55-322. GENERAL STORM WATER DRAINAGE REQUIREMENTS. [Added 2-20-90 by Ord. No. 1990-4]

A. No drainage pipe or easement shall be permitted within twenty-five (25) feet of any existing or proposed individual sewage disposal system. At least two (2) feet zero (0) inches of minimum cover over the top of the pipe at all times, including during construction, must be provided.

B. Subject to review and approval by the Board, the design of a subdivision may be modified to take advantage of the natural drainage features of the land. In such review, the Board will use the following criteria:

(1) The utilization of the natural drainage system to the extent possible.

(2) The maintenance of the natural drainage system as much as possible in its unimproved state.

(3) When drainage channels are required, wide shallow swales with natural vegetation will be preferred to other sections.

(4) The construction of flow-retarding devices, detention areas and recharge berms to minimum runoff value increased.

(5) Maintenance of base flow in streams, reservoirs and ponds.

(6) The reinforcement, improvement and/or extension of the natural drainage system to such extent as is necessary to eliminate flooding and excess maintenance requirements.

C. When a developer or his engineer determines that it will be necessary to utilize design standards in addition to or other than those minimum requirements established herein, he is advised to consult with the Board Engineer prior to the beginning of his detailed design for review

and approval of his proposed design standards. Standards utilized should generally be nationally recognized and in common use in this area.

D. When the Board finds it necessary, it may waive any or all of the requirements established herein, except the requirements of Article XIX, Standards for Development in the Pinelands Area §§ 55-291-55-301, which were established for the purpose of conformity with the Pinelands Comprehensive Management Plan, and may require additional information, in accordance with N.J.S.A. 40:55D-51.

E. All development applications must be accompanied by the drainage area map and drainage calculations.

(1) Calculations shall include the results of test pits, soil borings and percolation tests, which shall be performed at each disposal area and at a rate of one (1) percolation test and test pit per seven thousand five hundred (7,500) square feet of recharge area. The percolation test results shall include a description of the test, the depth at which the test was conducted and a description of the soils encountered. The test pits shall be at the depth of the bottom of the recharge system. Depth to seasonal high water shall also be shown.

(2) Percolation tests and reports.

(a) At least one (1) percolation test shall be performed at the site of each disposal area. More than one (1) test will be required where the soil structure may vary or large disposal areas are required open to the atmosphere for periods over three (3) days or in frozen ground. Tests shall not be made in filled ground unless the soil has been compacted or allowed to settle to the satisfaction of the Board Engineer.

(c) Percolation tests shall be performed in accordance with the following procedures:

[1] Step 1. Prepare a test hole in the undisturbed soil at the depth intended to be used for disposal purposes, having horizontal dimensions of eight (8) inches to twelve (12) inches. Means may be used to protect the soil in the test hole from becoming clogged with silt and clay particles. Establish a fixed point at the top of the hole from which all measurements shall be taken. Fill the hole with water and allow all of the water to drain into the soil. Record accurately the dimensions of the test hole.

[2] Step 2. Fill the hole to a depth of approximately seven (7) inches. At a five (5) to thirty (30) minute time interval, depending on the rate of fall, record the drop in water level in inches during the time interval selected. Immediately refill the hole to the original depth of approximately seven (7) inches, and repeat the test using the same time interval and method. Repeat this procedure until the distance that the water has fallen in the time interval selected becomes approximately equal. (Steps 3 and 4 shall follow immediately.)

[3] Step 3. Remove any silt accumulation or debris remaining in the hole.

[4] Step 4. Refill the hole to a depth of seven (7) inches as quickly as possible and record the time required for only

six (6) inches of the water to seep away. This time divided by six (6) will be the percolation rate in minutes per inches.

(d) Reports shall be furnished to the Planning Board Engineer indicating the result of each percolation test in minutes per inch (including unacceptable rates), the date of the test, the effect of recent rain or lack of rain, the apparent moisture of the soil prior to the test, the depth to the underground when encountered, the number of preliminary tests made to determine apparent saturation and the type or types of soil encountered, using the Unified Soil Classification System or such other system as approved by the Department, together with the thickness of each layer and all other factors affecting percolation test results.

(3) Soil geology and groundwater.

(a) The Board Engineer may require additional information relative to soil structure, geology and groundwater elevations adjacent to or below the proposed disposal area. However, the following information shall be required in all cases:

[1] The number of test borings or pits shall be as specified by this article.

[2] The depth of test borings or pits shall be ten (10) feet or to bedrock when encountered. If seepage pits are proposed, test borings or test pits shall be to a depth of eight (8) feet below the bottom of the proposed seepage pits or to bedrock when encountered. Power augers may be used to advance or clean out test holes to sampling depths but

may not be used to retrieve soil samples or other sampling devices may be used which retrieve a relatively undisturbed soil sample. Hand augers may be used as long as the test hole remains open and does not cave or slump.

[3] Reports of the type, nature and depth of the soil as found and depth to groundwater when encountered shall be shown on the plans. Sieve analyses shall be performed on soil samples. The effective size and uniformity coefficient of the soils shall be determined and the results submitted with the application. Requests by the Board Engineer for soil samples shall be made prior to the completion of the tests. An adjusted seasonal high water table shall be determined based on actual measurements to the water table (performed from January to April, inclusive) as adjusted by mottling of the soil horizons contained within the test hole or pit.

[4] Locations and results of percolation tests, locations of soil borings and boring logs shall be shown on the plans.