



# COMMONWEALTH of VIRGINIA

Department of Health

DONALD R. STERN, M.D., M.P.H.  
ACTING STATE HEALTH COMMISSIONER

P O BOX 2448  
RICHMOND, VA 23218

July 14, 1995

MEMORANDUM

GMP #74

To: District Health Directors  
District Environmental Health Managers  
Office of Environmental Health Services Staff

From: Donald J. Alexander, Director *Donald J. Alexander*  
Division of Onsite Sewage and Water Services

Subject: Spray Irrigation Sewage Systems

**Onsite - Spray Irrigation**

This GMP addresses only spray irrigation sewage systems which can be permitted under § 2.25 C. of the Sewage Handling and Disposal Regulations. Any other spray irrigation systems must comply with all other applicable regulations and requirements of the Virginia Department of Health and the Virginia Department of Environmental Quality. Spray irrigation systems utilized under this GMP must be designed for no runoff nor discharge to streams.

GMP 74 was made allowable by interagency letters of cooperation between the Virginia Department of Health (VDH) and the Virginia Department of Environmental Quality (VDEQ). Copies of interagency letters of cooperation are present in Appendix 5 and 6.

The content of this GMP includes several aspects which relate to utilization of spray irrigation sewage systems. The contents are as follows:

- I. Administrative Aspects
- II. Application Process
- III. Soil and Site Criteria
- IV. Basic Design Criteria
- V. Plan Review
- VI. Operation and Maintenance Manual
- VII. Monitoring of Systems
- VIII. Attachments

## I. Administrative Aspects

This GMP is designed to allow usage of spray irrigation sewage systems for domestic sewage with flows of less than or equal to 1000 G.P.D. design flow. These systems may be utilized for new construction or repairs of failing sewage disposal systems. For the purpose of this GMP, domestic sewage will generally be considered as wastewater from toilet flushing, bathing, hand washing, and wastes from non-commercial kitchens and laundry facilities. Utilization of spray irrigation systems for treatment and disposal of sewage from anything other than domestic sewage must comply with all other applicable regulations and requirements of the Virginia Department of Health and the Virginia Department of Environmental Quality.

GMP 74 allows installation of spray irrigation sewage systems under Section 2.25.C of the Sewage Handling and Disposal Regulations. Spray irrigation technology has been shown to be a proven technology in Virginia with experimental systems which have been installed. Installation of such systems is allowed in other states as well. Therefore, spray irrigation sewage systems utilizing Section 2.25.C do not require an approved back-up system. The criteria for installation of these systems in Virginia are contained in this GMP.

Any variances, appeals, and other administrative aspects relative to these systems will be handled under the Sewage Handling and Disposal Regulations and related requirements.

## II. Application Process

Spray irrigation systems proposed to be used under GMP 74 are to be applied for at the local/district health department. The existing onsite sewage application form, along with an application attachment, will be utilized for these systems. A copy of the application attachment is present in Appendix 1.

Processing of all applications will be under jurisdiction of the local or district health department. Staff from the Office of Environmental Health Services will assist local/district staff when requested. Technical services by OEHS will be provided under aspects of GMP #17 (see Appendix 4).

### III. Soil and Site Criteria

The basic soil and site criteria which are to be applied to processing of an application for a spray irrigation sewage system are included in Appendix 2.

### IV. Basic Design Criteria

Design criteria are different from other systems discussed in the Sewage Handling and Disposal Regulations. Appendix 2 contains the basic design criteria for domestic sewage spray irrigation systems.

### V. Plan Review

Spray irrigation sewage disposal systems permitted under Section 2.25.C will be considered to be Type III sewage disposal systems and require formal plans and specifications to be submitted by a Professional Engineer. Plan review is to be accomplished as per procedures established in GMP 17. A copy of GMP 17 on plan review is attached in Appendix 4 for reference. It is included with this GMP so as not to cause confusion on referencing GMP numbers and possible rescinding of review procedures.

### VI. Operation and Maintenance Manual

An Operation and Maintenance Manual is necessary for spray irrigation systems. These systems require more maintenance than typical onsite sewage disposal systems. An acceptable O&M Manual for the individual system installed must be submitted to the local health department prior to the issuance of the operation permit.

### VII. Monitoring of Systems

Permitting of spray irrigation systems under Sections 2.25.C of the Sewage Handling and Disposal Regulations must be reported to the Division so that accurate records of permitted systems can be maintained and evaluated on a statewide basis. The number of

District Directors  
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permits issued for these systems should be indicated on the OEHS quarterly data report.

Owners must conduct the monitoring required in the Operation and Maintenance Manual and supply the results to the local or district health department. Minimum general monitoring requirements to be included in the O&M Manual are referenced in Appendix 3. The local or district health departments should also conduct monitoring visits of installed spray irrigation systems. Test results which do not meet the O&M parameters are to be reported to the Division so that spray irrigation system function under Section 2.25.C can be evaluated statewide.

An operational contract with a minimum of a Class IV operator must be provided.

#### VIII. Attachments

Appendix 1	Application Attachment for Spray Irrigation
Appendix 2	General Soil, Site and Design Criteria
Appendix 3	Monitoring
Appendix 4	Plan Review Procedure (GMP #17)
Appendix 5	VDH Interagency Letter of Agreement
Appendix 6	VDEQ Interagency Letter of Agreement

**GMP #74**  
**Onsite - Spray Irrigation**

**SPRAY IRRIGATION SEWAGE SYSTEM  
APPLICATION SUPPLEMENT**

This sheet is a supplement to Form 200, Application for a Sewage Disposal System Permit, when a spray irrigation sewage disposal system is proposed for installation. This form must be properly signed and submitted with the application and site sketch.

Please attach a site sketch to this application showing:

1. Boundaries of the property.
2. The location and distance of any existing or proposed buildings, wells, sewage treatment systems, water sources, water lines, easements, or above and below ground utilities within 200 feet of the proposed spray irrigation system.
3. The important topographic features within the buffer area (including such items as drainage ways, sinkholes, ponds, lakes, streams, area of rock outcrops, and any boundaries of 100 year flood plain).

I hereby give permission to the Health Department to enter onto the above referenced property for the purpose of processing this application. I certify that the property lines and the proposed location of the spray irrigation sewage system are clearly marked and that the property is sufficiently visible to see the topography.

\_\_\_\_\_  
Signature of Property Owner

\_\_\_\_\_  
Date

As an applicant for a construction permit on the above referenced property, I certify that, to the best of my knowledge, the above information and the attached site sketch are true, correct, and complete. I understand that if the Department finds a satisfactory site in response to this application, that I may be required to submit a site plan, certified copies of any necessary easements, and correct plans and specifications for the spray irrigation sewage system prepared by a professional licensed engineer.

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date

As an applicant for a spray irrigation sewage system construction and operation permit on the above referenced property, I hereby give permission to the Health Department, or their authorized agent, to enter on to the above referenced property for purpose of inspecting the construction of and monitoring the operation and quality of the effluent from my spray irrigation sewage system.

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date

**GENERAL SOIL, SITE, AND DESIGN CRITERIA FOR SPRAY  
IRRIGATION SEWAGE SYSTEMS**

**I. General Site Criteria**

- A. Spray irrigation systems may not be installed in drainage ways, swamps, marshes, or concave landscape positions (See sections 3.3.A, 3.3.C.1, 3.3.C.2 of the Sewage Handling and Disposal Regulations).
- B. Systems may not be installed in floodplain areas which would be prohibited for installation of a conventional onsite sewage disposal system (See section 3.3.G of the Sewage Handling and Disposal Regulations).
- C. Slope
  - 1. Non Forested-type sites
    - a. Slopes of less than 12% are acceptable in the spray area.
    - b. Acceptable vegetative cover must be present prior to utilization of the sewage system.
  - 2. Forested-type sites
    - a. Slopes of less than 20% are acceptable in the spray area.
    - b. Forested-type sites must have mature trees with humus and leaf litter. No major landscaping is to be done. At least 50 percent of the buffer area shall be forested.
  - 3. Slopes greater than those stated in C.1 and C.2 and less than or equal to 30 percent may require a special design. Sites with slopes greater than 30 percent can not be used.

**II. General Soil Criteria**

- A. The minimum depth of acceptable natural soil must be at least 12 inches.
- B. Acceptable natural soil must be free of restrictive features but may have a percolation rate in excess of 120 MPI. Restrictive features include, but are not limited to, fragipans, ironpans, and similar restrictive features.

- C. Soils which contain more than 50% rock fragments are not acceptable.
- D. Acceptable soil must be free of wetness indicators in the top 12 inches.

### III. General Design Criteria

#### A. Reserve Area

- 1. A reserve area requirement of 25 percent is necessary for spray irrigation sewage systems for general statewide installations.
- 2. This application of Section 2.25 of the Sewage Handling and Disposal Regulations does not supersede the requirements of the Chesapeake Bay Preservation Act or any local ordinance which requires a reserve area or other criteria more stringent than contained in the Sewage Handling and Disposal Regulations.

#### B. Pretreatment

- 1. Pretreatment shall consist of one of the following methods:
  - a. A sandfilter system designed in accordance with GMP #33, or
  - b. An aerobic treatment unit certified to the Class I standards of ANSI/NSF International Standard 40 followed by a single pass sand filter with a design loading rate of 14 gallons (or less) per day per square foot.
- 2. Adequate disinfection shall be provided.

#### C. Storage

- 1. Adequate storage for treated wastewater shall be provided.
- 2. Storage shall not be less than 1200 gallons above the high water alarm in the pump chamber for the treated wastewater.

D. Vegetative Cover for Non-Forested Sites

1. Acceptable vegetative cover for non-forested type sites must be established prior to utilization of the spray irrigation system and the vegetative cover in the spray area must be properly maintained during use of the system. Characteristics of an acceptable vegetative cover are as follows:

- a. Utilizes nutrients
- b. Tolerates wet conditions
- c. Successful on poor soils
- d. Excellent erosion control
- e. Long periods of active growth
- f. Cold hardiness

2. A suitable vegetative cover for most spray sites will be a grass (e.g., fescue or Bermuda grass) or an established forest.

E. Buffer Requirements

- 1. Adequate distances must be provided to allow for buffer requirements from the spray area.
- 2. Table 1 below states the buffer requirements which are to be applied to spray irrigation systems.

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Table 1  
Spray Irrigation System Buffer Requirements

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Property Lines	100 ft
Private Roads and Driveways	25 ft
Dwellings	100 ft
Outbuildings	25 ft
Streams, Watercourses, Lakes, Ponds	100 ft
Swimming Pools	100 ft
Wells, Springs, Other Water Supplies	100 ft
Rocks Outcrops	10 ft
Utility Lines	10 ft
Tidal Shellfish Growing Areas and Food Processing Plants	200 ft*

\*May be reduced to 100 ft. provided increased bacteria and viral reduction and spray drift control are provided in the design to the satisfaction of the Department.



F. Fencing

1. Fencing of spray application areas is desirable, but is not mandatory except as stated below.
2. Grazing animals must be fenced from spray areas.

G. Application Rates

1. Application rates are to be developed and submitted to the local/district health department for review as part of the plans and specifications for each specific spray irrigation system.
2. The area requirements for the maximum weekly loading rates are stated below in Table 2.
3. Loading rates are to be designed on the most restrictive texture in the top 12 inches.

Table 2  
Area Requirements for Maximum Weekly Loading Rates

Soil Texture Group	Maximum Weekly Rates (inches)	Spray Area per Bedroom (Sq.ft.)	Requirements per 100 Gal (Sq.ft.)
I	1.0	1680	1120
II	0.75	2240	1490
IIIA <sup>1</sup>	0.5	3360	2240
IIIB <sup>1</sup>	0.375	5000	3330
IV <sup>2</sup>	0.25	6720	4480

<sup>1</sup>Soil Texture Group IIIA includes perc rates from 46-70 MPI and soil Texture Group IIIB includes perc rates from 71-90 MPI

<sup>2</sup>Loading rates for soils that have estimated or measured percolation rates greater than 120 minutes per inch, will need to be based on measured saturated hydraulic conductivity data.

H. Irrigation Equipment

1. Equipment must be of materials, construction, and design to assure proper use and function for a spray irrigation sewage system.
2. Impact and pop-up sprinklers may be used. Sprinkler risers greater than 24 inches in height must be braced.
3. Sprinklers must be of low trajectory type designed to reduce aerosols.

I. Pumps Chambers, Pumps, Controls, and Alarms

1. Pump chambers, pumps, controls, and alarms must comply with applicable portions of Section 4.23 of the Sewage Handling and Disposal Regulations.
2. Irrigation pumps are not required to have open faced impellers.
3. Irrigation pumps may be single or multistage pumps (ex: submersible well pumps).
4. Irrigation pumps must be designed to handle the flow and head requirements of the sprinkler heads and system.

**MONITORING**

**INFORMAL MONITORING**

Test water in final pump chamber for:

Color  
Odor  
Total Residual Chlorine

**FORMAL COMPLIANCE MONITORING**

**Collection**

Once per year at approximately 12 month intervals with spring and early fall as the best time for collection.

**Analysis**

Analyses to be performed by a wastewater quality laboratory using USEPA methods. Reports of analyses are to be submitted by the laboratory to the local/district health department within ten days of the completion of the examinations.

Test water supplied to spray irrigation area for:

pH  
Total Kjeldahl Nitrogen  
Fecal Coliform Bacteria  
Total Residual Chlorine (if applicable)  
Total Suspended Solids  
BOD<sub>5</sub>

**MONITORING**

**MINIMUM MONITORING SCHEDULE**

**Biweekly:**

Check disinfectant and add as necessary.

**Monthly:**

Walk over spray area (A) and component (B) and examine areas for:

- (A)
1. Ponding of effluent
  2. Damage to spray heads
  3. Vegetation problems
  4. Bad odors
  5. Surfacing liquid

- (B)
1. Bad odors
  2. Surfacing liquids
  3. Surface soil collapse
  4. Damage to components
  5. Alarm system function
  6. Disinfection function
  7. Informal sampling results recorded

**Quarterly:**

- (A)
1. Monthly monitoring items
  2. Proper spray sequence

- (B)
1. Monthly monitoring items
  2. Proper pump function
  3. Proper liquid levels
  4. Filter clogging

(To be done by a certified wastewater operator or factory authorized representative)

**Biannually:**

- (A)
1. Erosion

- (B)
1. Storage unit capacity

**Annually:**

Report, including formal sampling, signed by a certified operator will be submitted.

- (A)
1. Prepare statement on system function

- (B)
1. Collect formal compliance sampling
  2. Septic tank build-up



# COMMONWEALTH of VIRGINIA

ROBERT B. STROUBE, M.D., M.P.H.  
STATE HEALTH COMMISSIONER

Department of Health  
P O BOX 2448  
RICHMOND VA 23218

February 22, 1993

GMP #17

MEMORANDUM

TO: District Directors  
Environmental Health Managers  
Environmental Health Supervisors  
Environmental Health Project Managers

THROUGH: Robert W. Hicks, Director *Robert W. Hicks*  
Office of Environmental Health Services

FROM: David D. Effert, Technical Services Chief *D.D.E.*  
Division of Onsite Sewage and Water Services

SUBJECT: Plan Review and Evaluation Process for Type II and Type  
III Onsite Wastewater Treatment Systems

Attached is the strategy for an effective plan review process for Type II and Type III onsite wastewater treatment systems. This strategy was developed to clarify responsibilities with respect to the review of plans and specifications for onsite wastewater treatment systems.

The goal of this strategy is to evaluate Type II and Type III system plans and specifications at the level of authority closest to the authority which issues the construction permit. It is realized, however, that there is not sufficient expertise at the local level to conduct a complete review of all projects. The attached strategy details the responsibility of the local reviewer, and it specifies where the project can be forwarded if additional review is necessary. The strategy also specifies the type of information which must be provided if a project is to be forwarded for review. To assist the local reviewer, a "plan review list", and a "plan review sheet" have been provided.

Plan Review and Evaluation Process for Type II and Type III  
Onsite Wastewater Treatment Systems

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The plan review strategy was developed within the Division of Onsite Sewage and Water Services with review by the Office of Water Programs. The Office of Water Programs is an integral part of the plan review process for Type II and Type III wastewater treatment systems when additional review of a project is required. The responsibilities of the Environmental Engineering Field Office of Water Programs and the Division of Onsite Sewage and Water Services is clearly addressed in the attached plan review strategy.

The local environmental health specialist is responsible for the review of the site, and the issuance of a construction permit. This Plan Review and Evaluation Process outlines the proper procedure so the environmental health specialist can be assisted in the technical review of the design. A schematic flow diagram has been provided to graphically show how the review process is to proceed.

If you have any questions about this plan review process, please contact David Effert, Technical Services Chief, at 804)786-1750.

Attachment

**GMP #17**

**Sewage - Onsite - Plan Review**

cc: DOSWS Staff  
Contract Soil Scientists  
Cal Sawyer, Ph.D.

## Plan Evaluation and Review Process for Type II and Type III Systems

*Intent: The goal of this process is to evaluate and review Type II and Type III system plans and specifications at the level of authority closest to the authority which issues the construction permit.*

### Preliminary Technical Design Conference

A preliminary technical design conference (PTDC) is an essential tool for an efficient and timely technical evaluation of all projects. For major projects, questions and conceptual design criteria can be addressed during this conference. The Division of Onsite Sewage and Water Services (DOSWS) strongly encourages the holding of a (PTDC) to resolve fundamental concerns about the project. Such concerns may include the status of the permit(s), design loadings, treatment and pre-treatment technologies (if required), a discussion of other reviewing agencies which may be involved, and a time frame for the review process. All potential reviewing organizations should be invited to participate in a (PTDC).

### Initial Submittal of Plans and Specifications

Four copies of the plans and specifications must be submitted to the local health department for evaluation and review. All project evaluations and reviews must begin with the submittal of plans and specifications to the local health department. The local health department must acknowledge, in writing, receipt of the plans. The local health department should complete a Scope and Detail (S & D) Sheet within 10 days of receipt of the plans and specifications, to determine if the project package is complete. *The S & D Sheet must be filled out if the project is to be forwarded to the Environmental Engineering Field Office of the Office of Water Programs (EEFO-OWP) or the (DOSWS) for evaluation and review.*

### Plan Evaluation and Review by the Environmental Health Specialist/Supervisor

A Plan Review Sheet should be completed by the environmental health specialist or the environmental health supervisor. This form allows the environmental health specialist/supervisor to determine if the plans and specifications are adequate, and that the design complies with the requirements of the Sewage Handling and Disposal Regulations. The plans should be evaluated and reviewed completely to determine their compliance with the regulations. Detailed and legible notes, and all review calculations dealing with the project must be kept.

If the project design does not comply with the regulations, the environmental health specialist or the environmental health supervisor must inform the consultant in a timely manner. When appropriate, copies of correspondence, including review comments, should also be sent to the owner or applicant to keep him informed of the status of the review. The consultant must then submit revised plans and specifications to the environmental specialist/supervisor, or take the steps necessary to bring the project into compliance with the Sewage Handling and Disposal Regulations. When the project complies with the Regulations (site conditions, hydraulic review, and all other regulated factors), the project is approved, and a permit is issued by the local health department.

### Plan Evaluation and Review by the District Environmental Health Manager

If the project design is of such a nature that the Environmental Health Specialist/Supervisor feels that a higher level of evaluation and review is necessary, the project must be forwarded to the district environmental health manager. Information to be forwarded must include completed Scope and Detail and Plan Review Sheets; three copies of the plans and specifications; all plan review notes, data sheets, soils information, previous correspondence, product equipment specifications; and recommendations made by the environmental health specialist/supervisor during his review. A memorandum must also be included in this package which specifically identifies the type of review requested. *An incomplete plan review package will immediately be returned to the environmental health specialist/supervisor.* The district environmental health manager will review and comment on the plans and specifications and inform the environmental health specialist/supervisor of the results of the evaluation and review.

If the project design does not comply with the regulations, the district environmental health manager will inform the consultant of the deficiencies of the design in the form of a comment letter addressed to the consultant. Copies of the letter should be sent to the environmental health specialist/supervisor and to all interested parties. It is the responsibility of the environmental health specialist/supervisor to inform the district environmental health manager of anyone who should receive a copy of any comment letters. The consultant must then submit to the district environmental health manager, revised plans and specifications, and/or take the steps necessary to bring the project into compliance with the Sewage Handling and Disposal Regulations. When the project complies with the regulations, the plans and specifications, along with a letter of comment noting the project's compliance (or compliance with minor revisions), must be sent to the local environmental health specialist/supervisor. The environmental health specialist/supervisor must review and evaluate any changes which have been made or are needed to be made (minor revisions), to determine if the revised plans comply with the intent of the originally submitted plans. If they do, the project is approved, and a construction permit is issued by the local health department.



Plan Evaluation and Review  
by the EEFO-OWP or DOSWS

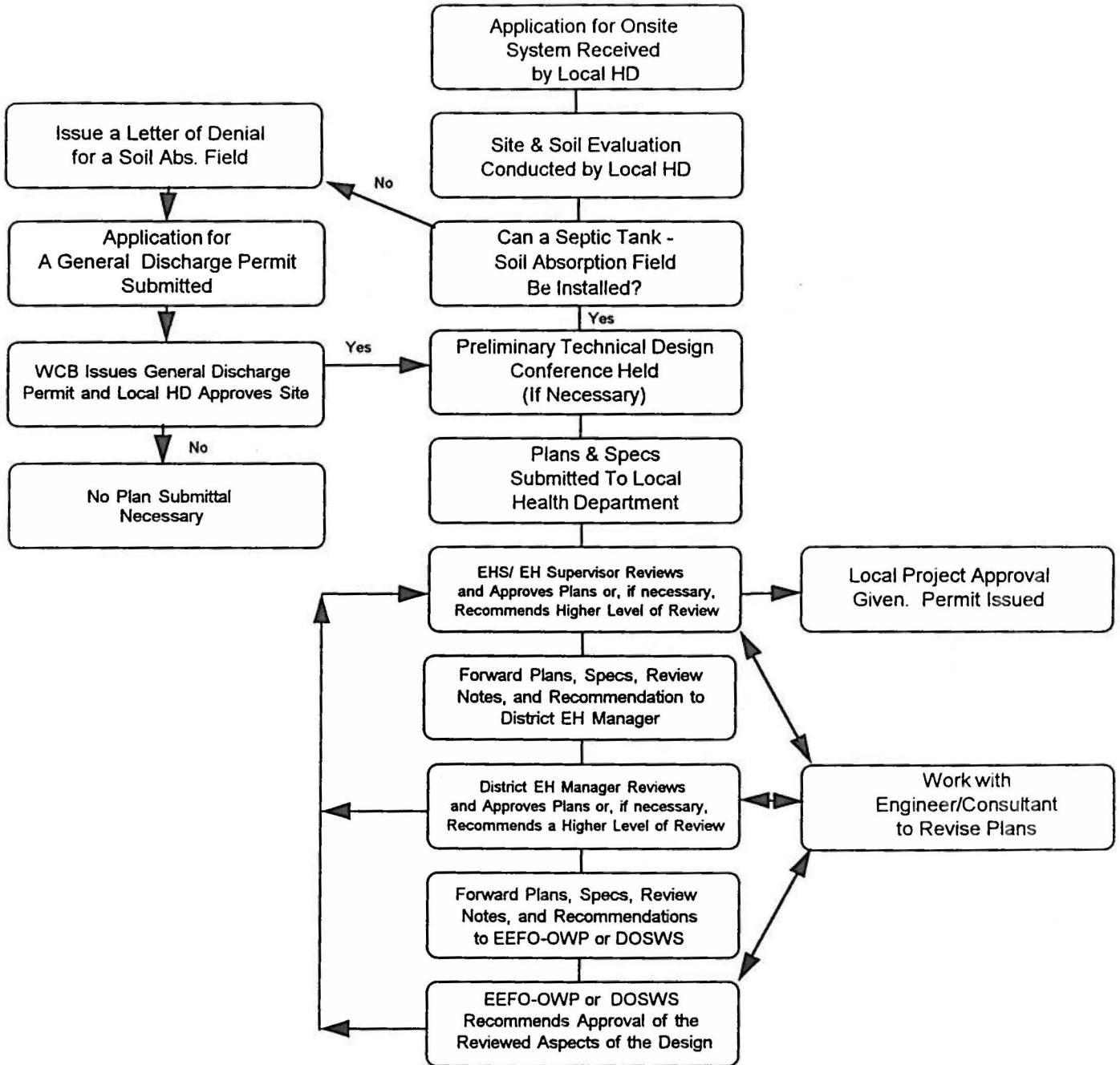
If the district environmental health manager determines that the project design requires additional review, he will forward the completed Scope and Detail and Plan Review Sheets; three copies of the plans and specifications; all plan review notes, data sheets, soils information, previous correspondence, product equipment specifications; and his recommendations to the appropriate Environmental Engineering Field Office of the Office of Water Programs (EEFO-OWP). A transmittal memorandum must also be included in this review package. A copy of the transmittal memorandum should be sent to the owner and the engineer so they are aware of the status of the project. This transmittal memorandum must specifically address the type of evaluation and review which is being requested. In districts where the EEFO-OWP field office is backlogged and the review process would take more than 60 days, the project design, with supportive information, should be sent to the Division of Onsite Sewage and Water Services (DOSWS) for review. *All of the information needed to conduct an evaluation and review must be included (see above), because an incomplete plan review package will immediately be returned to the district environmental health manager by either EEFO-OWP or DOSWS.*

The EEFO-OWP or DOSWS will review and comment on only those sections of the plans and specifications which they have been asked to evaluate and review. Neither the EEFO-OWP nor the DOSWS will review or comment on the soils or the drainfield design. *The suitability of both the site and the layout of the laterals are local decisions which neither the EEFO-OWP nor the DOSWS address; they will only review and evaluate the hydraulics of the design.* The EEFO-OWP or DOSWS will inform the environmental health specialist/supervisor of the results of the review. When appropriate, copies of all letters should be sent to the owner, applicant or others specified by the environmental health specialist/supervisor.

If the project design does not comply with the regulations, the EEFO-OWP or DOSWS will inform the consultant (and others as needed) of the deficiencies in the design, or the need for additional information. The consultant must then submit to the EEFO-OWP or the DOSWS, revised plans and specifications, and/or take the steps necessary to bring the project into compliance with the Sewage Handling and Disposal Regulations.

When the project design complies with the hydraulic consideration section(s) of the regulations which EEFO-OWP or DOSWS has been asked to review, the plans and specifications, along with a letter of comment noting the project's compliance, must be sent to the local environmental health specialist/supervisor. The environmental health specialist/supervisor must evaluate and review any changes which have been made or are needed to be made (minor revisions), to determine if the revised plans comply with the intent of the originally submitted plans. If they do, the project is approved, and a construction permit is issued by the local health department.

# Plan Review Process For Type II and Type III Systems



# PLAN REVIEW SHEET

County/City: \_\_\_\_\_  
 Project Name: \_\_\_\_\_  
 Engineer/Consultant: \_\_\_\_\_

Date Received: \_\_\_\_\_  
 Date of Review: \_\_\_\_\_  
 Reviewer: \_\_\_\_\_

## Items Which Should Be Addressed In The Design

	<u>YES</u>	<u>NO</u>	<u>N/A</u>
1. Estimated flow correct	—	—	—
2. Septic tank size correct	—	—	—
3. Tees shown in septic tank correct	—	—	—
4. Estimated percolation rate correct	—	—	—
5. Square footage of system correct	—	—	—
6. System sited in proper location	—	—	—
7. Depth of drainfield (bottom of ditch) correctly indicated on plans, and elevation indicated where necessary	—	—	—
8. Pump chamber size correct	—	—	—
a) Access riser	—	—	—
b) Vent	—	—	—
c) Union	—	—	—
d) Check value	—	—	—
e) Gate value	—	—	—
f) Pump off chamber floor	—	—	—
g) Chain or rope for pump removal	—	—	—
h) Pump down and dosing volume correct	—	—	—
i) 1/4 day storage provided	—	—	—
j) Pump curve included with plans	—	—	—
k) Pump chamber sealed water-tight	—	—	—
l) Pump brand and model number specified	—	—	—
m) Pump level controls specified	—	—	—
n) Pump and alarm on separate electrical circuits	—	—	—
o) Audio-visual alarm specified	—	—	—
9. Gravel size correct	—	—	—
10. Paper or filter fabric over gravel	—	—	—
11. Thrust blocks at 90 turns on force main	—	—	—
12. Hole spacing and number of holes correct for laterals	—	—	—
13. Pressure head adjustment indicated	—	—	—
14. Lateral number indicated for pressure head adjustment	—	—	—
15. Outside electrical boxes NEMA III or better	—	—	—
16. PVC piping primed and glued	—	—	—
17. Valves outside pump chamber are located in valve boxes	—	—	—
18. Water well location shown	—	—	—

## SCOPE AND DETAIL REVIEW LIST

County/City: \_\_\_\_\_ Date Received: \_\_\_\_\_  
 Project Name: \_\_\_\_\_ Date of S & D: \_\_\_\_\_  
 Engineer/Consultant: \_\_\_\_\_ Reviewer: \_\_\_\_\_

### Items Required to Initiate Plan Review

If a "NO" response is given for any required item(s), return the plans and specifications to the consultant.

	<u>YES</u>	<u>NO</u>	<u>N/A</u>
<b>I. PRELIMINARIES</b>			
A. Application for onsite system complete?	___	___	<u>required</u>
B. General Discharge Permit issued?	___	___	___
C. Preliminary technical design conference held?	___	___	___
<b>II. GENERAL</b>			
A. Original PE seal/signature/date (type III systems) on first sheet of plans?	___	___	<u>required</u>
B. Facsimile PE seal/signature/date (type III systems) on additional sheets?	___	___	<u>required</u>
C. Original PE seal/signature/date (type III systems) on specifications?	___	___	<u>required</u>
D. Four sets of plans and specifications provided?	___	___	<u>required</u>
E. Plans and specifications legible and of an adequate size/scale?	___	___	<u>required</u>
<b>III. PLANS</b>			
A. Location of project shown?	___	___	___
B. Site plan with topography provided?	___	___	<u>required</u>
<b>IV. DESIGN CRITERIA AND CALCULATIONS</b>			
A. Acceptable design criteria provided?	___	___	<u>required</u>
B. Acceptable design calculations provided?	___	___	<u>required</u>
C. Soils reviewed and are adequate for treatment/disposal?	___	___	___

**If plans are to be submitted to EEFO-OWP or DOSWS for review,  
 please provide the following information, if appropriate. Check box if item is attached.**

(Incomplete projects submitted for review will be returned.)

- |  |   |
|--|---|
| <input type="checkbox"/> Memorandum specifically identifying the type of review needed ( <b>REQUIRED</b> ) | <input type="checkbox"/> Engineer's/consultants design notes          |
| <input type="checkbox"/> Complete plans and specifications   | <input type="checkbox"/> Approved design exemptions                   |
| <input type="checkbox"/> Approved variances  | <input type="checkbox"/> In-house review notes ( <b>COPIES ONLY</b> ) |
| <input type="checkbox"/> Recommended design exemption(s)   | <input type="checkbox"/> Product literature, i.e., pump curve         |
| <input type="checkbox"/> Soils data  |   |
| <input type="checkbox"/> O & M manual  |   |
| <input type="checkbox"/> Other (describe) _____  |   |

\_\_\_\_\_  
 Environmental Health Manager                      Date



## COMMONWEALTH of VIRGINIA

Department of Health

P. O. BOX 2448

RICHMOND, VA 23218

DONALD R. STERN, M.D., M.P.H.  
ACTING STATE HEALTH COMMISSIONER

September 16, 1994

Peter W. Schmidt, Executive Director  
Department of Environmental Quality  
P.O. Box 10009  
Richmond, VA 23240

Dear Mr. Schmidt:

The Virginia Department of Health (VDH) is responsible for the review and evaluation of approximately 32,000 applications for onsite sewage systems per year. The overwhelming majority of these systems are for single family homes. Our goal is to issue an appropriate permit for every site where adequate treatment and disposal can be accomplished. Most of our permits are for conventional septic tank drainfield systems but we also issue permits for elevated sand mounds, low pressure distribution systems, sand filter systems, aerobic treatment units and a variety of experimental systems.

One of the experimental systems that has shown great potential for cost effective onsite wastewater treatment and disposal is spray irrigation. With this letter I am sending a copy of a research report prepared by Virginia Tech that describes their work and findings. I am sure you and your staff will find these results most interesting.

At the present time, the Department of Environmental Quality (DEQ) handles all permitting of spray irrigation systems. The process used is appropriate for commercial and large scale domestic spray irrigation projects but tends to be cumbersome and expensive for individual homeowners and small flow domestic wastewater generators. My comment is offered strictly at face value and is not intended as a criticism of DEQ practices. I realize that the vast majority of spray systems are for large scale wastewater generators which the process serves well. By design and practice VDH is designed to serve individuals, families and small scale wastewater generators.

It appears to me, and I offer for your consideration, that with respect to wastewater treatment and disposal, that DEQ is best suited to serve industry and VDH is best suited to serve individuals. Therefore, I would like to propose a division of customer services whereby VDH would take over all aspects of

Peter W. Schmidt, Executive Director  
September 16, 1994  
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permitting small flow spray irrigation systems while DEQ continues to regulate larger wastewater generators. In this manner, the existing resources of the Commonwealth would be used to better serve both customer bases.

Specifically, I would like to propose VDH handle the permitting of all spray irrigation systems that meet the following criteria:

1. Average daily flows of less than or equal to 1,000 gallons per day (GPD).
2. Domestic wastewater only.
3. Only sites that could preclude effluent reaching state waters would be permitted.

Preliminary discussions between Mr. Donald Alexander, on my staff, and Mr. Larry Lawson, on your staff, have shown there is preliminary interest in this concept at both DEQ and VDH. We would be more than willing to include DEQ staff on the planning and development aspects of this proposal if you accept it. In fact we would encourage such cooperation to assure that the missions of both agencies are met.

One of my primary concerns is that of meeting the needs of our customers. Mr. Alexander informs me that we could include spray irrigation under our current onsite sewage regulations (Sewage Handling and Disposal Regulations) and be able to offer the public several important benefits. Among these benefits would be the following:

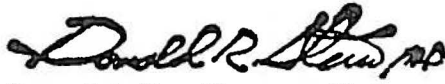
- \* Ability to permit some sites that we cannot now permit.
- \* Reduced permitting costs and elimination of renewal fee costs.
- \* More timely permitting.
- \* System designs that meet the needs of residential users.
- \* One stop permitting for small flow wastewater generators.

As you may know, there is a history of VDH and DEQ cooperating on small flow systems. The sand filter systems and aerobic units mentioned in the first paragraph are handled jointly between DEQ and VDH. DEQ has issued a general permit which establishes discharge limits and appropriate locations where discharges may be introduced into state waters. VDH issues construction and operation permits and conducts routine monitoring.

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We view this proposal as a logical expansion of our cooperative oversight arrangement and suggest that it can be accomplished within the framework of our respective grants of authority in the Code of Virginia. We believe this change would benefit the public, provide excellent environmental and public health protection and eliminate some bureaucracy for homeowners. If you would like DEQ to enter into a cooperative agreement, please let me know. I look forward to your response.

Sincerely,



Donald R. Stern, M.D., M.P.H.  
Acting State Health Commissioner

APPENDIX 6



Office of Health Commissioner  
Ref. To Thompson  
RECEIVED

OCT 26 1994

COMMONWEALTH of VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL QUALITY

A.M. P.M.  
7 8 9 10 11 12 1 2 3 4 5 6

Peter W. Schmidt  
Director

OCT 24 1994

P.O. Box 10009  
Richmond, Virginia 23240-0009  
(804) 762-4000

Donald R. Stern, M.D., M.P.H.  
Acting State Health Commissioner  
Department of Health  
P. O. Box 2448  
Richmond, Virginia 23218

Dear Dr. Stern:

I am writing in response to your letter dated September 16, 1994, regarding regulation of the disposal of domestic sewage by spray irrigation systems. The Department is in agreement that this is an activity which can be governed by the regulations of the Department of Health without conflicting with the authority of the Department of Environmental Quality. Therefore, I support your proposal to incorporate this method of sewage disposal into the Health Department's Sewage Handling and Disposal Regulations and pledge the cooperation of my staff in the development of appropriate regulatory language to address this activity.

I have asked Mr. Larry Lawson and his staff to be available to assist your staff in the planning and development of the program. If I can be of further assistance, please let me know. Larry Lawson can be reached at 527-5150.

Sincerely,

Peter W. Schmidt

PWS/jw

cc: Mr. Robert G. Burnley  
Mr. James C. Adams  
Mr. Larry Lawson

