

**VIRGINIA POLLUTION ABATEMENT
PERMIT APPLICATION**

**FORM B
ANIMAL WASTE**

Department of Environmental Quality

**VPA FORM B
ANIMAL WASTE
INSTRUCTIONS**

This form is to be completed by applicants requesting a VPA permit for Animal Waste management systems. All applicants must submit Part I of Form B. Applicants who will be land applying will be required to submit Part II. You must respond to every item listed on the application form. Those items which do not apply to your farm or business should be marked "Not Applicable". Provide a brief explanation for each "not applicable" response.

Depending on the operation and the information submitted, the Department of Environmental Quality reserves the right to request further information than what is presented in this form. A preliminary meeting with, or phone call to, the local Department of Environmental Quality Regional Office is recommended prior to completing any part of Form B.

The Department of Environmental Quality may require ground water monitoring wells to be installed in some cases in order to obtain a VPA permit. Typically, the Department of Environmental Quality reviews each application to determine whether monitoring wells will be required for a permit at the particular location described in the application.

PART B-I

1. Provide the name of your farm or business as given on Form A line 1.
2. Provide the best time of day to reach you by telephone.
3. List the number and estimate the average weight of each type of your production animals. If you anticipate expanding your operation in the near future, you may want to include an estimate of your animal production goal. Check with the DEQ permit writer assigned to help you. It is not necessary to list animals kept for personal consumption.
4. List any sources of waste solids or liquids which could flow to your lagoon, tank(s) or pit(s). Does any rain water flow into your storage facility? If so, does it carry loafing area wastes, dairy wastes, spilled fertilizer, lime or pesticide?
5. Describe how sewage from employees is handled (i.e., does it go to a septic tank/drainfield, local sanitary sewage system, etc.)
6. The site plan map should show the lay-out of the farm operations and buildings, particularly where manure or other wastes are handled.

All maps should be neat and legible and of sufficient scale to show the listed landscape features clearly. A map scale of 1:7920 (1 inch = 660 feet) is often preferred. Wherever possible, maps should be provided in a booklet form on 8-1/2 x 11" or folded 11" x 17" paper. You will probably want to use symbols to show the landscape features listed in the application form, in order to make your map more legible. Use USDA-SCS symbols wherever possible and provide a key or legend for the symbols so that the map can be easily read.

The map should also indicate with an arrow which direction is North and contain the scale.

The site plan map does not have to include details of the land application sites since this is addressed in Part B-II. You can use one combined map for the topographic map of the land application sites and/or storage facilities if the storage facilities and land application sites are located close together and you can show everything clearly. Don't crowd the map if it's easier and neater to show the site on two maps.

7. Please indicate the type, number and volume of waste treatment, holding or storage facilities at your operation. Please also indicate if the facility is proposed or existing.

8. All waste treatment, holding and storage facilities and all land application sites must be approved by the Department of Environmental Quality. If the existing facilities have not been approved, it will be necessary to submit the information listed in items 10 and 11. It is also suggested that you discuss this matter with your permit writer from the Department of Environmental Quality Regional Office before completing this section.
9. If previously approved facilities have been expanded, items 10 and 11 must be completed for approval of the expanded unit(s) as required by the application and instructions.
10. The local Soil Conservation Service or your local Cooperative Extension Service may be able to assist you in completing this section.

CONCEPTUAL DESIGN: Waste management facilities require technical expertise in the planning, design and construction phases of the project to insure that 1) the facility will meet the operational needs of the owner, 2) the facility is structurally sound the treatment system meets all necessary regulatory requirements. Detailed discussion of plans and specifications for the structural stability of the treatment works are beyond the scope of these instructions. Such expertise is available to owners through the local office of the Soil Conservation Service, private engineering firms and Virginia universities. It should be reemphasized that the structural integrity of all facilities is the responsibility of the owner.

Applicants shall provide design information and/or calculations such as capacities, construction materials, flow directions, loading rates and water balance figures for the waste management structure and any associated piping and pumps. The following areas should be considered in preparing the conceptual design.

STORAGE/TREATMENT FACILITY CAPACITY: Facilities must be designed and operated to prevent point source discharge of pollutants to State waters except in the case of a 25 year-24 hour or greater storm event.

DEQ requires storage capacity be sufficient to ensure that wastes do not have to be applied to the land when the ground is ice or snow covered, too wet or during periods when fields are unavailable for waste utilization because of the cropping plan. A minimum 60-day storage capacity for wastewater or sludge is recommended to be designed into all pollution abatement facilities.

DEQ suggests that the storage facilities have a 2 ft. freeboard at all times. The above minimum storage capacity should exclude the volume devoted to the 2 ft. of freeboard.

LINER DESIGN: If SCS was consulted in the design of the storage facility (lagoon), please submit the lagoon and liner specifications recommended by SCS.

Concentrated animal operations and new or proposed intensified animal operations must have storage facilities and treatment works designed and operated to ensure compliance with the provisions of the Water Quality Standards for ground water. It is suggested that liners be installed in earthen storage facilities located in rapidly permeable soils (> 2.0 in/hr) or where Karst geology or shallow and fractured rock is encountered.

DEQ requires lagoon liners to have a maximum coefficient of permeability of 1×10^{-6} cm/sec. It is recommended that soils used as liners be capable of achieving a maximum coefficient of permeability of 1×10^{-7} cm/sec or less. Total soil liner thickness should be one foot after compaction of two separate lifts of equal thickness. Synthetic liners should be a minimum of 20 mil. thickness and be appropriately protected from puncture both below and above the liner.

A 2-foot separation distance between the facility bottom and the seasonal high water table is recommended.

FLOOD POTENTIAL: DEQ recommends that waste storage structures not be located on a floodplain unless protected from inundation or damage by a 100-year frequency flood event. Consult your local county zoning/planning office for information on flood plain locations and flood protection options. Such information may be available upon request.

11. Accurate estimates of storm water volumes are necessary to calculate properly sized waste holding and treatment facilities. Wastewater from contaminated storm water inputs to the waste storage facilities must also be considered, i.e., rainfall on to the facility surface and runoff from the surrounding roof and guttering systems. Provide the dimensions and area (ft²) contributing storm water to waste holding facilities.
12. Please provide the name, date, and telephone number of the organization that designed your existing and or proposed in some instances this may be the owner of the facilities. If additional space is needed, please provide an attachment.
13. If you plan to empty a lagoon, manure pit or any other type waste storage facility by applying the waste to the land, you must show that the nutrients contained in the waste will be used properly for crop production by completing form B-II.
14. If your farm or business meets the criteria for a Concentrated Animal Feeding Operation, you must provide a copy of an approved Department of Conservation and Recreation

Division of Soil and Water Conservation (DSWC) Nutrient Management Plan and a list or statement of any animal feed additives which may affect the quality of the waste produced or handled.

PART B-II

1. The land application topographic map should show the fields where manure, pit waste or lagoon wastewater will be applied. All maps should be neat and legible and of sufficient scale to show the listed landscape features clearly. A map scale of 1:7920 (1 inch = 660 feet) is often preferred. You will probably want to use symbols to show the landscape features listed in the application form, in order to make your map more legible. Use USDA-SCS symbols wherever possible and provide a key or legend for the symbols so that the map can be easily read.

You can use one combined map for the topographic map of the land application sites and/or storage Facilities if the storage facilities and land application sites are located close together and you can show everything clearly. Don't crowd the map, if it's easier and neater to show the site on two maps.

2. List the crops you grow during your normal rotation, the approximate acreages of each crop throughout the seasons and the productivity group assigned to the land application fields for those crops. Productivity groups as assigned by the Virginia Cooperative Extension Service are based on expected crop yield for various soil types and should not be confused with capability classes used by SCS. Use only VPI & SU productivity groups.
3. Indicate your method of removing waste from the manure pit, lagoon or other storage facility and your method and equipment for land application.
4. How will you land apply the waste?
5. If the you do not own the land on which the waste will be applied, complete item 6. If you own the land for the waste application, skip item 6.
6. **OWNERS NAME AND ADDRESS:** Provide the name, address and telephone number of the land owner (if not the applicant). The land owner must sign the authorization for land application before the application is considered complete. A separate approval will be required for each different land owner or joint owner's.
7. Contact the USDA-SCS for assistance.

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FORM B

ANIMAL WASTE

PART B-I General Information and Storage Facilities

- 1. Facility Name: _____
- 2. Best time to contact owner/facility operator (day time):

- 3. From the list below, indicate the maximum number and average weight of type of animal which will be maintained on your farm:

Animal Type	Maximum Number	Average Weight
Dairy Cattle	_____	_____
Beef Cattle	_____	_____
Swine		
Nursery pig	_____	_____
Growing pig	_____	_____
Finishing pig	_____	_____
Gestating sow	_____	_____
Sow and litter	_____	_____
Boar	_____	_____
Sheep or lambs	_____	_____
Chicken		
Layers	_____	_____
Broilers	_____	_____
Turkey	_____	_____
Horse	_____	_____
Other _____	_____	_____
_____	_____	_____
_____	_____	_____

4. List waste other than manure (e.g., wash down or dairy parlor waste) which may be discharged to the storage facility:

Type of Waste	Flow (gal/day) or	Volume (ft ³ /day)
Dairy Wastes		
Bulk Tank		
Automatic	_____	_____
Manual	_____	_____
Pipeline		
In parlor	_____	_____
Pail Milkers	_____	_____
Cow Prep		
Automatic	_____	_____
Manual	_____	_____
Parlor Floor	_____	_____
Milkhouse Floor	_____	_____
All Other Wastes		
Wash-Down Water	_____	_____
Litter	_____	_____
Process Water Excess	_____	_____
Loafing/Feeding Areas	_____	_____
Other _____	_____	_____
_____	_____	_____
_____	_____	_____

5. Explain how sewage from employees is handled.
6. Provide a site plan (map) for entire animal feeding operation which clearly identifies the following structures and landscape features:
- Waste storage facilities
 - Holding ponds
 - Animal houses and/or open lots where animals are kept (specify type for each facility, e.g. house, feed lot, barn, etc.)

- d. *Piping to/from waste storage facilities*
- e. *Land application sites adjacent to facility*
- f. *Drainageways (e.g. ditches, swales)*
- g. *Rock outcrops*
- h. *Sink holes*
- i. *Drinking water wells and springs*
- j. *Monitoring wells (provide identification number)*
- k. *Property lines*
- l. *Roadways (route number)*
- m. *Occupied dwellings*
- n. *Slopes (greater than 8% by slope class)*
- o. *Wet spots*
- p. *Severe erosion*
- q. *100-year flood plain (provide elevations, if available)*
- r. *Surface waters*

7. Indicate the number and type of waste storage facilities.

No.	Existing	Proposed	Total Volume (ft ³)
___ Earthen Storage Pond	_____	_____	_____
___ Storage Pit	_____	_____	_____
___ Storage Tank	_____	_____	_____
___ Anaerobic Lagoon	_____	_____	_____
___ Other _____	_____	_____	_____

8. Have the existing storage/treatment facilities identified in Part B-I.7 above been previously approved by the Department of Environmental Quality? Yes_____ No_____

If yes, provide the date of the certificate or permit _____, and proceed to Item 9.

If no, was SCS involved in the design? Yes_____ No_____. Proceed to Item 10.

9. Have the previously approved facilities been altered or expanded? Yes_____ No_____.

If yes, complete Item 10. If no, proceed to Item 12.

10. The following information must be provided for each of the facilities identified as either proposed in Part B-I.7 and/or existing in Parts B-I.8 and 9 which have not been either previously approved or were altered.

- a. *Design calculations for volume (ft³) and estimated days of storage*
- b. *Description of liner material and permeability*
- c. *Plan and cross-sectional views*

- d. *Depth to seasonal high water table and separation to permanent water table*
- e. *Elevation of the lowest point of the berm*
- f. *Soil types in area surrounding storage facility*
- g. *Estimate of direction of ground water movement in area near storage facility (this may be done on site map)*

11. Will the proposed or existing storage facilities receive any storm water runoff?
 _____ Yes _____ No.

If yes, provide total area (square feet, acres, etc.) from which runoff will occur and indicate this area on the site map (Item 6).

Total area: _____
 Dimensions: _____

12. Waste storage facilities designed by:

Name: _____
 Date: _____
 Organization: _____
 Telephone: _____

13. Will any part of the waste generated at your facility be land applied? Yes _____ No _____.
 If yes, Part B-II must be completed. If no, explain.

14. "Concentrated Animal Feeding Operations" must provide a Nutrient Management Plan" which has been reviewed and approved by the Division of Soil and Water Conservation.

See the **Glossary** for a definition of "Concentrated Animal Feeding Operation" and the Instructions for Form B for details on these and other requirements specific to them.

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FORM B

ANIMAL WASTE

PART B-II Land Application and Waste Handling Procedure

Facility Name: _____

1. For each land application site provide a topographic map of sufficient scale clearly showing the location of the following features within 0.25 mile of the land application site(s).

Provide a legend with approximate scale.

- a. *Drainageways*
- b. *Rock outcrops*
- c. *Sink holes*
- d. *Drinking water wells and springs*
- e. *Monitoring wells*
- f. *Property lines*
- g. *Roadways*
- h. *Occupied dwellings*
- i. *Slopes (greater than 8% by slope class)*
- j. *Wet spots*
- k. *Severe erosion (SCS designation)*
- l. *Frequently flood soils (SCS designation)*
- m. *Surface waters*

2. Describe the crop(s) to be grown and the approximate area used to grow each crop. (The Extension Service may provide VPI-SU Soil Productivity Groups.) Attach an additional page if more spaces are required.

Field Identification Number	Crop	Area (Acres)	Soil Productivity Groups
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
	TOTAL:	_____	_____

3. a. Waste and/or wastewater will be removed from the storage facility by:
 Pump Loader Other _____
- b. Describe how wastes will be transported to application sites.

4. Waste and/or wastewater will be land applied by: Liquid or Solid Spreader
 Soil Injection Sprinkler Irrigation Other _____
5. Are the land application sites owned by the applicant? Yes _____ No _____.

If No, answer question 6 and have each land owner complete the authorization form on Page B-II-3.

6. Complete page B-II.3 by providing the name, address, site location and signature of each non-applicant land owner on whose property animal waste for this facility will be applied. (A separate approval is required for each additional owner.):
7. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey should be provided, if available.)

Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described a a range of characteristics. Soil descriptions shall include as a minimum the following information.

- a. *Soil symbol*
- b. *Soil series, textural phase and slope class*
- c. *Depth to seasonal high water table*
- d. *Depth to bedrock*
- e. *Estimated productivity group (for the proposed crop rotation)*

AUTHORIZATION TO LAND APPLY WASTE
(Land Owner must sign and date this approval)

As land owner, I authorize _____ to land apply animal waste to my property in accordance with paragraphs Part B-II.1 through 7 above. This authorization will remain in effect until such time as I notify the Department of Environmental Quality in writing that this authorization has been withdrawn.

Name: _____

Telephone: _____

Site Location(s): _____

Date: _____

Signature: _____