

**TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE E: AGRICULTURE RELATED POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD**

**PART 502
PERMITS**

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AUTHORITY: Implementing Sections 9, 10, 12, 13, 21, and 22 of the Environmental Protection Act [415 ILCS 5/9, 10, 12, 13, 21, 22] and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/27].

SOURCE: Filed and effective January 1, 1978; amended at 2 Ill. Reg. 44, p. 137, effective October 30, 1978; codified at 7 Ill. Reg. 10594; amended in R12-23 at 38 Ill. Reg. 17687, effective August 11, 2014.

SUBPART A: PERMITS REQUIRED

Section 502.101 NPDES Permit Requirement and Duty to Maintain Permit Coverage

- a) A Concentrated Animal Feeding Operation (CAFO) is a point source. Any discharge of pollutants into waters of the United States from a CAFO is prohibited unless authorized by an NPDES permit or unless the discharge is an agricultural stormwater discharge as described in Section 502.102(b). No person shall cause or allow a discharge from a CAFO in violation of federal or State law, including but not limited to the Clean Water Act (CWA) (33 USC 1251), the Act or Board regulations.
- b) The owner or operator of a CAFO must seek coverage under an NPDES permit if the CAFO discharges.
- c) The owner or operator of a CAFO that discharges must either apply for an individual NPDES permit or submit a notice of intent for coverage under an NPDES general permit. If the Agency has not made a general permit available to the CAFO, the CAFO owner or operator must submit an application for an individual permit to the Agency. All permit applications and applications for permit modifications must contain the information set forth in Subpart B.
- d) Any permitted CAFO shall apply for reissuance of the NPDES permit not less than 180 days prior to the expiration date of the permit unless the CAFO will not discharge after the expiration date of the NPDES permit.

- e) The owner or operator of a new CAFO that will discharge must apply for NPDES permit coverage at least 180 days prior to the time that the CAFO commences operation.
- f) Once an Animal Feeding Operation is defined as a CAFO for at least one type of animal, the NPDES permit requirements for CAFOs apply with respect to all animals in confinement at the animal feeding operation and all livestock waste generated by those animals or the production of those animals.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.102 Land Application Discharges and Agricultural Stormwater

- a) The discharge of livestock waste to waters of the United States from a CAFO as a result of the livestock waste application by the CAFO to land application areas is a discharge from that CAFO subject to NPDES permit requirements, except when it is an agricultural stormwater discharge and therefore exempt from the definition of a point source under section 502 of the Clean Water Act.
- b) Where livestock waste has been land applied in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the livestock waste and in compliance with Section 502.510 for permitted CAFOs and Section 502.510(b) for unpermitted Large CAFOs, a precipitation-related discharge of livestock waste from land application areas of an unpermitted large CAFO or a permitted CAFO, is an agricultural stormwater discharge.
- c) Unpermitted large CAFOs must maintain the documentation specified in Section 502.510(b)(16) either on site or at a nearby office, or otherwise make that documentation readily available to the Agency upon request.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.103 Large CAFOs

An Animal Feeding Operation is defined as a Large CAFO if at least the numbers of animals specified in any of the following categories are stabled or confined:

Number of Animals	Kind of Animals
700	Mature dairy cows, whether milked or dry
1,000	Veal calves
1,000	Cattle other than mature dairy cows or veal calves. Cattle includes

	but is not limited to heifers, steers, bulls and cow/calf pairs.
2,500	Swine, each weighing 55 pounds or more
10,000	Swine, each weighing less than 55 pounds
500	Horses
10,000	Sheep or lambs
55,000	Turkeys
30,000	Laying hens or broilers, if the Animal Feeding Operation uses a liquid manure handling system
125,000	Chickens (other than laying hens), if the Animal Feeding Operation uses other than a liquid manure handling system
82,000	Laying hens, if the Animal Feeding Operation uses other than a liquid manure handling system
30,000	Ducks, if the Animal Feeding Operation uses other than a liquid manure handling system
5,000	Ducks, if the Animal Feeding Operation uses a liquid manure handling system

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.104 Medium CAFOs

- a) An Animal Feeding Operation is defined as a Medium CAFO if the following numbers of animals specified in any of the following categories are stabled or confined and the provisions of subsection (b), (c) or (d) of this Section is met:

Number of Animals	Kind of Animals
200 to 699	Mature dairy cows, whether milked or dry
300 to 999	Veal calves
300 to 999	Cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs.
750 to 2,499	Swine, each weighing 55 pounds or more
3,000 to 9,999	Swine, each weighing less than 55 pounds
150 to 499	Horses
3,000 to 9,999	Sheep or lambs
16,500 to 54,999	Turkeys
9,000 to 29,999	Laying hens or broilers, if the Animal Feeding Operation uses a liquid manure handling system
37,500 to 124,999	Chickens (other than laying hens), if the Animal Feeding Operation uses other than a liquid manure handling system
25,000 to 81,999	Laying hens, if the Animal Feeding Operation uses other than a liquid manure handling system
10,000 to 29,999	Ducks, if the Animal Feeding Operation uses

1,500 to 4,999 other than a liquid manure handling system
Ducks, if the Animal Feeding Operation uses a
liquid manure handling system

- b) Pollutants are discharged into waters of the United States through a man-made ditch, flushing system or other similar man-made device;
- c) Pollutants are discharged directly into waters of the United States that originate outside of and pass over, across, through or otherwise come into direct contact with the animals confined in the operation; or
- d) The Animal Feeding Operation is designated as a CAFO by the Agency pursuant to Section 502.106.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.105 Small CAFOs

An Animal Feeding Operation is a Small CAFO if it is designated as a CAFO by the Agency pursuant to Section 502.106, and it is not a Medium CAFO.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.106 Case-By-Case Designation Requiring NPDES Permits

- a) Notwithstanding any other provision of this Part, the Agency may require any Animal Feeding Operation not falling within Section 502.103 or 502.104 to obtain an NPDES permit by designating the Animal Feeding Operation as a CAFO upon determining that it is a significant contributor of pollutants to waters of the United States. In making the determination of whether the Animal Feeding Operation is a significant contributor of pollutants, the Agency shall consider the following factors:
 - 1) The size of the Animal Feeding Operation and the amount of livestock wastes reaching waters of the United States;
 - 2) The location of the Animal Feeding Operation relative to waters of the United States;
 - 3) The means of conveyance of livestock wastes into waters of the United States;
 - 4) The slope, vegetation, rainfall and other factors relative to the likelihood or frequency of discharge of livestock waste into waters of the United States; and

- 5) Other such factors bearing on the significance of the pollution problem sought to be regulated.
- b) The Agency, however, may not require a permit under subsection (a) for any Animal Feeding Operation with less than the number of animals set forth in Section 502.104, unless it meets either of the following conditions:
 - 1) Pollutants are discharged into waters of the United States through a man-made ditch, flushing system or other similar man-made device; or
 - 2) Pollutants are discharged directly into waters of the United States that originate outside of and pass over, across, through or otherwise come into direct contact with the animals confined in the operation.
 - c) In no case may a permit application be required from an Animal Feeding Operation designated pursuant to this Section until there has been an onsite inspection of the operation and a determination that the operation should and could be regulated under the permit program
 - d) Prior to designating an Animal Feeding Operation as a CAFO, the Agency shall send the Animal Feeding Operation a written notice that it intends to designate the Animal Feeding Operation as a CAFO. The notice shall include grounds for the designation and information regarding the opportunity to request a meeting with the Agency within 90 days after the Animal Feeding Operation's receipt of the notice to present evidence that it is not a significant contributor of pollutants to waters of the United States as provided in subsection (a). Beginning 90 days after the initial written notice is received by the Animal Feeding Operation, the Agency may designate the Animal Feeding Operation as a CAFO. The Agency shall send the Animal Feeding Operation a written notice of its designation decision and the grounds for the designation in writing.
 - e) Upon receipt of the Agency's designation decision, the owner or operator shall make an NPDES permit application to the Agency within 90 days. The Agency may issue an NPDES permit with a compliance schedule detailing interim steps to be taken along with a final date, not to exceed 14 months from the date the permit is issued, by which compliance with the Act and all applicable regulations shall be achieved.
 - f) The question of whether the designation was proper will remain open during the pendency of the permit application. Any appeal of the

Agency's designation decision must be made as part of an NPDES permit appeal.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

SUBPART B: PERMIT APPLICATIONS

Section 502.106 Case-By-Case Designation Requiring NPDES Permits

- a) Notwithstanding any other provision of this Part, the Agency may require any Animal Feeding Operation not falling within Section 502.103 or 502.104 to obtain an NPDES permit by designating the Animal Feeding Operation as a CAFO upon determining that it is a significant contributor of pollutants to waters of the United States. In making the determination of whether the Animal Feeding Operation is a significant contributor of pollutants, the Agency shall consider the following factors:
 - 1) The size of the Animal Feeding Operation and the amount of livestock wastes reaching waters of the United States;
 - 2) The location of the Animal Feeding Operation relative to waters of the United States;
 - 3) The means of conveyance of livestock wastes into waters of the United States;
 - 4) The slope, vegetation, rainfall and other factors relative to the likelihood or frequency of discharge of livestock waste into waters of the United States; and
 - 5) Other such factors bearing on the significance of the pollution problem sought to be regulated.
- b) The Agency, however, may not require a permit under subsection (a) for any Animal Feeding Operation with less than the number of animals set forth in Section 502.104, unless it meets either of the following conditions:
 - 1) Pollutants are discharged into waters of the United States through a man-made ditch, flushing system or other similar man-made device; or

- 2) Pollutants are discharged directly into waters of the United States that originate outside of and pass over, across, through or otherwise come into direct contact with the animals confined in the operation.
- c) In no case may a permit application be required from an Animal Feeding Operation designated pursuant to this Section until there has been an onsite inspection of the operation and a determination that the operation should and could be regulated under the permit program
- d) Prior to designating an Animal Feeding Operation as a CAFO, the Agency shall send the Animal Feeding Operation a written notice that it intends to designate the Animal Feeding Operation as a CAFO. The notice shall include grounds for the designation and information regarding the opportunity to request a meeting with the Agency within 90 days after the Animal Feeding Operation's receipt of the notice to present evidence that it is not a significant contributor of pollutants to waters of the United States as provided in subsection (a). Beginning 90 days after the initial written notice is received by the Animal Feeding Operation, the Agency may designate the Animal Feeding Operation as a CAFO. The Agency shall send the Animal Feeding Operation a written notice of its designation decision and the grounds for the designation in writing.
- e) Upon receipt of the Agency's designation decision, the owner or operator shall make an NPDES permit application to the Agency within 90 days. The Agency may issue an NPDES permit with a compliance schedule detailing interim steps to be taken along with a final date, not to exceed 14 months from the date the permit is issued, by which compliance with the Act and all applicable regulations shall be achieved.
- f) The question of whether the designation was proper will remain open during the pendency of the permit application. Any appeal of the Agency's designation decision must be made as part of an NPDES permit appeal.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.101 NPDES Permit Requirement and Duty to Maintain Permit Coverage

- a) A Concentrated Animal Feeding Operation (CAFO) is a point source. Any discharge of pollutants into waters of the United States from a CAFO is prohibited unless authorized by an NPDES permit or unless the discharge is an agricultural stormwater discharge as described in Section 502.102(b). No person shall cause or allow a discharge from a CAFO in

violation of federal or State law, including but not limited to the Clean Water Act (CWA) (33 USC 1251), the Act or Board regulations.

- b) The owner or operator of a CAFO must seek coverage under an NPDES permit if the CAFO discharges.
- c) The owner or operator of a CAFO that discharges must either apply for an individual NPDES permit or submit a notice of intent for coverage under an NPDES general permit. If the Agency has not made a general permit available to the CAFO, the CAFO owner or operator must submit an application for an individual permit to the Agency. All permit applications and applications for permit modifications must contain the information set forth in Subpart B.
- d) Any permitted CAFO shall apply for reissuance of the NPDES permit not less than 180 days prior to the expiration date of the permit unless the CAFO will not discharge after the expiration date of the NPDES permit.
- e) The owner or operator of a new CAFO that will discharge must apply for NPDES permit coverage at least 180 days prior to the time that the CAFO commences operation.
- f) Once an Animal Feeding Operation is defined as a CAFO for at least one type of animal, the NPDES permit requirements for CAFOs apply with respect to all animals in confinement at the animal feeding operation and all livestock waste generated by those animals or the production of those animals.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.202 Permit Application Submissions

All permit applications shall be mailed or delivered to Illinois Environmental Protection Agency, Bureau of Water, 1021 N. Grand Ave. E., Springfield IL 62794 or electronically submitted at CAFO@EPA.state.il.us.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.203 New Applications (Repealed)

(Source: Repealed at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.204 Renewal

Permittees seeking reissuance of their NPDES permit pursuant to Section 502.101(d) must apply for reissuance of the permit, using proper forms, not less than 180 days prior to the permit expiration date. The Agency will notify those persons of the need for renewal at least 60 days prior to the date on which the renewal application must be submitted; however, failure to do so does not excuse non-compliance with this Chapter.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.205 New Operations (Repealed)

(Source: Repealed at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.206 Signatures

An application submitted by a corporation shall be signed by a principal executive officer of at least the level of vice-president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor, respectively. In the case of a publicly-owned facility, the application must be signed by either a principal executive officer, ranking elected official, or other duly authorized employee.

Section 502.207 Disclosure Required for Land Trusts

An applicant filing for an NPDES permit shall satisfy the requirements of the Land Trust Beneficial Interest Disclosure Act [735 ILCS 405 et. seq.] before the Agency grants the applicant its permit.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

SUBPART C: PERMIT ISSUANCE AND CONDITIONS

Section 502.301 Standards for Issuance

The Agency shall not grant any NPDES permit unless the applicant submits proof that the subject facility:

- a) Will be constructed, modified, or operated so as not to cause a violation of the Act or of applicable Board regulations or of the Federal Water Pollution Control Act (CWA) (12 U.S.C. 24), or has been granted a variance under Title IX of the Act; and

- b) Either conforms to the design criteria promulgated by the Agency under Section 502.305 or is based on such other criteria which the applicant proves will produce consistently satisfactory results.

Section 502.302 Duration of Permits

NPDES permits will be issued for fixed terms not to exceed five years.

Section 502.303 New Source Standards

Notwithstanding any other provision of this regulation, any point source, the construction of which is commenced after the date of enactment of the CWA and which is so constructed as to meet the applicable federal "standard of performance" as defined in Section 306 of CWA shall not be subject to any more stringent federal "standard of performance" during a ten-year period beginning on the date of completion of such construction or during the period of depreciation or amortization of such facility for the purposes of Section 167 or 169 (or both) of the Internal Revenue Code of 1954, whichever period ends first (26 U.S.C. 167 and 169).

Section 502.304 Issuance and Conditions

- a) The provisions of 35 Ill. Adm. Code 309: Subpart A shall apply to the issuance, conditions and modification of NPDES permits under this Chapter in the same manner as those provisions apply to NPDES permits issued pursuant to 35 Ill. Adm. Code 309. Specific provisions applicable to CAFOs seeking coverage under NPDES general permits are found in Section 502.310.
- b) In addition to specific conditions authorized under this Part, the Agency may impose such conditions in any permit issued pursuant to this Part as may be necessary to accomplish the purposes of the Act or Board regulations.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.305 Agency Criteria

- a) Unless otherwise provided for by Board regulations, the Agency may adopt procedures which set forth criteria for the design and maintenance of facilities subject to this chapter. These procedures shall be revised from time to time to reflect current engineering judgment and advances in the state of the art.
- b) Before adopting new criteria or making substantive changes in any criteria adopted by the Agency, the Agency shall publish a summary of the

proposed changes in the Environmental Register and, at the Agency's expense, in a widely circulated agricultural periodical.

- c) In adopting new or revised criteria the Agency shall comply with the requirements of the Illinois Administrative Procedure Act, (Ill. Rev. Stat. 1981, ch. 127, par. 1001 et seq).

Section 502.310 CAFOs Seeking Coverage Under NPDES General Permits

- a) CAFO owners or operators must submit a notice of intent that meets the requirements of Section 502.201 and Subpart E of this Part when seeking authorization to discharge under a general permit.
- b) When additional information is necessary to complete the notice of intent or to clarify, modify, or supplement previously submitted material, the Agency may request that information from the owner or operator as provided in 35 Ill. Adm. Code 309.106.
- c) The Agency must notify the public of its proposal to grant coverage under the general permit to the CAFO. This public notice must include the CAFO's nutrient management plan.
- d) The process for submitting public comments and hearing requests, and the hearing process if a request for a hearing is granted, will follow the procedures applicable to draft individual permits found in 35 Ill. Adm. Code 309.109(b) and 309.115 through 309.118.
- e) The time period for the public to comment and request a hearing is 30 days following the date of the notice issued pursuant to subsection (c).
- f) When a public hearing is held, the Agency must respond to significant comments received during the comment period as provided in 35 Ill. Adm. Code 309.119 and 309.120, except that notice and transmission to the USEPA Regional Administrator is not required. If no hearing is held, the Agency shall follow the procedures in 35 Ill. Adm. Code 309.112 and 309.120 for Agency action after the comment period. If necessary, the Agency will require the CAFO owner or operator to revise the nutrient management plan in order to be granted permit coverage.
- g) When the Agency authorizes coverage for the CAFO owner or operator under the general permit, the terms of the nutrient management plan shall become incorporated as terms and conditions of the permit for the CAFO. This incorporation of terms and conditions does not require a modification of the general permit.

- h) The Agency shall notify the CAFO owner or operator and inform the public that coverage has been authorized and of the terms of the nutrient management plan incorporated as terms and conditions of the permit applicable to the CAFO.
- i) Nothing in this Section shall limit the Agency's authority to require an individual NPDES permit pursuant to Section 39(b) of the Act.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.315 CAFO Permit Requirements

NPDES permits issued to CAFOs under this Part must include:

- a) Requirements to implement a nutrient management plan that meets the provisions of Subpart E.
- b) Requirements for the permittee to create, maintain for five years from creation on site, and make available to the Agency, upon request, a complete copy of the records required in Section 502.320.
- c) Annual reporting requirements for permitted CAFOs. The permittee must submit an annual report to the Agency. The annual report must include the information specified in Section 502.325.
- d) Requirements to comply with the livestock waste discharge limitations in Subparts F, G and H, if applicable.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.320 Recordkeeping Requirements

The permittee must create, maintain for five years, and make available to the Agency, upon request, the following records:

- a) A copy of all applicable records identified pursuant to Section 502.510(b)(16);
- b) A copy of the information required under Section 502.201;
- c) Records documenting the visual inspections required under Section 502.610(c);

- d) Weekly records of the depth of the manure and process wastewater in the liquid livestock waste storage as indicated by the depth marker, as described in Section 502.610(d);
- e) Records documenting any actions taken to correct deficiencies as required by Sections 502.610(e) and (f). Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction;
- f) Records of mortalities management and practices used by the facility to meet the requirements of Section 502.610(g);
- g) Records documenting the current design of any livestock waste storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity;
- h) Records of the date, time, and estimated volume of any overflow;
- i) A copy of the facility's site-specific nutrient management plan;
- j) Expected crop yields for land application areas;
- k) The dates livestock waste is applied to each land application area;
- l) Records documenting subsurface drainage inspections conducted according to the plan developed pursuant to Section 502.510(b)(13);
- m) Results from livestock waste and soil sampling;
- n) Explanation of the basis for determining livestock waste application rates;
- o) Calculations showing the total nitrogen and phosphorus to be applied to each field, including sources other than livestock waste;
- p) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied;
- q) The method used to apply the livestock waste;
- r) Date of livestock waste application equipment inspection;
- s) Maximum number and type of animals, whether in open confinement or housed under roof by the following types: beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds,

mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, turkeys, ducks, other;

- t) All records necessary to prepare the annual report required by Section 502.325;
- u) Total number of acres of land application area covered by the nutrient management plan;
- v) The quantity of livestock waste removed when a manure storage area or waste containment area is dewatered;
- w) The following information for each day during which livestock wastes are applied to land:
 - 1) the amount applied to each field in either gallons, wet tons or dry tons per acre;
 - 2) soil water conditions at the time of application (such as dry, saturated, flooded, frozen, snow-covered);
 - 3) an estimate of the amount of precipitation 24 hours prior to, and for 24 hours after, the application;
 - 4) the type of application method used (surface, surface with incorporation, or injection);
 - 5) the location of the field where livestock waste was applied;
 - 6) the results of leak inspection of livestock waste application equipment;
 - 7) the name and address of off-site recipients of livestock waste, the amount of waste transferred to each off-site recipient in gallons or dry tons, off-site location on a topographic map, and acreage of each site used by the off-site recipient;
 - 8) Weather conditions, including precipitation, air temperature, wind speed, wind direction and dew point, at time of land application and for 24 hours prior to and for 24 hours following application; and
 - 9) Records of the weather forecasts required to be maintained pursuant to Sections 502.620(d) and 502.630(b)(3), (4), and (5);

- x) The laboratory analysis sheets reporting the analysis of the livestock waste samples shall be kept on file at the facility for the term of the permit and for 5 years after expiration of the permit; and
- y) Records documenting the test methods and sampling protocols for manure, litter and process wastewater and soil analyses.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.325 Annual Report

- a) The NPDES permit must specify annual reporting requirements for the CAFO. The annual report must be submitted to the Agency.
- b) The annual report must contain the following minimum elements:
 - 1) Maximum number and type of animals, whether in open confinement or housed under roof by the following types: beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, turkeys, ducks, other;
 - 2) Quantity of livestock waste generated by the facility in the previous 12 months (tons/gallons);
 - 3) Quantity of livestock waste transferred to another person by the facility in the previous 12 months (in tons or gallons);
 - 4) Total number of acres of land application area covered by the nutrient management plan;
 - 5) Total number of acres the CAFO used for land application of livestock waste in the previous 12 months and were under the control of the CAFO through ownership, lease, or consent agreement;
 - 6) A statement indicating whether the current version of the CAFO's nutrient management plan for land application of livestock waste was developed or approved by a certified nutrient management planner and by whom the certification was issued;
 - 7) Summary of all livestock waste discharges from the production area that have occurred in the previous 12 months, including date, time, and approximate volume;

- 8) A report of instances of non-compliance with the NPDES permit in the previous 12 months;
- 9) The actual crops planted and actual yields for each field;
- 10) The actual nitrogen and phosphorus content of the livestock waste;
- 11) The results of calculations conducted in accordance with Section 502.515(d)(3) and (e)(3);
- 12) The amount of livestock waste land applied to each field during the previous 12 months;
- 13) For any CAFO that implements a nutrient management plan that addresses rates of application in accordance with Section 502.515(e):
 - a) the results of any soil testing for nitrogen and phosphorus taken during the preceding 12 months;
 - b) data used in calculations conducted in accordance with Section 502.515(e)(3), and
 - c) the amount of any supplemental fertilizer applied during the previous 12 months; and
- 14) Annual review of the nutrient management practices to be implemented and an update of the nutrient management plan when there is a change in the nutrient management practices.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

SUBPART D: APPEAL AND ENFORCEMENT

Section 502.401 Appeals from Conditions in Permits

An applicant may consider any condition imposed by the Agency in a permit as a refusal by the Agency to grant a permit. An applicant or others who have been a party or participant at an Agency hearing shall be entitled to appeal the Agency's decision to the Board pursuant to Section 40 of the Act, 35 Ill. Adm. Code 105 and 35 Ill. Adm. Code: Subtitle C, Chapter I.

Section 502.402 Defenses

- a) The issuance or possession of a permit does not allow the permittee to violate the Act or Board regulations and does not constitute a defense to such a violation other than an alleged violation for construction or operation without a permit.
- b) Compliance with an NPDES permit shall be deemed compliance for purposes of Sections 42, 43 and 44 of the Act (Penalties), with the Act and applicable regulations, to the extent that such compliance would be a defense to enforcement action under the CWA.
- c) Except for federally-imposed requirements with respect to NPDES permits, compliance with the rules and regulations promulgated by the Board under the Act shall constitute a prima facie defense to any action, legal, equitable, or criminal, or an administrative proceeding for a violation of the Act, brought by any person.

Section 502.403 Modification or Termination of Permits

The Board may, after petition and hearing in accordance with the Act and its Procedural Rules, terminate any permit or modify it in any manner which is consistent with the Act and applicable Board regulations or federal requirements upon proof of cause, including but not limited to, the following:

- a) Violation of any condition of the permit (including, but not limited to, conditions concerning monitoring, entry and inspection);
- b) Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; or
- c) Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

Section 502.500 Purpose, Scope and Applicability

The requirements in this Subpart are intended to minimize the transport of nitrogen and phosphorus to waters of the United States in compliance with the nutrient management plan.

- a) The requirements in this Subpart apply to CAFOs required to obtain an NPDES permit. Unpermitted large CAFOs claiming an agricultural stormwater exemption pursuant to Section 502.102 are not required to have a nutrient management plan but must comply with the requirements listed in Section 502.510(b) to qualify for the exemption.

- b) The CAFO owner or operator shall develop, submit and implement a site specific nutrient management plan. This plan shall specifically identify and describe practices that will be implemented to assure compliance with this Subpart and the livestock waste discharge limitations and technical standards of Subparts F, G, and H.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.505 Nutrient Management Plan Information

The nutrient management plan shall contain, at a minimum, the following items:

- a) Name, address, and phone number of the owners of the CAFO;
- b) Name, address, and phone number of the managers or operators if different than the owners;
- c) Address, phone number, and plat location of the CAFO production area;
- d) Name of the person who developed the nutrient management plan and a statement indicating whether it was developed or approved by a certified nutrient management planner and by whom the certification was issued;
- e) Type of waste storage for the CAFO;
- f) Species, size and maximum number of animals at the CAFO;
- g) Scaled aerial photos or maps depicting each field available and intended for livestock waste applications with available acreage listed and indicating residences, non-farm businesses, common places of assembly, streams, wells, waterways, lakes, ponds, rivers, drainage ditches, subsurface drainage systems, other water sources, 10-year flood plain, buffers, slope, locations of structural Best Management Practices, setbacks and areas restricted from application by this Subpart E;
- h) For land application areas not owned or rented by the owner or operator of the CAFO, copies of the statement of consent between the owner or operator of the livestock facilities and the owner of the land where livestock waste will be applied;
- i) Cropping schedule for each field for the past year, anticipated crops for the current year, and anticipated crops for the five year term of the permit;
- j) Realistic crop yield goal for each crop in each field;

- k) An estimate of the nutrient value of the livestock waste or results of livestock waste analysis determined pursuant to Section 502.625(c);
- l) Livestock waste application methods;
- m) Results of the Bray P1 or Mehlich 3 test for soil phosphorus, in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200, reported in pounds of elemental phosphorus per acre. If the livestock waste is to be land applied based on a single year or multi-year phosphorus application on the land application area, the following items must be provided:
 - 1) An estimate of the volume of livestock waste to be disposed of annually;
 - 2) The phosphorus content of the livestock waste;
 - 3) The phosphorus amount needed for each crop in the planned crop rotation, expressed as pounds of P_2O_5 per acre, obtained from the Illinois Agronomy Handbook, 24th Edition, incorporated by reference at 35 Ill. Adm. Code 501.200; and
 - 4) The maximum livestock waste application rate based on phosphorus for each field, determined pursuant to Section 502.625(g).
- n) Calculations showing the following:
 - 1) An estimate of the volume of livestock waste to be disposed of annually;
 - 2) Nitrogen loss due to the method of storage, if applicable;
 - 3) Amount of nitrogen available for application;
 - 4) Nitrogen loss due to the method of application;
 - 5) Amount of plant-available nitrogen including first-year mineralization of organic nitrogen;
 - 6) Amount of nitrogen required by each crop in each field based on realistic crop yield goal;

- 7) Nitrogen credits from previous crops, from other sources of fertilizer applied for the growing season, and from any livestock waste applications during the previous three years for each field;
 - 8) Livestock waste application rate based on nitrogen for each field; and
 - 9) Land area required for application;
- o) A listing of fields and the planned livestock waste application amounts for each field.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.510 Nutrient Management Plan Requirements

- a) Any permit issued to a CAFO must include a requirement to implement a nutrient management plan by the date of permit coverage that, at a minimum, contains best management practices necessary to meet the requirements of this Section and the applicable livestock discharge limitations and technical standards in 35 Ill. Adm. Code 501 and 502.
- b) The nutrient management plan must specify and demonstrate:
 - 1) The livestock waste application rate of nitrogen in a single year and phosphorus in a single year or multiple years, not to exceed the single year crop nitrogen and single year or multi-year phosphorus requirements for realistic crop yield goals in the rotation;
 - 2) Adequate land application area for livestock waste application which may include:
 - A) land owned by the CAFO owner or operator;
 - B) land rented or leased by the CAFO;
 - C) land covered by a consent agreement between the CAFO owner or operator and the property owner; or
 - D) any combination of the land described in subsection (b)(2)(A) through (C);
 - 3) Adequate storage of livestock waste, including procedures to ensure proper operation and maintenance of the storage facilities;

- 4) Proper management of mortalities to ensure that they are not disposed of in a liquid livestock waste or stormwater storage or treatment system that is not specifically designed to treat animal mortalities;
- 5) That clean water is diverted, as appropriate, from the production area;
- 6) Prevention of direct contact of confined animals with waters of the United States;
- 7) That chemicals and other contaminants handled on-site are not disposed of in any livestock waste or stormwater storage or treatment system unless specifically designed to treat those chemicals and other contaminants;
- 8) Appropriate site specific conservation practices to be implemented, including, as appropriate, buffers or equivalent practices, to control runoff of pollutants to waters of the United States;
- 9) Protocols for appropriate testing of livestock waste and soil. Livestock waste must be analyzed a minimum of once annually for nitrogen and phosphorus content, and soil analyzed a minimum of twice every five years for phosphorus content. The results of these analyses are to be used in determining application rates for livestock wastes;
- 10) Protocols to land apply livestock waste in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the livestock waste;
- 11) Livestock waste shall not be applied within the distance from residences provided in Section 502.645(a) and within the areas prohibited from land application by this Part;
- 12) A winter time land application plan that meets the requirements of Section 502.630;
- 13) The plan for the inspection, monitoring, management and repair of subsurface drainage systems at the livestock waste application site. Inspection of subsurface drainage systems shall include visual inspection prior to land application to determine failures that may cause discharges and visual inspection during and after land application to identify discharges. For purposes of this subsection (b)(13), visual inspection means inspection by a person of the tile

inlet, tile outlet and unobstructed land surface to assess the structural ability of the subsurface drainage system;

- 14) A spill prevention and control plan;
- 15) Annual review of the nutrient management practices to be implemented and an update of the nutrient management plan when there is a change in the nutrient management practices;
- 16) Specific records that will be maintained to document the implementation and management of the minimum elements described in subsections (b)(2) through (15); and
- 17) A description of the storage provisions and schedules provided for livestock waste when cropping practices, soil conditions, weather conditions or other conditions prevent the application of livestock waste to land or prevent other methods of livestock waste disposal.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.515 Terms of Nutrient Management Plan

Any permit issued to a CAFO must require compliance with the terms of the CAFO's site-specific nutrient management plan. These terms include:

- a) The terms of the nutrient management plan are the information, protocols, best management practices, and other conditions in the nutrient management plan determined by the Agency to be necessary to meet the requirements of Sections 502.505 and 502.510.
- b) The terms of the nutrient management plan, with respect to protocols for land application of livestock waste as required by Subpart F, must include:
 - 1) the fields available for land application;
 - 2) field-specific rates of application properly developed pursuant to subsection (d) or (e) to ensure appropriate agricultural utilization of the nutrients in the livestock waste; and
 - 3) any timing limitations identified in the nutrient management plan concerning land application on the fields available for land application.
- c) The terms of the nutrient management plan must address rates of application using either the linear approach as described in subsection (d)

or the narrative rate approach as described in subsection (e), unless the Agency specifies that only one of these approaches may be used.

- d) The linear approach is an approach that expresses rates of application as pounds of nitrogen and phosphorus, according to the following specifications:
- 1) The terms include maximum application rates from livestock waste for each year of permit coverage, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Agency, in pounds per acre, per year, for each field to be used for land application, and certain factors necessary to determine those rates.
 - 2) At a minimum, the factors that are terms must include:
 - A) the outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field;
 - B) the crops to be planted in each field or any other uses of a field such as pasture or fallow fields;
 - C) the realistic yield goal for each crop or use identified for each field;
 - D) the nitrogen and phosphorus recommendations, according to Section 502.625, for each crop or use identified for each field;
 - E) credits for all nitrogen in the field that will be plant available;
 - F) consideration of multi-year phosphorus application;
 - G) accounting for all other additions of plant available nitrogen and phosphorus to the field;
 - H) the form and source of livestock waste to be land-applied;
 - I) the timing and method of land application; and
 - J) the methodology by which the nutrient management plan accounts for the amount of nitrogen and phosphorus in the livestock waste to be applied.

- 3) CAFOs that use this linear approach must calculate the maximum amount of livestock waste to be land applied at least once each year using the results of the most recent representative livestock waste tests for nitrogen and phosphorus taken within 12 months prior to the date of land application required by Section 502.635.
- e) The narrative rate approach is an approach that expresses rates of application as a narrative rate of application that results in the amount, in tons or gallons, of livestock waste to be land applied, according to the provisions of this subsection (e).
- 1) The terms include:
 - A) maximum amounts of nitrogen and phosphorus derived from all sources of nutrients, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Agency, in pounds per acre, for each field, and certain factors necessary to determine those amounts;
 - B) the outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field;
 - C) the crops to be planted in each field or any other uses, such as pasture or fallow fields, including alternative crops identified in accordance with subsection (e)(1)(G);
 - D) the realistic yield goal for each crop or use identified for each field;
 - E) the nitrogen and phosphorus recommendations according to Section 502.625 for each crop or use identified for each field;
 - F) the methodology by which the nutrient management plan accounts for the following factors when calculating the amounts of livestock waste to be land applied:
 - i) results of soil tests conducted in accordance with protocols identified in the nutrient management plan, as required by Section 502.510(b)(9);
 - ii) credits for all nitrogen in the field that will be plant available;

- iii) the amount of nitrogen and phosphorus in the livestock waste to be applied;
 - iv) consideration of multi-year phosphorus application;
 - v) accounting for all other additions of plant nitrogen and phosphorus to the field;
 - vi) the form and source of livestock waste;
 - vii) the timing and method of land application; and
 - viii) volatilization of nitrogen and mineralization of organic nitrogen.
- G) alternative crops identified in the CAFO's nutrient management plan that are not in the planned crop rotation.
- i) When a CAFO includes alternative crops in its nutrient management plan, the crops must be listed by field, in addition to the crops identified in the planned crop rotation for that field, and the nutrient management plan must include realistic crop yield goals and the nitrogen and phosphorus recommendations according to Section 502.625 for each crop.
 - ii) Maximum amounts of nitrogen and phosphorus from all sources of nutrients and the amounts of livestock waste to be applied must be determined in accordance with the methodology described in subsections (e)(1)(A) through (F).
- 2) For CAFOs using this narrative approach, the following projections must be included in the nutrient management plan submitted to the Agency, but are not terms of the nutrient management plan:
- A) the CAFO's planned crop rotations for each field for the period of permit coverage;
 - B) the projected amount of livestock waste to be applied;
 - C) projected credits for all nitrogen in the field that will be plant available;

- D) consideration of multi-year phosphorus application;
 - E) accounting for all other additions of plant available nitrogen and phosphorus to the field;
 - F) the predicted form, source, and method of application of livestock waste for each crop; and
 - G) timing of application for each field, insofar as it concerns the calculation of rates of application.
- 3) CAFOs that use this narrative rate approach must calculate maximum amounts of livestock waste to be land applied at least once each year using the methodology required in subsections (e)(1)(A) through (F) before land applying livestock waste and must rely on the following data:
- A) a field-specific determination of nitrogen that will be plant available consistent with the methodology required by subsections (e)(1)(A) through (F), and for phosphorus, the results of the most recent soil test conducted in accordance with soil testing requirements approved by the Agency; and
 - B) the results of most recent representative livestock waste tests for nitrogen and phosphorus taken within 12 months prior to the date of land application, in order to determine the amount of nitrogen and phosphorus in the livestock waste to be applied.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.520 Changes to the Nutrient Management Plan

When a CAFO owner or operator makes changes to the CAFO's nutrient management plan previously submitted to the Agency, the procedures in this Section are applicable.

- a) The CAFO owner or operator must identify changes to the nutrient management plan, except that the results of calculations made in accordance with the requirements of Sections 502.515(d)(3) and (e)(3) are not subject to the requirements of this Section. These calculations may be revised without submittal to the Agency provided the calculation revisions do not change the terms of the nutrient management plan.

- b) The Agency must determine whether the changes to the nutrient management plan necessitate revision to the terms of the nutrient management plan incorporated into the permit issued to the CAFO.
 - 1) If revision to the terms of the nutrient management plan is not necessary, the Agency must notify the CAFO owner or operator and, upon such notification, the CAFO may implement the revised nutrient management plan.
 - 2) If revision to the terms of the nutrient management plan is necessary, the Agency must determine whether the changes are substantial changes as described in subsection (d).
 - 3) If the Agency determines that the changes to the terms of the nutrient management plan are not substantial, the Agency must notify the owner or operator and inform the public of any changes to the terms of the nutrient management plan that are incorporated into the permit.
- c) If the Agency determines that the changes to the terms of the nutrient management plan are substantial, the Agency must notify the public and make the proposed changes and the information submitted by the CAFO owner or operator available for public review and comment.
 - 1) The process and time limits for submitting public comments and hearing requests, the hearing process if a request for a hearing is granted, and the process for responding to significant comments received during the comment period will follow the procedures applicable to draft general permits found in Section 502.310(d) through (f).
 - 2) The Agency will require the CAFO owner or operator to further revise the nutrient management plan, if necessary, in order to approve the revision to the terms of the nutrient management plan incorporated into the CAFO's permit.
 - 3) Once the Agency incorporates the revised terms of the nutrient management plan into the permit, the Agency must notify the owner or operator and inform the public of the final decision concerning the revisions to the terms and conditions of the permit.
- d) Substantial changes to the terms of the nutrient management plan incorporated as terms and conditions of a permit include, but are not limited to:

- 1) Addition of new land application areas not previously included in the CAFO's nutrient management plan; except that, if the land application area that is being added to the nutrient management plan is covered by the terms of a nutrient management plan incorporated into an existing NPDES permit in accordance with the requirements of Section 502.515, and the CAFO owner or operator applies livestock waste on the newly added land application area in accordance with the existing field-specific permit terms applicable to the newly added land application area, addition of new land would be a change to the new CAFO owner's or operator's nutrient management plan but not a substantial change for purposes of this Section;
- 2) For nutrient management plans using the linear approach as set forth in Section 502.515(d), changes to the field-specific maximum annual rates of land application (pounds of nitrogen and phosphorus from livestock waste). For nutrient management plans using the narrative rate approach, changes to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop;
- 3) Addition of any crop or other uses not included in the terms of the CAFO's nutrient management plan and corresponding field-specific rates of application expressed in accordance with Section 502.515; and
- 4) Changes to site-specific components of the CAFO's nutrient management plan, when the changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the United States.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.600 Applicability

- a) This Subpart provides livestock waste discharge limitations and technical standards for permitted CAFOs. Permitted CAFOs must achieve the livestock waste discharge limitations and technical standards in this Subpart as of the date of permit coverage. This Subpart does not apply to CAFOs that stable or confine horses, sheep or ducks. CAFOs that stable or confine horses or sheep are subject to applicable production area livestock waste discharge limitations and technical standards found in Section 502.720. CAFOs that confine ducks in either a dry lot or wet lot are subject to applicable production area livestock waste discharge limitations and technical standards found in Section 502.730.

- b) Unpermitted Large CAFOs claiming an agricultural stormwater exemption pursuant to Section 502.102 are not required to have a nutrient management plan but must comply with the requirements listed in Section 502.510(b) to qualify for the exemption.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.605 Livestock Waste Discharge Limitations for the Production Area for Permitted CAFOs

- a) Except as provided in subsections (a)(1), (a)(2) and (c), there must be no discharge of livestock wastes into waters of the United States from the CAFO production area. Whenever precipitation causes an overflow of livestock wastes from the containment or storage structure, livestock wastes in the overflow may be discharged into waters of the United States provided:
 - 1) The production area is designed, constructed, operated and maintained to contain all livestock wastes, including the runoff and the direct precipitation from a 25-year, 24-hour precipitation event, except that, for swine, poultry or veal, large CAFOs that are new sources must comply with Subpart H, and
 - 2) The production area is operated in accordance with the additional measures and records required by Section 502.610.
- b) Any point source subject to this Subpart must achieve the livestock waste discharge limitations in this Section as of the date of the permit coverage.
- c) Voluntary Alternative Performance Standards. Any CAFO subject to this Subpart may request the Agency to establish NPDES permit livestock waste discharge limitations based upon site-specific alternative technologies that achieve a quantity of pollutants discharged from the production area equal to or less than the quantity of pollutants that would be discharged under the baseline performance standards as provided by subsection (a).
 - 1) In requesting site-specific livestock waste discharge limitations to be included in the NPDES permit, the CAFO owner or operator must submit a supporting technical analysis and any other relevant information and data that would support those site-specific livestock waste discharge limitations within the time frame provided by the Agency.

- 2) The supporting technical analysis must include calculation of the quantity of pollutants discharged, on a mass basis when appropriate, based on a site-specific analysis of a system designed, constructed, operated, and maintained to contain all livestock waste, including the runoff from a 25-year, 24-hour rainfall event.
- 3) The technical analysis of the discharge of pollutants must include:
 - A) all daily inputs to the storage system, including livestock waste, direct precipitation, and runoff;
 - B) all daily outputs from the storage system, including losses due to evaporation, sludge removal, and removal of wastewater for use on cropland at the CAFO or transport off site;
 - C) a calculation determining the predicted median annual overflow volume based on a 25-year period of actual rainfall data applicable to the site;
 - D) site-specific pollutant data, including nitrogen, phosphorus, BOD₅ and total suspended solids, for the CAFO from representative sampling and analysis of all sources of input to the storage system, or other appropriate pollutant data; and
 - E) predicted annual average discharge of pollutants, expressed, when appropriate, as a mass discharge on a daily basis (lbs/day), and calculated considering subsections (c)(3)(A) through (D).
- 4) The Agency has the discretion to request additional information to supplement the supporting technical analysis, including inspection of the CAFO.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.610 Additional Measures for CAFO Production Areas

Each CAFO subject to this Subpart must implement the following:

- a) The CAFO owner or operator must at all times properly operate and maintain all structural and operational aspects of the facilities, including all systems for livestock waste treatment, storage, management, monitoring and testing.

- b) Livestock within a CAFO production area shall not come into contact with waters of the United States.
- c) Visual Inspections. There must be routine visual inspections of the CAFO production area. At a minimum, the following must occur:
 - 1) Weekly inspections of all stormwater diversion devices, runoff diversion structures, and devices channeling contaminated stormwater to the wastewater and manure storage and containment structure;
 - 2) Daily inspection of water lines in the production areas, including drinking water or cooling water lines; and
 - 3) Weekly inspections of the livestock waste storage facilities. The inspection will note the level of total volume of materials in the liquid livestock waste storage facility using the depth marker required in subsection (d).
- d) Depth Marker. All open surface liquid livestock waste storage facilities must have a depth marker that clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour rainfall event. In the case of new sources subject to livestock waste discharge limitations established pursuant to Section 502.830, all open surface livestock waste storage structures associated with the sources must include a depth marker that clearly indicates the minimum capacity necessary to contain the maximum runoff and direct precipitation associated with the design storm used in sizing the storage facility for no discharge.
- e) Corrective Actions. Any deficiencies found as a result of these inspections must be corrected as soon as possible.
- f) In addition to the requirement in subsection (e), deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction.
- g) Discharge to waters of the United States of pollutants from dead livestock or dead animal disposal facilities is prohibited. Dead livestock and water contaminated by dead livestock shall not be disposed of in the liquid manure storage structures, egg wash wastewater facilities, egg processing wastewater facilities, or areas used to hold products, by-products or raw materials that are set aside for disposal, or contaminated stormwater facilities, other than facilities used solely for disposal of dead livestock.

- h) Chemicals and other contaminants shall not be disposed of in any livestock waste or stormwater storage or treatment system unless specifically designed to treat those chemicals and other contaminants.
- i) A CAFO owner or operator utilizing an earthen lagoon or other earthen manure storage area or waste containment area shall inspect all berm tops, exterior berm sides, and non-submerged interior berm sides for evidence of erosion, burrowing animal activity, and other indications of berm degradation on a frequency of not less than once every week.
- j) The CAFO owner or operator shall perform periodic removal of livestock waste solids from liquid manure storage areas and the waste containment area to maintain proper operation of the storage structures. Soils that are contaminated with livestock waste removed from earthen manure storage structures shall be considered livestock waste.
- k) Requirements Relating to Transfer of Livestock Waste to Other Persons.
 - 1) Prior to transferring livestock waste to other persons, CAFOs must provide the recipient of the livestock waste with the most current nutrient analysis.
 - 2) The analysis provided must be consistent with applicable requirements to sample livestock wastes in Section 502.635(b).
 - 3) CAFOs must retain for five years records of the date, recipient name and address, and approximate amount of livestock waste transferred to another person.
- l) Livestock Waste Storage Requirements
 - 1) Livestock waste storage structures at the CAFO production area shall be designed to contain a volume equal to or greater than the sum of the volumes of the following:
 - A) the amount of waste generated during a 180-day period of operation at design capacity;
 - B) the runoff volumes generated during a 180-day period, including all runoff and precipitation from lots, roofs and other surfaces where precipitation is directed into the storage structure;

- C) the volume of all wash down liquid generated during the 180-day period that is directed into the manure storage structure;
 - D) the volume of runoff and precipitation directed to the storage structure during a 25-year, 24-hour storm event;
 - E) the design volatile solids loading volume, if applicable;
 - F) the sludge accumulation volume, if applicable; and
 - G) a freeboard of 2 feet, except for structures with a cover or otherwise protected from precipitation.
- 2) The storage volume requirements in this subsection (l) do not apply to pump stations, settling tanks, pumps, piping or other components of the CAFO production area that temporarily hold or transport waste to a storage facility meeting the requirements of this subsection (l).

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.615 Nutrient Transport Potential

- a) **Field Assessment.** An individual field assessment of the potential for nitrogen and phosphorus transport from the field to surface waters must be conducted and the results contained in the nutrient management plan. The following factors must be identified for each field to determine nitrogen and phosphorus transport potential to waters of the United States.
- 1) Soil type;
 - 2) Slope;
 - 3) Conservation practices;
 - 4) Soil erodibility or potential for soil erosion;
 - 5) Soil test phosphorus;
 - 6) Tile inlet locations;
 - 7) Distance to surface waters;

- 8) Proximity to wells;
 - 9) Location of conduits to surface water, including preferential flow paths; and
 - 10) Subsurface drainage tiles.
- b) The applicant shall utilize the field assessment information obtained in subsection (a) to determine the appropriate phosphorus-based or nitrogen-based application rate for each assessed field. The determination of phosphorus-based or nitrogen-based application of livestock waste on an assessed field must be consistent with subsection (c) or (d) and Sections 502.620, 502.625, 502.630, and 502.635.
- c) Nitrogen-based application of livestock waste must be conducted consistent with the following requirements:
- 1) livestock waste is applied consistent with the setback requirements in Section 502.645;
 - 2) available soil phosphorus (median Bray P1 or Mehlich 3 in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200) is equal to or less than 300 pounds per acre;
 - 3) the soil loss calculated using the Revised Universal Soil Loss Equation 2 (RUSLE2) is less than the Erosion Factor T;

BOARD NOTE: Soil loss may be calculated using the Revised Universal Soil Loss Equation 2 (RUSLE 2) software program available at http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm. Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656. Erosion Factor T for Illinois soils is available from the United States Department of Agriculture, Natural Resources Conservation Service, Illinois Office, 2118 W. Park Court, Champaign IL 61821, (217) 353-6600. The published soil surveys for Illinois are available at <http://www.nrcs.usda.gov>.

- 4) if conduits on the field are less than 400 feet from surface waters, the setback requirements in Section 502.645(b)(2) do not apply. Instead the following setbacks apply:

- A) Livestock waste application shall be conducted no closer than:
 - i) 150 feet from a tile inlet, agricultural well head, sinkhole, or edge of a ditch that has no vegetative buffer; or
 - ii) 50 feet from a tile inlet, agricultural well head, sinkhole, or edge of a ditch that has a 50 foot vegetative buffer or 50 feet from the center of a grass waterway;
- B) These setbacks do not apply if the CAFO is able to demonstrate to the Agency that a setback or buffer is not necessary because implementation of alternative conservation practices (including, but not limited to, injection and incorporation) or field-specific conditions will provide pollutant reductions equivalent to or better than the reductions that would be achieved by the 150-foot setback under subsection (c)(4)(A)(i) or the 50-foot setback under subsection (c)(4)(A)(ii);
- 5) if conduits on the field are more than 400 feet from surface waters, the setback requirements in subsection (c)(4) do not apply;
- 6) where surface waters are on the assessed field or within 200 feet of the field, the livestock waste applied to the field shall be injected or incorporated within 24 hours after the application or equivalent conservation practices must be installed and maintained on the field pursuant to USDA-NRCS practice standards; and
- 7) if nitrogen-based application cannot be conducted in accordance with this subsection (c), then phosphorus-based application must be conducted as specified in subsection (d).
- d) Phosphorus-based application of livestock waste must be conducted consistent with the following requirements:
 - 1) livestock waste must be applied consistent with the setback requirements in Section 502.645;
 - 2) the livestock waste application rate must not exceed the annual agronomic nitrogen demand of the next crop grown as provided in Section 502.625(a);

- 3) if the soil contains greater than 50 pounds of available soil phosphorus per acre (median Bray P1 or Mehlich 3 in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200), phosphorus-based application rates must maintain or lower the soil test phosphorus during the nutrient management plan period;
- 4) if the soil contains greater than 300 pounds of available soil phosphorus per acre (median Bray P1 or Mehlich 3 in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200), the amount of phosphorus applied in the livestock waste must not exceed the amount of phosphorus removed by the next year's crop grown and harvested; and
- 5) livestock waste shall not be applied to fields with available soil phosphorus (median Bray P1 or Mehlich 3 in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200) greater than 400 pounds per acre.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.620 Protocols to Land Apply Livestock Waste

- a) Livestock wastes shall not be applied to waters of the United States. Livestock waste application shall not cause runoff to waters of the United States during non-precipitation events. Livestock waste application shall not occur on land that is saturated at the time of application. Livestock waste shall not be applied onto land with ponded water.
- b) Discharge of livestock waste to waters of the United States or off-site during dry weather through subsurface drains is prohibited.
- c) Livestock waste shall not be applied during precipitation when runoff of livestock waste will be produced.
- d) Surface land application of livestock waste shall not occur within 24 hours preceding a forecast of 0.5 inches or more of precipitation in a 24-hour period as measured in liquid form. The CAFO owner or operator shall use one of the following two methods for determining whether these conditions exist and shall maintain a record of the forecast from the source used.

- 1) A prediction of a 60 percent or greater chance of 0.5 inches or more of precipitation in a 24-hour period as measured in liquid form, obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the location nearest to the land application area; or

BOARD NOTE: The prediction in subsection (d)(1) may be obtained from the National Weather Service at <http://www.nws.noaa.gov/mdl/forecast/graphics/MAV/>.

- 2) A prediction of 0.5 inches or more of precipitation in a 24 hour period as measured in liquid form and identified as higher than Quantitative Precipitation Forecast (QPF) category 3, obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the land application area location.

BOARD NOTE: The prediction in subsection (d)(2) may be obtained from the National Weather Service at <http://www.nws.noaa.gov/mdl/synop/products/bullform.mex.htm>

- e) Determination of soil loss must be made for each field using Revised Universal Soil Loss Equation 2 (RUSLE2).

BOARD NOTE: Soil loss may be calculated using the RUSLE2 software program available at http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm. Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656.

- f) Surface land application may be used when the land slope is no greater than 5% or when the yearly average soil loss calculated using RUSLE2 is equal to or less than 5 tons per acre per year or Erosion Factor T, whichever is less, regardless of slope. Injection or incorporation within 24 hours shall be used when the land slope is greater than 5% and the yearly average soil loss calculated using RUSLE2 is greater than 5 tons per acre per year or Erosion Factor T, whichever is less. Fields with varying or steep slopes must be divided into separate areas for calculating yearly average soil loss using RUSLE2 to comply with this subsection.

BOARD NOTE: Soil loss may be calculated using the RUSLE2 software program available at

http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm.

Additional information on RUSLE2 may be obtained from the United States Department of Agriculture, Agricultural Research Services, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656. Erosion Factor T for Illinois soils is available from the United States Department of Agriculture, Natural Resources Conservation Service, Illinois Office, 2118 W. Park Court, Champaign IL 61821, (217) 353-6600. The published soil surveys for Illinois are available at <http://www.nrcs.usda.gov>.

- g) Land application of livestock waste is prohibited on slopes greater than 15%.
- h) Liquid livestock waste shall not be applied to land with less than 36 inches of soil covering fractured bedrock, sand or gravel. The depth of soil cover may be determined by using NRCS soil surveys, Illinois State Geological Survey well logs, or soil probes.
- i) Livestock waste shall not be applied to bedrock outcrops.
- j) Livestock waste shall be applied at no greater than 50 percent of the agronomic nitrogen rate determined pursuant to Section 502.625 when there is less than 60 inches of unconsolidated material over bedrock. The depth of unconsolidated material may be determined by using NRCS surveys, Illinois State Geological Survey well logs, or soil probes.
- k) Livestock waste shall be applied at no greater than 50 percent of the agronomic nitrogen rate determined pursuant to Section 502.625 when the minimum soil depth to seasonal high water table is less than or equal to 2 feet. The depth of soil to seasonal high water table may be determined by using information from NRCS soil surveys, soil probes, and water table levels from Illinois State Geological Survey well log data or well points.
- l) Livestock waste shall not be applied at rates that exceed the infiltration rates of the soil.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.625 Determination of Livestock Waste Application Rates

- a) Livestock waste application shall not exceed the agronomic nitrogen rate, which is defined as the annual application rate of nitrogen that can be expected to be required for a realistic crop yield goal. Multi-year phosphorus application is allowed when the application is specified in a nutrient management plan and meets the requirements in Section 502.615. Any such application must be consistent with nutrient management plan

requirements. The agronomic rate must be determined in a manner consistent with this Section and Section 502.615.

- b) **Livestock Waste Volumes.** The estimate of the annual volume of available livestock waste for application shall be obtained by multiplying the number of animals constituting the maximum design capacity of the facility by the appropriate amount of waste generated by the animals. For purposes of this Section, “maximum design capacity” means the maximum number of animals that can be housed at any time for a minimum of 45 days at a CAFO. The following sources may be used to obtain the amount of waste generated:
- 1) Livestock Waste Facilities Handbook, Third Edition, Table 2-1, incorporated by reference at 35 Ill. Adm. Code 501.200(a);
 - 2) 35 Ill. Adm. Code 560.Table 1;
 - 3) Manure Characteristics, 2nd ed., 2004 (MWPS-18 Section 1), MidWest Plan Service, incorporated by reference at 35 Ill. Adm. Code 501.200(a); and
 - 4) NRCS Agricultural Waste Management Field Handbook Chapter 4, incorporated by reference at 35 Ill. Adm. Code 501.200(a).
- c) **Nutrient Value of Livestock Waste.** For new livestock facilities that have not generated livestock waste, the owner or operator must prepare a plan based on an average of the minimum and maximum numbers in the table values derived from Livestock Waste Facilities Handbook, Third Edition, Table 2-1, 10-6, or 10-7, or Manure Characteristics, incorporated by reference at 35 Ill. Adm. Code 501.200, or 35 Ill. Adm. Code 560.Table 1 or Table 2. If “as produced” or “as excreted” nutrient values are used, the nitrogen value shall be adjusted to account for losses due to the type of storage system utilized using an average of the ranges in Livestock Waste Facilities Handbook, Third Edition, Table 10-1. Other sources of nutrient values may be used if approved by the Agency. Owners or operators of existing livestock facilities, must prepare the plan based on representative sampling and analysis of the livestock waste generated by the CAFOs in accordance with Section 502.635(b).
- d) **Adjustments to Nitrogen Availability.** Adjustments shall be made to nitrogen availability to account for the following:
- 1) Nitrogen loss from livestock waste due to method of application, based on an average of the ranges in Livestock Waste Facilities Handbook, Third Edition, Table 10-2; and

- 2) The first-year mineralization of organic nitrogen into a plant available form, as obtained from Livestock Waste Facilities Handbook, Third Edition, Table 10-5.
- e) Realistic Crop Yield Goal
- 1) The realistic crop yield goal shall be determined for each field where the livestock waste is to be land applied. The realistic crop yield goal shall be determined using an average yield over a five-year period from the field where livestock waste is to be land applied. The source of data to be utilized to determine the realistic crop yield goal is provided in subsection (e)(2).
 - 2) Whenever five years of data is available for the field where livestock waste is to be land applied, proven yields shall be used in calculating the realistic crop yield, unless there is an agronomic basis for predicting a different realistic crop yield goal. The owner or operator shall indicate the method used to determine the proven yield. Data from years with crop disasters may be discarded.
 - A) If five years of proven yield data is not available for the field where the livestock waste is to be land applied, or if an agronomic basis exists for predicting a different realistic crop yield goal, the owner or operator may calculate the realistic crop yield goal using crop insurance yields or Farm Service Agency USDA yields. If either of these sources is used, a copy of the insurance or assigned crop yields shall be included with the nutrient management plan.
 - B) If data is not available on proven yields, crop insurance yields or Farm Service Agency yields, or if an agronomic basis exists for predicting a different realistic crop yield goal, soils based yield data from the University of Illinois “Average Crop, Pasture, and Forestry Productivity Ratings for Illinois Soils; Bulletin No. 810” (Bulletin 810) or “Optimum Crop Productivity Ratings for Illinois Soils; Bulletin 811” (Bulletin 811), incorporated by reference at 35 Ill. Adm. Code 501.200, shall be used by the owner or operator to calculate the realistic crop yield goal pursuant to subsection (e)(1).
 - i) If Bulletin 810 or 811 is used to calculate the realistic crop yield goal, a soil map of the land application areas shall be included in the nutrient management plan.

- ii) If Bulletin 810 or 811 is used, the realistic crop yield goal shall be determined by a weighted average of the soil interpretation yield estimates for the fields where livestock waste is to be land applied.
- iii) If Bulletin 811 is used, the owner or operator shall demonstrate in the nutrient management plan that the operational management and field conditions of the facility and land application areas meet the requirements for optimum conditions as provided in Bulletin 811.

f) Nitrogen Credits

- 1) Nitrogen credits shall be calculated by the CAFO owner or operator, pursuant to Section 502.505(n)(7), for nitrogen-producing crops grown the previous year, for other sources of nitrogen applied for the growing season, and for mineralized organic nitrogen in livestock waste applied during the previous three years.
- 2) Nitrogen credits shall be calculated by the CAFO owner or operator for the mineralized organic nitrogen in livestock waste applied during the previous three years at the rate of 50%, 25%, and 12.5%, respectively, of that mineralized during the first year.

g) Phosphorus. The plan shall be developed or amended by the CAFO owner or operator to determine the maximum livestock waste application rate for each field. The plan for that field shall contain the following:

- 1) The phosphorus content of the livestock waste shall be determined in accordance with subsection (c);
- 2) The realistic crop yield goal of each crop in the field, obtained pursuant to subsection (e)(1);
- 3) The phosphorus amount needed for each crop in the planned crop rotation, expressed as P₂O₅, obtained from the Illinois Agronomy Handbook, 24th Edition, incorporated by reference at 35 Ill. Adm. Code 501.200. The determination of this phosphorus amount shall be based on the realistic crop yield goal for each planned crop and the soil test for available phosphorus (Bray P1 or Mehlich 3 in accordance with Recommended Chemical Soil Test Procedures for

the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200);

- 4) The phosphorus carryover from previous years' application of phosphorus or livestock waste;
 - 5) Soil test phosphorus results for that field; and
 - 6) The maximum livestock waste application rate, consistent with nitrogen-based or phosphorus-based applications allowed under Section 502.615.
- h) Nitrogen and phosphorus fertilization rates for the realistic crop yield goal may be obtained from the Illinois Agronomy Handbook, 24th Edition, incorporated by reference at 35 Ill. Adm. Code 501.200, or 35 Ill. Adm. Code 560.Appendix A.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.630 Protocols to Land Apply Livestock Waste During Winter

- a) Winter Application Prohibition. Surface land application of livestock waste on frozen, ice-covered, or snow-covered ground is prohibited except as specified in subsection (a)(1).
 - 1) Notwithstanding the winter application prohibition in subsection (a), surface land application of livestock waste on frozen, ice-covered or snow-covered ground is allowed if all of the following conditions are met:
 - A) No practical alternative measures are available to handle the livestock waste within storage facilities or to dispose of the livestock waste at other sites. Examples of practical alternative measures may include, but are not limited to, the transfer of waste to another waste handling facility or sewage treatment plant, rental or acquisition of a storage tank, reduction of herd size or depopulation, and protection of the facility from direct precipitation and clean stormwater runoff;
 - B) Liquid livestock waste cannot be injected or incorporated within 24 hours after application due to soil conditions;
 - C) Prior to December 1, the owner or operator has taken steps to provide 120 days of available storage capacity of manure

storage areas. Examples of steps that could be taken may include, but are not limited to, land application of livestock waste, transfer of waste to another party, protection of waste storage structures from direct precipitation and stormwater runoff, and depopulating facilities to reduce the amount of waste generated;

- D) The owner or operator has complied with subsection (a)(1)(C) and yet the storage volume available on December 1 of that winter season is less than 120 days of storage;
 - E) The owner or operator has notified the Agency in writing on December 1 of that winter season that the CAFO has less than 120 days storage available; and
 - F) The discharge of livestock waste from the structure to the surface waters is expected to occur due to shortage in storage capacity.
- 2) The storage volume calculation in subsection (a)(1)(C) must include runoff and direct precipitation plus the volume of livestock excreta, wash water and other process wastewater generated and expected to enter the storage structure during the period of December 1 to April 1. Runoff volume calculations must meet the following requirements:
- A) Runoff calculations must be based on the runoff transferred into the storage structure under frozen ground conditions;
 - B) Direct precipitation that will reduce the available storage volume must be based on normal precipitation for the December 1 to April 1 period for the nearest weather station and, for facilities exposed to precipitation, the 25-year, 24-hour storm event volume or the design storm event volume determined under Subpart H for swine, poultry and veal large CAFOs that are new sources. The determination of normal precipitation shall be based on National Weather Service or State Water Survey Records;

BOARD NOTE: The following sources may be used to determine normal precipitation:

<http://www.isws.illinois.edu/atmos/statecli/newnormals/newnormals.htm> or

<http://cdo.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl>.

- C) The owner or operator shall keep a record of the precipitation value used and the source from which the value was obtained; and
 - D) Calculations must allow for a freeboard of two feet.
- 3) In the event winter land application is necessary, it must be conducted pursuant to a winter application plan described in subsection (b) and according to the conditions of subsection (c).
- b) Winter Application Plan

In order to conduct surface land application on frozen, ice covered, or snow covered ground, the requirements of this subsection (b) must be met.

- 1) No land application may occur within ¼ mile of a non-farm residence.
- 2) No discharge may occur during land application of livestock waste.
- 3) Surface land application on frozen ground shall not occur within 24-hours preceding a forecast of 0.25 inches or more of precipitation in a 24-hour period as measured in liquid form. The CAFO owner or operator shall use one of the following two methods for determining whether these conditions exist and shall maintain a record of the forecast from the source used.
 - A) A prediction of a 60 percent or greater chance of 0.25 inches or more of precipitation in a 24-hour period as measured in liquid form, obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch 1325 East West Highway, Silver Spring MD 20910, for the location nearest to the land application area; or

BOARD NOTE: The prediction in subsection (b)(3)(A) may be obtained from the National Weather Service at <http://www.nws.noaa.gov/mdl/forecast/graphics/MAV/>.
 - B) A prediction of 0.25 inches or more of precipitation in a 24-hour period as measured in liquid form and identified as higher than QPF category 2 obtained from the National

Weather Service Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910, for the land application area location.

BOARD NOTE: The prediction in subsection (b)(3)(B) may be obtained from the National Weather Service at <http://www.nws.noaa.gov/mdl/synop/products/bullform.mex.htm>.

- 4) Surface land application of livestock waste on ice covered or snow covered land shall not occur within 24 hours preceding a forecast of 0.1 inches or more of precipitation in a 24 hour period as measured in liquid form. The CAFO owner or operator shall use one of the two methods provided below for determining whether or not these conditions exist and shall maintain a record of the forecast from the source used.

- A) A prediction of a 60 percent or greater chance of 0.1 inches or more of precipitation in a 24-hour period as measured in liquid form obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the location nearest to the land application area; or

BOARD NOTE: The prediction in subsection (b)(4)(A) may be obtained from the National Weather Service at <http://www.nws.noaa.gov/mdl/forecast/graphics/MAV/>.

- B) A prediction of 0.1 inches or more of precipitation in a 24-hour period as measured in liquid form and identified as higher than QPF category 1 obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the land application area location.

BOARD NOTE: The prediction in subsection (b)(4)(B) may be obtained from the National Weather Service at <http://www.nws.noaa.gov/mdl/synop/products/bullform.mex.htm>.

- 5) If the land application of livestock waste is on ice covered or snow covered land, surface land application shall not occur when the

predicted high temperature exceeds 32 degrees F on the day of land application or on any of the 7 days following land application as predicted by the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the location nearest to the land application area. The owner or operator shall maintain a record of the forecast from the source used.

BOARD NOTE: The predicted high temperature in subsection (b)(5) may be obtained from the National Weather Service at <http://www.nws.noaa.gov/mdl/forecast/graphics/MEX/index.html> or <http://www.nws.noaa.gov/mdl/synop/products/bullform.mex.htm>.

- 6) If the surface land application of livestock waste is on ice covered or snow covered land, the CAFO owner or operator shall visually monitor for runoff from the site. The CAFO owner or operator daily must monitor each ice covered or snow covered field where land application has been conducted when the ambient temperature is 32 degrees F or greater following winter land application until all the ice or snow melts from the land application area.
 - 7) If the surface land application of livestock waste is on ice covered or snow covered land and a runoff from the land application area occurs, the CAFO owner or operator shall report any discharge of livestock waste within 24 hours after the discovery of the discharge as follows:
 - A) The report shall be made to the Agency through the Illinois Emergency Management Agency by calling 1-800-782-7860 or 1-217-782-7860;
 - B) Within 5 days after this telephone report, the CAFO owner or operator shall file a written report with the Agency that includes the name and telephone number of the person filing the report, location of the discharge, an estimate of the quantity of the discharge, time and duration of the discharge, actions taken in response to the discharge, and observations of the condition of the discharge with regards to turbidity, color, foaming, floatable solids and other deleterious conditions of the runoff for each day of each runoff event until the ice or snow melts off the site.
- c) Availability of Individual Fields for Winter Application

If livestock waste is to be surface applied on frozen ground, ice covered land or snow covered land, the land application may only be conducted on land that meets the following requirements:

- 1) Adequate erosion and runoff control practices exist, including, but not limited to, vegetative fence rows around the site, contour farming, terracing, catchment basins and buffer areas that intercept surface runoff from the site;
- 2) A crop stubble, crop residue or vegetative buffer of 200 feet exists between the land application area and surface waters, waterways, open tile line intake structures, sinkholes, agricultural wellheads, or other conduits to surface water and the vegetative buffer zone is down gradient of the livestock waste application area;
- 3) Application on land with slopes greater than 5% is prohibited;
- 4) Application may only occur on sites that have field specific soil erosion loss calculated using Revised Universal Soil Loss Equation less than Erosion Factor T, and have a median Bray P1 or Mehlich 3 soil level of phosphorus, in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200, equal to or less than 300 pounds per acre;

BOARD NOTE: Soil loss may be calculated using the Revised Universal Soil Loss Equation 2 (RUSLE2) software program available at http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm. Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656. Erosion Factor T for Illinois soils is available from the United States Department of Agriculture, Natural Resources Conservation Service, Illinois Office, 2118 W. Park Court, Champaign IL 61821, (217) 353-6600. The published soil surveys for Illinois are available at <http://www.nrcs.usda.gov>.

- 5) Surface application may only occur if the setbacks equal three times the otherwise applicable setbacks by Sections 502.615 and 502.645 if the slope of the field is between 2 percent and 5 percent. This setback requirement does not include the quarter mile distance from residences contained in Section 502.645(a); and

- 6) For fields with slopes of less than 2 percent, the surface application may only occur if the setbacks equal two times the otherwise applicable setbacks required by Sections 502.615 and 502.645. This setback requirement does not include the quarter mile distance from residences contained in Section 502.645(a).

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.635 Manure and Soil Sampling and Analysis

- a) **Soil Phosphorus Sampling.** Soil samples shall be obtained and analyzed from each field of the land application area where applications are planned. Fields where livestock waste is applied shall be sampled twice for each field during the term of the permit. Soil testing must be conducted as follows:
 - 1) Soil sampling for phosphorus shall be in accordance with the sampling protocols in Chapter 8 of the Illinois Agronomy Handbook, 24th Edition, incorporated by reference at 35 Ill. Adm. Code 501.200. Laboratory analysis for soil phosphorus (Bray P1 or Mehlich 3) shall be in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference at 35 Ill. Adm. Code 501.200;
 - 2) Soil samples shall be at the same time in the cropping cycle and rotation so that results are comparable year to year; and
 - 3) The two required soil samples for each field must be taken at least one year apart.
- b) **Manure Sampling.**
 - 1) The CAFO owner or operator shall annually obtain a laboratory analysis of the nutrient content representative of the livestock waste to be land applied as provided within the nutrient management plan. Livestock waste shall be sampled during the application process. Multiple subsamples shall be obtained and combined into one sample so that a representative sample is obtained for analysis. Results of a sample taken during waste application the previous year can be used for plan preparation unless there has been a change in the waste management practices during the year. The analytical results of livestock waste samples shall be used for calculation of the application rate allowed by the NPDES permit.

- 2) The laboratory analysis of the livestock waste sample shall include total kjeldahl nitrogen, ammonia or ammonium nitrogen, total phosphorus, total potassium, and percent total solids. The nutrient results shall be reported on the laboratory analysis sheet on a lb/ton or mg/kg dry weight basis or lb/1000 gal or mg/L wet weight basis. The results of these analyses are to be used in determining application rates for livestock waste.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.640 Inspection of Land Application Equipment for Leaks

- a) For all permitted CAFOs that land apply livestock waste, the CAFO owner or operator must periodically inspect equipment used for land application of livestock waste for leaks or problems that result in improper operation.
- b) The CAFO owner or operator must ensure that the land application equipment is properly calibrated for application of livestock waste on a routine basis.
- c) Calibration procedures and schedules shall be described for all equipment in the CAFO's nutrient management plan.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.645 Land Application Setback Requirements

- a) Distance from Residences

Livestock waste shall not be land applied within ¼ mile of any residence not part of the CAFO, unless it is injected or incorporated on the day of application.
- b) Setbacks from Waters
 - 1) Livestock waste shall not be land applied within 200 feet of surface water, unless the water is upgrade or there is adequate diking, which includes, but is not limited to, diking that prevents runoff from the land application from entering surface waters that are within 200 feet of the land application area.
 - 2) Livestock waste shall not be land applied within 100 feet of down gradient open subsurface drainage intakes, agricultural drainage wells, sinkholes, grassed waterways or other conduits to surface waters, unless a 35 foot vegetative buffer exists between the land

application area and the grassed waterways, open subsurface drainage intakes, agricultural drainage wells, sinkholes or other conduits to surface water.

- 3) The setback requirements in subsection (b)(2) do not apply if the CAFO is able to demonstrate to the Agency that a setback or buffer is not necessary because implementation of alternative conservation practices (including, but not limited to, injection and incorporation) or field-specific conditions will provide pollutant reductions equivalent to or better than the reductions that would be achieved by the 100-foot setback.
- c) Livestock waste shall not be applied in a 10-year flood plain unless the injection or incorporation method of application is used.
- d) Livestock waste shall not be land applied to waters of the United States, grassed waterways or other conduits to surface waters.
- e) Livestock waste shall not be land applied within 150 feet of potable water supply wells.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.710 New Source Performance Standards for Dairy Cows and Cattle Other Than Veal Calves

- a) New Source Performance Standards (NSPS) Applicability

Any CAFO with the capacity to stable or confine 700 or more mature dairy cows, whether milked or dry, or 1,000 or more cattle other than mature dairy cows or veal calves that is a new source must achieve the livestock waste discharge limitations representing the application of NSPS as of the date of permit coverage or within the timelines provided in Section 502.303.
- b) The livestock waste discharge limitations representing NSPS for the CAFO production area for CAFOs subject to this Section are the livestock waste discharge limitations found in Sections 502.605 and 502.610.
- c) The livestock waste discharge limitations representing NSPS for the CAFO land application area are the livestock waste discharge limitations and requirements found in Sections 502.615 through 502.645.

- d) CAFOs subject to this Section shall attain the limitations and requirements in Subpart F as of the date of permit coverage or within the timelines provided in Section 502.303.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.720 Horse and Sheep CAFOs: BPT, BAT and NSPS

This Section contains the effluent limitations applicable to discharges resulting from the production area at horse and sheep CAFOs. CAFOs subject to this Section shall attain the limitations and requirements of this Section as of the date of permit coverage. CAFOs with the capacity to stable or confine fewer than 10,000 sheep or fewer than 500 horses are exempt from these effluent limitations.

- a) Effluent Limitations Attainable by the Application of the Best Practicable Control Technology Currently Available (BPT) for Horse and Sheep CAFOs
 - 1) Except as provided in subsection (a)(2), any existing point source subject to this Section shall have no discharge of process wastewater pollutants to waters of the United States. Achievement of no process wastewater discharge to waters of the United States is the effluent limitation representing the application of BPT for horse and sheep CAFOs.
 - 2) Process waste pollutants in the overflow may be discharged to waters of the United States whenever rainfall events, either chronic or catastrophic, cause an overflow of process waste water from a facility designed, constructed and operated to contain all process generated wastewaters plus the runoff from a 10-year, 24-hour rainfall event for the location of the point source.
- b) Effluent Limitations Attainable by the Application of the Best Available Technology Economically Achievable (BAT) for Horse and Sheep CAFOs
 - 1) Except when the provisions of subsection (b)(2) apply, any existing point source subject to this Section shall have no discharge of process wastewater pollutants to waters of the United States. Achievement of no process wastewater discharge to waters of the United States is the effluent limitation representing the application of BAT for Horse and Sheep CAFOs.
 - 2) Whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source,

any process wastewater pollutants in the overflow may be discharged to waters of the United States.

- c) New Source Performance Standards (NSPS) for Horse and Sheep CAFOs
Except as provided in subsection (b)(2), any new source subject to this Section shall have no discharge of process wastewater pollutants to waters of the United States. Achievement of no process wastewater discharge to waters of the United States is the performance standard representing NSPS for horse and sheep CAFOs.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.730 Duck CAFOs: BPT and NSPS

This Section contains the effluent limitations applicable to discharges resulting from the production areas at dry lot and wet lot duck CAFOs. CAFOs subject to this Section shall attain the limitations and requirements of this Section as of the date of permit coverage. CAFOs with the capacity to stable or confine fewer than 5,000 ducks are exempt from these effluent limitations.

- a) Effluent Limitations Attainable by the Application of the Best Practicable Control Technology Currently Available (BPT) for Wet Lot and Dry Lot Duck CAFOs.

Any existing point source subject to this Section shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of BPT:

- 1) BOD₅ is limited to a maximum daily limit of 3.66 pounds/1,000 ducks or 1.66 kg/1,000 ducks.
- 2) BOD₅ is limited to a maximum monthly average of 2.0 pounds/1,000 ducks or 0.91 kg/1,000 ducks.
- 3) Fecal coliform is not to exceed the most probable number (MPN) of 400/100 ml at any time.

- b) New Source Performance Standards for Wet Lot and Dry Lot Duck CAFOs

- 1) Except as provided in subsection (b)(2), any new source subject to this Section shall have no discharge of process wastewater pollutants to waters of the United States. Achievement of no process wastewater discharge to waters of the United States is the performance standard representing NSPS for duck CAFOs.

- 2) Whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source, any process wastewater pollutants in the overflow may be discharged to waters of the United States.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.800 Applicability

- a) This Subpart applies to all new swine, poultry and veal CAFOs with the capacity to stable or confine the numbers of animals of the types provided for in the definition of large CAFOs in Section 502.103.
- b) The requirements of this Subpart H are in addition to the livestock waste discharge limitations and technical standards in Subpart F, except Section 502.605.
- c) The limitations and requirements of this Subpart must be attained as of the date of NPDES permit coverage or within the timelines provided in Section 502.303.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.810 Production Area Requirements

There must be no discharge of livestock waste pollutants to waters of the United States from the production area unless the CAFO complies with the alternative livestock waste discharge limitations provided in Section 502.830.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.820 Land Application Area Requirements

For CAFOs subject to this Subpart, the land application areas shall attain the same limitations and requirements as specified in Sections 502.615 through 502.645.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.830 Alternative Best Management Practice Livestock Waste Discharge Limitations

- a) Any CAFO subject to this Subpart may request that the Agency establish NPDES permit best management practice (BMP) livestock waste discharge limitations designed to ensure no discharge of livestock waste based upon a site-specific evaluation of the CAFO's open surface livestock storage structure.
- b) The NPDES permit BMP livestock waste discharge limitations must address the CAFO's entire production area. In the case of any CAFO using an open surface livestock waste storage structure for which the Agency establishes such livestock waste discharge limitations, "no discharge of livestock waste pollutants," as used in this Subpart H, means that the storage structure is designed, operated, and maintained in accordance with BMP established by the Agency on a site-specific basis after a technical evaluation of the storage structure.
- c) The technical evaluation must address the elements listed in Section 502.840.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.840 Technical Evaluation

All technical evaluations conducted pursuant to this Subpart H must address the minimum elements contained in this Section. Waste management and storage facilities designed, constructed, operated, and maintained consistent with the analysis conducted in subsections (a) through (g) and operated in accordance with the additional measures and records required by Section 502.610 will fulfill the requirements of this Subpart.

- a) Information to be used in the design of the open manure storage structure including, but not limited to:
 - 1) Minimum storage periods for rainy seasons;
 - 2) Additional minimum capacity for chronic rainfalls;
 - 3) Applicable technical standards that prohibit or otherwise limit land application on frozen, saturated or snow-covered ground found in Section 502.630;
 - 4) Planned emptying and dewatering schedules consistent with the CAFO's nutrient management plan;
 - 5) Additional storage capacity for livestock waste intended to be transferred to another recipient at a later time; and

- 6) Any other factors that would affect the sizing of the structure.
- b) The design of the open livestock waste storage structure as determined in accordance with 40 CFR 412.46(a)(1)(ii), incorporated by reference at 35 Ill. Adm. Code 501.200, or equivalent design software or procedures approved by the Agency.

BOARD NOTE: NRCS Animal Waste Management (AWM) software specified under 40 CFR 412.46(a)(1)(ii) is available at <http://www.nrcs.usda.gov>. Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656.

- c) All inputs used in the open livestock waste storage structure design, including:
 - 1) actual climate data for the previous 30 years, consisting of historical average monthly precipitation and evaporation values;
 - 2) the number and types of animals;
 - 3) anticipated animal sizes or weights;
 - 4) any added water and bedding;
 - 5) any other process wastewater; and
 - 6) the size and condition of outside areas exposed to rainfall and contributing runoff to the open livestock waste storage structure.
- d) The planned minimum period of storage in months, including, but not limited to, the factors for designing an open livestock waste storage structure described in subsection (a). Alternatively the CAFO may determine the minimum period of storage by specifying times the storage pond will be emptied consistent with the CAFO's nutrient management plan.
- e) Site-specific predicted design specifications, including:
 - 1) dimensions of the storage facility;
 - 2) daily manure and wastewater additions;
 - 3) the size and characteristics of the land application areas; and

- 4) the total calculated storage period in months.
- f) An evaluation of the adequacy of the designed manure storage structure in accordance with 40 CFR 412.46(a)(1)(vi), incorporated by reference at 35 Ill. Adm. Code 501.200.
- 1) The evaluation must include all inputs used in the simulation, including but not limited to:
 - A) daily precipitation, temperature, and evaporation data for the previous 100 years;
 - B) user-specified soil profiles representative of the CAFO's land application areas;
 - C) planned crop rotations consistent with the CAFO's nutrient management plan; and
 - D) the final modeled result of no overflows from the designed open livestock waste storage structure.
 - 2) For those CAFOs where 100 years of local weather data for the CAFO's location is not available, CAFOs may use a simulation with a confidence interval analysis conducted over a period of 100 years.
 - 3) The adequacy of the designed manure storage structure may be evaluated using equivalent evaluation and simulation procedures approved by the Agency.

BOARD NOTE: The Soil Plant Air Water (SPAW) Hydrology Tool specified at 40 CFR 412.46(a)(1)(vi) is available at <http://hydrolab.arsusda.gov/SPAW/Index.htm>. Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656.

- g) The Agency may waive the requirement in subsection (f) for a site-specific evaluation of the designed livestock waste storage structure and instead authorize a CAFO to use a technical evaluation developed for a class of specific facilities within a specified geographical area.

- h) The Agency may request additional information to support a request for livestock waste discharge limitations based on a site-specific open surface livestock waste storage structure.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.APPENDIX A References to Previous Rules

The following table is provided to aid in referencing old Board rule numbers to sections numbers pursuant to codification.

Chapter 5: Agriculture Related Pollution 35 Ill. Admin. Code 502
Part II, Permits

Rule 201	Section 502.101
Rule 202	Section 502.102
Rule 202(a)	Section 502.103
Rule 202(b)	Section 502.104
Rule 202	Section 502.105
Rule 203	Section 502.106
Rule 204	Section 502.201
Rule 205	Section 502.202
Rule 206(a)	Section 502.203
Rule 206(b)	Section 502.204
Rule 207(a)	Section 502.205
Rule 207(b)	Section 502.206
Rule 207(c)	Section 502.207
Rule 208	Section 502.301
Rule 209(a)	Section 502.302
Rule 209(b)	Section 502.303
Rule 210	Section 502.304
Rule 105	Section 502.305
Rule 211	Section 502.401
Rule 212	Section 502.402
Rule 213	Section 502.403