

### 3.0 SITE SELECTION

When planning a new livestock operation or the expansion of an existing operation, the selection of an appropriate site must be given careful consideration. There are several factors that first must be considered when choosing a site.

- ! Know who is responsible for farm development in your area. In most areas of the province, applications must first be reviewed by the municipality and the Government Services Centre. Proposals are also reviewed by other provincial departments responsible for environment, agriculture, health, forestry and fisheries;
- ! You must contact the municipality in the early stages of the planning as acquisition of the necessary permits may take up to six months. The municipality also administers various building codes. Buildings must be designed and constructed in accordance with the Canadian Farm Building Code. You must check with your local municipal office to verify if any other provincial or municipal building codes apply. Submit building plans to the appropriate authority. For example, in the Wooddale and St. John's Agriculture Development Areas, applications for development are reviewed pursuant to regulations written to protect farms and the land base from conflicting uses of the land; and
- ! If you intend to develop an agricultural operation within a protected water supply, you are required to submit a five-year Development Plan to the Department of Environment. The development must not proceed without completion of an environmentally acceptable plan and written approval from the Department of Environment. For more information contact the Department of Environment. It is recommended that you consult with a Land Management Specialist, Agrifoods Branch, on matters related to development in a Water Supply. You may also find it useful to review the document, "Environmental Farm Plan Workbook" by the Atlantic Farmers Council. This document contains useful measures of environmental risk with which to evaluate your facilities and farm practices. Call the Newfoundland and Labrador Federation of Agriculture for more information on this workbook.

The provincial Department of Government Services and Lands is responsible for ensuring that existing and developing farms operate in a manner which will minimize the likelihood of pollution and the possibility for land use conflict. Both the Government Services Centre and the Agrifoods Branch require that new or expanding operations obtain a ministerial Environmental Certificate of Approval under the Waste Material Disposal Act for manure handling and storage before a farm of more than five animal units is permitted to operate (see Appendix B for metric/imperial unit conversion tables and Appendix C for a description of animal units). This certificate is prepared by the Government Services Centre and released by the Agrifoods Branch Land Management Specialist. In public water supplies, the Department of Environment also has a role in preparing this certificate.

Once these requirements have been met, careful attention must be paid in site selection to separation

distances between the livestock operation and the following structures or areas:

- ! neighbouring dwelling;
- ! residential, recreational or commercial areas;
- ! water supplies;
- ! provincial highways and roads;
- ! public buildings; and
- ! property lines.

### **Proximity to Property Lines, Neighbours and Rural Residential or Recreational Developments**

The potential for nuisance conflicts can be minimized by ensuring adequate separation between livestock facilities and neighbours. Proximity to developments can determine the potential for future growth of the operation. Greater separation distances afford more opportunity for odours to become diluted by mixing with the air. The intensity of the odour is thus reduced, and the nuisance level decreased. When evaluating sites for new operations only, you must select a location that will impact on as few neighbours as possible. Please note, proposals for new operations within 610 metres (2,000 ft) of houses, residential areas or provincial park boundaries will be reviewed by the Government Services Centre and the Agri-Foods Branch in regards to the potential for land use conflicts.

General guidelines for the minimum separation from property lines are illustrated in Table 1.

**TABLE 1**

#### **Guidelines for Minimum Separation Distances Between New Operations and Property Lines<sup>1,2</sup>**

Barns	45 m (150 ft)
Manure storage	100 m (330 ft)

1. Agencies such as the Government Services Centre or municipalities may have other requirements.
2. These separation distances apply to new operations.

The recommended Minimum Separation Distance (MSD) between a livestock operation and single residences, residential or recreational areas varies with the following factors:

- ! size of the operation measured in animal units;
- ! degree of expansion from existing operation;

- ! type of manure storage;
- ! type of housing; and
- ! type of livestock.

It is emphasized that the MSD's are guidelines and that separation distances for new livestock operations may be less in legislated or designated agricultural areas. In addition, a farmer's manure management system may include a land base located away from the home farm which is used for manure spreading.

A method for calculating the MSD is presented in Appendix D. It provides a consistent and uniform technique for assessing the conflict potential of land use change involving a new or expanded construction. For non-agricultural developments, the MSD method provides a recommended minimum separation distance between new or expanding non-agricultural developments and existing livestock facilities. For agricultural developments, it provides a recommended minimum separation distance between new or expanded livestock developments and other existing uses.

In general, larger separation distances are recommended as the size of the operation increases. Municipalities may require different siting criteria from those recommended here. The location of new operations must always be cleared with municipal authorities. Municipal property ownership maps are very useful for evaluating potential sites.

### **Proximity to Watercourses and Wells**

Plan the location of livestock facilities to maximize the separation from water supply wells. This is particularly important with field or earthen manure storages where groundwater is obtained from shallow (dug) wells or where bedrock is found close to ground surface. It is recommended that wells should be drilled rather than dug. It is recommended the water be tested twice a year for bacteria.

Minimum separation distances to watercourses and wells required for manure storages are given in Table 2. Wells must be located uphill from storages and constructed in a manner that will prevent pollutants from entering the well. Grouting the annular space outside the casing with cement or bentonite grout must be carried out where appropriate.

**TABLE 2**

**Guidelines for Minimum Separation Distances Between  
Manure Storages and Watercourses and Wells**  
(Distance may vary depending on local conditions such as  
slope, drainage, land use or zoning)

Storage Type	Distance to	
	Watercourse, m (ft)	Private Well, m (ft)
Storage (synthetic or concrete)	50 (160)	50 (160)
Earthen Storage (where approved)	100 (330)	100 (330)
In a Field	100 (330)	100 (330)
Composting (no liner)*	100 (330)	100 (330)

\* Liners may be required depending on the site

### **Proximity to Provincial Highways and Roads**

The Department of Government Services and Lands regulates the placing of buildings, structures, fences, plantings and the establishment of various enterprises adjacent to many provincial roads and highways. They also control access to provincial highways and discharge of surface runoff and liquids into highway ditches.

Agricultural buildings, with the exception of residences and fruit and vegetable stands, should be located 91 metres (300 ft) from roadways unless approved by the Government Service Centre. Generally, any buildings, structures, fences and tree plantings to be located within 91 metres (300 ft) of certain provincial highways or within or up to 457 metres (1,500 ft) of major highway intersections require prior approval by the Government Service Centre. Since these distances vary from one highway to another and at different intersections, it is important to consult with the Government Service Centre early in your planning.

### **Site Selection for Odour Control**

Odours are one of the main causes of conflicts between livestock producers and their neighbours. In most areas, livestock producers represent a small minority of the population. It is, therefore, essential that producers develop and maintain a good image within their community. It is unrealistic not to expect a commercial livestock operation to operate with some odour. The nuisance level can, however, be significantly reduced when livestock farms are properly sited, designed and operated.

The potential for odour problems can be minimized by considering the use of bush and windbreaks and accounting for prevailing wind direction. Take advantage of natural terrain and landscaping to minimize conflicts with neighbours. Since every situation is unique, the most practical approach is

to evaluate the situation with the assistance of an agricultural engineer and the Land Management Specialist for your area. The Land Management Specialist will be familiar with the zoning for the area and know of proposed subdivisions. The Land Management Specialist can assist in obtaining climate data and interpret the information for a particular site. The prevailing wind direction can vary between seasons. Since summer is the time when odours are more intense and neighbours are outdoors more often, it is important to consider the direction of the prevailing winds for the summer.

Separation distances between new livestock buildings and non-agricultural uses should also be a consideration in selecting a site. Guidelines for minimum separation distances based on the size and type of the farm, along with land use considerations, appear in Appendix D.