November 25, 2019

SECTION 9 ENVIRONMENTAL PERFORMANCE STANDARDS

The following Environmental Performance Standards apply to all uses of land and structures within the Town of Boothbay.

9.1 Floodplain Management Requirements

The use of land and structures shall conform to the requirements of the Town's Floodplain Management Ordinance.

9.2 Water Supply Protection Requirements

9.2.1 Buffers, Water Supply Protection A water supply protection buffer shall be designed and maintained in accordance with the standards of **9.2.1** when needed to provide a buffer between any shoreline, including watershed tributary streams, and development.

9.2.1.1 Water supply protection buffers for new structures on existing lots that are not part of a subdivision already incorporating appropriate phosphorous controls shall, to the greatest practical extent given lot limitations, be on the down slope from developed areas and located so that as much as feasible of any runoff from any developed area drains to the buffer in overland, unchannelized flow.

9.2.1.1.1 Driveways and parking areas shall be designed and constructed so that disruption of natural drainage patterns is minimized. Runoff shall be directed to an unscarified buffer strip at least fifty (50) feet, plus two times the average slope, in width between the outflow point of any ditch or culvert and a shoreline.

9.2.1.1.1.1 As an example, if the average slope between the shoreline and the proposed road, driveway or parking area is thirty (30) percent, then the road setback at that location would be fifty (50) feet plus 2 times thirty (30) feet or one hundred ten (110) feet.

9.2.1.1.1.2 Best Management Practices including swales, ditch turnouts, water bars and broad based drainage dips shall be used. Gravel driveways shall be graded to prevent runoff from concentrating in the driveway.

9.2.1.1.2 Runoff from roofs shall be distributed over stable, well-vegetated areas or be infiltrated into the soil using dry wells or other infiltration systems

9.2.1.2 Forest buffers shall be at least seventy-five (75) feet in width. Meadow buffers shall be a minimum of one hundred twenty-five (125) feet in width. The required width of a Mixed Meadow and Forest buffer shall be determined as a weighted average, based on the percentage of meadow and the percentage of forest.

9.2.1.2.1 The width of the buffer may be reduced if not doing so would restrict the Developable Area to less than the twenty (20) percent of the lot area

9.2.1.3 Buffers shall meet the following:

9.2.1.3.1 The canopy of a forest buffer must be maintained. Activities that may result in disturbance of the duff layer are prohibited.

9.2.1.3.2 A meadow buffer must be maintained as a meadow with a generally tall stand of grass, not as a lawn. It must not be mown more than twice per calendar year. If a buffer is not located on natural soils, but is constructed on fill or reshaped slopes, a buffer surface must either be isolated from stormwater discharge until a dense sod is established, or must be protected by a three inch layer of erosion control mix or other wood waste material approved by the DEP before stormwater is directed to it. Vegetation must be established using an appropriate seed mix.

9.2.1.3.3 The maximum slope of a buffer must be less than fifteen (15) percent to be included in the calculation of buffer flow path length. Areas with slopes greater than fifteen (15) percent are too steep to be effective as a treatment buffer but should be left undisturbed. A buffer slope in excess of fifteen (15) percent may be used if it has been evaluated using a site specific hydrologic buffer design model approved by the DEP, and measures have been included to ensure that runoff remains well-distributed as it passes through the buffer.

9.2.1.3.4 Buffers must be maintained and eroded areas within the buffer must be repaired, seeded and mulched.

9.2.1.3.5 Buffers should not be traversed by all-terrain vehicles or other vehicles. Activities within buffers should be conducted so as not to damage vegetation, disturb the organic duff layer, or expose soil.

9.2.1.4 Buffer areas are not required if the per acre phosphorus load limit for the impacted great pond or stream can be met by other means approved by the Planning Board.

9.2.1.5 The latest Department of Environmental Protection approved methods shall be used for water supply protection buffers for development not included in Sections **9.2.1.1** or **9.2.1.4**.

9.2.1.6 Upon approval of any development that involves a Water Supply Protection Buffer, the applicant shall:

9.2.1.6.1 File a signed copy of the approval with the Lincoln County Registry of Deeds.

9.2.1.6.2 File a copy of the registered approval with the Town of Boothbay Assessor. This copy shall include the Registry's Book and Page reference.

9.2.1.7 A footpath not to exceed six (6) feet in width as measured between tree trunks or shrub stems is allowed provided that a cleared line of sight to the water through the buffer strip is not created.

9.3 Stormwater Management Requirements

9.3.1 New construction and development shall be designed to minimize storm water runoff from the site in excess of the natural predevelopment conditions. Where feasible, existing

natural runoff control features, such as berms, swales, terraces and wooded areas, shall be retained in order to reduce runoff and encourage infiltration of storm waters. If it is not feasible to detain water on site, downstream improvements to the channel may be required of the applicant to prevent flooding caused by his project. The natural state of watercourses, swales, floodways, or right-of-ways shall be maintained as nearly as feasible. The design shall be for a 25 year storm.

9.3.2 General

Any activity that that requires a permit or approval from the Town shall be responsible for the management of all stormwater on the site including the discharge of any stormwater off the site in accordance with the following:

9.3.2.1 Drainage Plan Any activity that disturbs more than four thousand (4000) square feet of vegetated area or creates more than two thousand (2000) square feet of impervious surface shall prepare a drainage plan for the lot showing at a minimum the following:

9.3.2.1.1 The general topography of the lot;

9.3.2.1.2 The existing pattern of drainage on the lot including any drainage facilities;

9.3.2.1.3 Any changes in the drainage patterns on the lot as a result of the proposed activity;

9.3.2.1.4 All methods that will be used to minimize the flow of stormwater off the lot; and

9.3.2.1.5 The adequacy of any downstream drainage facilities to accommodate stormwater flows from proposed use of the lot.

9.3.2.2 Stormwater Management Plan Any activity that disturbs more than twenty thousand (20,000) square feet of vegetated area or creates more than ten thousand (10,000) square feet of impervious surface or more than five thousand (5,000) square feet of impervious surface if the average pre-development slope of the area that is being disturbed is more than fifteen (15) percent shall submit a formal stormwater management plan rather than a drainage plan. The stormwater management plan shall be prepared by a licensed engineer and shall demonstrate how the stormwater on the site will be managed to minimize the amount of runoff from the site and meet the stormwater management provisions of the Maine Stormwater Management Design Manual - Stormwater Management Manual Volume I published by the Maine Department of Environmental Protection.

9.3.3 Low Impact Development

9.3.3.1 A stormwater management plan prepared in accordance with **9.3.2.2** shall be designed in accordance with the principles of Low Impact Development (LID) set forth in Chapter 4 of the Maine Stormwater Management Design Manual - Stormwater Management Manual Volume I published by the Maine Department of Environmental Protection.

9.3.3.2 To the extent feasible given the natural conditions on the site, the stormwater management plan shall utilize LID Best Management Practices BMPs) set forth in Chapter 10 of the Maine Stormwater Management Design Manual - Stormwater Management Manual Volume III published by the Maine Department of Environmental Protection.

9.3.3.3 Small-scale activities that require the preparation of a drainage plan shall use vegetated buffers as set forth in Chapter 5 of the Maine Stormwater Management Design Manual - Stormwater Management Manual Volume III published by the Maine Department of Environmental Protection where feasible.

9.3.4 Stormwater Runoff

9.3.4.1 Natural and man-made drainage ways and drainage outlets shall be protected from erosion from water flowing through them. Drainage ways shall be designed and constructed using Best Management Practices in order to carry water from a 25 year storm or greater, and shall be stabilized with vegetation or lined with riprap.

9.3.4.2 Storm water runoff management systems shall be maintained as necessary to ensure proper functioning.

9.4 Erosion and Sediment Management Requirements

9.4.1 All activities that involve filling, grading, excavation or other similar activities that result in unstabilized soil conditions and which require a permit shall require a written soil erosion and sedimentation control plan. The plan shall be submitted to the permitting authority for approval. The plan shall demonstrate conformance with the standards of the most recent edition of Maine Erosion and Sediment Control Best Management Practices (BMPs) published by the Maine Department of Environmental Protection.

9.4.2 In order to create the least potential for erosion, development shall be designed to fit with the topography and soils of the site. Areas of steep slopes where high cuts and fills may be required shall be avoided wherever possible, and natural contours shall be followed as closely as possible.

9.4.3 Erosion and sedimentation control measures shall apply to all aspects of the proposed project involving land disturbance, and shall be in operation during all stages of the activity. The amount of exposed soil at every phase of construction shall be minimized to reduce the potential for erosion.

9.4.4 Any exposed ground area shall be temporarily or permanently stabilized within one (1) week from the time it was last actively worked, by use of riprap, sod, seed, and mulch, or other effective measures. In all cases permanent stabilization shall occur within nine (9) months of the initial date of exposure. In addition:

9.4.4.1 Where mulch is used, it shall be applied at a rate of at least one (1) bale per five hundred (500) square feet and shall be maintained until a catch of vegetation is established.

9.4.4.2 Anchoring the mulch with netting, peg and twine or other suitable method may be required to maintain the mulch cover.

9.4.4.3 Additional measures shall be taken where necessary in order to avoid siltation into

the water. Such measures may include the use of staked hay bales and/or silt fences.

9.4.5 Natural and man-made drainage ways and drainage outlets shall be protected from erosion from water flowing through them. Drainage ways shall be designed and constructed in order to carry water from a twenty five (25) year storm or greater, and shall be stabilized with vegetation or lined with riprap.

9.5 Groundwater Protection Requirements

9.5.1 Where on-site conditions are appropriate for infiltration, stormwater management shall utilize infiltration Best Management Practices (BMPs) to the maximum extent reasonable in accordance with Chapters 6 and 10 of the Maine Stormwater Management Design Manual - Stormwater Management Manual Volume III published by the Maine Department of Environmental Protection.

9.5.2 Any activity or development including single-family subdivisions that will not be served by the year-round public water supply system and that will have a total design sewage flow of more than twelve hundred (1,200) gallons per day based on the design sewage flows in the Subsurface Wastewater Disposal Rules shall prepare a groundwater hydrologic analysis. This analysis must demonstrate that the use of groundwater will not have an adverse impact on the quality or quantity of groundwater available to uses on surrounding properties including any provisions to mitigate any identified adverse impacts.

9.6 Waste Disposal Requirements

9.6.1 All new and expanded uses shall provide for the disposal of all solid and liquid wastes on a timely basis and in an environmentally safe manner. The Planning Board shall consider the impact of particular industrial or chemical wastes or by-products upon the Town's disposal method and disposal area (in terms of volume, flammability or toxicity) and may require the applicant to dispose of such wastes elsewhere in conformance with all applicable state and federal regulations. The Planning Board may require the applicant to specify the amount and exact nature of all industrial or chemical wastes to be generated by the proposed operation.

9.7 Snow Removal

9.7.1 No snow collected from outside the Watershed Protection Overlay District shall be deposited within the Watershed Protection Overlay District.