STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
P.O. Box 029, TRENTON, NJ 08625-0029

PERMIT TO CONSTRUCT AND OPERATE* TREATMENT WORKS

**Local Agency approval required prior to operation*

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations.

PERMIT NO.	ISSUANCE DATE	EXPIRATION DATE	DESIGN FLOW
00-3487-4SG	March 20, 2009	See below	N/A

NAME AND ADDRESS OF APPLICANT
New Jersey Department of Environmental Protection
Bureau of Nonpoint Pollution Control
P.O. Box 029
Trenton, New Jersey 08625-0029

LOCATION OF ACTIVITY
Counties: All
Municipalities: All

A. General Requirements:

This approval authorizes the administrative authority to approve an individual subsurface sewage disposal system which uses a product in lieu of the gravel filter material, gravity distribution pipe, and drainage fabric in a standard individual subsurface sewage disposal system design pursuant to N.J.A.C. 7:9A-1 et seq. Distribution pipe is required in pressure dosing applications. Serial distribution is prohibited as per N.J.A.C.7:9A-9.1(b). The use of an effluent filter in the septic tank is required for all systems using these gravel alternative disposal products. All other aspects of the individual subsurface sewage disposal design and construction not specifically covered by this approval must conform to N.J.A.C. 7:9A-1 et seq.

B. Administration:

This approval is valid when incorporated into a final construction approval from the administrative authority. Construction and Operation of such an approved system may not commence until final construction approval from the administrative authority is received. The administrative authority shall submit a list of all approved systems authorized under this TWA annually (by June 1) to the Department using the spreadsheet for gravel alternative systems available through the Department.

C. Product Specifications:

Specific products approved by this TWA will be identified in a supplemental table, Appendix 1. Products listed in Appendix 1 have submitted to the Department structural testing reports and results for H10 Load Testing. Appendix 1 will be updated as needed and be made available to the local administrative authority at anytime through email notification and posting on the Department's website. These gravel alternative products may be used for a trench or bed configuration according to these guidelines in conventional, soil replacement-bottom lined, soil replacement-fill enclosed, mounded, mounded soil replacement systems, as described in N.J.A.C. 7:9A-10.2(a).

APPROVED by the Department of Environmental Protection

Barry Chalofsky, P.P., Chief
Bureau of Nonpoint Pollution Control

Date

This permit is also subject to special provisos and general conditions stipulated on the attached page(s) which are agreed to by the permittee upon acceptance of the permit.

D. Site Requirements:

The location of the individual subsurface sewage disposal system must conform to all provisions of N.J.A.C. 7:9A-1 et seq.

No construction of the individual subsurface sewage disposal system or the proposed realty improvement shall begin until the administrative authority has provided written notification to the applicant that all aspects of the design and construction of the individual subsurface sewage disposal system which are not authorized under this treatment works approval are in strict conformance with N.J.A.C. 7:9A-1 et seq.

The issuance of this permit does not exempt the applicant of the responsibility to comply with all other applicable Federal, State, County and Municipal rules and regulations.

E. System Design Requirements:

1. An individual subsurface sewage disposal system that incorporates products in lieu of the gravel filter material, gravity distribution pipe, and drainage fabric shall also incorporate an effluent filter in its design.

2. Disposal fields incorporating products used in lieu of the gravel filter material, gravity distribution pipe, and drainage fabric shall be sized based upon the following:

a) **Disposal Beds:**

$A = Q \times R$

A = Minimum disposal area required ($ft.^2$)
Q = Design volume of sanitary sewage (gal. per day)
R = Recharge rate based upon permeability ($ft.^2$/gal. per day)

Determine minimum disposal area required based upon the results of permeability tests or percolation tests performed as prescribed in N.J.A.C. 7:9A-6.

The product used in lieu of the gravel filter material, gravity distribution pipe, and drainage fabric shall be placed within the boundary of the disposal area, as calculated above, according to the manufacturer's recommendations. If the manufacturer recommends a specified spacing between product units, the disposal area does not need to be increased as long as the soil between the units will become saturated also. If the soil between the units will not become saturated, the minimum disposal area must equal the bottom area of the units only, not the space between the units.

Table 1. Minimum required Disposal Field Bottom Area per Gallon of Daily Sewage Volume (A/Q) (N.J.A.C. 7:9A-Table 10.2(c))

Permeability Rate (in./hr.)	Percolation Rate (min./in.)	Recharge Rate (A/Q ($ft.^2$/gal. per day))
6-20	3-15	1.61
2-6	16-30	2.08
0.6-2	31-45	2.56
0.2-0.6	46-60	2.94
Pressure Dosing w/ Select Fill*	Pressure Dosing w/ Select Fill*	1.33**

* *Select Fill is fill material meeting the specifications in N.J.A.C. 7:9A-10.1(f)4.*

** *All disposal beds using pressure dosing, except for conventional installations, and all bottom-lined soil replacement trench installations using pressure dosing shall have a minimum size of 1.33 square feet of bottom*

area per gallon of sewage volume. All other disposal field installations shall be based upon the permeability at the level of infiltration.

F. System Design Requirements (cont'd):

b) **Disposal Trenches:**

L = A/(W+H)

L = linear feet of trench required (feet)
A = minimum disposal area required, calculated as determined in Table 1., ($ft.^2$)
Q = Design volume of sanitary sewage (gal. per day)
R = Recharge rate based upon permeability ($ft.^2$/gal. per day)
W = width of trench = width of unit (feet)
H = trench sidewall height available for disposal (H = 1 foot)

For example, if the permeability rate is 2-6 in./hr, the minimum disposal area required will be 2.08 $ft.^2$/gal. per day. This value would be used for A in the equation above. Thus, for the example, L = A/(W+H) would be calculated as L= 2.08 $ft.^2$/gal. per day/(2.0 ft + 1.0 ft) = 0.69 feet/gal-day. *The actual calculation should be performed using actual numbers based on the site conditions.*

All other aspects of the design of the individual subsurface sewage disposal system must conform to the provisions of N.J.A.C. 7:9A-1 et seq.

G. System Construction Requirements:

The construction of the individual subsurface sewage disposal system must conform to all provisions of N.J.A.C. 7:9A-1 et seq. This approval only authorizes the use of products in lieu of the gravel filter material in the construction of the disposal field for an individual subsurface sewage disposal system.

H. System Operation and Maintenance Requirements:

The operation and maintenance of the individual subsurface sewage disposal system must conform to all provisions of N.J.A.C. 7:9A-1 et seq.