KINGSTON WETLAND PROTECTION REGULATIONS

I. AUTHORITY, PURPOSE, JURISDICTION, DEFINITIONS, PROVISIONS AND PROCEDURES

1.00 AUTHORITY AND PURPOSE

1.01 Authority

The Kingston Wetland Protection Regulations (KWPR) are promulgated pursuant to Kingston Wetlands Protection By-law, Kingston G.L. Chapter 13, Article 12.

1.02 Purpose

These regulations define and clarify provisions of the Kingston Wetlands Protection By-Law and the process by which activities affecting areas subject to protection under the By-Law are to be regulated in order to contribute to the interests listed below. These regulations also provide guidelines for implementation of the Wetlands Protection Act:

(a) Public water supply
(b) Private water supply
(c) Surface water
(d) Ground water
(e) Water quality and quantity
(f) Flood control and management
(g) Erosion and sedimentation control
(h) Storm damage prevention
(i) Prevention and abatement of pollution
(j) Fisheries (finfish and shellfish)
(k) Wildlife and its habitat
(l) Plant and animal species listed as special concern, threatened, or endangered and protection of their natural habitat
(m) Wetland plant and animal communities
(n) Stormwater management
(o) Aquaculture and Agriculture

2.00 JURISDICTION

2.01 Areas Subject to Protection

The following areas, pursuant to the By-Law, shall be considered “resource areas” or “areas subject to protection” under the By-Law and the Regulations of the Kingston Wetland Protection By-Law and are subject to protection under the By-Law:

(a) Fresh water wetland
(b) Coastal wetland
(c) Inland and Coastal Banks
(d) Beach
(e) Dune
(f) Flat
(g) Marsh
(h) Wet meadow
(i) Bog
(j) Swamp
(k) Pond or lake
(l) Ocean
(m) Land under said waters
(n) Land subject to tidal action, coastal storm flowage, flooding or inundation
(o) Land within the 100-year storm/flood line
(p) Seasonal and isolated wetlands
(q) Estuary, creek, river, or stream
(r) Vernal pools and land within 100 feet of any vernal pool
(s) Land within 200 feet of any perennial/intermittent river, stream or creek

2.02 Activities Subject to Regulation

Any activity proposed or undertaken in, or within 100 feet of, an area specified in Section 2.01 (a) – (q) which, in the judgment of the Conservation Commission, will remove, fill, dredge, alter, or build upon an Area Subject to Protection under the By-law is subject to regulation under the By-Law and requires the filing of a Notice of Intent and the issuing of an Order of Conditions by the Conservation Commission.

Any activity proposed or undertaken outside and beyond 100 feet of the areas specified in 2.01 (a) – (q) shall not be subject to regulation unless, in the judgment of the Conservation Commission, said activity has resulted or is likely to result in altering an Area Subject to Protection.

Any person, who wishes to have the Conservation Commission determine whether land or an activity is subject to regulation, may file a Request for Determination of Applicability with the Conservation Commission.

3.00 DEFINITIONS

The definitions in Section 3.00 of these regulations are for terms as used in the By-Law and for terms as used in these regulations. To the extent not defined herein or in the By-Law, words used in the By-Law or in these regulations shall have the definitions contained in the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40) and the rules and regulations promulgated there under (310 CMR 10.00).

Abbreviated Notice of Resource Area Delineation (ANRAD) - The written notice filed by any person seeking confirmation of a delineation of a wetland resource area(s) subject to protection under the Massachusetts Wetlands Protection Act, M.G.L. c. 131, §40 and/or the Town of Kingston Wetlands Protection By-Law, G.L. c. 13.

Abuts - Touching.

Abutter - An owner of land in any direction sharing a common boundary or corner with the site of the proposed activity and within one-hundred (100) feet of the property line of the land where the activity is proposed. Abutters to the proposed activity include, but are not limited to, owners of any land located across a public or private street or way, body of water, stream or wetland, or diagonally across from an intersection of roads or properties including those in another municipality.

Act - The Massachusetts Wetlands Protection Act (incorporating The Rivers Protection Act, 1996 Mass. Acts c. 258), Massachusetts General Laws (M.G.L.) c. 131, §40, that authorizes Conservation Commissions to review and permit activities within wetland resource areas/areas subject to protection.

Activity - Any form of drainage, dumping, filling, removing, dredging, excavating, 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 hydrology runoff characteristics; the intercepting or diverting of ground or surface water; the installation of any component of drainage, sewage and water systems; the discharging of pollutants; the destruction of plant life; the cutting of trees; the changing of any habitat; and any other changing of the physical characteristics of the land, or the physical or chemical characteristics of water.

Adjoining Land Area - Land contiguous to another parcel of land.

Adverse Effect – A greater than negligible change in the resource area or one of its characteristics or factors that diminishes the value of the resource area to one or more of the specific interests of M.G.L. c. 131 § 40, Kingston G.L. c. 13 or the Kingston Wetlands Protection Regulations, as determined by the Conservation Commission. “Negligible” means small enough to be disregarded.

Aesthetics - The natural scenery and appearance of any Resource Area Subject to Protection under the By-Law that is visually accessible to the public.

Agriculture – land in agricultural use is land presently and primarily used in producing or raising one or more agricultural commodity such as various types of animals, plants or plant products, forests or forest products and as further defined in 310 CMR 10.04, “Agriculture.”

Alter - To change the condition of any Resource Area Subject to Protection under the By-Law. The term "alter" shall include, without limitation, the following activities when undertaken to, upon, within, or affecting a Resource Area Protected under the By-Law:

a. Removal, excavation, or dredging of soils, sand, gravel, or aggregate materials of any kind which would alter elevation;
b. Changing of pre-existing drainage characteristics, flushing characteristics, salinity distribution, sedimentation patterns, flow patterns and flood retention characteristics;
c. Drainage or other disturbances of the water level or water table;
d. Dumping, discharging or filling with any material which may degrade water quality;
e. Driving piles, erecting structures or repair of buildings or structures of any kind;
f. Placing of obstructions or objects in water whether or not they interfere with flow;
g. The destruction of vegetation including cutting of trees and brush;
h. The changing of water temperature, biochemical oxygen demand and other physical, biological or chemical characteristics of any water;
i. Use of chemicals for plant (herbicides) or pest (pesticides) control
j. Any activities, changes or work which may cause or tend to contribute to pollution of any body of water or ground water;
k. Placing of leaves, grass clippings, or brush within an area subject to protection; and
l. Placement of a Title V sub-surface disposal system for new construction within 100 feet of any area subject to protection under the By-Law

Amphibians - A cold-blooded, smooth-skinned vertebrate of the class Amphibia, such as a frog or salamander, that characteristically hatches as an aquatic larva with gills and then transforms into an adult having air-breathing lungs that is capable of living both on land and in water.

Anadromous Fish – Fish that enter fresh water from the ocean to spawn, such as alewives, shad and salmon.

Anadromous/Catadromous Fish Run – that area within estuaries, ponds, streams, creeks, rivers, lakes or coastal waters, which is a spawning or feeding ground or passageway for anadromous or catadromous fish and which is identified by Division of Marine Fisheries (DMF) or has been mapped on the Coastal Atlas of the Coastal Zone Management (CZM) Program. Such fish runs shall include those areas which have historically served as fish runs and are either being restored or are planned to be restored at the time the Notice of Intent is filed. For the purposes of 310 CMR 10.21 through 10.37, such fish runs shall extend inland no further than the inland boundary of the coastal zone.

A-Zone – A-, AE-, AH-, AO, AR and A99 zones are areas designated by FEMA to be Special Flood Hazard Areas that are subject to flooding by the 1% annual chance flood. Zone A's do not have base flood elevations determined while Zone AE's do. Zone AH is the area subject to shallow flooding or ponding where average water depths are between one and three feet; Zone-AO is the area subject to inundation by moving water (usually sheet flow on sloping terrain) where average depths are between one and three feet; Zone AR indicates that a former flood control system is being restored to provide protection from the 1% annual chance or greater flood; and Zone A99 is an area where protection from the 1% annual chance flood will be accomplished by a Federal flood protection system that is under construction.

Applicant - Any person who files an application under a Request for Determination of Applicability, an Abbreviated Notice of Resource Area Delineation, a Notice of Intent, or a Request for Determination of Significance or on whose behalf such notice is filed.

Approved Forest Cutting Plan – A plan that is approved by the Department of Conservation and Recreation (DCR) and is on file with the Conservation Commission.

Aquaculture – land in aquacultural use means land presently and primarily used in the raising, breeding or producing of aquatic organisms (animal or plant) under controlled conditions, such as various types of finfish shellfish, seaweeds or freshwater plants and as further defined in 310 CMR 10.04, "Aquaculture."

Area Subject to Protection Under the By-Law and Regulations - Any area specified under the Kingston Wetlands Protection By-Law, G.L. c. 13 and the Regulations promulgated there under.

Bank – A coastal or inland area defined as:

a. ***Coastal bank*** is 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 wetland; or

b. ***Inland bank*** is the portion of the land surface which normally abuts and confines a water body. It occurs between a water body and a vegetated bordering wetland and adjacent flood plain, or, in the absence of these, it occurs between a water body and an upland. A Bank may be partially or totally vegetated, or it may be comprised of exposed soil, gravel or stone.

Base Flood Elevation (BFE) – The water surface elevation of the 1% annual chance flood (100-year flood).

Beach - A coastal or inland area defined as:

a. ***Coastal beach*** - an unconsolidated sediment subject to wave, tidal and coastal storm action which forms the gently sloping shore of a body of salt water and includes tidal flats. Coastal beaches extend from the mean low water line landward to the dune line, coastal bankline or the seaward edge of existing man-made structures, when these structures replace one of the above lines, whichever is closest to the ocean.

b. ***Inland beach*** - a naturally occurring beach with an un-vegetated Bank

Bordering - Touching in some manner, at any point or along any length of property boundary, and including any portion of a Resource Area Subject to Protection Under the Act or By-Law that may be touching upon any other Resource Area Subject to Protection Under the Act or By-Law or upon other land areas.

Bordering Land Subject to Flooding (BLSF) - Bordering Land Subject to Flooding is an area which floods from a rise in a bordering waterway or water body and are likely to be significant to flood control and storm damage prevention by providing a temporary storage area for flood water which has overtopped the bank of the main channel of a creek, river or stream or the basin of a pond or lake.

Breeding Habitat - An area used by wildlife for courtship, mating, nesting, or other reproductive activity, and rearing of young.

Buffer Zone - That area of land extending 100 feet horizontally outward from the boundary of any resource area subject to protection under the Act as specified in 310 CMR 10.02(1)(a)-(e) or the resource areas subject to protection under the By-Law and Regulations as specified in 2.01 (a) – (q). There is no jurisdictional buffer zone extending from the limits of the 200 foot “Riverfront.”

By-Law Resource Area - Any of the areas specified in the By-Law and these regulations. The term is used synonymously with “Resource Area Subject to Protection Under the By-Law and Regulations.”

Catadromous Fish – Fish that enter salt water from fresh water to spawn, such as eels.

Certificate of Compliance (COC) - A written determination by the Conservation Commission that work or a portion thereof was completed in accordance with the local Orders of Conditions.

Coastal A-Zone – Flood hazard areas inland of and contiguous to flood hazard areas subject to high velocity wave action. Areas subject to this classification are those where the still water depth is greater than or equal to 2 feet, and the breaking wave heights are greater than or equal to 1.5 feet. Areas where the resulting wave run-up elevations above storm surge are between 1.5 and 3 feet.

Coastal Engineering Structure – Any breakwater, bulkhead, groin, jetty, revetment, seawall, weir, riprap 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.

Coastal Floodplain – Coastal resource managers use certain terms interchangeably to reference the area considered to be the coastal floodplain. The following terms and resource areas are synonymous with the coastal floodplain: 1) land subject to coastal storm flowage; 2) the sum of V-Zone, Coastal A-Zones, AO Zones, and tidally influenced A-Zones.

Coastal Zone – Defined in 301 CMR 21.05 and includes areas inland of the roads, rail lines, and rights of way

that are intertidal areas, coastal wetlands and beaches, tidal rivers and adjacent uplands to the maximum extent of vegetation affected by measurable saline water, and anadromous/catadromous fish runs to the inland boundary of the coastal town, extending in width to 100 feet inland of the 100-year floodplain along such tidal rivers or anadromous/catadromous fish runs.

Cold-water Fishery – A fishery in which a year round population of cold-water fish, such as brook trout, rainbow trout, brown trout, creek chubsucker and fallfish, is supported in waters where the mean of the maximum daily temperature over a seven day period generally does not exceed 68°F (20°C) and, when other ecological factors are favorable to the presence of cold-water stenothermal (capable of surviving only within a limited temperature range) aquatic life. Cold-water fishery resources exist where they are designated by the Division of Fisheries and wildlife or where there is evidence based on a fish survey that a cold-water fish population and habitat exist.

Computation of Time Periods - All time periods of ten (10) days or less specified in the By-Law and these regulations shall be computed using business days only. Where the time is ten days or less, such period shall commence on the first day after the date of the event, such as the issuance of a document, and shall end at the close of business on the tenth business day thereafter. All other time periods specified in the By-Law and these regulations shall be computed on the basis of calendar days with the period commencing on the first day after the date of the event but shall end at the close of business on the last calendar day, unless the last day falls on a Saturday, Sunday, or legal holiday, in which case the last day shall be the next business day following.

Conditions - Those requirements set forth in an Order of Conditions issued by the Conservation Commission for the purpose of permitting, regulating, or prohibiting any activity that removes, fills, dredges, or alters a By-Law Resource Area (Resource Area Subject to Protection Under the By-Law).

Conservation Commission or Commission - The Kingston Conservation Commission, the members of which comprise a department or body of the Town of Kingston, lawfully appointed by the Board of Selectmen as authorized by M.G.L. c. 40, § 8C.

Conservation Restriction (CR) – A legal agreement between a landowner and a government agency or land trust that permanently protects open space by limiting future uses of the land, usually including the amount and type of development that can take place, but continues to leave the land in private ownership. The document conveys to the agency or land trust a partial interest in a piece of property and the right to monitor the property as well as enforce the terms of the agreement.

Creek - The same as “Stream” as that term is defined below.

Cumulative Effects Upon Wetland Values - The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. “Effects” include (a) direct effects, which have been caused in the past and are caused by the action and occur at the same time and place; and (b) indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate and related effects on air and water and other natural systems, including ecosystems.

Date of Issuance - The date an Order of Conditions, any Determination, Certificate of Compliance, or any enforcement notice is mailed, as evidenced by a postmark, or the date it is hand-delivered, as evidenced by a signed or initialed notation to that effect.

Date of Receipt - The date of delivery to an office, home, or usual place of business by mail or the date of hand delivery to a person, office, home, or usual place of business. In the case of an application for a Determination or Order, an application is not deemed submitted if it does not comply with the requirements as outlined in Appendix B of these regulations. Upon determination by the Conservation Commission or its agent that the application is complete and in compliance with the requirements of these regulations, the Commission or its agent shall consider the application received.

Detention or Retention Pond - means any structure or facility that is designed to accept and control stormwater runoff.

Determination of Applicability (DOA) –

a. *Determination of Applicability* - A written finding by the Conservation Commission, after a public hearing, as to whether a site or the work proposed thereon is subject to the jurisdiction of the By-Law.

b. *Determination of By-Law Wetland Resource Area Boundaries* - A written finding by the Conservation Commission, after a public hearing, as to the identity and boundary of a Resource Area Subject to Protection Under the By-Law (By-Law Resource Area)

c. *Determination of Significance / Non-Significance* - A written finding by the Conservation Commission, after a public hearing, that the area on which the proposed work is to be done or which the proposed work will alter, is significant or not significant to any of the wetland values identified in the By-Law and / or in the Kingston wetland regulations.

Dewatering – the mechanical removal of water from excavated areas to another area during installation of subsurface structures.

Erosion and Sedimentation Control - A By-Law wetland value which means the prevention or reduction of the detachment or movement of soil or rock fragments by water, wind, ice, and/or gravity.

Estimated Habitat – A sub-set of Priority Habitat; known habitat of state-listed rare wetlands wildlife as codified under the Wetlands Protection Act, which does not protect plants, and under MESA.

Estuary – A Resource Area Subject to Protection Under the By-Law that is semi-enclosed coastal body of water with one or more rivers or streams flowing into it, and with a free connection to the open sea. The key feature of an estuary is that it is a mixing place for sea and freshwater that provides a rich environment for feeding and breeding of aquatic species as well as some terrestrial organisms. An estuary is typically the tidal mouth of a river, and estuaries are often characterized by sedimentation or silt carried in from terrestrial runoff.

Eutrophication - is a state of high nutrient (nitrogen and phosphorus) enrichment that promotes excessive algae growth. When the algae dies and decomposes, it depletes the water of oxygen needed by fish and other aquatic organisms.

Extension Permit - A written extension of time by a majority vote of the Conservation Commission at a public hearing within which the authorized work under an Order of Conditions shall be completed.

Facultative (FAC) – A category indicating that a species of plant has an equal probability (estimated at 34% - 66% of the time) of occurring in wetlands as in non-wetlands.

Facultative Upland (FACU) – A category indicating that a species of plant usually (estimated at 67% - 99% of the time) occurs in non-wetlands, but occasionally is found in wetlands (estimated at 1% - 33% of the time).

Facultative Wetland (FACW) – A category indicating that a species of plant usually (estimated at 67% - 99% of the time) occurs in wetlands, but occasionally is found in non-wetlands (estimated at 1% - 33% of the time).

Federal Emergency Management Agency (FEMA) – Agency that administers the National Flood Insurance Program (NFIP) and creates Flood Insurance Rate Maps (FIRM) for the determination of flood zones and elevations.

Fee Schedule – As defined in Part IV., Section 8.04 of these regulations.

Fill – To deposit any material so as to raise an elevation of the land or water, either temporarily or permanently.

Fisheries – All species of fresh and saltwater finfish and shellfish, including the nutrient sources and the habitat in which they live all or part of their life cycle.

Flat (mudflat or tidal flat)- Any nearly level part of a coastal beach which usually extends from the mean low water line landward to the more steeply sloping face of the coastal beach or which may be separated from the beach by land under ocean. A flat is a coastal wetland that forms when mud is deposited by the tides or rivers and found in sheltered areas such as bays and estuaries. Mudflats form from deposition of estuarine silts, clays

and marine animal detritus. They are typically important areas for wildlife including migratory birds. Mudflats are important in preventing coastal erosion.

Flood Control – The prevention or reduction of flooding and flood damage.

Flood Insurance Rate Map/FIRM – An official map published by FEMA which delineates flood hazard zones in each community.

Flood Zones/Floodplains – Areas of flood hazard designated by FEMA to represent the potential extent of flooding based on 100-year storms. Various zones are determined by topographical analysis done under a Flood Insurance Study. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE while areas outside of the Special Flood Hazard Areas include Zones X (areas determined to be outside the 0.2% annual chance floodplain) and D (areas in which flood hazards are undetermined, but possible).

Freshwater wetlands – A Resource Area Subject to Protection Under the By-Law and Regulations, defined in M.G.L. c. 131 § 40, eighth paragraph as wet meadows, marshes, swamps, bogs, areas where groundwater, flowing or standing surface water or ice provide a significant part of the supporting substrate for a plant community for at least five months of the year; emergent and submergent plant communities in inland waters; that portion of any bank which touches any inland waters.

Frimpter Calculation – A method for determining ground water elevation correcting for seasonal fluctuations.

Grain Size – A measure of the size of a material or rock particle that makes up sediment.

Great Pond – Any pond or lake that contained more than 10 acres in its natural state. Ponds or lakes presently larger than 10 acres are presumed to be great ponds unless unequivocal evidence is provided to indicate otherwise. Ponds 10 acres or more in their natural state, but which are now smaller, are still great ponds.

Groundwater – The water below the earth's surface in the zone of saturation.

Hydraulic Connection – A link between two wetlands which consists of water, whether stationary, moving, or intermittent, and which provides a direct exchange of surface or sub-surface water resource areas.

Hydric Soil - A soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part and includes soils that developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Also included are soils that are sufficiently wet because of artificial measures and soils in which the hydrology has been artificially modified if the soil, in an unaltered state, was hydric.

Hydrology – The study of water occurrence, distribution, movement, properties and balances in various ecosystems.

Hydrophytic Vegetation – Plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (i.e. plants that thrive under wet conditions).

Hyporeic Zone – Region beneath and lateral to a stream bed or floodplain, including sediments, where there is mixing of groundwater and surfacewater. The hyporeic zone is important to riverine habitat, fish spawning, pollutant removal, water purification as well as energy and carbon cycling.

Illicit Discharge - The result of an illegal and/or improper discharge of material into storm drains or surface waters. Examples of illicit discharges include dumping of wastes, spills, connections of non-storm water conveyances (such as sanitary sewers) to the storm water system, industrial facilities allowing their process waters to discharge directly without permits, power washing, etc.

Impervious – Resistant to penetration by water or plant roots.

Impervious Surfaces - Surfaces such as compacted soils, sidewalks, roadways, driveways, and rooftops that are resistant to penetration by water or plant roots and do not allow infiltration of water into the ground. Impervious surfaces can prevent groundwater/aquifer recharge, can cause increased flooding as well as increased stormwater runoff that degrades water quality by carrying pollutants and eroded soils to waterbodies.

In areas with expansive imperviousness, localized heat-islands can form where temperatures can be 2 – 10 degrees hotter than other nearby areas leading to increases in peak energy demand, air conditioning costs, air pollution levels, and heat/pollutant-related illness.

Improvement Dredging – Any dredging under a license in an area which has not previously been dredged or which extends the original dredged width, depth, length or otherwise alters the original boundaries of a previously dredged area.

Infiltration - The portion of rainfall or surface runoff that moves downward into the subsurface rock and soil.

Intermittent Stream – A body of running water, including brooks and creeks which moves in a definite channel in the ground due to a hydraulic gradient, and which flows within, into or out of an Area Subject to Protection under the By-Law, but does not flow throughout the year. (See section 6.03 A.(2)(d)i.-iv. for types of intermittent streams)

Isolated Land Subject to Flooding (ILSF) – A depression or a closed basin that serves as a ponding area for surface water run-off and/or high ground water that has risen above the ground surface. Such areas may support wetland vegetation and may serve as vernal pool habitat.

Isolated Vegetated Wetlands (IVW) – Any wetland area that is isolated from other resource areas and is not usually connected by surface water flow to other resource areas. An IVW typically contains enough water to equal at least 1/16 acre-foot in volume or 500 square feet in surface area during a 100-year storm event. An isolated vegetated wetland supports wetland vegetation and may serve as vernal pool habitat

Issuing Authority – A local Conservation Commission or the Department of Environmental Protection, whichever is applicable. The Kingston Conservation Commission is the issuing authority for both the Massachusetts Wetlands Protection Act (unless there is an appeal) and the Town of Kingston Wetlands Protection By-Law.

Lake – Any open body of fresh water with a surface area of ten acres or more, and shall include Great Ponds.

Land Containing Shellfish – Land under the ocean, tidal flats, rocky intertidal shores, salt marshes and land under salt ponds when any such land contains shellfish.

Land in Agricultural Use (LIAU) – Land within resource areas or the Buffer Zone presently and primarily used in producing or raising one or more of the following agricultural commodities for commercial purposes: animals; fruits, vegetables, berries, nuts, maple sap or other foods for human consumption; feed, seed, forage, tobacco, flowers, sod, nursery or greenhouse products, ornamental plants or shrubs; forest products such as biomass, saw logs and cordwood. Certain agricultural activities necessary to the production or raising of the agricultural commodities are exempt under the By-Law. Land that is not land in agriculture nor exempt under Section 2.05 is subject to any and all provisions of the By-Law and Regulations. Normal maintenance and improvement of land in agricultural use is defined in 310 CMR 10.04 “Agriculture”.

Land in Aquacultural Use (LIAU) – Land presently and primarily used in growing of aquatic organisms under controlled conditions including one or more of the following uses: raising, breeding or producing a specified type of animal or vegetable life including different types of fish, shellfish, squid, amphibians, reptiles, seaweeds and freshwater plants. Normal maintenance and improvement of land in aquacultural use is defined in 310 CMR 10.04 “Aquaculture”.

Land in Forestry Use (LIFU) – Any land on which work is performed under an approved Forest Cutting Plan for which a Department of Conservation and Recreation (DCR)-approved forest management plan is on file with the Conservation Commission. Land in forestry is also considered to be land in agricultural use with normal maintenance and improvement defined in 310 CMR 10.04 “Agriculture.”

Land Subject to Flooding (LSF) – A By-Law Resource Area (Resource Area Subject to Protection Under the By-Law) defined as either Bordering or Isolated as defined above.

Land Subject to Coastal Storm Flowage (LSCSF) – A By-Law Resource Area defined as land subject to any inundation caused by coastal storms up to and including that caused by the 100-year flood, storm surge of record or flood of record, whichever is greater. The 100-year flood means the flood having a one percent chance of being equaled or exceeded in any given year. Gently sloping landforms at or below the 100-year flood elevation

which have a slope of <10:1 are regulated as land subject to coastal storm flowage. The seaward limit is mean low water. LSCSF may overlap other wetland resource areas such as coastal beaches and dunes. There are no performance standards under 310 CMR 10.00 for this resource area, but there are under the By-Law & Regulations (See Section II.7.08).

Land Under Water Bodies and Waterways (LUW) – The bottom of, or land under, the surface of ocean or any estuary, creek, river, stream, reservoir, lake, or pond. Land under the ocean and estuaries is further defined in 310 CMR 10.25(2) and land under inland water bodies is further defined in 310 CMR 10.56(2). Land Under Water Bodies is a By-Law Resource Area (Resource Area Subject to Protection Under the By-Law)

Limit of Work (LOW) – The boundary beyond which no work may take place.

Littoral Processes – The movement of sediment, including gravel, sand or cobbles, along the coast caused by waves or currents.

Low Impact Development (LID) - An innovative set of strategies that seek to maintain natural systems during the development process in order to integrate structures into the landscape and natural environment. An LID stormwater management approach follows a basic principle modeled after nature: manage rainfall at the source using uniformly distributed, decentralized and micro-scale controls or small sub-watersheds to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source instead of conveying, treating and disposing of storm water in large, costly end-of-pipe facilities located at the bottom of drainage areas. Examples of LID stormwater techniques include green roofs, porous pavement, raingardens, rain barrels/cisterns, tree box filters, vegetated swales, etc. LID stormwater systems rely on natural processes that save on development and maintenance costs due to less reliance on pipes, catchbasins and other underground structures.

Majority – More than half of the members of the Conservation Commission then in office.

Maintenance Dredging – Dredging under a license in any previously dredged area which does not extend the originally-dredged depth, width, or length but does not mean improvement dredging or backfilling.

Marine Fisheries – Any animal life inhabiting the ocean or its adjacent tidal waters or the land there under that is utilized by man in a recreational and/or commercial manner or that is part of the food chain for such animal life.

Marsh – A type of vegetated wetland, a Resource Area Subject to Protection Under the By-Law and Regulations and defined in the Wetlands Protection Act, M.G.L. c. 131, §40 eleventh paragraph, and listed in the Act as a type of "coastal wetland" in the seventh paragraph and a type of "freshwater wetland" in the eighth paragraph.

a. ***Salt marsh –*** a type of coastal wetland that extends landward up to the highest high tide line, that is, the highest spring tide of the year, and is characterized by plants that are well adapted to or prefer living in, saline soils. Dominant plants within salt marshes are salt meadow cord grass (*Spartina patens)* and/or salt marsh cord grass (*Spartina alterniflora).* A salt marsh may contain tidal creeks, ditches and pools.

b. ***Inland marsh*** – a type of freshwater wetland where groundwater, flowing or standing surface water or ice provide a significant part of the supporting substrate for a plant community for at least five months of the year. Dominant plants within an inland marsh are arums (*Araceae)*, bladder worts (*Utricularia)*, bur reeds (*Sparganiaceae)*, button bush (*Cephalanthus occidentalis)*, cattails (*Typha)*, duck weeds (*Lemnaceae)*, eelgrass (*Vallisneria)*, frog bits (*Hydrocharitaceae)*, horsetails (*Equisetaceae)*, hydrophilic grasses (*Gramineae)*, leatherleaf (*Chamaedaphne calyculata)*, pickerel weeds (*Pontederiaceae)*, pipeworts (*Eriocaulon)*, pond weeds (*Potamogeton)*, rushes (*Juncaceae)*, sedges (*Cyperaceae)*, smartweeds (*Polygonum)*, sweet gale (*Myrica gale)*, water milfoil (*Halcragaceae)*, water lilies (*Nymphaeaceae)*, water starworts (*Callitrichaceae)*, water willow (*Decodon verticillatus).*

Massachusetts Department of Environmental Protection (DEP) – The state agency (the "Department") to which one would appeal a Determination or Order issued under the Massachusetts Wetlands Protection Act by the Conservation Commission.

Massachusetts Division of Fisheries and Wildlife (DFW) – DFW or MassWildlife is responsible for the conservation – including restoration, protection and management – of fish and wildlife resources for the benefit and enjoyment of the public.

Massachusetts Division of Marine Fisheries (DMF) – DMF is responsible for the protection and enhancement of the Commonwealth's marine fishery resources.

Massachusetts Endangered Species Act (MESA) – M.G.L. c. 131A and the regulations promulgated pursuant thereto, 321 CMR 10.00, for the protection of rare species and their habitats through prohibition of a "take" of any plant or animal species listed as Endangered, Threatened or Special Concern by the MA Division of Fisheries and Wildlife.

Massachusetts Environmental Policy Act (MEPA) – M.G.L. c. 30, § 62 through § 62H, and the regulations promulgated pursuant thereto, 301 CMR 11.00, which are also referenced as "Title I of the Massachusetts Environmental Code," for the review of the environmental impacts of development projects and other activities that require one or more state permits or licenses and that exceed MEPA review thresholds.

Massachusetts Office of Coastal Zone Management (CZM) – Part of the Executive Office of Energy and Environmental Affairs (EEA) whose mission is to balance the impacts of human activity with the protection of coastal and marine resources. CZM was established to network with other state agencies, federal agencies, local governments, academic institutions, nonprofit groups and the general public to promote sound management of the Massachusetts coast. The Conservation Commission often seeks the advice of CZM on coastal issues.

Massachusetts Stormwater Handbook – Published by DEP in 1997, revised and updated in February 2008 in accordance with revisions to the Wetlands regulations, 310 CMR 10.00 and the Water Quality Regulations, 314 CMR 9.00, relating to stormwater. The purpose of the Massachusetts Stormwater Handbook is encourage recharge and prevent stormwater discharges from causing or contributing to the pollution of surface waters and groundwater. The 2008 revision promotes increased stormwater recharge, treatment of more runoff from polluting land uses, low impact development techniques, pollution prevention, removal of illicit discharges to stormwater management systems, and improved operation and maintenance of stormwater best management practices. The Stormwater Management Standards contained within the handbook are administered pursuant to the Wetlands Protection Act, M.G.L. c. 131, § 40, and the Clean Water Act, M.G.L. c. 21, § 26-53 and are incorporated into the Wetlands Protection Act Regulations, 310 CMR 10.05(6)(k) and the Water Quality Certification Regulations, 314 CMR 9.06(6)(a).

Mean Annual Flood Level – The average highest instantaneous peak discharge of the water year. The mean annual flood level sets the upper boundary of a Bank, as defined above and in section 4.09 of these Regulations.

Mean Annual High-Water Line (MAHW) – As defined in 310 CMR 10.58(2), the mean annual high-water line is the line that is apparent from visible markings or changes in the character of soils or vegetation due to the prolonged presence of water and that distinguishes between predominantly aquatic and predominantly terrestrial land. Field indicators of bankfull conditions shall be used to determine the mean annual high-water line. Bankfull field indicators include but are not limited to: changes in slope, changes in vegetation, stain lines, top of pointbars, changes in bank materials, or bank undercuts.

a. In most rivers, the first observable break in slope is coincident with bankfull conditions and the mean annual high-water line. In some river reaches, the mean annual high-water line is represented by bankfull field indicators that occur above the first observable break in slope, or if no observable break in slope exists, by other bankfull field indicators. These river reaches are characterized by at least two of the following features: low gradient, meanders, oxbows, histosols, a low-flow channel, or poorly-defined or nonexistent banks.
b. The mean annual high-water line sets the boundary of a Vernal Pool and the inner boundary of the Riverfront Area.
c. In tidal rivers, the mean annual high-water line is coincident with the mean high water line.

Mean Annual Low Water Level (MALW) – The average lowest instantaneous water discharge of the water year. The mean annual low water level sets the lower boundary of a Bank and the boundary of Land Under Water Bodies and Waterways.

Mean High Water Line (MHWL) – The line where the arithmetic mean of the high water heights observed over a specific 19-year metonic cycle (the National Tidal Datum Epoch) meets the shore and shall be determined using hydrographic survey data of the National Ocean Survey of the U.S. Department of Commerce.

Mean Low Water Line (MLWL) – the line where the arithmetic mean of the low water heights observed over a specific 19-year metonic cycle (the National Tidal Datum Epoch) meets the shore and shall be determined using hydrographic survey data of the National Ocean Survey of the U.S. Department of Commerce.

Minimize – To achieve the least amount of adverse effect that can be attained using best available measures or best practical measures. "Best available measures" means the most up-to-date technology or the best designs, measures or engineering practices that have been developed and that are commercially available. "Best Practical Measures" means technologies, designs, measures or engineering practices that are in general use to protect similar interests.

Mitigation – The rectifying of an adverse impact by repairing, rehabilitating or restoring the affected resource area or compensating for an adverse impact by enhancing or provide replacement resource areas.

NAVD 88 – National American Vertical Datum of 1988 based on 1 tidal gauge and satellite technology. NAVD 88 is replacing NAVD 29 for elevation measurements because it is more accurate and corrects many of the problems with NGVD 29 such as distortions caused by gravity. FEMA is updating it FIRM maps from NGVD 29 to NAVD 88. The datum used by FEMA on the FIRMs should be the datum used by professional surveyors, engineers and architects to be consistent as well as mapping errors that can range from -40 cm to +150 cm within the conterminous U.S.

Natural Heritage and Endangered Species Program (NHESP) - The Natural Heritage and Endangered Species Program is part of DFW and is responsible for the conservation and protection of hundreds of species that are not hunted, fished, trapped, or commercially harvested in the state including the 176 species of vertebrate and invertebrate animals as well as the 259 species of native plants that are officially listed as Endangered, Threatened or of Special Concern in the Commonwealth.

NGVD 29 – National Geodetic Vertical Datum of 1929 based on 26 tidal gauges and physical land surveying within the U.S. and Canada. NGVD 29 has been used for most of the 20th century by surveyors/engineers to establish relationships between ground and flood elevations. Survey leveling work in the 1970's found that ground elevations had risen or fallen due to earthquakes, subsidence and rebounding of the earth that has continued since the glaciers receded.

No Adverse Impact (NAI) – A legally defensible land management approach requiring that public and private development activities be designed and completed in such a way that they do not: 1) pose a threat to public safety; 2) increase flood or storm damage to public or private property; and 3) strain municipal budgets by raising community expenditures for storm-damage mitigation, stormwater management, emergency services, and disaster recovery efforts.

No Disturbance Zone – Area that shall remain undisturbed for the protection of the resource areas and the interests of the By-Law and Regulations as specified below in Section 9.00.

Nonpoint Source Pollution - Nonpoint source (NPS) pollution, in the realm of water media, is unlike point source pollution because it comes from many diffuse sources and is often difficult to identify, isolate and control. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water. These pollutants can include: excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas; oil, grease, and toxic chemicals from urban runoff and energy production; sediment from improperly managed construction sites, crop/forest lands, and eroding streambanks; salt from irrigation practices and road de-icing; bacteria and nutrients from livestock, pet wastes, and faulty septic systems.

Non-structural Stormwater Best Management Practices (BMPs) – Techniques that include, but are not limited to, education, maintenance practices (street sweeping and pavement repair), recycling (toxic chemicals), signage, and pollution prevention methods.

Non-structural Coastal Armoring – Armoring accomplished through use of stabilization techniques such as biodegradable coir or fiber rolls (a.k.a. "soft" engineering) as an alternative to structural coastal armoring which includes such materials as stone or concrete (a.k.a. "hard" engineering).

Normal Maintenance or Improvement of Land in Agricultural Use – Defined in 310 CMR 10.04.

Notice of Intent (NOI) – The written notice filed by any person intending to remove, fill, dredge or alter an area subject to protection under the Massachusetts Wetlands Protection Act, M.G.L. c. 131, § 40 and/or the Town of Kingston Wetlands Protection By-Law, G.L. c. 13.

Nutrients - Substances required by organisms in order to grow and survive, such as nitrogen and phosphorus.

100 Year Storm Line – The extreme upper or lateral limit of flood water in any area or depression as calculated using the total natural area contributing stormwater flow runoff during a 100-year storm event (7 inches of precipitation in 24 hours).

Obligate Upland (UPL) – A category indicating that a species of plant almost always (estimated at >99% of the time) occurs in non-wetlands under natural conditions.

Obligate Wetland (OBL) – A category indicating that a species of plant almost always (estimated at >99% of the time) occurs in wetlands under natural conditions.

Operation and Maintenance Plan (O & M Plan) – A plan developed for the purpose of continuing to operate and maintain a stormwater management system to ensure it functions as designed.

Order of Conditions (OOC) - The document issued by the Conservation Commission containing conditions that regulate or prohibit activities under the Massachusetts Wetlands Protection Act, M.G.L. c. 131, §40 and/or the Town of Kingston Wetlands Protection By-law, G.L. Chapter 13.

Order of Resource Area Delineation (ORAD) – An Order issued by the Conservation Commission as a result of findings based on an Abbreviated Notice of Resource Area Delineation filed with the Commission who confirms, modifies or rejects the resource area delineation in the ORAD.

Overwash - That portion of storm wave uprush that carries over the crest of a berm, dune, or man-made structure, oftentimes depositing sediment or other storm-laden material.

Party to Any Proceeding - The applicant and the Conservation Commission; and may also include the land owner, any abutter or any person aggrieved.

Permit - A valid and current Order of Conditions or negative Determination of Applicability.

Permit Application - a Request for Determination or a Notice of Intent as described in Section 5.03 of these Regulations.

Person - Any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, the Commonwealth or political subdivision thereof to the extent subject to town By-Laws, administrative agency, public or quasi-public corporation or body, the town of Kingston, and any other legal entity and the respective legal representatives, agents, or assigns of each person or entity listed above.

Person Aggrieved - Any person who, because of an act or failure to act by the Conservation Commission, may suffer an injury in fact that is different either in kind or magnitude from that suffered by the general public and which injury is within the scope of the By-Law wetland values. Such person must specify, in writing before the close of the public hearing, sufficient facts to allow the Conservation Commission to determine whether the person meets the criteria of being “aggrieved.”

Pier – The entire structure of any dock, wharf, walkway, bulkhead or float, and any part thereof including pilings, ramps, walkways, floats, boatlifts, or tie-off pilings.

Plans or Plan of Record - Such data, maps, engineering drawings, calculations, specifications, schedules, and other like information and materials deemed necessary by the Conservation Commission to describe the site and work to enable the Commission to determine the applicability of the By-Law and these regulations and the Act or to determine the impact of the proposed work upon the By-Law wetland values and the interests identified in the Act. (See Appendix B for a listing of the minimum filing information required by the Commission). The term “plan of record” shall mean the final plan reviewed by the Conservation Commission, including any revisions, that is referenced in the Determination or an Order of Conditions.

Plymouth-Carver Sole Source Aquifer – The groundwater saturated geologic formation underlying Plymouth, Carver, most of Wareham, parts of Bourne, Plympton, Kingston and a small portion of Middleborough that provides water in usable quantities to wells and to surface waters like streams and ponds. The aquifer covers 199 square miles and contains approximately 500 billion gallons of water; it provides the sole or majority source of drinking water for at least six of the communities mentioned above and was designated as a sole source aquifer in 1989. The aquifer is susceptible to pollution due to its vast sandy soils through which various contaminants quickly move. Aquifer-sensitive planning and management is needed to protect the region's drinking water quality and quantity.

Point Source Pollution – Point source pollution, in the realm of water media, is a term used to describe the discrete (i.e. single or identifiable) conveyance of a pollutant/effluent discharge, usually through a pipe, into a receiving water body. Point sources are generated by industrial, agricultural or municipal activities including discharges from processing operations as well as from storm water. Point sources are regulated through the NPDES (National Pollutant Discharge Elimination System) Program via a permit issued from the designated federal and/or the state authority.

Pollution - Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of any material that, because of its quantity, concentration, or other characteristics, does or may result in an adverse impact to human, plant, or animal life or to property or may unreasonably interfere with the comfortable enjoyment of life or property. (See also "Water Pollution," defined below).

Pond (Inland) – Any open body of fresh water with a surface area observed or recorded within the last ten years of at least 10,000 square feet. Ponds may be naturally occurring or man-made by impoundment, excavation, or otherwise. Ponds shall contain standing water except during periods of extended drought. Wastewater treatment plant basins or lagoons, swimming pools or other impervious man-made basins, and gravel pits or quarries excavated from upland areas (unless inactive for 5 or more consecutive years) shall not be considered ponds.

Preponderance of the Credible Evidence Standard of Proof – The person having the burden of proof must show that it is more likely than not that the facts as asserted by that person are true.

Prevention of Water Pollution - The prevention or reduction of the contamination of surface or ground water. "Water Pollution" is further defined below.

Priority Habitat – The known habitat for all state-listed rare species, both plants and animals, as codified under MESA.

Private Water Supply - Any source or volume of surface or ground water demonstrated to be in any private use or shown to have potential for private use.

Protection of Fisheries - Protection of the capacity of an area subject to protection under the By-Law to prevent or reduce contamination or damage to fish and to serve as their habitat as well nutrient source. Fish includes all species of fresh and salt water finfish as well as shellfish.

Protection of Wildlife - The protection of any plant or animal species listed as endangered, threatened, or of special concern or placed on the Watch List by the Massachusetts Natural Heritage Program; listed as Federally Endangered or Federally Threatened by the U.S. Fish and Wildlife Service; deemed locally threatened, in writing, by the Conservation Commission; and, further, means protection of the ability of any By-Law Resource Area to provide food, breeding habitat, or escape cover; and species falling within the definition of "wildlife" set forth below.

Public Interest - Something of benefit to the health, welfare, or safety to the Kingston community at large as opposed to one individual, special interest group, organization, or other entity.

Public Water Supply - Any source or volume of surface or groundwater demonstrated to be in public use or approved for a public water supply pursuant to Mass. Gen. Laws c. 111, §160, by the Division of Water Supply of the Department of Environmental Protection or shown to have a potential for public use.

Rare Species - rare species include, without limitation, all vertebrate and invertebrate animal and all plant

species listed as endangered, threatened, or of special concern by the Massachusetts Division of Fisheries and Wildlife (MA DFW), regardless of whether the site in which they occur has been previously identified by the Division.

Recreation - The use of leisure time for personal satisfaction and enjoyment and for physical and mental health and revitalization and under the By-Law the term connotes passive recreation activities that do not conflict with or diminish other By-Law wetland values or the functions of Resource Areas Subject to Protection Under the By-Law.

Redoximorphic Features - Color patterns in the soil formed by the oxidation and reduction of iron and/or manganese caused by saturated conditions within the soil. Redoximorphic features are used to estimate the depth to seasonal high water table.

Remove - To take away any type of material, thereby changing an elevation, either temporarily or permanently.

Reservoir - A By-Law Resource Area defined as a body of water fed by ground and/or surface waters that may or may not be used as a water supply.

Resource Area Subject to Protection Under the By-Law and Regulations - Any area specified as an area subject to protection in the By-Law and Regulations. This term is used synonymously with "By-Law Resource Area."

Riparian – The habitat zone directly adjacent to a waterway or waterbody and consistent with buffer zones and riverfront areas.

River - A By-Law Resource Area defined as any natural flowing body of water that empties to any ocean, lake, pond or other river and which flows throughout the year as a perennial stream. River is defined further in 310 CMR 10.58(2).

Riverfront Area - A By-Law Resource Area defined as the area of land between a river's mean annual high water line and a parallel line measured horizontally. The riverfront area may include or overlap other resource areas or their buffer zones. The riverfront area does not have a buffer zone. Riverfront Area is further defined in 310 CMR 10.58(2).

Rocky Intertidal Shore – A naturally occurring rocky area, such as bedrock or boulder-strewn areas between the mean high water line and the mean low water line.

Salt Marsh – A coastal wetland that extends landward up to the highest high tide line, that is, the highest spring tide of the year, and is characterized by plants that are well adapted to or prefer living in, saline soils. Dominant plants within salt marshes are salt meadow cord grass *(Spartina patens)* and/or salt marsh cord grass (*Spartina alterniflora).* A salt marsh may contain tidal creeks, ditches and pools.

Sea Level Rise (SLR) – the relative rise in elevation of the sea surface over time. Sea level rise is caused by: 1) physical expansion of ocean water whose temperature is increasing globally over time; 2) melting of glaciers and ice caps; 3) melting of Greenland and Antarctic ice sheets; and, in Massachusetts, 4) the subsidence of the tectonic plate on which the land mass rests. Sea level rise may cause greater risk to human safety and development, increased risk to urban infrastructure, greater and more frequent coastal inundation, elevated storm surge flooding levels, salt water intrusion to water wells and septic systems, loss of coastal recreational resources, increased coastal erosion, and loss of coastal habitats and resources.

Seasonal Wetlands – Isolated wetlands or wetlands within or contiguous to resource areas as set forth in Section 2.01 of these Regulations and are areas subject to flooding or inundation which form temporary bodies of water during periods of high water table, input from spring runoff, snowmelt, or heavy precipitation and support populations of wetland vegetation or obligate vernal pool species.

Sediment – Insoluble material or particles derived from rocks, soil, or biological material. Sediment is also the layer of soil, sand, and minerals at the bottom of surface waters, such as rivers, streams, lakes, and ponds. Sediment is a major storm water runoff pollutant to which other pollutants often attach.

Sedimentation - The settling of sediment to the bottom of a waterway.

Significant – Playing a role, having an influence or effect on protecting an interest under the By-Law and Regulations.

Shellfish - A By-Law wetland value defined in 310 CMR 10.34(2) as the following species: Bay Scallop, Blue Mussel, Ocean Quahog, Oyster, Quahog, Razor Clam, Sea Clam, Sea Scallop, Soft Shell Clam.

Shellfish Growing Area - Area of land under the ocean, tidal flats, rocky intertidal shores and marshes when any such land contains shellfish. Shellfish growing areas include land that has been identified and shown on a map published by the Division of Marine Fisheries (DMF) as a shellfish growing area including any area identified on such map as an area where shellfishing is prohibited. Shellfish growing areas shall also include land designated by the Department in 314 CMR 4.00 as suitable for shellfish harvesting with or without depuration. In addition, shellfish growing areas shall include those areas designated by the local shellfish constable as suitable for shellfishing based on the density of shellfish, the size of the area and the historical and current importance of the area for recreational and commercial shellfishing.

Soil Compaction - The pressing together of soil particles into a more dense mass that is less capable of allowing storm water to infiltrate, and therefore increasing runoff.

Sole Source Aquifer (SSA)– An area designated under 1424(e) of the Federal Safe Drinking Water Act of 1974, 42 USC § 300f et seq. as a "sole or principal source" of drinking water for a given service area; that is, an aquifer which is needed to supply 50% or more of the drinking water for that area and for which there are no reasonably available alternative sources should the aquifer become contaminated. The Plymouth-Carver Aquifer is a nationally designated sole source aquifer from which Kingston draws much of its drinking water.

Special Flood Hazard Areas (SFHAs) – Areas subject to inundation by the 1% annual chance flood (100-year flood), also known as the base flood or the flood that has a 1% chance of being equaled or exceeded in any given year. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE whose definitions can be found on FEMA FIRM maps.

Spring Tide – The tide of the greatest amplitude during the approximately 14-day tidal cycle. It occurs at or near the time when the gravitational forces of the sun and the moon are in phase (new and full moons).

Storm Damage Prevention - The prevention of damage caused by water from storms, including but not limited to erosion and sedimentation; damage to vegetation, property, or buildings; or damage caused by flooding waterborne debris or waterborne ice.

Storm Drains - The drains that collect storm water runoff from roadways/parking lots and deliver it to a discharge point(s).

Stormwater – Stormwater is runoff caused by water (from precipitation, snowmelt, dewatering, etc.) flowing over and through land surfaces such as lawns and over impervious areas such as paved streets, parking lots, and building rooftops that often contain pollutants in quantities that could adversely affect the water quality of the water to which the runoff drains either through stormwater discharge pipes or from diffuse sources. Stormwater may include sediment (eroded soil); litter; bacteria (e.g., E. coli and fecal coliform, from pet wastes and sewage/septic systems); nutrients and toxic organic chemicals (such as fertilizers, soaps, pesticides, oil, grease, gas, and antifreeze); toxic inorganic chemicals (heavy metals such as lead, zinc, copper and cadmium); salts; acidic and alkaline chemicals (such as bleach and battery acids); and other contaminants. Besides effecting water quality, large volumes of storm water runoff can cause erosion and flooding. Stormwater pollution and flows may cause erosion/sedimentation; turbidity; eutrophication; diseases; lethal and sublethal toxic effects (which may be acute or chronic); increased salinity; physical impairment (altered temperature and flow regimes); disruption of habitat structure (changing stream beds, vegetation); and stream bank and channel instability that adversely affects living organisms and the ability to control flooding. Stormwater rivals, and in some cases exceeds, sewage plants and large factories as a source of damaging pollutants to water resources including drinking water supplies, recreational waters and wildlife habitat. In the Commonwealth, stormwater runoff is the single largest contributor of water quality impairments in rivers, lakes, ponds and coastal waters.

Stormwater Best Management Practice (BMP) – A structural or nonstructural pollution control technique for managing stormwater to prevent or reduce pollutants, originating from human activity, from entering surface waters or ground waters.

Stormwater Management System – A system for conveying, collecting, storing, discharging, recharging and treating stormwater on-site including stormwater BMPs including any pipes and outlets intended to transport as well as discharge stormwater to the ground water, a surface water or a municipal separate storm sewer system.

Stream - A body of running water, including those called brooks and creeks, that moves in a definite channel in the ground due to hydraulic gradient, and which flows within, into or out of An Area Subject to Protection under the By-Law. A stream can be either intermittent or perennial in nature.

Stream Order - The measure of the relative size of a stream or river. The smallest tributaries are called "first-order" streams, while the largest river in the world, the Amazon, is a twelfth-order waterway. When two first-order streams come together, the streams form a second-order stream; when two second-order streams come together, the streams form a third-order stream; and so on. However, if a first-order stream joins a second-order stream, the streams remain a second-order stream. It is not until one stream combines with another stream of the same order that the resulting stream increases by an order of magnitude. First through third order streams are also called headwater streams.

StreamStats – A United States Geological Survey (USGS) web-based tool that allows users to obtain streamflow statistics, drainage-basin characteristics, and other information for user-selected sites on streams. This tool is often used to determine the probability of a stream being perennial or intermittent, but the usefulness of the tool is dependent upon data availablility for a particular location.

Structural Stormwater BMPs – Techniques that include, but are not limited to, detention ponds, infiltration basins, construction site silt fences, porous pavement, stream setbacks, stream bank stabilization, sand filters, grass strip biofilters, wetlands, and reducing impervious area.

Surface Water - Water that is on the surface of the earth (in lakes, streams, rivers, oceans, etc.).

Swamp - A type of vegetated wetland, a Resource Area Subject to Protection Under the By-Law and Regulations and defined in the Wetlands Protection Act, M.G.L. c. 131, §40 ninth paragraph as an area where ground water is at or near the surface of the ground for a significant part of the growing season or where runoff water from surface drainage frequently collects above the soil surface, and where a significant part of the vegetational community is made up of, but not limited to nor necessarily include all of the following plants: alders, ashes, azaleas, black alder, black spruce, button bush, American or white elm, White hellebore, hemlock, highbush blueberry, larch, cowslip, poison sumac, red maple, skunk cabbage, sphagnum mosses, spicebush, black gum tupelo, sweet pepper bush, white cedar, willow.

Tidal A-Zone – Areas of the 100-year coastal floodplain landward of the Coastal A-Zone, where tidally-influenced Stillwater flooding predominates.

Tidal Flat - Any nearly level part of a coastal beach which usually extends from the mean low water line landward to the more steeply sloping face of the coastal beach or which may be separated from the beach by land under the ocean.

Top of Bank (TOB) - The upper boundary of a Bank is the first observable break in the slope or the mean annual flood level, whichever is lower. The lower boundary of a Bank is the mean annual low flow level immediately adjacent to an area subject to protection.

Turbidity - The cloudy or muddy appearance of water that is mainly indicative of the amount of particulates suspended in the water column.

Vegetated Buffer – A natural, undisturbed or undeveloped area where naturally occurring or planted vegetation serves to protect an adjacent area from impacts. A vegetated buffer adjacent to a wetland area is a transitional area between the upland and wetland that protects wetland functions, provides an opportunity for uptake of pollutants through plant roots, provides for stabilization of soils and banks, and provides shade, cover, foraging, nesting, and breeding areas, as well as movement corridors for wildlife.

Vegetated Wetland - The same as a "freshwater wetland," as described above, a By-Law Resource Area (Resource Area Subject to Protection under the By-Law).

Velocity Zone (V-Zone) – V- & VE-Zones are areas designated by FEMA to be Special Flood Hazard Areas that

are subject to flooding by the 1% annual chance flood. Zone V's & VE's are coastal flood zones with velocity hazard or wave action; Zone V's do not have base flood elevations determined while Zone VE's do have base flood elevations determined. These areas extend from the mean low water line to the inland limit within the 100-year floodplain where waves may be greater than three feet in height. Velocity zones may have significant rates of erosion as a result of storm wave impact and scour.

Vernal Pool – A By-Law Resource Area (Resource Area Subject to Protection Under the By-Law) defined as any seasonal or isolated wetland which, in the Commission's judgment, functions as breeding habitat for obligate vernal pool species as described in Massachusetts Audubon Society's vernal pool handbook, "*Certified*," and the Vernal Pool Association's publication, "*Vernal Pools*." Vernal pools may be certified by the Conservation Commission and protected wherever they occur. The Commission will follow procedures and standards as described in the handbook "*Certified*," as well as the certification procedures of the Natural Heritage and Endangered Species Program (NHESP).

Vernal Pool Habitat – Confined basin depressions which, in most years, hold water for a minimum of two continuous months during the spring and/or summer, and are free of adult fish populations. Vernal pool habitat includes the area within 100 feet of the mean annual high water line of such depressions. These areas are essential breeding habitat for a variety of amphibian species such as wood frog (*Rana sylvatica)* and the spotted salamander (*Ambystoma maculatum)* and also provide other extremely important wildlife habitat functions during non-breeding season for other wildlife species.

Vernal Pool Species - Animals that depend upon the Vernal Pool and the upland adjacent to the Vernal Pool for life including but not limited to wood frogs (*Rana sylvatica*), green frogs (*Rana clamitans*), mole salamanders (*Ambystoma, spp.*), four-toed salamanders (*Hemidactylium scutatum*), Fowler's toads (*Bufo woodhoussi fowleri*), American toads (*Bufo americanus*), spring peepers (*Hyla crucifer*), and grey tree frogs (*Hyla versicolor*).

Vista Pruning – The selective thinning of tree branches or understory shrubs to establish a specific "window" to improve visibility. Vista pruning does not include the cutting of trees which would reduce the leaf canopy to less than 90% of the existing crown cover and does not include the mowing or removal of understory brush. Vista pruning is *not* an exempt activity under the By-Law and Regulations.

Water Dependent Uses – Those facilities which require direct access to, or location in, marine, tidal or inland waters and which therefore cannot be located away from said waters, including but not limited to: marinas, public recreational uses, navigational and commercial fishing and boating facilities, water-based recreational uses, navigation aids, basins, and channels, industrial uses dependent upon waterborne transportation or requiring large volumes of cooling or process water which cannot reasonable be located or operated at an upland site, crossings over or under water bodies or waterways (but limited to railroad and public roadway bridges, tunnels, culverts, as well as railroad tracks and public roadways connecting thereto which are generally perpendicular to the water body or waterway).

Water Pollution – Waste and other harmful or objectionable material from any source in sufficient quantities to result in a measurable degradation of the water quality.

Water Quality in Ponds, Lakes, Reservoirs - A By-Law wetland value which means maintaining pollution free water in Kingston's bodies of water.

Watershed - The area of land drained by a stream and its tributaries; the dividing line between watersheds is physically defined by mountains, crests, hills, or the ridges of high ground.

Wetland – Area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions including, but not limited to, those areas subject to protection under Section 2.01 above.

Wetland Delineation – A determination and marking of the physical location of a wetland resource area/area subject to protection in the field. Wetlands may be delineated by using vegetation, soils and/or hydrologic indicators. Accurate identification of wetland resource areas is essential to affording them proper protection under the law.

Wetlands Protection Act (WPA) - The same as "Act" as that is defined above.

Wetland Protection Regulations - Regulations promulgated under the authority of the Wetlands Protection Act and found in the Code of Massachusetts Regulations (CMR) as 310 CMR 10.00, as they are referred to in these regulations.

Wetland Value – A value or interest Subject to Protection under the By-Law including, but not limited to, those interests listed in Section 1.02 above.

Wet Meadow - A type of vegetated wetland, a Resource Area Subject to Protection Under the By-Law and Regulations, and defined in the Wetlands Protection Act, M.G.L. c. 131, § 40 tenth paragraph as an area where ground water is at the surface for a significant part of the growing season and near the surface throughout the year and where a significant part of the vegetational community is composed of various grasses, sedges and rushes; made up of, but not limited nor necessarily including all, of the following plants or groups of plants: blue flag, vervain, thoroughwort, dock, false loosestrife, hydrophilic grasses, loosestrife, marsh fern, rushes, sedges, sensitive fern, smartweed.

Wildlife - Any non-domesticated mammal, bird, reptile, amphibian, fish, mollusk, arthropod, or other invertebrate, other than a species of the Class Insecta (Phylum Arthropoda, Subphylum Tracheata) that has been determined by the Commonwealth of Massachusetts or any agency thereof to be a pest the protection of which under the provisions of the By-Law would be a risk to man.

Wildlife Habitat - A By-Law wetland value defined in the Wetlands Protection Act, M.G.L. c. 131, §40, nineteenth paragraph, as areas which, due to their plant community composition and structure, hydrologic regime or other characteristics, provide important food, shelter, migratory or over-wintering areas, or breeding areas for wildlife.

Work - The same as “Activity” as that term is defined above.

4.00 GENERAL PROVISIONS

4.01 Burden of Proof and Burden of Going Forward

Any person who files a written application for a permit as set forth in Article 9 of the By-Law to perform work within an Area Subject to Protection has the burden of demonstrating to the Conservation Commission by a preponderance of the credible evidence submitted by qualified experts in support of all matters asserted by the applicant (1) that the area is not significant to the protection of any of the interests identified in the By-Law, or (2) that the proposed work will contribute to the protection of the interests identified in the By-Law, or (3) that the presumption set forth in these regulations concerning the Area Subject to Protection is not valid. Failure to meet the burden of proof shall be cause for the Conservation Commission to issue a denial or such conditions as deemed appropriate for the proposal and any work or activity proposed therein.

4.02 Presumption of Significance

Each Area Subject to Protection under the By-Law is presumed to be significant to one or more of the interests identified in 1.02.

5.00 GENERAL PROCEDURES

5.01 Time Periods

Time periods of ten days or less are counted in business days whereas periods greater than ten days are counted as calendar days.

5.02 Actions by the Conservation Commission

All actions under the By-Law must be approved by a majority of the Commission as a whole (i.e. the Kingston Conservation Commission has 7 members and a majority (4 members) must concur on a vote in order for a By-Law decision to be issued. Notwithstanding the foregoing, administrative matters may be approved at a meeting of at least a quorum. A quorum is a simple majority of those members then in office.

Any order, determination, notification, or official document (e.g. bill) shall be signed by a majority of the Conservation Commission meaning a majority of the members then in office, who need not convene as a body to sign said order, determination, notification or document provided they met pursuant to the Open Meeting Law when voting on the matter.

When holding an adjudicatory hearing under the By-Law, a member of the Commission shall not be disqualified from voting on the matter solely due to that member's absence from no more than a single session of the hearing at which testimony or other evidence is received. If the Commission member chooses to continue to participate in the hearing despite a single absence, M.G.L. c. 39, § 23D provides that, prior to such vote, the member shall certify in writing that he or she has examined all evidence received at the missed session, which evidence shall include an audio or video recording of the missed session or a transcript thereof. The written certification shall be part of the record of the hearing. M.G.L. c. 39, § 23D may only be relied upon in the event that all of the conditions below are met:

1. The statute must be accepted either generally for all boards, committees, commissions or authorities holding adjudicatory hearings in the municipality, or for one or more particular municipal entities; the Town of Kingston adopted the statute for the Commission and other boards on April 25, 2007 at Annual Town Meeting;

2. G.L. c. 39, § 23D may be used only when a Commission member is disqualified from voting solely due to that member's absence. Accordingly, if a member did not participate in the proceedings due to a conflict, the provisions of G.L. c. 39, § 23D may not be used to remedy the conflict, or to otherwise authorize the member to vote;

3. G.L. c. 39, § 23D may be used only if a board member is absent from a *single session* of an adjudicatory hearing. If a member is absent from more than one session of an adjudicatory hearing, G.L. c. 39, § 23D will not allow the member to vote in the underlying matter;

4. G.L. c. 39, § 23D may be used only if there is an available recording or transcription of the hearing at which a member is absent. G.L. c. 39, § 23D does not, however, require that adjudicatory hearings be recorded or that any recorded hearing be transcribed; and

5. G.L. c. 39, § 23D may be used only if the member certifies that he or she has examined all evidence received at the missed session.

If even one of these conditions is not met, G.L. c. 39, § 23D will not be applicable and the Mullin Rule (See Mullin, 17 Mass.App.Ct. at 141), which requires members of a board holding an adjudicatory hearing to attend all hearings on a matter in order to participate in a vote, shall apply.

5.03 Public Hearing

The Conservation Commission shall commence a public hearing for a permit application within 21 days of receipt and acceptance of a completed application (as determined by the Commission staff), unless a waiver of the timeframe has been granted by the Applicant. Notice of time, date and place of hearing shall be given by the Commission as described in Article 4 of the Kingston Wetland Protection By-Law. Please note that all application and advertising fees must be paid in full prior to the opening of a public hearing. Failure to pay these fees constitutes an incomplete application and may result in a denial of the application.

A public hearing may be continued for the purpose of gathering information, from the applicant or its representative, the Town or Conservation Commission or their employees, agents or consultants, or the public. If the Commission determines that the application fails to adequately identify the resource areas or describe the project or its impact, the project may be denied for lack of information. The Commission may require an application that may impact a seasonal wetland or vernal pool to contain information collected or recorded during seasonally wet periods. The Commission may not close a hearing until it reasonably determines all relevant information and testimony has been received. In addition, a hearing will not be closed until the Department of Environmental Protection issues a file number for the project with respect to the Wetlands Protection Act.

Upon receipt of an application, the Conservation Office will:

1. Thoroughly review the application for completeness;

2. Schedule a date and time of the public hearing (if the application is complete) and notify the applicant for abutter notification purposes; and

3. Place a public meeting notice in a local newspaper at least five business days before said hearing. The applicant is responsible for submitting the payment of the legal advertisement fee to the Conservation Office.

Within 21 days of receipt of an application, unless an extension has been granted, the Conservation Commission will:

1. Request proof of abutter notification (green return receipt cards, certificate of mailing receipts or a document which has been signed and dated by all abutters) if applicable;

2. Open a public hearing to review the application;

3. Possibly schedule a site visit to inspect the area and review any proposed work. The following on site inspection requirements shall be met:

   (a) Bordering vegetated wetlands, other resource areas and flood zone boundaries must be flagged and numbered as depicted on the plans;
   (b) Property boundaries shall be staked;
   (c) Limit of work and/or corners of structure(s) or other proposed work shall be staked as requested by Commission; and
   (d) Applicant or applicant's representative must be present at site visit when requested by the Commission.

   A site visit may be scheduled at any time during a public hearing and at the Commission's discretion.

The Conservation Commission also may require that supporting materials be prepared by other professionals including, but not limited to a registered landscape architect, registered land surveyor, environmental scientist, wetland scientist, geologist, or hydrologist when the complexity of the proposed work warrants specialized expertise.

Within 21 days of closing the public hearing, the Conservation Commission shall make a determination based on the application submitted and in accordance with the Massachusetts Wetlands Protection Act, M.G.L. c. 131 § 40 and the Regulations (310 CMR 10.00) promulgated there under, as well as the Town of Kingston Wetlands Protection By-Law and Regulations, as applicable.

5.04 Abutter Notification Process

Public hearing notification to abutters at the expense of the Applicant is required under the Massachusetts Wetlands Protection Act and Kingston Wetlands Protection By-Law. The time, date and place of the public hearing for a Notice of Intent (NOI), Abbreviated Notice of Intent (ANOI), or Abbreviate Notice of Resource Area Delineation (ANRAD) application, must be provided to all abutters within 100 feet of the land on which the proposed work is to be done. If abutters within 100 feet are located in an adjacent town, they must also be notified. Abutters across a street, stream, waterway or waterbody from the lot on which the work is proposed must also be notified.

The procedure for abutter notification is as follows:

1. Abutter notification will be handled by the Applicant or representative and must be provided in writing by hand delivery (with signature of receipt), certified mail with a return receipt or by certificate of mailing with a receipt (refer to Appendix B.1 for Abutter Notification Form);

2. A certified abutters list is required and may be obtained at the Kingston Assessor's

Office where the most recent mailing addresses for abutters will be provided;

3. Notification must be received by abutters at least seven business days prior to the hearing; and

4. An Affidavit of Service (refer to Appendix B.2 for Affidavit of Service form) is required and shall be submitted to the Conservation office with a copy of the completed Notification to Abutters form prior to the opening of the public hearing.

5.05 Applications

A. Request for Determination of Applicability

Any person may request that the Conservation Commission make a determination as to whether or not an activity or area is subject to regulation by submission of a Request for Determination of Applicability (RDA). A person filing an RDA does not have to be the owner of the property.

B. Abbreviated Notice of Resource Area Delineation

Any person may use the Abbreviated Notice of Resource Area Delineation (ANRAD), WPA Form 4A, to request the confirmation of a delineated boundary of bordering vegetated wetlands and/or other resource areas on a site. The filing of an ANRAD is optional. However, any work within an area subject to the jurisdiction of the Wetlands Protection Act or the Kingston Wetlands Protection By-law and Regulations may not proceed until either a Negative Determination of Applicability or final Orders of Conditions have been issued by the Conservation Commission. If an applicant is uncertain as to whether the Wetlands Protection Act or the Kingston Wetland By-Law applies to a particular area of land or to specific work planned on a particular area of land, he or she may file an RDA as described in Section 5.05.A. above. Also, confirmation of wetland resource area boundaries may be obtained from the Conservation Commission through filing an NOI or, in limited circumstances, an ANOI as described in Section C of 5.05 below.

When undertaking BVW delineations applicants and/or their representatives are encouraged to use the Department of Environmental Protection Agency's BVW Handbook: *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act* (1995) and to complete the BVW Field Data Forms contained in the handbook for submittal with the application. To determine boundaries of wetland resource areas other than BVW's, consult the state regulations, subsection (2), "Definitions, Critical Characteristics, and boundaries" covered under 310 CMR 10.54 – 10.58 and Section 6.00 of these Regulations for inland resource areas as well as 310 CMR 10.25 – 10.35 and Section 7.00 of these Regulations for coastal resource areas.

C. Notice of Intent/Abbreviated Notice of Intent

Any person who proposes to do work that will remove, fill, dredge or alter any area subject to protection under the Town of Kingston Wetlands Protection By-Law shall submit a Notice of Intent (NOI). An Abbreviated Notice of Intent (ANOI) may be filed when a proposed project is likely to result in no impact to wetlands and when the following conditions exist:

- Project will disturb less than 1,000 square feet of surface area within the Buffer Zone or Land Subject to flooding
- Project will not require a U.S. Army Corp. of Engineers Permit or a license from the Division of Waterways.

Applicants must provide all information required on the NOI or ANOI form and must fulfill all of the Notice of Intent filing requirements for the Town of Kingston and certify that they have been fulfilled by signing and dating the filing requirements form (Appendix A.1). The submittal of a complete and accurate description of the site and project will minimize requests for additional information by the Commission which may result in an unnecessary delay in the issuance of Orders of Conditions.

Submittal of plans and plan revisions shall conform to all standards listed on the Instructions to WPA Form 3 or WPA Form 4 as well as those listed on the Town of Kingston NOI filing requirements form.

5.06 Receipt of Information

The following standards for receipt of information shall apply:

1. All filings/applications must be complete and in the Conservation office no less than three weeks prior to an anticipated public hearing date in order to allow time for placement of a legal advertisement and for review by the Commission and the Agent.

2. Submission of revised plans or additional information must be received in the Commission office no less than one week prior to the continuation date of the public hearing in order to allow time for review by the Commission and the Agent.

3. Exceptions to the deadlines listed above may be granted at the discretion of the Commission/Agent for emergency projects, as defined in 310 CMR 10.06, whereby a delay may cause adverse impacts to public or private water supply, groundwater supply, surface waters, land containing shellfish, fisheries, wildlife habitat, or land in agriculture, or where a delay may hinder the ability to control flooding, prevent storm damage or prevent pollution.

4. All plans submitted to the Conservation office must be stamped, signed and dated with at least two plans containing an original stamp and signature.

The Conservation Commission reserves the right to continue a hearing/postpone a decision on an application if information and/or plans are not received in advance of a hearing. Receiving information prior to a hearing, and according to the timeframes listed above, is essential to the review process and to protecting the interests stated herein.

5.07 Hiring Outside Consultants

As provided by GL Ch. 44 § 53G, the Kingston Conservation Commission may impose reasonable fees for the employment of outside consultants, engaged by the Conservation Commission, for specific expert services. Such expert services shall be deemed necessary by the Commission to come to a final decision on an application submitted to the Conservation Commission pursuant to the requirements of the Wetlands Protection Act (GL Ch. 131 § 40), the non-zoning Kingston Wetlands Protection Bylaw, G.L. Chapter 13, Articles 1 – 12, the Conservation Commission Act (GL Ch. 40 § 8C), or any other state or municipal statute, bylaw or regulation, as they may be amended or enacted from time to time. The Commission may require the payment of the consultant fee at any point in its deliberations prior to a final decision. The Conservation Commission may also impose fees for other consultant services, related to application review, or permit conditioning or monitoring, under any of the above-referenced laws or regulations.

Funds received pursuant to these rules shall be deposited with the town treasurer who shall establish a special account for this purpose. Expenditures from this special account may be made at the direction of the Conservation Commission without further appropriation as provided in GL Ch. 44 §53G. Expenditures from this account shall be made only in connection with a specific project or projects for which a consultant fee has been collected from the applicant. Expenditures of accrued interest may also be made for these purposes.

Specific consultant services may include but are not limited to resource area survey and delineation, analysis of resource area values, wildlife habitat evaluations, soil analysis, hydrogeologic and drainage analysis, impacts on municipal conservation lands, and environmental or land use law. Services may also include on-site monitoring during construction, or other services related to the project deemed necessary by the Commission. The consultant shall be chosen by, and report only to, the Commission and/or its Agent or Administrator.

The Conservation Commission shall give notice to the applicant of the amount of the fee to be charged for hiring an outside consultant and a request for payment of said fee in its entirety. Such notice shall be deemed to have been given on the date it is delivered with return receipt requested. Once payment is received an outside consultant shall be chosen and the applicant shall be notified of the selection and identity of the consultant. No such costs or expenses shall be incurred by the applicant if the application or request is withdrawn within five (5) days of the date notice is given.

The fee must be received in its entirety prior to the initiation of consulting services. The Commission may request additional consultant fees if necessary review requires a larger expenditure than originally anticipated or new information requires additional consultant services. Failure by the applicant to pay the consultant fee specified by the Commission within ten (10) business days of the request for payment shall be cause for the Commission deny the application based on lack of sufficient information to evaluate whether the project meets applicable performance standards in 310 CMR 10.00 and the Kingston Wetlands Protection Bylaw and Regulations. An appeal stops the clock on the above deadline; the countdown resumes on the first business day after the appeal is either denied or upheld. A denial for lack of information may be based solely on the lack of the third party consultant review identified as necessary by the Commission. The Commission shall specify in its denial the nature of the information lacking which its chosen consultant would provide, e.g. the questions it needs answered.

The applicant may appeal the selection of the outside consultant to the selectboard who may disqualify the outside consultant selected on the grounds that the consultant has a conflict of interest or does not possess the minimum required qualifications. The minimum qualifications shall consist of either an educational degree or three or more years of practice in the field at issue or a related field. Such an appeal must be in writing and received by the selectboard and a copy received by the Conservation

Commission, so as to be received within ten (10) days of the date consultant fees were requested by the Conservation Commission. The required time limits for action upon the application shall be extended by the duration of the administrative appeal.

When the Commission's review of a project is completed and an Order of Conditions issued, any balance in the special account attributable to that project shall be returned within 30 days. The excess amount, including interest, shall be repaid to the applicant or the applicant's successor in interest. For the purpose of this regulation, any person or entity claiming to be an applicant's successor in interest shall provide the Commission with appropriate documentation. A final report of said account shall be made available to the applicant or applicant's successor in interest.

5.08 Conducting and Reviewing Wetland Delineations

Wetland delineation procedures can vary depending on the complexity of a site. Where an abrupt change in plant communities and slope occurs, delineations may be done by using vegetation and topography. More complex sites may require the use of hydrologic indicators including soils, inundation, depth to free-standing water, soil saturation, water marks, drift lines, sediment deposits, drainage patterns, oxidized rhizospheres, water-stained leaves, etc. In areas where the wetland has been altered, a combined assessment of vegetation, soils and other indicators of hydrology may be required depending on the type and extent of the alteration.

Wetland delineations should be conducted in accordance with methodologies in the MA DEP handbook, *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act* (March 1995 and as it may be amended) for state permits and/or the US Army Corps of Engineers *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: North Central and Northeast Region* (October 2009 and as it may be amended) for federal permits and as the project dictates. Field data forms associated with the chosen delineation methodology as well as narrative wetland report shall be submitted to the Commission with all large and complex filings. In all cases, wetland boundaries shall be marked in the field, surveyed and accurately shown on the plans submitted with the filing.

Delineating bordering vegetated wetlands by vegetation alone requires a determination of where 50 percent or more of the vegetative community is made up of wetland species. Making this determination requires estimating or measuring the abundance of wetland plants within an area. In areas where the wetland/upland boundary is abrupt or discrete, characterizing plant communities as either wetland or upland may be a relatively simple task. In other cases where there are large transition zones between the wetland and upland or gently sloping topography, a more detailed delineation procedure for assessing vegetative communities is needed. No portion of a wetland line may include any area where more than 50 percent of the vegetation is wetland species. This 50 percent wetland vegetation line shall define the wetland boundary.

Delineation of wetland resource areas other than bordering vegetated wetlands shall comply with criteria established in the MA Wetlands Protection Regulations (310 CMR 10.00), the MA DEP Wetlands

Program Policies, or other federal/state regulatory guidance where the resource area may be unvegetated (i.e. rivers) or determined via other means such as slopes (i.e. coastal banks).

Wetland Delineations During Winter

Delineating or verifying BVW boundaries during the winter months, especially with deep snow cover or frozen soil conditions, is difficult and under some extreme circumstances virtually impossible. Vegetation and other indicators of hydrology that are used to determine BVW boundaries are not readily observable or may be misleading during these times.

Herbaceous vegetation or remnant vegetation (nuts, fruits, leaves) may be present but not visible if covered with snow. An example is the fertile frond of the sensitive fern (*Onoclea sensibilis*), which is persistent throughout the year, but may be hidden by deep snow.

Indicators of hydrology may be misleading or covered with snow. An example would be pockets or channels of ice on the ground surface. This condition may appear to indicate the presence of wetland hydrology, but also may be due to a number of different factors, such as snow melt that quickly freezes or a quick temperature drop after a brief rain that occurred with frozen soil conditions. As a practical matter, frozen soil conditions make digging holes and accurately observing the soil profile difficult or nearly impossible.

Morphological adaptations (such as swollen trunks) and subtle changes in topography the sensitive also are difficult to observe when deep snow conditions are present. For these reasons, DEP recommends that BVW delineations be avoided if possible when deep snow cover or “deep freeze” conditions exist. It is best for applicants and conservation commissions to agree upon a reasonable time period for continuing the RDA or NOI processes in order to conduct or review the boundary delineation when frozen or snow covered conditions are likely to change. Because winter delineations are more difficult to do, disagreements - and subsequent appeals - may arise. Avoiding lengthy appeals and disagreements will benefit all parties involved.

When deep snow conditions do not exist, it may be possible to delineate BVW boundaries during the winter by using twigs, buds, leaf scars, and other vegetative indicators.

5.09 Decisions Issued

A. Determination of Applicability

Issue a Negative or Positive Determination of Applicability (DOA):

- A Negative Determination requires no further action by the Conservation Commission providing the work proceeds as proposed. A Negative DOA with conditions may be issued for small projects in which compliance with simple conditions will protect the Wetland Resource Areas.

- A Positive Determination requires the filing of a Notice of Intent in accordance with Section 5.05(C) of the KWPR prior to the commencement of any work.

B. Order of Resource Area Delineation

The Commission shall issue an Order of Resource Area Delineation (ORAD) to confirm, modify or deny the delineations submitted. The Order of Resource Area Delineation shall be effective for three years.

C. Order of Conditions

The Conservation Commission shall issue an Order of Conditions (OOC) to permit or deny activities for each NOI or ANOI that is filed with the Commission under the Kingston Wetlands Protection By-law and the Massachusetts Wetlands Protection Act.

The following shall apply to all Orders of Conditions:

1. The permit shall be signed by a majority of the Conservation Commission and shall be mailed by certified mail or hand delivered to the applicant, the applicant's agent or attorney.

2. Conditions may apply to the construction period or may be ongoing and run with the Title to the property for all successors or assignees.

3. Orders of Conditions shall permit activities as described for a period of three years from the date of issuance. Some conditions may be ongoing and therefore will not expire at the end of three years.

4. Prior to the commencement of any work permitted or required by the Orders of Conditions / permits, the orders / permits shall be recorded with the Plymouth County Registry of Deeds or registered with Land Court for the County of Plymouth, whichever is applicable, and certification of that recording shall be sent to the Conservation Commission using the appropriate form of both the state and town Orders of Conditions.

5. If work is undertaken without a recorded/registered permit, the Conservation Commission may issue an Enforcement Order and/or record the permit in accordance with the fee schedule detailed in Section 11.04.

6. Prior to the commencement of work, the DEP and KWPA file numbers must be placed in a visible location using lettering that is legible from the roadway/access way on which the project is located.

7. If the Commission finds that the information submitted by the applicant is not sufficient to describe the site, the work or the effect of the work on the interests identified in the Kingston Wetlands Protection Regulations and By-law, it may issue an Order of Conditions prohibiting the project. To the extent possible, the order shall specify the information which is lacking and why it is necessary.

8. An Order prohibiting the project may be issued also if in the judgment of the Commission there are no conditions that would provide adequate protection for the interests identified in the Kingston Wetlands Protection By-law.

5.10 Amendments to Orders of Condition

Changes to a project once an Order of Conditions has been issued may mean either the issuing of an amended Order of Conditions or the filing of a new Notice of Intent. If a change is merely clerical such as change of landowner's name or a minor modification which lessens the impact on resource areas, then the Commission can amend an Order without going through publication and a hearing. An amended Order shall not extend the term of the original permit and shall expire on the date of expiration of the original Order thereto granted by the Commission.

Any other amendment requires a new public hearing publicized and conducted in the same manner as the original permit application. Requests for an Amendment to a permit shall include the DEP / Town of Kingston file number on the form provided in Appendix B.4 and payment to the Town of Kingston in accordance with the established fee schedule detailed in Section 11.04 below. The same rules and deadlines apply for the amendment as for the original Order of Conditions. The Amended Order of Conditions shall also be recorded at the Registry of Deeds.

A new NOI should be considered when there has been a significant increase in the purpose, scope, or potential adverse impacts of the work.

5.11 Amendments to Orders of Resource Area Delineation

The Commission may consider a request to amend an Order of Resource Area Delineation (ORAD) for the purpose of further defining and protecting the resource areas present on a site. For instance, if an ORAD was issued solely to confirm a bordering vegetated wetland delineation, but further evidence is later gathered to indicate wetland resource areas exist that were not previously defined or confirmed (e.g. evidence to confirm vernal pool habitat, evidence that extends bordering lands subject to flooding, etc.), the Commission may amend the ORAD prior to its expiration. Any such amendment shall be considered a major change to the existing ORAD and shall take place in a legally advertised public hearing of which all abutters are notified. The Commission may decline a request for amendment to an ORAD within the 3-year term in which it is considered final, if in their judgment, the amendment is

contrary to the previously confirmed wetland delineation or the amendment would not serve to further define the resource areas on the site.

5.12 Extensions of Orders of Condition

Requests for Extensions of Orders of Conditions must be submitted to the Conservation Commission not more than 60 days and no less than 30 days before the expiration date of the original permit. Requests shall include the DEP file number and payment to the Town of Kingston in accordance with the fee schedule established and detailed in Section 11.04 of the KWPR and in the Appendix. The permit may be extended by the Commission one or more times for periods up to three years.

An extension request may be denied, and a new NOI required if:

- no work has begun (except if there are unavoidable delays);
- new information indicates the interests of the By-Law are not being protected by the permit;
- incomplete work has led to damage to the interests of the By-Law;
- there is a violation of the permit, By-Law or Regulations;
- if the wetland boundary delineation is incorrect; or
- the regulations have been amended.

Extensions must be granted through a vote at a public meeting, signed by a majority of the Commission and recorded in the same way as the original permit.

5.13 Extensions of Orders of Resource Area Delineation

The Commission may, at their discretion, extend an Order of Resource Area Delineation (ORAD) beyond the expiration date, but not more than 3 years, if they find that, after a site visit, the wetland resource areas confirmed by the expired ORAD have not changed. In order to make this determination, the Commission may require the applicant to reflag the wetland resource areas confirmed by the prior ORAD. The Commission may request that other wetland resource areas, such as vernal pools, be delineated as well if evidence is present to confirm their existence during the site visit.

5.14 Certificates of Compliance

Requests for a Certificate of Compliance (COC) from the Conservation Commission shall typically include the following information:

1. Under the MA Wetlands Protection Act, WPA Form 8A Request for Certificate of Compliance which can be found in the Conservation office or on the MA DEP website and/or under the Kingston Wetlands Protection By-Law, KWPA Request for Certificate of Compliance in Appendix B.6 of these Regulations;

2. A written statement from a registered Professional Engineer that the project is in compliance with the Order of Conditions and referenced plans and, if different from the original plan, how and where it differs;

3. A signed and stamped as-built plan;

4. A written statement from a qualified wetland scientist attesting to compliance with state and local regulations as required for wetland replication and/or restoration areas. The wetland replication areas shall be monitored through two growing seasons to achieve required standards; and

5. Payment to the Town of Kingston in accordance with the fee schedule established and detailed in Section 11.04 below.

Following a site visit, which the applicant is entitled to attend, by the Conservation Agent and/or Commission members, the Commission may issue a COC if it feels that all general and special conditions have been met. A partial COC may be issued for a completed portion or phase of a project.

5.15 Emergency Projects

Any person requesting to do an emergency project, as defined in 310 CMR 10.06, shall specify why the project is necessary for the health or safety of the citizens of the Town of Kingston, why the standard time periods are infeasible, and what Town Agency or sub-agency for the Commonwealth of Massachusetts is to perform the project or has ordered that the project be performed. If the project is certified to be an emergency by the Conservation Commission, certification shall include the description of the work that is to be allowed and shall not include work beyond that necessary to abate the emergency. An emergency certification shall be issued only for the protection of public health or safety.

An emergency project shall mean any projects certified to be an emergency by the Conservation Commission. Within thirty (30) days after a project is certified as an emergency, a public hearing/meeting shall be held on the project for which the Conservation Commission may require a filing of a Notice of Intent or impose remedial conditions on the work. In no case shall any filling, dredging or altering commence prior to any emergency certification or extend beyond the time necessary to abate the emergency. These Regulations shall not apply to any emergency project as defined in M.G.L. c. 131 § 40.

The Kingston Conservation Commission shall be notified prior to the commencement of emergency work or within twenty-four (24) hours after commencement, if prior notice is not practicable given the nature of the emergency. This notice is for the Commission to certify that the work is an emergency project occurring only for a limited time and in a particular location, for the sole purpose of abating the emergency. Notification to the Conservation Commission will also assist the Commission in determining how the work may be conducted in a way that minimizes detrimental impacts to wetland resource areas or what work may need to be conducted after the emergency work has been performed to mitigate impacts to the resource areas.

5.16 Denial of Permit

The Conservation Commission may deny a permit for failure to meet the requirements of the By-Law and Regulations; for failure to submit necessary information, plans, or analysis requested by the Commission; for failure to meet the design specifications, performance standards, or other requirements set forth by the Commission; for failure to avoid or prevent significant detrimental effect upon the Areas Subject to Protection or interests protected by the By-Law; or where no conditions are adequate to protect those values. Due consideration shall be given to any demonstrated hardship on the applicant by reason of denial, as presented at the public hearing. No proposal which has been unfavorably acted upon by the Commission shall be considered within two years after the date of such unfavorable action unless approved by a 4/5 vote.

5.17 Appeals

MA DEP has no appellate jurisdiction over Orders issued pursuant to any municipal by-law including the Kingston Wetlands Protection By-Law. Persons aggrieved by an Order issued under the By-Law, may appeal to Superior Court pursuant to M.G.L. Chapter 249, Section 4.

5.18 Enforcement

Any person who violates a provision of the By-Law, or of the regulations, or of any condition or permit issued by the Conservation Commission shall be punishable by a fine of not more than $300 per offense.

Each day or portion thereof during which a violation continues shall constitute a separate offense. Each condition violated shall constitute a separate offense. The By-Law, Regulations and permits may also be enforced by non-criminal disposition under MGL Chapter 40, Section 21D and Article 11 of the By-Law, in which case the penalty shall be as provided in the Town of Kingston General By-Laws, Chapter 15, Article 15-2-2 as follows:

Each Offense	$300.00

Any Conservation Commissioner, staff of the Commission, Town police officer, or other officer having police powers may enforce the By-Law or regulations. Any Enforcement Order or Notification of violation

shall be ratified by vote of a majority of the Conservation Commission, who need not convene as a body in order to sign, provided they met pursuant to the Open Meeting Law when voting on the matter.

5.19 Land in Forestry and Agriculture

Work performed for normal maintenance or improvement of land in agricultural use, as defined herein, or work performed under an approved forest cutting plan on land in forestry, as defined herein, shall be exempt from filing requirements provided that written notice has been given to the Kingston Conservation Commission prior to commencement of work. The work must also conforms to definitions, performance standards, and design specifications as set forth in 310 CMR 10.04 and 10.53 and conform to the definitions in these Regulations, or as they may be amended.

5.20 Public Utilities

Work done in the normal course of maintaining, repairing, or replacing but not substantially changing or enlarging an existing and lawfully located structure or facility used in service of the public and used to provide electric, gas, water, telephone, telegraph, and other telecommunication services shall be exempt from filing requirements.

5.21 Reservation

These regulations shall not be construed to limit the Conservation Commission's authority under the Kingston Wetlands Protection By-Law. The Conservation Commission reserves the right to act in a manner consistent with the By-Law upon any matter within its jurisdiction.

5.22 Severability

Should any portion of these regulations be declared invalid by the decision of a court, the legislature, or other body having jurisdiction, the remainder of these regulations shall remain in full force and effect.

5.23 Variance

A. The By-Law contains no provisions for the variance of By-Law standards. However, the Conservation Commission may, at its discretion, vary standards of these Regulations, but only when, in the Commission's opinion and upon review of the filing, the applicant has presented credible documentary evidence that can demonstrate each of the following:

1. There are no reasonable conditions or alternatives that would allow the project to proceed in compliance with the By-Law or these Regulations;

2. Mitigating and/or restoration measures are proposed that will allow the project to be conditioned so as to contribute to the protection of the interests identified in the By-Law and these Regulations;

3. The variance is necessary to accommodate an overriding community, regional, state or national public interest, or that it is necessary to avoid a Permit that so restricts the use of property as to constitute an unconstitutional taking without compensation; and

4. A variance from a particular requirement shall not result in a greater impact to the protected interests or the resource areas than would occur in the absence of the variance.

B. A request for a variance shall be made in writing and shall include, at a minimum, the following information:

1. A description of alternatives explored that would allow the project to proceed in compliance with the By-Law and Regulations and an explanation of why each is unreasonable;

2. A description of the mitigating/restoration measures to be used to contribute to the protection of the interests identified in the By-Law and Regulations; and

3. Evidence that an overriding public interest is associated with the project which justifies a waiver of the Regulations, or evidence that the permit so restricts the use of the land that it constitutes an unconstitutional taking without compensations.

5.24 Security

Financial security is a tool available to the Kingston Conservation Commission to ensure that proposed work is done in compliance with an Order of Conditions or any other action taken by the Kingston Conservation Commission. The Commission may require, as a permit condition, that performance and observance of conditions be secured by one or both of the following methods:

A. Financial

1. Deposit of money;
2. Negotiable securities; or
3. Other undertaking of financial responsibility.

In determining the amount of surety, the Conservation Commission shall be guided by the following formula in setting the sum of the security:

(a) The Commission's estimate of the cost to complete the work permitted by an Order of Conditions or required through an enforcement order; and
(b) A reasonable contingency (no lower than 30% of cost) in an amount to be determined, on a case-by-case basis, by the Commission.

All security shall be bound by a legal agreement between the Commission and the Applicant, in a form approved by the Commission and Town Counsel, to ensure work occurs in accordance with the requirements and time schedule set forth by the Commission as specified in all orders, documents, terms and provisions issued. The return of the surety to the Applicant may occur after the appropriate professional certifies to the Commission in writing that the work has been completed in accordance with all the requirements set forth by the Commission and a written request has been made to the Commission for return of the surety. The Commission shall have the opportunity to confirm, by whichever method(s) it deems necessary, that the work has occurred in accordance with all permits, orders, and documents prior to the release of the surety.

B. Entitlement to Land or Deeded Easement

The following forms of security shall be executed and duly recorded in the Plymouth County Registry of Deeds by the owner of record running with the land to benefit of the Town of Kingston whereby the applicable permit conditions shall be performed and observed before any lot may be conveyed other than by mortgage deed:

1. conservation restriction;
2. easement; or
3. other covenant running with the land enforceable in a court of law.

The performance bond specified should be extended to the Town of Kingston Conservation Commission based on the Permit, (File #'s ____), (Special Condition #'s _____) and shall state the specific work and/or standards covered by the performance bond.

II. REGULATION OF RESOURCE AREAS SUBJECT TO PROTECTION UNDER THE BY-LAW

6.00 INLAND RESOURCE AREAS

6.01 Vernal Pools

a. Definition, Critical Characteristics, Boundary, Presumption of Existence

(1) Definition, Critical Characteristics. A vernal pool includes, in addition to scientific definition found in 310 CMR 10.00 and these regulations, any confined basin or depression not occurring in existing lawns, gardens, landscaped areas or driveways that holds water for a minimum of two continuous months during the spring and/or summer; contains at least 200 cubic feet of water; is free of adult predatory fish populations; and provides essential breeding and rearing habitat functions for amphibian, reptile, or other vernal pool species, regardless of whether the site has been certified by the Massachusetts Division of Fisheries and Wildlife.

(2) Boundary. The boundary of a vernal pool is the mean annual high water line defining the confined basin, depression, or ponding area.

(3) Vernal Pool Envelope. The vernal pool envelope includes the area within 100 feet of the mean annual high water line defining the depression. The vernal pool envelope is regulated as a no disturbance zone as described in Section 9.00 of these regulations.

(3) Presumption: Confined Basin is a Vernal Pool. The By-Law presumes that vernal pool habitat exists if an area's physical characteristics conforms with those basins, depressions, or ponding areas as defined in the By-Law. This presumptive definition for a vernal pool is based on systematic field observations by the Conservation Commission, or by other qualified persons, that demonstrate virtually all confined basins, depression, and ponding areas possess the above characteristics and have been shown to contain breeding vernal pool species.

(a) The presumption of the existence of a vernal pool, where there is a closed basin or depression meeting the definition contained in the Kingston Wetlands Protection Regulations. This presumption may be overcome with the presentation of a preponderance of the evidence to the Conservation Commission that, in the judgment of the Commission, demonstrates the basin, depression, or ponding area does not provide and cannot provide vernal pool wildlife habitat functions.

(b) For the purposes of overcoming the presumption of vernal pool habitat, the Commission will consider:

(i) Evidence that the basin, depression, or ponding area does not hold water for at least two continuous months in three out of five consecutive years.

(ii) Evidence that vernal pool species do not breed or have not bred in the basin, depression, or ponding area through a minimum of one spring breeding season for the purpose of documenting the occurrence of breeding activity or lack of breeding activity of obligate vernal pool species.

(iii) Evidence that the basin, depression, or ponding area could not be a viable breeding site for vernal pool species because of incompatible physical, chemical, biological, or other persistent conditions at the site in most years, that is three out of five consecutive years. Such evidence may include, without limitation, several months of pH and dissolved oxygen measurements yielding values incompatible with amphibian or reptile breeding.

(c) Failure to find evidence of breeding must be tied explicitly to those periods during which the evidence is most likely to be available. Accordingly, the Conservation Commission shall require that the evidence be collected only at the appropriate time and for a minimum of on spring breeding season. The Commission may require site visits as necessary to confirm the evidence presented.

B. Presumptions of Significance; Findings

(1) The Conservation Commission shall presume that protection of a vernal pool is significant to the By-Law wetland values specified in the Kingston Wetland Protection By-Law. This presumption of significance may be rebutted upon a showing of a preponderance of the evidence that the vernal pool does not play a role in the protection of the By-Law wetland values.

(a) Where the Conservation Commission determines that the presumption of significance of the Vernal Pool to one or more, but not all, By-Law wetland values has been overcome, the Commission shall make a written determination to this effect, setting forth its grounds as part of its findings in the Order of Conditions.

(b) Where the Conservation Commission determines that the presumption of significance of the Vernal Pool to all By-Law wetland values has been overcome, the Commission shall find that the confined basin, depression, or ponding area and the adjacent 100-foot land is not a vernal pool.

(2) A vernal pool is highly likely to be significant to wildlife, wildlife habitat, to groundwater supply, and to flood control.

(3) Land within 100 feet of a vernal pool (the depression and 100 feet horizontally outward from the mean annual high-water line defining the confined depression) is likely to be significant to the protection and maintenance of the vernal pool and therefore, to the protection of the By-Law wetland values that this By-Law resource area serves to protect.

C. Performance Standards

(1) No activity or work that will result in altering the vernal pool or land within 100 feet of any Vernal Pool shall be permitted by the Conservation Commission, except upon a clear showing by a preponderance of the credible evidence that any proposed work and its natural and consequential cumulative impacts and effects shall have no adverse effect upon any of the wetland values of the Kingston Wetland Protection By-Law.

(a) The burden of proof is upon the applicant.

(b) As part of the applicant's burden of proof, it is the responsibility of the applicant to provide the Conservation Commission with any and all information that the Commission may request orally or in writing that the Commission deems necessary to enable it to ascertain whether the proposed work and its natural and consequential cumulative impacts and effects will not have any adverse effect upon any of the By-law wetland values. The Commission shall deny the application where the applicant fails to furnish any information requested by the Commission.

(2) Notwithstanding the provisions above in (1)(a) and (b) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

6.02 Reservoirs, Lakes, Ponds

A. Definition, Critical Characteristics, Boundary

(1) Reservoir: A naturally occurring lake or pond or other basin where water is collected and stored for future use.

(2) Lake: A lake means any open body of freshwater with a surface area of ten acres or more. Any Pond over 10 acres is usually called a "lake" but the term is synonymous with a Pond.

(3) Pond: A pond is any open body of fresh water, either naturally occurring or man-made by impoundment, excavation, or otherwise, which is never without standing water due to natural causes, except in periods of extended drought. For purposes of this definition, extended drought shall mean those periods, in specifically identified geographic locations, determined

to be at the "Advisory" or more severe drought level by the Massachusetts Drought Management Task Force, as established by the Executive Office of Environmental Affairs and the Massachusetts Emergency Management Agency in 2001, in accordance with the Massachusetts Drought Management Plan. Notwithstanding the above, the following man-made bodies of open water shall not be considered ponds: (a) basins or lagoons that are part of wastewater treatment plants, (b) swimming pools or other impervious manmade retention basins; (c) manmade fish ponds; and (d) individual gravel pits or quarries excavated from upland areas unless inactive for five or more consecutive years.

b. Presumptions of Significance, Findings

The Conservation Commission shall presume that protection of the Resource Areas Protected under the By-Law, a reservoir, lake, and pond, are significant to the wetland values specified in the Kingston Wetlands Protection By-Law.

C. Performance Standards

(1) The Commission shall apply the performance standards of bank and land under water bodies and waterways in assessing a proposed project that would alter a reservoir, lake or pond.

(2) A reservoir, lake and pond each have a 100-foot buffer zone under the By-Law and Regulations. Consequently, the Conservation Commission shall apply the performance standards of the buffer zone in assessing a proposed project that would alter a reservoir, lake or pond.

(3) Reservoirs, lakes and ponds are typically surrounded by bordering vegetated wetlands (BVW), from which the 100-foot buffer zone is measured. In these cases, the Commission shall also apply the BVW performance standards;

(4) Notwithstanding the provisions in (1) and (2) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

6.03 Rivers, Streams (Creeks)

A. Definition, Critical Characteristics, Boundary

(1) River (perennial stream).

(a) A river (perennial stream) is any natural or man-made flowing body of water that empties to any ocean, lake, pond, wetland, or other perennial stream and which flows throughout the year. A river is a perennial stream. A river or perennial stream is characterized by horizontal zonation, as opposed to the vertical stratification typically associated with lakes, ponds and embayments.

(b) The Commission shall presume that a stream shown as perennial (as a solid blue line) on the current United States Geologic Survey topographic quadrangle map or more recent map provided by the Department of Environmental Protection is perennial, and thus a river, unless rebutted by evidence from a competent source asserting the contrary, as specified in 310 CMR 10.58, as amended.

(c) A river or stream shown as intermittent or not shown on the current USGS map, or more recent map provided by the Department, that has a watershed size greater than or equal to one square mile, is perennial.

(d) A stream shown as intermittent or not shown on the current USGS map or more recent map provided by the Department, that has a watershed size less than one square mile, is intermittent unless:

i. the stream has a watershed size of at least one-half (0.50) square mile and has a

predicted flow rate greater than or equal to 0.01 cubic feet per second at the 99% flow duration using the USGS Stream Stats method. The Conservation Commission shall find such streams to be perennial; or

ii. when the USGS StreamStats method cannot be used because the stream does not have a mapped and digitized centerline, and the stream has a watershed size of at least one-half (0.50) square mile, and the surficial geology of the contributing drainage area to the stream at the project site contains 75% or more stratified drift, the Conservation Commission shall find such streams to be perennial. Stratified drift shall mean sand and gravel deposits that have been layered and sorted by glacial meltwater streams. Areal percentages of stratified drift may be determined using USGS surficial geologic maps, USGS Hydrological Atlases, Massachusetts Geographical Information System (MassGIS) surficial geology data layer, or other published or electronic surficial geological information from a credible source.

(e) Rivers include perennial streams that cease to flow during periods of extended drought. Periods of extended drought shall be those periods, in those specifically identified geographic locations, determined to be at the "Advisory" or more severe drought level by the Massachusetts Drought Management Task Force, as established by the Executive Office of Environmental Affairs and the Massachusetts Emergency Management Agency in 2001, in accordance with the Massachusetts Drought Management Plan.

(f) Rivers and streams that are perennial under natural conditions but are significantly affected by drawdown from withdrawals for water supply wells, direct withdrawals, impoundments, or other man-made flow reductions or diversions shall be considered perennial.

(g) Where rivers flow through lakes or ponds, the riverfront area stops at the inlet and begins again at the outlet. A water body identified as a lake, pond or reservoir on the current USGS map or more recent map provided by the Department, is a lake or pond, unless the Commission determines that the water body has primarily riverine characteristics. When a water body is not identified as a lake, pond, or reservoir on the current USGS map or more recent map provided by the Department, the water body is a river if it has primarily riverine characteristics. Riverine characteristics may include, but are not limited to, unidirectional flow that can be visually observed or measured in the field. Horizontal zonation will be present as opposed to vertical stratification typically found in lakes and ponds.

(h) Where a river (perennial stream) flows through a culvert it does not lose its classification as a river unless it flows through a culvert of more than 200 feet in length.

(2) Stream (creek, intermittent stream)

(a) An intermittent stream is that segment of a flowing watercourse, natural or manmade, that regularly experiences naturally occurring sporadic flow interruptions such that it does not have a continuous sheet of surface water flowing within it throughout the year.

(b) Intermittent streams exhibit a longitudinal gradient of hydrology, from (1) ephemeral channels that flow only in response to storms, through (2) intermittent sections that flow seasonally until the groundwater table falls below the channel and are dry the rest of the year, and (3) interstitial reaches that flow seasonally and retain pools connected by subsurface flow during the summer, to (4) the perennial stream.

(c) Notwithstanding A.(1)(b) through (d) above, the Commission shall find that any stream is intermittent based upon a documented field observation that the stream is not flowing. A documented field observation shall be made by a competent source and shall be based upon an observation made at least once per day, over four days in any consecutive 12 month period, during a non-drought period on a stream not significantly affected by drawdown from withdrawals of water supply wells, direct withdrawals, impoundments, or other man-made flow reductions or diversions. Field observation shall be documented by field notes and by dated photographs or video. All field observations shall be submitted to the Conservation Commission with a statement signed under the penalties of perjury attesting to the authenticity and veracity of the filed notes, photographs or video and other credible evidence. Department staff, Conservation Commissioners and Conservation Commission staff are competent sources; a Conservation Commission may consider evidence from other sources that are determined to be competent.

(d) The Conservation Commission recognizes four types of intermittent streams:

i. Type I: a stream segment that originates at the headwall and is sometimes associated

with forested seeps and small wetlands and include headwater (first through third order) streams, which are important both for aquatic biodiversity and for ecological function of lower stream reaches.

ii. Type II: a stream segment that does not originate at the headwall in which continuous standing water disappears for at least five (5) but not more than thirty (30) consecutive days annually.

iii. Type III: a stream segment that does not originate at the headwall in which continuous standing water disappears for more than thirty (30) consecutive days annually.

iv. Type IV: a stream segment, without regard to duration of continuous standing water that connects two culvert pipes or otherwise functions as a man-made drainage channel within an already developed area and no BVW.

B. Presumptions of Significance, Findings

The Conservation Commission shall presume that protection of a river and a stream is significant to the wetland values specified in the Kingston Wetlands Protection By-Law and Regulations.

(1) River (perennial stream)

(a) A river (perennial stream) serves to protect public and private water supplies. In addition, a river is important for storm damage prevention, flood control, groundwater protection, protection of land containing shellfish, fisheries and wildlife habitat values.

(b) The surface water interaction with groundwater significantly influences the ecosystem of a river. The dynamic relationship between surface and groundwater within the hyporheic zone sustains communities of aquatic organisms which regulate the flux of nutrients, biomass and the productivity of organisms including fish within the stream itself. The hyporheic zone extends to greater distances horizontally from the channel in large, higher order streams with alluvial floodplains, but the interaction within this zone is important in smaller streams as well.

(2) Intermittent Stream (creek)

(a) Intermittent streams are important for storm damage prevention, flood control, ground water protection, protection of fisheries and wildlife habitat values. During spring, summer, and fall these streams disperse snow melt and stormwater runoff across the landscape thereby preventing dangerous volumes and flows from spilling over roadways and property. This broad dispersal also allows for larger volumes of water to infiltrate into the ground, recharging groundwater supplies.

(b) Intermittent streams are an essential source of food and water for wildlife, and are often the only source of water in higher elevation areas of town. The moist soils that border intermittent streams are significantly richer in herbs and flowering/fruiting plants - the base trophic level of food – than surrounding upland areas.

(c) During all seasons, but especially in winter and spring, intermittent streams act as essential corridors for animal movement when food is scarce. Some animals, such as pickerel frogs and eastern spotted newts, rely heavily on intermittent streams for movement.

(d) For the above reasons the upland areas surrounding intermittent streams are heavily used by wildlife for living space, breeding, feeding, migrating, dispersal, and security. Accordingly, the By-Law protects intermittent streams of all forms and the adjacent upland resource within 200 feet of those streams (the Riverfront Area).

C. Performance Standards

(1) The Commission shall apply the performance standards of bank and land under water bodies and waterways in assessing a proposed project that would alter either a perennial or intermittent stream.

(2) A river and a stream each have an inner 100-foot and an outer 200-foot riparian zone under the By-Law and these areas are classified as Riverfront Resource Areas Subject to Protection under the By-Law and Regulations. Consequently, the Conservation Commission

shall apply the performance standards of the riverfront area in assessing a proposed project that would alter either a river or stream.

(3) Notwithstanding the provisions in (1) and (2) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

6.04 Riverfront Areas

A. Definition, Critical Characteristics, Boundary

A riverfront area is the area of land between a river or stream's (perennial or intermittent) mean annual high water line and a parallel line, located 200 feet away, that is measured horizontally outward from the stream's mean annual high water line. The riverfront area may include or overlap other Areas Subject to Protection under the By-Law, including the 100-foot Buffer Zone.

B. Presumptions of Significance; Findings

(1) The Conservation Commission shall presume that protection of the riverfront area is significant to the By-Law wetland values specified in the By-Laws.

(2) A riverfront area is likely to be significant to protect the private or public water supply, to protect groundwater, to provide flood control, to prevent storm damage, to prevent pollution, to protect land containing shellfish, to protect wildlife habitat, and to protect the fisheries.

(3) A riverfront area is critical to maintaining thriving fisheries. In that regard, maintaining vegetation along rivers promotes fish cover, increases food and oxygen availability, decreases sedimentation, and provides spawning habitat. Maintenance of water temperatures and depths is critical to many important fish species.

(4) The riverfront area adjacent to perennial and intermittent streams can protect the natural integrity of these water bodies. The presence of natural vegetation within such riverfront areas is critical to sustaining rivers as ecosystems and providing benefits to public health and welfare. The riverfront area can prevent degradation of water quality by filtering sediments, toxic substances (such as heavy metals), and nutrients (such as phosphorus and nitrogen) from storm water, non-point pollution sources, and the river itself. Sediments are trapped by vegetation before reaching the river or stream. Nutrients and toxic substances may be detained in plant root systems or broken down by soil bacteria. Riverfront areas can trap and remove disease causing bacteria that otherwise would reach rivers and coastal estuaries where they can contaminate shellfish beds and prohibit safe human consumption of such shell fish and other aquatic animals as well as plants. Elevated bacterial contamination may cause the closure of swimming beaches as well. Natural vegetation within the riverfront Area also maintains water quality for fish and wildlife.

(5) Where a river or stream serves as a water supply or provides induced recharge to wells, the riverfront area can be important to the maintenance of drinking water quality and quantity. Land along rivers in its natural state with a high infiltration capacity increases the yield of water supply wells. When a riverfront area lacks the capacity to filter pollutants, contaminants can reach human populations served by wells near rivers or by direct river intakes. The capacity of a riverfront area to filter pollutants is equally critical to surface water supplies, reducing or eliminating the need for additional treatment. In the watershed, mature vegetation within a riverfront area provides shade to moderate water temperatures and slow algal growth, which can produce odors and taste problems in drinking water.

(6) By providing recharge and retaining natural flood storage, as well as by slowing surface

water runoff, a riverfront area can mitigate flooding and damage from storms. The root systems of riverfront vegetation keep soil porous, increasing the infiltration capacity of the soil. Vegetation also removes excess water through evaporation and transpiration. This removal of water from the soil allows for more infiltration when flooding occurs. Increases in storage of floodwaters can decrease peak discharges and reduce storm damage. A vegetated riverfront area also dissipates the energy of storm flows, reducing damage to public and private property.

(7) Lands within 200 feet of rivers, streams, and creeks are presumed important to the protection of these resource areas because activities undertaken in close proximity to resource areas have a high likelihood of adverse effect upon them either immediately, as a consequence of construction, or over time, as a consequence of daily operation or existence of the activities. Adverse impacts from construction and use can include, but not be limited to, erosion, siltation, loss of groundwater recharge, poor water quality, and loss of wildlife habitat.

C. Performance Standards

(1) General Performance Standards for riverfront areas. No activity or work, other than the maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of riverfront area, shall be permitted by the Conservation Commission, except upon a clear showing by a preponderance of credible evidence that any proposed work and its natural and consequential cumulative impacts and effects shall have no adverse effect upon any of the By-Law wetland values.

(a) The burden of proof is upon the applicant.

(b) As part of the Applicant's burden of proof, it is the responsibility of the applicant to provide the Conservation Commission with any and all information that the Commission may request orally or in writing that the Commission deems necessary to enable it to ascertain whether the proposed work and its natural and consequential cumulative impacts and effects will not have any adverse effect upon any of the By-Law wetland values. The Commission may deny the application where the applicant fails to furnish any information requested by the Commission.

(2) Performance Standards for riverfront area of a river (perennial stream). For proposed activity and work within the riverfront area of a river (perennial stream) that is allowed under the aforesaid Subsection C(1), the activity or work shall comply with the following performance standards.

(a) Other By-Law Resource Areas. The work must meet the performance standards for all other Resource Areas Subject to Protection under the By-Law that are located within the Riverfront Area, including the 100-foot Buffer Zone.

(b) Alternative Analysis. Unless a redevelopment project under Subsection C.(4) below, the applicant must show, by a preponderance of the credible evidence that there is no practicable and substantially equivalent economic alternative to the proposed project with less adverse effects on the By-Law wetland values.

(i) The Conservation Commission shall regard as practicable an alternative that is reasonably available and capable of being done after taking into consideration the proposed property use, overall project purposes, logistics, existing technology, costs of the alternatives, and overall project cost.
(ii) The scope of alternatives and the evaluation of alternatives are defined in 310 CMR 10.58(5).
(iii) Notwithstanding this required alternatives analysis, the applicant must still meet the criteria for determining no significant or cumulative effect upon the By-Law wetland values as specified in the aforesaid Subsection C.(1).

(c) When a project is proposed to alter more than 5,000 square feet of undeveloped river area, the proponent shall complete Appendix A: Simplified Wildlife Habitat Evaluation of the *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands* (March 2006 and as it may be amended). Projects proposing to alter more than 5,000 square feet of

undeveloped riverfront area within mapped habitat of potential regional or statewide importance require the completion of Appendix B: Detailed Wildlife Habitat Evaluation and certification that the project has been designed so that there is no adverse effect on wildlife habitat.

(d) The Commission may require that the applicant maintain a strip of continuous, undisturbed vegetative cover within the 200-foot riverfront area unless the applicant overcomes the presumption of significance by a preponderance of the credible evidence that the area or a portion of it may be disturbed without harm to the wetland values.

(e) Notwithstanding the provisions in (1) and (2) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

(3) Performance Standards for Riverfront Area of Intermittent Streams.

(a) For the riverfront area for a Type-I intermittent stream (see section 6.03.A.(2)(d) for intermittent stream types), the Conservation Commission may, based on the specific functions of and applicable By-Law wetland values associated with the Type-I intermittent stream and other By-Law Resource Areas that are located partially or wholly within the riverfront area, use the performance standards adopted for the 200-foot riverfront area for a perennial stream. Otherwise, no activity, other than the maintenance of an already existing structure, that will result in the building within or upon, or removing, filling, dredging or altering of the Type-I intermittent stream or within 75 feet of said intermittent stream may be permitted by the Conservation Commission.

(b) For the riverfront area for a Type-II intermittent stream, no activity, other than the maintenance of an already existing structure, that will result in the building within or upon, or removing, filling, dredging or altering of said intermittent stream or within 50 feet of the Type-II intermittent stream within the riverfront area may be permitted by the Conservation Commission, except as provided under the aforesaid Subsection C.(1).

(c) For the riverfront area for a Type-III intermittent stream, no activity, other than the maintenance of an already existing structure, that will result in the building within or upon, or removing, filling, dredging or altering of the Type-III intermittent stream within 25 feet of the intermittent stream within the riverfront area may be permitted by the Conservation Commission, except as provided under the aforesaid Subsection C.(1).

(d) For the riverfront area for a Type-IV intermittent stream, the Conservation Commission may allow the alteration of the intermittent stream but not the minimization of any of its function to protect the wetland values of the By-Law and these regulations and may allow the alteration of the associated riverfront area provided however the Commission may require filter strips of indigenous vegetation sufficient in width, based on slope and terrain factors, to prevent soil erosion and sedimentation of surface water without the need for manmade barriers. The applicant need not make the requisite showing provided under the aforesaid Subsection C.(1).

(e) The Commission may require that the applicant maintain a strip of continuous, undisturbed vegetative cover within the 100-foot riverfront area of any intermittent stream unless the applicant overcomes the presumption of significance by a preponderance of the credible evidence that the area or a portion of it may be disturbed without harm to the wetland values.

(f) Notwithstanding the provisions above in Sections C.(1), (2) & (3), no project may be permitted within 100 feet of the bank of an intermittent stream which provides breeding habitat for Eastern Brook Trout, *Salvelinus fontinalis*.

(g) Notwithstanding the provisions above in Sections C.(1), (2) & (3), no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

(4) Performance Standards for Redevelopment. Where the proposed project involves redevelopment of a previously altered Riverfront area to a perennial stream, then the

criteria found in 310 CMR10.58(5), apply in lieu of the alternatives analysis performance standard stated in the aforesaid Subsection C.(2)(c)

6.05 Vegetated Wetlands (wet meadows, marshes, swamps, bogs)

A. Definition, Critical Characteristics, Boundary

(1) Vegetated wetlands ("freshwater wetlands") are areas where the topography is low and flat and where the soils are annually saturated. Vegetated wetlands may be bordering on surface water bodies or other By-Law Resource Areas or they may be isolated.

(2) The types of vegetated wetlands include but are not limited to meadows, marshes, swamps, and bogs. The ground and surface water regime and the vegetative community that occur in wet meadows, marshes, swamps, and bogs are specified in the Wetlands Protection Act, M.G.L. c. 131 § 40 sixth paragraph (bogs), ninth paragraph (swamps), tenth paragraph (wet meadows), eleventh paragraph (marshes).

(3) Vegetated wetlands also include areas where groundwater, flowing or standing surface water, or ice provides a significant part of the supporting substrate for a plant community for at least five months of the year, such as a seep, and areas of emergent and submerged plant communities in inland waters.

(4) The boundaries of a vegetated wetland is the line within which fifty percent (50%) or more of the vegetative community consists of wetland species identified in the Wetlands Protection Act as referenced in the aforesaid Subsection A(1). Alternatively, if the vegetative community has been disturbed, then the boundaries may be determined in accordance with the standards of Subsection A(5) below.

(5) The boundary of a vegetated wetland that has been disturbed (e.g., by cutting, filling, or cultivation), the boundary is the line within which there are indicators of saturated or inundated conditions sufficient to support a predominance of wetland indicator plants, a predominance of wetland indicator plants, or credible evidence from a competent source that the area supported or would support under undisturbed condition a predominance of wetland indicator plants before the disturbance.

B. Presumptions of Significance; Findings

(1) The physical characteristics of vegetated wetlands, as described in the aforesaid Subsection A, are critical to the protection of the By-Law wetland values and these characteristics are more specifically described in Subsection B(2) below. The Conservation Commission shall presume that protection of a vegetated wetland, whether bordering or isolated, is significant to the By-Law wetland values specified in the Town of Kingston Wetland Protection By-Laws. This presumption of significance may be rebutted upon a showing of a preponderance of the credible evidence that the vegetated wetland does not play a role in the protection of the By-Law wetland values.

(2) Isolated vegetated wetlands of at least 500 square feet in surface area or 1/16 acre-feet in volume, as observed during, or calculated for, a 100-year storm event, are presumed to be significant under the By-Law.

(a) Where the Conservation Commission determines that the presumption of significance of the Vegetated Wetland has been overcome for one or more, but not all, By-Law wetland values, the Commission shall make a written determination to this effect, setting forth its grounds as part of its findings in the Order of Conditions.

(b) Where the Conservation Commission determines that the presumption of significance of the Vegetated Wetland has been overcome for all By-Law wetland values, the Commission shall make a written determination to this effect, setting forth its grounds in a Notification of Non-Significance.

(3) Vegetated wetlands are likely to be significant to wildlife, public or private water supply, to

groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, to the protection of fisheries, and to the protection of shellfish.

(4) The plant communities, soils, and associated low, flat topography of vegetated wetlands remove or detain sediments, nutrients (such as nitrogen and phosphorous), and toxic substances (such as heavy metal compounds) that occur in run-off and flood waters. Some nutrients and toxic substances are detained for years in plant root systems or in the soils. Others are held 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 reduce water quality.

(5) Vegetated wetlands are areas where groundwater discharges to the surface and where, under some circumstances, surface water discharges to the groundwater, thus protecting groundwater quality and quantity and maintaining the flow of streams during dry seasons.

(6) The profusion of vegetation and the low, flat topography of a vegetated wetland slow down and reduce the passage of flood waters during periods of peak flow by providing temporary flood water storage and by facilitating water removal through evaporation and transpiration. This reduces downstream flood crests and resulting damage to private and public property.

(7) During dry periods the water retained in a vegetated wetland is essential to the maintenance of base flow levels in rivers and streams, which base flow, in turn, is important to the protection of water quality and water supplies.

(8) Wetlands vegetation provides shade that moderates water temperatures important to fish life. Vegetated wetlands flooded by adjacent water bodies and waterways provides food, breeding habitat, and cover for fish. Fish populations in the larval stage are particularly dependent upon food provided by overbank flooding which occurs during peak flow periods (extreme storms), because most river and stream channels do not provide quantities of the microscopic plan and animal life required.

(9) Wetlands vegetation supports a wide variety of insects, reptiles, amphibians, mammals, and birds that are a source of food for important game fish. Bluegills (Lepomis macrochirus), pumpkinseeds (Lepomis gibbosus), yellow perch (perca flavenscens), rock bass (Ambloplites rupestris), and all trout species feed upon non-aquatic insects. Largemouth bass (Micropterus salmoides), chain pickerel (Esox niger), and northern pike (Esox lucius) feed upon small mammals, snakes, non-aquatic insects, birds, and amphibians. Vegetated Wetlands are also important to the protection of rare and endangered wildlife species.

(10) Vegetated wetlands, together with land within 100 feet of a vegetated wetland (the Buffer Zone) serve to moderate and alleviate thermal shock and pollution resulting from runoff from impervious surfaces, which may be detrimental to wildlife, fisheries, and shellfish downstream of the vegetated wetland.

(11) The buffer zone to a vegetated wetland is likely to be significant to the protection and maintenance of the vegetated wetland and, therefore, to the protection of the By-Law wetland values that the vegetated wetland serves to protect.

C. Performance Standards

(1) No activity or work, other than the maintenance of an already existing structure, which will result in the building within a vegetated wetland, removing, filling, or altering of a vegetated wetland, or land within 100 feet of any vegetated wetland (100-foot buffer zone) shall be permitted by the Conservation Commission, except upon a clear showing by a preponderance of the credible evidence that any proposed work as well as its natural and consequential cumulative impacts shall have no adverse effect upon any of the By-Law wetland values, upon any of the vegetated wetland functions set forth in Subsection B. directly above, and as further provided in the performance standards for buffer zone activities, Section III., 8.00, 9.00 & 10.00 below.

(a) The burden of proof is upon the applicant.

(b) As part of the applicant's burden of proof, it is the responsibility of the applicant to provide the Conservation Commission with any and all information that the Commission may request orally or in writing that the Commission deems necessary to enable it to ascertain whether the proposed work and its natural and consequential cumulative impacts and effects will not have any adverse effect upon any of the By-Law wetland values. The Commission shall deny the application where the applicant fails to furnish any information requested by the Commission.

(2) When a project is proposed to alter less than 5,000 square feet of vegetated wetlands, the proponent shall complete Appendix A: Simplified Wildlife Habitat Evaluation of the *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands* (March 2006 and as it may be amended). Projects proposing to alter vegetated wetlands within mapped habitat of potential regional or statewide importance require the completion of Appendix B: Detailed Wildlife Habitat Evaluation and certification that the project has been designed so that there is no adverse effect on wildlife habitat.

(3) The Conservation Commission may prohibit 5,000 square feet or more of vegetated wetland alteration.

(4) Notwithstanding the provisions in (1)(a) and (b) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

6.06 Lands Under Water Bodies and Waterways (under any Reservoir, Lake, Pond, River, Stream)

A. Definition, Critical Characteristics, Boundary

(1) Land under water bodies and waterways (LUW) is the land beneath any reservoir, lake, pond, river, stream (creek). Said land may be composed of organic muck or peat, fine sediments, rocks, or bedrock.

(2) The boundary of land under water bodies and waterways is the mean low water level.

B. Presumptions of Significance; Findings

(1) The Conservation Commission shall presume that protection of land under water bodies and waterways is significant to the By-Law wetland values.

(2) Land under water bodies and waterways is likely to be significant to wildlife, wildlife habitat, public and private water supply, to ground water supply, to flood control, to storm damage prevention, to prevention of pollution, and to the protection of fisheries.

(3) Where land under water bodies and waterways is composed of pervious material, such land represents a point of exchange between surface and ground water.

(4) The physical nature of land under water bodies and waterways is highly variable, ranging from deep organic and fine sedimentary deposits to rocks and bedrock. The organic soils and sediments plan an important role in the process of detaining and removing dissolved and particulate nutrients (such as nitrogen and phosphorous) from the surface water above. The organic soils and sediments also serve as traps for toxic substances (such as heavy metal compounds).

(5) Land under water bodies and waterways, in conjunction with a bank, serves to confine floodwater within a definite channel during the most frequent storms. Filling within this channel blocks flows which in turn causes backwater and over-bank flooding during such storms. An alteration of land under water bodies and waterways that causes water to frequently spread out over a larger area at a lower depth increases the amount of property

that is routinely flooded. In addition, such an alteration results in an elevation of water temperature and a decrease in habitat in the main channel, both of which are detrimental to fisheries, particularly during periods of warm weather and low flows.

(6) Land under rivers, streams, and creeks that is composed of gravel allows the circulation of cold, well oxygenated water necessary for the survival of important game fish species. River, stream, and creek bottoms with a diverse structure composed of gravel, large and small boulders, and rock outcrops provide escape cover and resting areas for game fish species. Such a bottom type also provides areas for the production of aquatic insects essential to fisheries.

(7) Land under ponds and lakes is vital to a large assortment of warm-water fish during spawning periods. Species such as largemouth bass (Micropterus salmoides), smallmouth bass (Micropterus dolomieui), blue gills (Lepomis marcrochirus), pumpkinseeds (Lepomis gibbosus), black crappie (Promoxis nigromaculatus), and rock bass (Ambloplites rupestris) build nests on the lake and bottom substrates within which they shed and fertilize their eggs.

(8) Land within 100 feet of land under water bodies and waterways is likely to be significant to the protection and maintenance of the land under water bodies and waterways and, therefore, to the protection of the By-Law wetland values that this By-Law Resource Area serves to protect. Said 100-foot Buffer Zone is regulated under Wetland Protection By-Law.

C. Performance Standards

(1) No activity or work, other than the maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of land under water bodies and waterways, or land within 100 feet (100-foot buffer zone) of any land under water bodies and waterways, shall be permitted by the Conservation Commission, except upon a clear showing by a preponderance of the credible evidence that any proposed work and its natural and consequential cumulative effects shall have no adverse effect upon any of the By-Law wetland values, upon any of the land under water functions set forth in the Subsection B directly above, and as further provided in the performance standards for buffer zone activities, Section III., 8.00 & 9.00 below.

(a) The burden of proof is upon the applicant.

(b) As part of the applicant's burden of proof, it is the responsibility of the applicant to provide the Conservation Commission with any and all information that the Commission may request orally or in writing that the Commission deems necessary to enable it to ascertain whether the proposed work and its natural and consequential cumulative impacts and effects will not have any adverse effect upon any of the By-Law wetland values. The Commission shall deny the application where the applicant fails to furnish any information requested by the Commission.

(2) When a project is proposed to alter greater than 10% of land under water on a single lot, or cumulatively for multi-lot projects, the proponent shall complete Appendix A: Simplified Wildlife Habitat Evaluation of the *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands* (March 2006 and as it may be amended). Depending on the information presented in Appendix A, proponents may also be required to complete Appendix B: Detailed Wildlife Habitat Evaluation.

(3) Notwithstanding the provisions above in (1) and (2) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

6.07 Inland Banks (Beaches)

A. Definition, Critical Characteristics, Boundary

(1) A bank is the portion of the land surface which normally abuts and confines a water body. A bank occurs between a water body and a vegetated bordering wetland and adjacent flood plain, or, in the absence of these, it occurs between a water body and upland.

(2) A bank may be partially or totally vegetated or it may be composed of exposed soil, gravel, or stone. Where the bank is flat and not vegetated or only partially vegetated, it is a "beach."

(3) The upper boundary of a bank is the first observable break in the slope of the mean annual flood level or the mean annual flood level, whichever is higher. The lower boundary of a bank is the mean annual low flow level.

B. Presumptions of Significance; Findings

(1) The Conservation Commission shall presume that protection of a bank is significant to the By-Law wetland values.

(2) A bank is likely to be significant to wildlife, wildlife habitat, public or private water supply, to ground water supply, to flood control, to storm damage prevention, to the prevention of pollution, and to the protection of fisheries. Where a bank is composed of concrete, asphalt, or other artificial impervious material, said bank is likely to be significant to flood control and storm damage prevention.

(3) A bank is an area where ground water discharges to the surface and where, under some circumstances, surface water recharges the ground water.

(4) Where a bank is partially or totally vegetated, the vegetation serves to maintain the stability of the bank, which in turn protects water quality by reducing erosion and siltation.

(5) A bank may also provide shade that moderates water temperatures, as well as providing breeding habitat and escape cover and food, all of which are significant to the protection of fisheries. A bank that drops off quickly or overhangs the water's edge often contains numerous undercuts that are favorite hiding spots for important game species.

(6) A bank acts to confine floodwater during the most frequent storms, preventing the spread of water to adjacent land. Because a bank confines water during such storms to an established channel it maintains water temperatures and depths necessary for the protection of fisheries. The maintenance of cool water temperatures during warm weather is critical to the survival of many species. An alteration of a bank that permits water to frequently and consistently spread over a larger and shallower area increases the amount of property that is routinely flooded, as well as elevating water temperatures and reducing fish habitat within the main channel, particularly during warm weather.

(7) Land within 100 feet of a bank is likely to be significant to the protection and maintenance of the Bank and, therefore, to the protection of the By-Law wetland values that this By-Law Resource Area serves to protect. Said 100-foot Buffer Zone is regulated under the Kingston Wetland Protection By-Law.

C. Performance Standards

(1) No activity or work, other than the maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of a bank, or land within 100 feet (the 100-foot buffer zone) shall be permitted by the Conservation Commission, except upon a clear showing by a preponderance of credible evidence that any proposed work and its natural and consequential cumulative impacts and effects shall have no adverse effect upon any of the By-Law wetland values, upon any of the inland bank

functions set forth in Subsection B. above, and as further provided in the performance standards for buffer zone activities, Section III., 8.00 & 9.00 below.

(a) The burden of proof is upon the applicant.

(b) As part of the applicant's burden of proof, it is the responsibility of the applicant to provide the Conservation Commission with any and all information that the Commission may request orally or in writing that the Commission deems necessary to enable it to ascertain whether the proposed work and its natural and consequential cumulative impacts and effects will not have any adverse effect upon any of the By-Law wetland values. The Commission shall deny the application where the applicant fails to furnish any information requested by the Commission.

(2) Any activity which is allowed by the Commission on a bank or within the 100-foot buffer zone of a bank shall not impair the following:

(a) The physical stability of the bank;

(b) The water carrying capacity of the existing channel within the bank;

(c) Ground water and surface water quality;

(d) The capacity of the bank to provide breeding habitat, escape cover, and food for fisheries.

(3) When a project is proposed to alter greater than 10% of the length of a bank or 50 linear feet (whichever is less) on a single lot, or cumulatively for multi-lot projects, the proponent shall complete Appendix A: Simplified Wildlife Habitat Evaluation of the *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands* (March 2006 and as it may be amended). Depending on the information presented in Appendix A, proponents may also be required to complete Appendix B: Detailed Wildlife Habitat Evaluation.

(4) Notwithstanding the provisions above in (1) and (2) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

6.08 Lands Subject to Flooding (both bordering and isolated)

A. Definition, Critical Characteristics, Boundary

(1) Bordering Land Subject to Flooding (BLSF)

(a) Bordering land subject to flooding is an area with low, flat topography adjacent to and inundated by flood waters rising from rivers, streams (creeks), reservoirs, lakes, or ponds. bordering land subject to flooding extends from the banks of these waterways and water-bodies; where a bordering vegetated wetland is present, bordering land subject to flooding extends from said vegetated wetland.

(b) The boundary of bordering land subject to flooding is the estimated maximum lateral extent of flood water that will theoretically result from the statistical 100-year frequency storm.

(i) Said boundary shall be that determined by reference to the most recently available flood profile data prepared for the community within which the work is proposed under the National Flood Insurance Program (NFIP, currently administered by the Federal Emergency Management agency, successor to the U.S. Department of Housing and Urban Development). The Conservation Commission shall presume this boundary accurate. This presumption may be overcome only by credible evidence from a registered professional engineer or other profession competent in such matters.

(ii) Where NFIP Profile data are unavailable, the boundary of Bordering Land Subject to Flooding shall be the maximum lateral extent of flood water that has been observed or recorded by person competent in such matters.

(2) Isolated Land Subject to Flooding (ILSF)

(a) Isolated land subject to flooding is an isolated depression or closed basin without an inlet or an outlet. It is an area that at least once a year confines standing water of any volume. Isolated land subject to flooding may be underlain by pervious material, which, in turn, may be covered by a mat of peat or muck.

(b) The boundary of isolated land subject to flooding is the perimeter of the largest observed or recorded volume of water confined in said area or as such is evidenced by the physical characteristics of the basin.

B. Presumptions of Significance; Findings

The Conservation Commission shall presume that protection of land subject to flooding, both bordering and isolated, is significant to the By-Law wetland values.

(1) Bordering Land Subject to Flooding

(a) Bordering land subject to flooding is an area that floods from a rise in a bordering waterway or water body. The topography and location of bordering land subject to flooding are critical to the protection of the By-Law wetland values of flood control and storm damage prevention.

(b) Bordering land subject to flooding provides a temporary storage area for flood water that have overtopped the bank of the main channel of a river or stream (creek) or the basin or a reservoir, lake or pond. During periods of peak run-off, flood water are both retained (i.e. slowly released through evaporation and percolation) and detained (slowly released through surface discharge) by bordering land subject to flooding. Over time, incremental filling of these By-Law Resource Areas causes increases in the extent and level of flooding by eliminating flood storage volume or by restricting flows, thereby causing increases in damage to public and private properties.

(2) Isolated Land Subject to Flooding

(a) Isolated land subject to flooding is an isolated depression or a closed basin that serves as a ponding area for surface water run-off or high ground water that has risen above the ground surface. Such areas are likely to be locally significant to flood control and storm damage prevention.

(b) Isolated land subject to flooding provides a temporary storage area where run-off and high ground water pond and slowly evaporate or percolate into the substrate. Filling causes lateral displacement of the ponded water onto contiguous properties, which may result in damage to said properties.

(c) Where isolated land subject to flooding is underlain by pervious material it is likely to be significant to public or private water supply and to ground water supply. In such a situation, isolated land subject to flooding provides a point of exchange between ground and surface waters.

(d) Where isolated land subject to flooding is underlain by pervious material covered by a mat of organic peat and muck, it is also likely to be significant to the prevention of pollution. Contaminants introduced into the soil, such as septic system discharges and road salts, find easy access into the ground water and neighboring wells. Where these conditions occur and a mat of organic peat or muck covers the substrate of the isolated land subject to flooding, said mat serves to detain and remove contaminants, which might otherwise enter ground water and neighboring wells.

(e) Isolated land subject to flooding provides important breeding habitat for amphibians and some rare plants. Isolated land subject to flooding is presumed to be vernal pool habitat unless the presumption has been overcome in accordance with Section 6.01 above.

(f) Isolated vegetated wetlands of 500 square feet or more in surface area are presumed to be significant to the interests protected under the By-Law.

C. Performance Standards for Bordering and Isolated Land Subject to Flooding.

(1) No activity or work, other than the maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of land subject to flooding,

or land within 100 feet of any land subject to flooding (100-foot buffer zone), shall be permitted by the Conservation Commission, except upon a clear showing by a preponderance of the credible evidence that any proposed work and its natural and consequential cumulative impacts and effects shall have no adverse effect upon any of the By-Law wetland values, upon any of the bordering and isolated land subject to flooding functions set forth in Subsection B. above, and as further provided in the performance standards for buffer zone activities, Section III., 8.00 & 9.00 below.

(a) The burden of proof is upon the applicant.

(b) As part of the applicant's burden of proof, it is the responsibility of the applicant to provide the Conservation Commission with any and all information that the Commission may request orally or in writing that the Commission deems necessary to enable it to ascertain whether the proposed work and its natural and consequential cumulative impacts and effects will not have any adverse effect upon any of the By-Law wetland values. The Commission shall deny the application where the applicant fails to furnish any information requested by the Commission.

(2) When a project is proposed to alter greater than 10% of land subject to flooding on a single lot, or cumulatively for multi-lot projects, the proponent shall complete Appendix A: Simplified Wildlife Habitat Evaluation of the *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands* (March 2006 and as it may be amended). Depending on the information presented in Appendix A, proponents may also be required to complete Appendix B: Detailed Wildlife Habitat Evaluation.

(3) Notwithstanding the above, no project may be permitted within bordering or isolated lands subject to flooding in which vernal pool species and habitat have been documented.

(4) Notwithstanding the above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

7.00 COASTAL RESOURCE AREAS

7.01 Land Under the Ocean

A. Definition, Critical Characteristics, Boundary

(1) Land under the ocean means land extending from the mean low water line seaward to the boundary of the municipalities jurisdiction and includes land under estuaries.

(a) Land under the ocean provides feeding areas, spawning and nursery grounds and shelter for many coastal organisms related to marine fisheries.

(2) Nearshore areas of land under the ocean means land extending from the mean low water line to the seaward limit of a municipality's jurisdiction, but in no case beyond the point where the land is 80 feet below the level of the ocean at mean low water.

(a) Nearshore areas of land under the ocean help reduce storm damage and flooding by diminishing and buffering the high energy effects of storms. Submerged bars dissipate storm wave energy. Such areas provide a source of sediment for seasonal rebuilding of coastal beaches and dunes.

(b) Nearshore areas of land under the ocean also provide important food for birds. For example, waterfowl feed heavily on vegetation (such as eel grass, widgeon grass, and macrophytic algae) and invertebrates (such as polychaetes and mollusks) found in estuaries and other shallow submerged land under the ocean.

B. Presumptions of Significance; Findings

(1) Land under the ocean is likely to be significant to the protection of marine fisheries and, where there are shellfish, to protection of land containing shellfish.

(2) When a proposed project involves the dredging, removing filling or altering of land under the ocean beyond the nearshore area, the Commission shall presume that such land is significant to the protection of marine fisheries and, where there are shellfish, to the protection of land containing shellfish and that it is not significant to storm damage prevention, flood control or protection of wildlife habitat.

(3) Nearshore areas of land under the ocean are likely to be significant to storm damage prevention, flood control, and protection of wildlife habitat.

(4) When nearshore areas of land under the ocean are significant to storm damage prevention or flood control, the bottom topography of such land is critical to the protection of those interests.

(5) When nearshore areas or other land under the ocean is significant to the protection of marine fisheries or wildlife habitat, the following factors are critical to the protection of such interests:

a) water circulation;
b) distribution of sediment grain size;
c) water quality;
d) finfish habitat; and
e) important food for wildlife.

(6) When a proposed project involves the dredging, removing, filling or altering of a nearshore area of land under the ocean, the Commission shall presume that the area is significant to the interests specified above.

(7) When land under the ocean underlies an anadramous/catadromous fish run, those presumptions and performance standards listed in Section 7.07 below shall apply.

(8) These presumptions may be overcome only upon a clear showing that the area or land does not play a role in the protection of marine fisheries or wildlife habitat, land containing shellfish, storm damage prevention or flood control, as appropriate, and if the issuing authority makes a written determination to such effect.

C. Performance Standards for Land Under the Ocean

When land under the ocean or nearshore areas of land under the ocean are found to be significant to the protection of marine fisheries, protection of wildlife habitat, storm damage prevention or flood control, the following shall apply:

(1) Improvement dredging for navigational purposes affecting land under the ocean shall be designed and carried out using the best available measures so as to minimize adverse effects on such interests caused by changes in:

a) bottom topography which will result in increased flooding or erosion caused by an increase in the height or velocity of waves impacting the shore;

b) sediment transport processes which will increase flood or erosion hazards by affecting the natural replenishment of beaches;

c) water circulation which will result in an adverse change in flushing rate, temperature, or turbidity levels; or

d) marine productivity which will result from the suspension or transport of pollutants, the smothering of bottom organisms, the accumulation of pollutants by organisms, or the destruction of marine fisheries habitat or wildlife habitat.

(2) Maintenance dredging for navigational purposes affecting land under the ocean shall be designed and carried out using the best available measures so as to minimize adverse effects on such interests caused by changes in marine productivity which will result from

the suspension or transport of pollutants, increases in turbidity, the smothering of bottom organisms, the accumulation of pollutants by organisms, or the destruction of marine fisheries habitat or wildlife habitat.

(3) Projects, not included in (1) improvement dredging or (2) maintenance dredging above, which affect nearshore areas of land under the ocean shall not cause adverse effects by altering the bottom topography so as to increase storm damage or erosion of coastal beaches, coastal banks or salt marshes.

(4) Projects, not included in (1) improvement dredging above, which affect land under the Ocean shall if water-dependent be designed and constructed, using best available measures, so as to minimize adverse effects, and if non-water-dependent, have no adverse effects, on marine fisheries habitat or wildlife habitat caused by:

a) alterations in water circulation;
b) destruction of eelgrass (*Zostera marina*) or widgeon grass (*Rupia maritina)* beds;
c) alterations in the distribution of sediment grain size;
d) changes in water quality, including, but not limited to, other than natural fluctuations in the level of dissolved oxygen, temperature or turbidity, or the addition of pollutants; or
e) alterations of shallow submerged lands with high densities of polychaetes, mollusks or macrophytic algae.

(5) Notwithstanding the provision of (1) through (4) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

7.02 Coastal Banks

A. Definition, Critical Characteristics, Boundary

(1) A 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 wetland.

(2) Coastal banks composed of unconsolidated sediment and exposed to vigorous wave action serve as a major continuous source of sediment for beaches, dunes, and barrier beaches (as well as other land forms caused by coastal processes). The supply of sediment is removed from banks by wave action, and this removal takes place in response to beach and sea conditions. It is a naturally occurring process necessary to the continued existence of coastal beaches, coastal dunes and barrier beaches which, in turn, dissipate storm wave energy, thus protecting structures of coastal wetlands landward of them from storm damage and flooding.

(3) Coastal banks, because of their height and stability, may act as a vertical buffer or natural wall, which protects upland areas from storm damage and 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 and rain runoff, which plays only a minor role in beach nourishment, should not be increased unnecessarily. Therefore, disturbances to a coastal bank which reduce its natural resistance to wind and rain erosion cause cuts and gullies 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 vertical buffer.

(4) A particular coastal bank may serve both as a sediment source and as a vertical buffer, or it may serve only one role, as determined by the Conservation Commission.

(5) The landward boundary of a coastal bank is the top of, or first major break in, the face of the coastal bank (i.e. top of coastal bank). Please refer to MA DEP Wetlands Protection Program Policy, DWW Policy 92-1, dated March 3, 1992 (and as it may be amended), for standards used in delineating the top of a coastal bank.

B. Presumptions of Significance; Findings

(1) Coastal banks are likely to be significant to storm damage prevention, flood control and management, erosion and sedimentation control, prevention and abatement of pollution, protection of wildlife and its habitat, protection of rare species and protection of wetland plant and animal communities. Coastal banks that supply sediment to coastal beaches, coastal dunes and barrier beaches are significant to storm damage prevention and flood control. Coastal banks that, because of their height, provide a vertical buffer to upland areas from storm waters are significant to storm damage prevention and flood control. These presumptions may be overcome only upon a clear showing that the coastal bank does not play a role in protecting the wetland values given above.

(2) When a proposed project involves dredging, removing, filling, or altering a coastal bank, the Commission shall presume that the area is significant to the wetland values mentioned directly above.

(3) When the Commission determines that a coastal bank is significant to storm damage prevention or flood control because it supplies sediment to coastal beaches, coastal dunes or barrier beaches, the ability of the coastal bank to erode in response to wave action is critical to the protection of that interest(s).

(4) When the Commission determines that a coastal bank is significant to storm damage prevention or flood control because it is a vertical buffer to storm waters, the stability of the bank, i.e., the natural resistance of the bank to erosion caused by wind and rain runoff, is critical to the protection of that interest(s).

(5) Bank vegetation tends to stabilize the bank and reduce the rate of erosion due to wind and rain runoff. Pedestrian and vehicular traffic damage the protective vegetation and frequently leads to gully erosion or deep "blowouts" on unconsolidated banks. Therefore, any permitted project should incorporate, when appropriate, elevated walkways.

(6) Coastal banks provide habitat for wildlife, particularly nesting birds and provide habitat for rare plant and animal species where these occur. Characteristics of coastal banks which are critical to wildlife are bank steepness (i.e. slope), height, stability, soil grain size, consolidation, vegetation cover and vegetation type.

(7) Land within 100 feet of the top of any coastal bank is significant to the protection and maintenance of a bank as well as to the wetland values.

(8) The Commission finds that, where feasible, the use of non-structural engineering techniques to stabilize coastal banks results in fewer adverse effects on the wetland resource areas and values than the use of structural armoring techniques.

(9) Coastal bank armoring, whether by structural or non-structural means, has the potential to cause adverse impacts to adjacent or nearby wetland resource areas as well as the wetland values by increasing erosion (through source sediment impoundment, passive erosion from sea level rise, and/or flank erosion of adjacent properties) and by destroying or changing marine environments and their functions (directly through placement of structure or indirectly through erosion).

(10) Coastal sediment transport is a natural process that is critical to protection of the resource area values. Interruptions of the natural processes of sediment supply provided by some coastal banks reduces the public value of this resource area. When sediment from eroding coastal banks or beaches is blocked from transport by coastal structures, beaches can disappear due to sand starvation.

C. Performance Standards for Coastal Bank

All coastal bank projects must overcome the presumptions of significance by a clear showing that the coastal bank does not play a role in protecting the interests and only by demonstrating that the

project will not have any adverse effects on the wetland resource areas. The Commission requires that any proposal to stabilize a coastal bank must first evaluate the feasibility of using non-structural engineering techniques prior to proposing the use of structural engineering techniques. The infeasibility of using bioengineering techniques must be proven through a clear showing of a preponderance of the credible evidence that the project would be unsuccessful if such materials were used.

(1) 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 shall apply:

(a) No new bulkhead, revetment, seawall, groin or other coastal engineering structure shall be permitted on such a coastal bank except that such a coastal engineering structure shall be permitted when required to prevent storm damage to buildings constructed prior to the effective date of 310 CMR 10.21 through 10.37 or constructed pursuant to a Notice of Intent filed prior to the effective date of 310 CMR 10.21 through 10.37 (August 10, 1978), including reconstructions of such buildings subsequent to the effective date of 310 CMR 10.21 through 10.37, provided that the following requirements are met:

(i) a coastal engineering structure or a modification thereto shall be designed and constructed so as to minimize, using best available measures, adverse effects on adjacent or nearby coastal beaches and other resource areas due to changes in wave action;

(ii) the applicant demonstrates that no method of protecting the building other than the proposed coastal engineering structure is feasible;

(iii) protective planting designed to reduce erosion may be permitted or required; and

(iv) new or substantially repaired structures placed/located within an erosive area may be required to provide mitigation in the form of a regular nourishment program of compatible bank sediment. Compensatory volume of bank sediment shall be determined via the erosion rate provided by the most recent Shoreline Change Map produced by the MA Office of Coastal Zone Management (CZM) according to the following formula:

Length of Bank x Height of Bank x Erosion Rate = Total Cubic Feet / 27 = Cubic Yards of Replenishment

(b) Any project on a coastal bank or within 100 feet landward of the top of a coastal bank shall not have an adverse effect due to wave action on the movement of sediment from the coastal bank to coastal beaches or land subject to tidal action and shall not have an adverse effect on bank height, stability, vegetation or habitat.

(c) The Order of Conditions and the Certificate of Compliance for any new building within 100 feet landward of the top of a coastal bank permitted by the Commission under M.G.L. c. 131, § 40 and the Kingston Wetlands Protection By-Law shall contain the specific condition:

No coastal engineering structure, such as a bulkhead, revetment, or seawall shall be permitted on an eroding bank at any time in the future to protect the project allowed by this Order of Conditions.

(2) When a coastal bank is determined to be significant to storm damage prevention or flood control because it is a vertical buffer to storm water, the following shall apply:

(a) Any project on such a coastal bank or within 100 feet landward of the top of such coastal bank shall have no adverse effects on the stability, height, vegetation or habitat of a coastal bank.

(b) Bulkheads, revetments, seawalls, groins or other coastal engineering structures may be permitted on such a coastal bank except when such bank is significant to storm damage prevention or flood control because it supplies sediment to coastal beaches, coastal dunes, and barrier beaches.

(c) Notwithstanding the provisions of Section C. directly above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland

plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

7.03 Coastal Beach

A. Definition, Critical Characteristics, Boundary

Coastal beach means unconsolidated sediment subject to wave, tidal and coastal storm action which forms the gently sloping shore of a body of salt water and includes tidal flats. Coastal beaches extend from the mean low water line landward to the dune line, coastal bankline or the seaward edge of existing man-made structures, when these structures replace one of the above lines, whichever is closest to the ocean.

(1) Coastal beaches dissipate wave energy by their gentle slope, their permeability and their granular nature, which permit changes in beach form in response to changes in wave conditions.

(2) Coastal beaches serve as a sediment source for dunes and subtidal areas. Steep storm waves cause beach sediment to move offshore, resulting in a gentler beach slope and greater energy dissipation. Less steep waves cause an onshore return of back sediment, where it will be available to provide protection against future storm waves.

(3) A coastal beach at any point serves as a sediment source for coastal areas downdrift from that point. The oblique approach of waves moves beach sediment alongshore in the general direction of wave action. Thus, the coastal beach is a body of sediment which is moving along the shore.

(4) Tidal flat means any nearly level part of a coastal beach which usually extends from the mean low water line landward to the more steeply sloping face of the coastal beach or which may be separated from the beach by land under the ocean.

B. Presumptions of Significance; Findings

(1) Coastal beaches, which are defined to include tidal flats, are significant to storm damage prevention, flood control, erosion and sedimentation control, prevention of pollution, protection of fisheries, protection of shellfish, wildlife and its habitat, protection of rare, as well as common, plant and animal species and protection of aquaculture. In addition, tidal flats are likely to be significant to the protection of marine fisheries and land containing shellfish.

(2) Coastal beaches serve the purposes of storm damage prevention and flood control by dissipating wave energy, by reducing the height of storm waves, and by providing sediment to supply other coastal features, including coastal dunes, land under the ocean and other coastal beaches. Interruptions of these natural processes by man-made structures reduce the ability of the coastal beach to perform these functions.

(3) When coastal beaches are determined to be significant to storm damage prevention or flood control, the following characteristics are critical to the protection of those interests:

(a) volume (quantity of sediments) and form; and

(b) the ability to respond to wave action.

(4) Coastal beaches also serve as wildlife habitat in that a number of birds nest in the coastal berm, between the toe of a dune and the high tide line. In addition isolated coastal beaches are important as haul out areas for harbor seals.

(5) Tidal flats are significant to the protection of marine fisheries and wildlife habitat because they provide habitats for marine organisms such as polychaete worms and mollusks, which in turn are food sources for fisheries and migratory and wintering birds. Coastal beaches are extremely important in recycling of nutrients derived from storm drift and tidal action. Vegetative debris along the drift line is vital for resident and migratory

shorebirds, which feed largely on invertebrates which eat the vegetation. Below the drift line in the lower intertidal zone are infauna (invertebrates such as mollusks and crustacean) which are also eaten by shore birds.

(6) Tidal flats are also sites where organic and inorganic materials may become entrapped and then returned to the photosynthetic zone of the water column to support algae and other primary producers of the marine food web.

(7) When coastal beaches are significant to the protection of marine fisheries or wildlife habitat, the following characteristics are critical to the protection of those interests:

(a) distribution of sediment grain size;
(b) water circulation;
(c) water quality; and
(d) relief and elevation.

(8) When a proposed project involves the dredging, filling, removing, or altering of a coastal beach, the Commission shall presume that the coastal beach is significant to the interests specified above. This presumption may be overcome only upon a clear showing that a coastal beach does not play a role in one or more of the specified interests.

C. Performance Standards for Coastal Beach

(1) When a coastal beach, tidal flat or land within 100 feet of a coastal beach or tidal flat is determined to be significant to the wetland interests, the following shall apply:

(a) Any project on a coastal beach, except any project permitted under Section 7.02 Coastal Bank, C.(1)., shall not have an adverse effect by increasing erosion, decreasing the volume or changing the form of any such coastal beach or an adjacent or downdrift coastal beach.

(b) Any groin, jetty, solid pier, or other such solid fill structure which will interfere with littoral drift, in addition to complying with C.(1) directly above, shall be constructed as follows:

(i) It shall be the minimum length and height demonstrated to be necessary to maintain beach for and volume. In evaluation necessity, coastal engineering, physical oceanographic and/or coastal geologic information shall be considered.
(ii) Immediately after construction any groin shall be filled to entrapment capacity in height and length with sediment of grain size compatible with that of the adjacent beach.
(iii) Jetties trapping littoral drift material shall contain a sand by-pass system to transfer sediments to the downdrift side of the inlet or shall be periodically redredged to provide beach nourishment to ensure that downdrift or adjacent beaches are not starved of sediments.

(c) Notwithstanding the provisions of Section C.(1) directly above, beach nourishment with clean sediment of a grain size compatible with that on the existing beach may be permitted provided there is no permanent adverse effect upon any of the wetland values or upon any other resource area.

(2) When a tidal flat is determined to be significant to marine fisheries or the protection of wildlife habitat, the following shall apply:

(a) In addition to complying with the requirements of Section C.(1) directly above, a project on a tidal flat shall, if water-dependent, be designed and constructed, using best available measures, so as to minimize adverse effects, and if non-water-dependent, have no adverse effects, on marine fisheries and wildlife habitat caused by:

(i) alterations in water circulation;
(ii) alterations in the distribution of sediment grain size; and
(iii) changes in water quality, including, but not limited to, other than natural fluctuations in the levels of dissolved oxygen, temperature or turbidity, or the addition of pollutants

(b) Notwithstanding all of the provisions in Section C. above, no project may be permitted which will have any adverse effect on specified habitat sites or rare species, as identified on the most recent Priority and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published

by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

7.04 Rocky Intertidal Shores

A. Definition, Critical Characteristics, Boundary

Rocky intertidal shores are naturally occurring rocky areas, such as bedrock or boulder-strewn areas between the mean high water line and the mean low water line. Rocky shore environments are habitats for macroalgae and marine invertebrates and proved protection to and food for, larger marine organisms such as crabs, lobsters, and such fish species as winter flounder, as well as a number of birds. Most marine plants and animals found in rocky shore environments are uniquely adapted to survive there and cannot survive elsewhere. Harbor seals also use rocky intertidal shores, such as rock outcroppings or isolated shores of small islands, as haul out areas.

B. Presumptions of Significance; Findings

(1) Rocky intertidal shores are likely to be significant to storm damage prevention, flood control, protection of marine fisheries and wildlife habitat as well as protection of land containing shellfish.

(2) When a proposed project involves the filling, removing or altering of rocky intertidal shore, the Commission shall presume that such work is significant to the interests specified above. This presumption may be overcome only upon a clear showing that a rocky intertidal shore does not play a role in one or more of the specified interests.

(3) When a rocky intertidal shore is determined to be significant to storm damage prevention, flood control, or protection of wildlife habitat the form and volume of exposed intertidal bedrock and boulders are critical to the protection of those interests.

(4) When a rocky intertidal shore is significant to the protection of marine fisheries or wildlife habitat, water circulation and water quality are critical to the protection of those interests.

C. Performance Standards for Rocky Intertidal Shores

(1) When a rocky intertidal shore is determined to be significant to storm damage prevention, flood control, or protection of wildlife habitat, any proposed project shall be designed and constructed, using best practical measures, so as to minimize adverse effects on the form and volume of exposed intertidal bedrock and boulders.

(2) When a rocky intertidal shore is determined to be significant to protection of marine fisheries or wildlife habitat, any proposed project shall if water-dependent be designed and constructed using best available measures, so as to minimize adverse effects, and if non-water-dependent, have no adverse effects, on water circulation and water quality. Water quality impacts include, but are not limited to, other than natural fluctuations in the levels of dissolved oxygen, temperature or turbidity, or the addition of pollutants.

(3) Notwithstanding the provisions of (1) and (2) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

7.05 Salt Marshes

A. Definition, Critical Characteristics, Boundary

Salt marshes are coastal wetlands that extend landward up to the highest high tide line, that is, the highest spring tide of the year, and is characterized by plants that are well adapted to or prefer living in, saline soils. Dominant plants within salt marshes are salt meadow cord grass (*Spartina patens)*, salt marsh cord grass (*Spartina alterniflora)*, spike grass (*Distichlis spicata)*, sea lavender

(*Limonium nashii)*, among others. A salt marsh may contain tidal creeks, ditches and pools. A spring tide is the tide of the greatest amplitude during the approximately 14-day tidal cycle. It occurs at or near the time when the gravitational forces of the sun and the moon are in phase (new and full moons).

A salt marsh produces large amount of organic matter. A significant portion of this material is exported as detritus and dissolved organics to estuarine and coastal waters, where it provides the basis for a large food web that supports many marine organisms, including finfish and shellfish as well as many bird species. Salt marshes also provide a spawning and nursery habitat for several important estuarine forage finfish as well as important food, shelter, breeding areas and migratory and overwintering areas for many wildlife species.

Salt marsh plants and substrate remove pollutants from surrounding waters. The network of salt marsh vegetation roots and rhizomes binds sediments together. The sediments absorb chlorinated hydrocarbons and heavy metals such as lead, copper, and iron. The marsh also retains nitrogen and phosphorous compounds, which in large amounts can lead to algal blooms in coastal waters. The underlying peat also serves as a barrier between fresh ground water landward of the salt marsh and the ocean, thus helping to maintain the level of such ground water. Salt marsh cord grass and underlying peat are resistant to erosion and dissipate wave energy, thereby providing a buffer that reduces wave damage.

B. Presumptions of Significance; Findings

(1) Salt marshes are significant to the protection of public water supply, the protection of groundwater, storm damage prevention, flood control, erosion and sedimentation control, prevention of pollution, protection of fisheries, protection of shellfish, wildlife and its habitat, protection of rare, as well as common, plant and animal species and protection of aquaculture.

(2) Land within 100 feet of a salt marsh is considered to be significant to the protection and maintenance of salt marshes and to the protection of the wetland interests.

(3) When a proposed project involves the dredging, filling, removing or altering of a salt marsh, the Commission shall presume that such area is significant to the interests specified above. This presumption may be overcome only upon a clear showing that a salt marsh does not play a role in protecting one or more of the specified wetland interests.

(4) When a salt marsh is significant to one or more of the interests specified above, the following characteristics are critical to the protection of such interest(s):

(a) the growth, composition and distribution of salt marsh vegetation, (protection of marine fisheries and wildlife habitat, prevention of pollution, storm damage prevention);
(b) the flow and level of tidal and fresh water (protection of marine fisheries and wildlife habitat, prevention of pollution); and
(c) the presence and depth of peat (ground water supply, prevention of pollution, storm damage prevention).

C. Performance Standards for Salt Marshes

(3) When a salt marsh is determined to be significant to one or more of the interests specified above, (a) through (d) shall apply:

(a) A proposed project in a salt marsh, on lands within 100 feet of a salt marsh, or in a body of water adjacent to a salt marsh shall not destroy any portion of the salt marsh and shall not have an adverse effect on the productivity of the salt marsh or an adverse effect on the wetland values of a salt marsh. Alterations in growth, distribution and composition of salt marsh vegetation shall be considered in evaluating adverse effects on productivity.

(b) Notwithstanding the provisions of (a) above, a small project within a salt marsh, such as an elevated walkway or other structure which has no adverse effects other than blocking sunlight from the underlying vegetation for a portion of each day, may be permitted if such a project

complies with all other applicable requirements of the coastal regulations and the Project-Specific Performance Standards, Section 10.0.

(c) Notwithstanding the provisions of (a) above, a project which will restore or rehabilitate a salt marsh, or create a salt marsh, may be permitted.

(d) Notwithstanding the provisions of (1) through (4) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

7.06 Land Containing Shellfish

A. Definition, Critical Characteristics, Boundary

Land containing shellfish means land under the ocean, tidal flats, rocky intertidal shores, salt marshes and land under salt ponds when any such land contains shellfish. Shellfish means the following species: Bay scallop (*Argopecten irradians)*; Blue mussel (*Mytilus edulis)*; Ocean quahog (*Arctica islandica*); Oyster (*Crassostrea virginica)*; Quahog (*Mercenaria mercenaria)*; Razor clam (*Ensis directus)*; Sea clam (*Spisula solidissima)*; Sea scallop *(Placopecten magellanicus*); Soft shell clam (*Mya arenaria).*

Shellfish are a valuable renewable resource. The maintenance of productive shellfish beds not only assures the continuance of shellfish themselves, but also plays a direct role in supporting fish stocks by providing a major food source. The young shellfish in the planktonic larval stage that are produced in large quantities during spring and summer are an important source of food for the young stages of marine fishes and many crustaceans.

Characteristics of land containing shellfish which are critical to the protection of shellfish include, but are not limited to: water circulation patterns, rates of water flow, and quantity of water; the relief, elevation, distribution, grain size, and pollutant load of the sediments; water quality (including turbidity, temperature, pollutants, nutrients, salinity, and dissolved oxygen).

B. Presumptions of Significance; Findings

(1) The Commission shall presume that land containing shellfish is significant to the protection of the following wetland values: prevention and abatement of pollution, protection of marine fisheries, protection shellfish, protection of wildlife and its habitat, protection of aquaculture. These presumptions may be overcome only upon a clear showing that land containing shellfish does not play a role in protecting one or more of the values specified above. The Commission may require information be provided on historical abundance or harvests of shellfish, a shellfish habitat survey, or other information concerning historical or existing shellfish habitat at the site.

(2) When land containing shellfish, lands within 100 feet of land containing shellfish, or an adjacent resource area is found to be significant to the protection of land containing shellfish, and is, therefore, also significant to marine fisheries the following factors are critical to the protection of those interests:

(a) shellfish;
(b) water quality;
(c) water circulation; and
(d) the natural relief, evaluation or distribution of sediment grain size of such land.

(3) Land containing shellfish shall be found significant to the protection of shellfish and to the protection of marine fisheries when it has been identified and mapped as follows:

(a) by the Conservation Commission or the Department in consultation with Division of Marine Fisheries (DMF) and based upon maps and designations of DMF, or

(b) by the Conservation Commission or the Department, based upon maps and written

documentation of the Shellfish Constable or the Department. In making such identification and maps the following factors shall be taken into account and documented: the density of shellfish, the size of the area and the historical and current importance of the area to recreational or commercial shellfishing.

A Shellfish Constable means the official in a city or town, whether designated a constable, warden, natural resources officer, or by some other name, in charge of enforcing the laws regulating the harvest of shellfish.

C. Performance Standards for Land Containing Shellfish

When a resource area, including land under the ocean, tidal flats, rocky intertidal shores, salt marshes, or land under salt ponds is determined to be significant to the protection of land containing shellfish and therefore to the protection of marine fisheries, (1) through (5) below shall apply:

(1) Any project on land containing shellfish shall not adversely affect such land or marine fisheries by a change in the productivity of such land caused by:

(a) Alterations of water circulation;
(b) Alterations in relief elevation;
(c) The compacting of sediment by vehicular traffic;
(d) Alterations in the distribution of sediment grain size;
(e) Alterations in natural drainage from adjacent land; or
(f) Changes in water quality, including, but not limited to, other than natural fluctuations in the levels of salinity, dissolved oxygen, nutrients, temperature or turbidity, or the addition of pollutants.

(2) Notwithstanding the provisions of (1)(a) – (f) above, projects which temporarily have an adverse effect on shellfish productivity but which do not permanently destroy the habitat may be permitted if the land containing shellfish can and will be returned substantially to its former productivity in less than one year from the commencement of work, unless an extension of the Orders of Conditions is granted, in which case such restoration shall be completed within one year of such extension. Sufficient credible evidence shall be provided to the Commission to substantiate the temporary nature of the adverse effect on the land containing shellfish as well as the restoration of the habitat to former productivity within the aforementioned timeframe.

(3) In the case of land containing shellfish defined as significant (i.e. those areas identified on the basis of maps and designations of the Shellfish Constable), the Conservation Commission may, after consultation with the Shellfish Constable, permit the shellfish to be moved from such area under the guidelines of, and to a suitable location approved by, DMF in order to permit a proposed project on such land. Any such project shall not be commenced until after the moving and replanting of the shellfish have been commenced.

(4) In the case of dock, pier and float systems determined to be located within land containing shellfish, the Commission may require a less disruptive form of mitigation than physically moving shellfish (e.g. annual contribution to the shellfish mitigation fund as described in Section III. Project-Specific Performance Standards, 10.03 Docks and Piers).

(5) Notwithstanding (1) through (3) above, projects approved by DMF that are specifically intended to increase the productivity of land containing shellfish may be permitted. Aquaculture projects approved by the appropriate local and state authority may also be permitted.

(6) Notwithstanding the provisions of (1) through (4) above, no project may be permitted which will have any adverse effect on specified habitat of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

7.07 Banks of or Land Under the Ocean, Ponds, Streams, Rivers, Lakes or Creeks that Underlie Anadramous/Catadromous ("Fish Run")

A. Definition, Critical Characteristics, Boundary

The banks of and land under the ocean, ponds, streams, rivers, lakes or creeks that underlie an anadromous/catadromous fish run are significant to protection of marine fisheries. An anadramous/catadromous fish run means that area within estuaries, ponds, streams, creeks, rivers, lakes or coastal waters, which is a spawning or feeding ground or passageway for anadromous or catadromous fish and which is identified by DMF or has been mapped on the Coastal Atlas of the Coastal Zone Management Program. Such fish runs shall include those areas which have historically served as fish runs and are either being restored or are planned to be restored at the time the Notice of Intent is filed. An anadromous fish is one that enters fresh water from the ocean to spawn, such as alewives, shad and salmon. A catadromous fish is one that enters salt water from fresh water to spawn, such as eels. For the purposes of these regulations, such fish runs shall extend no further than the inland boundary of the coastal zone.

Anadromous and catadromous fish are renewable protein resources that provide recreational, aesthetic and commercial benefits. In addition, throughout their life cycle such fish are important components of freshwater, estuarine, and marine environments and are food sources for other organisms. The spawning migrations of such fish also provide a direct link between marine and freshwater ecosystems. This link plays a role in maintaining the productivity of fisheries.

B. Presumptions of Significance; Findings

When a proposed project involves the dredging, filling, removing or altering of a bank of a fish run, or land under the ocean, or under a pond, stream, river, lake or creek which is a fish run, the Conservation Commission shall presume that such bank or land is significant to the protection of marine fisheries. This presumption may be overcome only upon a clear showing that such bank or land does not play a role in the protection of marine fisheries, and if the Conservation Commission makes a written determination to the effect.

When such a bank of a fish run, or land under the ocean or under a pond, stream, river, lake or creek which is a fish run is significant to the protection of marine fisheries, the following factors are critical to the protection of such interest:

(1) The fish;
(2) Accessibility of spawning areas;
(3) The volume or rate of the flow of water within spawning areas and migratory routes; and
(4) Spawning and nursery grounds.

C. Performance Standards for Banks of or Land Underlying Anadromous/Catadromous Fish Runs

When such land or bank is determined to be significant to the protection or marine fisheries, (1) through (3) shall apply:

(1) Any project on such land or bank shall not have an adverse effect on the anadromous or catadromous fish run by:

   (a) Impeding or obstruction the migration of the fish, unless DMF has determined that such impeding or obstructing is acceptable, pursuant to its authority under M.G.L. c. 130, § 19;
   (b) Changing the volume or rate of flow of water within the fish run; or
   (c) Impairing the capacity of spawning or nursery habitats necessary to sustain the various life stages of the fish.

(2) Unless otherwise allowed by DMF pursuant to M.G.L. c. 130, § 19, dredging, disposal of dredged material or filling in a fish run shall be prohibited between March 15th and June 15th in any year.

(3) Notwithstanding the provision of (1) and (2) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most

recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

7.08 Land Subject to Coastal Storm Flowage

A. Definition & Boundary

Land Subject to Coastal Storm Flowage is land subject to any inundation caused by coastal storms up to and including that resulting in a 100-year flood, surge of record, or flood of record, whichever is greater. The 100-year flood (or base flood to which it is also referred) means the flood having a one percent chance of being equaled or exceeded in any given year. The seaward limit of land subject to coastal storm flowage is mean low water.

B. Critical Characteristics

(1) The topography, soil characteristics (i.e. composition, size, shape & density of material), vegetation, erodibility, and permeability allow for the dissipation of storm wave energy and, therefore, are the physical characteristics of land subject to coastal storm flowage which are critical to the protection of the statutory interests of flood control and storm damage prevention. In addition, for areas in AH-zones that are subject to ponding or A-zones that are hydraulically constricted areas, the ability to store a volume of flood water is a critical characteristic. Hydraulically constricted A-zones are those in which the base flood elevation is lower on the landward side of the constriction.

(2) In addition to the above cited critical characteristics, the proximity of floodplain areas to water bodies and other wetland resources, makes them critical to prevention of pollution of these abutting resource areas.

(3) Plant community composition and proximity to other wetland resource areas are critical to the protection of wildlife habitat.

(4) In order to protect existing wetland resource interests, the geographic extent/area of the resource must be maintained. Thus, in order to maintain the ability of a resource area to migrate landward in response to relative sea level rise without loss of area the critical characteristics of land subject to coastal storm flowage are topography; frequency; depth and duration of inundation; and proximity to a wetland resource.

C. Presumptions of Significance; Findings

Where a project involves removing, dredging, filling or altering of Land subject to coastal storm flowage the Commission shall presume that said area is significant to storm damage prevention, flood control, the protection of wildlife (including fisheries & shellfish) and its habitat, the prevention of pollution, as well as erosion and sedimentation control. The presumptions may be overcome only upon a showing of a preponderance of the credible evidence that the proposed activity will not have an adverse impact on the protected interests. Due to the immediate proximity of land subject to coastal storm flowage to the ocean, these areas are positioned to be significantly impacted by relative sea level rise.

(1) Storm Damage Prevention & Flood Control

Velocity zones and AO-zones of Land Subject to Coastal Storm Flowage are areas which are subject to hazardous flooding, wave impact, and, in some cases, significant rates of erosion as a result of storm wave impact and scour. V- and AO-zones in coastal areas are generally subject to repeated storm damage which can result in loss of life and property, increasing public expenditures for storm recovery activities, historic taxpayer subsidies for flood insurance and disaster relief, and increased risks for personnel involved in emergency relief programs. Alteration of land surfaces in A-zones could change drainage characteristics that could cause increased flood damage on adjacent properties.

A number of complex and interrelated factors determine the wave height and the landward extent of wave run-up in V- and AO-zones, including shoreline orientation, nearshore/offshore bathymetry, onshore topography, wave fetch, storm frequency and magnitude, and the presence of coastal engineering structures. The topography, soil characteristics (e.g. composition, size, density, and shape of soil materials), vegetation, erodibility 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. The more gentle and permeable a seaward-sloping land surface is, the more effective that land surface is at reducing the height and velocity of incoming storm waves. Wave energy may be 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 the stormwater through more permeable land surfaces, thereby lessening the effects of backrush, scour and erosion.

Development in V- and AO-zones poses environmental problems since construction and development activities can impair or destroy those characteristics cited above which are critical to the stated interests.

Dredging or the removal of materials within V- and AO-zones acts to increase the landward velocity and height of storm waves, thereby allowing storm waves to break further inland and to impact upland and wetland resource areas which might not otherwise be impacted. Filling and the 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 resulting in 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.

In some cases, the placement of fill in hydraulically constricted portions of the coastal floodplain may increase flood levels in conjunction with 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.

(2) Protection of Wildlife and Wildlife Habitat

Certain portions of land subject to coastal storm flowage are significant to the protection of wildlife and wildlife habitat. These significant wildlife habitat areas include all areas within the 10-year floodplain that are within a zone 100 feet landward of any other coastal or freshwater resource area, except for those portions which have been so extensively altered by human activity that their important wildlife habitat functions have been effectively eliminated.

Coastal floodplain areas are often low-lying areas that are ecologically transitional areas between marine/estuarine ecosystems and upland areas. Resource areas within the 10-year floodplain are important 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 those species higher-up in the food chain (e.g. herons, osprey, mink and raccoon). These resource areas provide important over-wintering and stopover areas for many species of waterfowl.

Areas of coastal floodplains adjacent to other wetland resource areas provide important wildlife functions, such as nesting and roosting habitat, and also serve as wildlife corridors connecting coastal zone resources with freshwater wetland resources. In addition, these adjacent areas within the coastal floodplain serve as transitional zones which are needed to protect the coastal wetland resource's ability to provide essential habitats.

(3) Prevention of Pollution, Erosion and Sedimentation Control

Certain portions of land subject to coastal storm flowage are significant to the prevention of pollution. These significant pollution prevention areas include all areas within the 100 year floodplain that are within 100 feet of any other coastal or freshwater resource areas. These areas can mitigate adverse effects associated with human disturbance and pollutants.

Natural or relatively undisturbed coastal floodplains 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. While erosion of stream banks and shorelines is an important natural process, the design and management of activities in the floodplain should aim to avoid excessive erosion due to man-induced activities.

(4) Relative Sea Level Rise Considerations

Sea level rise is the relative rise in elevation of the sea surface over time. Sea level rise is caused by: 1) physical expansion of ocean water whose temperature is increasing globally over time; 2) melting of glaciers and ice caps; 3) melting of the Greenland and Antarctic ice sheets; and, in Massachusetts, 4) the subsidence of the tectonic plate on which the land mass rests. Sea level rise may cause greater risk to human safety and development, increased risk to urban infrastructure, greater and more frequent coastal inundation, elevated storm surge flooding levels, salt water intrusion to water wells, aquifers and septic systems, loss of coastal recreational resources, increased coastal erosion, and loss of coastal habitats and resources.

Those portions of coastal floodplains which are immediately landward of salt marshes, coastal beaches, barrier beaches, coastal dunes or coastal banks require special protection as they are likely to be in a state of transition as the entire complex of coastal wetland resources gradually moves landward due to rising relative sea levels. Relative sea levels will continue to rise and will result in inundation of more landward areas. Prediction models from various sources estimate a wide variety of scenarios for 21st century global seal level rise ranging anywhere from 0.66 feet on the lower end to 7.22 feet on the upper end of the range. A more commonly used estimate is a 3.28 foot (1 meter) predicted rise in sea level by the year 2100. While improved sea level predictions are critical to appropriate planning and implementation of adaptation strategies, it is prudent to consider sea level rise, even if only at lower end estimates, in a developed coastal environment. As sea level rises, the shoreline may retreat further inland and coastal areas will become inundated more frequently by storm as well as tidal activity. Consequently, coastal populations, infrastructure and ecosystems will be affected by increased flooding, storm surges, saltwater intrusion and coastal erosion. Development activities carried out within the transitional areas of coastal floodplains will be subject to increased storm damage and may interfere with the natural landward migration of the adjacent coastal resource areas. Any construction in the floodplain will alter the land surface and will often cause unanticipated adverse impacts to both the developed and natural environments. Flooding is a natural event whose adverse impacts are exacerbated by human development. Therefore, maintaining transitional coastal areas in their natural state and requiring setbacks to the maximum extent practicable in developed areas, is necessary in order to preserve the beneficial functions of the coastal floodplain as well as to prevent harm to the coastal wetland resource areas and the interests of the By-Law.

D. Performance Standards

When the issuing authority determines that Land Subject to Coastal Storm Flowage (A, AO, AH and/or V-Zones) overlays other resource areas listed in these Regulations, the applicable performance standards for each resource area shall be independently as well as collectively applied and the project shall be appropriately conditioned to protect all stated interests.

When Land Subject to Coastal Storm Flowage (A, AO, AH and/or V-Zones) is significant to the interests of flood control and storm damage prevention, or any other interest in Section 1.02 above, the following performance standards shall apply:

(1) Any activity shall not have an adverse effect by increasing the elevation or velocity of flood waters or by increasing flows due to a change in drainage or flowage characteristics (e.g. change in direction) on the subject site, adjacent properties, or any public or private way.

(2) Relative sea level rise and the landward migration of resource areas in response to relative sea level rise shall be incorporated into the design and construction of structures and other activities proposed in Land Subject to Coastal Storm Flowage.

(a) At a minimum, for activities proposed in A-Zones, the historic rate of relative sea level rise in

Massachusetts of one (1) foot per 100 years shall be incorporated into the project design and construction;

(b) At a minimum, for activities proposed in the V-Zone, a two (2) foot elevation per 100 years shall be incorporated into the project design and construction;

(c) Any activity within the ten (10) year floodplain of Land Subject to Coastal Storm Flowage shall not have an adverse effect by impeding the landward migration of other resource areas within this area of the floodplain.

(3) When the AH-Zone (or an A-Zone which is hydraulically constricted) is significant to the interests of flood control or storm damage prevention, the following additional performance standards shall apply:

(a) A proposed activity shall not result in flood damage due to filling which causes lateral displacement of flood waters that, in the judgment of the issuing authority, would otherwise be confined within said area, unless,

(b) Compensatory storage is provided for all flood storage volume that will be lost as the result of a proposed project within this area when, in the judgment of the issuing authority, said loss will cause an increase or contribute incrementally to an increase in the horizontal extent and level of flood waters. Compensatory flood storage shall mean a volume not previously used for flood storage and shall be incrementally equal to the theoretical volume of flood water at each elevation, p to and including the 100 year flood elevation, which would be displaced by the proposed activity. Compensatory flood storage shall be provided within the same general area as the lost area and must maintain or create an unrestricted hydraulic connection within said area.

(4) When Land Subject to Coastal Storm Flowage is significant to wildlife and their habitat a proposed activity shall not impair the capacity of those portions of Land Subject to Coastal Storm Flowage to provide important wildlife habitat functions. Alterations may be permitted only if they will have no adverse effect on wildlife and their habitat.

(5) When Land Subject to Coastal Storm Flowage is significant to the prevention of pollution, there shall be no adverse effects to the critical characteristic of this area to remove suspended solids and other contaminants from runoff before entering into other wetland resource areas.

(6) The following activities proposed within velocity zones (V-Zones) of Land Subject to Coastal Storm Flowage are likely to have an adverse affect on the protected interests:

(a) Construction or placement of new structures, including buildings, sheds, garages, additions, and substantial improvements to existing structures supported on a solid foundation or proposed below the base flood elevation;

(b) New parallel/shear walls or vertical walls for existing structures;

(c) Impermeable paving for new roads, driveways and parking lots;

(d) New or proposed expansions of coastal engineering structures;

(e) New and expanded septic systems;

(f) New and expanded stormwater management systems/discharges;

(g) New and expanded utilities;

(h) New underground storage tanks; and

(i) New activities and uses that change the physical characteristics of the land (described in Section 7.08, B.(1)) through draining, excavating, dredging, dumping, filling, removing vegetation, removing or transferring loam, peat, sand, soil or other material substance which will reduce the natural storage capacity of the land, interfere with the landward migration of coastal resources in response to sea level rise, interfere with the natural drainage/tidal patterns of any watercourse, or degrade the water quality of surface or groundwater.

(7) A proposed project within a velocity zone of a beach or coastal bank shall not destroy or otherwise impair the function of any portion of said landform and/or shall not have an adverse effect on adjacent wetland resources. Activities and their ancillary uses in velocity zones which result in alteration to vegetative cover, interruptions in the supply of sediment to other wetland resources, and/or changes to the form or volume of a dune or beach will have an adverse effect on said landform's ability to provide storm damage prevention and flood control and are, therefore, prohibited. These activities include, but are not limited to:

(a) Construction of new structures, including buildings, sheds, garages, additions, and substantial improvements to existing structures;

(b) Foundations other than open pilings or columns;

(c) New or proposed expansions of roads, driveways, parking lots, impermeable paving for existing unpaved roads, driveways or parking lots;

(d) New or proposed expansions of coastal engineering structures;

(e) New and expanded septic systems;

(f) New and expanded stormwater management systems/discharges;

(g) New and expanded utilities;

(h) New underground storage tanks; and

(i) New activities and uses that change the physical characteristics of the land (described in Section 7.08, B.(1)) through draining, excavating, dredging, dumping, filling, removing vegetation, removing or transferring loam, peat, sand, soil or other material substance which will reduce the natural storage capacity of the land, interfere with the landward migration of coastal resources in response to sea level rise, interfere with the natural drainage/tidal patterns of any watercourse, or degrade the water quality of surface or groundwater.

(8) The following activities proposed within the AO-zone of a beach or coastal bank of Land Subject to Coastal Storm Flowage are likely to have an adverse effect on the protected interests:

(a) Construction of new structures, including buildings, sheds, garages, additions, and substantial improvements to existing structures supported on a solid foundation or proposed below the base flood elevation;

(b) New parallel walls/shear walls, vertical walls or breakaway walls, foundation piers, grade beams, or foundation/structural slabs for existing structures;

(c) New or proposed expansions of roads, driveways, parking lots, or impermeable paving for existing unpaved roads, driveways or parking lots;

(d) New or proposed expansions of coastal engineering structures;

(e) New or expanded septic systems;

(f) New and expanded stormwater management systems/discharges;

(g) New and expanded utilities;

(h) New underground storage tanks; and

(i) New activities and uses that change the physical characteristics of the land (described in Section 7.08, B.(1)) through draining, excavating, dredging, dumping, filling, removing vegetation, removing or transferring loam, peat, sand, soil or other material substance which will reduce the natural storage capacity of the land, interfere with the landward migration of coastal resources in response to sea level rise, interfere with the natural drainage/tidal patterns of any watercourse, or degrade the water quality of surface or groundwater.

(9) Notwithstanding the provisions of (1) – (8) above, the issuing authority may permit the

following activities provided that the applicant demonstrates, to the satisfaction of the issuing authority, that best available measures are utilized to minimize adverse effects on all critical characteristics of Land Subject to Coastal Storm Flowage, and provided that all other performance standards for underlying resource areas are met:

(a) Beach and bank nourishment and restoration projects, including fencing, native plantings and other devices designed to increase stabilization and decrease erosion;

(b) Elevated pedestrian walkways and elevated decks with appropriate height and spacing between planks to allow sufficient sunlight penetration;

(c) Boat launching facilities, navigational aids, piers, docks, wharves, dolphins, float stops;

(d) Improvements necessary to maintain the structural integrity/stability of existing coastal engineering structures;

(e) A project which will restore, rehabilitate or create a salt marsh or freshwater wetland;

(f) Projects that are approved, in writing, or conducted by the Division of Marine Fisheries that are specifically intended to increase the productivity of land containing shellfish, including aquaculture, or to maintain or enhance marine fisheries; and

(g) Projects that are approved, in writing, or conducted by the Division of Fisheries and Wildlife that are specifically intended to enhance or increase wildlife habitat.

(10) Notwithstanding the provisions of (1) – (8) above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants as well as wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

III. REGULATION OF ACTIVITIES WITHIN THE 100-FOOT BUFFER ZONE OF ALL RESOURCE AREAS SUBJECT TO PROTECTION UNDER THE BY-LAW

8.00 RESOURCE AREA BUFFER ZONES

8.01 100-Foot Buffer Zone

A. Definition, Critical Characteristics, Boundary

A resource area buffer zone is an area subject to protection under the By-Law and is land extending 100 feet horizontally outward from the boundary of all the resource areas subject to protection under the By-Law and as listed above in Section 2.01(a) through (q) including: inland and coastal banks, fresh water wetland, coastal wetland, beach, dune, flat, marsh, meadow, bog, swamp, estuary, creek, river, stream, pond, lake, land under said waters, land subject to tidal action, coastal storm flowage, flooding or inundation, land within the 100-year storm line, seasonal wetlands, isolated wetlands, and vernal pools.

B. Presumptions of Significance; Findings

(1) The Conservation Commission shall presume that the resource area buffer zone is an integral part of a wetland resource system and that protection of the buffer zone is significant to the By-Law wetland values.

(2) A buffer zone to a wetland resource area is significant to the protection of the By-Law wetland values and serves to protect, maintain, as well as enhance the function of the wetlands. The ways in which a buffer zone protects wetland resource areas include, but are not limited to, the following:

(a) Moderating water temperature by providing shade and cover through the riparian vegetation growing within the buffer zone;

(b) Filtering sediments, pollutants, and other contaminants (e.g. pesticides and heavy

metals) from surface flow;

(c) Stabilizing banks and channels to prevent erosion in riparian areas while also precluding development that could lead to increased contaminant loading;

(d) Reducing nutrient inputs into wetlands, waterbodies and waterways by:

(i) filtering from surface flow the nutrients bound to sediments;
(ii) removing nutrients from ground water through uptake in vegetation and by de-nitrification; and
(iii) precluding development that could increase nutrient loading from, for example, septic systems, fertilized lawns, and landscaping;

(e) Maintaining stream flow by storing water, thus helping maintain the base flow and water quality during low-flow periods;

(f) Providing one of the richest habitat zones for aquatic organisms, mammals, birds, and amphibians in the vegetated uplands adjacent to vegetated wetlands;

(g) Providing corridors critical for wildlife movement and migration as well as, breeding, nesting, development, feeding, basking, cover, hibernation and aestivation areas;

(h) Reducing adverse impacts of human disturbance such as dumped debris, removal of vegetation, trampling, noise and glare; and

(i) Providing a visual separation between developed and undeveloped areas that is also aesthetically pleasing to humans and enhances backyards, neighborhoods, property values, as well as overall quality of life.

(3) Undeveloped, undisturbed, and natural(ized) areas within the 100-foot buffer zone are lands determined by the Conservation Commission to be of a predominantly natural and unaltered character.

(4) Previously developed, disturbed, and landscaped areas within the 100-foot buffer zone are lands determined by the Conservation Commission to be of a legally modified nature which were altered before the adoption of the By-Law (February 17, 1978), or after that date with Orders of Conditions from the Commission. Previously developed lands are those that are degraded with impervious surfaces from structures or pavement, an absence of topsoil, junkyards, abandoned dumping grounds, and/or a lack of a naturally vegetated condition (e.g. lawn, etc.).

(5) Activities the Commission considers to be alterations within the 100-foot buffer zone include, but are not limited to, clearing or cutting vegetation, landscaping, grading, filling, excavating, constructing driveways, roadways and structures.

(6) Structures include, but are not limited to, commercial and industrial buildings, single family houses, multi-family dwellings, porches, decks, additions, sheds, outbuildings, pools, docks, septic systems and any of their components, stormwater management systems, underground storage tanks, roadways, driveways, and retaining walls.

(7) Development activities within a buffer zone can cause significant adverse impacts during and after construction. Construction impacts may include erosion and sedimentation, improper debris disposal, removal of vegetation, noise, etc. Post-construction impacts may be similar, but may also include disruption of wildlife habitat and corridors, stormwater pollution from paved surfaces and landscaped areas in which herbicides, pesticides and fungicides are used, nitrogen and phosphorus loading from septic systems as well as fertilization, glare, etc.

(8) If a 100-foot buffer zone has been altered and/or encroached upon, the Commission shall presume that there already exists a significant/cumulative adverse effect upon the wetland values of the resource area.

(9) Buffer effectiveness increases as buffer width and continuity increases. As buffer width

increases, adverse human impacts decrease. Buffers less than 50 feet wide are generally ineffective in protecting wetlands and providing wildlife habitat functions. Buffers more than 50 feet are necessary to provide wildlife habitat for common and sensitive species and to protect wetlands from ongoing human activities that can cause adverse impacts to water quality.

(10) Impervious areas within the 100-foot buffer zone result in increased stormwater runoff to wetland resource areas and degradation of water quality as well as habitats.

(11) Impervious surface coverage that exceeds 10 percent of a watershed area results in degradation to the water quality of wetlands and waterways. Impervious surfaces exceeding 25 percent of watershed areas typically results in severe water quality and ecosystem impairments.

(12) Roadways and driveways within the buffer can impede movement of animals and can contribute to increased mortality.

(13) Lawn areas recharge groundwater less efficiently than areas that include trees, shrubs, herbs and groundcovers. Lawns require more active management than other types of vegetated buffer strips which provide greater protection of wetlands from human disturbance and adjacent land uses.

(14) Buffer zones function best when kept in a naturally vegetated and naturally structured condition with native, non-invasive plants. Plant community structure and plant species composition are the two most important components of wildlife habitat. The transitional assemblage of trees, shrubs and groundcover frequently found in buffer zones supports a greater number of native and specialist wildlife species than other buffer zones with less diverse vegetational communities.

(15) Trees in the buffer provide important functions not provided by any other plant type. Trees provide shade, serve as windbreaks, provide nesting, roosting and perching areas for birds and other wildlife.

(16) A buffer of mature trees can absorb up to 14 times more water than an equivalent area of grass and the organic litter found on a forest floor can remove 50-100 percent of sediments in runoff.

(17) The effectiveness of riparian forests to perform ecological functions, enhance biodiversity and improve water quality depends on the width and continuity of the forest.

(18) Woody snags, logs, & root wads of dead/dying trees are structural components of buffers that provide valuable wildlife habitat for many animal species who use them for nesting, perching, feeding, cover and courting areas. These features are particularly valuable as wildlife habitat when they are located near wetland resource areas.

(19) Septic systems contribute nutrients (nitrogen & phosphorus) and other contaminants to groundwater as well as surfacewater and can significantly impair water quality when effluent quickly reaches groundwater and wetland areas due to porous soils, proximity to water resources, as well as through cumulative, long-term build-up of nutrients from numerous systems.

(20) Certain resource areas, such as vernal pools, streams with native Eastern brook trout populations, riverfronts, estimated and priority habitats of rare species, as well as core habitats supporting uncommon natural areas, are highly sensitive and require larger buffers from human impacts to reduce the risk of disturbance.

(21) The Commission may require that a wildlife habitat study be conducted by a professional wildlife biologist, or a species/habitat study by a professional in the appropriate field, in order to determine suitable buffer widths for particular resource areas and projects.

C. Performance Standards

(1) Preservation and restoration of buffer zones is directly related to the protection of the wetland values of each resource area and the Commission, therefore, will require that all structures and activities are moved as far from the resource areas as practicable.

(2) The Commission may require specific No Disturbance Zones or setbacks from the delineated edge of wetland resource areas in order to adequately protect the By-Law wetland values. Prohibited alterations within No Disturbance Zones include, but are not limited to, clearing or cutting of vegetation, landscaping, grading, filling, excavating, constructing driveways, roads, septic systems, stormwater management systems and structures.

(3) The Commission may require restoration of an altered buffer zone in order to protect or enhance the wetland values. Restoration may be a condition of a permit or a requirement as a result of an enforcement action. Restoration typically includes fixing grades, correcting drainage issues, removing fill, re-creating soil profiles, planting native vegetation and other actions to enhance the wetland resource area.

(4) The Commission may impose requirements beyond the project-specific performance standards listed below if it deems additional measures are necessary to protect the wetland resource areas and wetland values protected under the By-Law. Additional requirements may include, but not be limited to, monitoring, reporting, mitigation, restoration or habitat enhancement measures. A conservation restriction on land associated with a project may also be required if the Commission deems such a restriction is necessary for the protection of the wetland resource areas and the interests of the By-Law.

(5) Notwithstanding the presumptions of significance and findings on the importance of buffer zones in protecting the interests of the By-Law, driveways, roadways, retaining walls, repairs of existing septic systems, and naturalized/LID stormwater management measures may be allowed in a no-disturbance zone, in accordance with the waiver provisions and at the discretion of the Commission, when no other feasible alternatives exist. Compensatory mitigation and restoration shall be required as part of any waiver granted.

(6) Notwithstanding the provisions listed above, the Commission may deny a project within 100 feet of the mean annual high water line of a vernal pool (i.e. the vernal pool resource area) unless the Applicant proves by a preponderance of the credible evidence that the project will have no adverse impacts on the vernal pool.

(7) Notwithstanding the provisions listed above, the Commission may deny a project within 100 feet of the mean annual high water line of a perennial stream unless the Applicant proves by a preponderance of the credible evidence that the project will have no adverse impacts on the inner riparian zone of the stream.

(8) Notwithstanding the provisions listed above, the Commission may deny a project within 100 feet of the bank of an intermittent stream which provides breeding habitat for Eastern Brook Trout, *Salvelinus fontinalis*, unless the Applicant proves by a preponderance of the credible evidence that the project will have no adverse impacts on the habitat of Eastern Brook Trout.

(9) Notwithstanding the provisions listed above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants and wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

(10) Notwithstanding the provisions listed above, no project may be permitted which will have

any adverse effect on specified Core Habitat, as defined in most recent BioMap survey published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

9.00 NO DISTURBANCE ZONES

All wetland resource areas have important functions and values that require protection from disturbance via appropriate buffers or setback distances. Appropriate buffer widths vary according to the resource area functions, characteristics, values as well as sensitivity to disturbance, adjacent land uses and impacts. Wetland resource areas that are extremely sensitive or that have particularly important functions require larger buffers from disturbances that may be a lesser threat in the buffer of a different resource area. The Commission may protect all wetland resource areas with No Disturbance Zones that are measured from the edge of the wetlands to the nearest activity. No Disturbance Zones may vary according to the sensitivity of the wetland resource area needing protection. Typically, construction activity, removal of vegetative cover, alteration of topography and other activities do not occur in a designated No Disturbance Zone.

9.01 100-Foot No Disturbance Zones

The Conservation Commission may require a 100-foot No Disturbance Zone as a minimum protection measure adjacent to the following sensitive wetland resource areas: (1) vernal pools; (2) perennial streams; and (3) intermittent streams that provide habitat for Eastern brook trout populations. In addition, a 100-foot No Disturbance Zone adjacent to wetland resource areas listed in Section 2.01, Areas Subject to Protection, (a)-(q), is required for new septic system installations in accordance with the Project-Specific Performance Standards, Section 10.02.

9.02 50-Foot No Disturbance Zones

The Conservation Commission may require a 50-foot No Disturbance Zone adjacent to inland and coastal wetland resource areas listed in Section 2.01, Areas Subject to Protection, (a)-(q) in accordance with the Project-Specific Performance Standards, Section 10.08, Structures.

9.03 40-Foot No Disturbance Zones

The Conservation Commission may require a 40-foot No Disturbance Zone adjacent to inland and coastal wetland resource areas listed in Section 2.01, Areas Subject to Protection, (a)-(q) in accordance with the Project-Specific Performance Standards, Section 10.08, Structures.

9.04 30-Foot No Disturbance Zones

The Conservation Commission may require a 30-foot No Disturbance Zone adjacent to inland and coastal wetland resource areas listed in Section 2.01, Areas Subject to Protection, (a)-(q) in accordance with the Project-Specific Performance Standards, Section 10.08, Structures.

10.00 PROJECT-SPECIFIC PERFORMANCE STANDARDS

Some activities within the 100-foot resource area buffer zone are more detrimental than others and require an enhanced No Disturbance Zone to prevent adverse impacts to the adjacent wetland resource areas and the wetland values protected by the By-Law.

10.01 Stormwater Management Systems

A. Presumptions of Significance; Findings

According the United States Environmental Protection Agency (USEPA), stormwater runoff constitutes the single largest source of pollution causing water quality impairments to our lakes, ponds, rivers, and coastal waters. Stormwater runoff results from rainwater and snowmelt running over streets, lawns, farms, construction sites, and industrial sites where the water picks up sediments, fertilizers, pesticides, oil, grease, bacteria, metals, hydrocarbons and other pollutants prior to discharge to wetlands and waterbodies. Stormwater runoff can adversely impact the use of Kingston's natural resources including

drinking water, swimming beaches, fishing and shellfishing areas as well as other recreational uses that can be limited or prohibited as a result of degradation from pollutants in runoff.

(1) Development often results in increased stormwater runoff through increases of impervious surface with a corresponding decrease in natural drainage features/controls that attenuate and infiltrate runoff;

(2) A site that is under development can alter soils, surface cover and topography resulting in changes in the quantities and rates of runoff entering a wetland. Such alterations can change the water budget of a wetland and change wetland functions such as:

(a) changing the total volume of water reaching a wetland and affecting the amount of water available to support aquatic and terrestrial habitat;
(b) increasing flow volumes during storm events that result in increased flooding of upland or wetland areas;
(c) increasing peak flow rates during storm events resulting in increased erosion and subsequent deposition of sediment within resource areas; and
(d) changes in flow patterns resulting in localized changes in erosion, sedimentation and surface water storage.

(3) Stormwater, when not properly controlled, treated and recharged can cause harm to areas subject to protection as well as to the wetland interests;

(4) Proper stormwater management includes evaluation of the quantity, quality, rate and pattern of stormwater runoff that may enter a wetland;

(5) The Conservation Commission shall presume that control, treatment and recharge of stormwater runoff to current scientific and engineering standards is significant to the protection of areas subject to protection under the By-Law and to the wetland interests of the By-Law;

B. Performance Standards

All stormwater management systems shall comply with the Massachusetts Stormwater Handbook (February 2008 and as it may be amended), as well as the following performance standards:

(1) Proponents of projects that generate stormwater runoff shall consider environmentally sensitive site design and low impact development techniques as the primary approach in managing onsite stormwater;

(2) All storm water management systems shall remove sediment, nutrients, hydrocarbons, and bacteria from stormwater flow to the maximum extent practicable;

(3) All stormwater management systems shall be designed and constructed to adequately control, contain and recharge flow resulting from a 24-hour, 100-year storm event. This requirement is designed to decrease the likelihood of downstream and offsite flooding as well as to contribute to ground water recharge;

(4) If the evaluation of peak discharge impacts from the 24-hour, 100-year storm event shows that retaining this volume of stormwater onsite will cause adverse impacts to downstream resources due to placement in the watershed or timing of release of stormwater, the Commission may waive this provision. A request for waiver from this provision shall include credible evidence substantiating that retaining the 24-hour, 100-year storm event onsite is not needed and would cause irreparable harm to downstream or offsite areas;

(5) The post-project hydrologic budget must equal the pre-project hydrologic budget and the Commission may require the preparation of a hydrologic budget to demonstrate that the water budget to wetland resource areas will be maintained at pre-project levels. The Conservation Commission shall not permit any alteration resulting in a net increase in stormwater runoff;

(6) Adequate structures shall be designed and built to safely control and pass any overflow above design capacity without causing erosion or increase in downstream flooding;

(7) All stormwater management systems shall be designed and constructed so that the bottom of the system (lowest point of excavation for system installation) is placed at least 2 feet above seasonal high groundwater;

(8) All stormwater management systems shall include provisions, submitted with an application, in a long-term Operations and Maintenance Plan for regular inspection, maintenance, repair, and operation in order to maintain design performance; and

(9) The Commission may require stormwater management systems to be placed a minimum of 40 feet from any area subject to protection.

For the purpose of maintaining original design performance, detention or retention ponds approved by the Commission shall be regularly maintained in accordance with methods accepted and included in the Orders of Conditions. Work conducted to maintain stormwater management systems may continue without further permitting through the Commission. Any work required to replace or upgrade major components of a stormwater management system shall require that the owner of the lot on which the work is to occur contact the Conservation Commission for a determination of whether a permit is needed from the Commission prior to the work being conducted.

The *Massachusetts Stormwater Handbook* (February 2008 & as it may be amended) requires proponents of projects that are subject to the Stormwater Management Standards to consider environmentally sensitive site design and low impact development techniques to manage stormwater. The Commission also requires the use of Low Impact Development (LID) stormwater management techniques wherever feasible. LID techniques are innovative stormwater management approaches whose goal is to mimic the predevelopment hydrology of a site by using design techniques that detain, infiltrate, filter, store, and evaporate runoff close to its source using uniformly distributed and decentralized micro-scale controls. Techniques are based on the premise that stormwater management should not be seen as storm water disposal. Instead of conveying, managing and treating stormwater in large, costly, end-of-pipe facilities located at the bottom of drainage areas, LID addresses stormwater through small, cost-effective landscape features located at the lot level where rainfall is managed at its source. Almost all components of the urban environment have the potential to serve as the building blocks of LID. This includes not only open space, but also rooftops, streetscapes, parking lots, sidewalks, and medians. LID is a versatile approach that can be applied equally well to new development, urban retrofits, redevelopment and revitalization projects. Use of LID techniques can reduce the costs of permitting, construction, operation and maintenance while, at the same time, increasing property values, conservation of land, and protection of wetland resource areas.

10.02 Septic Systems

A. Presumptions of Significance; Findings

Septic systems can contribute contaminants, including phosphates, nitrates, bacteria, viruses, and any added chemicals to surface and groundwater resources. Even when septic systems are properly designed, placed, maintained and used only for the purposes for which they were intended, contaminants can still enter surface and groundwater, however, improperly maintained or failed septic systems inevitably contribute more pollutants to water resources. Existing setback and groundwater separation requirements under the provisions of Title V of the State Environmental Code regulations (310 CMR 15.00) do not protect wetland resource areas, including groundwater, from contamination. Soil infiltration of septic system effluent primarily converts ammonia nitrogen to nitrate nitrogen with very little removal. Once pollutants reach groundwater, they can readily move into surface waters of wetlands and streams that are often fed by groundwater. In freshwater systems, elevated levels of phosphorus can cause excessive plant growth that can: limit the recreational use of ponds; limit the oxygen in the water which, in turn; limits the water quality for fish and other aquatic organisms. Sea level rise should be considered when designing and placing septic systems due to the fact that it will result in an accompanying rise in groundwater which will reduce the separation distance of the system to groundwater over time. In salt water systems, excess nitrogen from various land uses, including septic systems, can cause algal blooms that degrade water quality. Septic system effluent from a soil

absorption system can also contain bacteria and disease-causing organisms called pathogens. Fortunately, in properly designed and functioning septic systems, most bacteria is removed from effluent as it percolates through the soil. Chemical contamination of surface and groundwater may also occur when toxic household products are used and introduced into a septic system. Chemical contamination of groundwater with heavy metals and other toxins can lead to polluted drinking water supplies.

Septic systems are likely to have a significant and cumulative adverse effect on the protection of public and private water supply, the protection of surface and groundwater, the prevention of pollution, the protection of land containing shellfish, the protection of fisheries (finfish & shellfish), the protection of wildlife and its habitat, as well as protection of aquaculture and agriculture.

Properly designed, sited, permitted and maintained septic systems are presumed to protect the wetland resource areas and interests. Any proposed septic system that does not meet the provisions of Title V of the State Environmental Code (310 CMR 15.00 et seq.), the Kingston Board of Health Regulations, the Kingston Zoning By-Law and Kingston Wetlands Protection By-Law, shall be presumed to have a significant and cumulative adverse effect on the wetland resource areas as well as the wetland interests. Obtaining necessary permits from all other agencies, does not ensure that the Conservation Commission will issue an approval.

B. Performance Standards

(1) A subsurface sewage disposal system for new construction that is constructed in compliance with the requirements of the Title V of the State Environmental Code (310 CMR 15.00 et seq.), or more stringent local Board of Health requirements or Zoning By-Laws, shall be presumed to protect any and all interests identified in the By-Law, provided that none of the components of said system, including, but not limited to connecting pipes, holding tanks, distribution boxes, and subsurface soil absorption systems, are located upon or within 100 feet of any area subject to protection listed in Section 2.01. All distances shall be measured from the natural edge of the bordering vegetated wetland, the flood zone line, and/or mean annual high water line of the Area Subject to Protection. Setbacks may not be obtained or increased by filling, altering, or relocating an Area Subject to Protection.

(2) The minimum 100-foot setback requirement shall not be required when a replacement system is necessary provided that no alternative location is available on the lot or other parcel under the ownership or control of the owner of the system proposed for upgrade and that the system, including grading and retaining structures, is placed as far as possible from the wetland resource areas.

(3) Should a replacement system also constitute a substantial enlargement and increase in flow from expanded use of the existing system, the Commission may require that the minimum 100-foot setback distance be observed.

10.03 Docks, Piers, Walkways, and Floats

A. Presumptions of Significance; Findings

When a proposed project involves the dredging, removing, filling, altering, or causing adverse effect to an area subject to protection under the By-Law by the construction, repair, replacement or enlargement of a pier, the Commission shall presume that the proposed activity will have a significant effect upon the wetland resource areas and values described below. These presumptions may be overcome only through proving, by a preponderance of the evidence, that the work does not have a significant or cumulative adverse effect upon the wetland resource areas and values. Potential adverse effects may include direct and secondary impacts.

Inland dock, pier, walkway, and float systems have the potential to affect the following resource areas subject to protection under the By-Law: 1) land under water; 2) bank; 3) bordering vegetated wetlands; 4) land subject to flooding; 5) riverfront area; and 6) banks or land underlying a fish run.

Coastal dock, pier, walkway, and float systems have the potential to affect the following resource areas

subject to protection under the By-Law: 1) land under the ocean; 2) coastal bank; 3) bordering vegetated wetlands; 4) land subject to coastal storm flowage; 5) riverfront area of tidal river; 6) coastal beaches; 7) rocky intertidal shores; 8) salt marsh; 9) land containing shellfish; 10) banks or land under the ocean underlying a fish run.

The construction, existence, maintenance, use and repair of these structures over time is likely to have significant adverse effects on the wetland values including water quality, erosion and sediment control, storm damage prevention, prevention and abatement of pollution, protection of fisheries, protection of shellfish, protection of wildlife and its habitat, protection of wetland plant and animal species, protection of rare or endangered species, and protection of aquaculture and agriculture.

Individual or multiple piers with accessory structures located in close proximity to eachother, have the potential to degrade both inland and coastal wetland resource areas by altering water quality, water circulation, bottom sediments, banks, beaches, plant productivity, fisheries (finfish & shellfish), aquatic plants and animals, their habitat, as well as rare species and their habitat. These structures may also have adverse impacts on aquaculture, agriculture, fishing, fowling, navigation, pedestrian access and recreation.

Docks, piers, walkways, and floats have the affect of segmenting wetlands and may inhibit wetland functions. Increased erosion, scouring, and undercutting of banks may also occur in the near vicinity of these structures. Docks can cause shading of underlying vegetation resulting in adverse affects to plant productivity. Docks destroyed by storms pose a threat to nearby properties by increasing water-borne debris and storm damage.

Boating activity associated with docks can result in turbulence through prop dredging and wakes adding suspended sediment to the water column thereby degrading water quality, smothering shellfish, hindering settlement of shellfish larvae, smothering vegetation, redistributing bottom sediments, changing bottom topography, as well as releasing sediment-bound nutrients that can accelerate eutrophication of waterbodies. Boat traffic generated from docks can cause erosion of banks and bordering vegetated wetlands.

In coastal areas where salt marsh is present, dock construction can be the least environmentally destructive method of crossing a marsh when avoidance is not possible, but the cumulative impacts of construction, maintenance and use of a dock can decrease the overall productivity of a the marsh ecosystem, can reduce the ability of the marsh to absorb storm wave energy, and reduce its contribution to groundwater and surfacewater quality. Marsh plants are critical to the energy flow/food chain within a marsh-estuarine system and many species of sport and commercial fish as well as shellfish are dependent upon this system.

B. Performance Standards

The Commission may require the following performance standards for dock, pier, walkway and float applications:

(1) Applications submitted to the Conservation Commission for installation of docks, piers, walkways, and/or floats shall include an alternatives analysis to avoid any adverse impacts to the wetland interests as well as the areas subject to protection under the By-Law. If adverse impacts to the interests and to areas subject to protection are found to be unavoidable, those impacts shall be minimized and mitigated to the maximum extent possible.

(2) While the merits of each application shall be reviewed on a case-by-case basis, the Commission shall also consider cumulative adverse impacts upon the wetland values caused by the installation of multiple docks, piers and/or floats within the same area subject to protection or adjacent areas subject to protection.

(3) Applications for docks, piers, walkways, and floats shall comply with the MA Department of Environmental Protection guide entitled, *Small Docks and Piers* (November 2003), as well as all local, state and federal regulations pertaining to the installation of such structures.

(4) A residential property shall not be permitted to have more than one dock, pier, walkway or float, in combination or otherwise, at any time. The Commission encourages private property owners to collaborate on design and construction of shared dock, pier, walkway and float systems rather than install individual systems that will cause more adverse impacts to the wetland resource areas.

(5) Docks, piers, walkways, and/or floats shall not degrade inland or coastal wetland resource areas during construction or for the life of the structure through alteration of water quality, water circulation, bottom sediments, banks, beaches, plant productivity, fisheries (finfish & shellfish), wetland plants, aquatic animals and their habitat, rare species and their habitat, aquaculture, agriculture, fishing, fowling, navigation, passage or recreation.

(6) The landward approach to a pier shall not harm wetland vegetation or banks (inland or coastal). The landing platform, if any, at the top of the bank shall not exceed 16 square feet.

(7) Docks, piers, walkways, and floats shall be designed and constructed using best available measures in order to minimize adverse effects on the wetland resource areas and the interests of the By-Law. Only temporary and minimal adverse effects may be permitted. Temporary impacts to resource areas shall be fully restored within one year of the completion of construction.

(8) All dock, pier, walkway, and float systems shall be sited to avoid placing the structures over wetland vegetation. Should avoidance not be possible, the structures shall be oriented to have the least amount of adverse impact on aquatic vegetation and lands containing shellfish.

(9) No dock, pier, or related structures shall exceed the minimum size (length and width) necessary to achieve the intended water-related purposes in order to avoid impacts to the wetland resource areas and values.

(10) Solid fill docks, piers or walkways may be prohibited.

(11) Roofs may be prohibited over any portion of a dock, pier, walkway or float.

(12) Wood used in the construction of a dock, pier, walkway, float system including, but not limited to, framing, decking, railings, stringers, cross bracing, pilings and skids may be prohibited if treated with chromated copper arsenate (CCA) or creosote.

(13) Pilings may be required to be mechanically driven or augured to refusal, rather than jetted, into the substrate. Piles placed within a coastal bank or salt marsh may be required to be placed by hand.

(14) Mushroom style anchors for floats may be prohibited.

(15) The Commission may require that test pit data be provided during permitting in the proposed locations of pilings that are to be located in mudflats and/or rocky intertidal shore in order to evaluate likely impacts to wetland resource areas and habitats during installation of dock, pier, and walkway structures.

(16) Should a project be proposed within lands containing shellfish, the Commission may require the proponent to contribute, annually and for the life of the structure, $ 50.00 into the Town of Kingston Shellfish Mitigation Fund. The purpose of the Shellfish Mitigation Fund (established at June 2010 ATM) is to mitigate for the loss of shellfish habitat from installation of docks, piers, walkways, and/or floats through the funding of re-seeding in the area of the structure to restore the shellfish resource.

(17) The Commission may require that no dock, pier, walkway, and float system shall exceed more than 150 feet in length from the top of the bank from which it extends, nor shall it

exceed more than 4 feet in width. The Commission may consider a waiver to the length of the pier should a lengthier system be needed to extend beyond a salt marsh in order to minimize adverse impacts to the marsh.

(18) The Commission may require the spacing of pilings be no closer than 20 times the diameter of the piling in order to maintain proper water circulation, to minimize scour, impacts to benthic habitat, as well as likelihood of storm damage from ice hang up and likelihood of colonization by invasive species.

(19) The Commission may require that no float or terminal portion of a dock shall exceed more than 160 square feet in area.

(20) The Commission may require that decking planks shall be spaced at least ¾ of an inch apart to permit light penetration to aquatic vegetation.

(21) The Commission may require that the height of any dock, pier, or walkway decking shall be elevated at least 1-foot above the marsh for every foot of its width to allow for light penetration to underlying vegetation, and to assist in preventing storm damage. A 5-foot elevation above the marsh may be required to provide for unobstructed lateral passage under the Public Waterfront Act, Chapter 91.

(22) The Commission may require that the bottom of a float shall be elevated at least 24 inches from the bottom (measured at low tide in coastal areas and mean annual high water in inland areas) at all times in order to maintain proper water circulation and habitat for aquatic species. In the coastal waters of Kingston where there are extensive mudflats, which are designated as “special aquatic sites” under the Federal Clean Water Act, the Commission requires that all proposals consider the use of boat lifts in lieu of floats at the end of the pier structure in order to minimize adverse impacts to the mudflats.

(23) The Commission may require that construction barges shall not be permitted to ground out on the substrate during transit or during construction of the dock, pier, or related structures, including during the time that the barge may be stored overnight. Should the tidal range require that the construction barge be moved further from shore in order to prevent grounding out, the Contractor shall be prepared to do this for the duration of the construction project.

(24) The Commission may require that all construction barges shall be equipped with a spill containment kit to capture any spills that may occur during refueling of equipment in the resource areas. Should a significant fuel spill (10 gallons or more) occur during construction, the appropriate authorities shall be notified as required under the Massachusetts Contingency Plan, 310 CMR 40.0

(25) All work to construct a dock, pier, or walkway shall be accomplished by maximizing access from the water via a barge or boat operating in at least two feet of water and from completed portions of the pier. No heavy construction equipment or vehicles shall be allowed to traverse the bank, the beach, the bordering vegetated wetland, the rocky intertidal area, the salt marsh or tidal flat during construction, including when construction equipment is in transit to site or when it is not in use such as during storage overnight.

(26) Motorized vessels shall be moored with the stern seaward at the float or end of pier to prevent “propeller dredging” and turbidity of the waterway. Care shall be taken during boat operation to properly tilt the engine during low tide cycles to avoid prop dredging.

(27) Boats moored to a dock shall not be allowed to release contaminants such as fuel, oil, gas, detergents, anti-fouling paints or any other material hazardous to the resource areas and these substances shall not be stored on any pier.

(28) The Commission may require that all floats and temporary docks or walkways shall be seasonal and shall be stored in an upland location in the off-season. During haul out for off-season storage, floats and temporary docks shall not be dragged across the intertidal area, but instead, should be floated on a high tide to an appropriate haul out location.

(29) Structural maintenance of piers, or any portion thereof, shall require the owner to inquire of the Commission as to whether the work will require the filing of a new Notice of Intent. Maintenance of a wooden structure shall not include the use of hazardous chemicals, cleaners, paints or wood treatments.

(30) The performance standards of Section 10.03, B.16, 26, 27, 28 & 29, when applicable, shall be included in all Orders concerning piers as continuing conditions and shall be so designated on the Certificate of Compliance.

(31) Notwithstanding the provisions listed above, no project may be permitted which will have any adverse effect on specified habitat sites of rare species, as identified on the most recent Priority Habitat and Estimated Habitat Map of state-listed rare wetland plants and wildlife published by the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program.

10.04 Priority and Estimated Habitat of Rare Species

A. Presumptions of Significance; Findings

The protection of both common and rare species of plant and animal communities, as listed in Section 1.02, Purpose, (j) – (m), are wetland values protected by the Commission. According to the MA Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program, the Town of Kingston has 22 known and reported rare species including amphibians, birds, butterflies/moths, dragonflies/damselflies, mussels, reptiles and plants. Of the 22 known rare species in Kingston, the MA Division of Fisheries and Wildlife considers 4 of those species to be endangered; 3 species to be threatened; and 15 species to be of special concern. The Commission presumes that the protection of rare species within areas subject to protection is significant to the wetland interests of the By-Law.

B. Performance Standards

The Commission shall not allow any activity, alteration or impact on endangered, threatened, or special concern species habitat of flora and/or fauna as listed with any State or Federal agency. If any State or Federally listed species is discovered at any time during the Commission's review of a proposed project, the Commission must either continue the hearing until such studies or investigations have been completed by an acknowledged expert in the appropriate field of study to determine any possible impacts on that species and its habitat, or the Commission must deny the proposed project for lack of information.

10.05 Impervious Coverage

A. Presumptions of Significance; Findings

Impervious surfaces are those that prevent infiltration of water into the soil and include surfaces such as buildings, roads, parking lots, sidewalks, driveways, etc. Recent scientific studies show that the greater the impervious area within a watershed, the higher the degradation of water quality within the receiving waters. Impervious surface coverage that exceeds 10 percent of a watershed area typically results in some degradation to wetlands and waterways. Impervious surfaces exceeding 25 percent of watershed areas typically result in severe water quality and ecosystem impairments. Impervious area can also have an adverse impact on groundwater recharge, streamflow, flooding characteristics, and channel stability.

Even small developments such as individual single-family house projects, which are not subject to the Stormwater Management Standards, with their associated imperviousness can have significant and cumulative impacts on the watershed in which they are located. In order to reduce the adverse impacts

of imperviousness on wetlands and waterways, the Commission requires that certain performance standards be met.

B. Performance Standards

Maximum impervious coverage for any project within the 100-foot buffer zone of any area subject to protection or the 200-foot riverfront area may not exceed 15% of the lot area that is located within the Commission jurisdiction. Calculation of coverage shall include, but not be limited to, all structures, impervious driveways, impervious walkways, impervious roadways, decks, pools, tennis courts, and any other similar surface that covers the ground. Impervious coverage placed outside of the buffer zone and/or riverfront area on a lot shall include the use of best management practices to ensure that runoff from the additional impervious coverage does not enter the buffer zone, riverfront area or wetland resource areas.

10.06 Filling and Grading

A. Presumptions of Significance; Findings

Filling and grading within a buffer zone or resource area has the potential to cause adverse impacts to the wetland interests and to areas subject to protection described in Section 1.02 and Section 2.01, respectively. The Commission finds that all filling and grading shall be located as far from the wetland resource areas as possible in order to prevent adverse impacts.

B. Performance Standards

(1) Projects that include filling as an activity within a buffer zone or resource area shall not cause changes in existing drainage characteristics, flushing characteristics, flow patterns of surface and groundwater, flood retention characteristics, water quality (physical, biological or chemical), or plant and animal communities.

(2) At its discretion, the Commission may allow filling and grading within a buffer zone or resource area when, after a proper alternatives analysis has been conducted, no other alternatives or avoidance measures exist and all adverse impacts are minimized as well as fully mitigated. The Commission may allow filling of up to 5,000 SF of bordering vegetated wetland for a limited project if the wetland area can be properly replicated in accordance with the *Massachusetts Inland Wetland Replication Guidelines* (March 2002 and as may be amended) as well as any further conditions required by the Commission to protect the interests. Should filling be allowed, the Commission may require replication at a ratio of at least 1.5 to 1 (area replicated to area filled).

(3) For limited projects that require a new or replacement permanent wetland crossing via a bridge or culvert, the area of the crossing over the wetland resource area shall be considered fill and the area shall be included in the replicated area. All stream crossings, for both perennial and intermittent fish-bearing streams, shall, at a minimum, meet the *Massachusetts Stream Crossing Standards* (March 2011 and as may be amended) and shall not, at any flood stage, restrict water flows, fish passage, movement of other aquatic organisms (amphibians, reptiles, invertebrates), or movement of wildlife within the riparian corridor. In streams without resident or migratory fish populations, the Commission may require full or partial adherence to the MA Stream Crossing Standards where protection of other wildlife and its habitat within the riparian corridor is essential to the protection of the wetland interests. Streams that have historically provided habitat for fish, but, as a result of instream barriers, are no longer fish-bearing, may be considered as fish-bearing for permitting purposes if there is reasonable expectation that fish may be restored to the stream at that location. The MA Stream Crossing Standards provide minimum measures to facilitate fish and some wildlife movement and maintain stream continuity. Streams receiving stormwater flows in addition to natural flows may require enhanced design and engineering of structures beyond the MA Stream Crossing Standards in order to safely accommodate flows during all storm events and to protect the interests. The Commission may waive certain provisions of the stream crossing standards should site constraints, stream instability, channel function, etc. make strict

adherence to the standards infeasible, ineffective or undesirable.

(4) For coastal projects, all fill used for beach nourishment on a coastal beach or a coastal bank shall comply with the MassDEP's *Beach Nourishment Guide* (March 2007 and as may be amended) which provides best management practices (BMPs) for such work. All permitted fill shall consist of compatible material. Compatible fill or compatible source material is that which most closely matches the sediment grain size distribution of the native beach or bank material. In all cases the sediment used as the source material shall be determined, through due diligence review, to be clean and free of contaminants prior to being deposited on a coastal beach or bank. The Commission, at its discretion, may waive certain provisions of the *Beach Nourishment Guide* should the provisions be determined to be infeasible based on site conditions, the nature of the project, or other factors. Alternatively, the Commission may require compliance with conditions not included in the guide should protection of the resource areas or interests require further best management measures to prevent adverse impacts. Compatible fill used in beach nourishment projects shall not at any time have adverse impacts on surrounding salt marsh, shellfish and the lands containing them, spawning areas, rocky sub-tidal habitat, or endangered species and their habitat.

(5) Dumping of yard waste, brush, leaves, grass clippings, or other debris within a wetland resource area is considered fill and may be prohibited. Yard waste shall be stored as far from the wetland resource areas as possible, composted, or delivered to the Town's Transfer Station.

(6) Dumping of animal waste from pets within a wetland resource area is considered fill and is not permitted. Animal waste shall be disposed of at the Town's Transfer Station.

10.07 Landscaping

A. Presumptions of Significance; Findings

Landscaping projects can involve many different activities including, but not limited to: planting, pruning, and transplanting vegetation; adding organic matter to improve soils; installing and maintaining a lawn; grading to improve drainage or aesthetics; building a fence or a wall; installing an irrigation system; and other activities. Depending on the landscaping activity, the impacts to a buffer zone or an adjacent area subject to protection may be negligible or significant, temporary or permanent, beneficial or harmful. For instance, planting native vegetation adjacent to wetland resource areas results in enhanced wildlife habitat, increased groundwater recharge and improved pollutant removal, while installing a lawn in a previously wooded area would have the opposite effect. The Commission shall determine, on a case-by-case basis, which landscaping projects may occur within the 100-foot buffer zone and shall place appropriate conditions on proposed activities to prevent the potential for adverse effects on the wetland interests and areas subject to protection.

B. Performance Standards

(1) Landscaping, including lawns, shall be located a minimum of 30 feet from any wetland resource area subject to protection under the By-Law. On properties where landscaping, including lawn area, already exists within 30 feet of an adjacent wetland resource area, no activity shall result in a net increase in non-native or invasive species, a net increase in lawn area, or net decrease in vegetative cover within the inner 30 feet of the Buffer Zone.

(2) Landscape walls that do not require a building permit (i.e. do not provide support for or retain more than 4 feet of fill) and fences are considered to be landscaping. Walls and fences shall meet the 30-foot No Disturbance Zone setback as described above in 10.07.B.(1). Landscape fences and walls that prohibit wildlife movement within the inner riparian zone of a riverfront area, within an area of estimated and priority habitat for rare species or within any other critical habitat area shall not be permitted by the Commission.

(3) Conversion of lawn or impervious areas to areas planted with native species of trees, shrubs, herbs or groundcover within 30 feet of a wetland resource area may be allowed with a permit and with appropriate conditions (e.g. erosion and sedimentation controls) from the Commission.

(4) The Conservation Commission may set specific conditions prohibiting or restricting those forms of landscaping activities in the buffer zone deemed potentially harmful to the resource area values, such as the use of herbicides, pesticides, fungicides, and fertilizer, removal of trees, installation of in-ground sprinkler systems for irrigating in adjacent uplands, etc.

10.08 Structures

A. Presumptions of Significance; Findings

Structures include, but are not limited to, commercial and industrial buildings, single family houses, multi-family dwellings, porches, decks, additions, sheds, outbuildings, pools, docks, septic systems and any of their components, stormwater management systems, underground storage tanks, roadways, driveways, and retaining walls supporting more than 4 feet of fill.

B. Performance Standards

Structures not mentioned above under various provisions of Section 10.00, Project-Specific Performance Standards, may be required to comply with the following performance standards:

(1) Driveways may be required to be built at least 30 feet from any area subject to protection, as listed in Section 2.01, under the By-Law;

(2) Structures with an open-pile foundation and roadways may be required to be built at least 40 feet from any area subject to protection;

(3) Pools or any associated structures may be required to be built at least 50 feet from any area subject to protection;

(4) Underground storage tanks for fuel or other hazardous materials may not be permitted within any flood zones and may be required to be installed at least 50 feet from any area subject to protection;

(5) Structures with a wall-type foundation (including a slab with 4-foot frost wall), or retaining wall providing support for more than 4 feet of material, may be required to be built at least 50 feet from any area subject to protection; and

(6) On previously developed sites where the setback distance exceeds the depth of the lot, new structures may be required to meet the no disturbance zones to the maximum extent possible and may be required, at a minimum, to not be located any closer to the resource areas than existing structures.

10.09 Snow Disposal

A. Presumptions of Significance; Findings

Snow disposal poses a challenge to municipalities and businesses as they clear roads, parking lots, bridges, and sidewalks. While there are threats to public safety caused by snow, collected snow that is contaminated with road salt, sand, litter, and automotive pollutants such as oil also threatens public health and the environment.

As snow melts, road salt, sand, litter, and other pollutants are transported into surface water or through the soil where they may eventually reach the groundwater. Road salt and other pollutants can contaminate water supplies and are toxic to aquatic life at certain levels. Sand washed into waterbodies can create sand bars or fill in wetlands and ponds, impacting aquatic life, causing flooding, and

affecting use of these resources.

Minimization of the impacts of snow disposal on public health and the environment is important to avoiding the costs of contaminated water supplies, degraded waterbodies, and flooding. Everything done on the land has the potential to impact water resources.

B. Performance Standards

Appropriate snow disposal sites include upland locations that are not likely to impact sensitive environmental resources. Selecting, preparing, and maintaining appropriate snow disposal sites prior to winter snow accumulation is critical to preventing adverse impacts to wetland resource areas throughout the season of snowfall. The key to selecting effective snow disposal sites is to locate them adjacent to or on pervious surfaces in upland areas away from water resources and wells. At these locations, the snow meltwater can filter into the soil, leaving behind sand and debris which can be removed in the springtime.

The Commission may prohibit the following with regard to snow disposal:

(1) Snow disposal into any waterbody, including rivers, the ocean, reservoirs, ponds, or wetlands. In addition to water quality impacts and flooding, snow disposed of in open water can cause navigational hazards when it freezes into ice blocks;

(2) Snow disposal within a Zone II or Interim Wellhead Protection Area (IWPA) of a public water supply well or within 75 feet of a private well, where road salt may contaminate water supplies;

(3) Snow disposal within DEP-designated high and medium-yield aquifers where it may contaminate groundwater;

(4) Snow disposal in sanitary landfills and gravel pits. Snow meltwater will create more contaminated leachate in landfills posing a greater risk to groundwater, and in gravel pits, there is little opportunity for pollutants to be filtered out of the meltwater because groundwater is close to the land surface; and

(5) Snow disposal of on top of storm drain catch basins or in stormwater drainage swales or ditches. Snow combined with sand and debris may block a storm drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may be quickly transported through the system into surface water.

In addition to carefully selecting disposal sites before the winter begins, it is important to prepare and maintain these sites to maximize their effectiveness. The following preparation and maintenance measures should be undertaken for all snow disposal sites:

(1) A silt fence or equivalent barrier should be placed securely on the downgradient side of the snow disposal site;

(2) To filter pollutants out of the meltwater, a 50-foot vegetative buffer strip should be maintained during the growth season between the disposal site and adjacent waterbodies;

(3) Debris should be cleared from the site prior to using the site for snow disposal; and

(4) Debris should be cleared from the site and properly disposed of at the end of the snow season and no later than May 15th.

It is important to estimate the amount of snow disposal capacity needed so that an adequate number of upland disposal sites can be selected and prepared. If, despite planning efforts, upland disposal sites have been exhausted, snow may be disposed of near waterbodies. A vegetated buffer of at least 50 feet should still be maintained between the snow disposal site and the wetland resource areas. The site shall be prepared and maintained as discussed above in order to minimize the threat to adjacent waterbodies.

In emergency situations, when all land-based snow disposal options are exhausted, the Commission may grant permission to dispose of snow, that is not obviously contaminated with road salt, sand, and other pollutants, in certain waterbodies and under certain conditions. If permission is granted by the Commission to dispose of snow within a waterbody, the following conditions shall apply:

(1) Snow may be disposed of in open water with adequate flow and mixing to prevent ice dams from forming;

(2) Snow may not be disposed of in saltmarshes, vegetated wetlands, potential or certified vernal pools, shellfish beds, mudflats, drinking water reservoirs and their tributaries, Zone IIs or IWPAs of public water supply wells, Outstanding Resource Waters, or Areas of Critical Environmental Concern; and

(3) Disposal of snow may not occur where trucks/equipment may cause erosion or damage to wetland resource areas along the shoreline.

IV. FILINGS

11.00 APPLICATIONS AND FEES

11.01 Request for Determination of Applicability

The Commission will accept as the Request under the By-Law, the Request for Determination of Applicability, Form 1, filed under the Massachusetts Wetlands Protection Act. Forms can be obtained at the Conservation Commission office or online at the MA DEP website. Applicants must provide all information requested on the RDA form.

(1) A plan or drawing which provides sufficient information to enable the Commission to find and view the area and to determine whether the activity will alter an Area Subject to Protection. Said plan or drawing shall provide the following information:

- Location of proposed work and plan view distance (aerial) to any Wetland Resource Area
- Project drawing with accurate measurements
- North arrow and scale

(2) Certification that the owner of the area subject to the request, if the applicant filing the request is not the owner, has been notified of the RDA filing.

(3) Payment to the Town of Kingston in accordance with the fee schedule established in Section 11.04 for permit applications and advertisement of a public hearing.

(4) The original and one complete copy of the RDA application shall be submitted to:

Kingston Conservation Commission
26 Evergreen Street
Kingston, MA 02364

One complete copy shall be submitted to:

Department of Environmental Protection
Wetlands Division
20 Riverside Drive
Lakeville, MA 02347

11.02 Abbreviated Notice of Resource Area Delineation

The Commission will accept, as the application filed under the By-law, Form 4A as filed under the Massachusetts Wetlands Protection Act. Forms may be obtained at the Conservation Commission office or online at MA DEP website.

(1) Applicants must provide all information required on the ANRAD form and must fulfill all of the ANRAD filing requirements for the Town of Kingston. The submittal of a complete and accurate description of the site and project will minimize requests for additional information by the issuing authority which may result in an unnecessary delay in the issuance of Orders of Resource Area Delineation (ORAD).

(2) Submittal of plans and plan revisions shall conform to all standards listed on the Instructions to WPA Form 4A as well as those specifications listed on the Town of Kingston ANRAD filing requirements (Appendix A.2).

(3) The Conservation Commission also may require that supporting materials be prepared by other professionals including, but not limited to a registered landscape architect, registered land surveyor, environmental scientist, geologist, or hydrologist when the complexity of the filing warrants specialized expertise.

(4) Payment to the Town of Kingston in accordance with the fee schedule established in Section 11.04. This fee is in addition to that required under the Massachusetts Wetlands Protection Act.

(5) The original and one copy of the ANRAD application along with two originals and six copies of the plans shall be submitted to:

Kingston Conservation Commission
26 Evergreen Street
Kingston, MA 02364

Two complete copies shall be submitted to:

Department of Environmental Protection
Wetlands Division
20 Riverside Drive
Lakeville, MA 02347

11.03 Notice of Intent

The Commission will accept, as the NOI or ANOI application filed under the By-law, WPA Form 3 Notice of Intent or WPA Form 4 Abbreviated Notice of Intent as filed under the Massachusetts Wetlands Protection Act. Forms can be obtained at the Conservation Commission office or online at the MA DEP website.

(1) Applicants must provide all information required on the NOI form and must fulfill all of the NOI filing requirements for the Town of Kingston. The submittal of a complete and accurate description of the site and project will minimize requests for additional information by the Commission which may result in an unnecessary delay in the issuance of the Orders of Conditions (OOC).

(2) Submittal of plans and plan revisions shall conform to all standards listed on the Instructions to WPA Form 3 as well as those specifications listed on the Town of Kingston NOI filing requirements (Appendix A.1).

(3) The Conservation Commission also may require that supporting materials be prepared by other professionals including, but not limited to a registered landscape architect, registered land surveyor, environmental scientist, wetland scientist, geologist, or hydrologist when the complexity of the filing warrants specialized expertise.

(4) Payment to the Town of Kingston in accordance with the fee schedule established in Section 11.04. This fee is in addition to that required under the Massachusetts Wetlands Protection Act.

(5) The original and one copy of the NOI application along with two originals and six copies of the plans shall be submitted to:

Kingston Conservation Commission
26 Evergreen Street
Kingston, MA 02364

Two complete copies shall be submitted to:

Department of Environmental Protection
Wetlands Division
20 Riverside Drive
Lakeville, MA 02347

APPENDIX A

FILING FEES

Appendix A.1 Fee Schedule

The schedule of fees, established as per Article 3 of the Kingston Wetlands Protection By-Law and payable to the Town of Kingston, is:

Notice of Intent/ANRAD – There are two fees payable to the Town of Kingston for a Notice of Intent/ ANRAD Filing.

Fee Number One: The Wetland Protection Act (WPA) fee (as determined under WPA Form 3, NOI Instructions, Section E & WPA Form 4A, ANRAD Instructions, Section E) is divided between the State and the Town.

Fee Number Two: The Kingston Wetland Protection By-Law requires the additional fee listed below and is payable in its entirety to the town of Kingston.*

Category 1	**$ 110.00**
Category 2	**$ 500.00**
Category 3	**$1050.00**
Category 4	**$1450.00**
Category 5	**$4 per linear foot**
Category 6	**$2 per linear foot with a maximum of $200 for a single family house project and a maximum of $2000.00 for any other activity.**

	REQUEST FOR DETERMINATION OF APPLICABILITY	**$ 75.00**
	DETERMINATION OF APPLICABILITY	**$ 50.00**
	WPA ORDER OF RESOURCE AREA DELINEATION	**$ 50.00**
	KINGSTON ORDER OF RESOURCE AREA DELINEATION	**$ 50.00**
	WPA ORDER OF CONDITIONS	**$ 50.00**
	KINGSTON ORDER OF CONDITIONS	**$ 50.00**
	WPA EXTENSION OF ORDER OF CONDITIONS	**$ 100.00**
	KINGSTON EXTENSION OF ORDER OF CONDITIONS	**$ 100.00**
	WPA TRUE & ATTESTED ORDERS	**$ 50.00**
	KINGSTON TRUE & ATTESTED ORDERS	**$ 50.00**
	WPA AMENDMENT TO ORDERS	**$ 50.00**
	KINGSTON AMENDMENT TO ORDERS	**$ 50.00**
	WPA CERTIFICATE OF COMPLIANCE	**$ 50.00**
	KINGSTON CERTIFICATE OF COMPLIANCE	**$ 50.00**
	WPA PARTIAL CERTIFICATE OF COMPLIANCE	**$ 50.00**
	KINGSTON PARTIAL CERTIFICATE OF COMPLIANCE	**$ 50.00**
	WPA RUSH CERTIFICATE OF COMPLIANCE (WITHIN 10 DAYS)	**$ 100.00**
	KINGSTON RUSH CERTIFICATE OF COMPLIANCE (WITHIN 10 DAYS)	**$ 100.00**
	CONTINUATION OF A PUBLIC HEARING (APPLICANT REQUEST)	**$ 25.00**
	BANK LETTER FOR CLOSINGS	**$ 75.00**
*	**AFTER-THE-FACT FILINGS (In all cases under the By-Law *only*)**	**$ 50.00** (In addition to fees above)

APPENDIX B

FILING REQUIREMENTS

B.1 NOTICE OF INTENT FILING REQUIREMENTS

Property Location _____ Map_____ Lot_____

NOI Checklist:

1. ___NOI FORM & supporting documents (wetland report w/datasheets, drainage report,etc. - ***double-sided, no binders***)__1 Original____1 Copy
2. ___2 Plans w/original stamp and signature by appropriate licensed Professional Engineer and licensed Land Surveyor.
   No copies of seals or signatures will be accepted.
3. ___6 Additional Copies of plan (all plans should measure 24" x 36")
4. ___USGS Map with any NHESP Estimated Habitats of Rare Wildlife and Certified Vernal Pools
5. ___Certified list of abutters
6. ___Affidavit of Service
7. ___Notification to Abutters form (to abutters within 100 feet of property on which work is proposed)
8. ___Payment to the Town of Kingston - NOI fees and pre-payment for issuance of Orders of Conditions ($ 50.00 per Order)
9. ___Copy of check to Town of Kingston
10. ___Waiver Agreement
11. ___Check made out to Community Newspaper Company for advertisement of the public hearing (Fee is currently $ 41.25)

PLAN Checklist:

a) ___FEMA 100-year Flood Elevation, Flood Zone, and Velocity Zone *if applicable* (based on same datum as current floodplain maps)
b) ___Location and detail of any proposed sedimentation, erosion control measures and limit of work line
c) ___WRPD & Zone II Wellhead Protection Zone
d) ___Mean High Water Line, top of bank, Land Subject to Coastal Storm Flowage with slope detail *if applicable*
e) ___Location of all belowground existing and proposed structures (utilities, drywells, etc.)
f) ___Location of all aboveground existing and proposed structures
g) ___Locus
h) ___North arrow must show on plan
i) ___Existing stonewalls seawalls, etc.
j) ___Easements
k) ___Frimpter Calculations
l) ___Test Pit data
m) ___Scale no smaller than 1"=40'
n) ___Title Box must list:
   a. ___ Date
   b. ___ Prop. Owner
   c. ___ Bar scale
   d. ___ Prop. Address
   e. ___ Assessor's Map & Lot Reference
   f. ___ Stamp and seal of Professional(s) who prepared plan
   g. ___ Address and name of Professional who prepared plan
p) ___All abutters' property listed on plan with assessor's reference
q) ___Project drawing showing accurate measurements of the proposed work and plan view distances to any Wetland Resource area
   1. ___100 ft. Riverfront area (highlighted purple) *if applicable*
   2. ___200 ft Riverfront area (highlighted purple) *if applicable*
   3. ___100' vernal pool boundary (highlighted purple) *if applicable*
   4. ___100' buffer zone (highlighted green)
   5. ___No-disturbance zone(s) (highlighted red)
   6. ___limit of work (highlighted orange) and type of erosion controls used with plan detail (no haybales *please*)
   7. ___floodplain (highlighted blue) *if applicable*
   8. ___shortest distance between activity and wetland
r) ___All areas subject to protection within 500 feet of proposed work
s) ___Existing and proposed contours
t) ___wetland line with flag #'s (highlighted blue)
u) ___wetland fill (highlighted pink) *if applicable*
v) ___wetland replication/restoration (highlighted yellow) *if applicable*
w) ___date wetland flagged
x) ___name of individual/firm responsible for identifying wetland
y) ___identification of wetland type(s)
z) ___location of stockpiled excavated soils
aa) ___location of crushed stone apron at construction entrance

Public Hearing Notice **Will Be Advertised in the Kingston Reporter through the Conservation Office. A minimum fee of $41.25 payable to Community Newspaper Company shall be submitted to Conservation at the time of filing. This notice is based on your project description, so please make sure that it speaks to the scope of the entire project.**

Abutter Notification **will be handled by the Applicant or Representative (forms available at the Conservation Office), the Certified Mail Return Receipts or Certificate of Mailing Receipts may come directly to the Conservation Office or be brought to the opening of the Public Hearing.**

I certify that the above checked items have been completed and understand that incomplete applications are cause for scheduling delays/continuations of public hearings.

Signed: _____ Title: _____ Date: _____

B.2 ABBREVIATED NOTICE OF RESOURCE AREA DELINEATION FILING REQUIREMENTS

Property Location _____ Map_____ Lot_____

ANRAD Checklist:

1. ___ANRAD FORM & supporting documents (wetland report w/BVW datasheets, drainage report, etc. . - ***double-sided, no binders***)
   ___1 Original ___ 1 Copy
2. ___2 Plans w/original stamp and signature by appropriate licensed Professional Engineer and licensed Land Surveyor.
   No copies of seals or signatures will be accepted.
3. ___6 Additional Copies of plan (all plans should measure 24" x 36")
4. ___USGS Map with any NHESP Estimated Habitats of Rare Wildlife and Certified Vernal Pools
5. ___Certified list of abutters
6. ___Affidavit of Service
7. ___Notification to Abutters form
8. ___Payment to the Town of Kingston - ANRAD fees and pre-payment for issuance of Orders ($50.00 per Order)
9. ___Copy of check to Town of Kingston
10. ___Waiver Agreement
11. ___ Check made out to MPG for advertisement of the public hearing (Fee is currently $ 41.25)

PLAN Checklist:

o) ___FEMA 100 year Flood Elevation, Flood Zone, and Velocity Zone *if applicable*
p) ___WRPD & Zone II Wellhead Protection Zone
q) ___Mean High Water Line, top of coastal bank, Land Subject to Coastal Storm Flowage with slope detail *if applicable*
r) ___Location of all belowground existing structures (utilities, etc.)
s) ___Location of all aboveground existing structures
t) ___Locus
u) ___North arrow must show on plan
v) ___Existing stonewalls seawalls, etc.
w) ___Easements
x) ___Scale no smaller than 1"=40'
y) ___Title Box must list:
   h. ___ Date
   i. ___ Prop. Owner
   j. ___ Bar scale
   k. ___ Prop. Address
   l. ___ Assessor's Map & Lot Reference
   m. ___ Stamp and seal of Professional(s) who prepared plan
   n. ___ Address and name of Professional who prepared plan

p) ___All abutters' property listed on plan with assessor's reference
q) ___Project drawing showing accurate measurements of:
   1. ___100 ft. Riverfront area (highlighted purple) *if applicable*
   2. ___200 ft Riverfront area (highlighted purple) *if applicable*
   3. ___100' vernal pool boundary (highlighted purple) *if applicable*
   4. ___100' buffer zone (highlighted green)
r) ___existing contours
s) ___wetland line with flag #'s (highlighted blue)
t) ___wetland fill (highlighted pink) *if applicable*
u) ___wetland replication/restoration (highlighted yellow) *if applicable*
v) ___date wetland flagged
w) ___name of individual/firm responsible for identifying wetland and method of determination
x) ___identification of wetland type(s)

Public Hearing Notice **Will Be Advertised in the Kingston Reporter through the Conservation Office. A minimum fee of $41.25 payable to MPG Newspapers shall be submitted to Conservation at the time of filing. This notice is based on your project description, so please make sure that it speaks to the scope of the entire project.**

Abutter Notification **will be handled by the Applicant or Representative (forms available at the Conservation Office), the Certified Mail Return Receipt may come directly to the Conservation Office or be brought to the opening of the Public Hearing.**

I certify that the above checked items have been completed and understand that incomplete applications are cause for scheduling delays/continuations of public hearings.

Signed: _____ Title: _____ Date: _____

APPENDIX C

FILING FORMS

C.1

NOTIFICATION TO ABUTTERS
Under the
Massachusetts Wetlands Protection Act
&
Kingston Wetlands Protection By-Law

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40 and the Town of Kingston Wetlands Protection By-law, Article 4, you are hereby notified of the following:

1. The applicant has filed a Notice of Intent/Abbreviated Notice of Resource Area Delineation (circle one) with the Conservation Commission for the municipality of KINGSTON seeking permission to remove, fill, dredge or alter an area subject to Protection Under the Massachusetts Wetlands Protection Act (General Laws Chapter 131, Section 40) and the Town of Kingston Wetlands Protection By-law and Regulations.

2. The name of the applicant is _____.
CONTACT NAME: _____.
Check one: this is the applicant___, representative___, or other___(specify)

3. The address of the lot(s) where the activity is proposed is, _____,
Map(s) _____, Lot(s)_____, Kingston, MA.

4. **Date** of Public Hearing:_____**Time** of Public Hearing:_____
Location of Public Hearing: Room 203, Kingston Town Hall, 26 Evergreen Street, Kingston, MA

5. Notice of the public hearing, including its date, time, and place, will be published at least five (5) days in advance in the **KINGSTON REPORTER (LOCAL NEWSPAPER).**

6. Copies of the filing (NOI/ANRAD) may be examined at the Kingston Conservation Commission Office, 26 Evergreen Street, Kingston, MA 02364 between the hours of **8:30AM** and **4:30PM** by appointment. For more information call 781-585-0537.

7. Copies of the filing (NOI/ANRAD) may be obtained from either (check one) the applicant ____, or the applicant's representative ____by calling ___-___-____ between ____AM and ____PM on the following days of the week:
_____

8. You may also contact the Department of Environmental Protection Regional Office for more information about this application or the Wetlands Protection Act. To contact DEP, call:
Southeast Region: (508) 946-2800.

9. Brief Narrative of Project:

C.2

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act and Town of Kingston Wetlands Protection By-Law

(to be submitted to the Massachusetts Department of Environmental Protection and the Conservation Commission when filing a Notice of Intent / ANRAD)

I, _____, hereby certify under the pains and penalties of perjury that on _____ I gave notification to abutters in compliance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, and the DEP Guide to Abutter Notification dated April 8, 1994, in connection with the following matter:

An ANRAD / Notice of Intent has been filed under the Massachusetts
(circle one)
Wetlands Protection Act and the Town of Kingston Wetlands Protection By-Law by _____ with the Kingston Conservation Commission on _____ for the property located at _____ .

The form of the notification, and a list of the abutters to whom it was given and their addresses, are attached to this Affidavit of Service.

_____ _____

NAME DATE

C.3

WAIVER AGREEMENT

Public Hearing / Meeting Time Frame

Massachusetts General Law, Chapter 131 & 40 (Wetlands Protection Act), and the Town of Kingston Wetland Protection By – Law, Section 5.03 A & B, and the associated Regulation, mandate that a public hearing be held within 21 days of receiving a Notice of Intent. These laws also mandate that a public meeting be held and a decision rendered within 21 days of receiving a Request for Determination of Applicability. Due to a high volume of requests, we may have to hold the hearing for your project after the 21 day time period has lapsed.

Meetings are held every first and third Tuesday of each month.

I understand the Commission will make every effort to hold a public hearing / meeting within the mandated 21 day time frame and render a decision within the subsequent time frame. However, due to present circumstances, I hereby waive the time requirement set forth in Chapter 131 & 40 (Wetlands Protection Act), it regulations at 310 CMR 10.00, and the Town of Kingston Wetlands Protection Regulations, Section 5.03 A & B.

In agreeing with this waiver, I accept that the public hearing / meeting will take place within 50 days of receiving the Request for Determination of Applicability or Notice of Intent.

_____ _____

(Signature of Applicant or Representative) (Date)

Applicant's Name: (Print)_____

Address: _____

Telephone: _____

Project Location: _____

C.4

REQUEST FOR AMENDMENT/DEVIATION

DATE _____ DEP FILE # _____ KWPA FILE # _____

Deviation – Minor _____ Deviation – Major _____
(To be determined by Conservation Agent)

PROJECT ADDRESS: _____

ORDERS – APPLICANT: _____

OWNER: _____

REQUESTING PERSON: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

I am requesting a Deviation / Amendment for the above project and change is as follows:

Please enclose a plan with the changes noted.

THE ABOVE DEVIATION IS DEEMED MINOR (APPROVED) MAJOR (SEE BELOW)

REVIEWER_____ DATE_____

The above deviation is deemed major and requires a vote of the commission and a check for $50.00 payable to the Town of Kingston Conservation Commission. A time and date will be set and you will be notified, by mail or telephone. At that time you will be required to present your proposal of change(s) to the commission.

Requester's
Signature_____ Date_____

Hearing Date_____ Time_____

Received on_____

C.5

REQUEST FOR EXTENSION

A. Project Information

1. This request is being made by:

Name

Mailing Address

City / Town State Zip Code

Phone Number Email

2. This request is in reference to work regulated by a Order of Conditions issued to :

Applicant

Dated WPA File Number KWPA File Number

3. The project site is located at:

Street Address City / Town

Assessors Map / Plat Number Parcel / Lot Number

4. The Order of Conditions was recorded at the Registry of Deeds for:

Property Owner (if different)

County Book Page

Certificate (if registered land)

5. Reason for request for extension including amount of time (up to 3 years)

6. Have these Order been previously extended? _____

7. _____ _____

Requester's Signature Date

C.6

REQUEST FOR CERTIFICATE OF COMPLIANCE

Kingston Wetlands Protection By-Law, Chapter 13, Article 5

B. Project Information

1. This request is being made by:

Name

Mailing Address

City / Town State Zip Code

Phone Number

2. This request is in reference to work regulated by a final Order of Conditions issued to :

Applicant

Dated KWPA File Number

3. The project site is located at:

Street Address City / Town

Assessors Map / Plat Number Parcel / Lot Number

4. The final Order of Conditions was recorded at the Registry of Deeds for:

Property Owner (if different)

County Book Page

Certificate (if registered land)

5. This request is for certification that (check one):

the work regulated by the above referenced Order of Conditions has been satisfactorily completed.

the following portions of the work regulated by the above referenced Order of Conditions have been satisfactorily completed (use additional paper if necessary).

_____
_____
_____
_____
_____

the above referenced Order of Conditions has lapsed and is therefore no longer valid, and the work regulated by it was never started.

6. Attach a written statement by a registered professional engineer certifying substantial compliance with the approved plans and describing what deviation, if any, exists from the plans approved in the Order.