**Section 905.80 Re-circulating Sand Filter**

a) General. The re-circulating sand filter system (Appendix A, Illustration O) consists of a septic tank, recirculation tank, open sand filter and flow splitter. It may be used provided that the effluent is discharged in accordance with the requirements of Section 905.110.

b) Septic Tank. The septic tank shall be sized and installed as described in Section 905.40.

c) Re-circulation Tank. The re-circulation tank volume shall be 500 gallons, and the tank shall be equivalent in strength and materials to the septic tank as provided in Section 905.40. No baffles are necessary. An access manhole, as described in Section 905.40(b)(7), shall be provided for pump maintenance or replacement.

d) Sand Filter. The sand filter shall be sized at one square foot of filter surface for every 3 gallons per day of domestic sewage flow. Appendix A, Illustration P has a size chart for residences based on numbers of bedrooms. Unless otherwise stated in Appendix A, Illustration P, the sizes shown are required. The filter media shall comply with requirements of Section 905.70(e) and (f) and shall be 30 inches in depth.

e) Bedding Material. The bedding material for the collection lines shall be the same as that in a buried sand filter. The coarse gravel shall be ¾ to 2½ inch diameter, and the pea gravel shall be from ⅛ to ⅜ inches diameter. A minimum of 2 inches of coarse gravel shall be placed on the excavation prior to placement of collection lines.

f) Distribution and Collection Lines. The collection lines shall be constructed of materials as approved in Section 905.20(f) and shall be 4 inches inside diameter perforated piping laid with perforations facing downward. The distribution piping shall have an inside diameter of 1½ inches. The perforated pipe shall have ½ to ¾ inch diameter openings on 3-inch to 5-inch centers with 2 rows at 120° from each other. Distribution piping shall be spaced on 3-foot centers and shall be located a minimum of 1½ feet from sidewalls.

g) Pumps. The pump shall be a submersible pump designed for corrosive liquids and shall have a capacity of 15 to 25 gallons per minute at the 10-foot total dynamic head (TDH). The pump shall be controlled by a time clock that can be set to activate the pump at one hour or longer intervals. Pump shut-off shall be controlled by a low level float switch that allows the entire contents of the re-circulation tank to be pumped during each pump cycle. A high level float switch shall be provided that energizes a visible and audible alarm to indicate pump failure or malfunction. (See Appendix A, Illustration Q.)

h) Flow Splitter. The flow splitter shall be designed so that re-circulation rates can be controlled between no re-circulation and a 5:1 re-circulation ratio. An example of one type of splitter is shown in Appendix A, Illustration O.

(Source: Amended at 37 Ill. Reg. 14994, effective August 28, 2013)