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SECTION 5.0

STORMWATER MANAGEMENT REGULATIONS

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5.1 Preamble

The purpose of this regulation is to properly manage stormwater by providing adequate protection against pollutants, flooding, siltation, and other drainage problems.

5.2 Authority

The Oak Bluffs Board of Health has adopted these regulations pursuant to its authority under M.G.L. Chapter 111, Section 31 and 22.

5.3 Applicability

These regulations shall apply to all new construction and alteration in Sensitive Resource Areas as defined in Section 2.3 of these regulations.

5.4 Stormwater Management Design

The stormwater management design shall include a control strategy and plan for source control and should utilize Best Management Practice(BMP) for any particular development or project.

The design should:

- A. Reproduce, as nearly as possible, the hydrological conditions in the ground and surface waters prior to development;
- B. Reduce storm water pollution to the "Maximum Extent Possible" (MEP), using Best Management Practices (BMPs);
- C. Have an acceptable future maintenance burden;
- D. Have a neutral effect on the natural and human environment;
- E. Be appropriate for the site, given physical restraints;
- F. Provide a sufficient level of health and environmental protection during the construction phase.

5.5 Stormwater Management Plans

An acceptable Stormwater Management Plan shall include the following:

- (a) Proposed drainage for the subdivision or project shall not cause an increase or decrease in either the total volume of runoff discharged off site, as compared with the respective discharge off site prior to the development. Such condition shall be required for storms of 1(one), 10(ten), 50(fifty), and 100(one hundred) year frequency events.
- (b) In cases where runoff infiltration cannot, in the opinion of the Board, be appropriately implemented because of the possibility of contamination of water supply, or because of extremely poor infiltrative and permeability characteristics of the soil, the volume requirement may be waived by the board provided the applicant provides such additional measures to prevent any increase in elevation or duration of downstream flood elevations.

Such additional measures may be, but are not restricted to, the construction of compensatory flood storage facilities and/or the creation of additional wetlands.

Poor infiltrative and permeability conditions are defined as soil permeability of less than 1x4-4 centimeters per second. Unless, in the opinion of the Board, such testing is not applicable for a particular site, all permeability tests shall be in-site field bore hole test for permeability in the acceptable range as specified above.

If permeability testing is desired to be performed in soils of lesser permeability, laboratory tests for hydraulic conductivity shall be performed on undisturbed samples by the Falling Head Permeability Test using flexible membrane triaxial test cells with back pressure (Army Corps of Engineering Manual EM 1110-2-1906 Appendix VII).

- © If detention or retention ponds are utilized, slopes shall be no steeper than four(4) horizontal to one(1) vertical, and design water depth shall not exceed three(3) feet. Minimum bottom slope for detention areas shall be 2%.
- (d) Include design of BMP's and infiltration and detention structures in accordance with procedures acceptable to the Board of Health such as are described in the following publications:
 1. "Controlling Urban Runoff-A Practical manual for Planning and Designing Urban BMP's," Department of Environmental Programs, Metropolitan Washington Council of Governments.
 2. "Storm Water Detention for Drainage, Water Quality, and CSO Management", Peter Stahre and Ben Urbonas, Prentice Hall, 1990.
 3. ASCE Publications entitled "Design of Urban Runoff Quality Controls," 1988, and "Urban Runoff Quality - Impact and Quality Enhancement Technology," 1986.
 4. "Urban Surface Water Management," Stuart G. Walesh, John Wiley & Sons, Inc., 1989
 5. "Underground Disposal of Storm Water Runoff _ Design Guidelines Manual," February, 1980, Federal Highway Administration, Department of Transportation.
 6. "Erosion and Sediment Control in site Development," Massachusetts Conservation guide, Volume 1.

- (e) Include hydrologic and hydraulic calculations and data to support the proposed design for the runoff drainage system. Both volume and flow rate of runoff, before and after development, must be clearly stated and shall be in accordance with the specifications previously designated herein. Calculations shall be performed using the most recent procedures of the USDA Soil Conservation Service which are described in the National Engineering Handbook, Section 4, "Hydrology." (SCS, 1985); TR-20, "Computer Program for Project Formulations - Hydrology". (SCS, 1983); and Technical Release No. 55, "Urban Hydrology for Small Watersheds", (SCS, 1986). Structure design shall comply with the standards of SCS Publication TR-60 for containments for detention and retention areas or other designated references. Additional design guidelines may be on file with the Board of Health.
- (f) No channeling of surface runoff shall be allowed off site without the written consent of the owner of the land affected, in the form of a permanent grant of easement recorded at the Registry of Deeds.
- (g) Provide evidence to demonstrate clearly to the Board of Health that the effect on ground and surface waters shall be in accordance with the specifications previously designated herein.