

## PHRC Report #24: Site Wastewater Treatment and Disposal Systems Research Workshop

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### BACKGROUND:

On-site treatment and disposal of domestic wastewater is a topic of major concern for the residential building industry. The primary issue involves environmental protection vs. cost-effective housing. Specifically, the protection of the surface and ground waters of the Commonwealth must be adequately addressed, but should not place unnecessary or overbearing restrictions on development.

On May 10, 1990, a workshop entitled "On-Site Wastewater Treatment and Disposal System Research" was presented at the J.O. Keller Conference Center on the University Park campus of The Pennsylvania State University. The focus of the one-day workshop dealt with the issues, concerns, regulations, and future research directions concerning on-site sewage systems. The workshop was sponsored by the Pennsylvania Housing Research Center.

The proceedings of the workshop were published as PHRC Research Series Report No. 20, "Proceedings of the On-Site Wastewater Treatment and Disposal Systems Research Workshop." Specifically, Report No. 20 documents (1) the preliminary correspondence leading to the workshop, (2) the proceedings of the workshop, (3) the findings and recommendations of the workshop, and (4) the workshop follow-up information and future research directions. One of the identified areas of future research effort concerned the alternatives to conventional on-lot systems. It was the expressed desire of the workshop participants that these "alternatives" should be Pennsylvania Department of Environmental Resources (DER) approved alternative systems.

Several of the DER approved alternatives include spray irrigation, stream discharge, and dry stream discharge. These three alternatives refer to the means of **disposal** of the treated wastewater. The **treatment** process for all of these systems is very similar and involves complex chemical and biological processes.

Eventually, after a series of follow-up meetings, it was decided that spray irrigation offered the most promise as a significant research and technology transfer project. The decision to select spray irrigation was made jointly by the Pennsylvania DER, the Pennsylvania Builders Association (PBA), and the PHRC.

### SUMMARY OF RESULTS:

The final product of this project is a two-part package consisting of:

- a consumer informational brochure.
- an PHRC Research Series Report which can be used as a basis for a series of seminars explaining the application/permitting process, the treatment and disposal systems, and the design of on-site spray irrigation systems.

The purpose of the brochure is to answer some of the most frequently asked questions concerning spray irrigation systems. The report details the background information, the system processes, the application/approval process, and the design of spray irrigation systems.

### WHAT IT MEANS TO YOU:

Spray irrigation systems provide a viable alternative for marginal residential lots which may contain poor soils, a high water table, or steep slopes. The application and approval process is extensive. The costs are relatively expensive. However, a spray irrigation system may allow the development of a particular site that was previously unbuildable.

### WHAT'S NEXT?

A series of one-day workshops will be held throughout Pennsylvania to present the material contained in the brochure and in the project report. The focal points of the workshops will be on:

- the application and permitting process.
- the engineering design of a typical spray irrigation.