Wellfleet Conservation Commission

WELLFLEET ENVIRONMENTAL PROTECTION REGULATIONS

December 2010

WELLFLEET ENVIRONMENTAL PROTECTION REGULATIONS

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1.01: Introduction and Purpose
1.02: Statement of Jurisdiction
1.03: General Provisions
1.04: Definitions
1.05: Procedures

2.00 Additional Regulations for Wetland Resource Areas
2.02 Buffer Zone
2.03 Freshwater Wetlands
2.04 Coastal Bank
2.05 Land Subject to Coastal Storm Flowage and Wellfleet Harbor Area of Critical Environmental Concern

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 Wellfleet Environmental Protection 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 values:

- protection of public and private water supply
- protection of ground water quality and supply
- flood control
- erosion and sedimentation control
- storm damage prevention
- prevention of pollution
- protection of land containing shellfish
- protection of fisheries
- protection of wildlife habitat

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 Under the Bylaw. The following Wetland Resource Areas are subject to protection under the Bylaw and Regulations:

(a) any freshwater wetland, inland bank, coastal wetland, coastal bank, beach, dune, flat, marsh, wet meadow, 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
(d) all land within 100 feet of any area specified in WEPR 1.02(1)(a) – (b) (hereinafter referred to as the "Buffer Zone")
(e) land in Wellfleet Harbor Area of Critical Environmental Concern (ACEC) with the exception of privately owned upland areas in Bound Brook and Griffin Island areas which are not within the jurisdiction of the Massachusetts Wetland Protection Act or current jurisdiction of the Wellfleet Environmental Protection By-law

(2) Activities Subject to Regulation Under the Bylaw.

(a) Activities Within an Area Subject to Protection Under the Bylaw. Any activity which is proposed or undertaken within an area specified in WEPR 1.02(1) 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 or a Request for Determination of Applicability and permission, in the form of an Order of Conditions or a Determination of Applicability, 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 Area Subject to Protection Under the Bylaw. Any activity proposed or undertaken outside an area specified at WEPR 1.02(1) shall not be subject to the jurisdiction of the Commission under the Bylaw and Regulations unless, in the judgment of the Commission, said activity will or has resulted in the removing, filling, dredging or alteration of any Area Subject to Protection Under the Bylaw as set forth at WEPR 1.02(1) and will or has had a significant or cumulative adverse effect upon the interests and values as set forth at WEPR 1.01(2).

1.03: General Provisions:

(1) Burden of Proof:

(a) 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 resource area 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.

1.03: General Provisions (Cont.)

(5) Variances:

(a) 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 Commission may, in its discretion, grant a Variance for the following reasons and under the following conditions:

1. upon clear and convincing proof, provided by the applicant, that the proposed work, or its impacts and effects, will not adversely affect the public interests and environmental values protected by the Bylaw. In exercising its discretion, the Commission shall require an analysis of reasonable alternatives for the proposed activity which might be undertaken with less adverse impacts on an Area Subject to Protection Under the Bylaw as defined at WEPR 1.02(1) and without deviating from the provisions of these Regulations. The applicant shall provide the Commission with a written alternatives analysis and any other information which 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) 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:

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 Area Subject to Protection Under the Bylaw as defined at WEPR 1.02. 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.

Buffer Zone means that area of land extending 100 feet horizontally outward from the boundary of any Area Subject to Jurisdiction under the Bylaw as defined at WEPR 1.02(a) – (b). Refer to WEPR 2.02(4) for the General Performance Standards for work within the Buffer Zone.

Coastal engineering structure 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.

1.04 (2): Definitions (cont.):

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.

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 2.03(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.

1.04(2): Definitions (cont.):

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. stormwater 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.

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

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 mean any Area Subject to Jurisdiction Under the Bylaw [see WEPR 1.02(1)].

WEPR shall mean Wellfleet Environmental Protection Regulations.

1.05: Procedures:

(1) 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.

(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 Wetland Resource Areas Subject to Protection Under the
      Bylaw as set forth at WEPR 1.02(1) and the Massachusetts Wetlands Protection Act, including the location of the 50-ft. Filter Strip, and the 100-ft. Buffer Zone as defined at WEPR 2.02.
   b. Property Boundaries
   c. The names of the abutting property owner(s) shall be noted on the plan.
   d. Location of existing and proposed structure(s).

1.05: Procedures (cont.):

4. 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 2.04 for additional filing requirements:

(3) Fees:

(a) Fee Schedule

Request for Determination of Applicability	$ 20.00
Notice of Intent	$ 45.00
Certificate of Compliance	$ 15.00
Amended Order of Conditions	$ 25.00
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 Notice of Intent	$ 90.00
Jurisdictional Opinion	$15.00

(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,

1.05: Procedures (cont.):

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 Wetland Resource Areas

2.02: Buffer Zone (including the 50-foot Filter Strip) :

(1) Preamble: The 100-foot Buffer Zone is likely to be significant to 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.

The buffer zone is a transitional area that extends 100-feet horizontally into the uplands from the landward boundary of any freshwater wetland, inland bank, coastal wetland, coastal bank, beach, dune, flat, marsh, wet meadow, bog, swamp, estuary, creek, river, stream, pond, lake, the lands under these bodies of water and the land under the ocean.

The composition of the vegetation, topography, and soils within undisturbed buffer zones is widely variable, the diversity of which contributes to all of the public interests and environmental values protected under the Wellfleet Environmental Protection Bylaw.

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. 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.

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.

Exotic and/or invasive vegetation within the buffer zone reduces the natural productivity and value of these areas.

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 Wellfleet Environmental Protection Bylaw is directly proportional to the width of the Buffer Zone provided. Therefore 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 Wellfleet Environmental Protection Bylaw.

(2) Definition, Critical Characteristics and Boundary

(a) The Buffer Zone shall refer to that area of land extending 100-feet horizontally outward from the boundary of any Area Subject to Protection under the Bylaw as defined at WEPR 1.02(a) – (b). The Buffer Zone shall be further sub-divided to include:

1. The “50-foot Filter Strip” shall refer to that area of land extending 50-feet horizontally outward from the boundary of any Area Subject to Jurisdiction under the Bylaw as defined at WEPR 1.02(a) – (b).

2.02: Buffer Zone (including the 50-foot Filter Strip) (cont.):

(3) Presumption of Significance:
Where a proposed activity involves work within the 100 foot Buffer Zone to an Area Subject to Protection Under the Bylaw as defined at WEPR 1.02(1)(a)–(b), the Commission shall presume that such area is significant to the interests and environmental values specified in the Bylaw. This presumption may be overcome only upon clear and convincing proof, provided by the applicant that the buffer zone does not play a role in the protection of said interests and environmental values protected by the Bylaw.

(4) General Performance Standard
(a) Where the presumption set forth in WEPR 2.02(3) is not overcome, any proposed work in the Buffer Zone shall not destroy or otherwise impair any portion of said area.
(b) 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.
(c) Notwithstanding the provisions of WEPR 2.02(4)(a), the Commission may issue an Order of Conditions permitting work in the Buffer Zone provided that the applicant has examined all practicable alternatives to the project which would further minimize impacts to the Buffer Zone and has demonstrated that all impacts will be properly mitigated. The alternatives analysis shall be submitted to the Conservation Commission in writing.

1. Activities within the 100-foot Buffer Zone shall avoid, minimize and mitigate adverse impacts. The purpose of evaluating project alternatives is to locate activities so that impacts to the Buffer Zone and Areas Subject to Protection Under the Bylaw, as defined at WEPR 1.02(1)(a) – (b), are avoided to the extent practicable. As much of a project as feasible shall be sited outside the Buffer Zone. If locating a project entirely outside the Buffer Zone is not practicable, the alternatives shall be evaluated in order to locate the project as far as possible from the Area Subject to Protection Under the Bylaw as defined at WEPR 1.02(1)(a) – (b)and to minimize impacts to the buffer zone.
2. An alternative shall be considered practicable if it is available and capable of being done. Practicable alternatives may include realignment, reconfiguration or re-sizing of project components to minimize impacts to the Buffer Zone. Projects involving demolition of an existing structure and reconstruction of a new dwelling shall be subject to an alternatives analysis and the provisions of 2.02(4)(c).

2.02(4): Buffer Zone (including the 50-foot Filter Strip) (cont.):

(d) Where no practicable alternatives are available or capable of being done which would otherwise avoid or minimize adverse impacts to the buffer zone, the following standards shall apply:

1. No Significant Adverse Impact:
   a. Within the 100-foot Buffer Zone, the Commission may allow the total alteration of up to 5000 square feet on a lot recorded prior to November 19, 2003 subject to the following:
      i. The total alteration of the land area within the buffer zone shall be calculated in square feet by summing up the total area of the lot, within the buffer zone, that is currently altered or developed (including yard areas consisting of turf lawns) and shall include that area which is proposed to be altered, permanently or temporarily. Any area where vegetation is to be removed or where soils are to be disturbed shall be included in this calculation. 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 Conservation Commission at the time of filing.
      ii. At a minimum, a 50 foot wide area of undisturbed vegetation shall be provided between the wetland resource area and the work. 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.
      iii. On previously developed or disturbed sites, all work proposed within the buffer 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 the Bylaw. The Conservation 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.
      iv. Expansion of existing structures within the Buffer Zone may be allowed provided that:

2.02(4): Buffer Zone (including the 50-foot Filter Strip) (cont.):

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 5,000 square foot threshold for allowable disturbance within the Buffer Zone.

v. 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 buffer 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 buffer zone .

vi. All new construction within the buffer 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.

vii. Driveways within the buffer 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, including the installation of deep sump catch basins and leaching pits where appropriate.

b. For lots and subdivisions recorded after November 19, 2003, the alternatives analysis shall include all alternatives available prior to subdivision of the lot(s) and all work shall be located outside the 100-foot Buffer Zone.

2. Within the 50-foot Filter Strip, the Commission may issue an Order of Conditions allowing the following activities:
   a. 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.
   b. Selective Cutting of vegetation
   c. Elevated stairways over a Coastal Bank and Inland Bank

2.02(4): Buffer Zone (including the 50-foot Filter Strip) (cont.):

d. Removal of invasive species
e. Planting of native vegetation
f. Habitat management activities designed to enhance the values protected by the Wellfleet Environmental Protection Bylaw;
g. Construction and maintenance of unpaved pedestrian access paths not more than 4-feet in width;
h. Maintenance of existing structures, utilities, stormwater management structures;
i. Construction and maintenance of water dependent structures and uses;
j. Construction of new utility lines where the proposed route is the best environmental alternative;
k. 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;
l. Construction, maintenance, repair/replacement of drinking water wells;
m. Maintenance, repair and drainage improvements on existing roadways and driveways.

3. The following activities are prohibited within the 50-foot Filter Strip:
   a. New and/or expanded lawn areas;
   b. New structures including but not limited to homes, buildings, garages, sheds and decks;
   c. Expansion of existing structures including but not limited to homes, buildings, garages, sheds and decks;

2.03 Freshwater Wetland:

(1) Preamble:

Freshwater Wetlands are likely 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.

The plants and soils of freshwater wetlands remove and detain nutrients and toxic substances that occur in stormwater 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.

Freshwater wetlands are areas where groundwater discharges to the lands surface and where, under some circumstances, surface water discharges to the ground water. While hydrology is the driving force which creates wetlands, it is 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.

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. Freshwater wetlands provide important wildlife habitat. 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.

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).

2.03 Freshwater Wetland (cont.):

(3) Presumption of Significance. Where a proposed activity involves the removing, filling, dredging or altering of a freshwater wetland, the Conservation Commission shall presume that such area is significant to the interests and environmental values of the Wellfleet Environmental Protection Bylaw.

(4) General Performance Standards

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

2.04: Coastal Bank:

(1) Preamble: Coastal Banks are likely to be significant 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.

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.

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.

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 stormwater 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 gulleys 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.

Bank vegetation tends to stabilize the bank and reduce the rate of erosion due to wind, rain and stormwater flow. Pedestrian and vehicular traffic damages the protective vegetation and frequently leads to gulley erosion or "blowouts" on unconsolidated banks.

A particular Coastal Bank may serve as both a sediment source and as a vertical buffer, or it may serve only one role.

(2) Definition, Critical Characteristics and Boundary: 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).

(3) Presumption of Significance: Where a proposed activity involves work on a Coastal Bank, the Commission shall presume that such area is significant to storm damage prevention, flood control, erosion control, prevention of pollution, protection of land containing shellfish, protection of fisheries, and protection of wildlife habitat. This presumption may be overcome only upon clear and convincing proof that the Coastal Bank does not play a role in the protection of said interests and environmental values protected by the Bylaw and if the Conservation Commission makes a written determination to that effect.

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.

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 stormwater runoff is critical to the protection of said interests and environmental values.

(4) General Performance Standards:

(a) When a Coastal Bank is determined to be significant to storm damage prevention or flood control because it supplies sediment to coastal beaches, coastal dunes or barrier beaches the following performance standards shall apply:

1. Coastal engineering structures (CES) which 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.
2. Notwithstanding WEPR 2.04(4)(a)1., the Commission may allow a CES when required to prevent storm damage to buildings constructed prior to August 10, 1978, provided that the following requirements are met:
   a. A CES shall not be permitted for buildings 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 Conservation 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.
   b. A CES or modification thereto shall be designed and constructed so as to have no significant adverse impact on adjacent or nearby coastal beaches, coastal banks, coastal dunes, salt marsh, land containing shellfish or other seaward wetland resource areas.

   c. Alternatives Analysis – The applicant shall provide a written analysis of alternative solutions, in writing and stamped by a Registered Professional Engineer, to the Commission at the time of filing the Notice of Intent. The alternatives analysis shall include the following.
      i. Proof that there are no feasible alternative methods of protecting the building other than the proposed CES. Feasible alternatives include moving the threatened building to an alternative location on the same parcel or 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).
      ii. The applicant may be required to demonstrate 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.

2.04: Coastal Bank (cont.):

d. 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:

   i. 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.

   ii. 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.

   iii. A 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.

   iv. 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 sacrificial 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.

e. 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:

i. 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.
ii. 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.
iii. 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.

f. 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.

3. 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 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 hand rails.
   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.

2.04: Coastal Bank (cont.):

g. All stairways shall be maintained in good condition. Stairways that fail or collapse shall be removed or repaired immediately.

2.05 Land Subject to Coastal Storm Flowage and Wellfleet Harbor ACEC
(Effective 3/15/11)

(1) Preamble:

Land subject to coastal storm flowage (LSCSF) may include coastal beaches, salt marshes, banks, barrier beaches, salt ponds, dunes, land containing shellfish, land under the ocean, and banks of and land underlying fish runs 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.

The wetland values of specific resource areas, including those identified above, that lie within the area of LSCSF and are otherwise addressed in this Bylaw and the regulations promulgated there under are incorporated in this section by reference. A healthy and undisturbed LSCSF supports the resource area values discussed below. These values should not be adversely affected and should be enhanced when and where necessary.

Areas of Critical Environmental Concern (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 Environmental Affairs. ACEC designation creates a framework for local and regional stewardship of critical resources and ecosystems.

(a) 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 overwash 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 stormwater 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 overwash in coastal floodplains, may increase flood levels on the subject and adjacent properties above pre-fill flood levels.

Much of the LSCSF within Wellfleet is designated as part of the Wellfleet Harbor Area of Critical Environmental Concern (ACEC). The ACEC resources were designated because of their extraordinary and unique character. Generally, the purpose of the ACEC is to preserve, restore, and enhance critical environmental resources. The goal of the program is to increase the level of protection for the ACEC, and to facilitate and support the stewardship of the ACEC.

(b) Prevention of Pollution

Natural or relatively undisturbed coastal floodplains (LSCSF) 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.

(c) 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 (Guidance Specifying Management Measures for Sources of Non-point Pollution in Coastal Waters, EPA, 1993: Castelle, et al., 1992, pgs 5 & 6).

(d) 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 (Smith, Clayton, Mayo and Giese, 1978), 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.

(2) Definitions:

(a) Land Subject to Coastal Storm Flowage - Land subject to tidal water, flooding, or any inundation caused by coastal storms up to and including that caused by the 100year storm, the surge of record or the storm of record, whichever is greatest. Land Subject to Coastal Storm Flowage is delineated as the l00-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.

(b) 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

(c) AO Zone, Overwash – 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 overwash and generally border on the landward side of a Velocity Zone.

(d) 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.

(e) V – Zone- Those portions of land subject to coastal storm flowages which are subject to inundation by velocity hazard (wave action)

(f) ACEC (Area of Critical Environmental Concern) - 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 totaling 12,480 acres within the towns of Eastham, Truro, and Wellfleet.

(g) Diffraction- The apparent bending of waves around small obstacles and the spreading out of waves past small openings.

(h) Refraction-The change in direction of a wave due to a change in its speed.

(i) Reflection- 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

(3) Presumption of Significance

Where a proposed activity involves work within LSCSF or within the Wellfleet Harbor ACEC the Conservation Commission shall presume that such area is significant to the interests and environmental values of the Wellfleet Environmental Protection Bylaws. This presumption may be overcome only upon clear and convincing proof, provided by the applicant that the area in discussion does not play a role in the protection of said interests and environmental values protected by the bylaw and if the Conservation Commission makes a written determination to that effect.

(4) Performance Standards

(a) Any activity proposed on LSCSF or within the Wellfleet Harbor Area of Critical Environmental Concern shall not:

(1) Reduce the ability of the resource to absorb and contain flood waters;

(2) Reduce the ability of the resource to buffer more inland areas from flooding and wave damage;

(3) Displace or divert flood waters to other areas;

(4) Cause or create the likelihood of damage by debris to other structures on land within the flood plain (collateral damage);

(5) Cause ground, surface or saltate pollution triggered by coastal storm flowage;

(6) 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.