



MANAGEMENT OF ONSITE SEWAGE DISPOSAL SYSTEMS IN JEFFERSON COUNTY

A POSITION PAPER FROM THE JEFFERSON COUNTY DEPARTMENT OF HEALTH

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STATEMENT OF POSITION: Improper or inadequate maintenance of onsite sewage disposal systems can result in system failures that potentially expose citizens to public health threats. The Jefferson County Department of Health believes a program requiring periodic inspection and maintenance of onsite sewage disposal systems in Jefferson County would significantly reduce the number of onsite sewage disposal system failures, greatly extending the operational life of these systems and reducing the potential for contamination of surface and subsurface ground waters.

RATIONALE FOR POSITION: In other sections of the country, onsite management systems have been established and have successfully managed the overall environmental impact of individual onsite sewage disposal systems on the community. The Environmental Protection Agency encourages management of onsite sewage disposal systems to help communities meet water quality and public health goals.

BACKGROUND: Onsite sewage disposal systems are used by a significant number of households in Jefferson County as a method to treat and properly dispose of sewage wastes. The most recent figures derived from U.S. Census surveys and other sources estimate the number of onsite sewage disposal systems in use in the county at 91,000.^{1,2} The great majority of these systems are conventional and consists of a septic tank connected to a series of underground trenches interlain with aggregate and pipe. The septic tank serves as a collection and settling chamber for household wastes and the remaining wastewater discharges into the underground trenches to be filtered by the soil. The final “polished” effluent moves through the soil into the groundwater aquifer for reuse. In recent years, increasing numbers of non-conventional onsite sewage disposal systems have been put into use, such as systems utilizing sewage lift pumps, aerobic treatment units, chambered peat systems, etc. The one key element common to the proper function and extended life of all these systems, from the most basic to the most advanced, is routine preventive maintenance. This primarily consists of periodically inspecting the condition of the septic tank, pumping out the sludge build-up before it reaches the level of the effluent or discharge pipe, and maintaining mechanical parts and filters. This maintenance is critical to the continued proper function of the system because many properly sited and installed onsite sewage disposal systems fail, becoming public health nuisances, as a result of negligence by the property owner. Few septic systems in the United States receive proper maintenance and most regulatory programs do not require homeowner accountability for system performance.³ A septic system that is properly designed and operated should have solid waste pumped from the septic tank periodically, every three to five years or more.⁴ Nationwide, it is estimated that at least 10% of existing onsite systems back up into the house or onto the ground surface each year and that 20% malfunction to some extent.³

In an effort to determine the effectiveness of onsite management system programs, the National Onsite Demonstration Program at West Virginia University conducted a survey of sixty communities throughout the United States with onsite management programs in place. Two-thirds of the communities said they could demonstrate verifiable positive results after implementing an onsite management system. In fact, in Albemarle, North Carolina, the percentage of onsite sewage disposal system failures was reduced from 30% to 1% following implementation of an onsite management program.⁵

Onsite sewage disposal systems will continue to play a vital role in the treatment and disposal of wastewater in areas of Jefferson County without access to public sanitary sewers. With the escalating costs of constructing and operating sanitary sewer facilities, viable options must be sought to insure adequate maintenance of onsite sewage disposal systems in the county. An onsite management system has the potential to: 1) improve the public health by reducing the number of onsite sewage disposal system failures, 2) protect surface and subsurface waters, some of which are sources of drinking water, 3) provide substantial savings to property owners over time by avoiding costly system repair or the high cost of sewer connection, if available, and 4) realize savings for county government through reduced demand for sewer extensions.

ACTION PLAN: The Jefferson County Department of Health recommends creation of an onsite management system under the operational authority of the Jefferson County Department of Health to oversee the periodic inspection and maintenance of all onsite sewage disposal systems within Jefferson County. The onsite management system would contract with local septic tank cleaning companies to periodically pump the septic tanks of homeowners and perform a brief visual inspection of the disposal field area. Problems found with the disposal field would be reported to Department of Health personnel for field investigation and issuance of a repair permit. The property owner would be responsible for the expense of field line repairs and other high-cost maintenance (replacement of pumps, etc.). Funding of the program could be accomplished by assessing a user or operational fee to be collected annually with payment of property taxes or monthly on the water bill or as a separate sewage bill. The fee could also be billed annually to each homeowner if a co-billing arrangement could not be negotiated. A cooperative effort would be necessary among all county governments and agencies in order to implement an effective onsite management system.

SUMMARY: Onsite sewage disposal systems are employed in areas of Jefferson County with out access to public sanitary sewers. Improper or inadequate maintenance of these systems can result in failures. Onsite sewage system management reduce threats to public health, protect surface and subsurface ground water, and reduce the need for costly system repairs by reducing the number of system failures.

For more information call 930-1480 or visit www.jcdh.org.

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LITERATURE CITED:

1. United States Census Bureau, 1990 data for Jefferson County, Alabama.
2. Jefferson County Department of Health, Community Environmental Protection Division records.
3. United States Environmental Protection Agency; Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems; March 2003.
(<http://www.epa.gov/OWM/mtb/decent/download/guidelines.pdf>)
4. Falvey, C. Onsite System Management Can Take Many Forms, Small Flows Quarterly; Spring 2000.
(<http://www.nesc.wvu.edu/nodp/pdf/OnsiteSystem.pdf>)
5. National Onsite Demonstration Program, West Virginia University; Insights into Community Onsite Management Systems: A National Overview.

