

## Water Softener Backwash and On-site Sewage Systems Indiana Application of *410 IAC 6-8.3-60(i)* and *410 IAC 6-10.1-68(i)*:

### **Purpose:**

The purpose of this document is to provide guidance to local health departments, on-site sewage system designers, and installers concerning the discharge of water softener backwash in a residence that is using an on-site sewage system.

### **Background:**

Water softening equipment is used in many households in Indiana due to high levels of dissolved minerals and iron in drinking water supplies. There has been much discussion, and a number of articles published, concerning the effects of the backwash from water softeners on an on-site sewage system. However, much of the information used to form opinions concerning the effects has been from anecdotal reports of issues related to the functioning of the on-site sewage system. There is, therefore, still a diversity of opinion concerning these effects. It is not the purpose of this document to review information from published reports, or to provide a decision as to the effects of water softener backwash on on-site sewage systems.

### **Discussion:**

The department sets minimum standards for residential on-site sewage systems. In accordance with 410 IAC 6-8.3-41 and 410 IAC 6-10.1-38, "Sewage" means all water-carried waste derived from ordinary living processes. In addition, 410 IAC 6-8.3-52(a) and 410 IAC 6-10.1-49(a) state that "No person shall throw, run, drain, seep, or otherwise dispose into any of the surface waters or ground waters of this state, or cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed into such waters, any organic or inorganic matter from a dwelling or residential on-site sewage system that would cause or contribute to a health hazard or water pollution." [emphasis added]

410 IAC 6-8.3-52(a) and 410 IAC 6-10.1-49(a) derive from Indiana's water pollution control laws, which date back to 1943. In essence, these laws prohibit the discharge of any waters which contain contaminants, to the waters of the state, without specific written approval by the Water Pollution Control Board.

Therefore, the department, through its rules, and the interpretation of its rules as well as water pollution control laws, cannot advocate the indiscriminate discharge of water softener backwash in a manner which may cause pollution to the waters of the state.

### **Decision:**

Water softener backwash must be discharged to an on-site sewage system in accordance with the provisions of 410 IAC 6-8.3 or 410 IAC 6-10.1, whichever is applicable. Water softener backwash must be discharged to:

1. the building sewer;
2. a secondary treatment device;
3. the effluent sewer on the downstream side of the septic tank or the secondary treatment device;
4. the dosing tank serving the soil absorption field; or
5. a separate soil absorption field constructed specifically for the water softener backwash.

If option number 5 is employed, the soil absorption field must be sized and designed on the frequency of recharge of the water softener, the amount of backwash water discharged at each recharge, and the site and soil conditions (including the soil loading rate from the soil loading rate tables in 410 IAC 6-8.3 or 410 IAC 6-10.1, whichever is applicable).

Another option would be for the property owner to install a canister type water softener where the service representative would replace the canister as needed, so that there is no water softener backwash discharged to the on-site sewage system.

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MICHAEL METTLER, REHS, DIRECTOR  
ENVIRONMENTAL PUBLIC HEALTH DIVISION