



COMMONWEALTH OF PENNSYLVANIA  
OFFICE OF ATTORNEY GENERAL

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*Re: ACRE Review Request – Walker Township, Schuylkill County*

Dear Mr. Fryckland and Mr. Marines,

██████████ runs an egg laying operation that has been in existence for over fifty years. He wants to expand the business by adding the following: (1) a larger egg processing building, (2) two more egg layer barns, (3) a new manure storage building, and (4) an egg wash water treatment facility. The number of chickens on the property would increase from 140,000 layers to a maximum of 468,000 layers.

██████████ filed an application to proceed with the expansion. He has obtained the necessary approved Nutrient Management and Odor Management Plans. ██████████ application indicated that he was in the process of and/or would secure the other permits required. Walker Township (“Township”) to date has denied ██████████ application to expand his business. The Township is one of four municipalities participating in the Eastern Schuylkill Planning Region, which adopted a Joint Zoning Ordinance (“Ordinance”) in August of 2009. ██████████ contends various sections of the Ordinance violate the ACRE law.

**NORMAL AGRICULTURAL OPERATION**

The first question that must be answered in an ACRE analysis is whether the agricultural activity in question constitutes a “normal agricultural operation” (“NAO”). *See* 3 Pa.C.S. §§ 311-313. If the agricultural activity meets the statutory criteria for a NAO, ACRE applies; if it does not, ACRE is inapplicable. ██████████ proposed expansion has been characterized as an

“abnormal,” as opposed to a “normal,” agricultural operation given the proposed size.<sup>1</sup> The Right to Farm Act (“RTFA”) defines what constitutes an NAO; the term “abnormal agricultural operation” is not found within the RTFA and has no legal effect. *See* 3 P.S. §951 *et. seq.* The RTFA states an NAO is “[t]he activities, practices, equipment and procedures that farmers adopt, use or engage in the production and preparation for market of poultry...and their products...” on a farm that is “not less than ten contiguous acres in area,” and if less than ten acres, “has an anticipated yearly gross income of at least \$10,000.” *Id.* § 952. The [REDACTED] Farm meets all of these criteria and is therefore an NAO. The fact that the [REDACTED] Farm has more than 10 acres, or more income than \$10,000, or even what some may consider a large number of animals does not transform what is clearly an NAO into something else. A large NAO may be a Concentrated Animal Operation (“CAO”) or a Concentrated Animal Feeding Operation (“CAFO”) but it remains an NAO nevertheless.

### INTENSIVE AGRICULTURE

The Township’s use of the term “Intensive Agriculture” and its attendant definition violate ACRE. **CHAPTER II, DEFINITIONS**, Section 201, *Agriculture, Intensive*, of the Eastern Schuylkill Planning Region Ordinance states:

[s]pecialized agricultural activities including, but not limited to, mushroom, pig, egg and poultry production, and dry livestock production which, due to the intensity of production and/or raw material storage needs, necessitates the special control of operation, raw material storage and/or processing, animal housing, and storage and disposal of liquid and solid wastes.

The ordinance also specifically defines “Intensive Agriculture” to include “[a] swine operation in excess of one point zero (1.0) animal unit/acre,”<sup>2</sup> “[t]he raising and ownership of horses, cattle, sheep, goats, poultry, rabbits or similar animals raised for agriculturally related purposes in excess of three (3.0) animal units per acre,” and mushroom and mink farms. **CHAPTER XVI, SPECIFIC USE REGULATIONS**, Section 1615.C, *Intensive Agricultural Standards*, uses the same terminology as Section 201 and identical 1.0 and 3.0 AEU numbers for farms of a certain size. *Intensive Agricultural Standards*, Section 1615.D, adds AEU limits of 4.0 and 6.0 for farms of a different size. On farms greater than twenty-five (25) but less than forty (40) acres, the farmer is limited to 4.0 AEU’s. Lands exceeding forty (40) acres are limited to 6.0 AEU’s.

While some municipalities use the term “Intensive Agriculture” as a synonym for CAOs and CAFOs, “Intensive Agriculture” does not appear in the relevant state laws and regulations. For example, nowhere in the Nutrient Management and Odor Management Act (“NOMA”), 3 Pa.C.S. §§ 501-522, or in the regulations interpreting the Act found at 25 Pa.Code, Chapter 83, is

<sup>1</sup> “In [REDACTED] case, there comes a point where the addition of too many layers converts what was previously a normal agricultural operation into an abnormal operation,” and [REDACTED] request for a special exception either proposes an abnormal agricultural operation or it simply does not establish that the operations are normal.” *In the Matter of: [REDACTED] Memorandum of Law of [REDACTED] in opposition to [REDACTED] Egg Farm, Inc.’s Request for Special Exception*, pp. 6, 7, filed with the Zoning Hearing Board. The Zoning Hearing Board agreed with the [REDACTED] position. *See Walker Township Zoning Hearing Board, Decision and Order of the Board*, August 24, 2016.

<sup>2</sup> “Animal units per acre” is more commonly referred to as Animal Equivalent Units (“AEU”).

the term “intensive agriculture” defined. It is the OAG’s experience that the use of this term results in the imposition of additional legal requirements on farms with larger numbers of animals than so-called “traditional” farms; by extension this operates to unlawfully restrict the existence of CAOs or CAFOs within the municipalities.

The OAG contends that *Commonwealth v. Richmond Township*, 2 A.3d 678 (Pa.Cmwlth. 2010) stands for the proposition that municipalities cannot use the term “Intensive Agriculture” to impose regulations not required by the state. Moreover, that term lends itself to ambiguity and vagueness because a township can construe it to reach any large agricultural activity it finds objectionable. *Id.*, at 681, 682, 683. The OAG has previously dealt with municipalities seeking to require conditional use or special exception approval to operate proposed CAOs or CAFOs in a zone in which agriculture is a permitted use. In those situations, we advised the municipalities that while it is within their authority to require a conditional use or special exception for a CAO/CAFO, the conditions imposed to obtain approval cannot conflict with or exceed state law. See Municipalities Planning Code (“MPC”), 53 P.S. § 10603(b); *Richmond Township, supra*, 2 A.3d at 686-87 (holding that municipality exceeded its authority in imposing requirements for a special exception that conflict with the Nutrient Management Act); *Commonwealth v. Locust Township*, 49 A.3d 502, 509-511 (Pa.Cmwlth. 2012)(*en banc*) (holding that a municipality exceeds its authority and is preempted from requiring smaller animal operations to comply with the NOMA).

That first portion of Section 201 is vague, ambiguous, arbitrary and invites discriminatory enforcement. See *Richmond Township*, 2 A.3d at 681 (“A local government unit has no authority to adopt an ordinance that is arbitrary, vague or unreasonable or inviting of discriminatory enforcement.”) citing to *Exton Quarries, Inc. v. Zoning Bd. of Adjustment*, 228 A.2d 169, 178 (Pa. 1967). A vague ordinance “prescribes activity in terms so ambiguous that reasonable persons may differ as to what is actually prohibited.” *Richmond Township*, 2 A.3d at 681 citing to *Scurfield Coal, Inc. v. Commonwealth*, 582 A.2d 694, 697 (1990). An ambiguous zoning ordinance occurs where “the pertinent provision is susceptible to more than one reasonable interpretation or when the language is vague, uncertain, or indefinite.” *Kohl v. New Sewickley Twp.*, 108 A.3d 961, 968 (Pa. Cmwlth. 2015) (citation omitted). Moreover, “the power to . . . regulate does not extend to an arbitrary, unnecessary, or unreasonable intermeddling with the private ownership of property.” *Eller v. Bd. of Adjustment*, 98 A.2d 863, 865-66 (Pa. 1964).

In *Richmond Township*, the ordinance defined intensive agricultural activities as “specialized agricultural activities including, but not limited to, mushroom farms, poultry production and dry lot livestock production, which due to the intensity of production, necessitate development or specialized sanitary facilities and control.” *Richmond Township*, 3 A.3d at 682. The Court opined that “reasonable people may differ as to what actually falls within the definition of intensive agriculture.” *Id.* at 683. Therefore, the Court held that “because a person cannot read the Ordinance and ascertain whether a particular activity would be considered intensive agriculture, the Ordinance is vague and ambiguous.” *Id.* Moreover, the Court held that because the “enforcement of the ordinance depends upon the subjective determination of Township officials, the Ordinance invites discriminatory enforcement.” *Id.* Accordingly, the Court enjoined enforcement of the ordinance because it drew no “clear distinction between intensive agriculture and normal agriculture.” *Id.*

The same is true here. The first portion of Section 201 is virtually identical to the definition analyzed in *Richmond Township*; it provides no meaningful or defined method to determine when an agricultural operation is “agriculture” versus “intensive agriculture.” Thus, a person cannot read the ordinance and definitively determine where an agricultural operation belongs. As in *Richmond*

*Township*, “the Ordinance fails to provide any guidance as to how the Township determines when activities associated with [an animal husbandry] operation intensify to the level that they transform into an intensive agricultural activity.” *Id.* at 683.

That portion of Section 201 and Section 1615.C referring to AEU’s of 1.0 and 3.0, is equally flawed.<sup>3</sup> The regulatory definitions and formulas used to calculate the animal density of an operation determines the parameters of whether a farm is a small/non-CAO or CAFO, a CAO, or a CAFO. Under the NOMA, a CAO is defined as “an agricultural operation with eight or more animal equivalent units [AEUs] where the animal density exceeds two AEUs per acre on an annualized basis.” 25 Pa. Code §§ 83.201 & 262. In addition, a CAFO is a CAO with greater than 300 AEUs, any agricultural operation with greater than 1,000 AEUs, or any agricultural operation defined as a large CAFO under 40 CFR § 122.23. 25 Pa. Code § 92.1. The Township cannot define what rises to the level of “Intensive Agriculture” based on its own arbitrary set of AEU numbers; the validly enacted state regulatory structure has already established what amount of AEUs and number of animals constitutes a CAO or CAFO.

We suggest the Township amend Sections 201 and 1615.C & D to define “Intensive Agriculture” by incorporating the State law definitions for CAO and CAFO. In the alternative, the Township may amend the ordinances to delete the term “Intensive Agriculture” and simply add the terms CAO and CAFO using the State law definitions, which are as follows:

**Concentrated Animal Operation (CAO)** is “an agricultural operation with eight or more animal equivalent units [AEUs] where the animal density exceeds two AEUs per acre on an annualized basis.” 25 Pa. Code §§ 83.201, 262.

**Concentrated Animal Feeding Operation (CAFO)** is “a CAO with greater than 300 AEUs, any agricultural operation with greater than 1,000 AEUs, or any agricultural operation defined as a large CAFO under 40 CFR § 122.23.” 25 Pa. Code § 92a.2.

### ACREAGE REQUIREMENTS AND STANDARDS

Section 1615.C states that “[a]ny and all Intensive Agricultural activities shall be conducted on lands that exceed twenty-five (25) acres in size....” Section 1615.D establishes certain AEUs for farms between twenty-five (25) and forty (40) acres and for those over 40 acres. The Township lacks authority to establish acreage amounts for agricultural operations that conflict with state law. The RTFA requires only ten (10) acres or, if less than ten acres, an anticipated yearly gross income of at least \$10,000 for a farm to qualify as a normal agricultural operation. 3 P.S. § 952. The MPC precludes a municipality from enacting a zoning ordinance that regulates activities related to commercial agricultural production if it exceeds the requirements imposed under the NOMA, the RTFA or the Agricultural Area Security Law (AASL)<sup>4</sup> “regardless of whether any agricultural operation within the area to be affected by the ordinance would be a concentrated animal operation as defined by the [NOMA].” 53 P.S. § 10603(b). The MPC also provides that no public health or safety issues shall require a municipality to adopt a zoning ordinance that violates or exceeds the provisions of the NOMA, AASL, or RTFA. 53 P.S. § 10603(h); *see also Richmond Township, 2*

<sup>3</sup> Animal operations under Pennsylvania law fall into three categories: (1) small/non-CAO/CAFO; (2) CAO; and (3) CAFO. *See* 25 Pa. Code §§ 83.201, 83.701, 91.36, 92a.1.

<sup>4</sup> 3 P.S. § 901, *et seq.*

A.3d at 687 & n.11 (explaining that section 603(h) of the MPC “indicates that, as a matter of law, an agricultural operation complying with the NMA, AASL and the RTFA does not constitute an operation that has a direct adverse effect on the public health and safety.”)<sup>5</sup> The acreage amounts in Section 1615.C & D are unreasonable because farmers with less acreage are prohibited from engaging in farm practices that may be permissible under the State’s regulatory programs.

Furthermore, the Department of Environmental Protection’s (“DEP”) regulations do not use acreage amounts to determine the appropriateness of a particular agricultural operation; rather, they employ formulas based in agricultural science designed to identify the optimal density of an agricultural operation. For example, the formula to ascertain density under the NOMA includes all land under the management control of the operator, including owned, rented, or leased lands. Accordingly, the 25, 40, and over 40 acre amounts are unnecessarily restrictive and conflict with the State’s regulation of animal agricultural operations. The ordinances should be revised to remove the acreage amounts concerning “Intensive Agriculture.”

### **STANDARD ANIMAL WEIGHTS/AEU’S**

AEU’s are primarily determined by standard animal weights. The Township requires farmers to calculate AEU’s based on its own standard animal weights chart found at Section 1617, *Standard Animal Weights to Calculate Animal Units*. The Township cannot set its own standard animal weights; that power rests with the state. State regulation mandates AEU calculations use “the standard animal weight used by the livestock industry in this Commonwealth...” See 25 Pa.Code §83.262(a)(1)(i).<sup>6</sup> There is no authority under state law for the various local governments to arbitrarily set their own weights.

At the moment, the standard animal weights chart is in a period of transition. The State Conservation Commission (“SCC”) changed the weights found in the Penn State Extension’s *Agronomy Facts 54* fact sheet published in 2010 (See Exhibit A) to those published in the October of 2017 *Agronomy Facts 54* (See Exhibit B). This change occurred “[b]ased on requests from the regulated community” and as a result “the [SCC] reviewed the existing guidance and concluded that the information related to all animal species weights and animal groupings need to be updated to accurately reflect current industry standards in this Commonwealth.” 47 Pa.B. 3165, PA Bulletin, Document No. 17-951, ¶ B, *Background* (See Exhibit C). Attached for your review is an SCC document that summarizes the changes, gives the timeframe for implementation of the new weights, and explains in detail how to apply the revised weights to already existing and newly developed CAOs and CAFOs (See Exhibit D, *2017 Nutrient Management Standard Animal Weights Update Roll Out*). In sum, “[t]he newly approved standard animal weights will become

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<sup>5</sup> Moreover, the MPC requires a municipality to enact uniform provisions for each class of uses within a zoning district, 53 P.S. § 10605 and the AASL precludes a municipality from imposing unreasonable regulation on farm practices. 3 P.S. § 911.

<sup>6</sup> “All standard weights were derived from the Pennsylvania State University...College of Agriculture species specialists and/or industry sources and those standard weights information was provided to the [State Conservation Commission]. Because Penn State is the land grant university for Pennsylvania and is identified as the species specialist, the SCC believes that the weights provided are sound averages.” *Comment and Response Document, Act 38 Standard Animal Weights Update 2016/2017*, April 27, 2017, p.4. <https://files.dep.state.pa.us>.

effective on October 1, 2019, for newly identified CAOs and [CAFOs]. The newly approved standard animal weights will become effective for existing CAOs, CAFOs and voluntary animal operations whenever those existing Nutrient Management Plans (NMP) are due to be amended during the triannual review.” (See Exhibit C, ¶ A, *Effective Date*.)

As a result, Section 1617 of the ordinances must be changed as follows:

Prior to October 1, 2019, the standard animal weights listed in the Penn State Extension’s 2010 *Agronomy Facts 54* must be used to calculate AEU’s. From October 1, 2019 onward, the standard animal weights listed in the Penn State Extension’s 2017 *Agronomy Facts 54* must be used to calculate AEU’s for newly identified CAOs and CAFOs. The newly approved standard animal weights will become effective for existing CAOs, CAFOs and voluntary animal operations whenever those existing Nutrient Management Plans are due to be amended during the triannual review.

The Township may elect to include the list of weights in the 2010 and 2017 *Agronomy Facts 54* in the revised Section 1617 for ease of use and clarity of the ordinance.

### **REVIEW OF “INTENSIVE AGRICULTURE” OPERATIONS**

Section 1615.S requires that:

[a]ny and all Intensive Agricultural uses and activities shall be reviewed and/or permitted by the Municipality, the Schuylkill County Conservation District, the Schuylkill County Cooperative Extension, and any and all applicable Federal and State Regulatory Agencies having jurisdiction over such matters prior to the commencement of any activities associated with said use.

As mentioned above, the term “intensive agriculture” is legally indistinguishable from CAOs and CAFOs. Numerous laws and their accompanying regulations govern all NAOs in the Commonwealth.<sup>7</sup> Nowhere in any of these laws or accompanying regulations, or in any other of the numerous laws and/or regulations concerning agriculture is there authority for local municipalities and/or County Cooperative Extensions to independently approve of CAO and CAFO farms. CAOs and CAFOs must meet state and in some instances Federal standards<sup>8</sup> but there is no requirement that they also meet arbitrary and often inconsistent local and County Cooperative Extension standards. Accordingly, please delete the requirement that CAOs and CAFOs be reviewed and/or permitted by the Township and the Schuylkill County Cooperative Extension from Section 1615.S.

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<sup>7</sup> See e.g. NOMA, RTFA, AASL, MPC, Domestic Animal Law, 3 Pa.C.S. § 2301, *et.seq.*, Clean Streams Law, 35 P.S. § 691.1, *et.seq.*, Solid Waste Management Act, 35 P.S. § 6018, 101, *et.seq.*, Water Resources Planning Act, 27 Pa.C.S. § 3101, *et.seq.*

<sup>8</sup> See e.g. National Pollutant Discharge Elimination System – NPDES – pursuant to the Clean Water Act, 33 U.S.C. § 1251, *et.seq.*

## ODOR ABATEMENT

Section 1615.T states that:

[a] Fly and Odor Abatement Plan shall be developed and submitted to the Municipality for review and approval. The municipality will forward a copy of said plan to the Penn State Cooperative Extension or an equivalent agency for its review and comments. Recognition is hereby given that, certain agricultural activities will produce odors, but the applicant shall show that, odors can be reduced to a minimum or abated. The plan of the applicant shall show such steps as may be necessary to abate odors or to limit the times certain activities are performed so that there would be a minimal interference with neighbors will be taken.

CAOs and CAFOs are regulated by the SCC and the DEP. The SCC regulates all aspects of nutrient and odor management for CAOs and CAFOs pursuant to NOMA<sup>9</sup> and NOMA regulations.<sup>10</sup> The SCC's Facility Odor Management Regulations require all CAOs or CAFOs to develop and implement odor management plans when building new animal housing or manure management facilities. 25 Pa. Code § 83.741(b)(2)(i) & (ii). The Odor Management Regulations specify the criteria and requirements for the "construction, location and operation of animal housing facilities and animal manure management facilities, and the expansion of existing facilities." 25 Pa. Code § 83.702(3); SCC Fact Sheet, SUMMARIZING PA.'S ODOR MANAGEMENT REGULATIONS (ACT 38 OF 2005) (SCC-OM1, August 2015) ([www.agriculture.pa.us/scc](http://www.agriculture.pa.us/scc)) (See Exhibit E attached hereto).

An odor management plan ("OMP") is a "written site-specific plan identifying the Odor [Best Management Practices] to be implemented to manage the impact of odors generated from animal housing and manure management facilities located or to be located on the site." 25 Pa. Code § 83.701. An OMP must be prepared by a certified Odor Management Specialist and must be approved by the SCC prior to construction or use of the new facilities built after the effective date of the regulations (February 27, 2009). 25 Pa. Code § 83.741 (e), (f), (h); Exhibit E. The Odor Management Specialist creates an OMP by using the Pennsylvania Odor Site Index ("Index.") Experts from The Pennsylvania State University College of Agricultural Sciences, in cooperation with the SCC, developed the Index to implement NOMA. See Exhibit E. The Pennsylvania Odor Site Index ("OSI") is the:

field evaluation methodology developed specifically for this Commonwealth and approved by the [SCC], which applies site-specific factors such as proximity to adjoining landowners, land use of the surrounding area, type of structures proposed, species of animals, local topography and directions of prevailing winds, to determine potential for odor impacts.

25 Pa. Code § 83.701; See Exhibit E. The OSI estimates the potential risk of odor impacts associated with a facility and guides the operator in the siting, sizing, design, construction, operation, and management of regulated facilities and their associated Odor Best Management Practices. The number of animal equivalent units on the agricultural operation determines the

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<sup>9</sup> 3 P.S. § 501 *et seq.*

<sup>10</sup> 25 Pa. Code § 83.201, *et seq.*

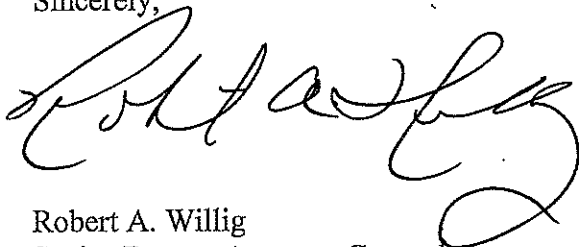
extent of the surrounding area included in the OSI evaluation. 25 Pa. Code § 82.771(b)(1)(i). An alternative method for assessing potential odor impacts on neighboring lands, other than the OSI, may be used only if approved by the SCC.

In determining the appropriate location for an animal housing or manure storage facility, the Odor Management Regulations do not impose a single uniform setback distance to address potential odor impacts. Instead, an OMP includes the Odor Best Management Practices necessary to address the potential impact of offsite migration of odors based on the OSI evaluation of the proposed facility on the site. 25 Pa. Code §§ 83.771(c), 781. The distance of the regulated facility to the nearest property line is one of many factors considered in the OSI evaluation. For operations that are found through the OSI to have something greater than a low potential for odor impacts, there are two levels of Odor Best Management Practices required under an OMP. The first level primarily concerns management-oriented practices based on the species of animal proposed on the site; the second level addresses specialized structural practices applicable to the type of operation proposed and are in addition to the first level practices. 25 Pa. Code § 83.781. The SCC approves the siting of a facility in conjunction with imposing the required Odor Best Management Practices under the OMP; this serves to address potential odor impacts on neighboring properties.

The Township's ordinance requiring farmers to develop and submit for its review and approval a fly and odor abatement plan violates ACRE. The NOMA and accompanying regulations preempt all local regulation inconsistent with or more stringent than the act or its regulations. See 3 Pa. C.S. § 519; 25 Pa. Code §§ 83.205, 705. NOMA and the accompanying regulations do not authorize a township to impose an additional layer of municipal review and approval of an already SCC reviewed and approved OMP. [REDACTED] has a state reviewed and approved OMP; this concludes the necessary government review and approval. In order to comply with state law, the Township must delete Section 1615.T from its ordinances.

I thank you for your attention in this matter. I look forward to the municipality's response to our proposal to resolve this matter through amending the above-referenced ordinances.

Sincerely,



Robert A. Willig  
Senior Deputy Attorney General



# **EXHIBIT A**



Agronomy Facts 54

# Pennsylvania's Nutrient Management Act (Act 38): Who Is Affected?

In spring 1993, the Pennsylvania legislature passed and the governor signed the Nutrient Management Act (Act 6) into law. The regulations implementing this law went into effect in 1997. In 2002 the State Conservation Commission began an effort to revise these regulations. In summer 2005, the Pennsylvania legislature replaced Act 6 with Act 38 as part of the Agriculture, Communities, and Rural Environment (ACRE) initiative. The new regulations, now falling under the new Act 38, were finalized in 2006 and went into effect in October of that year.

These revised regulations include several significant changes in the state's nutrient management program, including changes to who is affected by the regulations. This fact sheet addresses the question "Who is affected (regulated) by this legislation and regulations?"

## CONCENTRATED ANIMAL OPERATIONS

The act states that "concentrated animal operations" will be required to develop and maintain a nutrient management plan. Concentrated animal operations (CAOs) are defined as agricultural operations where the animal density of all livestock on the farm exceeds 2 animal equivalent units (AEUs) per acre on an annualized basis. This animal density criteria has not changed in the new regulations; however, two significant changes were made. First, the definition now includes all livestock, including nonproduction animals such as horses used for recreation and transportation. Second, an operation with less than 8 AEUs is not considered to be a CAO regardless of the animal density.

## Animal Equivalent Units (AEU)

An AEU is 1,000 pounds of live weight of any animal on an annualized basis. Annualized means that if animals are not present on an operation for a whole year, the animal units are adjusted for the proportion of time during the year that animals are present on the operation. The calculation involves determining the number of AEUs of all animals on the farm based on the number of animals and their average weights and then adjusting that for the actual number of days (out of 365) that the animals are on the operation. To determine the number of AEUs on a farm, the following

formula can be used for each type of animal and then added together to get the total AEUs on the farm:

$$\text{AEUs for each type of animal} = \left[ \frac{\text{average number of animals on a typical day that the animals are there} \times \text{animal weight (lb)} \div 1,000 \right] \times \left[ \frac{\text{number of days the animals are on the operation per year}}{365} \right]$$

Table 1 (page 3) lists standard animal weights that are used to calculate AEUs. It is strongly suggested that these standard animal weights be used for this calculation. However, if the farmer has records of actual weights of the animals on the farm, these may be used to determine the appropriate animal weight to be used for this calculation if the records are complete enough to justify the use of the nonstandard weights. Note that for growing animals, an average weight for their growth over the year is used. For example, for broilers that grow from 0.09 to 5.9 pounds per animal over the growth cycle, the average weight would calculate to be 3.0 pounds per animal.

## Acres Suitable for Application of Manure

The acreage number used in the animal density calculation is all acres, owned and rented, that are suitable for the application of manure. This acreage is determined to be those lands that meet the following criteria:

- cropland, hay land, or pastureland (owned or rented) that is an integral part of the operation
- land that is under the management control of the operator
- land that is or will be used for the application of manure from the operation

Farmstead and forestland cannot be included in this calculation as land suitable for manure application.

## Animal Density

The number of acres that meet the criteria listed above are then divided into the total AEUs on the farm to determine the overall animal density for the operation. Use the blank worksheet on page 4 to calculate the animal density on your farm.

PENNSSTATE



Cooperative Extension  
College of Agricultural Sciences

**Concentrated Animal Operations Requirements**

A CAO as defined under the original regulations that was in existence on the effective date of the revised regulation (October 1, 2006) should already have an approved nutrient management plan. The following are the new plan submission requirements of CAOs as defined in the revised regulations:

- An existing operation that becomes a CAO due to the changes in the regulations listed above must have submitted a nutrient management plan for approval by October 1, 2008.
- A new CAO that comes into existence after the effective date must have an approved plan prior to the commencement of manure operations.
- An agricultural operation that is planning an expansion that will result in that operation becoming a CAO must have an approved plan prior to the expansion.
- An agricultural operation that because of loss of land suitable for manure application now meets the criteria for a CAO must submit a nutrient management plan within six months after the date of the loss of land.

**EXAMPLE CAO CALCULATIONS**

The following is an example of an AEU per acre calculation.

**Example Farm Data**

<b>Animal Inventory</b>	110 dairy cows @ 1,300-lb average weight each (Average weights taken from Table 1)
	35 heifers @ 900-lb average weight each
	20 calves @ 375-lb average weight each
	15,000 heavy broilers @ 3-lb average weight each
<b>Production Period</b>	Cows = 365 days per year Broilers = 5 flocks for 57 days each, or 285 days per year
<b>Land Inventory</b>	Farmstead = 5 acres Woodland = 3 acres Pasture = 4 acres Cropland, home farm = 60 acres Cropland, rented farm = 36 acres

This example farm would be defined as a CAO and would be required to develop and implement an approved nutrient management plan. The animal density criterion is not to be construed as prohibiting development or expansion of agricultural operations that would exceed the criterion. It simply means that these operations will be required to have an approved nutrient management plan. Farms with an animal density higher than 2 AEU's per acre are likely to have more nutrients than can be fully used by the crops grown on the farm. Thus, nutrient management plans for CAOs often will describe on-farm manure utilization, as well as procedures for moving some manure off the farm.

**OTHER REQUIRED PLANS**

Farms receiving financial assistance for nutrient management, such as from the Chesapeake Bay Program, are also required to have a nutrient management plan. Any farm that violates the Clean Streams Law also may be required to develop a nutrient management plan.

**VOLUNTARY PLANS**

Farms with fewer than 2 AEU's per acre and farms with fewer than a total of 8 AEU's on the operation are encouraged to voluntarily develop nutrient management plans. Nutrient management plans, whether required or voluntary, can improve farm profits, help protect the environment, provide some protection from liability, and enhance the image with the general public of agriculture as a good steward of our natural resources.

**FOR MORE INFORMATION**

For more information, contact your local Penn State Cooperative Extension office or your local conservation district. For a summary of the Nutrient Management Act and regulations, see Penn State's *Agronomy Facts 40: Nutrient Management Legislation in Pennsylvania: A Summary of the 2006 Regulations*, which is available from your local Penn State Cooperative Extension office.

Using this example data and the worksheet, the calculation of animal density (AEUs per acre) for this farm would be as follows:

ANIMAL TYPE	NO. ANIMALS	X ANIMAL WEIGHT (LBS)	X PROD. DAYS	÷ FACTOR =	AEU
Dairy	110	x 1,300	x 365	÷ 365,000 =	143.0
Heifers	35	x 900	x 365	÷ 365,000 =	31.5
Calves	20	x 375	x 365	÷ 365,000 =	7.5
Broilers	15,000	x 3	x 285	÷ 365,000 =	35.14
		x	x	÷ 365,000 =	
		x	x	÷ 365,000 =	
		x	x	÷ 365,000 =	
				Total* =	217.14
			Acres available for manure**	÷ 100	
			AEUs/acre		= 2.17

\*If this figure is less than 8, then the farm would not be a CAO, regardless of the AEU/acre figure calculated below.

\*\*Includes only cropland, hayland, and pastures; for this example there are 96 acres of cropland/hayland and 4 acres of pasture.

**Table 1. Standard animal weights used to calculate animal equivalent units to identify concentrated animal operations.**

TYPE OF ANIMAL	STANDARD WEIGHT (LBS) DURING PRODUCTION (RANGE)
<b>Dairy</b>	
<i>Holstein/Brown Swiss</i>	
Cow	1,300
Heifer: 1-2 yr.	900 (650-1,150)
Calf: 0-1 yr.	375 (100-650)
Bull	1,500
<i>Ayrshire/Guernsey</i>	
Cow	1,100
Heifer: 1-2 yr.	800 (575-1,025)
Calf: 0-1 yr.	338 (100-575)
Bull	1,250
<i>Jersey</i>	
Cow	900
Heifer: 1-2 yr.	600 (400-800)
Calf: 0-1 yr.	225 (50-400)
Bull	1,000
<b>Swine</b>	
Nursery pig	30 (15-45)
Wean to finish	140 (15-265)
Grow finish	155 (45-265)
Gestating sow	400
Sow and litter	470
Boar	450
<b>Poultry</b>	
Layer: 18-65 wk.	3.10 (2.75-3.45)
Layer: 18-105 wk.	3.15 weighted avg.
Layer, brown egg: 20-65 wk.	3.8 (3.3-4.3)
Layer, brown egg: 20-105 wk.	4.00 (3.3-4.7)
Pullet: 0-18 wk.	1.42 (0.08-2.75)
Broiler, large: 0-53 days	3.0 (0.09-6.0)
Broiler, medium: 0-35 days	2.3 (0.090-4.5)
Roaster	3.54 (0.09-7)
Male: 0-7 wk.	
Female: 0-9 wk.	
Turkey, tom: 0-18 wk.	20.0 (0.12-40)
Turkey, hen: 0-12 wk.	7.1 (0.12-14)
Duck: 0-43 days	3.56 (0.11-7)
Guinea: 0-14 to 24 wk.	1.9 (0.06-3.75)
Pheasant: 0-13 to 43 wk.	1.53 (0.05-3)
Chukar: 0-13 to 43 wk.	0.52 (0.04-1)
Quail: 0-13 to 43 wk.	0.26 (0.02-0.5)
<b>Beef</b>	
Calf: 0-8 mo.	300 (100-500)
Finishing: 8-24 mo.	950 (500-1,400)
Cow	1,400
Bull	1,500
<b>Veal</b>	
Calf: 0-20 wk.	270 (95-445)
<b>Larger Breed Sheep</b>	
Lamb: 0-1 yr.	80 (10-150)
Ewe	175
Ram	225

TYPE OF ANIMAL	STANDARD WEIGHT (LBS) DURING PRODUCTION (RANGE)
<b>Smaller Breed Sheep</b>	
Lamb: 0-1 yr.	50 (10-90)
Ewe	150
Ram	185
<b>Meat Goats</b>	
Kid: 0-1 yr.	65 (5-125)
Doe	150
Buck	200
<b>Dairy Goats</b>	
Kid: 0-1 yr.	45 (5-85)
Doe	125
Buck	170
<b>Miniature Horses and Miniature Donkeys</b>	
Foal: 0-6 mo.	35 (25-45)
Weanling: 6-12 mo.	60 (45-75)
Yearling: 12-24 mo.	100 (75-125)
Two-Year-Old: 24-36 mo.	150 (125-175)
Mature	200
<b>Ponies and Donkeys</b>	
Foal: 0-6 mo.	65 (30-100)
Weanling: 6-12 mo.	150 (100-200)
Yearling: 12-24 mo.	300 (200-400)
Two-Year-Old: 24-36 mo.	400 (300-500)
Mature	600
<b>Light Horses and Mules</b>	
Foal: 0-6 mo.	190 (80-300)
Weanling: 6-12 mo.	450 (300-600)
Yearling: 12-24 mo.	700 (600-800)
Two Year Old: 24-36 mo.	900 (800-1,000)
Mature	1,100
<b>Draft Horses</b>	
Foal: 0-6 mo.	360 (120-600)
Weanling: 6-12 mo.	800 (600-1,000)
Yearling: 12-24 mo.	1150 (1,000-1,300)
Two-Year-Old: 24-36 mo.	1450 (1,300-1,600)
Mature	1,800
<b>Bison</b>	
Calf: 0-1 yr.	525 (50-1,000)
Cow	1,200
Bull	2,000
<b>Deer</b>	
Fawn: 0-6 mo.	36 (7-65)
Yearling Doe: 6-18 mo.	95 (65-125)
Yearling Buck: 6-18 mo.	110 (65-155)
Mature Doe	145
Mature Buck	200
<b>Alpaca</b>	
Young	80 (15-145)
Mature Female	145
Mature Male	170
<b>Llama</b>	
Cria: 0-1 yr.	85 (20-150)
Yearling: 1-3 yr.	225 (150-300)
Mature	325

Using this worksheet to determine if your farm is a CAO:

ANIMAL TYPE	NO. ANIMALS	X ANIMAL WEIGHT (LBS)	X PROD. DAYS	÷ FACTOR =	AEU
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
				Total* =	
			Acres available for manure		÷
			Animal density: AEU/acre**		=

\*If the total AEU's on the farm are less than 8, the farm is not a CAO, regardless of the animal density.  
 \*\*Farms with an animal density of greater than 2 AEU's/acre are defined as CAOs.

Prepared by Douglas Beegle, distinguished professor of agronomy, and Jerry Martin, senior extension associate, in cooperation with and with funding from the Pennsylvania State Conservation Commission.

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# **EXHIBIT B**



# Pennsylvania's Nutrient Management Act (Act 38): Who Is Affected?

In spring 1993, the Pennsylvania legislature passed and the governor signed the Nutrient Management Act (Act 6) into law. The regulations implementing this law went into effect in 1997. In 2002 the State Conservation Commission began an effort to revise these regulations. In summer 2005, the Pennsylvania legislature replaced Act 6 with Act 38 as part of the Agriculture, Communities, and Rural Environment (ACRE) initiative. The new regulations, now falling under the new Act 38, were finalized in 2006 and went into effect in October of that year.

These revised regulations include several significant changes in the state's nutrient management program, including changes to who is affected by the regulations. This fact sheet addresses the question "Who is affected (regulated) by this legislation and regulations?"

## CONCENTRATED ANIMAL OPERATIONS

The act states that "concentrated animal operations" will be required to develop and maintain a nutrient management plan. Concentrated animal operations (CAOs) are defined as agricultural operations where the animal density of all livestock on the farm exceeds 2 animal equivalent units (AEUs) per acre on an annualized basis. This animal density criteria has not changed in the new regulations; however, two significant changes were made. First, the definition now includes all livestock, including nonproduction animals such as horses used for recreation and transportation. Second, an operation with fewer than 8 AEUs is not considered to be a CAO regardless of the animal density.

## Animal Equivalent Units

An AEU is 1,000 pounds of live weight of any animal on an annualized basis. Annualized means that if animals are not present on an operation for a whole year, the animal units are adjusted for the proportion of time during the year that animals are present on the operation. The calculation involves determining the number of AEUs of all animals on the farm based on the number of animals and their average weights and then adjusting that for the actual number of days (out of 365) that the animals are on the operation. To determine the number of AEUs on a farm, the following

formula can be used for each type of animal and then added together to get the total AEUs on the farm:

$$\text{AEUs for each type of animal} = \left[ \frac{\text{average number of animals on a typical day that the animals are there} \times \text{animal weight (lb)} \div 1,000 \right] \times \left[ \frac{\text{number of days the animals are on the operation per year}}{365} \right]$$

Table 1 (page 3) lists standard animal weights that are used to calculate AEUs. It is strongly suggested that these standard animal weights be used for this calculation. However, if the farmer has records of actual weights of the animals on the farm, these may be used to determine the appropriate animal weight to be used for this calculation if the records are complete enough to justify the use of the nonstandard weights. Note that for growing animals, an average weight for their growth over the year is used. For example, for medium broilers that grow from 0.09 to 5 pounds per animal over the growth cycle, the average weight would calculate to be 2.55 pounds per animal.

## Acres Suitable for Application of Manure

The acreage number used in the animal density calculation is all acres, owned and rented, that are suitable for the application of manure. This acreage is determined to be those lands that meet the following criteria:

- Cropland, hay land, or pastureland (owned or rented) that is an integral part of the operation
- Land that is under the management control of the operator
- Land that is or will be used for the application of manure from the operation

Farmstead and forestland cannot be included in this calculation as land suitable for manure application.

## Animal Density

The number of acres that meet the criteria listed above are then divided into the total AEUs on the farm to determine the overall animal density for the operation. Use the blank worksheet on page 4 to calculate the animal density on your farm.



**Concentrated Animal Operations Requirements**

A CAO as defined under the original regulations that was in existence on the effective date of the revised regulation (October 1, 2006) should already have an approved nutrient management plan. The following are the new plan submission requirements of CAOs as defined in the revised regulations:

- A new CAO that comes into existence after the effective date must have an approved plan prior to the commencement of manure operations.
- An agricultural operation that is planning an expansion that will result in that operation becoming a CAO must have an approved plan prior to the expansion.
- An agricultural operation that because of loss of land suitable for manure application now meets the criteria for a CAO must submit a nutrient management plan within six months after the date of the loss of land.

**EXAMPLE CAO CALCULATIONS**

The following is an example of an AEU per acre calculation.

**Example Farm Data**

<b>Animal Inventory</b> (Average weights taken from Table 1)	110 dairy cows @ 1,450-lb average weight each 35 heifers @ 1,000-lb average weight each 20 calves @ 420-lb average weight each 15,000 large broilers @ 3.55-lb average weight each
<b>Production Period</b>	Cows = 365 days per year Broilers = 5 flocks for 57 days each, or 285 days per year
<b>Land Inventory</b>	Farmstead = 5 acres Woodland = 3 acres Pasture = 4 acres Cropland, home farm = 60 acres Cropland, rented farm = 36 acres

This example farm would be defined as a CAO and would be required to develop and implement an approved nutrient management plan. The animal density criterion is not to be construed as prohibiting development or expansion of agricultural operations that would exceed the criterion. It simply means that these operations will be required to have an approved nutrient management plan. Farms with an animal density higher than 2 AEU's per acre are likely to have more nutrients than can be fully used by the crops grown on the farm. Thus, nutrient management plans for CAOs will often describe on-farm manure utilization and procedures for moving some manure off the farm.

**OTHER REQUIRED PLANS**

Farms receiving financial or technical assistance from different federal, state, local, or private funding sources may also be required to have a nutrient management plan. Any farm that violates the Clean Streams Law may also be required to develop a nutrient management plan.

**VOLUNTARY PLANS**

Farms with fewer than 2 AEU's per acre and farms with fewer than a total of 8 AEU's on the operation are encouraged to voluntarily develop nutrient management plans. Nutrient management plans, whether required or voluntary, can improve farm profits, help protect the environment, provide some protection from liability, and enhance the image with the general public of agriculture as a good steward of our natural resources.

**FOR MORE INFORMATION**

For more information, contact the Penn State Extension office in your county or your local conservation district. For a summary of the Nutrient Management Act and regulations, see "Agronomy Facts 40: Nutrient Management Legislation in Pennsylvania: A Summary of the 2006 Regulations," available from your Penn State Extension county office.

Using this example data and the worksheet, the calculation of animal density (AEUs per acre) for this farm would be as follows:

ANIMAL TYPE	NO. ANIMALS	X ANIMAL WEIGHT (LB)	X PROD. DAYS	÷ FACTOR =	AEU
Dairy	110	x 1,450	x 365	÷ 365,000 =	159.5
Heifers	35	x 1,000	x 365	÷ 365,000 =	35.0
Calves	20	x 420	x 365	÷ 365,000 =	8.4
Broilers	15,000	x 3.55	x 285	÷ 365,000 =	41.6
		x	x	÷ 365,000 =	
		x	x	÷ 365,000 =	
		x	x	÷ 365,000 =	
				Total* =	244.5
			Acres available for manure**	÷ 100	
			AEUs/acre	=	2.45

\*If this figure is less than 8, then the farm would not be a CAO, regardless of the AEU/acre figure calculated below.

\*\*Includes only cropland, hayland, and pastures; for this example there are 96 acres of cropland/hayland and 4 acres of pasture.



**Table 1. Standard animal weights used to calculate animal equivalent units to identify concentrated animal operations.**

TYPE OF ANIMAL	STANDARD WEIGHT (LB) DURING PRODUCTION (RANGE)
<b>Dairy, Holstein/Brown Swiss</b>	
Calf: 0-1 year	420 (90-750)
Heifer: 1-2 years	1,000 (750-1,250)
Cow	1,450
Bull	1,700
<b>Dairy, Guernsey/Ayrshire</b>	
Calf: 0-1 year	350 (70-630)
Heifer: 1-2 years	865 (630-1,100)
Cow	1,200
Bull	1,600
<b>Dairy, Jersey</b>	
Calf: 0-1 year	275 (50-500)
Heifer: 1-2 years	675 (500-850)
Cow	1,000
Bull	1,200
<b>Beef</b>	
Calf: 0-8 months	300 (100-500)
Replacement heifer: 8 months to 1 year	500 (300-700)
Finishing: 8-24 months	950 (500-1,400)
Replacement heifer: 1-2 years	875 (700-1,050)
Bull	1,500
Cow	1,400
Backgrounding cattle	500 (300-700)
<b>Veal</b>	
Calf: 0-20 weeks	280 (95-465)
<b>Poultry, Layer</b>	
Pullet, white egg: 0-16 weeks	1.38 (0.08-2.67)
Pullet, brown egg: 0-16 weeks	1.54 (0.08-3.0)
Breeder hen, white egg: 17-70 weeks	3.25 (2.7-3.8)
Breeder rooster, white egg: 17-70 weeks	4.37 (3.67-5.06)
Breeder hen, brown egg: 17-70 weeks	3.55 (2.9-4.2)
Breeder rooster, brown egg: 17-70 weeks	4.78 (4.5-5.06)
White egg: 18-75 weeks	3.13 (2.82-3.44)
White egg: 18-90 weeks	3.14 (2.82-3.46)
Brown egg: 18-75 weeks	3.85 (3.35-4.34)
Brown egg: 18-90 weeks	3.85 (3.35-4.34)
<b>Poultry, Broiler</b>	
Medium: 0-35 days	2.55 (0.09-5.0)
Large: 0-53 days	3.55 (0.09-7.0)
Roaster male: 0-7 weeks	4.70 (0.09-9.3)
Roaster female: 0-9 weeks	4.95 (0.09-9.8)
Breeder pullet: 0-20 weeks	2.55 (0.09-5.0)
Breeder cockerel: 0-20 weeks	3.55 (0.09-7.0)
Breeder hen: 20-65 weeks	6.75 (5.0-8.5)
Breeder rooster: 20-65 weeks	8.75 (7.0-10.5)

TYPE OF ANIMAL	STANDARD WEIGHT (LB) DURING PRODUCTION (RANGE)
<b>Poultry, Turkey</b>	
Tom brooder: 0-6 weeks	3.36 (0.22-6.5)
Hen brooder: 0-6 weeks	2.74 (0.22-5.25)
Hen regular: 6-12 weeks	11.13 (5.25-17)
Hen heavy: 6-16 weeks	14.63 (5.25-24)
Tom: 6-18 weeks	25.25 (6.5-44)
<b>Poultry, Duck</b>	
Starter: 0-17 days	1.36 (0.22-2.5)
Finisher: 17-38 days	4.88 (2.5-7.25)
Developer: 0-196 days	3.21 (0.22-6.2)
Layer	6.85 (6.2-7.5)
<b>Poultry, Game Birds</b>	
Guinea, growing: 0-14 weeks	1.91 (0.06-3.75)
Guinea, mature	3.75
Pheasant, growing: 0-13 weeks	1.53 (0.05-3.0)
Pheasant, mature	3.0
Chukar, growing: 0-13 weeks	0.52 (0.04-1.0)
Chukar, mature	1.0
Quail, growing: 0-13 weeks	0.26 (0.02-0.5)
Quail, mature	0.5
<b>Swine</b>	
Nursery pig	35 (13-57)
Wean to finish	143 (13-273)
Grow finish	165 (57-273)
Gestating sow	450
Sow and litter	470
Boar	450
<b>Sheep, Larger Breed</b>	
Lamb: 0-1 year	95 (10-180)
Ewe	225
Ram	300
<b>Sheep, Medium Breed</b>	
Lamb: 0-1 year	80 (10-150)
Ewe	175
Ram	225
<b>Sheep, Smaller Breed</b>	
Lamb: 0-1 year	45 (10-80)
Ewe	100
Ram	125
<b>Goats, Meat</b>	
Kid: 0-1 year	65 (5-125)
Doe	150
Buck	200

(continued)

**Table 1. (continued)**

TYPE OF ANIMAL	STANDARD WEIGHT (LB) DURING PRODUCTION (RANGE)
<b>Goats, Dairy</b>	
Kid: 0-1 year	45 (5-85)
Doe	125
Buck	170
<b>Miniature Horses and Donkeys</b>	
Foal: 0-6 months	35 (25-45)
Weanling: 6-12 months	60 (45-75)
Yearling: 12-24 months	100 (75-125)
Two-year-old: 24-36 months	150 (125-175)
Mature	200
<b>Ponies and Donkeys</b>	
Foal: 0-6 months	65 (30-100)
Weanling: 6-12 months	150 (100-200)
Yearling: 12-24 months	300 (200-400)
Two-year-old: 24-36 months	400 (300-500)
Mature	600
<b>Light Horses and Mules</b>	
Foal: 0-6 months	190 (80-300)
Weanling: 6-12 months	450 (300-600)
Yearling: 12-24 months	700 (600-800)
Two-year-old: 24-36 months	900 (800-1,000)
Mature	1,100

TYPE OF ANIMAL	STANDARD WEIGHT (LB) DURING PRODUCTION (RANGE)
<b>Draft Horses</b>	
Foal: 0-6 months	360 (120-600)
Weanling: 6-12 months	800 (600-1,000)
Yearling: 12-24 months	1,150 (1,000-1,300)
Two-year-old: 24-36 months	1,450 (1,300-1,600)
Mature	1,800
<b>Bison</b>	
Calf: 0-1 year	275 (50-500)
Yearling: 1-2 years	650 (500-800)
Cow	1,000
Bull	1,600
<b>Deer</b>	
Fawn: 0-6 months	36 (7-65)
Yearling doe: 6-18 months	95 (65-125)
Yearling buck: 6-18 months	110 (65-155)
Mature doe	145
Mature buck	200
<b>Alpaca</b>	
Young	80 (15-145)
Mature female	145
Mature male	170
<b>Llama</b>	
Cria: 0-1 year	75 (25-125)
Yearling: 1-2 years	213 (125-300)
Mature	350

Using this worksheet to determine if your farm is a CAO:

ANIMAL TYPE	NO. ANIMALS	X ANIMAL WEIGHT (LB)	X PROD. DAYS	÷ FACTOR =	AEU
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
				Total* =	
			Acres available for manure		÷
			Animal density: AEU/acre**		=

\*If the total AEU's on the farm is less than 8, the farm is not a CAO, regardless of the animal density.

\*\*Farms with an animal density of greater than 2 AEU's per acre are defined as CAOs.

Prepared by Douglas Beegle, Distinguished Professor of Agronomy, and Jerry Martin, senior extension associate, in cooperation with and with funding from the Pennsylvania State Conservation Commission.

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# **EXHIBIT C**

# NOTICES

## STATE CONSERVATION COMMISSION

### Approval of Updated Standard Animal Weights

[47 Pa.B. 3165]

[Saturday, June 3, 2017]

The State Conservation Commission (Commission) is providing public notice of an update to its guidance on standard animal weights to determine if an agricultural operation is a concentrated animal operation (CAO). The nutrient management regulations of the Commission require CAOs to be identified through the number of animal equivalent units (AEU) on the agricultural operation. The operator must follow several steps included in the regulations to calculate the number of AEUs. The first step requires the operator to compute the animal weight by multiplying the average number of animals on the operation by the standard animal weight used by the livestock industry in this Commonwealth. See 25 Pa. Code § 83.262(a)(1)(i) (relating to identification of CAOs). The regulations allow the operator to use the standard weights contained in guidance published by the Commission to meet the requirements of 25 Pa. Code § 83.262(a)(1)(i), in addition to other acceptable documented animal weights.

#### A. *Effective Date*

The updated standard animal weights were approved by the Commission on May 9, 2017.

The newly approved standard animal weights will become effective on October 1, 2019, for newly identified CAOs and concentrated animal feeding operations (CAFO).

The newly approved standard animal weights will become effective for existing CAOs, CAFOs and voluntary animal operations whenever those existing Nutrient Management Plans (NMP) are due to be amended during the triannual review.

### *B. Background*

The animal groupings and weights that are used in implementing the NMP program have been revised several times since they were first developed. The Nutrient Management Act (Act 6), which required NMPs became law in 1993. The initial animal weights and groupings were developed in 1997. In 2005, Act 6 was repealed and replaced with 3 Pa.C.S. §§ 501—522 (relating to nutrient management and odor management). Due to the passage of 3 Pa.C.S. §§ 501—522, revisions were made to the animal weights and groupings in 2005 and 2010.

Based on requests from the regulated community, the Commission reviewed the existing guidance and concluded that the information related to all animal species weights and animal groupings needed to be updated to accurately reflect current industry standards in this Commonwealth.

In September 2016, the Commission approved a 60-day public comment period on the draft standard animal weights.

The Commission received 84 comments from 25 commentators. The Commission considered the comments and made some additional edits to the guidance.

Copies of the standard animal groupings and weights and the comment and response document are available from Frank X. Schneider, Director, Nutrient and Odor Management Programs, Room 311, 2301 North Cameron Street, Harrisburg, PA 17110, (717) 705-3895.

The following standard animal groupings and weights are as follows:

<b>Type of Animal</b>	<b>Standard Weight (lbs.) during Production (range)</b>
<i>Dairy Holstein/Brown Swiss</i>	
Cow	1,450
Heifer: 1-2 years	1,000 (750—1,250)
Calf: 0-1 year	420 (90—750)
Bull	1,700
<i>Dairy Guernsey/Ayrshire</i>	
Cow	1,200
Heifer: 1-2 years	865 (630—1,100)
Calf: 0-1 year	350 (70—630)
Bull	1,600
<i>Dairy Jersey</i>	
Cow	1,000
Heifer: 1-2 years	675 (500—850)
Calf: 0-1 year	225 (50—500)
Bull	1,200
<i>Beef</i>	
Calf: 0—8 months	300 (100—500)
Backgrounding Cattle	500 (300—700)
Finishing: 8—24 months	950 (500—1,400)
Replacement Heifer: 8 months—1 year	500 (300—700)



Replacement Heifer: 1-2 years	875 (700—1,050)
Cow	1,400
Bull	1,500
<i>Veal</i>	
Calf: 0—20 weeks	280 (95—465)
<i>Swine</i>	
Nursery pig	35 (13—57)
Wean to finish	143 (13—273)
Grow finish	165 (57—273)
Gestating sow	450
Sow and litter	470
Boar	450
<i>Poultry Layer</i>	
White egg: 18—75 weeks	3.13 (2.82—3.44)
White egg: 18—90 weeks	3.14 (2.82—3.46)
Brown egg: 18—75 weeks	3.85 (3.35—4.34)
Brown egg: 18—90 weeks	3.85 (3.35—4.34)
Pullet, white egg: 0—16 weeks	1.38 (0.08—2.67)
Pullet, brown egg: 0—16 weeks	1.54 (0.08—3.0)
Breeder hen, white egg: 17—70 weeks	3.25 (2.7—3.8)
Breeder rooster, white egg: 17—70 weeks	4.37 (3.67—5.06)
Breeder hen, brown egg: 17—70 weeks	3.55 (2.9—4.2)
Breeder rooster, brown egg: 17—70 weeks	4.78 (4.5—5.06)
<i>Poultry Broiler</i>	
Large: 0—53 days	3.55 (0.09—7.0)
Medium: 0—35 days	2.55 (0.09—5.0)

Roaster male: 0—7 weeks	4.70 (0.09—9.3)
Roaster female: 0—9 weeks	4.95 (0.09—9.8)
Breeder pullet: 0—20 weeks	2.55 (0.09—5.0)
Breeder cockerel: 0—20 weeks	3.55 (0.09—7.0)
Breeder hen: 20—65 weeks	6.75 (5.0—8.5)
Breeder rooster: 20—65 weeks	8.75 (7.0—10.5)

*Poultry Turkey*

Tom brooder: 0—6 weeks	3.36 (0.22—6.5)
Hen brooder: 0—6 weeks	2.74 (0.22—5.25)
Tom: 6—18 weeks	25.25 (6.5—44)
Hen regular: 6—12 weeks	11.13 (5.25—17)
Hen heavy: 6—16 weeks	14.63 (5.25—24)

*Poultry Duck*

Starter: 0—17 days	1.36 (0.22—2.5)
Finisher: 17—38 days	4.88 (2.5—7.25)
Developer: 0—196 days	3.21 (0.22—6.2)
Layer	6.85 (6.2—7.5)

*Poultry Game Birds*

Guinea, growing: 0—14 weeks	1.91 (0.06—3.75)
Guinea, mature	3.75
Pheasant, growing: 0—13 weeks	1.53 (0.05—3.0)
Pheasant, mature	3.0
Chukar, growing: 0—13 weeks	0.52 (0.04—1.0)
Chukar, mature	1.0
Quail, growing: 0—13 weeks	0.26 (0.02—0.5)
Quail, mature	0.5

*Larger Breed Sheep*

Lamb: 0-1 year	95 (10—180)
Ewe	225
Ram	300

*Medium Breed Sheep*

Lamb: 0-1 year	80 (10—150)
Ewe	175
Ram	225

*Smaller Breed Sheep*

Lamb: 0-1 year	45 (10—80)
Ewe	100
Ram	125

*Meat Goats*

Kid: 0-1 year	65 (5—125)
Doe	150
Buck	200

*Dairy Goats*

Kid: 0-1 year	45 (5—85)
Doe	125
Buck	170

*Miniature Horses and Miniature Donkeys*

Foal: 0—6 months	35 (25—45)
Weanling: 6—12 months	60 (45—75)
Yearling: 12—24 months	100 (75—125)
Two Year Old: 24—36 months	150 (125—175)
Mature	200

*Ponies and Donkeys*

Foal: 0—6 months	65 (30—100)
Weanling: 6—12 months	150 (100—200)
Yearling: 12—24 months	300 (200—400)
	400 (300—500)

Two Year Old: 24—36 months	
Mature	600
<i>Light Horses and Mules</i>	
Foal: 0—6 months	190 (80—300)
Weanling: 6—12 months	450 (300—600)
Yearling: 12—24 months	700 (600—800)
Two Year Old: 24—36 months	900 (800—1,000)
Mature	1,100
<i>Draft Horses</i>	
Foal: 0—6 months	360 (120—600)
Weanling: 6—12 months	800 (600—1,000)
Yearling: 12—24 months	1,150 (1,000—1,300)
Two Year Old: 24—36 months	1,450 (1,300—1,600)
Mature	1,800
<i>Bison</i>	
Calf: 0-1 year	275 (50—500)
Yearling 1-2 years	650 (500—800)
Cow	1,000
Bull	1,600
<i>Deer</i>	
Fawn: 0—6 months	36 (7—65)
Yearling Doe: 6—18 months	95 (65—125)
Yearling Buck: 6—18 months	110 (65—155)
Mature Doe	145
Mature Buck	200
<i>Alpaca</i>	
Young	80 (15—145)

Mature Female	145
Mature Male	170
<i>Llama</i>	
Cria: 0-1 year	75 (25—125)
Yearling: 1-2 years	213 (125—300)
Mature	350

PATRICK McDONNELL,  
Chairperson

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# EXHIBIT D

## 2017 Nutrient Management Standard Animal Weights Update Roll Out

1. The State Conservation Commission (SCC) approved NEW Standard Animal Weights and animal groupings on May 9, 2017. The SCC published the NEW Standard Animal Weights and animal groupings table in the Pennsylvania Bulletin on June 3, 2017
2. **The NEW Standard WEIGHTS will become effective on October 1, 2019 (Start of Crop Year 2020)**
3. Agronomy Fact Sheet 54 will be updated and published in 2017 with the NEW Standard Animal Weights and animal groupings.
4. NEW Standard Animal Weights will be updated in the Growing Animal Weight Calculator section of the Nutrient Management Plan (NMP) spreadsheet Version 6.0. Planners will use the updated weights when manually entering them in the Manure Group Information Input section. A table that includes the new animal types and weights will be included in the spreadsheet for reference.
  - a. NMP Spreadsheet Version 6.0 is proposed to be released in October 2017, coinciding with the release of the Nutrient Management Technical Manual Version 10, anticipated in October 2017.
  - b. Version 6.0 must be used for all Crop Year 2019 NMPs and following crop years until replaced by the next version of spreadsheet.
  - c. Note that Crop Year 2019 starts on October 1, 2018.
5. Integrating the use of NEW Standard Animal Weights in nutrient management plans.
  - a. A commercial Nutrient Management Specialist (NMS) must perform a Concentrated Animal Operation (CAO) calculation that will be verified by a delegated conservation district or the SCC.
    - i. Delegated districts can perform "preliminary" CAO calculations.
    - ii. When it is determined that an operator is close to the CAO threshold, a commercial NMS must perform the official calculation that will then be reviewed by the delegated district or the SCC.
  - b. The Program will continue to follow the regulations at 25 Pa. Code § 83.261 (General) after the NEW Standard Animal Weights are released:
    - i. Section 83.261(1)(iii) provides in relevant part: For new operations defined as CAOs and commencing before October 1, 2006, a plan shall have been submitted prior to commencement of operations.
    - ii. Section 83.261 (3) provides in relevant part: Operations that become defined as CAOs after October 1, 2006, due to expansion of an existing operation or loss of rented or leased land. Existing operations that make changes to their operations that result in becoming defined as CAOs for the first time after October 1, 2006, shall meet the following:
      1. (i) An agricultural operation which becomes a CAO after October 1, 2006, due to loss of land suitable for manure application, shall submit a plan within 6 months after the date which the operation becomes a CAO.
      2. (ii) An agricultural operation which will become a CAO due to expansion of operations by the addition of animals shall obtain approval of the plan prior to the expansion.

- iii. Section 83.261 (4) provides in relevant part: New operations. A new operation which will commence after October 1, 2006, and which will be a CAO, shall obtain approval of a plan meeting the requirements of this subchapter prior to the commencement of the operation.
- c. To determine whether an existing operation becomes a CAO ONLY due to the increase in the NEW Standard Animal Weight, calculations must be completed using the existing Standard Animal Weights and the New Standard Animal Weights.
  - i. The Calculations are as follows:
    - 1. The 1<sup>st</sup> CAO calculation will determine the Animal Equivalent Unit / Acre (AEU/Ac) using the Standard Animal Weights which existed PRIOR to the applicability of the NEW Standard Animal Weights.
      - If this CAO calculation determines that an operation is a CAO, then the operator must follow #5b above.
    - 2. The 2<sup>nd</sup> CAO calculation will determine the AEU/Ac using the NEW Standard Animal Weights.
      - This will be recognized as the official CAO calculation if the 2<sup>nd</sup> CAO calculation makes the operation a CAO. Refer to c (ii) below for further guidance.
  - ii. Once the operation is confirmed to be a CAO by using the NEW Standard Animal Weights, that CAO will have up to 2 crop years to have an approved NMP.
    - 1. These CAOs will need to have an approved NMP for Crop Year 2020.
    - 2. For a NMP to be approved before October 1, 2019, the plan should be submitted for review in June/July 2019.
    - 3. There will be a two-year period between the SCC's approval of the NEW Standard Animal Weights, which should occur in May, 2017, and the time NMPs should be submitted for review using the New Standard Animal Weights, which would be June/July 2019. There will be a two and one-half year-period between the SCC's approval of the NEW Standard Animal Weights and the effective date of the new weights, or, otherwise stated, the date that a NMP must be approved with the new weights, October 1, 2019.
    - 4. An example of this would be a small dairy that currently has an animal density of 1.8 AEU/Ac threshold and now with the NEW Standard Animal Weights the operation is over the 2.0 AEU/ac threshold.
- d. For Existing CAOs and Concentrated Animal Feeding Operations (CAFOs), after the NEW Standard Animal Weights apply, the following procedure will be completed:
  - i. New Standard Animal Weights will be utilized in the NMP when the NMP is amended.
  - ii. This amendment may be at the triennial review or sooner, if one of the amendment criteria are met before the triennial review.
  - iii. This would allow up to a 3-year phase in period for existing CAO's and CAFO's
- e. For New CAFOs, that become CAFOs ONLY due to the NEW Standard Animal Weight, the following procedures apply:
  - i. If the CAFO is also a CAO, they will follow paragraph 4.c. above.
    - 1. The newly defined CAFO will be required to have a CAFO permit before the new animal weights become effective (October 1, 2019). This requirement will necessitate that the newly defined CAFO submit an administratively complete CAFO permit application by April 1, 2019.

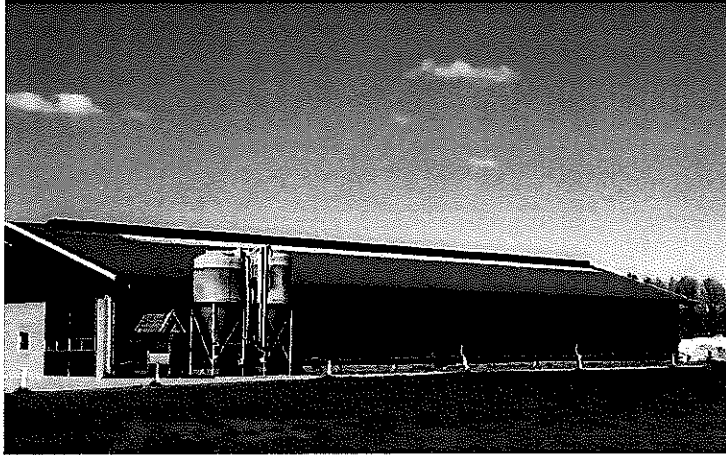


- ii. If the operation is confirmed to be a newly defined Voluntary Animal Operation (VAO) CAFO using the NEW Standard Animal Weights, then that CAFO will have up to 2 crop years to have an approved NMP and CAFO permit.
  1. These CAOs will need to have an approved Crop Year 2020 NMP.
  2. For a NMP to be approved before October 1, 2019, the plan should be submitted for review in June/July 2019.
  3. There will be a two-year period between the SCC's approval of the NEW Standard Animal Weights, which should occur in May, 2017, and the time NMPs should be submitted for review using the New Standard Animal Weights, which would be June/July 2019. There will be a two and one-half year-period between the SCC's approval of the NEW Standard Animal Weights and the effective date of the new weights, or, otherwise stated, the date that a NMP must be approved with the new weights, October 1, 2019.
  4. The newly defined CAFO will be required to have a CAFO permit before the new animal weights become effective (October 1, 2019). This requirement will necessitate that the newly defined CAFO submit an administratively complete CAFO permit application by April 1, 2019.

# **EXHIBIT E**

# Odor Management Regulations in Pennsylvania

(Act 38 of 2005)



When new or existing Concentrated Animal Operations (CAOs) or Concentrated Animal Feeding Operations (CAFOs) are planning to construct new or expand existing manure storage or animal housing facilities, they are required to develop and implement an Odor Management Plan (OMP) for those new facilities. ONLY the manure storage or animal housing facilities with new construction activities are regulated facilities for the purposes of the Odor Management Act.

**The odor regulations do not apply to existing facilities.**

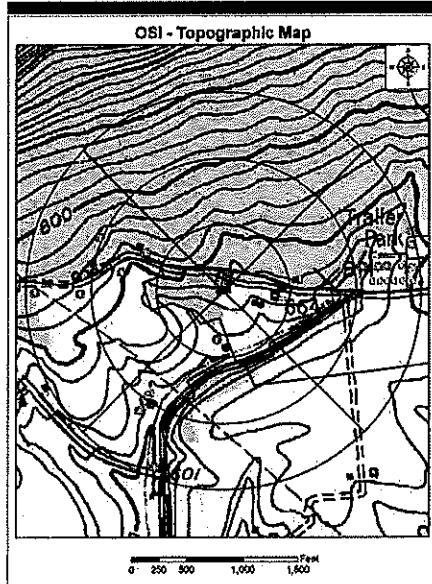
**The odor regulations do not address the land application of manure.**

## What is an Odor Management Plan?

An OMP is a written, site-specific plan that assesses the potential odor impacts from animal housing facilities and manure storage facilities. The Plan identifies practices to be implemented to manage the impact of odors generated from these facilities. Odor management plans are not required to eliminate odors, they only need to manage the offsite impacts. The PA statute recognizes the impracticality of completely eliminating odors associated with agricultural operations, as well as the evolving science of odor management.



Farms regulated by this statute must have an approved plan prior to construction of the new or expanded facilities, and any required odor-reducing practices must be fully implemented prior to commencing use of the new or expanded animal housing or manure storage facilities.



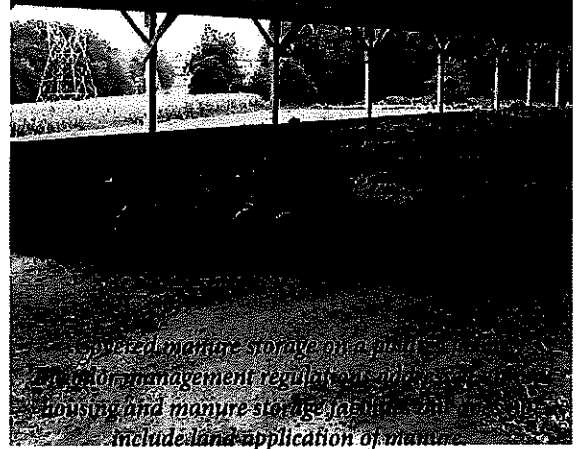
Odor management specialists use maps and on-site visits to determine the potential impact to surrounding residences and businesses. The score will determine the degree of odor management practices a farmer must utilize.

## OMPs include:

- 1) An evaluation and identification of the *potential* impacts must be conducted. This evaluation is typically done using the authorized Odor Site Index (OSI). The OSI will identify if the proposed structure(s) will have a
  - a. "low" (score less than 50)
  - b. "medium" (score 50-99) or
  - c. "high" (score 100 or greater) potential for odor impacts.
- 2) If the evaluation identified a "low" potential, there are Level I BMPs that each farm must follow.
  - a. Reduce dust and feed accumulation in pens, aisles and on animals.
  - b. Manage ventilation to provide sufficient fresh airflow throughout the facility, keeping animals and facility surfaces clean and dry.
  - c. Manage manure to minimize damp, exposed manure that contributes to odor generation.
  - d. Remove mortalities daily and manage appropriately.
  - e. Match feed nutrients to animal nutrient requirements to avoid excess nutrient excretion.
  - f. Manage manure storage facility to reduce exposed surface area and off-site odor transfer.

## OMPs include:

- 3) If the evaluation identified a "medium" potential, the Level I BMPs must be implemented and maintenance of the BMPs must be documented.
- 4) If there is a "high" potential, the operator must implement Level I and Level II Odor BMPs to manage the impacts. Level II Odor BMPs are additional, specialized Odor BMPs that provide additional strategies for odor management. The plan writer in conjunction with the operator must determine which individual Level II Odor BMP(s) to install and operate based on those which are expected to be effective and feasible from a practical and economic perspective. The State Conservation Commission (SCC) has issued an Odor Management Guidance document listing Odor BMPs consistent with this approach. The SCC also provides a PA Odor BMP Reference List which provides detailed information on specific Odor BMPs.



...covered manure storage on a path...  
...odor management regulations...  
...housing and manure storage facilities...  
...include land application of manure...

## Act 38 Odor Management Plan - Odor Site Index

Operator Name		
Planner Name		
Type of Operation		
Voluntary Existing AEUs		
Proposed AEUs		
Previously Approved AEUs		
AEUs Covered by OMP		
Evaluation Distance		
<b>Part A: Odor Source Factors</b>		<b>OSI Score</b>
Facility Size Covered by OMP		
Site Livestock History		
Manure Handling System		
<b>Part B: Site Land Use</b>		
Ag Security Zone		
Ag Zoning		
Preserved Farm		
<b>Part C: Surrounding Land Use</b>		
Other Livestock >8 AEU in evaluation distance		
Distance to Nearest Property Line		
If nearest property is <300', is it preserved farmland		
Neighboring Homes		
Public Use Facilities		
Species Adjustment Factor		
		<b>Final OSI Score</b>

Example of part of the Odor Site Index used to determine potential impacts surrounding the proposed construction or expansion.



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### NOTES:

- The statewide odor management regulations preempt more stringent local regulations or ordinances on agricultural odors. They do not preempt the statewide Nutrient Management Program criteria.
- Odor Management Plans must be written by a certified Odor Management Specialist. The PA Department of Agriculture administers the Odor Management Specialist Certification program.
- OMPs must be submitted for review and approval to the State Conservation Commission.
- Non-CAO and non-CAFO operations may volunteer to develop and implement OMPs.
- Odor Management Plan approval is needed before construction activities can begin.
- *For more information, refer to:*  
<http://www.agriculture.pa.gov/Protect/StateConservationCommission/OdorManagementProgram/Pages/default.aspx>