

# The Right-to-Farm Legislation and County Zoning Ordinances

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# INTRODUCTION

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Until 1994 the primary purpose of the Right-to-Farm legislation was to protect farm operators from nuisance complaints from nonagricultural residents located in an agricultural production area. Intensive animal production, specifically swine and poultry production, has come under increasing pressure from nonagricultural neighbors as rising levels of growth and development push the two closer together. In the past, some counties in Virginia have used their special- or conditional-use authority to limit or prohibit swine and poultry production in agriculturally zoned districts, prompting the revision to the Right-to-Farm legislation. In 1994 the Virginia General Assembly revised the Right-to-Farm legislation making special- and conditional-use permits illegal in agriculturally zoned districts. The new law was intended to provide a uniform standard by which agricultural producers could operate, eliminating different sets of requirements for producers operating in the same district within a county. Many producers supported the Right-to-Farm legislation because it eliminated the possibility of arbitrary approval or rejection of similar proposals by county zoning authorities. Producers felt their decision-making process was hindered because the case-by-case permit procedure was frequently time consuming (taking up to six months) and unpredictable.

On the other hand, some county governments were not supportive of the legislative changes. The Virginia Association of Counties (VACo) opposes any legislation that restricts the power of local governments with regard to land-use issues. For this reason, the VACo did not support the changes in the Right-to-Farm legislation, being concerned that the new law would make it too easy for agribusiness to expand in a manner inconsistent with local community development plans.

The 1994 revisions to the Right-to-Farm legislation were directed at two areas: zoning and the quality of operation. The zoning amendment, effective April 1, 1995, confined the authority of local governments, limiting their exercise of local laws by prohibiting counties from using special- or conditional-use permits as a means of restricting agricultural activity in agriculturally zoned districts. The revised legislation states:

*In order to limit the circumstances under which agricultural operations may be deemed a nuisance, especially when nonagricultural uses are initiated near existing agricultural operations, no county shall adopt any ordinance that requires[a] special exception or [a] special-use permit to be obtained for any production agriculture or silviculture activity in an area that is zoned as an agricultural district or classification. No county, city, or town shall enact zoning ordinances which would unreasonably restrict or regulate farm structures or farming and forestry practices in an agricultural district or classification unless such restrictions bear a relationship to the health, safety, and general welfare of its citizens. [1994 amendment language in italics] (Russ and Geyer).*

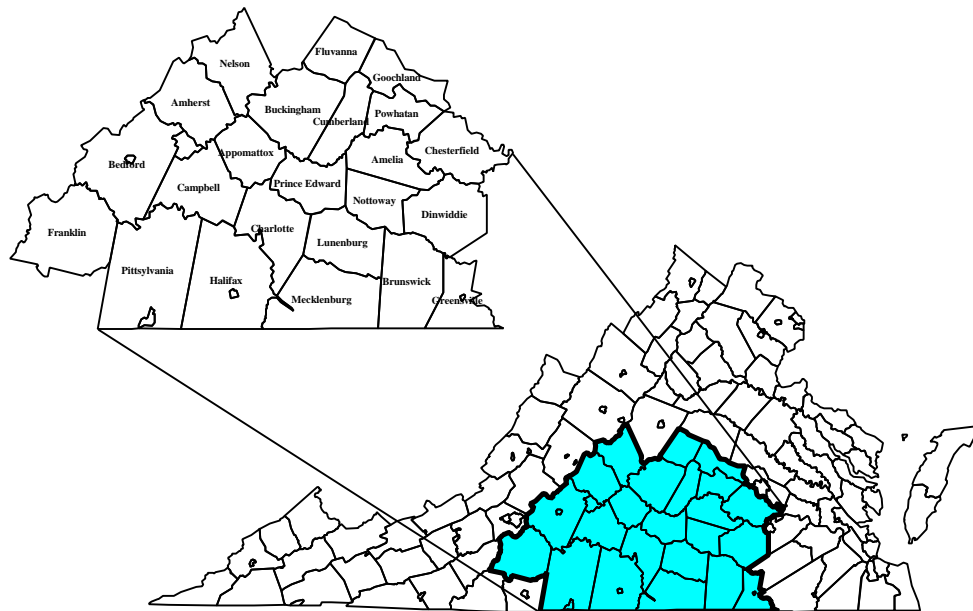
After the legislation was revised, some local governments needed to create new zoning ordinances for agricultural districts. The law required all counties to comply with the Right-to-Farm legislation by April 1, 1995. To assist local governments in forming these new ordinances, the Virginia Farm Bureau, the Virginia Agribusiness Council, and industry representatives drafted the “Suggested Model Ordinance for Intensive Livestock, Dairy, and Poultry Facilities.” The model ordinance provides what agricultural interests consider “reasonable” definitions for intensive production facilities, setbacks, minimum acreage requirements, development, and nutrient management plans (NMP). Upon request, the Virginia Farm Bureau provided assistance to many counties as they wrote new agricultural zoning ordinances.

This study looks at 23 counties<sup>1</sup> in south-central Virginia (Figure 1) and compares their responses to the Right-to-Farm legislation as reflected in changes made to county zoning ordinances. The counties included in the study were selected based on their location. Intensive livestock facilities are more likely to locate in this region because of the relatively close proximity to railways necessary for the transportation of feed and the lower population density. Zoning ordinances for the 23 counties were compared in each of 5 areas:

- 1) definition of intensive livestock facility,
- 2) minimum acreage requirements ,
- 3) setbacks,
- 4) nutrient management plans, and
- 5) development plans.

Additional requirements or regulations that apply to intensive livestock production but do not fit into one of those five categories are included in the “notes” section of Table 1. The model ordinance discussed above was used as a baseline for comparison. Table 1 summarizes the zoning data obtained from these counties.

**Figure 1. Counties in the Study Area.**



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<sup>1</sup> Amelia, Amherst, Appomattox, Bedford, Brunswick, Buckingham, Campbell, Charlotte, Chesterfield, Cumberland, Dinwiddie, Fluvanna, Franklin, Goochland, Greensville, Halifax, Lunenburg, Mecklenburg, Nelson, Nottoway, Pittsylvania, Powhatan, and Prince Edward.



**Table 1. Major provisions of agricultural zoning ordinances.**

<i>County (date approved)</i>	<i>Model Ordinance</i>	<i>Amelia (7/27/95)</i>	<i>Amherst</i>
Definitions of intensive livestock production	300 animal units	300 animal units	
Minimum acreage	20 acres		
Setbacks	From existing dwellings in ag district: 300 ft.; in an adjacent district: 600 ft. From existing like facilities in ag district: 300 ft.; in an adjacent district: 600 ft. From property lines and public roadways at least 150 ft. From incorporated towns; platted residential subdivisions; residentially zoned districts; mobile home parks; public schools; churches; county owned buildings; county, town, and community recreation areas; public springs and public water intakes: 1,000 ft.	From all property lines: 500 (300) <sup>a</sup> ft. From public roadways: 300 (150) ft. From existing dwellings, schools and churches: 1,000 (600) ft. From adjoining zoning districts 1,000 (600) ft.  Setbacks can be reduced to a minimum of 200 ft. with an agreement between the parties involved, according to guidelines stated in the zoning ordinance.	No structure containing poultry or livestock and no storage of manure or odor or dust producing substance shall be located within 200 ft. of a district boundary.
NMP	As required by the Commonwealth of Virginia	Required, must be approved by Piedmont Soil and Water Conservation District, Virginia Cooperative Extension, or other appropriate state agency and accepted by the zoning administrator	
Development Plan	Optional, may be filed with the zoning administrator	Required, must be approved by and filed with the zoning administrator	
Notes			Special use permits required for feed lots in some cases

<sup>a</sup> Data for poultry, where available, is indicated in parentheses.

**Table 1. Major provisions of agricultural zoning ordinances (continued).**

<i>County (date approved)</i>	<i>Appomattox</i>	<i>Bedford</i>	<i>Brunswick (3/29/95)</i>
Definition of intensive livestock facility			750+ hogs 16,500 turkeys 30,000 chickens
Minimum acreage			50 (15) acres or greater as required by NMP
Setbacks	Side yard: 25 ft. Rear yard: 35 ft.		From existing dwellings not owned by the grower: 1500 (400) ft. From property lines and public roadways at least: 500 (200) ft. From platted residential subdivisions; residentially zoned districts; mobile home parks; churches; public springs, and public water intakes: 1750 ft. From incorporated towns; residential, business, and industrial zoning districts; public and private schools; and county, town, and community recreation areas: 3500 ft.
NMP			Required, must be approved by Virginia Cooperative Extension or appropriate state agency; copy must be filed with zoning administrator
Development Plan			Required, must be approved by zoning administrator
Notes	Conditional-use permits required for feed lots when located within 1,000 ft. of a residence, but in no case shall a feed lot be located within 500 ft. of a residential district and village center district boundary line or 200 ft. from the property line excluding swine feed lot operations involving more than 50 swine	No zoning ordinances	

**Table 1. Major provisions of agricultural zoning ordinances (continued).**

<i>County (date approved)</i>	<i>Buckingham</i>	<i>Campbell</i>	<i>Charlotte</i>
Definition of intensive livestock facility			
Minimum acreage		1 acre minimum	1.5 acres minimum
Setbacks		From road, any building: Front 25 ft. Rear 25 ft. Side 15 ft. Accessory buildings: Front: 25 ft. Rear: 10 ft. Side: 10 ft.	60 ft. from any road right of way which is 50 ft. or greater in width 125 ft. or more from the center line of any roadway which is less than 50 ft. wide Minimum frontage: 200 ft. From side: 30 ft. From rear: 70 ft.
NMP	As required by the Commonwealth of Virginia		
Development Plan			
Notes	No zoning ordinances		

**Table 1. Major provisions of agricultural zoning ordinances (continued).**

<i>County (date approved)</i>	<i>Chesterfield</i>	<i>Cumberland (4/12/95)</i>	<i>Dinwiddie (4/1/95)</i>
Definition of intensive livestock facility		500+ hogs, regardless of size, age, or weight	300 animal units, where 1 animal unit equals 1,000 pounds of live weight
Minimum acreage	3 acres	500-1,000 hogs: 1,000 acres Each additional 100 hogs requires 50 acres	At least 150 animals units: 50 (10) acres 300+ animal units: 100 (20) acres
Setbacks	From any adjacent property: 100 ft. From wetlands, 100 year flood plains, and flowing streams: 100 ft. From residential, recreational, or school use, or any property designated A-1: 200 ft. From active water supply or well: 200 ft.	From any existing dwelling or commercial establishment in the A-2 district: 1500 ft. From property lines and public roadways: 300 ft. From any existing dwelling in any other zoning district: 2,000 ft. From platted residential subdivisions and residentially zoned districts; rural service areas; mobile home parks; public schools; churches; county town and community recreation areas; public springs, wells, and water intakes: 2,000 ft.	Required for facilities with at least 150 animal units: From existing dwellings owned by the facility operator or his immediate family: 300 ft. From existing dwellings not owned by the facility operator or his immediate family: 1,000 ft. From other existing like facilities: 1 mile (5280 ft.). From public roadways: 500 ft. From all other property lines not abutting a public roadway: 300 ft. From incorporated towns; residentially zoned districts; rural service areas; manufactured home parks; schools; colleges; churches; county, state, or federally owned buildings; county, town, or community recreation areas; public wells, springs, and water intakes: 2,000 ft.
NMP		Required, must be approved by the Commonwealth of Virginia or appropriate agency; a copy must be filed with the zoning administrator	Required for operations with 150 or more animal units, must be approved by the Virginia Dept. of Conservation and Recreation, Virginia Cooperative Extension, or other appropriate agency
Development Plan		Required, must be approved by the zoning administrator	Required, must be approved by the zoning administrator
Notes			

**Table 1. Major provisions of agricultural zoning ordinances (continued).**

<i>County (date approved)</i>	<i>Fluvanna</i>	<i>Franklin</i>	<i>Goochland</i>
Definition of intensive livestock facility			750+ hogs
Minimum acreage			750-2,000 hogs: 50 acres Each additional 1,000 hogs: 25 acres
Setbacks	From any street right of way which is 50 ft. or greater in width: 50 ft. From any street right of way which is less than 50 ft. in width: 100 ft. Frontage: 200 ft. From side: 25 ft., two minimum side yards must have a total width of at least 50 ft. From rear: 50 ft.	Front for property adjacent to state primary roads: 60 ft.; For all other roads: 55 ft. Side: 10% of road frontage distance, a minimum of 10 ft. and maximum of 12 ft.	From any property line in an agricultural district: 1,000 ft. From any property line in any other district: 1200 ft.
NMP			Required, must be approved by and filed with the zoning administrator
Development Plan	Site development plan required		Required; must be approved by the zoning administrator
Notes	Special use permit required for commercial livestock feed or sales yard	Special use permits may be required for feed lots in some cases.	

**Table 1. Major provisions of agricultural zoning ordinances (continued).**

<i>County (date approved)</i>	<i>Greensville (5/95)</i>	<i>Halifax (1/96)</i>	<i>Lunenburg</i>
Definition of intensive livestock facility	750+ hogs  7500+ turkeys 10,000+ chickens	300 animal units equivalent of: 750 swine 16,500 turkeys 30,000 laying hens or broilers	750 swine, each weighing over 55 pounds 16,500 turkeys or 30,000 laying hens or broilers
Minimum acreage	100 acres Additional acres at the following ratio: 1 acre per 35 swine to a maximum of 6,000 swine	As determined by the Virginia Department of Environmental Quality or the Nutrient Management Plan	20 acres or the amount required by the NMP, whichever is larger
Setbacks	From primary or secondary road or street as defined by VDOT: 1,000 ft. From side or rear property line: 1,000 ft. From any residence, residential subdivision, residential zoning district or public facility: 4500 ft.	From centerline of highway: 400 ft.* From existing dwelling: 500 ft.* From: property line: 200 ft. surface water: 100 ft. town corporate limit: 1,000 ft. platted residential subdivision; residential district; mobile home parks; public schools; churches; county, town, and community recreation areas; public wells, springs, and water intakes: 1,000 ft.*	From all existing dwellings not owned by the operator in A-1 district: 300 ft. From an existing dwelling in an adjacent zoning district: 600 ft. From existing livestock, dairy, or poultry facilities not owned by the operator in the A-1 district: 300 ft.; in an adjacent zoning district: 600 ft. From property lines and public roadways: 150 ft. From incorporated towns; platted residential subdivisions; residentially zoned district; mobile home parks; public schools; churches; county owned buildings; county, town, and community recreation areas; and public wells, springs, and water intakes: 1,000 ft. Above setbacks may be reduced with the planting of vegetative screens as outlined in the zoning ordinance.
NMP	Required, must be reviewed by the zoning administrator or planning director	Required	Required; must be approved by someone certified or employed by the Commonwealth as a planner
Development Plan	Required, must be reviewed by the zoning administrator or planning director	Required	Required; must be approved by the zoning administrator.

Notes

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\*Setbacks may be reduced by planting vegetative screens as outlined in zoning ordinance

**Table 1. Major provisions of agricultural zoning ordinances (continued).**

<i>County (date approved)</i>	<i>Mecklenburg (7/1/95)</i>	<i>Nelson</i>	<i>Nottoway (3/21/95)</i>
Definition of intensive livestock facility	750+ each weighing over 55 pounds 16,500 turkeys 30,000 laying hens or boilers		351+ animal units where swine >55 pounds = 0.40 units less than 55 pounds = 0.03 units turkey: 0.02 animal units laying hens and broilers = 0.005 units
Minimum acreage		40,000 sq. ft.	subject to NMP
Setbacks	From existing dwellings in an agricultural district: 300 ft. From an existing dwelling in an adjacent zoning district: 600 ft. From an existing livestock structure in the agricultural district not owned by the operator: 300 ft. From an existing livestock structure in an adjacent zoning district: 600 ft. From property lines and public roadways: 150 ft. From incorporated towns; platted residential subdivisions; residentially zoned districts; mobile home parks; public schools; churches; county owned buildings; county, town, and community recreation areas; and public wells, springs, and water intakes: 1,000 ft.	Setback line: 35 ft. from right of way of road 50 ft. or greater in width. 55 ft. from right of way of road 50 ft. or less in width. Frontage: 125 ft. at setback line. Side: 10 ft. both sides, must total a minimum of 25 ft. Rear: 25 ft. or more.	From center of primary roads: 500 ft. From center of secondary roads: 500 (250) ft. From side: 800 (250) ft. From existing residences except those of landowner and immediate family, schools, churches, and other occupied structures: 1500 (1,000) ft. Required frontage at street line: 75 ft. At setback line: 200 ft.
NMP	Required; must be approved by the Commonwealth of Virginia, does not have to be filed with the county		Required; must be approved by the appropriate state agency and filed with the county administrator
Development Plan	Required; must be reviewed by the zoning administrator		Recommended
Notes			



**Table 1. Major provisions of agricultural zoning ordinances (continued).**

<i>County (date approved)</i>	<i>Pittsylvania</i>	<i>Powhatan</i>	<i>Prince Edward (4/11/95)</i>
Definition of intensive livestock facility			750 hogs, each weighing over 55 pounds 16,500 turkeys 30,000 laying hens or broilers
Minimum acreage	20,000 sq. ft.	Maximum lot coverage not more than 5% of total	20 (15) acres for first house 10 (5) acres for each additional house
Setbacks	Front 60 ft. to center line of right of way or 35 ft. to edge, whichever is greater	Front 215 ft. at building line except for 1 acre family exception which is 150 ft. at building line. Side: dwelling 25 ft.; other: 35 ft.; accessory building: 10 ft.	From property lines and public roadways: 150 ft. From incorporated towns; residentially zoned districts; public schools; county owned buildings; county, town, and community recreation areas; public wells, springs, and water intakes: 1,000 ft. From all existing buildings not owned by the operator: 300 ft.
NMP			Required
Development Plan			Required
Notes			

Source: County zoning ordinances.

## **DEFINITIONS OF INTENSIVE LIVESTOCK FACILITY**

Eleven of the 23 counties define an intensive livestock facility, and most of them use the same definition as the model ordinance: 750 swine each weighing over 55 pounds or 300 animal units (Table 2). The model ordinance defines an intensive livestock facility as having at least 300 animal units, where one hog weighing over 55 pounds is equivalent to 0.40 animal units.<sup>2</sup> Three counties use the animal unit measure while the remaining counties base their definition on the number of swine. The model does not provide an equivalent animal unit measure for swine under 55 pounds. Two counties expand the model ordinance's definition of animal units to include these swine. Amelia County defines an intensive livestock facility as 300 animal units, where swine breeding stock are equal to 0.40 units, finishing hogs over 55 pounds are equal to 0.15 units, and piglets less than 55 pounds are equal to 0.03 units. Nottoway County defines an intensive livestock facility as at least 351 animal units, where swine 55 pounds and over are equal to 0.40 animal units, and swine under 55 pounds are equal to 0.03 animal units. Dinwiddie is the other county that

<sup>2</sup> The model ordinance definition of an intensive livestock facility is the same as the definition of a confined animal feeding operation in the State Water Control Board's Virginia Pollution Abatement (VPA) regulations.

uses animal units to define an intensive livestock facility; however, in this case an animal unit is equal to 1,000 pounds live weight. Seven of the 11 counties define an intensive livestock facility as having at least 750 hogs. Half of these counties specify that only hogs weighing over 55 pounds are included in the 750. Cumberland is the only county that differed completely from the model ordinance and defines an intensive livestock facility as 500 or more hogs, regardless of size, age, or weight.

**Table 2. Definitions of intensive livestock production for swine and poultry.**

<i>County<sup>a</sup></i>	<i>Number of hogs or poultry per animal unit</i>	<i>Animal unit equivalents</i>	<i>Maximum number</i>
Model Ordinance	300 animal units = 750 hogs 16,500 turkeys 30,000 laying hens or broilers		
Amelia	300 animal units	swine, breeding stock = 0.40 units swine, finishing hog >55 pounds = 0.15 units swine, piglets <55 pounds = 0.03 units turkey = 0.02 animal units laying hens or broiler = 0.01 animal units	
Brunswick	750 hogs 16,500 turkeys 30,000 chickens		
Cumberland	500 hogs	regardless of size, age, or weight	
Dinwiddie	300 animal units	1 animal unit = 1,000 pounds live weight	1,000 animal units
Goochland	750 hogs		
Greensville	750 hogs 7,500+ turkeys 10,000+ chickens		50,000 turkeys 100,000 chickens 6,000 hogs
Halifax	300 animal units = 750 hogs 16,500 turkeys 30,000 laying hens or broilers		
Lunenburg	750 hogs 16,500 turkeys 30,000 hens or broilers	each swine weighing over 55 pounds	
Mecklenburg	750 hogs 16,500 turkeys 30,000 hens or broilers	each swine weighing over 55 pounds	
Nottoway	351+ animal units	swine >55 pounds = 0.40 units swine <55 pounds = 0.03 units turkey = 0.02 animal units broilers and hens = 0.005 animal units	
Prince Edward	750 hogs 16,500 turkeys 30,000 hens or broilers	each swine weighing over 55 pounds	

<sup>a</sup>Other counties do not define intensive livestock production.

## MINIMUM ACREAGE REQUIREMENTS

Eight counties modified their zoning ordinances to include minimum acreage requirements (Table 3). Most of these counties' requirements exceed the 20 acre recommendation of the model ordinance. Two counties, Lunenburg and Prince Edward, require a minimum of 20 acres. Minimum acreage requirements in Halifax are determined by the nutrient management plan and the Virginia Department of Environmental Quality (DEQ) standards. The 5 remaining counties require at least 50 acres with 3 counties requiring at least 100 acres for an intensive livestock facility.

**Table 3. Minimum acreage requirements for swine and poultry.**

SWINE			
<i>County</i>	<i>Base (acres/hogs)</i>	<i>Additional (acres/hogs)</i>	<i>Maximum number of hogs</i>
Model ordinance	20/750		
Brunswick	50/750+		
Chesterfield	3 acres		
Cumberland	100/500-1,000	50/1,000	
Dinwiddie	50/375 hogs	100/750 hogs	1,000 animal units
Goochland	50/750-2,000	25/1,000	
Greensville	100/750+	1/35	6,000 hogs
Halifax	subject to NMP and DEQ		
Lunenburg	20 acres		
Nottoway	50/351+ animal units		
Prince Edward	20 acres for first house 10 acres for each additional		
POULTRY			
Model Ordinance	20		
Brunswick	15		
Dinwiddie	10/75,000 birds	20/150,000 birds	1,000 animal units
Greensville			50,000 turkeys or 100,000 chickens
Halifax	subject to NMP and DEQ		
Lunenburg	20 acres		
Nottoway	subject to NMP		
Prince Edward	15 acres for first house 5 acres each additional		

**Source:** County zoning ordinances.

## SETBACKS

In response to the Right-to-Farm legislation, eleven counties adopted setbacks for intensive livestock facilities (Table 4). The requirements of four of these counties, Halifax, Lunenburg, Mecklenburg, and Prince Edward, were relatively close to the recommendations of the model ordinance. Each of the other seven counties doubled the setback recommendations of the model ordinance in one or more areas. The largest setback requirement among all the counties surveyed is found in Dinwiddie, where intensive hog facilities must be one mile (5,280 feet) from other existing like facilities.

**Table 4. Setback requirements for intensive livestock facilities, by county.**

<i>Setback</i>	<i>Model Ordinance</i>	Counties				
		<i>Amelia</i>	<i>Brunswick</i>	<i>Chesterfield</i>	<i>Cumberland</i>	<i>Dinwiddie</i>
		-----feet-----				
Existing dwellings in ag district owned by operator	300				1,500	300
Existing dwellings in ag district not owned by operator	300		1,500		1,500	1,000
Existing dwellings in adjacent district owned by operator	600				2,000	300
Existing dwellings in adjacent district not owned by operator	600				2,000	1,000
Existing like facilities in ag district	300					5,280
Existing like facilities in adjacent district	600					5,280
Adjoining zoning districts		1,000				
Business zoning districts			3,500			
Churches	1,000		1,750		2,000	2,000
Colleges						2,000
County owned buildings	1,000					2,000
County, town, and community recreation areas	1,000		3,500	200	2,000	2,000
Incorporated towns	1,000		3,500			2,000
Industrial zoning districts			3,500			
Mobile home parks	1,000		1,750		2,000	2,000
Platted residential subdivisions	1,000		1,750		2,000	
Property lines in ag district	at least 150	500	500		300	300
Property lines in other districts	at least 150	500	500		300	300
Public roadways	at least 150	300				500
Public schools	1,000		3,500	200	2,000	2,000
Public springs, public wells, and water intakes	1,000		1,750	200	2,000	2,000
Residentially zoned districts	1,000		1,750		2,000	2,000
Rural service areas					2,000	2,000
State or federally owned buildings						2,000

**Table 4. Setback requirements for intensive livestock facilities, by county (continued).**

<i>Setback</i>	Counties					
	<i>Goochland</i>	<i>Greensville</i>	<i>Halifax</i>	<i>Lunenburg</i>	<i>Mecklenburg</i>	<i>Prince Edward</i>
	-----feet-----					
Existing dwellings in ag district owned by operator			500		300	
Existing dwellings in ag district not owned by operator		4,500	500	300	300	300
Existing dwellings in adjacent district owned by operator			500		600	
Existing dwellings in adjacent district not owned by operator			500	600	600	300
Existing like facilities in ag district				300	300	
Existing like facilities in adjacent district				600	600	
Adjoining zoning districts						
Business zoning districts						
Churches			1,000	1,000	1,000	
Colleges						
County owned buildings		4,500	1,000	1,000	1,000	1,000
County, town, and community recreation areas		4,500	1,000	1,000	1,000	1,000
Incorporated towns			1,000	1,000	1,000	1,000
Industrial zoning districts						
Mobile home parks			1,000	1,000	1,000	
Platted residential subdivisions		4,500	1,000	1,000	1,000	
Property lines in ag district	1,000	1,000	200	150	150	150
Property lines in other districts	1,200	1,000	200	150	150	150
Public roadways		1,000	400	150	150	150
Public schools		4,500	1,000	1,000	1,000	1,000
Public springs, public wells, and water intakes			1,000	1,000	1,000	1,000
Residentially zoned districts		4,500		1,000	1,000	1,000
Rural service areas						
State or federally owned buildings						

Source: County zoning ordinances. See source for complete information

## Estimated Land Requirements

Minimum land area required for an intensive livestock facility will be determined by the largest of three requirements: (1) area required to meet setback distance, (2) area required for an acceptable nutrient management plan, and (3) minimum area specified in the zoning ordinance.

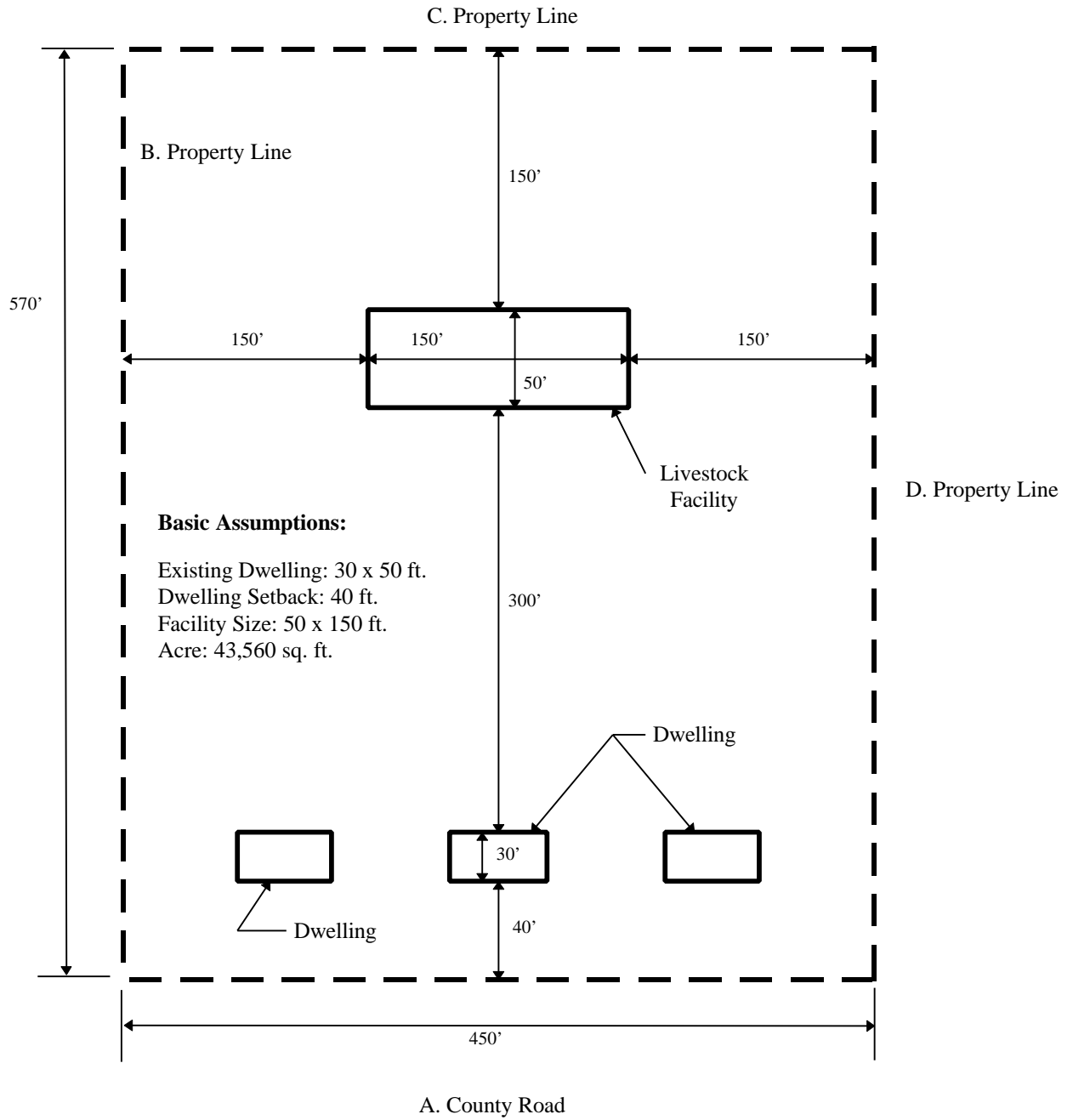
The setback requirements can be used to estimate minimum land area required for an intensive livestock facility. In order to estimate minimum land area required, a set of standardized assumptions about the parcel of land was used, including its proximity to county roads; the location and size of existing, occupied dwellings on the property; and the existence of streams, rivers, wetlands, et cetera. The calculations assume there are no schools, churches, public wells, subdivisions, et cetera, within any prohibited distance from the facility. Actual land area required will be based on the individual characteristics of each parcel of land, but by using these assumptions, the relative land parcel size needed in the various counties to meet setback requirements can be estimated and compared across the counties included in this study.

The minimum land area required by the setbacks contained in the model ordinance was calculated using the assumptions that follow. Side A is assumed to be a county road in an agricultural district. The three existing, occupied dwellings are assumed to be 30 by 50 feet in dimension and set back 40 feet from the road. The livestock facility is assumed to be 50 by 150 feet. There are no occupied dwellings along property lines B and D. The first estimate of the minimum land area using these setbacks assumes no occupied dwellings are along property line C. Under this assumption, the livestock facility only has to meet the property line setback required relative to side C (Figure 2). Under the stated assumptions, these setback requirements would require a parcel 570 feet deep and 450 feet wide, or 256,500 square feet. This square footage converts to the 5.9 acres reported in Table 5 under the 300 foot setback from an occupied dwelling and 150 foot setback from all property lines.

A second scenario assumes an occupied dwelling exists just outside the C property line, hence the distance from the livestock facility to the C property line must be increased to 300 feet. The result of this calculation is shown by the number in parentheses. This change increases the minimum acreage size to 7.4 acres. Obviously, if occupied dwellings existed along property lines B and D, the minimum acreage would increase even more.

These estimated minimum land area requirements, based on the setback requirements reported in Table 5, are minimums for several reasons. The land parcel is assumed to have no creeks, rivers, wetlands, or wooded areas. Therefore, all the land area is available for spreading animal waste within the limits of the approved nutrient management plan. The county zoning ordinances do not include setbacks for application of animal waste, but Virginia Pollution Abatement Permits for Confined Animal Feeding Operations do. Hence, in some cases, these application restrictions may increase the land area needed. In all cases, the land area required must be adequate to have an acceptable nutrient management plan. Topography, soil productivity, crops grown, and other factors determine the land area necessary for waste application. When the area needed for waste application exceeds the minimum parcel size based on setbacks, the larger area is always required. Therefore, under some circumstances, the minimum areas estimated based on setback requirements may be superseded by a larger area required for waste application under the nutrient management plan.

Figure 2. Sketch of Dwellings and Livestock Facility with Setbacks.





**Table 5. Estimated minimum acreage for intensive livestock facilities based on various setback requirements<sup>a</sup>**

<i>Property lines (ft.)<sup>b</sup></i>	Existing dwelling (ft.)			
	<i>300</i>	<i>600</i>	<i>1,000</i>	<i>1,500</i>
	----- acres -----			
150	5.9 (7.4) <sup>c</sup>	9.0 (13.6)	13.1 (21.9)	18.3 (32.3)
300	12.4 (12.4)	17.6 (22.7)	24.4 (36.5)	33.1 (53.7)
500	27.7 (29.6)	32.2 (34.8)	42.8 (56.0)	56.0 (82.4)
1,000	101.2 (101.2)	101.2 (101.2)	104.6 (104.6)	129.3 (154.0)

<sup>a</sup> See text for assumptions used.

<sup>b</sup> Property lines within agricultural district. These distances are greater if land adjoins different zoning district. NMP may increase required minimum parcel size.

<sup>c</sup> Numbers in parentheses are for second assumption for property line C.

The estimated minimum acreage based on setbacks varies from 5.9 to 154.0 acres given the stated assumptions. Some of the smaller acreage estimates may not be adequate for an acceptable nutrient management plan or meet the county’s minimum acreage requirement, but they give an indication of the county’s attitude toward intensive livestock production. Table 6 lists the minimum acreage requirements for intensive livestock facilities under the setback provisions from occupied dwellings and property lines in an agricultural district for each county. The minimum acreage requirement according to setback provisions is compared to the minimum acreage restriction set in the zoning ordinance for each county.

Several observations can be made from the data in Table 6. First, the minimum acres required in the county zoning ordinances exceed the estimated minimum acreage based on setback requirements in all but three counties. In each county, intensive livestock facilities will have to meet the larger of the two minimum acreage requirements. Hence, in most counties, the minimum acreage requirement is more restrictive than the setback requirements. Second, the counties on the eastern border of the region (Dinwiddie, Goochland, and Greensville) require larger areas for intensive livestock facilities. Counties in the center of the region require much less land for an intensive livestock facility. These counties along with other contiguous counties that have not passed new agricultural zoning ordinances may be open to expanded intensive livestock production. Of course, many other factors such as roads, railroads, sewer, schools, labor workforce skills and availability, and community support and tax incentives, are important to the location of intensive livestock production.

**Table 6. Minimum acreage requirement estimates for intensive livestock facilities,<sup>a</sup> by county.**

County	Setback		Minimum acreage <sup>c</sup>	Zoning ordinance minimum <sup>d</sup>
	Occupied dwelling	Property line		
	-----feet-----		-----acres-----	
Amelia	600 (assumed) <sup>b</sup>	500	32.2	none
Brunswick	1,500	500	56.0	50
Cumberland	1,500	300	33.1	100
Dinwiddie	1,000	300	24.4	100
Goochland	1,000 (assumed) <sup>b</sup>	1,000	104.6 <sup>e</sup>	50
Greensville	1,000 (assumed) <sup>b</sup>	1,000	104.6	100
Halifax	500	200	10.4	NMP
Lunenburg	300	150	5.9	20
Mecklenburg	300	150	5.9	none
Prince Edward	300	150	5.9	20

<sup>a</sup> NMP may increase minimum acreage requirement.

<sup>b</sup> Zoning ordinance does not contain occupied dwelling setback.

<sup>c</sup> Minimum acreage based on setback requirements.

<sup>d</sup> Minimum acreage specified in zoning ordinance.

<sup>e</sup> Intensive swine facilities must be one mile apart, so setback requirement is more restrictive than zoning ordinance minimum.

## **NUTRIENT MANAGEMENT AND DEVELOPMENT PLANS**

Nutrient management plans are required by the Commonwealth of Virginia for some intensive livestock facilities.<sup>3</sup> In addition to the state requirements, at least seven counties specify that a copy of an approved nutrient management plan must be filed with the county administrator. In these seven counties, the facility operator is usually required to notify the county administrator before the expiration of a nutrient management plan or after a plan has been terminated, if termination occurs before the stated expiration date. Time limits for these notifications vary by county but are approximately 30 days for the former and 5 to 15 days for the latter. Counties differ as to which state agency they name as having authority to approve nutrient management plans. The model ordinance lists the Virginia Department of Conservation and Recreation and Virginia Cooperative Extension or a person certified or employed by the state as a nutrient management planner.

By contrast, development plans are not required by the state but are required by many of the counties in the survey area. A development plan outlines the number, size, and location of planned and existing livestock structures for a parcel of land. Eleven counties require that a development plan be submitted and approved by the county administrator or other appropriate county personnel. The model ordinance suggests that a

<sup>3</sup> For further information on nutrient management plans, see “General Permit Requirements for Confined Animal Feeding Operations in Virginia,” David Kenyon, Virginia Cooperative Extension Publication 446-049, 1995.

development plan is optional. Only Nottoway County follows the model ordinance by recommending, but not requiring, a development plan. The development plan is submitted to the zoning board or county administrator and then either approved or returned to the operator with an explanation of the areas that failed to meet zoning requirements. After a development plan is approved, the operator is required only to meet setbacks from those dwellings and uses existing at the time the plan is approved. Each county has its own requirement for development plans and all make some provision for noncompliance and revocation of the plan.

## **SPECIAL- AND CONDITIONAL-USE PERMITS**

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Of the 23 counties surveyed, 12 had made no changes to their zoning ordinance in response to the Right-to-Farm legislation as of March 1996. Some of these 12 counties may still require special- or conditional-use permits for feed lots. In many cases, the zoning ordinance does not define a feed lot or specify whether the restrictions apply to the use of feed lots associated with intensive livestock production or with livestock sales or auction facilities. Under the Right-to-Farm legislation, restriction of the use of feed lots in conjunction with livestock production in an agricultural district is illegal, provided the feed lot is maintained according to the appropriate environmental requirements.

Some county zoning ordinances have unique features that were not examined in one of the five areas of the study. Two counties do not have zoning ordinances--Buckingham and Bedford. In Bedford County, land use is by right, thus eliminating the need for zoning. Two counties limit the maximum size of a facility. In Dinwiddie the maximum size is 1,000 animal units and in Greenville it is 6,000 swine.

## **CONCLUSIONS**

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The counties that have changed their ordinances in response to the Right-to-Farm legislation have adopted "reasonable setbacks," using the model ordinance as a benchmark. Until changes are made in the 12 counties that have not responded to the Right-to-Farm legislation, it is difficult to conclude how these counties would respond to the proposed location of intensive livestock production within their boundaries. The counties that have modified their zoning ordinances in response to the Right-to-Farm legislation changes appear to be open to the location of intensive livestock facilities based on the requirements of the zoning ordinances, with the exception of Dinwiddie and Greenville, which have limits on the maximum size of production.

## **Bibliography**

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