause cuts and gulley's in the

bank, increase the risk of its collapse, increase the danger to structures at the top of the bank and decrease its value as a buffer.

- (e) Bank vegetation tends to stabilize the bank and reduce the rate of erosion due to wind, rain and storm water flow. Pedestrian and vehicular traffic damages the protective vegetation and frequently leads to gully erosion or “blowouts” on unconsolidated banks.
- (f) A Coastal Bank may serve as both a sediment source and as a vertical buffer, or it may serve only one role.
- (g) Coastal Banks that have all or a portion of the bank within a FEMA V – zone of the mapped 100-year coastal floodplain are significant to storm damage prevention or flood control because they supply sediment to coastal beaches, coastal dunes, barrier beaches or tidal flats, the ability of the coastal bank to erode in response to wave action is critical to the protection of said interests and environmental values.
- (h) When the Conservation Commission determines that a Coastal Bank is significant to storm damage or flood control because it acts as a vertical buffer to storm surges, the stability of the bank and the natural resistance of the bank to erosion caused by wind, rain, and storm water runoff is critical to the protection of said interests and environmental values.

(2) Activity that Does Not Qualify as a CES

Regrading or altering land within or adjacent to a coastal bank, in a manner that does not meet the definition of a CES, but still has the intent or effect of significantly altering the flow of inundation waters, is prohibited. This includes, without limitation, the use of berms, depressions, dredging, or similar techniques.

Commentary: The language above addresses the issue discussed with the Commission where property owners are creating small berms or similar small-scale alterations in an attempt to prevent or limit overtopping.

(3) Definitions Related to CES

Commentary: These terms are defined here to set up the subsequent organization of this section.

- (a) Repair – Activity customarily associated with routine maintenance of an existing CES, which does not qualify as a replacement per the definition of that terms provided herein.
- (b) Replacement – Activity that removes or alters a CES, in part or in whole, in a manner that significantly changes the form, materials, and function of the original CES. Examples of replacement activities include, without limitation:

1. Changing the height of the CES.

2. Changing the materials, whether one type of armor for another, or moving from an armored to a living shoreline approach.
3. Increasing or decreasing the volume of material by more than 5% of the original CES volume.

(c) New – Activity that would establish a CES where one does not already exist. Extending an existing CES over coastal bank area where one does not exist shall qualify as a new CES.

(4) Repair of an Existing CES

(a) A property owner may engage in activity that meets the definition of CES repair through an Order of Conditions. The application shall include explanation of why the activity does not qualify as a new CES or replacement.

(5) Replacement of, or Establishing a New CES

- (a) A new or replacement CES may be allowed through an Order of Conditions only where the applicant can demonstrate the resulting CES will further the public and environmental interests set forth in these regulations. Protection of individual property alone shall not be sufficient as cause to establish a new CES or to replace an existing CES.
- (b) New or replacement CES that will reduce the ability of the coastal bank to provide sediment to coastal beaches, coastal dunes, barrier beaches, tidal flats, or sub-tidal areas shall not be allowed.
- (c) New or replacement CES that will alter any surface water flow in a manner that increases potential erosion, inundation, or other potentially harmful forces on adjacent properties or to adjacent resource areas shall not be allowed.
- (d) The establishment of new CES may only be allowed using living shoreline applications and must provide a clear environmental benefit over existing conditions.
- (e) The replacement of an existing CES shall incorporate living shoreline applications to the maximum extent practicable.
- (f) Beach nourishment as a standalone solution, or as a significant long-term component of a broader CES approach shall not be allowed. Living shoreline techniques should be applied that protect against shoreline erosion and minimize the need for beach nourishment.
- (g) A new CES shall not be permitted for properties where primary buildings are greater than 40 feet from the top of the Coastal Bank or for buildings more than 20 years from the top of the bank based on long-term annual erosion rates for that specific site. The Commission may consider a short-term erosion rate for certain sites where human activity has altered the natural coastal processes or natural sediment sources for that site.

(6) Analysis of Alternatives

Where a CES is eligible for an Order of Conditions, the Notice of Intent shall include a written analysis of alternative solutions, in writing and stamped by a Registered Professional Engineer. The analysis of alternatives shall include the following as applicable:

- (a) Proof that there are no feasible alternative methods of protecting the property other than the proposed CES. Feasible alternatives include:
 - 1. Moving threatened buildings or structures to an alternative location on the same parcel.
 - 2. Moving threatened buildings or structures to an adjacent parcel of land currently or formerly (limited to the time period after the effective date of these Regulations) owned by the applicant, or in which the applicant has, or can obtain an ownership interest (i.e. a Realty Trust or other legal entity).
 - 3. Elevating existing structures.

Commentary: Note the addition of #3 above.

- (b) Demonstration that a non-structural solution has been tried at the site and has failed to provide adequate protection from storm damage to the building. The commission shall require detailed maintenance records to show that the system was properly maintained.
- (c) Where armoring of shoreline is proposed, a detailed assessment showing why living shoreline applications are not feasible.

(7) CES Design Requirements

Project design, site mitigation and restoration plans shall be submitted to the Commission at the time of filing the Notice of Intent. The plans shall be consistent with the following criteria:

Commentary: Much of the language below is the same or very similar to the current regulations. Importantly, HW has tried to revise the language to push applicant away from CES approaches that require constant nourishment/replenishment of beaches. This came up during discussions with the Commission. HW also added language to address information needed for living shoreline proposals.

- (a) A narrative describing the methods used to determine Mean High Water (MHW) at the site shall include all calculations (including datum conversion) used to determine MHW for the site and shall be submitted to the Commission at the time of filing the Notice of Intent. Field measurements of MHW contour shall be detailed on the plans and submitted

for two time periods: late winter/early spring (February – April) AND late summer/autumn (August – October). The more landward delineation of MHW shall be used.

- (b) Where a living shoreline application is proposed, detailed engineering plans and planting plans are required. The materials, dimensions of any above ground or subsurface structural elements shall be provided with appropriate cross sections. A phasing plan shall be submitted that shows installation activities and maintenance in the years leading up to the point where vegetation is fully established.
- (c) Where any nourishment or planting is proposed, the applicant shall obtain a sediment grain size analysis of the existing coastal bank, which shall be signed and stamped by a Registered Professional Engineer, and shall provide the results to the Commission at the time of filing the Notice of Intent. The applicant shall detail on the plans where on the coastal bank the sediment sample(s) were taken, the number of samples taken, and the method of grain size analysis (e.g., single sample or composite). This analysis shall be the basis for determination of appropriate nourishment material.
- (d) Where a CES will divert energy from wave action away from the property, the CES shall be designed with a return which shall avoid, minimize and mitigate end scour effects on neighboring properties. If a CES is proposed adjacent to a property not protected by a CES, the return or end of the structure shall be set back not less than 15 feet from the property line.
- (e) Where nourishment is allowed per the Order of Conditions or through a variance, the CES shall be covered with sand/soil of an appropriate grain size at the completion of the project. The Commission may require this area to be vegetated with native coastal plants where appropriate, so as to provide the exposed bank/dune stability and also to improve wildlife habitat. If planting is proposed, the applicant shall submit a plant species list, plans showing the plant spacing and density of plantings, and a vegetation maintenance and monitoring plan to ensure plant survival and success.
 - 1. The applicant shall provide a Coastal Bank/Beach nourishment plan, signed and stamped by a Registered Professional Engineer, to the Commission at the time of filing the Notice of Intent. The approved Coastal Bank/Beach nourishment plan shall become an ongoing condition and remain in place and effect for the life of the structure or until the Commission deems it has caused an adverse impact to a coastal wetland resource area. The nourishment plan shall consist of:
 - a. Site mitigation and restoration plan, including restoration of the access area. This plan is required to assess impacts to areas subject to protection under the Bylaw during and immediately following construction and following Bank/Beach nourishment and to plan

- appropriately for the restoration of these areas.
- b. An annual maintenance and monitoring plan for bank/beach nourishment. This plan is required to establish an annual monitoring and maintenance schedule to identify any problems with the structure, assess impacts caused by the structure, and to determine the volume of sand to be placed on the Bank/Beach for the year. Bank/beach nourishment shall be done annually between April 1 and May 31.
 - c. Planting and re-vegetation schedule and plan, including a plant species list, the plant spacing and density and maintenance and monitoring plan to ensure plant survival and success.
2. Coastal Bank/Beach nourishment shall have no significant adverse impact to coastal wetland resource areas or the public interests and environmental values protected under the Bylaw. Coastal Bank/Beach nourishment may be discontinued or reduced in scale and frequency only by a determination by the Commission that the nourishment program is adversely affecting one or more of the above resources, interests and values.

(8) Allowable Structures

A stairway or boardwalk may be permitted over a coastal bank provided that it has no adverse impact on the form and function of the coastal bank, is consistent with the provisions of the No Disturb Zone [insert citation], and the following criteria are met:

- (a) With the exception of the pilings, all other parts of the stairway or boardwalk shall be elevated greater than 18 inches above the surface of the ground. All stairways shall follow the contours of the land as closely as possible.
- (b) Stairways shall incorporate open risers.
- (c) Decking planks shall be spaced a minimum of ½ inch apart.
- (d) The stairway structure shall be no more than 4 feet in overall width, including but not limited to the supporting posts and handrails.
- (e) The preservative treatment for any wood touching the surface of the ground shall be non-toxic. Use of CCA and creosote treated lumber is prohibited.
- (f) The Commission may allow a resting landing on a stairway that shall seat no more than two individuals in some instances due to the height, steepness or other factors of the bank.
- (g) All stairways shall be maintained in good condition. Stairways that fail or collapse shall be removed or repaired immediately.

2.05: Inundation Protection Zone

Commentary: This section (previous LSCSF and ACEC) is significantly revised and will be one of the more important to discuss in detail.

(1) Presumption of Significance

As background to its deliberations on applications for activity that may impact areas subject to future inundation from coastal or riverine waters, the Commission puts forth the following findings. In accordance with these findings, the Commission presumes areas subject to inundation to be significant to the public interest and environmental values protected by these regulations. These findings serve as the foundation for performance standards provided herein.

- (a) Inundation of land from coastal waters is an ever present concern in Wellfleet. Coastal surge, tidal influence, heavy rains, and sea level rise will continue to affect Wellfleet coastal areas individually and in combination.
- (b) Reasonable and widely accepted scientific study shows that the inland extent of inundation has increased and will continue to increase over the next century. As inundation patterns are critical to the public and environmental interests established in these Regulations, it is necessary to examine the potential future impacts of activities in areas that will be inundated decades into the future.
- (c) The Town of Wellfleet finds there are three sources of information that serve to identify areas subject to inundation, which will further the public and environmental values under the protection of these Regulations. These include:
 - 1. Land subject to coastal storm flowage (LSCSF) as defined in the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00). LSCSF is important for the protection of public and private water supply, groundwater and groundwater quality, flood control, erosion and sedimentation control, storm damage prevention, water pollution prevention, wildlife and wildlife habitat, fisheries, and shellfish.
 - 2. The Wellfleet Harbor Area of Critical Environmental Concern (ACEC) designated in May 1989 (and as further amended or clarified). ACECs are places in Massachusetts that receive special recognition because of the quality, uniqueness and significance of their natural and cultural resources. These areas are identified and nominated at the community level and are reviewed and designated by the state's Secretary of Energy and Environmental Affairs. ACEC designation creates a framework for local and regional stewardship of critical resources and ecosystems.
 - 3. The Massachusetts Coastal Flood Risk Model, which predicts the inland extend of inundation for the years 2030, 2050, 2070, and 2100.

Commentary: The Massachusetts Coastal Flood Risk Model is introduced here as an area of jurisdiction. More detail on this is provided in the accompanying memorandum to the Commission.

(d) Healthy and undisturbed inundation areas support the resource area functions and values discussed below. These values should not be adversely affected and should be enhanced when and where necessary.

1. Storm Damage Prevention

LSCSF includes land that lies at the margin between upland and land subject to average (normal) coastal and wind-driven processes. When coastal conditions are not the norm - during extreme high tides and hurricanes, for example - the need for the land to absorb flood waters and buffer inland areas from flood and wave damage is significant.

Velocity zones (V-zones) and over wash zones (AO-zones) of LSCSF are areas which are subject to hazardous flooding, wave impact and in some cases significant rates of erosion as a result of wave impact and scour. Alteration of land surfaces in A, V, and AO zones can change drainage characteristics resulting in increased flood damage on adjacent properties.

The topography, soil structure (e.g., composition, size, density & shape), vegetation, vulnerability to erosion and permeability of the land surface within V- and AO-zones are critical characteristics which determine how effective an area is in dissipating wave energy and in protecting areas within and landward of these zones from storm damage and flooding. A gentle and permeable seaward-sloping land surface is more effective at reducing the height and velocity of incoming storm waves. Wave energy is expended in eroding and transporting materials comprising the land surface within the V- and AO-zones, as well as by percolation or the downward movement of storm water through more permeable land surfaces, thereby lessening the effects of backrush, scour and erosion.

Dredging or removal of materials within the V- and AO-zones can act to increase the landward velocity and height of storm waves thereby allowing them to break farther inland and to impact upland and wetland resource areas which might not otherwise be affected. Filling and placement of solid fill structures within V- and AO-zones may cause the refraction, diffraction and/or reflection of waves, thereby forcing wave energy onto adjacent properties, natural resources, and public or private ways, potentially causing otherwise avoidable storm damage. When struck with storm waves, solid structures within V- and AO-zones also may increase localized rates of erosion and scour (Shore Protection

Manual, US Army Corps of Engineers, 1984 V. 1, pg. 5-3 & 5-5). Placing man-made structures in floodplain areas may result in direct and collateral damage to such structures during storm and heavy rain events, by wave impact and flood water inundation, and by storm-driven debris.

In some cases, the placement of fill in hydraulically restricted portions of the coastal floodplain may increase flood levels in heavy rainfall events. The placement of fill in AH-zones, where ponding occurs generally as a result of over wash in coastal floodplains, may increase flood levels on the subject and adjacent properties above pre-fill flood levels.

2. Prevention of Pollution

Natural or relatively undisturbed inundation areas can reduce erosion and sedimentation, and in a vegetated state can prevent pollutants contained in surface runoff from directly entering waterways and other wetland areas during flood events. Since the floodplain contains areas in which the water table is close to the surface, during a coastal storm, pollutants in the flood plain, including the contents of septic systems and fuel tanks, are likely to affect public and private water supply, groundwater quality, wildlife and wildlife habitat, fisheries and shellfish. However, undisturbed LSCSF can help abate the potential adverse impacts of pollutants through vegetation absorption.

3. Wildlife Habitat

LSCSF areas are low-lying areas that are ecologically transitional between marine/estuarine ecosystems and upland areas. Resource areas within the 100-year floodplain are critical habitats for a large variety of wildlife species. For example, salt marshes provide habitat for many crustaceans and mollusks and serve as critical nursery areas for numerous fin fish species which in turn provide food for species higher up in the food chain, e.g., herons, osprey, mink, and raccoon. These resource areas also provide important over-wintering and stopover areas for many species of waterfowl.

Coastal floodplains (LSCSF) adjacent to other wetland resource areas provide important wildlife functions, such as nesting and roosting habitat, and serve as wildlife corridors connecting coastal zone resources with freshwater wetland resources. Adjacent areas within the coastal floodplain also serve as transitional zones needed to protect the coastal wetland resources' ability to provide essential habitats.

4. Sea Level Rise

Areas of coastal floodplains (LSCSF) which are immediately landward of salt marshes, coastal beaches, barrier beaches, coastal dunes or coastal banks require special protection. These areas are likely to be in

a state of transition as the entire complex of coastal wetland resources gradually moves landward as sea levels rise. For thousands of years, relative sea level has been rising in Massachusetts, and it is still rising (1978 Giese, G.S., C.A. Mayo, L.B. Smith and G. Clayton, Scientific basis for proposed additions and amendments to the Wetlands Protection Act. Provincetown Center for Coastal Studies and Massachusetts Coastal Zone Management Report, June 1978, 67 pp.), resulting in gradual inundation of landward area. Historic sea level measurements indicate that relative sea level in Massachusetts is rising at approximately 1 foot per 100 years (Giese, et al, 1978). As sea level rises, the shoreline may retreat, and areas of the coastal floodplain will successively be inundated more frequently by storm and tidal activity. Activities carried out within these special transitional areas of coastal floodplains may interfere with the natural landward migration of the adjacent coastal resource areas. Maintaining these special transitional areas in their natural state is critical to the protection of the interests of other wetland resources found within LSCSF.

Commentary: If the Commission chooses to use the Massachusetts Coastal Flood Risk Model (or another source of information like CZM modelling), HW will change the language above to reflect that new approach to addressing sea level rise.

(2) Areas Under Review of the WEP Regulations

Per the Presumption of Significance associated with this section of the WEP Regulations, the Commission shall apply the performance standards contained herein [insert citation] to all lands within the following areas:

- (a) LSCSF as defined in the WEP Bylaw and Regulations
- (b) The Wellfleet Harbor ACEC as defined in the WEP Bylaw and Regulations
- (c) Lands within the 30-year and 50-year inundation zones identified by the Massachusetts Coastal Flood Risk Model

Commentary: HW proposed to limit the jurisdiction to the 2050 predictions as this time horizon may represent the life cycle of many structures or improvements.

(3) General Performance Standards

Any activity proposed in the IPZ shall not:

- (a) Reduce the ability of the resource to absorb and contain flood waters;
- (b) Reduce the ability of the resource to buffer more inland areas from flooding and wave damage;
- (c) Displace or divert flood waters to other areas;

- (d) Cause or create the likelihood of damage by debris to other structures on land within the flood plain (collateral damage);
- (e) Cause ground or surface pollution triggered by coastal storm flowage;
- (f) Reduce the ability of the resource to serve as a wildlife habitat and migration corridor through activities such as, but not limited to the removal of substantial vegetative cover and/or installation of fencing and other similar structures.

(4) Specific Performance Standards

- (a) New permanent above ground structures shall be located as follows:
 - 1. New secondary structures (e.g., sheds, detached garages, etc.) shall be located outside of the IPZ to the extent practicable. Where locating these structures outside of the IPZ is not practicable, the structure should be located as upgradient as possible and provisions to allow inundation flow beneath or through the structure should be provided.
 - 2. New primary structures shall be located outside of the IPZ to the extent practicable. Where locating these structures outside of the IPZ is not practicable, the structure should be located as upgradient as possible. Structures within the IPZ shall be elevated to ensure the ground floor elevation is higher than the elevation specified for the 2050 inundation scenario on the subject parcel(s) as established by the Massachusetts Coastal Flood Risk Model.

Commentary: The language for subsection a (above) would require elevation of new structures to a level safe for future impacts. This is not typically done with "wetland" regulations. However, these regulations were designed to potentially push beyond the typical wetland regulations seen elsewhere in Massachusetts. This is warranted because of the extremely sensitive resources and high climate vulnerability of Wellfleet. Further, there may be no other way for the Commission to determine whether future flow paths will be altered without requiring buildings to be elevated. HW will discuss with the Commission.

- (b) For structures that were constructed before [insert date], expansion or alteration to that structure may occur through an Order of Conditions only where, in the judgment of the Commission, the proposal meets the general performance measures of Section 2.05(3).
- (c) Clearing, grading, and site development may occur in accordance with the the general performance measures of this section of the Regulations [insert citation] and all other applicable provisions of these Regulations including, but not limited to Section 2.01 Wetland Resource Area Buffer Zones.
- (d) On-site septic systems shall be located outside of the IPZ to the extent practicable.

2.06: Small Vessel Identification and Permitting Program

Commentary: HW did not review this section 2.06. At the close of the project, HW can make any necessary housekeeping issues related to numbering, formatting, etc.

To protect the fragile beach and riparian ecologies and associated vegetation, small vessels (canoes, kayaks, dories, skiffs, dinghies, sail or paddle boards, and similar watercraft) may be stored only at approved locations as designated by the Conservation Commission, in cooperation with the Harbormaster and Beach Administrator at the following locations:

Gull Pond
Indian Neck
Mayo Beach
Old Wharf Point (Site owned by Wellfleet Conservation Trust)
Pleasant Point
Powers Landing

Approval from the Harbormaster is required for leaving a vessel at any other Town landing or on Town owned property.

Small vessels may be stored unattended in Wellfleet provided that they meet the following regulations.

- (1) Each vessel must obtain and display a current Identification Sticker obtained from the Town of Wellfleet.
 - (a) Stickers are nontransferable to any other vessel, even if owned by the same individual.
 - (b) Stickers will serve as a permit for use of one four-foot slot at one (1) specific site, and will be issued annually and be in effect from April 1st through October 31st. In accordance with existing Marina regulations, no boats shall be stored on Town Landings between November 1st and April 1st, with the exception of those used by year-round fisherman.
- (2) Residents, non-resident taxpayers, and those presenting a current year round residential lease or will be eligible for an identification sticker for the fee of \$100.00 Season: April 1 to October 31 _____ \$100.00
 - (a) The vessels must be located in the manner defined by the Town. In most cases, this will require that vessels be placed in a slot on racks provided and/or approved by the town.
- (3) A limited number of slots are available at each designated site and will be allotted

on a first come first served basis.

Applications will be available on the Town website, through the beach sticker office, and the Harbormaster's office.

- (a) Any person who leases a mooring through the Harbormaster, may upon request, be issued one Identification Sticker at no charge for a "tender" associated with the larger vessel. Such tenders are to be stored as directed by the Harbormaster
 - (b) Each licensed commercial fisherman or aquaculturalist who stores a small vessel associated with his/her work at a town landing will be allocated one Sticker at no charge, and a second Sticker at no charge if work is done in two different locations within Wellfleet Harbor. Stickers for fishermen and aquaculturalists shall be year-round permits and available upon request from the Harbormaster.
- (4) Any vessel owner receiving or purchasing a Sticker agrees to release the Town of Wellfleet and its employees or agents ("the Town") and the underlying property owner, from any and all claims, rights of action or other forms of liability, whether for personal injury, property damage or otherwise, that may arise in connection with use of the approved sites for storage of a vessel, and agree, as a condition of receipt of a permit for such storage, to INDEMNIFY and HOLD HARMLESS the Town and the underlying property owner against any and all legal claims and proceedings of any type that may arise from or relate in any way to use of the designated storage location.
 - (5) The Harbormaster, the Shellfish Constable, the Conservation Agent, and the Beach Administrator (and their deputies or assistants) shall have the authority to enforce this regulation.
 - (6) Any vessel found on a town landing without a current Town-issued Identification Sticker may be tagged for removal. If the vessel has not been removed by the owner within 48 hours, it may be removed and stored by the Town and subject to a non-criminal violation with a fine of up to \$100. The per diem storage fee for vessels unclaimed within the 48 hours is \$15.00/day up to a maximum storage fee of \$150.00. The vessel will be released to its owner upon payment of any fine imposed.

Persons with unpaid fines will not be able to purchase beach and transfer station stickers or vessel identification stickers until or unless the fine is paid in full.

- (7) Any vessel unclaimed by the owner within one month of its removal maybe disposed of as the Town determines.
- (8) If a question arises regarding this regulation or the issuance of a permit, the Conservation Commission will discuss the matter at a regularly scheduled business

meeting. Requests for hearings should be made in writing and sent to the Conservation Commission or its Agent. Following such a request, a hearing will be scheduled within one month's time.

DRAFT