



Minimum Separation Distances for Construction or Expansion of Confinement Feeding Operation Structures (All Animal Feeding Operations, including SAFO¹)

Instructions:

1. **Determine if you own or manage another confinement operation** that is located within 2,500 feet; or that utilize a common system for manure storage regardless of how far they are apart. If the answer is “yes”, you must first contact the Animal Feeding Operations Program at (712) 262-4177 or your nearest DNR Field Office, before proceeding with separation distance determination.
2. **Complete Worksheet No. 1** (page 2) to determine the Animal Unit Capacity (AUC).
3. **Complete Worksheet No. 2** (page 2), to determine the Animal Weight Capacity (AWC), however, this only applies to an operation that was constructed prior to March 1, 2003.
4. **Determine the year when the operation was constructed.** This is the date when any of the following occurred:
 - Excavation of a structure or excavation of the footings of a structure.
 - Installation of forms for concrete of a structure.
 - Installation of piping to transport manure between confinement feeding operation structures.
5. **Select the Table that applies**, based on the year when the operation was constructed and the animal species, according to the following (Tables located in 567 IAC 65.1(2):

a) Table 6: New operation or expansion of an operation that was or will be constructed on or after March 1, 2003, for all animal species.	Page 3
b) Table 6-A: Expansion or modification of an operation that was constructed on or after January 1, 1999 but prior to March 1, 2003, for swine, sheep, horses, and poultry.	Page 4
c) Table 6-B: Expansion or modification of an operation that was constructed on or after January 1, 1999 but prior to March 1, 2003, for beef and dairy.	Page 5
d) Table 6-C: Expansion or modification of an operation that was constructed prior to January 1, 1999, for swine, sheep, horses, and poultry.	Page 6
e) Table 6-D: Expansion or modification of an operation that was constructed prior to January 1, 1999, for beef and dairy.	Page 7

6. **Distances to a residence, business, church, school or public use area:** In the appropriate table, select the type of structure being constructed, expanded or modified. Use the AUC or AWC [whichever applies], to select the appropriate range for AUC or AWC, and the minimum required separation distances.
7. **Distances to water wells:** In the middle portion of the appropriate table, select the type of structure being constructed, expanded or modified. To determine if a well is deep or shallow, use the well log record. A ‘deep well’ is defined in 567 IAC 65.1(1). Distances to wells are required to all animal feeding operations (SAFOs included).
8. **Distance to major water sources, sinkholes, water sources, designated wetlands, environmentally sensitive areas and public thoroughfares:** In the bottom part of the appropriate table, find these distance requirements that apply to all animal feeding operations (SAFOs included, unless specifically exempted). Major water sources are listed in 65.1(2)“k” and “l”.

For more information, contact one of the DNR Field Offices (www.iowaDNR.gov/FieldOffice) or visit www.iowaDNR.gov.

CAUTION: This document is only a summary of Iowa Code chapter 459 (2003) and the DNR’s amended administrative rules. It is a guidance document and should not be used as replacement for the statutory provisions and administrative rules (collectively, the law). While every effort has been made to assure the accuracy of this information, the law will prevail in the event of a conflict between this document and the law.

¹ SAFO= A small animal feeding operation, which has an animal unit capacity of 500 animal units (AU) or less.

Name of Operation: _____ Facility ID No.: _____

Worksheet 1. Animal Unit Capacity (AUC)

The animal unit capacity (AUC) is the maximum number of animal units (AU) maintained at the operation at any one time. To calculate the AUC, multiply the maximum number of animals confined at any one time by the appropriate AU factor and then add all animal units together. If you own or manage another confinement operation that utilizes a common system for manure storage, or that is located within 2,500 feet, you must first contact the DNR (see page 1):

Animal Species	Current			Proposed Expansion (No. of animals to be added)			Total		
	(No. Head)	x (Factor)	= AUC	(No. Head)	x (Factor)	= AUC	(No. Head)	x (Factor)	= AUC
Slaughter or feeder cattle		1.0			1.0			1.0	
Immature dairy cattle		1.0			1.0			1.0	
Mature dairy cattle		1.4			1.4			1.4	
Gestating sows		0.4			0.4			0.4	
Farrowing sows & litter		0.4			0.4			0.4	
Boars		0.4			0.4			0.4	
Gilts		0.4			0.4			0.4	
Finished (Market) hogs		0.4			0.4			0.4	
Nursery pigs 15 lbs to 55 lbs		0.1			0.1			0.1	
Sheep and lambs		0.1			0.1			0.1	
Horses		2.0			2.0			2.0	
Turkeys 7lbs or more		0.018			0.018			0.018	
Turkeys less than 7 lbs		0.0085			0.0085			0.0085	
Broiler/Layer chickens 3 lbs or more		0.01			0.01			0.01	
Broiler/Layer chickens less than 3 lbs		0.0025			0.0025			0.0025	
Fish		0.001			0.001			0.001	
TOTALS:	Current:			Proposed Expansion:			Total:		

Worksheet 2. Animal Weight Capacity (AWC)

Only applies to operations that were first constructed prior to March 1, 2003. The animal weight capacity (AWC) is the product of multiplying the maximum number of animals confined at any one time by their average weight during the production cycle. Use the AWC definition and its examples set forth in rule 567 IAC 65.1(1). Then add the AWC if more than one animal species is present.

Animal Species	Existing AWC (Before Permit)			Proposed Expansion (No. of animals to be added)			Total		
	(No. head) x	avg weight	= AWC	(No. head) x	avg weight	= AWC	(No. head) x	avg weight	= AWC
Slaughter or feeder cattle									
Immature dairy cattle									
Mature dairy cattle									
Gestating sows									
Farrowing sows & litter									
Boars									
Gilts									
Finished (Market) hogs									
Nursery pigs 15 lbs to 55 lbs									
Sheep and lambs									
Horses									
Turkeys 7lbs or more									
Turkeys less than 7 lbs									
Broiler/Layer chickens 3 lbs or more									
Broiler/Layer chickens less than 3 lbs									
Fish									
TOTALS:	Current:			Proposed Expansion:			Total:		

Table 6**Minimum separation distances to buildings and public use areas² for confinement feeding operation or expansion of an operation constructed on or after March 1, 2003**

Type of Structure (liquid, semi-liquid and dry manure storage)	Total Animal Unit Capacity (AUC) (AU)	Residences, Businesses, Churches, Schools		Public use areas
		Unincorporated Areas	Incorporated Areas	
Anaerobic lagoons and uncovered earthen manure storage basins	500 AU or less	1,875 feet	1,875 feet	1,875 feet
	501 AU to <1,000 AU	1,875 feet	1,875 feet	1,875 feet
	1,000 AU to <3,000 AU	2,500 feet	2,500 feet	2,500 feet
	3,000 AU or more	3,000 feet	3,000 feet	3,000 feet
Covered earthen manure storage basins	500 AU or less	1,250 feet	1,875 feet	1,875 feet
	501 AU to <1,000 AU	1,250 feet	1,875 feet	1,875 feet
	1,000 AU to <3,000 AU	1,875 feet	2,500 feet	2,500 feet
	3,000 AU or more	2,375 feet	3,000 feet	3,000 feet
Uncovered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <1,000 AU	1,500 feet	1,875 feet	1,875 feet
	1,000 AU to <3,000 AU	2,000 feet	2,500 feet	2,500 feet
	3,000 AU or more	2,500 feet	3,000 feet	3,000 feet
Confinement buildings and covered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <1,000 AU	1,250 feet	1,875 feet	1,875 feet
	1,000 AU to <3,000 AU	1,875 feet	2,500 feet	2,500 feet
	3,000 AU or more	2,375 feet	3,000 feet	3,000 feet
Egg washwater storage structures	500 AU or less	None	None	None
	501 AU to <1,000 AU	1,000 feet	1,875 feet	1,875 feet
	1,000 AU to <3,000 AU	1,500 feet	2,500 feet	2,500 feet
	3,000 AU or more	2,000 feet	3,000 feet	3,000 feet

Distances to Wells - Applies to all Confinement Feeding Operations, regardless of animal unit capacity.

Type of Structure	Public well		Private well	
	Shallow	Deep	Shallow	Deep
Aerobic structure, anaerobic lagoon, earthen manure storage basin, egg washwater storage structure.	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure, confinement building	200 feet	100 feet	200 feet	100 feet

Other Distances - Applies to all Confinement Feeding Operations, regardless of animal unit capacity

Surface intakes of an agricultural drainage well or water source other than major (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	500 feet*
Wellhead or cistern of an agricultural drainage well or known sinkhole or major water source (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	1,000 feet
Designated wetlands pursuant to subrule 65.106(4) and Iowa Code section 459.310	2,500 feet
Right-of-way of a thoroughfare maintained by the state or a political subdivision (Exemptions provided in subrule 65.107(2))	100 feet

*200 feet from a water source required for a dry bedded confinement feeding operation structure.

² See rule 567 65.107 for exemption available from distances

TABLE 6-A (Swine, Sheep, Horses and Poultry)

Minimum separation distances to buildings and public use areas² for confinement feeding operations constructed on or after January 1, 1999 but prior to March 1, 2003

Type of Structure (liquid, semi-liquid and dry manure storage)	Size of operation AUC (AU) and AWC (lbs)	Residences, Businesses, Churches, Schools		Public use areas
		Unincorporated Areas	Incorporated Areas	
Anaerobic lagoons and uncovered earthen manure storage basins	500 AU or less	1,250 feet	1,250 feet	1,250 feet
	501 AU to <625,000 lbs	1,250 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,875 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	2,500 feet	2,500 feet	2,500 feet
Covered earthen manure storage basins	500 AU or less	1,000 feet	1,250 feet	1,250 feet
	501 AU to <625,000 lbs	1,000 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,250 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	1,875 feet	2,500 feet	2,500 feet
Uncovered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <625,000 lbs	1,250 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,500 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	2,000 feet	2,500 feet	2,500 feet
Confinement buildings and covered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <625,000 lbs	1,000 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,250 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	1,875 feet	2,500 feet	2,500 feet
Egg washwater storage structures	500 AU or less	None	None	None
	501 AU to <625,000 lbs	750 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,000 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	1,500 feet	2,500 feet	2,500 feet

Distances to Wells - Applies to all Confinement Feeding Operations, regardless of animal unit capacity.

Type of Structure	Public well		Private well	
	Shallow	Deep	Shallow	Deep
Aerobic structure, anaerobic lagoon, earthen manure storage basin, egg washwater storage structure.	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure, confinement building	200 feet	100 feet	200 feet	100 feet

Other Distances - Applies to all Confinement Feeding Operations, regardless of animal unit capacity

Surface intakes of an agricultural drainage well or water source other than major (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	500 feet
Wellhead or cistern of an agricultural drainage well or known sinkhole or major water source (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	1,000 feet
Designated wetlands pursuant to subrule 65.106(4) and Iowa Code section 459.310	2,500 feet
Right-of-way of a thoroughfare maintained by the state or a political subdivision (Exemptions provided in subrule 65.107(2))	100 feet

TABLE 6-B (Beef and Dairy Cattle)

Minimum separation distances to buildings and public use areas² for confinement feeding operation constructed on or after January 1, 1999 but prior to March 1, 2003

Type of Structure (liquid, semi-liquid and dry manure storage)	Size of operation AUC (AU) and AWC (lbs)	Residences, Businesses, Churches, Schools		Public use areas
		Unincorporated Areas	Incorporated Areas	
Anaerobic lagoons and uncovered earthen manure storage basins	500 AU or less	1,250 feet	1,250 feet	1,250 feet
	501 AU to <1,600,000 lbs	1,250 feet	1,250 feet	1,250 feet
	1,600,000 lbs to <4,000,000 lbs	1,875 feet	1,875 feet	1,875 feet
	4,000,000 lbs or more	2,500 feet	2,500 feet	2,500 feet
Covered earthen manure storage basins	500 AU or less	1,000 feet	1,250 feet	1,250 feet
	501 AU to <1,600,000 lbs	1,000 feet	1,250 feet	1,250 feet
	1,600,000 lbs to <4,000,000 lbs	1,250 feet	1,875 feet	1,875 feet
	4,000,000 lbs or more	1,875 feet	2,500 feet	2,500 feet
Uncovered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <1,600,000 lbs	1,250 feet	1,250 feet	1,250 feet
	1,600,000 lbs to <4,000,000 lbs	1,500 feet	1,875 feet	1,875 feet
	4,000,000 lbs or more	2,000 feet	2,500 feet	2,500 feet
Confinement buildings and covered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <1,600,000 lbs	1,000 feet	1,250 feet	1,250 feet
	1,600,000 lbs to <4,000,000 lbs	1,250 feet	1,875 feet	1,875 feet
	4,000,000 lbs or more	1,875 feet	2,500 feet	2,500 feet

Distances to Wells - Applies to all Confinement Feeding Operations, regardless of animal unit capacity.

Type of Structure	Public well		Private well	
	Shallow	Deep	Shallow	Deep
Aerobic structure, anaerobic lagoon, earthen manure storage basin, egg washwater storage structure.	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure, confinement building	200 feet	100 feet	200 feet	100 feet

Other Distances - Applies to all Confinement Feeding Operations, regardless of animal unit capacity

Surface intakes of an agricultural drainage well or water source other than major (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	500 feet
Wellhead or cistern of an agricultural drainage well or known sinkhole or major water source (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	1,000 feet
Designated wetlands pursuant to subrule 65.106(4) and Iowa Code section 459.310	2,500 feet
Right-of-way of a thoroughfare maintained by the state or a political subdivision (Exemptions provided in subrule 65.107(2))	100 feet

TABLE 6-C (Swine, Sheep, Horses and Poultry)

Minimum separation distances to buildings and public use areas² for confinement feeding operation constructed prior to January 1, 1999

Type of Structure (liquid, semi-liquid and dry manure storage)	Size of operation AUC (AU) and AWC (lbs)	Residences, Businesses, Churches, Schools		Public use areas
		Unincorporated Areas	Incorporated Areas	
Anaerobic lagoons and uncovered earthen manure storage basins	500 AU or less	1,250 feet	1,250 feet	1,250 feet
	501 AU to <625,000 lbs	1,250 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,875 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	2,500 feet	2,500 feet	2,500 feet
Covered earthen manure storage basins	500 AU or less	750 feet	1,250 feet	1,250 feet
	501 AU to <625,000 lbs	750 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,000 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	1,500 feet	2,500 feet	2,500 feet
Uncovered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <625,000 lbs	1,000 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,500 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	2,000 feet	2,500 feet	2,500 feet
Confinement buildings and covered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <625,000 lbs	750 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,000 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	1,500 feet	2,500 feet	2,500 feet
Egg washwater storage structures	500 AU or less	None	None	None
	501 AU to <625,000 lbs	750 feet	1,250 feet	1,250 feet
	625,000 lbs to <1,250,000 lbs	1,000 feet	1,875 feet	1,875 feet
	1,250,000 lbs or more	1,500 feet	2,500 feet	2,500 feet

Distances to Wells - Applies to all Confinement Feeding Operations, regardless of animal unit capacity.

Type of Structure	Public well		Private well	
	Shallow	Deep	Shallow	Deep
Aerobic structure, anaerobic lagoon, earthen manure storage basin, egg washwater storage structure.	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure, confinement building	200 feet	100 feet	200 feet	100 feet

Other Distances - Applies to all Confinement Feeding Operations, regardless of animal unit capacity

Surface intakes of an agricultural drainage well or water source other than major (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	500 feet
Wellhead or cistern of an agricultural drainage well or known sinkhole or major water source (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	1,000 feet
Designated wetlands pursuant to subrule 65.106(4) and Iowa Code section 459.310	2,500 feet
Right-of-way of a thoroughfare maintained by the state or a political subdivision (Exemptions provided in subrule 65.107(2))	100 feet

TABLE 6-D (Beef and Dairy Cattle)

Minimum separation distances to buildings and public use areas² for confinement feeding operations constructed prior to January 1, 1999

Type of Structure (liquid, semi-liquid and dry manure storage)	Size of operation AUC (AU) and AWC (lbs)	Residences, Businesses, Churches, Schools		Public use areas
		Unincorporated Areas	Incorporated Areas	
Anaerobic lagoons and uncovered earthen manure storage basins	500 AU or less	1,250 feet	1,250 feet	1,250 feet
	501 AU to <1,600,000 lbs	1,250 feet	1,250 feet	1,250 feet
	1,600,000 lbs to <4,000,000 lbs	1,875 feet	1,875 feet	1,875 feet
	4,000,000 lbs or more	2,500 feet	2,500 feet	2,500 feet
Covered earthen manure storage basins	500 AU or less	750 feet	1,250 feet	1,250 feet
	501 AU to <1,600,000 lbs	750 feet	1,250 feet	1,250 feet
	1,600,000 lbs to <4,000,000 lbs	1,000 feet	1,875 feet	1,875 feet
	4,000,000 lbs or more	1,500 feet	2,500 feet	2,500 feet
Uncovered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <1,600,000 lbs	1,000 feet	1,250 feet	1,250 feet
	1,600,000 lbs to <4,000,000 lbs	1,500 feet	1,875 feet	1,875 feet
	4,000,000 lbs or more	2,000 feet	2,500 feet	2,500 feet
Confinement buildings and covered formed manure storage structures	500 AU or less	None	None	None
	501 AU to <1,600,000 lbs	750 feet	1,250 feet	1,250 feet
	1,600,000 lbs to <4,000,000 lbs	1,000 feet	1,875 feet	1,875 feet
	4,000,000 lbs or more	1,500 feet	2,500 feet	2,500 feet

Distances to Wells - Applies to all Confinement Feeding Operations, regardless of animal unit capacity.

Type of Structure	Public well		Private well	
	Shallow	Deep	Shallow	Deep
Aerobic structure, anaerobic lagoon, earthen manure storage basin, egg washwater storage structure.	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure, confinement building	200 feet	100 feet	200 feet	100 feet

Other Distances - Applies to all Confinement Feeding Operations, regardless of animal unit capacity

Surface intakes of an agricultural drainage well or water source other than major (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	500 feet
Wellhead or cistern of an agricultural drainage well or known sinkhole or major water source (Excluding farm ponds, privately owned lakes or when a secondary containment barrier is provided)	1,000 feet
Designated wetlands pursuant to subrule 65.106(4) and Iowa Code section 459.310	2,500 feet
Right-of-way of a thoroughfare maintained by the state or a political subdivision (Exemptions provided in subrule 65.107(2))	100 feet