

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH



Raul Pino, M.D., M.P.H.
Commissioner

Environmental Health Section

Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

April 28, 2016

Jim King, Director of Government Affairs
Eljen Corporation
125 McKee Street
East Hartford, CT 06108

Re: Eljen Mantis Double-Wide 100 & 58 Proprietary Leaching System Approvals

Dear Mr. King:

This Department has reviewed your approval request and support documentation for Eljen Corporation's Mantis Double-Wide (DW) 100 and 58 proprietary leaching systems. The Mantis DW products are similar to the previously approved Mantis 536-8 series products; however they are twice as wide. The products consist of 5 foot long "units" that can be connected end to end. Both products have eight independent "modules" that are equally spaced along two internal 4-inch diameter perforated distribution pipes that have invert elevations that are either 12 inches above the unit base (100) or 6 inches above the unit base (58). The distribution pipes provide effluent to each individual module via 1-inch diameter holes located at the 4, 8 & 12 o'clock positions (12 o'clock position is for increased product venting). The modules have internal plastic cusped material that is wrapped with filter fabric on the sides and top. The modules for the Mantis DW 100 are 72 inches wide and 18 inches high. The modules for the Mantis DW 58 are 72 inches wide and 12 inches high.

The installation procedures for the Mantis DW products are similar to the Mantis 536-8 series products. The Mantis DW products are installed in a minimum 84-inch wide trench with a "specified sand" envelope placed around the units. The specified sand envelope includes 6 inches minimum underneath and on the sides of the units, 1-inch minimum on top of the units as well as 4 inches in between the modules. Eljen Corporation requires that only the specified sand be used for this sand envelope unless specific approval is granted under certain conditions. The specified sand has a gradation that is slightly more stringent than the select fill specifications in the Department's *Technical Standards for Subsurface Sewage Disposal Systems* (Technical Standards).



Phone: (860) 509-7296 • Fax: (860) 509-7295 • VP: (860) 899-1611
410 Capitol Avenue, MS#51 SEW, P.O. Box 340308
Hartford, Connecticut 06134-0308
www.ct.gov/dph

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Eljen Corporation also mandates venting for the Mantis DW products when the leaching system has more than 18 inches of cover material. A Design and Installation Manual dated February 2016 was included in the approval application, and the manual includes more detailed installation procedures and protocols. The installation instructions note that the Mantis Double-Wide series systems are prohibited from being installed in vehicular travel areas. Any changes to the Design and Installation Manual must be forwarded to this Department for our files, and must reflect the updated revision date.

Dosing of the Mantis DW series proprietary leaching systems for non-gravity systems can be accomplished with a conventional effluent pump system, or a low pressure distribution system designed by a professional engineer that must contact the Eljen Corporation Technical Resource Department for guidance on incorporating low pressure distribution into the Mantis DW 100 and 58 leaching systems. Conventional dosing must set the pump activation settings to deliver a maximum of 30 gallons per Mantis 100 unit per dosing cycle and 18 gallons per Mantis 58 per dosing cycle as noted in the installation manual.

The calculated effective leaching area (ELA) credits for the Eljen Corporation Mantis Double-Wide products are as follows:

| Product Name | Dimensions (W x H) | Effective Leaching Area (SF/LF) | Center to Center Spacing (feet) |
|------------------------|--------------------|---------------------------------|---------------------------------|
| Mantis Double-Wide 100 | 72" x 18" | 20.0 | 14 |
| Mantis Double-Wide 58 | 72" x 12" | 11.6 | 14 |

This Department hereby APPROVES the Eljen Corporation Mantis Double-Wide series proprietary leaching systems with the above noted ELA credits and center-to-center spacing.

The Eljen Corporation Mantis Double-Wide series proprietary leaching systems will be incorporated into the next revision of the Technical Standards. This letter may be reproduced in its entirety as a means of notifying local health departments, engineers and installers of the Department's product approval. This approval should not be construed to be an endorsement of this product, nor does it convey intellectual property rights

Sincerely,



Robert W. Scully, P.E.
 Supervising Sanitary Engineer
 Environmental Engineering Program

Cc: Code Advisory Committee
 Local Health Officials
 E-mail Distribution List