

901:10-1-02

General administrative requirements for permits.

(A) Requirements for an individual permit to install, an individual permit to operate, or an individual NPDES permit:

- (1) A person who is required to obtain both a permit to install pursuant to section 903.02 of the Revised Code and a permit to operate pursuant to section 903.03 of the Revised Code shall submit both applications for these permits simultaneously.
- (2) A facility that is required to obtain both an NPDES permit and a permit to operate shall be issued a single permit to operate incorporating the terms and conditions established by both permits. The permit to operate expressly shall designate the terms and conditions required under the NPDES permit as federally enforceable. For purposes of Chapters 901:10-1 to 901:10-6 of the Administrative Code, the term NPDES permit, NPDES operation, and concentrated animal feeding operation is an animal feeding facility that is subject to the NPDES permit as established in section 402 of the act and includes the renewal of such a permit. NPDES permit includes the federally enforceable provisions of a permit to operate into which NPDES permit provisions have been incorporated.

A person who seeks coverage by a general permit must refer to rules 901:10-3-11, and 901:10-4-01 to 901:10-4-05 of the Administrative Code for a general permit to operate, general NPDES permit or general NPDES stormwater permit.

- (3) An application for a permit to install, a permit to operate, or a NPDES permit to be deemed complete, must include:
 - (a) All required information as set forth in Chapter 901:10-2 and, if applicable, Chapter 901:10-3 of the Administrative Code, and shall accompany the application; and
 - (b) An appropriate fee as stated in rule 901:10-1-04 of the Administrative Code.
 - (c) Any supplemental information which is completed to the satisfaction of the director.
 - (d) If the application and accompanying materials submitted to the department is deemed to be incomplete, the department will notify the owner or operator with instructions as to what is missing or what needs to be completed.

- (4) An application for a permit to install, permit to operate or NPDES permit shall include information on ownership and background, including but not limited to, the following information:
- (a) The name and address of the applicant, of all partners if the applicant is a partnership or all officers and directors if the applicant is a corporation, and of any other person who has a right to control or in fact controls management of the applicant or the selection of officers, directors or managers of the applicant;
 - (b) When required by section 903.05 of the Revised Code, each application for a permit to install or permit to operate must contain information on a record of past compliance if the applicant has not operated a concentrated animal feeding facility in Ohio for at least two of the five years immediately preceding the submission of the application. If the permit to install and the permit to operate are submitted simultaneously as provided in division (A)(9) of section 903.10 of the Revised Code, then the following information is sufficient to satisfy the requirements of the permits:
 - (i) A listing of all concentrated animal feeding facilities that the owner or operator of the proposed new or modified concentrated animal feeding facility has operated or is operating in Ohio;
 - (ii) A listing of the concentrated animal feeding facilities that the owner or operator has operated or is operating elsewhere in the United States and that are regulated under the Federal Water Pollution Control Act together with a listing of the concentrated animal feeding facilities that the owner or operator has operated or is operating outside the United States;
 - (iii) A listing of all administrative enforcement orders issued to the owner or operator, all civil actions in which the owner or operator was determined by the trier of fact to be liable in damages or was the subject of injunctive relief or another type of civil relief, and all criminal actions in which the owner or operator pleaded guilty or was convicted during the five years immediately preceding the submission of the application in connection with any violation of the federal Water Pollution Control Act, the Safe Drinking Water Act, as defined in section 6109.01 of the Revised Code or any other applicable state laws pertaining to environmental protection that was alleged to have occurred or to be occurring at any concentrated animal feeding facility that the owner or operator

has operated or is operating in the United States or with any violation of the environmental laws of another country that was alleged to have occurred or to be occurring at any concentrated animal feeding facility that the owner or operator has operated or is operating outside of the United States. The lists of concentrated animal feeding facilities operated by the owner or operator within or outside this state or outside the United States shall include, respectively, all such facilities operated by the owner or operator during the five year period immediately preceding the submission of the application.

- (5) In the case of an application for a major concentrated animal feeding facility, written proof that the person who would be responsible for the supervision of the management and handling of manure at the facility has been issued a livestock manager certification in accordance with section 903.07 of the Revised Code or will obtain a livestock manager certification prior to applying any manure to land.
- (6) In the case of an application that meets the criteria established in sections 307.204 and 505.266 of the Revised Code, written statements from the board of county commissioners of the county and the board of township trustees of the township in which the facility will be located, certifying that, in accordance with those sections, the applicant has provided the boards with the required written notification and that final recommendations, if any, regarding improvements and costs of improvements have been made by the boards.
- (7) An application for a permit to install a concentrated animal feeding facility shall contain documentation or correspondence that verifies that the owner or operator has notified local officials, including boards of county commissioners, county engineer, and boards of township trustees to address infrastructure needs and financing of that infrastructure which includes but is not limited to:
 - (a) The anticipated travel routes of motor vehicles to and from the facility;
 - (b) Notwithstanding any exemptions that may be applicable under section 5577.042 of the Revised Code, the owner or operator shall provide the anticipated number and weights of motor vehicles traveling to and from the facility with an estimated maximum overall gross weight of vehicles upon the road surface;

- (c) Operational needs of the proposed facility for access to roads and location of such access; and
 - (d) Operational needs of the proposed facility for access to tiles, culverts, off-site drainage, rights-of-way for manure transport.
- (8) A certification statement as follows: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. "Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information the information is, to the best of my knowledge and belief, true and accurate and complete. I am aware there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."
- (9) A complete application is required.
- (a) Any person who requires a permit shall complete, sign, and submit to the director an application for each permit required and a copy of that application for each permit required.
 - (b) The director shall not begin the processing of a permit until the applicant has fully complied with the application requirements for the permit.
 - (c) Permit applications must comply with the signature and certification requirements of this rule.
 - (d) If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied in accordance with division (F) of section 903.09 of the Revised Code and appropriate enforcement actions may be taken under applicable provisions of the Chapter 903. of the Revised Code and rules promulgated there under.
- (B) The owner or operator shall maintain a copy of the current permit to install, permit to operate or NPDES permit issued by the department at the facility site office.
- (C) Duration and renewal.
- (1) Permit to install.

- (a) A permit to install shall expire after twenty-four months unless the applicant has undertaken a continuing program of construction or has entered into a binding contractual obligation to undertake and complete a continuing program of construction within a reasonable time.
- (b) The director may extend the expiration of a permit to install upon request of the applicant. An extension, if approved, will be valid for twelve months from the previous expiration date of the permit to install.
- (c) Any further extensions are at the discretion of the director.

(2) Permit to operate.

- (a) A permit to operate shall be valid for a period of five years.
- (b) A permit to operate may be renewed. An application for renewal of a permit to operate shall be submitted to the director at least one hundred eighty days prior to the expiration date of the permit to operate and shall comply with the requirements governing application for permits to operate that are established by rules, including rules 901:10-2-07 to 901:10-2-20 of the Administrative Code.

(D) NPDES permit.

- (1) Any person who discharges or proposes to discharge pollutants and who does not have an effective permit, except persons covered by a general permit under Chapter 901:10-4 of the Administrative Code, must submit a complete application to the director in accordance with this rule and Chapter 901:10-2 of the Administrative Code.
- (2) Any person proposing a new discharge shall submit an application at least one hundred and eighty days before the date on which the discharge is to commence unless permission for a later date has been granted by the director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application one hundred and eighty days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial activity.
- (3) When a concentrated animal feeding operation is owned by one person but is operated by another person, the operator may obtain a permit.

- (4) Facilities undergoing construction activities that include clearing, grading, excavating, grubbing and/or filling activities that result in the disturbance of one or more acres shall submit applications at least ninety days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits.
 - (5) Applicants for concentrated animal feeding operations must submit form 2B.
 - (6) A NPDES permit shall be valid for a period not to exceed five years.
 - (7) A NPDES permit may be renewed. An application for renewal of a NPDES permit shall be submitted to the director at least one hundred eighty days prior to the expiration date of the NPDES permit and shall comply with the requirements governing applications for permit to operate and NPDES permit applications that are established in Chapters 901:10-2 and 901:10-3 of the Administrative Code.
- (E) A permit to operate application that is not connected with an application for a NPDES permit or a permit to install shall be acted upon not later than ninety days after receipt of a complete application as provided by paragraph (A)(9) of this rule. The director or the director's authorized representative may provide guidance and technical assistance to the applicant, provided that the owner or operator is responsible for compliance with the permit and the director shall not be estopped from enforcement.

901:10-1-03

Criteria for decision-making.

(A) Criteria for decision making by the director. The director shall deny, modify, suspend or revoke a permit to install or permit to operate if:

- (1) The permit application contains misleading or false information; or
- (2) The designs and plans fail to conform to best management practices and to the rules in this chapter or if the owner or operator fails to build the facility in accordance with design plans as approved in the permit to install or in accordance with amended and approved design plans; or
- (3) The plans for the manure management plan, the insect and rodent control plan and any other plans governing the operation fail to conform to best management practices and to rules of this chapter; or
- (4) The director determines that the designs and plans describe a proposed discharge or source for which a NPDES permit is required under this chapter and that will conflict with an areawide waste treatment plan adopted in accordance with section 208 of the act; or
- (5) The facility is not designed or constructed as a non-discharge system or operated to prevent the discharge of pollutants to waters of the state or to otherwise protect water quality; or
- (6) The director determines that the applicant or owner or operator has not complied with rule 901:10-1-10 of the Administrative Code.

(B) The director may deny, modify, suspend or revoke a permit to install or permit to operate if the applicant, owner, operator or persons associated in the operation of concentrated animal feeding facilities, have a history of substantial noncompliance with the Federal Water Pollution Control Act, the Safe Drinking Water Act, as defined in section 6109.01 of the Revised Code, any other applicable state laws pertaining to environmental protection or environmental laws of another country that indicates that the applicant or owner or operator lacks sufficient reliability, expertise and competence to operate the facility in substantial compliance with Chapter 903. of the Revised Code and this chapter.

In evaluating a history of substantial noncompliance as required, the director may consider all of the following for a period of five years preceding the date of the application:

- (1) Any information submitted on ownership and background pursuant to rule 901:10-1-02 of the Administrative Code, including the following:

- (a) If the applicant or permittee is a publicly traded corporation, provide the full name, date of birth, and business address of each individual or business concern holding more than twenty-five per cent of the equity in the applicant or permittee; or
 - (b) If the applicant or permittee is a sole proprietor or any other business concern, provide the full name, date of birth, and business address of each individual or business concern holding more than fifty per cent of the equity in the applicant or permittee;
 - (c) If the applicant or permittee is a partnership, as partnership is defined in section 1775.05 of the Revised Code, provide the full name, date of birth, and business address of each individual or business concern holding more than fifty per cent of the equity in the applicant or permittee; and
 - (d) If the applicant or permittee is the recipient of a financial loan to the facility with provisions for the right to control management of the facility or actual control of the facility or the selection of officers, directors, or managers of the facility, identify the full name, date of birth, and business address of each individual or business concern providing the loan.
- (2) Any administrative enforcement action (including an administrative order or notice of violation), civil suit, or criminal proceeding that is:
- (a) Pending against the applicant or a business concern owned or controlled by the applicant;
 - (b) Resolved or dismissed in a settlement agreement, in a consent order or decrees, is adjudicated or otherwise dismissed and that may or may not have resulted in the imposition of:
 - (i) A sanction such as a fine, penalty, payment or work or service performed in lieu of a fine or penalty; or
 - (ii) Cessation or suspension of operations.
 - (c) Any revocation, suspension, or denial of a license or permit or equivalent authorization; or

(d) With respect to paragraph (B)(1)(a) of this rule, any explanation that the applicant or owner or operator may choose to submit.

(C) In addition to the criteria set forth in paragraphs (A) and (B) of this rule, the director shall deny, modify, suspend, or revoke an NPDES permit if the director determines::

- (1) Discharge from the facility will prevent or interfere with attainment or maintenance of applicable water quality standards adopted under section 6111.041 of the Revised Code and the most current antidegradation policy adopted under section 6111.12 of the Revised Code; or
- (2) Discharge from the facility will not achieve compliance with national effluent standards; or
- (3) The administrator of the United States environmental protection agency objects in writing to the issuance of the NPDES permit in accordance with section 402(d) of the Act; or
- (4) The proposed discharge or source will conflict with an areawide waste treatment management plan adopted in accordance with section 208 of the Act; or
- (5) Forms, notices, or reports required pursuant to the terms and conditions of the NPDES permit are false or inaccurate;
- (6) The discharge is of any radiological, chemical, or biological warfare agent or high-level radioactive waste or medical waste; or
- (7) The United States army corps of engineers for the district in which the discharge is located objects in writing to the issuance of the NPDES permit as substantially impairing navigation or anchorage; or
- (8) Discharge from the facility will not achieve national standards of performance for new sources; or
- (9) There is a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge; or
- (10) The permitted activity endangers human health or the environment and can

only be regulated to acceptable levels by permit modification or termination;
or

- (11) The applicant or owner or operator is required to obtain a state or other appropriate certification under section 401 of the act and 40 CFR section 124.53 and that certification has not been obtained or waived;
- (12) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states; or
- (13) Discharge from the facility will not achieve and maintain compliance with other requirements of the act and the regulations promulgated thereunder.

901:10-1-05

Trade secrets requests for confidentiality.

- (A) Applicant means a person submitting a claim of trade secrecy to the director or to the director's authorized representative.
- (B) Records, reports or other information obtained under Chapter 903. of the Revised Code or rules thereunder may be entitled to protection as trade secrets. In order to be protected, the applicant shall demonstrate to the director's satisfaction that all or part of such records, reports or other information, (including attachments that are required to be submitted), or other part thereof (other than effluent data) to which the director has access under this rule, if made public would divulge methods or processes or other information entitled to protection as trade secrets. If the director determines that the claim for trade secret is satisfied, the director shall consider such records, reports, or other information or part thereof confidential and manage the records, reports or other information pursuant to this rule.
- (C) The following information is considered a public record for which claims of trade secrecy will be denied:
- (1) The name and address of any permit applicant or permittee;
 - (2) Permit forms, permit applications, permits and sampling and effluent data;
 - (3) Information required by NPDES application forms provided by the department including information submitted on the forms themselves and any attachments used to supply information required by the forms; and
 - (4) Any public comments, testimony or other documentation from the public concerning a permit application.
- (D) A request for confidentiality shall be submitted to the director simultaneously with submission of the specific record, report or other information. The applicant shall clearly indicate the record, report or information as trade secret and shall label it "trade secret". Failure to make such request simultaneously shall constitute a waiver of the right to prevent public disclosure. A request for confidentiality shall be accompanied by documents that support the request which include:
- (1) Describe the measures the applicant has taken to safeguard the confidentiality of the information.
 - (2) Indicate whether or not others are bound by a confidentiality agreement.
- (E) A decision as to the confidentiality request shall be made by the director within

forty-five days of receipt of a request filed in accordance with this rule. Until such decision is made, the record, report or other information or part thereof, shall be confidential and maintained by the director in a separate file labeled "confidential". The applicant shall be notified by mail of the decision.

- (F) Any record, report or other information determined to be confidential may be disclosed without the applicant's consent to officers, employees or authorized representatives of the state, another state or the United States when necessary for an enforcement action brought under this chapter or when otherwise required by the Federal Water Pollution Control Act.

901:10-1-06

Certified livestock manager.

(A) Purpose and applicability.

- (1) The management and handling of manure at a major concentrated animal feeding facility, shall be conducted by or under the supervision of a person that has a current livestock manager certification and that is reasonably available to the facility.
- (2) No person who is a livestock manure broker shall buy, sell, or land apply annually more than four thousand five hundred dry tons of manure or more than twenty-five million gallons of liquid manure unless the person is a certified livestock manager.
- (3) No person who is a livestock manure applicator shall land apply and transport annually more than four thousand five hundred dry tons of manure or more than twenty-five million gallons of liquid manure unless the person is a certified livestock manager.
- (4) Any person subject to this rule who is either a livestock manure broker or a livestock manure applicator shall maintain an operating record on forms provided by the department and other forms selected by the livestock manure broker or livestock manure applicator and approved by the director. The operating record shall be retained for a minimum period of five years, shall be made available to the director upon request, and shall record and document in accordance with paragraph (B) of rule 901:10-2-16 of the Administrative Code.
- (5) In order for a person to manage or handle manure at a major concentrated animal feeding facility or for a person to either transport and land apply manure or to, buy, sell or land apply annually more than four thousand five hundred dry tons of solid manure or more than twenty-five million gallons of liquid manure in this state, they shall obtain a livestock manager certification from the department. In the alternative, the person may present a certified copy of an equivalent and valid manure manager certification from another state, which has been verified by the director or his designated representative, together with the appropriate fee as listed in the fee rule.
- (6) This rule does not apply to a person who is an owner or operator of a concentrated animal feeding facility permitted by the director in accordance with section 903.02 of the Revised Code or section 903.03 of the Revised Code, unless that person applies other manure from another animal feeding facility, concentrated animal feeding facility, or major concentrated animal feeding facility in excess of four thousand five hundred tons per year of solid

manure or more than twenty-five million gallons of liquid manure per year.

- (7) A person is considered to be under supervision of a certified livestock manager if the holder of the certification is reasonably available, but not necessarily physically present, during the management and handling of manure. The certified livestock manager cannot claim the lack of presence as a defense under Chapter 903. of the Revised Code.

(B) Application and certification procedures.

- (1) In order to be a certified livestock manager, the applicant must meet the requirements in paragraphs (D)(1) to (D)(5) of this rule.
- (2) The applicant for a livestock manager certification shall file an application on a form provided by the director. The application shall include but not be limited to: address and telephone number of the applicant; the results of the applicant's test results for any examination completed by the applicant as described in paragraphs (D)(1) to (D)(5) of this rule; and if applicable, the quantity of manure managed or handled by the applicant.
- (3) All certifications issued shall expire on December thirty-first of the third year after the year in which the certificate was issued and each December thirty-first triennially thereafter, unless renewed in accordance with this rule. Any certification issued shall be valid for three years and thereafter be subject to renewal. A renewal shall be valid for three years.
- (4) The department shall charge an appropriate fee as listed in the fee rule 901:10-1-04 of the Administrative Code for the issuance and renewal of a livestock manager certification.
- (5) In order for a certification to be renewed, the holder must accumulate ten hours of continuing education credit over a three year period immediately preceding the date of application.

(C) Enforcement.

- (1) The director may suspend, revoke or deny a livestock manager certification if the certified livestock manager:
 - (a) Engages in fraud or deceit in obtaining a certification; or

- (b) Fails to exercise reasonable care, judgment or use of the manager's knowledge and ability in the performance of the duties of a certified livestock manager; or
 - (c) Is incompetent or otherwise unable to properly perform the duties of a certified livestock manager; or
 - (d) Has violated or caused to be violated any provision of rules of Chapter 903. of the Revised Code.
- (2) If a livestock manager certification is suspended, the suspension shall be in effect for a period of not less than two hundred seventy days. After the required two hundred seventy days has passed and if there is substantial evidence that the conditions leading to the suspension have been corrected, the director may issue a certificate to reinstate the suspended livestock manager certification. A person may apply in writing for reinstatement. The petition must include any relevant facts concerning changes to conditions under which suspension or revocation occurred.
- (3) If a livestock manager certification is revoked, the livestock manager has a right to a hearing in accordance with Chapter 119. of the Revised Code.
- (4) If a livestock manager certificate is denied, the livestock manager is entitled to a hearing in accordance with Chapter 119. of the Revised Code.
- (5) If a certified livestock manager fails to renew his certification within thirty days of its expiration, he or she must make application for certification and meet the requirements of paragraph (B) of this rule.
- (6) Violations of section 903.07 of the Revised Code and division (E) of section 903.10 of the Revised Code and this rule will be considered to be category II and low gravity as set forth in rule 901:10-5-04 of the Administrative Code.

(D) Training and examination procedures.

- (1) The department may offer a training program and an examination for a livestock manager certification. The applicant shall have knowledge of information on topics that include calculating nutrient values in manure, devising and implementing a plan for the land application of manure, removing manure held in a manure storage or treatment facility and following best management practices for disposal of dead animals and manure management, including

practices that control odor and protect the environment. The applicant shall be expected to have knowledge of how to devise and implement a manure management plan and an insect and rodent control plan. In addition, the applicant shall understand the laws and rules related to animal feeding facilities.

- (2) An applicant for a livestock manager certification shall pay a fee as required by rule 901:10-1-04 of the Administrative Code.
- (3) The director may specify other types of recognized training programs that, if completed, are considered to satisfy the training and examination requirement.
- (4) The director has determined that the following training and certification programs satisfy this rule:
 - (a) If an applicant for a livestock manager certification demonstrates that he or she has the knowledge of information of the topics set forth in paragraph (D)(1) of this rule and that he or she has completed the training provided in accordance with the "certified crop advisor" program conducted by the "American Society of Agronomy" and demonstrates that he or she has successfully passed the examination, then the applicant will be eligible for a certificate issued in accordance with this rule; or
 - (b) If the applicant for a livestock manager certificate demonstrates that he or she has the knowledge of the information of the topics set forth in paragraph (D)(1) of this rule and that he or she has completed the training and certification of the United States department of agriculture natural resource conservation service relating to being a certified planner to prepare comprehensive nutrient management plans, then the applicant will be eligible for a certificate issued in accordance with this rule.
- (5) The department may cooperate with or enter into cooperative agreements with any official agency of the federal government, of this state or its subdivisions, or other academic or private institutions for the purpose of administration of the training and examination portions of Chapter 903. of the Revised Code.
- (6) In accordance with section 903.20 of the Revised Code, the director may call upon the concentrated animal feeding facility advisory committee to assist in establishing the standards of training and examination.

- (7) Training and examination opportunities will be provided at such times and places as determined by the department in consideration of the number and location of requests.

901:10-1-08

Permit transfer.

- (A) Transfers of permits for concentrated animal feeding facilities and concentrated animal feeding operations are permissible.
- (B) In this rule, transferor means the current holder of a permit to install and/or permit to operate and/or NPDES permit. Transferee means the person making application to acquire the existing permit.
- (1) The director shall be notified in writing by the transferor at least thirty days prior to any proposed transfer of a permit. The transferee shall inform the director that it will assume the responsibilities of the transferor.
 - (2) The notice shall include a written agreement between the transferor and transferee containing a specific date for transfer of permit responsibility, coverage and liability between the parties..
- (C) In order to satisfy the requirements of paragraph (B) of this rule, the following information shall be submitted by the transferee:
- (1) The name and address of the transferor and the transferee. The transferee shall identify all partners if the transferee is a partnership or all officers and directors if the transferee is a corporation, and of any other person who has a right to control or in fact controls management of the transferee or the selection of officers, directors, or managers of the transferee. If the transferee is an owner or operator, the transferee must satisfy the requirements of this rule.
 - (2) In the case of an application for a transfer of a permit for a major concentrated animal feeding facility, written proof that includes copies of certificates or authenticating documentation that they will employ a certified livestock manager.
- (D) Each application to transfer a permit that is submitted by a new owner or operator who has not operated a concentrated animal feeding facility in this state for at least two of the five years immediately preceding the submission of the application for transfer shall be accompanied by all of the following:
- (1) A listing of all animal feeding facilities that the transferee has operated or is operating in this state;
 - (2) A listing of the animal feeding facilities that the transferee has operated or is operating elsewhere in the United States and that are regulated under the Act

together with a listing of the concentrated animal feeding facilities that the transferee has operated or is operating outside the United States;

- (3) A listing of all administrative enforcement orders issued in connection with the transferee; all civil actions in which the transferee was determined by the trier of fact to be liable in damages or was the subject of injunctive relief or another type of civil relief; all criminal actions in which the transferee pleaded guilty or was convicted during the five years immediately preceding the submission of the application for transfer in connection with any violation of the "Federal Water Pollution Control Act," the "Safe Drinking Water Act," as defined in section 6109.01 of the Revised Code, or any other applicable state laws pertaining to environmental protection that was alleged to have occurred or to be occurring at any animal feeding facility that the transferee has operated or is operating in the United States or with any violation of the environmental laws of another country that was alleged to have occurred or to be occurring at any concentrated animal feeding facility that the transferee has operated or is operating outside the United States. The lists of concentrated animal feeding facilities operated by the transferee within or outside this state or outside the United States shall include, respectively, all such facilities operated by the transferee during the five-year period immediately preceding the submission of the application.
- (E) Denial of transfer of permits to install, permits to operate, or NPDES permits. The director may deny the application for transfer if the director finds from the application, the information submitted and pertinent information obtained by the director at the director's discretion that the transferee and persons associated with the transferee in the operation of animal feeding facilities have a history of substantial noncompliance with the "Federal Water Pollution Control Act," the "Safe Drinking Water Act," as defined in section 6109.01 of the Revised Code, any other applicable state laws pertaining to environmental protection or the environmental laws of another country that indicates that the transferee lacks sufficient reliability, expertise and competence to operate the concentrated animal feeding facility in substantial compliance with this chapter and rules adopted under it. In evaluating a history of substantial noncompliance the director shall consider the information required to be submitted pursuant to rule 901:10-1-03 of the Administrative Code. A denial by the director may be appealed by the owner or operator in accordance with Chapter 119. of the Revised Code.
- (F) If the director does not notify the transferor or the transferee of an intention to object to the transfer, then the permit will be transferred. The director may also notify both the transferor and the transferee of the director's decision.
- (G) The director may require modification or revocation and reissuance of the permit to

change the name of the permittee and incorporate such other requirements as may be necessary under the act.

901:10-1-09

Permit modifications.

- (A) No permit to install, permit to operate or NPDES permit shall be modified unless the modification is in compliance with this rule. When a permit is modified, only the conditions subject to modification are reopened. A draft permit incorporating the proposed changes must be prepared and is subject to public notice and public participation procedures as set forth in rules 901:10-6-01 to 901:10-6-06 of the Administrative Code.

- (B) The director may propose to modify a permit and may seek the consent of the owner or operator modifying the permit. The director may modify a permit for the following reasons which include, but are not limited to:
 - (1) Information submitted by the owner or operator requesting to modify the permit;
 - (2) Information obtained through inspections;
 - (3) A permit is reviewed by the director, or
 - (4) Other causes as provided in 40 CFR section 122.62(a).

- (C) If the director seeks to modify the permit with the consent of the owner or operator and the owner or operator does not consent to the director's modification, the director shall issue a notice of the proposed modified permit with the opportunity for an adjudication hearing in accordance with Chapter 119. of the Revised Code.

- (D) If the director seeks to modify the permit without seeking the consent of the owner or operator, the director shall issue a notice of the proposed modified permit with the opportunity for an adjudication hearing in accordance with Chapter 119. of the Revised Code.

- (E) Either the director or any interested person including the permittee may request to modify a NPDES permit or revoke and reissue a NPDES permit or both for the following reasons:
 - (1) Alterations. There are material and substantial alterations, additions or expansions to the operation which occurred after a permit was issued which justify the application of permit conditions that are different or absent in the existing permit.
 - (2) Information. The director has received new information. NPDES permits may be modified during their term for this cause only if the information was not

available at the time of permit issuance (other than revised rules or test methods) and would have justified the application of different permit conditions at the time of issuance. For NPDES general permits this cause includes any information indicating that cumulative effects on the environment are unacceptable. For a new source of an NPDES discharge this cause shall include any significant information derived from effluent testing required after issuance of the permit.

(3) New regulations. The standards or rules on which the NPDES permit was based have been changed by promulgation of amended standards or rules or by judicial decision after the permit was issued. NPDES permits may be modified during their terms for this cause only as follows:

(a) For promulgation of amended standards or rules, when:

(i) The permit condition requested to be modified was based on a promulgated effluent limitation guideline or on promulgated water quality standards or water quality standards approved by the United States environmental protection agency; and

(ii) The United States environmental protection agency has revised, withdrawn or modified that portion of the rule or effluent limitation guideline on which the permit condition was based, or has approved a state action with regard to a water quality standard on which the permit condition was based; and

(iii) An owner or operator requests modification within ninety days after Federal Register notice of the action on which the request is based.

(b) For judicial decisions, when: a court of competent jurisdiction has remanded and stayed rules; if the remand and stay concern that portion of the rules or guidelines on which the permit condition was based; and a request for a permit modification is filed by the owner or operator within ninety days of judicial remand.

(4) Compliance schedules. The director determines good cause exists for modification of a compliance schedule of a NPDES permit, such as acts of nature or acts of third parties, strike, flood, materials shortage or other events over which the owner or operator has little or no control and for which there is no reasonably available remedy. However, in no case may a NPDES permit compliance schedule be modified to extend beyond any applicable statutory

deadline in the act.

- (5) When the owner or operator has filed a request for a variance under rule 901:10-3-08 of the Administrative Code or for a "fundamentally different factors" variance within the time specified in 40 CFR section 122.21 or 40 CFR section 125 for an NPDES permit.
 - (6) To correct technical mistakes (other than the operational changes listed in the appendix to this rule), such as errors in calculation or mistaken interpretations of law made in determining permit conditions.
 - (7) When the owner or operator is required by the director to incorporate an applicable toxic effluent standard or prohibition pursuant to section 307(a) of the act.
 - (8) When the owner or operator is required by the director to reopen conditions in a permit which are established in the permits for toxic effluent limitations and standards.
 - (9) Upon request of the owner or operator who qualifies for effluent limitations on a net basis under 40 C.F.R. section 122.45(g), or when a discharger is no longer eligible for net limitations, as provided in 40 C.F.R. 122.45(g)(1)(ii).
 - (10) Upon failure of the director to notify as required by paragraph (C) of rule 901:10-6-03 of the Administrative Code, another state whose waters may be affected by a discharge from the facility.
 - (11) When the level of discharge of any pollutant which is not limited in the permit exceeds the level which can be achieved by the technology based treatment requirements appropriate to the facility under 40 C.F.R. section 125.3(c).
 - (12) To establish a notification level for toxic pollutants as provided in 40 C.F.R. section 122.44(f).
- (F) The owner or operator may submit a written application for modification to the director for approval by the director if the following apply:
- (1) The owner or operator is requesting material or substantial alterations or expansions or additions to the facility or other changes defined as a modification; or

- (2) New information or data obtained by the owner or operator justify permit conditions in addition to or different from those in the existing permit.

(G) An application for permit modification shall contain the following information:

- (1) The name of the owner or operator and the name and address and telephone number of the facility or operation;
- (2) A description of the exact nature of the changes to be made;
- (3) An explanation of why the modification is needed or requested; and
- (4) Applicable technical information in support of the request for modification including but not limited to, data, records, reports, trend analysis, site plans and engineering plans that show the location and extent of work to be performed or the plan to be modified.
- (5) If the director decides that the request for modification is not justified, the requestor and the owner or operator shall be notified in writing and provided the reasons for the director's determination.

(H) If the owner or operator plans a type of change that is not listed in the appendix to this rule, the owner or operator shall submit the information listed in paragraph (J) of this rule to the director. The director shall:

- (1) Exercise discretion to determine if the type of change proposed by the owner or operator is a modification, an operational change, a major operational change, or, for NPDES permit holders, a change to the NPDES permit manure management plan;
- (2) Notify the owner or operator in writing of the director's determination that the submitted change is a modification, an operational change, a major operational change, or a change to the NPDES permit manure management plan; the approval or denial of the submitted change and the reasons for such determination to approve or deny.
- (3) The owner or operator shall not commence any change until the director has acted in accordance with the requirements in paragraph (H)(2) of this rule.

(I) Major operational changes. The owner or operator shall submit to the director's

authorized representative any planned major operational change listed in the appendix to this rule in accordance with paragraph (J) of this rule.

The owner or operator shall not commence with any changes proposed in the planned major operational change submitted to the department until:

- (1) The department has approved the planned major operational change and has notified the owner or operator in writing of such approval.
- (2) If the department determines the planned major operational change submitted by the owner or operator is not approved, the owner or operator shall be notified in writing and provided the reasons for the department's determination.

(J) An owner or operator's application for a major operational change shall contain the following information:

- (1) The name of the owner of operator and the name, address and telephone number of the facility or operation;
- (2) A description of the exact nature of the changes requested;
- (3) An explanation of why the major operational change is requested; and
- (4) Applicable technical information in support of the request for the change, including but not limited to: date, records, reports, trend analysis, site plans and engineering plans that show the location and extent of work to be performed or the plan to be modified.

(K) Operational changes. The owner or operator shall record operational changes in the operating record to be maintained at the facility.

- (1) The director's authorized representative may review any operational change and any applicable information with the operational change; and
- (2) The director's authorized representative may approve the operational change in writing. The director's authorized representative may signify approval of an operational change by the representative's signature and date in the operating record.

(L) Operational changes and/or major operational changes made by the owner or operator

and approved by the director in accordance with the requirements of this rule shall be recorded in the operating record as required in rule 901:10-2-16 of the Administrative Code and in the permit to install or permit to operate as applicable.

(M) Changes to NPDES permit manure management plans. For NPDES permits, where a permittee makes changes to the concentrated animal feeding operation's manure management plan previously approved by the director, other than as a result of calculations made in accordance with the requirements of paragraph (D)(1)(g)(ix) of rule 901:10-3-01 of the Administrative Code, the permittee must provide the director with the most current version of the manure management plan and identify changes from the previous version. The director must review the revised manure management plan to ensure it meets the requirements of rules 901:10-2-08 to 901:10-2-11, 901:10-2-13 to 901:10-2-16 and rule 901:10-2-18, and any applicable provisions in rules 901:10-3-02 to 901:10-3-11 of the Administrative Code, and must determine whether the changes to the manure management plan necessitate revision to the terms of the manure management plan incorporated into the permit issued to the concentrated animal feeding operation pursuant to paragraph (D)(1)(g) of rule 901:10-3-01 of the Administrative Code. If revision to the terms of the manure management plan is not necessary, the director shall notify the permittee and upon notification the permittee may implement the revised manure management plan. If revision to the terms of the manure management plan is necessary the director shall determine whether the changes are substantial changes under this provision.

(1) Substantial changes to the terms of a manure management plan incorporated as terms and conditions of an NPDES permit include, but are not limited to:

- (a) Addition of new land application areas not previously included in the permittee's manure management plan, unless the land application area is covered by the terms of a manure management plan incorporated into an existing NPDES permit and the permittee complies with the terms applicable to the land application area under the existing NPDES permit.
- (b) Any changes to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop established pursuant to paragraph (D)(1)(g)(ix) of rule 901:10-3-01 of the Administrative Code.
- (c) Addition of any crop or other uses not included in the terms of the permittee's manure management plan and corresponding field-specific rates of application expressed in accordance with paragraph (D)(1)(g)(ix) of rule 901:10-3-01 of the Administrative Code.

- (d) Changes to site-specific components of the nutrient management plan, where such changes are likely to increase the risk of nitrogen and phosphorus transport to surface waters of the state.
 - (2) If the director determines that the changes to the terms of the manure management plan are not substantial, the director must make the revised manure management plan publicly available, revise the terms of the manure management plan incorporated into the permit, and notify the owner or operator and inform the public through the Ohio department of agriculture livestock environmental permitting program web site of any changes to the terms of the manure management plan that are incorporated into the permit.
 - (3) If the director determines that the changes to the terms of the manure management plan are substantial, the director shall notify the public and make the proposed changes and the information submitted by the permittee available for public review and comment. A comment period of thirty days shall be provided for public review and comment, with notice of the comment period being provided to the permittee and published on the Ohio department of agriculture livestock environmental permitting program web site. During the comment period any interested person may submit written comments on the notice and may request a public meeting. The grounds for a public meeting shall be the same as those provided in paragraph (D) of rules 901:10-6-01 and 901:10-6-04 of the Administrative Code. Any public meeting shall be conducted as described in rule 901:10-6-04 of the Administrative Code, except that notice regarding the scheduling of the public meeting shall be provided on the Ohio department of agriculture livestock environmental permitting program web site, rather than through publication in the legal notice section of a newspaper. The provisions of paragraph (J) of rule 901:10-6-04 of the Administrative Code shall also apply to the public comment period. The director shall, if necessary, require the applicant to further revise the manure management plan in order to approve the revision to the terms of the manure management plan incorporated into the concentrated animal feeding operation's permit. Once the director incorporates the revised terms of the manure management plan into the permit, the director must notify the permittee and inform the public of the final decision concerning revisions to the terms and conditions of the permit.
- (N) The incorporation of the terms of a concentrated animal feeding operation's manure management plan into the terms and conditions of a general NPDES permit issued under Chapter 901:10-4 of the Administrative Code is not a cause for modification pursuant to this rule.

Appendix A to rule 901:10-1-09 Operational Changes to Permits to Install and Permits to Operate.

Operational changes	Comment
To correct technical mistakes, such as errors in calculation made in determining land application rates; record changes and calculations in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-14 of the Administrative Code.
Administrative changes in Emergency Response Plan or Closure Plan, e.g., changes in personnel or telephone numbers; record in the emergency response plan or the operating record as applicable, in accordance with either rule 901:10-2-17 or 901:10-2-16 of the Administrative Code.	See rules 901:10-2-17 [emergency response] and 901:10-2-18 [closure plans] of the Administrative Code.
Changes in methods of handling and disposing of dead livestock, unless the facility is proposing to change the method to mortality composting; record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-15 of the Administrative Code
Changes in rates of land application of nitrogen or phosphorus made for each land application area that does not impact the total nutrient budget by more than ten per cent; compare to total nutrient requirements for the farm and record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-14 of the Administrative Code.
Changes in frequency of sampling or monitoring or reporting of soil at the land application area or of manure at the manure storage or treatment facility that do not exceed the minimum requirements in rules 901:10-2-10 and 901:10-2-13 of the Administrative Code; record changes in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rules 901:10-2-13 [soil sampling and results] and 901:10-2-10 [manure characterization] of the Administrative Code.
Changes due to use of a Distribution and Utilization Plan that will either add or decrease the amount of manure to be managed by land application; record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-11 of the Administrative Code.
Equipment replacement or upgrading with new or functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls) or to use technological advancements; record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-08 of the Administrative Code.
Changes made in using different land application areas: identify and record new land application areas in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	
If applicable, changes in any biosecurity plan maintained at the facility. Notify the Director in correspondence.	

Major operational changes-	Comment
Changes or addition of any manure storage or treatment facility, change in animal species or size that is less than a 10 per cent increase in design capacity. Any additional manure volume generated less than 10 percent from the permitted design capacity including contaminated stormwater.	See rule 901:10-2-02 of the Administrative Code.
Additional or advanced treatment systems (e.g., sand separators, solid separators, screen presses, screw presses and anaerobic digesters)	See rules 901:10-2-04 and 901:10-2-08 of the Administrative Code.
Changes to the Insect and Rodent Control Plan.	See rule 901:10-2-19 (F) of the Ohio Administrative Code.

Appendix B to rule 901:10-1-09: Operational Changes to NPDES permits and NPDES provisions of Permits to Operate.

Operational changes	Comment
To correct technical mistakes, such as errors in calculation made in determining land application rates; record changes and calculations in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-14 of the Administrative Code.
Changes in methods of handling and disposing of dead livestock, unless the facility is proposing to change the method to mortality composting; record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-15 of the Administrative Code
Changes in rates of land application of nitrogen or phosphorus made for each land application area that do not impact the total nutrient budget by more than ten per cent; compare to total nutrient requirements for the farm and record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-14 of the Administrative Code.
Changes in frequency of sampling or monitoring or reporting of soil at the land application area or of manure at the manure storage or treatment facility that do not exceed the minimum requirements in rules 901:10-2-10 and 901:10-2-13 of the Administrative Code; record changes in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rules 901:10-2-13 [soil sampling and results] and 901:10-2-10 [manure characterization] of the Administrative Code.
Equipment replacement or upgrading with new or functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls) or to use technological advancements; record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-08 of the Administrative Code.

Major operational changes	Comment
Changes or addition of any manure storage or treatment facility, change in animal species or size that is less than a 10 per cent increase in design capacity. Any additional manure volume generated less than 10 percent from the permitted design capacity including contaminated stormwater.	See rule 901:10-2-02 of the Administrative Code.
Additional or advanced treatment systems (e.g., sand separators, solid separators, screen presses, screw presses and anaerobic digesters)	See rules 901:10-2-04 and 901:10-2-08 of the Administrative Code.

901:10-1-10

Prohibitions.

- (A) No person shall modify an existing or construct a new concentrated animal feeding facility without first obtaining a permit to install issued by the director under section 903.02 of the Revised Code.
- (B) Except for a concentrated animal feeding facility that is operating under an installation permit issued by the director of environmental protection or a review compliance certificate issued by the director, on and after the date on which the program has been finalized under section 903.01 of the Revised Code, no person shall operate a concentrated animal feeding facility without a permit issued by the director under section 903.03 of the Revised Code.
- (C) No person to whom a NPDES permit has been issued shall discharge or cause to be discharged, in any waters of the state any manure, pollutants, or stormwater resulting from an animal feeding facility in excess of the permissive discharges specified under an existing permit.
- (D) On and after the date on which the United States environmental protection agency approves the NPDES program submitted by the director of agriculture under section 903.08 of the Revised Code, no person shall discharge pollutants from a concentrated animal feeding operation into waters of the state unless authorized by a valid and unexpired NPDES permit issued by the director or unless an application for renewal of such NPDES permit has been submitted by the person and is pending.
- (E) Any person who discharges or proposes to discharge pollutants shall apply for a NPDES permit. A concentrated animal feeding operation proposes to discharge if it is designed, constructed, operated, or maintained such that a discharge will occur.
- (F) On and after the date on which the United States environmental protection agency approves the NPDES program submitted by the director, no person shall discharge stormwater resulting from an animal feeding facility unless authorized by a NPDES permit when such a permit is required by the act and subsequently issued by the director of agriculture pursuant to section 903.08 of the Revised Code.
- (G) No person shall violate the terms and conditions of a permit to install, permit to operate, review compliance certificate, or NPDES permit.
- (H) No person shall violate any effluent limits established by rule.
- (I) No person shall violate any other provision of a NPDES permit issued by the director.

901:10-2-01

Permit to install: purpose and applicability.

(A) Purpose and applicability of a permit to install.

- (1) No person shall construct a new concentrated animal feeding facility without first obtaining a permit to install issued by the director.
- (2) Any person who plans to construct a large concentrated animal feeding operation or a concentrated animal feeding facility or major concentrated animal feeding facility shall comply with applicable rules 901:10-2-01 to 901:10-2-06 of the Administrative Code.
- (3) Any animal feeding facility that is a small or medium concentrated animal feeding operation may be required by the director to comply with applicable rules 901:10-2-01 and 901:10-2-03 to 901:10-2-06 of the Administrative Code.
 - (a) If the director has made a determination that the medium or small animal feeding facility shall be required to be permitted as a medium or small concentrated animal feeding operation; and
 - (b) If the director determines that the existing animal feeding facility requires modifications in order to comply with best management practices.
- (4) A person that is required to obtain both a permit to install pursuant to section 903.02 of the Revised Code and a permit to operate pursuant to section 903.03 of the Revised Code shall submit both applications for those permits simultaneously.

(B) Administrative procedures for a permit to install.

- (1) In order to obtain a permit to install, the owner or operator shall submit:
 - (a) A properly completed application in accordance with paragraph (C) of this rule; and
 - (b) An appropriate fee as stated in rule 901:10-1-04 of the Administrative Code.
- (2) The owner or operator may amend the application for a permit to install prior to the conduct of any public meeting that may be held for the draft permit to install and/or while the permit to install application is pending before the

director.

- (3) The owner or operator shall notify the department prior to beginning actual construction of the manure storage or treatment facility.
- (4) Upon completion of construction of the manure storage or treatment facility, the owner or operator shall submit a notarized statement certifying that the facility was constructed in accordance with the as-built plans to the department. As-built plans shall be provided and signed by a professional engineer if the design plans require a professional engineer as described in paragraph (A)(1) of rule 901:10-2-05 or paragraph (A) of rule 901:10-2-06 of the Administrative Code.
 - (a) A copy of the completed and approved as-built plans shall be submitted to demonstrate compliance with paragraph (A) of rule 901:10-2-05 or paragraph (A) of rule 901:10-2-06 of the Administrative Code and shall be submitted for the permanent record.
 - (b) In addition to as-built plans, the following shall be submitted where applicable as part of the construction or permit to install:
 - (i) Any soils investigations, compaction testing, soil bearing confirmation or lab analyses as required by plans.
 - (ii) Pictures demonstrating construction specifications were followed.
 - (iii) Daily log of construction activity including dates, weather conditions, and work completed.
 - (iv) Documentation demonstrating concrete mix and concrete construction was in accordance to approved plans
 - (v) Any other construction documentation that is required by the approved set of engineering plans or in the permit to install.
 - (c) After submitting a copy of the completed as-built plans and after the facilities are inspected by the director or an authorized representative as required by this rule, an authorized representative of the director will issue authorization to stock animals or use a new manure storage or treatment facility and to thereby commence operations in accordance with any permit to operate issued for the facility. Facilities are required

to be inspected by the director or an authorized representative in a timely manner prior to stocking with animals or using any new manure storage or treatment facility.

- (5) The owner or operator shall maintain a copy of the current permit to install issued by the department at the concentrated animal feeding facility's site office. A copy of the as-built plans will be kept at the office of the facility.
- (6) A permit to install may be modified in accordance with rule 901:10-1-09 of the Administrative Code. The owner or operator shall not modify the concentrated animal feeding facility without obtaining a permit modification.

(C) Contents of an application for a permit to install.

Unless otherwise indicated, an application for a permit to install shall contain the information and criteria as required in rules 901:10-1-02 and 901:10-1-03 of the Administrative Code and shall attach and/or include all of the following information:

- (1) The name and address of the applicant, of all partners if the applicant is a partnership or of all officers and directors if the applicant is a corporation and of any other person who has a right to control or in fact controls management of the applicant or the selection of officers, directors or managers of the applicant.
- (2) The type of livestock and the number of animals that the concentrated animal feeding facility would have the design capacity to raise or maintain and the anticipated beginning and ending dates for work performed.
- (3) A statement of the quantity of water that the concentrated animal feeding facility will utilize on an average daily and annual basis, a detailed description of the basis for the calculation utilized in determining the quantity of the water utilized and a statement identifying the source of the water.
- (4) Copies of recorded water well logs on file with the Ohio department of natural resources division of water and their locations within a one thousand foot radius of the manure storage or treatment facility, as located on a map that includes the well locations.
- (5) A scaled map adequate to show detail that includes, but is not limited to:

- (a) Approximate overall dimensions of the manure storage or treatment facility;
 - (b) Boundaries of the concentrated animal feeding facility;
 - (c) Location and siting distances from the manure storage or treatment facility. For purposes of identifying and illustrating the siting criteria, the owner or operator of a large concentrated animal feeding operation or a concentrated animal feeding facility or a major concentrated animal feeding facility is to submit a document that demonstrates compliance with the siting criteria in rule 901:10-2-02 of the Administrative Code; and
 - (d) Identify the approximate location of all known subsurface drains within one hundred feet of the proposed manure storage or treatment facility.
- (6) The report required by paragraph (C) of rule 901:10-2-03 of the Administrative Code, including the information on the soils, ground water sampling and analysis, hydrology, subsurface geology and topography of the land area used for the manure storage or treatment facility based on the subsurface geological exploration conducted in accordance with rule 901:10-2-03 of the Administrative Code. The report may also include site-specific information and conclusions derived from the site's subsurface geological exploration. If required as a result of the subsurface geological exploration conducted pursuant to rule 901:10-2-03 of the Administrative Code, additional groundwater monitoring shall be included.
- (7) Designs, plans and detailed engineering drawings for the proposed construction of the concentrated animal feeding facility that comply with rules 901:10-2-04, 901:10-2-05 and/or 901:10-2-06 of the Administrative Code and include the proposed location of the construction site, and design and construction plans and specifications, including anticipated beginning and ending dates for the work performed.
- [Comment: Include detailed engineering drawings, for example; cross sections, pipe requirements, concrete or earthwork specifications, illustrations and profiles for construction of the manure storage or treatment facility.]
- (8) The precipitation runoff and stormwater grading plans required by rule 901:10-2-04 of the Administrative Code.
- (9) Manure characterized in accordance with rules 901:10-2-04 and 901:10-2-10 of

the Administrative Code.

901:10-2-02

Permit to install: siting criteria.

Manure storage or treatment facilities shall be designed and constructed in accordance with the criteria in paragraphs of (A) to (N) of this rule. In this rule siting means a measure of horizontal or vertical distance for purposes of installing the manure storage or treatment facility.

(A) Water wells and/or class five agricultural drainage wells together hereinafter are referred to as "well".

(1) A fabricated structures shall be at least fifty horizontal feet from a well.

(2) A manure storage pond or manure treatment lagoon shall be at least three hundred horizontal feet from a well.

(B) Source water protection for public water systems.

(1) Public water wells.

(a) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within three hundred feet of a well serving a public water system that is owned or operated by the owner or operator of the facility and is a public water system located on the property of the owner or operator of the facility.

(b) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within the one-year time-of-travel contour from a well for which the Ohio environmental protection agency has delineated or endorsed a ground water source protection area and that serves a non-community water system not listed in paragraph (B)(1)(a) of this rule. If no ground water source protection area has been delineated or endorsed, then the fabricated structure, manure storage pond, or manure treatment lagoon shall not be located closer than three hundred feet from the well.

(c) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within the one-year time-of-travel contour from a well for which the Ohio environmental protection agency has delineated or endorsed a ground water source protection area and that serves a community water system not listed in paragraph (B)(1)(a) of this rule or one thousand feet from a public water well whichever is greater.

(d) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located between the one-year and five-year time-of-travel

contours from a well identified as highly susceptible unless additional ground water monitoring, or additional engineered controls or both are added, installed, and implemented as approved by the director.

(2) Surface water intake.

- (a) A fabricated structure shall be located no closer than one thousand five hundred feet from a surface water intake.
- (b) A manure storage pond or manure treatment lagoon shall be installed no closer than one thousand five hundred feet from a surface water intake.

(C) Streams.

(1) Fabricated structures.

- (a) A fabricated structure on a concentrated animal feeding facility shall be located a minimum of one hundred twenty horizontal feet from a stream, unless additional design criteria are added, installed, and implemented as approved by the director.
- (b) A fabricated structure on a major concentrated animal feeding facility shall be located a minimum of three hundred horizontal feet from a stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(2) A manure storage pond or manure treatment lagoon.

- (a) A manure storage pond or manure treatment lagoon on a concentrated animal feeding facility shall be located a minimum of three hundred horizontal feet from a stream, unless additional design criteria are added, installed, and implemented as approved by the director.
- (b) A manure storage pond or manure treatment lagoon on a major concentrated animal feeding facility shall be located a minimum of six hundred horizontal feet from a stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(D) Cold water habitat and seasonal salmonid streams.

- (1) A fabricated structure shall be located a minimum of three hundred horizontal feet from a cold water habitat or seasonal salmonid stream, unless additional design criteria are added, installed, and implemented as approved by the director.
- (2) A manure storage pond or manure treatment lagoon shall be located a minimum of six hundred horizontal feet from a cold water habitat and seasonal salmonid stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(E) Aquifer.

A fabricated structure, manure storage pond or manure treatment lagoon shall have fifteen vertical feet of low permeability material, between the waste placement location and the uppermost aquifer, unless additional design criteria or groundwater monitoring, or both, are added, installed, and implemented as approved by the director.

- (1) If additional design criteria or groundwater monitoring are added, installed or implemented, the manure storage pond or manure treatment lagoon shall have a minimum of five vertical feet of low permeability material, between the waste placement surface and the uppermost aquifer.
- (2) As used in this rule and in Chapter 901:10-2 of the Administrative Code, low permeability material means low permeability among the soil types of geologic material presented in figure 7-11, Chapter 7, "Geologic and Ground Water Considerations," part 651, "Agricultural Waste Management Field Handbook," August 2010.

(F) Sole source aquifer.

A manure storage pond or manure treatment lagoon shall not be located above a sole source aquifer without design of ground water monitoring or engineered controls or both that are installed and implemented as approved by the director.

(G) Floodplains and floodways.

- (1) The production area of a facility shall not be located in a one hundred year floodplain, as those boundaries are shown on the applicable maps prepared under the "National Flood Insurance Act of 1968," 82 Stat. 572, 42 U.S.C.A. 4001, as amended, without design of additional monitoring or engineered controls or both that are installed and implemented as approved by the

director and in accordance with the following.

- (a) The manure storage pond or manure treatment lagoon embankments and any wall of a fabricated structure shall be designed and constructed to withstand the hydrostatic pressures from a one hundred year flood that may be exerted on the embankments or walls during a flood event;
 - (b) The elevation of the top of the manure storage or treatment facility shall be at the summation of the elevation of the one hundred year flood plus a minimum freeboard height of two feet;
 - (c) Any monitoring wells installed pursuant to this rule shall be physically protected from the floodwaters.
- (2) A manure storage pond or manure treatment lagoon or fabricated structure shall not be located in established regulator floodways as designated by the federal emergency management agency.

(H) Karst areas.

A fabricated structure, manure storage pond or manure treatment lagoon shall not be located in a karst area without design of groundwater monitoring or engineered controls or both that are installed and implemented as approved by the director.

(I) Bedrock.

A fabricated structure, manure storage pond or manure treatment lagoon shall be located a minimum of three feet, between the bottom of the waste placement location and bedrock where no aquifer is present.

(J) Mines.

A manure storage or treatment facility shall not be located in an area of potential subsidence, due to an underground mine known to be in existence prior to the date the application for a permit to install is submitted, without design of groundwater monitoring or engineered controls or both that are installed and implemented as approved by the director.

(K) Property lines, which are defined in this paragraph as property lines not under common ownership of the owner or operator of a facility covered by this rule and public roads.

A fabricated structure, manure storage pond or manure treatment lagoon shall be located no closer than one hundred horizontal feet from a property line or public road.

(L) Neighboring residences.

- (1) A manure storage or treatment facility for solid manure at a concentrated animal feeding facility shall be no closer than five hundred horizontal feet from any neighboring residence.
- (2) The manure storage or treatment facility for solid manure at a major concentrated animal feeding facility shall be no closer than one thousand horizontal feet from any neighboring residence.
- (3) A manure storage or treatment facility for liquid manure at a concentrated animal feeding facility shall be no closer than one thousand horizontal feet from any neighboring residence.
- (4) A manure storage or treatment facility for liquid manure at a major concentrated animal feeding facility shall be no closer than two thousand horizontal feet from any neighboring residence.
- (5) When utilizing proven technology, the siting criteria may be reduced by the director by using the list of technologies appended to this rule. The technologies listed in this appendix are not inclusive of all available technologies. Selected technologies are required to be fully described in detail plans and specifications, engineering drawings, and maps that shall be reviewed and approved by the director in deciding whether or not to reduce any applicable siting criteria as a reasonable exercise of the director's discretion.

(M) The siting criteria requirements applicable to a manure storage or treatment facility shall not apply to the criteria set forth in paragraphs (K) and (L) of this rule if the applicant for a permit to install obtains a written agreement from all of the owners of neighboring residences or property owners located closer than the siting criteria. The agreement shall state such owners are aware of the proposed construction and have no objections to such construction. A copy of the written agreement shall be included with the permit to install application. The written agreement may be filed in the register of deeds office of the county in which the neighboring residence is located.

(N) As used in this rule, additional design for engineered controls includes but is not

limited to additional freeboard, secondary containment, additional treatment, increased liner thickness, synthetic liner materials, groundwater monitoring, or design and construction alternatives set forth in paragraph (A)(9)(c) of rule 901:10-2-06 of the Administrative Code.

Appendix to rule 901:10-2-02 Siting Criteria: How to Determine a Reduction in the Required Criteria

In considering reductions in siting criteria under this rule, the director will consider the use of technologies for manure storage or treatment facilities as characterized and listed in this appendix. The technologies listed are not inclusive of all available technologies. The technologies listed in this appendix are required to be fully described in detailed plans and specifications, engineering drawings, and maps that shall be reviewed and approved by the director in deciding whether or not to reduce any applicable siting criteria as a reasonable exercise of the director's discretion.

Physical Manure Characteristics and Type of Manure Storage or Treatment Facility	
1. *Solid Manure	
a.	Fabricated Structure with odor control (e.g. aeration through the manure pile –High Rise Hog House).
b.	Fabricated Structure with composting
c.	Fabricated Structure with a cover
2. *Solid or **Liquid Manure	
a.	Fabricated Structure or Manure Storage Pond with a cover
b.	Fabricated Structure, Manure Storage Pond or Manure Treatment Lagoon with energy recovery
3. **Liquid Manure	
a.	Manure Treatment Lagoon
b.	Fabricated Structure with a biofilter – Deep Pit System for Swine
c.	Manure Storage Pond with a crust
d.	Manure Storage Pond, Manure Treatment Lagoon or Fabricated Structure with a cover
e.	Fabricated Structure, Manure Storage Pond or Manure Treatment Lagoon with odor control (e.g. aeration in the Manure Storage pond or Manure Treatment Lagoon)

901:10-2-04

Manure storage and treatment facilities.

- (A) An application for a permit to install shall include analysis of manure that is sampled and analyzed in accordance with paragraphs (A) to (D) of rule 901:10-2-10 of the Administrative Code.
- (B) For the purposes of a permit to install, manure shall be quantified and characterized to allow for proper sizing and design of the proposed manure storage or treatment facility. For an existing facility that submits a permit to install application for a similar type of manure storage or treatment facility with no change in treatment technology to what is currently utilized by the facility, the volume of manure and characterization of manure shall be based on manure production records and manure analysis from an actual sample from the facility. If actual manure production records or manure analysis are not available or are deemed not accurate by the department, or if the permit to install application is for a new facility or treatment technology not in use by the existing facility, then the owner or operator shall use the table appended to this rule or use manure production records and manure characterization records from a similar type facility with a similar type of manure storage or treatment facility or treatment technology. If manure data or analysis is used from a similar type facility to characterize manure, the owner or operator shall submit this alternative manure data along with the identification of the source of the data.
- (C) General design and construction criteria for a manure storage or treatment facility.
- (1) An appropriate design plan shall be required for a new or expanding manure storage or treatment facility.
 - (2) A manure storage or treatment facility shall be designed and constructed to handle manure volume, precipitation and surface water runoff in a manner that prevents the discharge of manure to waters of the state, except as provided in applicable standards set forth in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code.
- (D) Calculating storage volume for manure storage or treatment facilities.
- (1) The total storage volume of a manure storage or treatment facility shall not be less than the volume calculated as the summation of the following, unless the owner or operator or the director determines that additional storage capacity is required to meet permit conditions.
 - (a) Manure generated during the storage period required by rule 901:10-2-05 or rule 901:10-2-06 of the Administrative Code;

- (b) Average precipitation less evaporation on the surface area of the manure storage or treatment facility during the storage period;
 - (c) Normal runoff that drains from the concentrated animal feeding facility's drainage area into the manure storage or treatment facility during the storage period. Impermeable surfaces shall utilize a minimum factor of fifty per cent of the average precipitation;
 - (d) A precipitation event based on the surface of the manure storage or treatment facility and applicable standards in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code;
 - (e) The runoff from a precipitation event that drains from the concentrated animal feeding facility's drainage area into the manure storage or treatment facility based on applicable standards in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code; and
 - (f) Residual manure after liquids have been removed.
- (2) In addition to the requirements in paragraph (D)(1) of this rule, the total storage volume of a manure treatment lagoon shall not be less than the volume calculated using one of the following methods set forth in the appendix to this rule.
- (E) Stormwater pollution prevention plans. Each owner or operator of a concentrated animal feeding operation shall prevent pollution of stormwater resulting from an animal feeding facility by submitting plans to satisfy this rule and rule 901:10-3-11 of the Administrative Code to do the following:
- (1) Maintain separation of uncontaminated stormwater runoff from contaminated water with designs and installations that include, but are not limited to, settling basins, runoff ponds, liquid impoundments, and areas within berms and diversions;
 - (a) Grade the area around the livestock buildings and the manure storage or treatment facility;
 - (b) Divert stormwater runoff and roof water away from the manure storage or treatment facility or other structures in the production area.
 - (c) Use spill prevention and good housekeeping techniques to ensure that

stormwater discharges from the following areas comply with Ohio water quality standards: immediate access roads and rail lines used or traveled by carriers; or raw materials, products, waste materials, or by-products used or created; refuse sites; sites used for storage and maintenance of material handling equipment; sites used for handling material other than manure and shipping and receiving areas.

(d) Install systems that are designed to capture and treat contaminated runoff and prohibit discharge of contaminated discharge. The owner or operator may use the following criteria, provided that in no case shall grassed filter strips satisfy effluent limitations for large facilities in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code.

(i) The "Ohio Natural Resource Conservation Service, Conservation Practice Standards Section IV, Field Office Technical Guide" which includes the following which are available for review at the Ohio department of agriculture website <http://agri.ohio.gov/>:

(a) "Pond, No 378," January 2003;

(b) "Constructed Wetland Conservation Practice Standard, No. 656," January 2010, but provided there shall be no discharge;

(c) "Heavy Use Area Protection Practice, No. 561," December 2012;

(d) "Composting Operation, No. 317," March 2010;

(e) "Critical Area Planting, No. 342," March 2012;

(f) "Dike, No. 356," June 2002;

(g) "Diversion, No. 362," June 2002;

(h) "Grade Stabilization Structure, No. 410," May 1, 1988;

(i) "Pipeline, No. 516," June 2002;

(j) "Roof Runoff Structure, No. 558," June 2002;

(k) "Sediment Basin, No. 350," June 2002;

(ii) The "Ohio Livestock Manure And Wastewater Management Guide, Bulletin 604, The Ohio State University Extension, January 2006," which is available for review at the Ohio department of agriculture's campus in Reynoldsburg, Ohio and

(iii) USDA natural resource conservation service - NHCP which is available for review at the Ohio department of agriculture's campus in Reynoldsburg, Ohio.

- (2) Construct coverings over any structures in the production area where manure may be exposed to direct precipitation; or
- (3) Install vegetative cover and protect stream channels and areas adjacent to such channels from a concentrated animal feeding operation.
- (4) The owner or operator may submit plans that implement alternative practices to the director for approval provided that any alternative practices must be demonstrated to be equivalent to the practices listed in paragraph (F)(1) of this rule unless the owner or operator or the director determine that additional total storage capacity is required to meet permit conditions. All of the practices listed are subject to the design standards for precipitation events in paragraphs (C) and (D) of this rule.

Appendix to rules 901:10-2-04 and 901:10-2-10:

Daily manure production and characteristics, as-excreted (per head per day)^a

Values are as-produced estimations and do not reflect any treatment. Use these values only for planning purposes. The actual characteristics of manure for individual situations can vary $\pm 30\%$ or more from table values due to genetics, dietary options and variations in feed nutrient concentration, animal performance, and individual farm management.

Animal	Size ^a (lbs)	Total Manure ^b			Water ^c %	Density ^c (lb/ft ³)	TS ^d (lb/day)	VS ^c (lb/day)	BOD ₅ (lb/day)	Nutrient Content		
		lbs	ft ³	gal						(lbs N) ^d	(lbs P ₂ O ₅) ^d	(K ₂ O)
Dairy												
Calf	150	12	0.18	1.38	88	65	1.4	1.2	0.19	0.06	0.01 ^c	0.05
	250	20	0.31	2.30	88	65	2.4	2.0	0.31	0.11	0.02 ^c	0.09
Heifer	750	45	0.70	5.21	88	65	6.7	5.7	0.69	0.23	0.08 ^c	0.23
	1,000	60	0.93	6.95	88	65	8.9	7.6	0.92	0.30	0.10 ^c	0.31
Lactating cow	1,000	111	1.79	13.36	88	62	14.3	12.1	1.67	0.72	0.37 ^c	0.40
	1,400	155	2.5	18.70	88	62	20.0	17.0	2.34	1.01	0.52 ^c	0.57
Dry cow	1,000	51	0.82	6.14	88	62	6.5	5.5	0.75	0.30	0.11 ^c	0.24
	1,400	71	1.15	8.60	88	62	9.1	7.7	1.04	0.42	0.15 ^c	0.33
	1,700	87	1.40	10.45	88	62	11.0	9.3	1.27	0.51	0.18 ^c	0.40
Veal	250	6.6	0.11	0.79	96	62	0.26	0.11	0.04	0.03	0.02	0.05 ^d
Beef												
Calf (confinement)	450	48	0.76	5.66	92	63	3.81	3.20	1.06	0.20	0.09	0.16
	650	69	1.09	8.18	92	63	5.51	4.63	1.54	0.29	0.13	0.23
Finishing	750	37	0.59	4.40	92	63	2.97	2.42 ^d	0.60	0.27	0.08	0.17
	1,100	54	0.86	6.46	92	63	4.35	3.55 ^d	0.89	0.40	0.12	0.25
Cow (confinement)	1,000	92	1.46	10.91	88	63	11.0	9.38	2.04	0.35	0.18	0.29
Swine												
Nursery	25	1.9	0.03	0.23	89	62	0.21	0.17	0.06	0.02	0.01	0.01
	40	3.0	0.05	0.37	89	62	0.33	0.27	0.10	0.03	0.01	0.02
Finishing	150	7.4	0.12	0.89	89	62	0.82	0.65	0.23	0.09	0.03	0.04
	180	8.9	0.14	1.07	89	62	0.98	0.78	0.28	0.10	0.04	0.05
	220	10.9	0.18	1.31	89	62	1.20	0.96	0.34	0.13	0.05	0.06
	260	12.8	0.21	1.55	89	62	1.41	1.13	0.41	0.15	0.05	0.08
	300	14.8	0.24	1.79	89	62	1.63	1.30	0.47	0.17	0.06	0.09
Gestating	300	6.8	0.11	0.82	91	62	0.61	0.52	0.21	0.05	0.03	0.04
	400	9.1	0.15	1.10	91	62	0.82	0.70	0.28	0.06	0.04	0.05
	500	11.4	0.18	1.37	91	62	1.02	0.87	0.35	0.08	0.05	0.06
Lactating	375	17.5	0.28	2.08	90	63	1.75	1.58	0.58	0.17	0.11	0.13
	500	23.4	0.37	2.78	90	63	2.34	2.11	0.78	0.22	0.15	0.18
	600	28.1	0.45	3.33	90	63	2.81	2.53	0.93	0.27	0.18	0.21
Boar ^c	300	6.2	0.10	0.74	91	62	0.57	0.51	0.20	0.04	0.03	0.03
	400	8.2	0.13	0.99	91	62	0.75	0.67	0.26	0.06	0.05	0.05
	500	10.3	0.17	1.24	91	62	0.94	0.84	0.33	0.07	0.06	0.06
Sheep												
Feeder lamb ^c	100	4.1	0.06	0.5	75	63	1.05	0.91	0.10	0.04	0.02	0.04
Poultry												
Laver	3	0.15	0.002	0.017	75	65	0.037	0.027	0.008	0.0026	0.0008	0.0012
Broiler	2	0.19	0.003	0.023	74	63	0.050	0.038	0.011	0.0021	0.0014	0.0010
Turkey (female)	10	0.47	0.007	0.056	75	63	0.117	0.088	0.034	0.0078	0.0051	0.0034

Turkey (male)	20	0.74	0.012	0.088	75	63	0.186	0.139	0.054	0.0111	0.0074	0.0048
Duck	4	0.44	0.007	0.053	73	62	0.118	0.089	0.016	0.0043	0.0034	0.0026
Horse												
Sedentary	1,000	54.4	0.88	6.56	86 ^d	62	7.61	6.5	1.52	0.18	0.06	0.06 ^d
Intense Exercise	1,000	55.5	0.90	6.70	86 ^d	62	7.78	6.6	1.56	0.30	0.15	0.23 ^d

TS = total solids; VS = volatile solids; BOD₅ = the oxygen used in the biological oxidation of organic matter in 5 days at 68F, which is an industry standard that shows wastewater strength.

^a Use linear interpolation to obtain values for weights not listed in the table.

^b Calculated using TS divided by the solids content percentage.

^c Based on MidWest Plan Service historical data.

^d Values calculated or interpreted using diet based formulas being considered for ASAE Standard D384: Manure Production and Characteristics

Source: MWPS-18 (2) Manure Characteristics (2005). Mid West Plan Service, Iowa State University: Ames, IA

901:10-2-05

Fabricated structures.

(A) Fabricated structures shall be designed and maintained to prevent discharge to ground waters or surface waters.

(1) Fabricated structures for liquid manure and fabricated structures that store solid manure with a wall height of eight feet or greater (measured from the top of the footing), shall be designed by a professional engineer, which shall include a signed and sealed set of design plans.

(2) A fabricated structure shall be designed and constructed to meet the requirements in paragraph (A) of rule 901:10-2-03 and any applicable section of the appendix to this rule.

(3) Storage period.

(a) The minimum storage period for a fabricated structure storing liquid manure shall be one hundred eighty days.

(b) The minimum storage period for a fabricated structure storing solid manure shall be one hundred twenty days.

(c) Additional storage may be required by the department in order to ensure protection of groundwater, surface water, or the structural integrity of the fabricated structure.

(4) Freeboard.

(a) A fabricated structure shall be designed and maintained to have an operating level that does not exceed the level that provides adequate storage to contain a precipitation event plus an additional six inches of freeboard.

(b) Fabricated structures that contain solid manure and are not subject to precipitation or runoff do not require an additional six inches of freeboard.

(5) Fabricated structures for liquid manure shall have a liquid level board, staff gauge, depth marker, or other appropriate device approved by the director, installed within the interior to monitor manure levels. The approved device shall indicate levels every one foot in vertical elevation and shall indicate levels as described in paragraph (A)(4)(b) of rule 901:10-2-08 of the Administrative Code.

Appendix to rule 901:10-2-05 Fabricated Structure.

Foundation.

Proportion the foundation of a fabricated structure to safely support all superimposed loads without excessive movement or settlement.

If a non-uniform foundation cannot be avoided or applied loads may create highly variable foundation loads, calculate the settlement from site-specific soil test data as defined in rule 901:10-2-03 of the Administrative Code. The owner or operator may also utilize an appropriate design plan as defined rule 901:10-1-01 of the Administrative Code.

To eliminate potential uplift pressures, install a drainage system entirely around the foundation, discharged by gravity or a sump pump. Large structures may require additional drains at intermediate depths. The director may require monitoring or sampling, or both, of subsurface perimeter drains around manure storage or treatment facilities as stated in rule 901:10-2-08 (4)(i)(iv).

Structural Loading.

Design structures to withstand all anticipated internal and external loads including: hydrostatic and uplift pressure, concentrated surface and impact loads and any loading associated with water loads. Design the structure in compliance with the standard and applicable local building codes.

The lateral earth pressure should be calculated from soil strength values determined from the results of soil tests conducted in accordance with rule 901:10-2-03 of the Administrative Code. Lateral earth pressures can be calculated using the procedures in Technical Release 74.

Assign lateral earth pressures based upon equivalent fluid assumptions according to the structural stiffness or wall yielding as follows:

- Rigid frame or restrained wall: Use the values shown in Table 1 under the column "Frame Tanks", which gives pressures comparable to the at-rest condition.
- Flexible or yielding wall: Use the values shown in Table 1 under the column "Freestanding Wall", which gives pressures comparable to the active condition. Walls in this category are designed on the basis of gravity for stability or as a cantilever having a base wall thickness to height of backfill ratio not more than 0.085.

When the stored by-products are not protected from precipitation, design for an internal lateral pressure of 65 lbs./sq.ft./ft. of depth. When the stored by-products are protected from precipitation and will not become saturated, design for 60 lbs./sq.ft./ft. of depth internal lateral pressure. Use lesser values if supported by actual pressure measurements of the by-products to be stored. Roofed facilities designed to stored dry materials such as sawdust bedded horse stable manure or well managed livestock mortality compost may be designed using a lateral pressure of 35 lbs./sq.ft./ft. of depth. If heavy equipment will be operated within five feet of the wall, design for a 100 psf horizontal surcharge.

Design tank covers to withstand both dead and live loads. Use the minimum live load values for covers contained in ASAE EP378.3, Floor and Suspended Loads on Agricultural Structures Due to Use, and in ASAE EP393.2, Manure Storage. Use the actual axle load for tank wagons having more than 2,000 gallon capacity.

If the facility is to have a roof, snow and wind loads shall be as specified in ASCE 7-05, using "C" Exposure and Occupancy Category. If the facility is to serve as part of a foundation or support for a building, consider the total load in the structural design. The minimum wind and snow loading for Ohio is: wind load, basic velocity pressure = 20 psf and snow load = 20 psf.

Structural Design.

For structural design, consider all items that will influence the performance of the structure, including loading assumptions, material properties, and construction quality. Indicate the design assumptions and construction requirements on the plans.

Tanks may be designed with or without covers. Covers, beams, or braces that are integral to structure performance must be indicated on the construction drawings. Design openings in covered tanks to accommodate equipment for loading, agitating, and emptying. Equip these openings with grills or secure covers for safety. Consider solid covers if odor and vector control is necessary. Underlay all structures with free draining material or locate the footing below the anticipated frost depth.

Table 1 – Lateral Earth Pressure Values¹:					
Soil		Equivalent fluid pressure (lb/ft²/ft of depth)			
Description⁴	Unified Classification⁴	Above seasonal high water table²		Below seasonal high water table³	
		Free-standing walls	Frame tanks	Free-standing walls	Frame tanks
-Clean gravel, sand or sand-gravel mixtures (maximum 5% fines) ⁵	GP, GW, SP, SW	30	50	80	90
-Gravel, sand, silt and clay mixtures (< 50% fines) -Coarse sands with silt and/or clay (< 50% fines)	All gravel/sand dual symbol classifications and GM, GC, SC, SM, SC-SM	35	60	80	100
-Low-plasticity silts and clays with some sand and/or gravel (≥50% fines) -Fine sands with silt and/or clay (< 50% fines)	CL, ML, CL-ML SC, SM, SC-SM	45	75	90	105
-Low to medium plastic silts and clays with little sand and/or gravel (≥50% fines)	CL, ML, CL-ML	65	85	95	110
High plasticity silts and clays (liquid limit > 50) ⁶	CH, MH	-	-	-	-

¹ For lightly-compacted soils (85% to 90% maximum standard density.) Includes compaction by use of typical farm equipment.
² Also below seasonal high water table if adequate drainage is provided.
³ Includes hydrostatic pressure.
⁴ All definitions and procedures in accordance with ASTM D 2488 and D 653.
⁵ Generally, only washed materials are in this category
⁶ Not recommended. Requires special design if used.

Other minimum requirements. Structures must be designed and constructed to be watertight or leak proof and in accordance with an appropriate design plan as that term is defined in rule 901:10-1-01 of the Administrative Code.

Slabs on Grade.

Design slabs considering the required performance and the critical applied loads. The subgrade material must be evaluated as to the suitability and denseness. A 4-inch thick layer of crushed gravel or limestone may need to be provided as a uniform subbase. Where the subgrade is uniform and dense, a Type S-1 concrete slab is acceptable. Type S-2 concrete slabs shall be used where the subgrade material is non-uniform or has variable density, and it is not economical or feasible to improve the subgrade. The subgrade thickness in question is generally 12 inches, but could be more, depending on the soil profile. Type S-3 concrete slabs shall be used when the contraction joint spacing is to be more than 15 feet, when no contraction joints are wanted, when reduced seepage is required, or when a water-tight slab is required. Type S-3 concrete slabs without contraction joints, may be used under the following conditions:

- Slabs installed as a component of a liquid or slurry manure storage or treatment facility, where seepage that could occur with a Type S-1 or Type S-2 slab has potential of polluting groundwater, and cannot be captured for treatment.

Design criteria for Type S-1, S-2 and S-3 concrete slabs are found in the NRCS Concrete Construction specification (210-VI-EFH, Exhibit OH 17-1. September 2013).

901:10-2-06

Manure storage pond and manure treatment lagoon.

- (A) A manure storage pond or manure treatment lagoon subject to this rule shall be designed and the plans stamped by a professional engineer. The following design and construction criteria shall be followed:
- (1) An exploratory trench shall be excavated a minimum of four feet below natural grade to investigate for subsurface drainage lines in the immediate area of the manure storage pond or manure treatment lagoon. Any lines found shall be removed or relocated to provide for a minimum separation distance of not less than fifty feet between the top inner perimeter of the manure storage pond or manure treatment lagoon and the subsurface drainage line unless the subsurface drainage line is necessary to comply with paragraph (A)(9)(a) of this rule.
 - (2) If not already installed at the facility, a liquid level board, staff gauge, depth marker, or other appropriate device, approved by the director, shall be installed within the interior of the liquid manure storage pond or manure treatment lagoon to monitor manure levels. This device shall indicate levels every one foot in vertical elevation and shall indicate levels as described in paragraph (D)(1) of rule 901:10-2-08 of the Administrative Code.
 - (3) Agitation and pump-out points shall be shown on plans for a manure storage pond and a manure treatment lagoon with scour protection required.
 - (4) An emergency spillway may be included at the one foot freeboard level and shall be directed to a specifically designed filter strip or infiltration areas if the facility is constructed with an earthen embankment.
 - (5) Embankments.
 - (a) The minimum embankment top width shall be eight feet for embankments less than fifteen feet, ten feet for embankments ranging in height from fifteen to less than twenty feet, and twelve feet for embankments ranging from twenty to twenty-five feet high, as measured from the low point on the downstream toe to the top of the dam.
 - (b) If the embankment is to be traversed by farm equipment, the minimum top width shall be twelve feet. The height of the embankment shall be no greater than twenty-five feet, as measured from the low point on the downstream toe to the top of the dam.
 - (c) Embankments shall have side slopes not steeper than two horizontal to

one vertical.

(d) The combined side slopes of settled embankments shall not be less than five horizontal to one vertical.

(e) Vegetative cover shall be established on any exposed embankment and mowed or otherwise maintained to control erosion or other embankment deterioration. In the alternative, the director may approve other means or materials to control erosion.

(6) Inlets and outlets.

(a) Inlets shall be designed to resist corrosion, plugging and freezing.

(b) The embankment may contain no outlet piping that extends through the embankment unless the piping discharges to another facility or is a component of a re-circulating flush system.

(c) All pipes for manure transfer or manure flush systems shall have watertight joints in accordance with the following ASTM standards:

(i) ASTM D3212-standard specification for joints for drain and sewer plastic pipes using flexible elastometric seals; or

(ii) ASTM C443-standard specification for joints for concrete pipe and manholes, using rubber gaskets; or

(iii) Other standards recommended by the professional engineer and approved by the department.

(7) Storage period.

The minimum storage period of manure for a manure storage pond and manure treatment lagoon shall be one hundred eighty days of manure production unless alternative use and design is otherwise approved by the department. This section is not intended to address the surface water runoff where the runoff does not enter into the pond or lagoon.

(8) Freeboard.

Freeboard shall be provided for a manure storage pond and manure treatment

lagoon in addition to the total storage volume such that the elevation of the emergency spillway or top of the settled embankment, if there is no designed emergency spillway, shall be less than the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional one foot of freeboard.

(9) Liners.

The owner or operator shall include the use of a liner as part of the manure storage pond or manure treatment lagoon that achieves a hydraulic conductivity of at least one times ten to the minus seven centimeters per second (1×10^{-7} cm/sec) to insure the integrity of the manure storage pond or manure treatment lagoon. A minimum of three feet of in situ soils with a hydraulic conductivity of one times ten to the minus seven centimeters per second will satisfy this requirement. The following design and construction criteria shall be followed:

- (a) Ground water seepage shall be prevented from entering the bottom of the manure storage pond or manure treatment lagoon after construction by installing and/or maintaining a liner with a minimum liner thickness of three feet of in situ soil between the top of the seasonal high ground water surface and the bottom of the manure storage pond or manure treatment lagoon. In order to meet this requirement the ground water surface may be lowered by use of subsurface drainage lines that are properly designed by the engineering geologist or professional engineer and approved by the director.
- (b) Soil liners shall be designed and constructed using procedures in section 651.1080 of the "United States Department of Agriculture, Natural Resources Conservation Service Agricultural Waste Management Field Handbook, Chapter Ten, Geotechnical Design and Construction, August 2009," and "United States Department of Agriculture, Ohio Natural Resources Conservation Service, Section IV, Field Office Technical Guide Conservation Practice Standard 521-D, Pond Sealing and Lining, Compacted Earth Treatment. January 2010." Both procedures are available for review at the Ohio department of agriculture website <http://agri.ohio.gov/>. A soil liner thickness shall be a minimum of three feet.
- (c) Design and construction alternatives for ground water protection.
 - (i) As a result of the subsurface geological exploration conducted

pursuant to rule 901:10-2-03 of the Administrative Code and the findings of the report submitted in accordance with that rule, an engineering geologist, professional engineer or the director may determine that installation of an additional liner is required to insure the integrity of the manure storage pond or manure treatment lagoon and to protect groundwater.

(ii) If an additional or alternative liner protection is required as set forth in paragraph (A)(9)(c)(i) of this rule, then one or more of the following may be required by the director:

(a) Concrete liners that have a minimum thickness of five inches and shall include non-metallic water stops for all joints;

(b) Flexible plastic membranes that are installed under the supervision of the manufacturer or the manufacturer's representative and include written certification that the liner was installed in accordance with the manufacturer's recommendations.

(c) Geosynthetic clay liners that are installed under the supervision of the manufacturer or the manufacturer's representative and include written certification that the liner was installed in accordance with the manufacturer's recommendations; or

(d) Other liner designs or materials will be considered at the discretion of the director if the minimum criteria of this paragraph of this rule are met.

(10) Design and construction criteria for a manure storage pond or manure treatment lagoon located in a karst area.

(a) Manure storage ponds or manure treatment lagoons may be constructed within a karst area provided that the facility is designed to prevent seepage of manure to groundwater.

(b) Any portion of a manure storage pond or manure treatment lagoon located below the pre-construction soil surface level and constructed in a karst area shall be designed and constructed utilizing a rigid material such as concrete or steel or a properly designed clay or synthetic liner, when appropriate, upon findings in the geologic exploration.

- (11) Manure treatment lagoons shall be designed in accordance with the methods set forth in the appendix to this rule.

Appendix to rule 901:10-2-06 Manure Treatment Lagoon.

SINGLE STAGE LAGOON

As used in this appendix the term “lagoon” refers to “manure treatment lagoon” as defined rule 901:10-1-01 of the Administrative Code. The total storage volume shall be based on the storage period selected by the owner or operator which shall be a minimum of 180 days as required by paragraph (A)(7) of rule 901:10-2-06 of the Administrative Code. The method for sizing total volume storage is based on the Rational Design Standard for Anaerobic Livestock Lagoons (Barth 1985). The owner or operator may choose to design and construct a single storage lagoon, a two-stage lagoon, or a manure storage pond followed by a manure treatment lagoon. If the owner or operator chooses either the two-stage lagoon or the manure storage pond and lagoon, then the owner or operator is required to calculate two lagoon volumes for comparison. The first volume is based on the maximum volatile solids loading rate for minimum treatment (MTV), plus the anticipated manure residual volume (mrV). The second is based on the volatile solids loading rate required to control odors and is called the Odor Control Volume (OCV). Precipitation plus liquid inputs shall be added to the larger of the two volumes to arrive at the total volume of the lagoon.

Additional liquid volumes to be added to the MTV or OCV for a single stage lagoon are as follows:

1. Manure volume for storage period.
2. Manure residual volume for design period.
3. Appropriate rainfall and runoff volumes collected by the structure that are in accordance with rule 901:10-2-04(D) of the Administrative Code.

The (MTV) is determined by dividing the daily volatile solids (VS) loading by a maximum volatile solids loading rate per unit volume (MLRV) times the activity ratio, (K) for the location: $MTV=VS/(MLRV)(K)$.

The following are MLRVs to be used for design:

Swine	MLRV=0.0062 lb/ft ³ - day
Dairy	MLRV=0.0105 lb/ft ³ - day
Poultry	MLRV=0.0062 lb/ft ³ - day

The minimum manure residual accumulation period shall be 7 years, preferably 20 years, or the expected life of the facility. Manure residual volume is based on the total solids (TS) entering the lagoon multiplied by the manure residual accumulation ration (mrAR) multiplied by the number of years: $mrV = (TS/yr) \times mrAR \times YEARS$.

The following are manure residual accumulation rations (mrAR) to be used for design.

High Concentrate Rations (Swine, Beef)	mrAR=0.0485 ft ³ /lb (TS)
High Forage Rations (Dairy, Beef)	mrAR=0.0729 ft ³ /lb (TS)
Poultry	
Layers	mrAR=0.0295 ft ³ /lb (TS)
Pullets	mrAR=0.0455 ft ³ /lb (TS)

The OCV is determined by dividing the daily volatile solids (VS) loading by a standardized loading rate (LRV), times the activity ratio (K) for the location: $OCV= VS/(LRV)(K)$.

Swine	LRV=0.00378 lb/ft ³ - day
Dairy	The OCV for dairy and beef lagoons shall be equal to the MTV
Poultry	LRV=0.00253 lb/ft ³ day

Lagoon activity ratios (K) are based on lagoon reaction rates throughout the United States. Ohio Counties are listed as follows:

Findlay Area		Medina Area	
County	K value	County	K value
Allen	0.56	Ashland	0.56
Auglaize	0.57	Ashtabula	0.54
Crawford	0.56	Columbiana	0.57
Defiance	0.55	Cuyahoga	0.54
Fulton	0.54	Erie	0.54
Hancock	0.56	Geauga	0.54
Hardin	0.57	Huron	0.55
Henry	0.54	Lake	0.53
Lucas	0.54	Lorain	0.54
Marion	0.57	Mahoning	0.56
Morrow	0.57	Medina	0.55
Ottawa	0.54	Portage	0.55
Paulding	0.55	Richland	0.56
Putnam	0.56	Stark	0.56
Sandusky	0.54	Summit	0.55
Seneca	0.55	Trumbull	0.55
Van Wert	0.56	Wayne	0.56
Williams	0.54		
Wood	0.54		
Wyandot	0.56		
		Dayton Area	
		Butler	0.61
		Champaign	0.59
Coshocton Area		Clark	0.59
Belmont	0.59	Clermont	0.63
Carroll	0.57	Clinton	0.61
Coshocton	0.58	Darke	0.59
Guernsey	0.59	Fayette	0.61
Harrison	0.58	Greene	0.60
Holmes	0.57	Hamilton	0.62
Jefferson	0.58	Logan	0.58
Knox	0.58	Madison	0.59
Licking	0.59	Mercer	0.57
Monroe	0.60	Miami	0.59
Morgan	0.61	Montgomery	0.60
Muskingum	0.59	Preble	0.60
Noble	0.60	Shelby	0.58
Perry	0.60	Union	0.58
Tuscarawas	0.57	Warren	0.61
Washington	0.61		
		Chillicothe Area	
Adams	0.64	Jackson	0.63
Athens	0.62	Lawrence	0.65
Brown	0.64	Meigs	0.63
Delaware	0.58	Pickaway	0.60
Fairfield	0.60	Pike	0.63
Franklin	0.59	Ross	0.62
Gallia	0.64	Scioto	0.64
Highland	0.62	Vinton	0.62
Hocking	0.61		

TWO STAGE LAGOON/POND (sizing)

First Stage: (MTV + mrV).

Second Stage: The summation of the following:

1. MTV (Based on VS loading at the overflow or estimates of the VS loading from the first stage effluent).
2. Manure volume for storage period.
3. Manure residual volume for design period.
4. Appropriate rainfall and runoff volumes collected by the structure that are in accordance with rule 901:10-2-04(D) of the Administrative Code.

901:10-2-08

Contents of the manure management plan: inspections, maintenance and monitoring.

A manure management plan is a plan developed to minimize water pollution and protect waters of the state. The manure management plan shall include best management practices for reuse and recycling nutrients, prevent direct contact of confined animals with waters of the state, and ensure proper mortality management.

- (A) The manure management plan shall specify the frequency of inspections to be conducted by the owner or operator at the manure storage or treatment facility; and
- (B) The owner or operator shall maintain a list of equipment used, including land application equipment and a written chronological record of the dates of inspections, maintenance, calibration monitoring and repairs that shall be maintained in the operating record required by rule 901:10-2-16 of the Administrative Code and be made readily available during an inspection of the facility. These records shall also be made available at the request of the director. All repairs shall be completed promptly. The department shall inspect any major structural repairs; and
- (C) The owner or operator must periodically inspect equipment used for land application of manure, litter, or process wastewater for leaks.
- (D) At a minimum, the following must be inspected, performed, monitored or maintained at the manure storage or treatment facility and documented in the operating record:
 - (1) The operating level of manure treatment lagoons and manure storage ponds. The operating level must not exceed the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional one foot of freeboard.
 - (2) The operating level of fabricated structures must not exceed the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional six inches of freeboard, unless the fabricated structure is designed and maintained for solid manure and is not subject to precipitation.
 - (3) For paragraphs (D)(1) and (D)(2) of this rule, the maximum operating level shall not exceed that specified in the manure management plan.
 - (4) Inspect in order to confirm that domestic and industrial wastewater from showers, toilets, sinks, medical wastes, chemicals and other contaminants etc., handled on-site are not discharged into the manure storage or treatment

facility unless designed and permitted to do so.

- (5) Manure storage or treatment facilities under the control of the owner or operator shall be inspected for evidence of erosion, leakage, animal damage, cracking, excessive vegetation, or discharge.
- (6) Inspect liquid manure volume weekly and note in the operating record the level of liquid manure in manure storage or treatment facilities by the depth marker required in paragraph (D)(15) of this rule.
- (7) Document in the operating record procedures to ensure proper operation and maintenance of liquid manure in storage or treatment facilities, when manure and manure residuals are removed from the manure storage pond or manure treatment lagoon. The owner or operator shall take care to prevent damage to lagoon or pond dikes and liners when manure residuals are removed.
- (8) Inspect to determine that all stormwater conveyances are maintained to keep runoff from the surrounding property and buildings and stormwater shall be diverted away from the manure treatment lagoons and manure storage ponds to prevent any unnecessary addition to the liquid volume in these structures, unless they are designed for such runoff containment. Identify appropriate buffer strips or equivalent practices, to control runoff of manure to waters of the state, and divert clean water, as appropriate, out of the production area.
- (9) Conduct weekly inspections of stormwater or diversion devices, runoff diversion structures, devices channeling contaminated stormwater to the manure storage pond or manure treatment lagoon and note proper operation and maintenance in the operating record.
- (10) Inspect the protective vegetative cover and any other approved means or materials for erosion control to determine that cover is maintained on all disturbed areas (lagoon or pond embankments, berms, pipe runs, erosion control areas, etc.).
- (11) Ensure that any emerging vegetation such as trees, shrubs and other woody species shall not be allowed to grow on the pond or lagoon dikes or side slopes. Pond or lagoon areas are to be kept mowed and accessible unless these areas are grassed waterways or buffers that manage precipitation and runoff.
- (12) Surface water and groundwater protection.

- (a) Conduct annual sampling and analysis of ground water for nitrates and total coliform from a well as described by paragraph (A)(2)(e) or (B)(2)(d) of rule 901:10-2-03 of the Administrative Code. In the event that a well does not already exist at the facility and the operation is not an operation as described in paragraph (A)(1) of rule 901:10-2-03 of the Administrative Code or is not served by a public water system as defined by paragraph XXX of rule 901:10-1-01 of the Administrative Code, then the owner or operator shall install a well at the facility that is properly located, protected and operated. The well shall be easily accessible for sampling and have an adequate water quantity for sampling.
 - (b) The director may require additional sampling, including but not limited to, ground water samples from any additional ground water monitoring wells installed as required in paragraph (C)(2) of rule 901:10-2-03 of the Administrative Code.
 - (c) The director may require samples of manure discharges from the production area that may occur.
 - (d) The director may require monitoring or sampling, or both, of subsurface perimeter drains around manure storage or treatment facilities; and
 - (e) Results of sampling and analysis shall be documented in the operating record and, for manure discharges from the production area, results shall also be recorded in the annual report submitted to the director in accordance with rule 901:10-2-20 of the Administrative Code.
- (13) Ensure proper management of dead livestock as required by rule 901:10-2-15 of the Administrative Code to ensure that there shall be no discharge of mortality to waters of the state and no disposal in a manure storage or treatment facility that is not specifically designed to treat animal mortalities.
- (14) Inspect drinking water lines daily, including drinking water or cooling water lines that are located above ground, readily visible or accessible for daily inspections, and record in the operating record.
- (15) All liquid manure in manure storage or treatment facilities must have a depth marker or other appropriate device as approved by the director in accordance with rule 901:10-2-05 or 901:10-2-06 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the twenty-five year, twenty four hour rainfall event. In

the case of new sources subject to the requirement in paragraph (D)(1) of rule 901:10-3-06 of the Administrative Code, all open surface manure storage structures associated with such sources must include a depth marker or other appropriate device as approved by the director in accordance with rule 901:10-2-05 or 901:10-2-06 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the maximum runoff and direct precipitation associated with the design storm used in sizing the impoundment for no discharge.

- (E) The director may determine that the monitoring required in paragraphs (D)(6), (D)(14), and (D)(15) of this rule may use alternative monitoring devices. Alternative monitoring devices include, but are not limited to, sensors, remote sensors, electronic alarms, wireless receivers, other real time warning systems, or other flow control structure, or other steady state overflow structures.
- (1) The owner or operator shall identify the alternative monitoring devices in the manure management plan submitted to the director. In approving the manure management plan, the director may approve the alternative monitoring devices.
- (2) The director may notify the owner or operator in writing to cease use of alternative monitoring devices if at any time that the director or the director's representative find that the operating record and documents maintained as required by this rule contain false or misleading information.
- (F) Any deficiencies found as a result of the inspections conducted under this rule are to be corrected as soon as possible and listed in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.

901:10-2-09

Contents of manure management plan: nutrient budget.

- (A) The manure management plan shall include the nutrient budget for the land application areas and quantity of nutrients to be managed by distribution and utilization for a twelve month period as derived from rules 901:10-2-10 and 901:10-2-11 of the Administrative Code.
- (B) The total nutrient budget to be used for the land application areas under the control of the facility for the duration of the permit shall be based on the following:
- (1) Targeted crop yields based on the actual crop yields;
 - (2) Soil productivity information;
 - (3) Historical yield data.
 - (4) Potential yield; or
 - (5) Combination of yield data.
- (C) To the extent the manure is not managed through distribution and utilization, the manure management plan shall include the total summary of land application areas to be used for the duration of the permit and the land that is available for manure that is generated by the facility. The total summary shall be further characterized as follows:
- (1) The total nutrient budget requirements on land application areas under the control of the owner or operator; and
 - (2) The quantity of commercial fertilizer nutrients or residual nutrients from all sources to be applied on land application areas under the control of the owner or operator for a twelve month period.

901:10-2-10 **Contents of manure management plan: manure characterization.**

The manure management plan shall contain information on manure to allow the owner or operator to plan for nutrient utilization at recommended agronomic rates and to minimize nutrient runoff that may impact waters of the state.

(A) Manure characterization shall describe the manure by the per cent of liquid content, the per cent of solids content and/or manure density and shall follow the sampling procedures for manure sampling and analysis in "Recommended Methods of Manure Analysis" (a 3769), university of Wisconsin extension, 2003 a free copy of which can be downloaded at <http://learningstore.uwex.edu/>. For an existing facility that will continue to have similar manure storage or treatment facilities with no change in treatment technology, the manure shall be characterized utilizing an actual sample from the facility. If the owner or operator is proposing a new facility, new manure storage or treatment facility, or a change in treatment technology, then the manure shall be characterized by using the table appended to this rule or by utilizing a representative analysis from a similar type facility with a similar type of manure storage or treatment facility to characterize manure, the owner or operator shall submit this alternative manure data along with the identification of the source of the data. Manure characterization shall include the following:

(1) Total manure production quantified:

- (a) Pounds per day; or
- (b) Tons per year; or
- (c) Cubic yards per day; or
- (d) Gallons per day.

(2) Nutrient content quantified:

- (a) Pounds per day; and/or
- (b) Pounds per ton; or
- (c) Pounds per one thousand gallons.

(B) The manure management plan shall contain an estimate, supported by calculations of the quantity and total nutrient content of manure produced, stored and treated during a twelve month period along with a schedule for manure removal or manure

transfer for purposes of land application. Manure may be removed based on results of inspections conducted pursuant to paragraph (A)(4)(f) of rule 901:10-2-08 of the Administrative Code or in accordance with distribution and utilization methods.

- (C) At a minimum, manure from each manure storage or treatment facility shall be analyzed annually for the following: total nitrogen; ammonium nitrogen; organic nitrogen; phosphorus; potassium; and per cent total solids.
- (D) In addition to the minimum requirements for annual manure analysis in paragraphs (A) to (C) of this rule, any manure with wastes that are process waste water, shall be characterized annually by the owner or operator by utilizing an actual sample from the facility, provided, however that for a permit to install application as required by paragraph (C) of rule 901:10-2-01 of the Administrative Code or for an operational change to be made to the manure management plan in accordance with rule 901:10-1-09 of the Administrative Code, the owner or operator may utilize a sample from a similar facility or by relying upon on existing published or documented data.
- (E) Results of analyses and estimates conducted in paragraphs (A) to (D) of this rule shall be recorded in the operating record and shall be submitted as part of the annual report to the director required by rule 901:10-2-20 of the Administrative Code. Results of the manure analysis conducted in paragraph (C) of this rule shall be recorded in the operating record.
- (F) After conducting manure analysis required in paragraph (C) of this rule, the owner or operator may request approval from the director for a major operational change to reduce the number of samples needed to be representative of each manure storage and treatment facility and to utilize composite sampling and analysis. The director may approve a request provided all of the following apply:
 - (1) The owner or operator submits a written request to the director along with copies of manure analyses from manure storage or treatment facilities from the same permitted facility;
 - (2) Manure analyses for three consecutive years demonstrate that analytical results are the same or similar for a twelve month period for each manure storage or treatment facility at the permitted facility; and
 - (3) The owner or operator acknowledges that the director may notify the owner or operator in writing that the owner or operator shall comply with paragraph (C) if at any time the director or the director's representative find that composite sampling is no longer representative for reasons that include, but

are not limited to:

- (a) Changes in feed and feed rations;
 - (b) Age, size, or type of animals;
 - (c) Changes in clean out times;
 - (d) Changes in building design, such as changes in ventilation;
 - (e) Changes due to diseases and actions taken to eliminate disease.
- (G) The manure management plan shall contain information on manure to allow the owner or operator or the person accepting manure under rule 901:10-2-11 of the Administrative Code to plan for nutrient utilization.

Appendix to rules 901:10-2-04 and 901:10-2-10:

Daily manure production and characteristics, as-excreted (per head per day)^a

Values are as-produced estimations and do not reflect any treatment. Use these values only for planning purposes. The actual characteristics of manure for individual situations can vary $\pm 30\%$ or more from table values due to genetics, dietary options and variations in feed nutrient concentration, animal performance, and individual farm management.

Animal	Size ^a (lbs)	Total Manure ^b			Water ^c %	Density ^c (lb/ft ³)	TS ^d (lb/day)	VS ^c (lb/day)	BOD ₅ (lb/day)	Nutrient Content		
		lbs	ft ³	gal						(lbs N) ^d	(lbs P ₂ O ₅) ^d	(K ₂ O)
Dairy												
Calf	150	12	0.18	1.38	88	65	1.4	1.2	0.19	0.06	0.01 ^c	0.05
	250	20	0.31	2.30	88	65	2.4	2.0	0.31	0.11	0.02 ^c	0.09
Heifer	750	45	0.70	5.21	88	65	6.7	5.7	0.69	0.23	0.08 ^c	0.23
	1,000	60	0.93	6.95	88	65	8.9	7.6	0.92	0.30	0.10 ^c	0.31
Lactating cow	1,000	111	1.79	13.36	88	62	14.3	12.1	1.67	0.72	0.37 ^c	0.40
	1,400	155	2.5	18.70	88	62	20.0	17.0	2.34	1.01	0.52 ^c	0.57
Dry cow	1,000	51	0.82	6.14	88	62	6.5	5.5	0.75	0.30	0.11 ^c	0.24
	1,400	71	1.15	8.60	88	62	9.1	7.7	1.04	0.42	0.15 ^c	0.33
	1,700	87	1.40	10.45	88	62	11.0	9.3	1.27	0.51	0.18 ^c	0.40
Veal	250	6.6	0.11	0.79	96	62	0.26	0.11	0.04	0.03	0.02	0.05 ^d
Beef												
Calf (confinement)	450	48	0.76	5.66	92	63	3.81	3.20	1.06	0.20	0.09	0.16
	650	69	1.09	8.18	92	63	5.51	4.63	1.54	0.29	0.13	0.23
Finishing	750	37	0.59	4.40	92	63	2.97	2.42 ^d	0.60	0.27	0.08	0.17
	1,100	54	0.86	6.46	92	63	4.35	3.55 ^d	0.89	0.40	0.12	0.25
Cow (confinement)	1,000	92	1.46	10.91	88	63	11.0	9.38	2.04	0.35	0.18	0.29
Swine												
Nursery	25	1.9	0.03	0.23	89	62	0.21	0.17	0.06	0.02	0.01	0.01
	40	3.0	0.05	0.37	89	62	0.33	0.27	0.10	0.03	0.01	0.02
Finishing	150	7.4	0.12	0.89	89	62	0.82	0.65	0.23	0.09	0.03	0.04
	180	8.9	0.14	1.07	89	62	0.98	0.78	0.28	0.10	0.04	0.05
	220	10.9	0.18	1.31	89	62	1.20	0.96	0.34	0.13	0.05	0.06
	260	12.8	0.21	1.55	89	62	1.41	1.13	0.41	0.15	0.05	0.08
	300	14.8	0.24	1.79	89	62	1.63	1.30	0.47	0.17	0.06	0.09
Gestating	300	6.8	0.11	0.82	91	62	0.61	0.52	0.21	0.05	0.03	0.04
	400	9.1	0.15	1.10	91	62	0.82	0.70	0.28	0.06	0.04	0.05
	500	11.4	0.18	1.37	91	62	1.02	0.87	0.35	0.08	0.05	0.06
Lactating	375	17.5	0.28	2.08	90	63	1.75	1.58	0.58	0.17	0.11	0.13
	500	23.4	0.37	2.78	90	63	2.34	2.11	0.78	0.22	0.15	0.18
	600	28.1	0.45	3.33	90	63	2.81	2.53	0.93	0.27	0.18	0.21
Boar ^c	300	6.2	0.10	0.74	91	62	0.57	0.51	0.20	0.04	0.03	0.03
	400	8.2	0.13	0.99	91	62	0.75	0.67	0.26	0.06	0.05	0.05
	500	10.3	0.17	1.24	91	62	0.94	0.84	0.33	0.07	0.06	0.06
Sheep												
Feeder lamb ^c	100	4.1	0.06	0.5	75	63	1.05	0.91	0.10	0.04	0.02	0.04
Poultry												
Laver	3	0.15	0.002	0.017	75	65	0.037	0.027	0.008	0.0026	0.0008	0.0012
Broiler	2	0.19	0.003	0.023	74	63	0.050	0.038	0.011	0.0021	0.0014	0.0010
Turkey (female)	10	0.47	0.007	0.056	75	63	0.117	0.088	0.034	0.0078	0.0051	0.0034

Turkey (male)	20	0.74	0.012	0.088	75	63	0.186	0.139	0.054	0.0111	0.0074	0.0048
Duck	4	0.44	0.007	0.053	73	62	0.118	0.089	0.016	0.0043	0.0034	0.0026
Horse												
Sedentary	1,000	54.4	0.88	6.56	86 ^d	62	7.61	6.5	1.52	0.18	0.06	0.06 ^d
Intense Exercise	1,000	55.5	0.90	6.70	86 ^d	62	7.78	6.6	1.56	0.30	0.15	0.23 ^d

TS = total solids; VS = volatile solids; BOD₅ = the oxygen used in the biological oxidation of organic matter in 5 days at 68F, which is an industry standard that shows wastewater strength.

^a Use linear interpolation to obtain values for weights not listed in the table.

^b Calculated using TS divided by the solids content percentage.

^c Based on MidWest Plan Service historical data.

^d Values calculated or interpreted using diet based formulas being considered for ASAE Standard D384: Manure Production and Characteristics

Source: MWPS-18 (2) Manure Characteristics (2005). Mid West Plan Service, Iowa State University: Ames, IA

901:10-2-11

Contents of manure management plan: distribution and utilization methods.

(A) If the owner or operator elects to use distribution and utilization methods, for any quantity of manure that is not managed under the control of the owner or operator, the following is required:

(1) If the owner or operator decides to use livestock manure brokers or auctions or farm sales for distribution and utilization, the owner or operator shall submit distribution and utilization methods for the beneficial use of the manure as part of the manure management plan as required by rule 901:10-2-09 of the Administrative Code. The permitted facility operating record shall include copies of the acknowledgments between the owner and operator of the facility and livestock manure brokers made pursuant to auctions or farm sales. The facility operating acknowledgment shall include the following statement:

"I have been provided with a copy of the analytical results that list the nutrient content of the manure and total quantities of manure and copies of the applicable requirements of rule 901:10-2-14 of the Administrative Code. The manure will be distributed and utilized according to the best management practices and according to any state laws regulating these uses."

(2) If the owner or operator decides to use distribution and utilization methods then the owner or operator shall provide a copy of appendices A and F to rule 901:10-2-14 of the Administrative Code, and a copy of the most recent analytical results that list the nutrient content of the manure based on an analysis consistent with the rules to the manure recipient. The permitted facility operating record shall include the name and address of the manure recipient, the date of distribution, and the approximate amount of manure in tons or gallons distributed on that date and an acknowledgment by the manure recipient as follows:

"I have been provided with a copy of the analytical results that list the nutrient content of the manure and total quantities of manure and copies of the applicable requirements of rule 901:10-2-14 of the Administrative code. The manure will be distributed and utilized according to the best management practices and according to any state laws regulating these uses."

(3) In addition to the information in paragraph (A)(2) of this rule, if the owner or operator decides to use distribution and utilization methods for liquid manure, then the owner or operator shall also provide a copy of appendix B, the available water capacity chart that illustrates how to comply with the requirements of rule 901:10-2-14 of the Administrative Code.

(B) All of the information in paragraphs (A)(1) to (A)(3) of this rule shall be recorded in

the operating record as described in rule 901:10-2-16 of the Administrative Code.

- (C) An estimated amount of total manure transferred to other persons by the owner or operator in the previous twelve months (tons/gallons) shall be reported in the annual report required by rule 901:10-2-20 of the Administrative Code, as well as the operating record.

- (D) If the owner or operator is notified by the director, or otherwise becomes aware that the recipient is not in compliance with rule 901:10-1-06 of the Administrative Code or best management practices set forth in Chapter 1501:15-5 of the Administrative Code or with other applicable laws and rules, the owner or operator shall cease providing manure to the recipient until written authorization to continue is provided by the department.

901:10-2-12

Contents of manure management plan: methods to minimize odors.

A manure management plan shall include best management practices to minimize odors. These best management practices shall be identified in the manure management plan and shall be compatible with the overall content of the manure management plan. These best management practices may include, but is not limited to, the following:

- (A) Remove, transfer and land apply manure at optimum temperatures;
- (B) Remove, transfer and land apply manure when wind direction is less likely to affect neighboring residences;
- (C) Promptly inject or incorporate manure to minimize odors; or
- (D) If manure is applied by spray irrigation, use appropriate pressure and nozzles.
- (E) Additional controls on odor are included in the appendix to rule 901:10-2-06 of the Administrative Code. The information appended to rule 901:10-2-06 of the Administrative Code includes manure storage or treatment facilities that control and promote additional treatment reduction of odor.

901:10-2-13

Contents of manure management plan: soil characterization.

The manure management plan shall contain information on the soil of the land application areas. Soil samples shall be analyzed to plan for nutrient utilization at recommended agronomic rates and to minimize nutrient runoff to waters of the state. Soil shall be sampled and analyzed by utilizing the following procedures:

- (A) At a minimum, soil samples shall be taken to a uniform depth of eight inches and the fertility analysis shall include: pH, phosphorus, potassium, calcium, magnesium and cation exchange capacity.
- (B) Soil fertility analysis shall be conducted in accordance with Publication 221, "Recommended Chemical Soil Test Procedures for the North Central Region; Published by the North Central Regional Committee on Soil Testing and Plant Analysis (NCR-13), North Dakota Agricultural Experiment Station." A copy of which may be downloaded at: <http://www.beposphorusmart.msu.edu/>.
- (C) Soil samples shall be representative of a land application site with one composite soil sample representing no more than twenty-five acres or one composite soil sample for each land application site, whichever is less.
- (D) The manure management plan shall specify the soil sampling frequency in accordance with the following requirements:
 - (1) A site that receives manure shall be soil tested, at a minimum, once every three years and
 - (2) If any land application site is used by the owner or operator the land application site shall be sampled at least six months following application.
- (E) Results of the soil sampling events in paragraphs (A) to (D) of this rule shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code and shall include the location of the soil sample collection site, the depth of the sample collected and the analysis.
- (F) In developing appropriate manure application rates for land application methods in accordance with rule 901:10-2-14 of the Administrative Code, the owner or operator shall use the Bray P1 soil test level or equivalent appropriate phosphorus soil test, (Mehlich III, Olsen, phosphorus retention test), or other test methods approved by the director. The owner or operator shall choose a phosphorus soil test method and identify the selected method in the manure management plan.

901:10-2-14

Contents of manure management plan: land application methods.

This rule establishes best management practices that govern land application of manure on land application areas. The land application of manure at each land application area shall be conducted to utilize nutrients at agronomic rates, and to minimize nutrient runoff to waters of the state and shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code. The discharge of manure to waters of the state from a facility as a result of application of that manure by the facility to land application areas is a discharge from that facility subject to NPDES requirements except where it is an agricultural stormwater discharge. Where manure has been applied in accordance with this rule and an approved manure management plan, a precipitation-related discharge of manure from land application areas is agricultural stormwater discharge.

(A) The manure management plan shall contain procedures on how manure shall be transported to land application areas in a manner that minimizes loss or spillage, and how spills will be promptly cleaned up or removed.

(B) Manure application rate - testing criteria:

(1) The manure application rate shall be based on the land application area's soil tests conducted in accordance with rule 901:10-2-13 of the Administrative Code and that are no older than three years.

(2) The manure application rate shall be based on the most current manure test results conducted in accordance with rule 901:10-2-10 of the Administrative Code. The manure test results expressed as a nutrient percentage shall be converted into either pounds per ton of dry or wet manure or pounds per one thousand gallons of liquid manure.

(C) General criteria for manure application. The manure application rate shall be based on the most limiting factor of rates derived from paragraphs (B) to (G) of this rule, including factors derived from all appendices to this rule, whichever factor is determined to be the most restrictive factor for purposes of protecting waters of the state.

(1) For liquid manure:

(a) The crop nitrogen requirements or removal of nitrogen described in paragraph (D) of this rule, expressed in thousands of gallons of manure per acre;

(b) The phosphate application limits as described in paragraph (E) of this rule, expressed in thousands of gallons of manure per acre;

- (c) The restrictions on the rate of liquid manure applied, taken from notes (1) and (5) in appendix A table 2 to this rule, with volume expressed as a measure of gallons per acre or inches per acre;
 - (d) The application rate shall not exceed the available water capacity of the soil as described in appendix B to this rule;
 - (e) The application rate shall be adjusted to preclude surface ponding and/or runoff from a land application area.
- (2) For solid manure:
- (a) The crop nitrogen requirements or removal of nitrogen as described in paragraph (D) of this rule expressed in pounds per ton of dry manure per acre;
 - (b) The phosphate application limits as described in paragraph (E) of this rule expressed in pounds per ton of dry manure per acre;
 - (c) The restrictions on the rate of solid manure applied, taken from notes (1) and (5) in appendix A table 2 to this rule with volume expressed as a measure of tons/acre.
- (3) All land applications of manure shall comply with all restrictions contained in appendix A to this rule unless a compliance alternative is submitted and approved by the director. As a compliance alternative, the concentrated animal feeding operation or certified livestock manager may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the one hundred foot setback or a thirty five foot vegetated buffer. As a compliance alternative, the concentrated animal feeding facility or certified livestock manager may demonstrate that a soil listed in appendix A, table 1 to this rule is not prone to flooding in a particular county in which land applications of manure are planned, through reference to the current United States department of agriculture, natural resources conservation service, web soil survey for the county.

Comment: The natural resources conservation service and the Ohio state university have conducted extensive research on manure injection and manure incorporation on all representative Ohio soil types. Refer to "United States Department of Agriculture - Natural Resource Conservation Service.

Field Office Technical Guide - Conservation Practice Standard 633. Columbus, Ohio, June 2003." A copy is available for review at the Ohio department of agriculture website <http://agri.ohio.gov/>.

- (4) For all land application of liquid manures, the owner or operator shall maintain or have access to methods or devices to capture or stop subsurface drain flow if liquid manure reaches the subsurface drain outlets. Use of drain outlet plugs or other devices shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.
 - (5) Calculate the total amount of nitrogen and phosphate to be applied to each field, including sources other than manure such as commercial fertilizer or other organic by-products.
 - (6) Land application of manure by means of surface application shall not occur if the forecast contains a greater than fifty per cent chance of precipitation as determined in "Managing Manure Nutrients at Concentrated Animal Feeding Operations, Appendix M, United States Environmental Protection Agency, EPA-821-B-04-006, August 2004," exceeding an amount of one-quarter inch for hydrologic soil group D soils and one-half inch for hydrologic soil group A, B, and C soils, for a period extending twenty-four hours after the start of land application. Record weather conditions in the operating record for conditions at the time of application and for twenty-four hours prior to and following application. A copy is available for review at the Ohio department of agriculture website <http://agri.ohio.gov/>.
- (D) The manure application rate for nitrogen shall be based on the following criteria:
- (1) The application rate for nitrogen shall be based on utilization of crops at the recommended agronomic rates and based on minimum runoff and leaching that may impact waters of the state.
 - (2) In determining the agronomic rate for nitrogen, the owner or operator shall do the following:
 - (a) Determine the nitrogen requirements or removal rates for the realistic yield goal of planned crops using nutrient amounts from appendix C, tables 1, 2 or 3 to this rule.
 - (b) Subtract the nitrogen credit for crop residue, legumes, and other sources of nitrogen to be given to the next crop in accordance with values for previous crops given in appendix C, table 4 to this rule;

- (c) When applying nitrogen to a grass or legume cover crop that is growing or being established immediately after manure application, manure can be applied at the recommended nitrogen rate for the next non-legume crop or the nitrogen removal rate for the next legume crop.
 - (3) In determining how to minimize nitrogen leaching that may impact waters of the state, the owner or operator shall do the following:
 - (a) Assess each land application area with the Ohio nitrogen leaching risk assessment procedure contained in appendix C, table 5 to this rule;
 - (b) If the nitrogen leaching risk assessment procedure completed in accordance with paragraph (D)(3)(a) of this rule demonstrates that the land application site has a high nitrogen leaching potential and no growing crop, then application of manure shall be limited to fifty pounds of nitrogen per acre calculated at the time of application prior to October first.
 - (4) In calculating the actual rate of application of nitrogen from manure, the figures in appendix C, table 6 to this rule shall be used along with the manure test results conducted according to rule 901:10-2-10 of the Administrative Code.
 - (5) The requirements of paragraph (D) of this rule may be changed only if the owner or operator can demonstrate to the director nutrient insufficiency in accordance with the presidedress nitrate soil test procedures of tables 7 and 8 in appendix C to this rule.
- (E) The manure application rate for phosphate shall be determined using the soil test analysis obtained pursuant to rule 901:10-2-13 of the Administrative Code and the following criteria:
- (1) Prior to the land application of manure, land application areas shall be assessed with either the phosphorus index risk assessment procedure in appendix E, table 1 to this rule or the phosphorus soil test risk assessment procedure in appendix E, table 2 to this rule. The manure application rate for phosphate shall be limited in compliance with the applicable provision in the:
 - (a) Generalized interpretation of phosphorus index and management column in appendix E, table 1, to this rule, or
 - (b) The application criteria in appendix E, table 2, to this rule.

- (2) The phosphate requirements for the realistic yield goals of planned crops, crop rotations, and/or plant biomass shall be determined using amounts from appendix C, table 1 to this rule;
 - (3) Phosphate applications between two-hundred fifty pounds per acre and five hundred pounds per acre are not recommended but may be made if the values for liquid manure exceed sixty pounds phosphate per one thousand gallons and if the values for solid manure exceed eighty pounds phosphate per ton and application is subject to these additional requirements:
 - (a) No manure application shall occur on land with soil tests that exceed more than one hundred parts per million Bray P1;
 - (b))No manure application shall occur on frozen or snow-covered ground;
 - (c) The manure shall be incorporated within twenty-four hours;
 - (d) No additional phosphate application shall be made for a minimum of three years on fields with soil tests that measure less than forty parts per million Bray P1 or equivalent; and
 - (e) No additional phosphate application shall be made for a minimum of five years on fields with soil tests between forty and one-hundred parts per million Bray P1 or equivalent.
 - (4) Notwithstanding the procedures in paragraph (E) of this rule but subject to the restrictions in appendix B to this rule, for a single phosphate application in a year, the application rate shall not exceed five hundred pounds per acre of phosphate.
- (F) Land application for crops or other uses not listed in appendix C to this rule will be considered on a case-by-case basis. The owner or operator shall submit existing published or documented data that is acceptable to the director.
- (G) General criteria for frozen and snow-covered ground. In addition to complying with all of the criteria in paragraphs (A) to (F) of this rule, the following actions are required for surface application of manure to land with frozen or snow-covered ground.

If manure can be injected or incorporated then the land application site is not frozen or snow covered and therefore subject to paragraphs (A) to (F) of this rule.

The owner or operator shall comply with rule 901:10-2-08 of the Administrative Code and this rule and use best efforts to avoid surface application of manure to frozen or snow covered ground by ensuring enough manure storage capacity by November of each year for a minimum of one hundred twenty to one hundred eighty days.

Manure injection or manure incorporation performed within twenty-four hours at the land application site is the preferred alternative to surface application of manure. Solid manure with less than fifty per cent moisture shall be stockpiled at the land application site in lieu of manure application on frozen or snow covered ground.

Surface application of manure on frozen or snow-covered ground is prohibited unless performed in accordance with all of the following requirements in paragraph (G)(1) of this rule.

(1) Application.

- (a) Prior approval for each surface application of manure shall be obtained from the director or his designated representative.
- (b) Except as required by paragraph (G)(1)(g) of this rule, the application rate is limited to ten wet tons per acre for solid manure with more than fifty per cent moisture.
- (c) Except as required by paragraph (G)(1)(g) of this rule, the application rate is limited to five thousand gallons per acre for liquid manure.
- (d) Applications are to be made on land with at least ninety per cent surface residue cover at the time of application such as good quality hay or pasture field, all corn grain residue remaining after harvest, and all small grain residue cover remaining after harvest. Vegetation or residue shall not be completely covered by ice or snow at the time of application.
- (e) Manure ponding shall be prevented.
- (f) Manure shall not be applied on more than twenty contiguous acres. Contiguous areas for application are to be separated by a break of at least two hundred feet. Areas that are furthest from streams, ditches, waterways, and/or surface waters are to be utilized in preference to areas with the potential for surface water runoff.

- (g) Setbacks from surface waters and conduits to surface waters, (including grassed waterways and surface drains) shall be a minimum of two hundred feet. Setbacks shall have at least ninety per cent surface residue cover and vegetation or residue shall not be completely covered by ice or snow at the time of application.
- (h) For application fields with slopes greater than six percent, manure shall be applied in alternating strips sixty to two hundred feet wide generally on the contour, or in the case that the field is managed in contour strips with alternative strips in grass or legume, manure shall only be applied on alternative strips. Manure application rates shall be determined for each separate application strip area and not the area of the entire application field.
- (i) Any manure application with phosphorus exceeding two hundred and fifty pounds per acre is prohibited.

(2) Monitoring.

- (a) Concentrated field surface drainage and tile outlets shall be visually monitored at the conclusion of manure application and periodically afterwards when weather, temperature increase, snowmelt and rainfall are likely to produce manure runoff. Periodic visual monitoring shall continue until manure is assimilated into the application field and is no longer likely to discharge into waters of the state.
- (b) Upon discovering a discharge to waters of the state, the owner or operator shall notify the department within two hours of detection of the runoff event.
- (c) In addition to the visual monitoring and reporting in this paragraph, the owner or operator shall collect representative grab samples from the discharges of land applied manure into waters of the state at the point that the discharge enters waters of the state (i.e. concentrated field surface runoff or field tile outlet discharge prior to entrance to surface waters) and have the sample analyzed for ammonia nitrogen levels.
- (d) The owner or operator shall:
 - (i) Collect the sample within thirty minutes of the first knowledge of the discharge; or

- (ii) If the sampling in that period is inappropriate due to dangerous weather conditions, the owner or operator shall collect the sample as soon as possible after suitable conditions occur and shall document the reason for delay.

- (e) The owner or operator shall report the results of the discharge event to the department within fourteen days of occurrence. The report shall, at a minimum, contain the sample results, describe the reason for the discharge, the location, estimate of quantity and duration of the discharge, and duration of the precipitation leading up to the event, any measures taken to clean up and eliminate the discharge, and copies of land application records. Laboratory results not available at the time of the report submitted shall be submitted to the department within five days of receipt.

- (f) If the ammonia nitrogen level in a water quality sample is determined to be twenty-six mg/L or greater in the discharge at the point it enters waters of the state, then additional surface application of manure to frozen and/or snow covered ground is prohibited on the field where the runoff event occurred.

- (g) In the event that an owner or operator complies with all of the requirements of paragraph (G) of this rule and runoff enters waters of the state resulting in ammonia nitrogen level in a sample determined to be twenty-six mg/L or greater in three application events authorized in accordance with paragraph (G)(1)(a) of this rule, then additional surface application of manure to frozen and/or snow covered ground shall be prohibited for the duration of the permit.

- (h) In the event that the owner or operator fails to comply with the land application requirements for frozen or snow covered ground, including but not limited to prior notice, and approval for each application pursuant to paragraph (G)(1)(a) of this rule, notice of discharge, monitoring and record keeping, for more than two surface land application events, then land application on any frozen or snow-covered ground shall be prohibited for that owner or operator for the duration of the permit upon receipt of a third notice of deficiencies resulting in noncompliance pursuant to section 903.17 of the Revised Code.

Appendix A to rule 901:10-2-14: How to Use the Appendices to this Rule.

Refer to Appendix A, Tables 1 and 2 - Soils Prone to Flooding through Appendix F, Most Limiting Manure Application Rates of rule 901:10-2-14 of the OAC.)

1. Determine if the site has soils that are prone to flooding and when the expected flooding seasons are (Appendix A, Table 1). Note that applications can only be made to soils prone to flooding at times outside the predicted flooding season. All applications to soils prone to flooding must be incorporated within 24 hours and must follow the setbacks in Appendix A, Table 2.
2. Determine if a solid or liquid manure application will be performed. Determine if solid manure will be stockpiled at the land application site. Stockpiles must meet the setbacks described in column 1 of Appendix A Table 2.
3. For liquid manure applications, follow Appendix B, Available Water Capacity Chart, and Appendix F, Most Limiting Manure Application Rates Chart (Table 1 - tilled fields, Table 2 - non-tilled fields). For solid manures, follow Appendix F, Most Limiting Manure Application Rates Chart.
4. Determine the nutrient removal for the expected cropping sequence using Appendix C, Tables 1-3. Determine residual nitrogen credits for the expected cropping sequence using Appendix C, Table 4.
5. Determine the nitrogen leaching potential of the field based on Appendix C, Table 5, Nitrogen Leaching Assessment Procedure. Note that all tilled fields have a high nitrogen leaching potential. High nitrogen leaching potential fields must have application rates less than or equal to 50 lb/ac as applied nitrogen (calculated by adding NH₄-N to 1/3 Organic N) from June - October 1st unless the field has a cover crop planted.
6. Use the current manure analysis and the relevant sections of Appendix C Tables 6-7 through Appendix D, Tables 1-5 to determine the amount of manure nutrients available for crop production.
7. Use Appendix E, Table 1 (P-Index) if the Bray P1 or equivalent value of the soil test is over 150 ppm. P-Index may only be relied upon for a transitional period of time to allow the owner or operator an opportunity to find other fields or other methods to distribute nutrients from of the facility in order to achieve less than 150 ppm Bray P1 soil test method.
8. Use Appendix F, Most Limiting Manure Application Rates Chart, Nitrogen, P₂O₅, K₂O, Rate (tons or gallons per acre), or Available Water Capacity to determine the application rate. The selected application rate must be the most restrictive of the five "Limiting Application Rate Criteria" for each Field Situation & Time of Year.

Other Notes:

9. When using Appendix F, although not recommended, Phosphate manure application rates can be made between 250-500lb/ac/yr in cases where liquid manure exceeds 60 lbs. P₂O₅ per 1000 gallons or solid manure that exceed 80 lbs. P₂O₅ per ton. The following criteria also apply: manure must be incorporated within 24 hours and no applications can be made on either frozen or snow covered ground or fields with soil tests over 100 ppm Bray P1; soil tests less than 40 ppm Bray P1 shall have no further P additions for 3 years; soil tests between 40 – 100 ppm Bray P1 shall have no further additions of P for 5 years; no other limiting criteria can be violated.
10. When using legumes as a nitrogen removal source, the maximum legume nitrogen removal must be less than or equal to 150 lbs./ac.
11. When applying liquid manure to tilled fields, the following criteria must be followed (except for growing crops):
 - 11a. Applications must be less than or equal to 0.5" or 13,576 gal/ac.

- 11b. Use a tool (AERWAY tool or similar tool) that can disrupt/close (using horizontal fracturing) the preferential flow paths in the soil, or till the surface of the soil 3-5" deep to a seedbed condition to soak up the liquid manure and keep it out of preferential flow channels.
 - 11c. If injection is used, it should only be deep enough to cover the manure with soil. Till the soil at least 3" below the depth of injection prior to application. Tillage prior to application will be considered incorporation of the manure.
 - 11d. The outlets must be monitored before, during, and after application AND provisions planned to plug the tile or capture the tile flow if liquid manure reaches the tile outlets. If No-till or pastures are used for applications, tiles must be plugged.
12. If manure is to be applied on frozen or snow covered ground, the field must have at least 90% surface residue cover (e.g. good quality hay or pasture field, all corn grain residue). For applications to or frozen or snow covered ground, manure shall not be applied on more than 20 contiguous acres. Contiguous areas for application are to be separated by a break from streams, ditches, waterways, surface water, etc. (areas that present the least runoff potential and are furthest from surface water The setbacks in column 3 should be followed. Prior approval must be obtained from the ODA, Livestock Environmental Permitting Program before frozen or snow/ice covered ground surface manure applications. If manure can be incorporated within 24 hours on frozen ground, approval from ODA, Livestock Environmental Permitting Program is not required.
13. For surface manure applications, follow the setbacks in column 2. For incorporation within 24 hours or injection, follow the setbacks in column 4.

APPENDIX A, TABLE 1 - SOILS PRONE TO FLOODING

SOILS	MONTHS	COMMENT
Abscota Variant	Feb-Jun	
Adrian	Nov-May	
Aetna	Dec-Jun	
Alqansee	Nov-May	
Algiers	Dec-Jun	Frequently flooded
Alluvial land	Nov-Dec	Occasionally flooded
Alluvial land	Jan-Dec	Long duration
Ashton	Dec-May	Very long duration
Beaucoup	Mar-Jun	
Bonnie	Oct-Jun	
Brookston	Dec-May	
Carlisle	Nov-May	
Ceresco	Mar-May	
Chagrin	Nov-May	
Chavies	Nov-Mar	
Clifty	Nov-May	
Coblen	Nov-Jun	
Cohoctah	Nov-Apr	
Cuba	Jan-May	
Defiance	Jan-May	
Edwards	Sep-May	
Eel	Oct-Jun	
Eel Variant	Jan-May	
Elkinsville	Jan-Dec	
Euclid	Dec-Jun	
Fitchville	Dec-Jun	
Flatrock	Dec-Apr	
Flatrock, limestone substratum	Nov-Apr	
Fluvaquents	Nov-Jun	
Genesee	Oct-May	
Genesee Variant	Jan-May	
Gessie	Oct-May	
Glendora	Jan-Dec	
Grigsby	Dec-Apr	
Hackers	Jan-Apr	
Harrod	Nov-Jun	
Hartshorn	Nov-May	
Haymond	Dec-May	
Holly	Sep-May	Frequently flooded very long duration
Holly	Nov-May	
Holton	Dec-Jun	
Huntington	Dec-May	
Joliet	Apr-Jun	
Jules	Mar-Jun	
Kerston	Mar-May	
Killbuck	Jan-Dec	
Kinn	Dec-Apr	

SOILS	MONTHS	COMMENT
Knoxdale	Dec-Apr	
Kyger	Nov-May	
Landes	Jan-Jun	
Landes Variant	Nov-Jun	
Lanier	Nov-Jun	
Latty	Jan-May	
Lenawee	Mar-May	
Lindside	Dec-Apr	
Linwood	Nov-Jun	
Lobdell	Jan-Apr	Frequently flooded
Lobdell	Nov-Apr	
Martinsville	Jan-Apr	
Martisco	Mar-Jun	
McGary Variant	Jan-Dec	
Medway	Nov-Jun	
Medway Variant	Nov-May	
Medway, limestone substratum	Nov-Dec	
Melvin	Sep-May	Frequently flooded long duration
Melvin	Dec-May	
Mentor	Jan-Dec	
Millgrove	Nov-Jun	
Montgomery	Nov-May	
Moshannon	Dec-May	
Muskego	Nov-May	
Newark	Dec-Apr	
Newark Variant	Jan-Apr	
Nolin	Feb-May	
Nolin Variant	Feb-Apr	
Olentangy	Nov-Dec	
Orrville	Nov-May	
Otego	Nov-Dec	
Papakating	Nov-Jun	
Patton	Jan-Dec	
Peoga	Jan-Dec	
Pewamo	Mar-Apr	
Philo	Dec-May	
Piopolis	Mar-Jun	
Pope	Nov-Apr	
Rockmill	Sep-Jun	
Romeo	Mar-Jun	
Ross	Nov-Jun	
Rosburg	Nov-Jun	
Sarahsville	Dec-May	
Saranac	Nov-May	
Scioto	Nov-Jun	
Sebring	Nov-Jun	Occasionally flooded
Senecaville	Dec-Apr	
Sepernick	Nov-Jun	
Shoals	Oct-Jun	
Shoals Variant	Nov-May	Used in Miami, Putnam, and Richland Counties
Shoals Variant	Oct-June	Used in Champaign County

SOILS	MONTHS	COMMENT
Shoals, Till Substratum	Nov-Dec	
Skidmore	Dec-May	
Sligo	Mar-Apr	
Sloan	Nov-Jun	
Sloan, Till Substratum	Nov-Dec	
Stanhope	Nov-Dec	
Stendal	Jan-May	
Stone	Nov-Jun	
Stonelick	Nov-Jun	
Stringley	Nov-Jun	
Taggart	Jan-Dec	
Tioga	Nov-May	
Tioga Variant	Jan-Apr	
Toledo	Nov-May	
Tremont	Jan-Dec	
Wabash	Nov-May	
Wabasha	Sep-Jun	
Wakeland	Jan-May	
Wallkill	Sep-Jun	
Wappinger	Jan-Dec	
Warsaw Variant	Jan-May	
Wayland	Nov-Jun	
Wick	Oct-Jun	
Wilbur	Oct-Jun	
Willette	Nov-Dec	
Zipp	Dec-May	

As a compliance alternative pursuant to rule 901:10-2-14(C)(3) of the Administrative Code, a concentrated animal feeding facility or certified livestock manager may demonstrate that a soil listed above is not prone to flooding in a particular county in which land applications of manure are planned, though reference to the current United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey for the county.

Appendix A Table 2 to rule 901:10-2-14: Land application restrictions and setbacks

Land Application Restrictions

	1	2	3	4
	Staging Areas and Stockpiles (10)	Surface Application	Winter Applications Frozen or Snow Covered Ground (1)	Surface Incorporation within 24 Hours OR Direct Injection
Class V wells and sinkholes	300'	300'	300'	100'
Surface Waters of the State (7)	300'	35' veg. cover, 100' (2)	35' veg. cover, 200' (8)	35' veg. cover, 100' (2)
Wells	300'	300'	300'	100'
Bedrock	> 3' from bedrock	none	none	none
Public Surface Drinking Water Intake	1500'	300'	300'	300'
Springs	300'	300'	300'	300'
Neighboring residences	500'	300'	300'	100'
Flooding, Flood Plains, and Floodways (3)	do not stockpile	do not apply	do not apply	permissible (3)
Slope (4)	0-6%	If >15% see (5)	If > 6% see (1)	If >15% (5)
Field Surface Furrows (6)	300'	35' veg. cover 100' (2) or 35' (9)	200'	none
Maximum Application Rate	Liquid Manure- Based on Appendix B (AWC Chart) & Appendix F (Most Limiting Nutrient Chart). Solid Manure - Based on Appendix F (Most Limiting Nutrient Chart).			

(1): All winter surface applications must have prior approval from the Ohio Department of Agriculture. Application on frozen and snow covered soil is not recommended. However, if manure application becomes necessary on frozen or snow covered soils, only limited quantities of manure shall be applied to address waste storage limitations until non frozen soils are available for manure application. If frozen or snow covered ground application becomes necessary, applications are to be applied only if ALL criteria are met:

- a. Solid manure with less than 50% manure shall be stockpiled at the land application site in lieu of land application on frozen or snow covered ground. For liquid manure the application rate is limited to 5000 gallons/acre.
- b. Applications are to be made on land with at least 90% surface residue cover (e.g. good quality hay or pasture field, all corn grain residue remaining after harvest).
- c. Manure shall not be applied on more than 20 contiguous acres. Contiguous areas for application are to be separated by a break of at least 200 feet. Utilize those areas for manure application that are the farthest from streams, ditches, waterways, surface water, etc. (areas that present the least runoff potential and are farthest from surface water).
- d. Increase the application setback distance to 200 feet “minimum” from all grassed waterways, surface drainage ditches, streams, water bodies and field surface furrows. This distance may need to be further increased due to local conditions.
- e. The rate of application shall not exceed the rates specified in Table 4 – Determining The Most Limiting Manure Application Rates for winter application.
- f. Additional winter application criteria for fields with significant slopes more than 6% - Manure shall be applied in alternating strips 60 to 200 feet wide generally on the contour, or in the case of contour strips on the alternating strips.

(2): Either a 35’ wide vegetative buffer strip must be present or a total setback of 100’ must be maintained. As a compliance alternative, the concentrated animal feeding operation may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the one hundred foot setback or a thirty-five foot vegetative buffer. Buffer strip is defined in OAC 901:10-1-01.

(3): No applications during expected flooding season as reported in Appendix A, Table 1.

(4): Must have <5 ton/ac yearly average soil loss to perform surface manure applications.

(5): Manures are not to be applied to cropland over 15% slope or to pastures/hayland over 20% slope unless ONE of the following precautions are taken:

- a. Immediate incorporation or injection with operations done on the contour, UNLESS the field has 80% ground cover (residue or canopy).
- b. Applications are timed during periods of lower runoff and/or rainfall (May 20th – October 15th).
- c. Split applications are made (separated by rainfall events) with single applications not exceeding 10 wet tons/ac or 5000 gal/ac.
- d. The field is established and managed in contour strips with alternated strips in grass or legume.

(6): Applications can be through field surface furrows if criteria in Appendix A, How to Use Appendices are followed.

(7): Refer to OAC 901:10-1-01 for the definition of “Surface waters of the state.”

(8): The first setback refers to a vegetative buffer strip that must be maintained while the second refers to the total setback distance. Buffer strip is defined in OAC 901:10-1-01.

(9): A 35' buffer without vegetation may be approved by the Director based on prior submittal of a compliance alternative for the specific land application areas, in accordance with the OAC 901:10-2-14(C)(3).

(10): Staging area(s) is a site used for placement of solid manure or transferring of liquid manure to facilitate land application. Any solid manure that is staged for more than 15 days will be considered a stockpile. Staging areas and stockpiles shall not discharge to waters of the State.

Source: USDA-NCRS (2012). Field Office Technical Guide – Conservation Practice Standard 590, Columbus, Ohio.

Appendix B to rule 901:10-2-14 Available Water Capacity (AWC)

Practical Soil Moisture Interpretations for Various Soils Textures and Conditions to determine liquid Waste Volume Applications not to exceed AWC.

This table shall be used to determine the AWC at the time of application and the liquid volume in gallons that can be applied not to exceed the AWC. To determine the AWC in the upper 8 inches use a soil probe or similar device to evaluate the soil to a depth of 8 inches.

For land application, liquid manure application may also be calculated by converting acres per inch to gallons per acre. This conversion is based on the following formula: 1 acre - inch equals 27,156 gallons per acre.

Available Moisture in the Soil	Sands and Loamy Sands	Sandy Loam and Fine Sandy Loam	Very Fine Sandy Loam, Loam, Silt Loam, Silty Clay Loam	Sandy Clay, Silty Clay, Clay, Fine and Very Fine Textured Soils
< 25% Soil Moisture	Dry, loose and single-grained; flows through fingers.	Dry and loose; flows through fingers.	Powdery dry; in some places slightly crusted but breaks down easily into powder.	Hard, baked and cracked; has loose crumbs on surface in some places.
Amount to Reach AWC	20,000 gallons/ac	27,000 gallons/ac	40,000 gallons/ac	27,000 gallons/ac
25-50% or Less Soil Moisture	Appears to be dry; does not form a ball under pressure.	Appears to be dry; does not form a ball under pressure.	Somewhat crumbly but holds together under pressure.	Somewhat pliable; balls under pressure.
Amount to Reach AWC	15,000 gallons/ac	20,000 gallons/ac	30,000 gallons/ac	20,000 gallons/ac
50-75% Soil Moisture	Appears to be dry; does not form a ball under pressure.	Balls under pressure but seldom holds together.	Forms a ball under pressure; somewhat plastic; slicks slightly under pressure.	Forms a ball; ribbons out between thumb and forefinger.
Amount to Reach AWC	10,000 gallons/ac	13,000 gallons/ac	20,000 gallons/ac	13,000 gallons/ac
75% to Field Capacity	Sticks together slightly; may form a weak ball under pressure.	Forms a weak ball that breaks easily, does not stick.	Forms ball; very pliable; slicks readily if relatively high in clay.	Ribbons out between fingers easily; has a slick feeling.
Amount to Reach AWC	5,000 gallons/ac	7,000 gallons/ac	11,000 gallons/ac	7,000 gallons/ac
100% Field Capacity	On squeezing, no free water appears on soil, but wet outline of ball on hand.	On squeezing, no free water appears on soil, but wet outline of ball on hand.	On squeezing, no free water appears on soil, but wet outline of ball on hand.	On squeezing, no free water appears on soil, but wet outline of ball on hand.
Above Field Capacity	Free water appears when soil is bounced in hand.	Free water is released with kneading.	Free water can be squeezed out.	Puddles: free water forms on surface

Note: Liquid manure applications to tiled fields must be less than or equal to 13,576 gal/ac.

Appendix C - Table 1 of rule 901:10-214: Nutrients removed in harvested portions of crops.

Table 1 Crop/Yield	Nutrients Removed for Given Yield _a			Nutrients Removed for Unit Yield _b	
	N	P ₂ O ₅	K ₂ O	P ₂ O ₅	K ₂ O
	lb/acre				
Alfalfa (6 T)	340 _c	80	360	13.3 lb/T	60 lb/T
Corn (150 bu)					
Grain	135	55	40	0.37 lb/bu	0.27lb/bu
Stover	100	25	160		
Corn-Silage (26 T)	235	80	235	3.1 lb/T	9.0 lb/T
Grass-Cool Season (3.5 T) Tall Grasses and/or Forage Legumes (established)	140	45	175	13.0 lb/T	60.0 lb/T
Oats (100 bu)					
Grain	65	25	20	0.25 lb/bu	0.20 lb/bu
Straw	35	15	100	0.15 lb/bu	1.0 lb/bu
Sorghum-Grain (7,600 lb)					
Grain	105	30	30	0.39 lb/100 lb	0.39 lb/100 lb
Stover	80	50	230		
Soybean (50 bu)	190 _c	40	70	0.80 lb/bu	1.4 lb/bu
Sugar Beets-Roots (25 T)	100	50	250	2.0 lb/T	10.0 lb/T
Tobacco-Burley and Cigar Filler					
Leaf (3000 lb)	105	25	185		
Stems and Suckers (2000 lb)	55	15	65		
Leaves and Stalks				1.3 lb/100 lb	8.3 lb/100 lb
Wheat (55 bu)					
Grain	70	35	20	0.64 lb/bu	0.36lb/bu
Straw	30	5	50	0.09 lb/bu	0.91lb/bu
a. Source: National Plant Food Institute and others. b. Source: Ohio Agronomy Guide, 14th Edition c. Inoculated legumes fix nitrogen from the air.					

Appendix C Table 2 to Rule 901:10-2-14: Nitrogen rates_a for com based on yield potential with no N credit.

Com yield potential (bu/acre)	80	100	120	140	160	180+
#N/acre	80	110	140	160	190	220

- a. N fertilizer rates are based on the following relationship:

$$N \text{ (lb/acre)} = -27 + (1.36 \times \text{yield potential}) - N \text{ credit or } 110 + [1.36 \times (\text{yield potential} - 100) - N \text{ credit}]$$

Appendix C Table 3 to Rule 901:10-2-14: Nitrogen rates for wheat based on yield potential

Yield Potential bu/acre	Nitrogen rate pounds N to apply/acre
50	40
70	75
90+	110

1. N rate is based on the relationship:
$$N \text{ (lb/acre)} = 40 + [1.75 \times (\text{yield potential} - 50)]$$
2. No nitrogen credits are made based on previous crop.

Appendix C Table 4 to Rule 901:10-2-14: Residual nitrogen credits based on previous crop.

Previous Crop	N Credits
	Pounds of N/acre
Com, small grains	0
Soybeans	30
Grass sod	40
Established forage legume	
Average stand (3 Plants/ft ²)	b
Good stand (5 Plants/ft ²)	b
Annual legume cover crop	30

b - N credits for established forage legume:

$$40 + 20 \times (\text{plants/ft}^2) \text{ (Up to a Maximum of 140-lbs.)}$$

Appendix C Table 5 to Rule 901:10-2-14: Ohio- Nitrogen Leaching Assessment Procedure

Soils are classified as having a high, medium or low nitrogen leaching potential with relative index ratings from 0-10+ for their potential to leach nitrates below the root zone. The leaching potential is rated as high, medium or low by combining the soil's hydrologic soil grouping (A, B, C, or D), the local county's annual rainfall, and the local county's seasonal rainfall (October 1 to March 1).

To determine the soil's nitrogen leaching potential, use the following procedure:

First, determine the soil's hydrological soil grouping: A, B, C, or D. For this information, refer to USDA-NRCS Engineering Field Manual, Chapter 2- Ohio Supplement (1989), Table 2.1 pages 2-42 through 2-83.

Second, determine the local county's annual rainfall and the local county's seasonal rainfall (October 1 to March 1). For this information, refer to USDA-NRCS Engineering Field Manual, Chapter 2- Ohio Supplement (1989), Exhibit OH2-3, Supplement pages 1 through 4 and USDA-NRCS Engineering Field Manual, Chapter 2- Ohio Supplement (1989), Exhibit OH2-1, and Sheets 1 through 3.

Third, refer to the table below - Ohio (By county) Leaching Index Ratings for Soils by Hydrologic

Groups (A, B, C, D) for the respective county to determine the soil's relative leaching index rating.

- (a) Soils with a rating of 0-2 have a low potential to leach nitrates below the root zone.
- (b) Soils with a rating of 3-10 have a medium potential to leach nitrates below the root zone.
- (c) Soils with a rating of 10+ have a high potential to leach nitrates below the root zone.
- (d) All soils with systematic subsurface drains (tile) are rated high potential.

Ohio (By county) Leaching Index Ratings for Soils by Hydrologic Groups (A, B, C, D)

County	A	B	C	D	County	A	B	C	D
1. Adams	15	10	6	4	45. Licking	15	8	6	4
2. Allen	10	6	4	2	46. Logan	15	8	4	4
3. Ashland	15	8	4	4	47. Lorain	15	8	4	2
4. Ashtabula	15	10	4	4	48. Lucas	10	6	4	2
5. Athens	15	10	6	4	49. Madison	15	8	6	4
6. Auglaize	10	8	4	2	50. Mahoning	15	8	4	4
7. Belmont	15	10	6	4	51. Marion	15	8	4	4
8. Brown	15	10	6	4	52. Medina	15	8	4	4
9. Butler	15	10	6	4	53. Meigs	15	10	6	4
10. Carroll	15	8	4	4	54. Mercer	10	8	4	2
11. Champaign	15	8	4	4	55. Miami	15	8	4	4
12. Clark	15	8	6	4	56. Monroe	15	10	6	4
13. Clermont	15	10	6	4	57. Montgomery	15	10	6	4
14. Clinton	15	10	6	4	58. Morgan	15	8	6	4
15. Columbiana	15	8	4	4	59. Morrow	15	10	6	4
16. Coshocton	15	8	4	4	60. Muskingum	15	8	6	4

County	A	B	C	D	County	A	B	C	D
17. Crawford	15	8	4	2	61. Noble	15	8	6	4
18. Cuyahoga	15	8	4	4	62. Ottawa	10	6	4	2
19. Darke	15	8	4	4	63. Paulding	10	6	4	2
20. Defiance	10	6	4	2	64. Perry	15	8	6	4
21. Delaware	15	8	4	4	65. Pickaway	15	8	6	4
22. Erie	10	8	4	4	66. Pike	15	10	6	4
23. Fairfield	15	8	6	4	67. Portage	15	8	4	4
24. Fayette	15	10	6	4	68. Preble	15	10	6	4
25. Franklin	15	8	6	4	69. Putnam	10	6	4	2
26. Fulton	10	6	4	2	70. Richland	15	8	4	4
27. Gallia	15	10	6	4	71. Ross	15	10	6	4
28. Geauga	15	10	4	4	72. Sandusky	10	6	4	2
29. Greene	15	10	4	4	73. Scioto	15	10	6	4
30. Guernsey	15	8	6	4	74. Seneca	10	6	4	2
31. Hamilton	15	10	6	4	75. Shelby	15	8	4	4
32. Hancock	10	6	4	2	76. Stark	15	8	4	4
33. Hardin	10	8	4	2	77. Summit	15	8	4	4
34. Harrison	15	8	6	4	78. Trumbull	15	8	4	4
35. Henry	10	6	4	2	79. Tuscarawas	15	8	4	4
36. Highland	15	10	6	4	80. Union	15	8	4	4
37. Hocking	15	10	6	4	81. Van Wert	10	6	4	2
38. Holmes	15	8	4	4	82. Vinton	15	10	6	4
39. Huron	10	8	4	2	83. Warren	15	10	6	4
40. Jackson	15	10	6	4	84. Washington	15	10	6	4
41. Jefferson	15	8	6	4	85. Wayne	15	8	4	4
42. Knox	15	8	4	4	86. Williams	10	6	4	2
43. Lake	15	10	4	4	87. Wood	10	6	4	2
44. Lawrence	15	10	6	4	88. Wyandot	10	8	4	2

Appendix C Table 6 to Rule 901:10-2-14: Method of Calculating N Availability of Manures

This table can be used to estimate the availability of ammonia and organic nitrogen in the soil. Only about one-third of the organic nitrogen in animal manure is available to crops during the year it is applied, and the remaining two-thirds, residual organic nitrogen, becomes part of the soil organic matter. It is mineralized or becomes available at the rate of approximately five per cent a year. Because ammonia is subject to high volatilization, incorporation factors of time of year and days until incorporation affect the availability of nitrogen.

The first column is the per cent of available ammonia from animal manure. The second column is the per cent of available organic nitrogen from animal manure. The third column is the time of year in which application can be made. The fourth column is the number of days till incorporation.

For example: Using the first row of data, if manure is applied in November, fifty per cent of the available nitrogen comes from ammonia and thirty-three percent of the available nitrogen from residual organic nitrogen in manure if incorporated in less than five days.

Using the second row of data, if manure is applied in November, twenty-five per cent of the available nitrogen comes from ammonia and thirty-three per cent of the available nitrogen from residual nitrogen in manure if incorporation is more than five days after application.

Method of Calculating N Availability of Manures ^a			
Available Nitrogen %		Time of Application	Days until Incorporated ^b
NH₄	Organic	Date	Days
50	33	Nov-Feb	≤5
25	33	Nov-Feb	>5
50	33	Mar-Apr	≤3
25	33	Mar-Apr	>3
75	33	Apr-Jun	≤1
25	33	Apr-Jun	>1
75	15	Jul-Aug	≤1
25	15	Jul- Aug	>1
25	33	Sep-Oct	≤1
15	33	Sep-Oct	>1
a. The calculations are for all animal manures. It is assumed that 50% of the organic N in poultry manure is converted to NH ₄ rapidly and is therefore included in the NH ₄ column for calculating available N.			
b. Incorporation is the mixing of manure and surface soil.			

Source: Ohio Livestock Manure And Wastewater Management Guide -Bulletin 604. M. A. Veenhuizen, D.J. Eckert, K.Elder, J.W. Johnson, W.F. Lyon, K.M. Mancl and G. Schnitkey (1992). Columbus, OH: Ohio State University.

Appendix C Table 7 to Rule 901:10-2-14: Nutrient Sufficiency Ranges for Com, Soybeans, Alfalfa and Wheat.

Element	Corn	Soybeans	Alfalfa	Wheat
	Ear leaf sampled at initial silking	Upper fully developed leaf sampled prior to initial flowering	Top 6 inches sampled prior to initial flowering	Upper leaves sampled prior to initial bloom
----- Percent (%) -----				
Nitrogen	2.90-3.50	4.25-5.50	3.76-5.50	2.59-4.00
Phosphorus	0.30-0.50	0.30-0.50	0.26-0.70	0.21-0.50
Potassium	1.91-2.50	2.01-2.50	2.01-3.50	1.51-3.00
Calcium	0.21-1.00	0.36-2.00	1.76-3.00	0.21-1.00
Magnesium	0.16-0.60	0.26-1.00	0.31-1.00	0.16-1.00
Sulfur	0.16-0.50	0.21-0.40	0.31-0.50	0.21-0.40
----- Parts Per Million (ppm) -----				
Manganese	20-150	21-100	31-100	16-200
Iron	21-250	51-350	31-250	11-300
Boron	4-25	21-55	31-80	6-40
Copper	6-20	10-30	11-30	6-50
Zinc	20-70	21-50	21-70	21-70
Molybdenum	-	1.0-5.0	1.0-5.0	-

Original Source: M.L. Vitosh (Michigan State University), J.W. Johnson (The Ohio State University), and D.B. Mengel (Purdue University) (1995). Tri-State Fertilizer Recommendations for Com, Soybeans, Wheat and Alfalfa. Bulletin E-2567. East Lansing Michigan; Michigan State University.

Appendix C Table 8 to Rule 901:10-2-14: Sidedress N fertilizer rates for corn, based on a pre-sidedress nitrate soil test at the 4 to 6 leaf stage.

Soil Nitrate Level	Corn Yield Potential (Bu/A)					
	80	100	120	140	160	180
ppm N ₀₃ -N	-----pounds additional fertilizer N to apply per acre-----					
0-10	80	110	140	160	190	220
11-15	50	80	110	140	160	190
16-20	30	60	90	120	140	170
21-25	0	10	40	60	90	120
>25	0	0	0	0	0	0

Instructions.

To effectively use the pre-sidedress nitrate soil test, soil samples should be collected when the corn is in the 4 to 6 leaf stage, or 6 to 12 inches tall. Where manure or fertilizer has been broadcast, sampling procedures consist of taking a composite soil sample of 20-25 soil cores at random throughout the sampling area. The cores should be collected to a depth of 12 inches.

Appendix E Table 1 to Rule 901:10-2-14: Phosphorus Index (P Index) Risk Assessment Procedure

The P Index is a procedure that combines well-established factors that influence the runoff of phosphorus to surface waters. Each of the factors is evaluated based on site-specific data and weighted according to its overall effect on phosphorus transport. Each of the site subvalues are added together to establish an overall site rating of low, moderate, high, or very high risk.

Purpose:

The P Index is a planning tool designed to help identify fields or areas of fields on a farm that have a higher or lower risk of phosphorus runoff from manure or other organic materials. Based on the risk assessment the appropriate land treatment and nutrient application treatments can be planned to minimize phosphorus transport from the site.

Procedure:

Use the P Index Assessment Procedure Worksheet to determine the site's overall P Index. Use the following guidance to determine each of the site's subvalues. The subvalues are added together to determine the overall site P Index. The worksheet can be photocopied as needed. A "Field Summary Worksheet" is also available with this procedure to record a series of site/field values for a given farm. It can be photocopied as needed.

1. **SOIL EROSION** - Sheet and rill erosion as measured by the Revised Universal Soil Loss Equation (RUSLE) [USDA-NRCS (2010) National Soil Survey handbook, Section 618.55] or Wind Erosion Prediction Procedure (where wind erosion is the primary concern) [USDA-NRCS (2010) National Soil Survey handbook, Section 618.72]. Determine the predicted soil loss and multiply by (1) to determine the "soil loss" site subvalue.
2. **CONNECTIVITY TO WATER** - Defines the vulnerability of P to be transferred from the site to a perennial stream or water body. The more closely connected the runoff is from the field via concentrated flow (from a defined grassed waterway or surface drain) to a perennial stream or water body the higher the vulnerability of P transport. To determine the "connectivity to water" site sub factor ask the question: Does concentrated flow (via a defined waterway, tile inlet, or surface drain) leave the site? Read the value definitions to determine the site's "connectivity to water" subvalue.
3. **RUNOFF CLASS** - This represents the effect of the Hydrologic Soil Group (A, B, C, D) combined with the effect of slope. This factor represents the site's runoff vulnerability. Use the table below to determine the runoff class. The runoff class is the site's subvalue.

Runoff Class Matrix-Phosphorus Index Values

Slope Range	Hydrologic Soil Group			
	A	B	C	D
<1%	0	1	3	6
1-3%	1	2	4	7
4-6%	2	3	5	8
7-10%	3	5	7	10
11-15%	4	6	9	12
>15%	6	8	11	15

4. **SOIL "P" TEST (BRAY-KURTZ PI)** - The soil test procedure using the Bray P1 extraction, or other extraction test calibrated to Bray PI, that provides an index of plan available P expressed in either ppm or lbs./ac (ppm x 2 = lbs/ac). Determine the Bray P1 value in ppm and multiply the ppm by (0.07) to determine the "soil P test site subvalue".
5. **FERTILIZER P₂O₅ APPLICATION RATE** - The amount of manufactured (commercial) phosphate fertilizer applied expressed in lbs/ac of P₂O₅. To determine the site's subvalue multiply the year's P fertilizer application rate by (0.05).
6. **FERTILIZER P₂O₅ APPLICATION METHOD** - Defines if the phosphate (P₂O₅) fertilizer is actually incorporated into the

soil and the time interval between application and incorporation or if the fertilizer is applied over a given amount of crop residue. Incorporation or injection with the fertilizer application equipment or using a tillage tool operated a minimum of 3-4 inches deep to incorporate the P_2O_5 fertilizer. To determine the site's subvalue select the description that most closely describes the method of application. The value with that description is the site's subvalue.

7. **ORGANIC P_2O_5 APPLICATION RATE**- The amount of phosphate applied (expressed in lbs/ac of P_2O_5) from manure, sludge, or other bio-solids. To determine the site's subvalue multiply the year's P fertilizer application rate by (0.06).
8. **ORGANIC P_2O_5 APPLICATION METHOD** - Defines if the phosphate (P_2O_5) from the manure, sludge, or other bio-solids is actually incorporated into the soil, the time interval between application and incorporation, or if the manure/bio-solids are applied over a given amount of crop residue. Incorporation or injection with the application equipment or by using a tillage tool operated a minimum of 3-4 inches deep to incorporate the manure, sludge, or other bio-solids. To determine the site's subvalue select the description that most closely describes the method of application. The value with the description is the site's subvalue.
9. **BUFFER STRIP** - Deduct 2 points if field runoff flows via sheet flow through a designed filter strip - minimum 35 feet wide. For the type of buffer strip that is limited to the use of filter strips only, it is critical that sheet flow crosses the filter strip, not concentrated flow, to credit a 2 point deduction.

Phosphorus Index Risk Assessment Procedure Worksheet

Site Characteristic	Phosphorus Vulnerability Values				
1. Soil Erosion	Soil Loss (Tons/Acre/Year) x 1.0				
2. Connectivity to Water. Does concentrated flow (via a defined waterway, tile inlet, or surface drain) leave the site?	NO, and the site is not adjacent to an intermittent or perennial stream. Value = 0	NO, but the site is adjacent to an intermittent or perennial stream. Value = 4.0	Yes, but the site is not adjacent to an intermittent or perennial stream Value = 8.0	Yes, and the site is adjacent to and/or the concentrated flow outlets into an intermittent stream or through a tile inlet. Value = 12.0	Yes, and the site is adjacent to and/or the concentrated flow outlets into a perennial stream or through a tile inlet; or outlets to a pond or lake within 1 mile. Value = 16.0
3. Runoff Class	See Runoff Class Matrix				
4. Soil Test Bray - KurtzP1(ppm)	Bray-Kurtz P1 (ppm) X (0.07)				
5. Fertilizer P₂O₅ Application Rate	Fertilizer P₂O₅ Applied (Lbs/Acre) X (0.05)				
6. Fertilizer P₂O₅ Application Method	0 Applied Value = 0	Immediate Incorporation Or Applied on 80% Cover Value = 0.75	Incorporation < 1 Week Or Applied on 50-80% Cover Value = 1.5	Incorporation > 1 Week & < 3 Months Or Applied on 30-49% Cover Value = 3.0	No Incorporation Or Incorporation > 3 Months Or Applied on < 30% Cover Value = 6.0
7. Organic P₂O₅ Application Rate	Available-Manure/Biosolids P₂O₅ Applied (Lbs/Acre) X (0.06)				
8. Organic P₂O₅ Application Method	0 Applied Value = 0	Immediate Incorporation Or Applied on 80% Cover Value = 0.5	Incorporation < 1 Week Or Applied on 50-80% Cover Value = 1.0	Incorporation > 1 Week & < 3 Months Or Applied on 30-49% Cover Value = 2.0	No Incorporation Or Incorporation > 3 Months Or Applied on < 30% Cover Value = 4.0
Buffer Strip Factor (Deduct 2 points if field runoff flows through a designed filter strip - minimum 35 feet wide)					
Total Site Index Value					
Field Vulnerability for Phosphorus Loss to Surface Water					
LOW <15		LOW potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P loss. Manure or other bio-solids can be applied to meet the recommended nitrogen for the next crop or nitrogen removal of the next legume crop.			

MEDIUM 15-30	<p>MEDIUM potential for P movement from the field. The chance of organic material and nutrients getting into surface water exists. Runoff reduction practices such as buffers, setbacks, lower manure/bio-solid rates, cover crops, and crop residue practices alone or in combination should be considered to reduce P lost impacts. Manure or other bio-solids can be applied to meet the recommended nitrogen for the next crop or nitrogen removal of the next legume crop. Applications of P at the crop removal rates should be considered.</p>
HIGH 31-45	<p>HIGH potential for P movement from the field and for an adverse impact on surface waters unless remedial action is taken. Runoff reduction practices such as buffers, setbacks, lower manure/bio-solid rates, cover crops, and crop residue practices alone or in combination should be considered to reduce P loss impacts. Limit application of P to crop removal rates for one year.</p>
VERY HIGH >45	<p>VERY HIGH potential for P movement from the field and an adverse impact on surface water. Remedial action is required to reduce the risk of P loss. A complete soil and water conservation system is needed. Apply no additional P.</p>

Appendix E Table 2 of Rule 901:10-2-14: Phosphorus Soil Test Risk Assessment Procedure

Nitrogen and Phosphorus Application Criteria For Manure

Criteria Applicable to All Soil Test Levels:

1. Nitrogen application rates from manure shall be based on Total Ammonium Nitrogen Content plus 1/3 of the Organic Nitrogen calculated at time of application when applied during the summer, fall or winter for spring planted crops. When applied in the spring for spring planted crops the nitrogen application rate can be adjusted to apply the recommended nitrogen within the P₂O₅, K₂O, and other limitations.
2. Nitrogen rates are not to exceed the succeeding crop's recommended Nitrogen for non-legume crops or the Nitrogen removal in the crop's biomass for legume crops.
3. All applications are based on current soil test results (not more than 3 years old).
4. No manufactured P₂O₅ applied above 40 ppm Bray P1 or equivalent test, unless recommended by appropriate industry standards or the land grant universities for specialty crops, vegetable crops, etc.
5. Manure shall be applied in accordance with the restrictions and setbacks in Appendix A Table 2 of this rule.

"P" Soil Test Level	Application Criteria
Bray P1 < 40 ppm (< 80 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3)	<p>Recommended N or P₂O₅</p> <p>Manure can be applied to meet the succeeding crop's recommended nitrogen requirements for non-legume crops or the nitrogen removal for legume crops or recommended P₂O₅ but not to exceed the nitrogen needs of the succeeding crop.</p>
Bray P1 40-100 ppm (80 -200 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3)	<p>Recommended N or P₂O₅ removal whichever is less.</p> <p>The field shall have > 30% ground cover at the time of application or the manure shall be incorporated within one week. The manure can be applied to meet the succeeding crop's recommended nitrogen requirements for non-legume crops or the nitrogen removal for legume crops; or P₂O₅ removal (annual or multiple year applications) whichever is less.</p>
BrayP1 100-150ppm (200-300 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3)	<p>Recommended N or P₂O₅ removal whichever is less.</p> <p>Manure shall be applied so as not to exceed the succeeding crop's recommended nitrogen requirements for non-legume crops or the nitrogen removal for legume crops; or annual P₂O₅ removal, whichever is less.</p>
BrayP1 > 150 ppm (> 300 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3)	<p>1. No additional P₂O₅ - Use P₂O₅ drawdown strategies;</p> <p style="text-align: center;">or</p> <p>2. Shall use the P Site Assessment in Appendix E Table 1.</p>

Appendix F to rule 901:10-2-14 Most Limiting Manure Application Rates.

Table 1 Most limiting Manure Application Rates for Tiled Fields.

Select the Most Limiting Application Rate Based on the Following Criteria					
Field Situation & Time of Year	Limiting Application Rate Criteria				
	Nitrogen	(4) P₂O₅	K₂O	Tons/Ac Gallons/Ac	AWC
Subsurface Drained (Tiled) Fields					
(April -June) Subsurface Drained or High N Leaching Potential	(1) Crop Needs factoring N losses	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	13,000 gal/ac	Upper 8"
(April- June) Pasture > 20% or Cropland > 15% Subsurfaced Drained or High N Leaching Potential	Crop Needs factoring N losses	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	(5) 10 wet tons 5,000 gal/ac- unless contoured strips or incorporated immediately	Upper 8"
(July - Sept.) No Growing Crop Subsurface Drained or High N Leaching Potential	(2) 50 lbs/ac as applied N	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	13,000 gal/ac	Upper 8"
(July- Sept.) With a Growing Cover Crop Subsurface Drained or High N Leaching Potential	(3) Next year's crop needs as applied N	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	13,000 gal/ac	Upper 8"
(July- Sept.) No Growing Crop Cropland> 15% Subsurfaced Drained or High N Leaching Potential	(2) 50 lbs/ac as applied N	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	13,000 gal/ac	Upper 8"
(Oct.- March) Subsurface Drained or High N Leaching Potential	(3) Next year's crop needs as applied N	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	13,000 gal/ac	Upper 8"
(Oct. - March) Pasture > 20% or Cropland > 15% Subsurfaced Drained or High N Leaching Potential	(3) Next year's crop needs as applied N	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	(5) 10 wet tons 5,000 gal/ac- unless contoured strips or incorporated immediately	Upper 8"
Frozen or Snow Cover Subsurface Drained or High N Leaching Potential	(3) Next year's crop needs as applied N	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	(5) 10 wet tons <50% solids; 5 wet tons >50% solids, liquid manure 5,000 gal/ac	

Note: Comments below Table 2 also pertain to this Table.

Appendix F to rule 901:10-2-14 Most Limiting Manure Application Rates.

Table 2. Most Limiting Manure Application Rates for Non-Tiled Fields.

Select the Most Limiting Application Rate Based on the Following Criteria					
Field Situation & Time of Year	Limiting Application Rate Criteria				
	Nitrogen	P ₂ O ₅	K ₂ O	Tons/Ac Gallons/Ac	AWC Table
Non Subsurface Drained (Tiled) Fields					
(July- Sept.) Not Subsurface Drained	(1) Crop Needs factoring N losses	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac		Upper 8"
(Oct. - March) Not Subsurface Drained	(1) Crop Needs factoring N losses	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac		Upper 8"
(April- June) Not Subsurfaced Drained Pasture >20% or Cropland > 15%	(1) Crop Needs factoring N losses	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	(5) 10 wet tons 5,000 gal/ac-unless contoured strips or incorporate immediately	Upper 8"
(July -Sept.) Not Subsurfaced Drained Pasture >20% or Cropland > 15%	(1) Crop Needs factoring N losses	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac		Upper 8"
Frozen or Snow Cover Not Subsurface Drained	(1) Next year's crop needs factoring N losses	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	(5) 10 wet tons <50% solids; 5 wet tons >50% solids, liquid manure 5,000 gal/ac	
(Oct. - March) Not Subsurfaced Drained Pasture >20% or Cropland > 15%	(1) Crop Needs factoring N losses	Crop Needs or Crop Removal <250 Lbs/ac	Crop Needs or Crop Removal <500 Lbs/ac	(5) 10 wet tons 5,000 gal/ac-unless contoured strips or incorporate immediately	Upper 8"
<p>(1) Crop Needs factoring N losses - Maximum total nitrogen applied to meet the succeeding crop's recommended NITROGEN requirements for non-legume crops or 150 lbs/ac NITROGEN for the succeeding legume crop. Considers loss of N through application method and time of year.</p>					
<p>(2) 50 lbs/ac as applied N - Nitrogen application limited to 50 lbs/ac based on the addition of the NH₄ or NH₃ (ammonium/ammonia) content of the manure +1/3 of the organic nitrogen content the manure as applied. Considers no losses due to application method or time of year.</p>					
<p>(3) Next year's crop needs as applied N - Maximum total nitrogen applied to meet the succeeding crop's recommended NITROGEN requirements for non-legume crops or 150 lbs/ac NITROGEN for the succeeding legume crop. Considers no losses due to application method or time of year.</p>					
<p>(4) Under special conditions and criteria the rate of P₂O₅ application can be increased to 500 lbs/acre (See Appendix A or rule 901:10-2-14). Frozen or Snow covered ground and fields over 100 ppm Bray P1 soil test are exempt and are always limited to applications less than or equal to 250 lbs/ac P₂O₅</p>					
<p>(5) Wet tons refers to the weight of the manure as it is applied -- include solids and moisture weight.</p>					

901:10-2-16

Permit to operate and operating record requirements.

(A) An operating record shall be generated as part of the permit to operate and NPDES permit.

The operating records shall be maintained on forms identified by the permit and other forms approved for use by the department. The operating record shall be retained for a minimum period of five years, shall be made available to the director upon request, and shall record and document the following information:

(1) The manure storage or treatment facility. Records required by rule 901:10-2-08 or 901:10-2-19 of the Administrative Code, including:

- (a) Measurements of manure volume and the depth of liquid manure in manure storage or treatment facilities by the depth marker or other appropriate device as approved by the director in accordance with rule 901:10-2-06 of the Administrative Code as required by paragraph (A)(4)(o) of rule 901:10-2-08 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the twenty-five year, twenty-four hour rainfall event, or, in the case of new sources subject to the requirement in paragraph (C) of rule 901:10-3-06 of the Administrative Code, the runoff and direct precipitation from a one-hundred year, twenty-four hour rainfall event, plus the levels of freeboard as required in either paragraph (A)(4)(a) or paragraph (A)(4)(b) of rule 901:10-2-08 of the Administrative Code;
- (b) Records of inspections of the structural integrity and vegetative management systems of the manure storage or treatment facility taken at intervals specified in the manure management plan and including evidence of erosion, leakage, animal damage, and problems of emerging vegetation..
- (c) Records of measurements of storage capacity remaining in the manure storage and treatment facility, based upon inspections conducted at intervals specified in the manure management plan.
- (d) Records of inspections of stormwater conveyances, diversion devices, runoff diversion structures, and devices channeling contaminated stormwater to the manure storage pond or manure treatment lagoon..
- (e) Records of inspections of the protective vegetative cover that is maintained on all disturbed areas (lagoon or pond embankments, berms, pipe runs, erosion control areas, etc.)

- (f) Implementation dates of those best management practices necessary to operate and maintain settling basins, grass filtration or soil infiltration systems or diverting clean water and roof water away from the production area..
 - (g) Records of groundwater sampling and analysis and any surface water sampling and analysis. This also includes any records associated with monitoring or sampling of subsurface perimeter drains around manure storage or treatment facilities.
 - (h) Records required in rule 901:10-2-19 of the Administrative Code for the insect and rodent control plan.
 - (i) Records of inspections of water lines located above ground and readily accessible or visible for daily inspection, including drinking water or cooling water lines.
 - (j) Records of actions taken to correct any deficiencies found as a result of inspections conducted in the production area. If actions were not taken within thirty days of discovery, then the operating record shall record the reasons explaining why corrections could not be made immediately.
 - (k) Records documenting the current design of any manure storage or treatment facility including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity.
 - (l) Records of the date, time, and estimated volume of any overflow or discharge from the production area.
- (2) Manure characterization data, test methods, results, and other information as required in paragraph (E) of rule 901:10-2-10 of the Administrative Code.
- (3) Land application area records shall be recorded and maintained in the operating record. Records for each land application area shall include:
- (a) The owner or operator shall maintain or have access to adequate land application equipment and record this in the operating record.
 - (b) The owner or operator shall list or otherwise describe those acres of land in the operating record for land application of manure, whether the land

is owned or leased. In the alternative, use of a distribution and utilization plan should be recorded in the operating record.

- (c) When liquid manure is applied to a land application area with subsurface drains and concentrated flow areas, document the periodic observations of the subsurface drain outlets and concentrated flow areas for liquid manure flow during and after application in the operating record.
- (d) When liquid manure is applied to a land application area with a subsurface drain, document the use of drain outlet plugs or other devices in the operating record.
- (e) Land application areas as described on a soil survey map.
- (f) All soil tests within the last five years. Soil test results shall be maintained in the operating record with the information required in rule 901:10-2-13 of the Administrative Code.
- (g) Site inspections to inspect setbacks used to maintain vegetative cover and protect stream channels or areas adjacent to such stream channels and as required by rule 901:10-2-14 of the Administrative Code.
- (h) Records of the cropping schedule for each land application area for the past year, anticipated crops for the current year, and anticipated crops for the next two years after the current year.
- (i) Targeted crop yield for each crop in each land application area based on:
 - (i) Soil productivity information;
 - (ii) Historical yield data;
 - (iii) Potential yield; or
 - (iv) Combinations of yield data.
- (j) An additional ten per cent may be added to the potential and/or historical yields to account for improvements in management and technology.
 - (i) When historical yield data is not available a realistic yield may be

based on local research or on yields from similar soils and/or cropping systems in the area.

- (ii) For new or potential crops or varieties, industry yield estimates may be used until actual yields are available for documentation in the operating record.
- (k) Actual yield, if available.
- (l) Results of the nitrogen leaching risk assessment procedure and the phosphorus soil test assessment procedure and an explanation of the basis for determining manure application rates, as provided in rule 901:10-2-14 of the Administrative Code.
- (m) The number of years needed to reach one hundred fifty parts per million Bray P1 or equivalent if manure application rates exceed the phosphorus crop removal rates.
- (n) Date, rate, quantity and method of application of the nutrient, and/or form and source of manure, commercial fertilizer and/or other organic by-products.
- (o) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied.
- (p) Condition of soil at the time of application including, but not limited to, available water capacity and evidence of soil cracks and related information on soil conditions.
- (q) Temperature, including general weather conditions at time of application and for twenty-four hours prior to and following application..
- (r) Implementation dates of those best management practices necessary to reduce the risk of nitrogen or phosphorus runoff by crop rotation, cover crops or residue management in accordance with paragraphs (B) to (E) of rule 901:10-2-14 of the Administrative Code.
- (s) Record the annual projected nutrient budget for nitrogen and phosphorus for each site for the plant production sequence and/or crop rotation.

- (t) Records shall be maintained of annual calibration of land application equipment.
- (4) Unless otherwise recorded with the insect and rodent control plan implementation or land application records, records of inspections and actions taken at manure stockpile or manure transfer sites.
- (5) The records for implementation of distribution and utilization methods, if used, shall include:
 - (a) Quantity of manure transferred off-site for each twelve month period (tons/gallons);
 - (b) Date of off-site transfer for distribution;
 - (c) Name and address of recipient of manure; and
 - (d) Record that the recipient was provided with a copy of the appendices A, B and F to rule 901:10-2-14 of the Administrative Code, a copy of the most recent manure analysis consistent with the rules.
- (6) Disposal of dead livestock. The records for implementing the plan for the disposal of dead livestock shall include, but not be limited to:
 - (a) The disposal method used for removal of dead livestock;
 - (b) A record of the date and time of inspection of each facility; and
 - (c) Those best management practices necessary to implement the disposal of dead livestock.
- (B) Records shall be generated by certified livestock managers to comply with the requirements of rule 901:10-1-06 of the Administrative Code. The operating records shall be maintained on forms approved for use by the department. A certified livestock manager employed by a major concentrated animal feeding facility may use the major concentrated animal feeding facility's operating record to comply with the requirements of this rule and rule 901:10-1-06 of the Administrative Code, to the extent the records required to be kept by the certified livestock manager are already maintained in the facility's operating record. The operating record for a certified livestock manager shall be retained for a minimum

period of five years, shall be made available to the director upon request, and shall record and document the following information:

- (1) Records shall be maintained for each land application area.
- (2) The certified livestock manager shall list or otherwise describe the acres of land for land application of manure.
- (3) When liquid manure is applied to a land application area with subsurface drains and concentrated flow areas, documentation shall be made of the periodic observations of subsurface drains, drain outlet plugs, drain outlets or other devices for liquid manure flow during and after application in the operating record. Monitoring of concentrated flow areas during and after application shall also be documented.
- (4) All soil tests within the last five years. Soil test results shall be maintained in the operating record with the information required in rule 901:10-2-13 of the Administrative Code.
- (5) Site inspections to inspect setbacks used to maintain vegetative cover and protect stream channels or areas adjacent to such stream channels and as required by rule 901:10-2-14 of the Administrative Code.
- (6) Date, rate, quantity and method of application sources of the nitrogen and phosphorus, and/or form and source of manure, commercial fertilizer and/or other organic by-products.
- (7) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied.
- (8) Condition of soil at the time of application including, but not limited to, available water capacity and evidence of soil cracks and related information on soil conditions.
- (9) Temperature, including general weather conditions at time of application and for twenty-four hours prior to and following application.
- (10) Records shall be maintained of annual calibration of land application equipment.

901:10-2-19

Permit to operate: insect and rodent control plan.

(A) Purpose and applicability.

- (1) This rule establishes the best management practices to minimize the presence and negative effects of insects and rodents at the concentrated animal feeding facility and in surrounding areas, including land on which the manure is stored or applied. Subject to the requirements set forth in rules 901:10-2-07 and 901:10-2-08 of the Administrative Code, and rule 901:10-1-06 of the Administrative Code no person shall own or operate a concentrated animal feeding facility unless an insect and rodent control plan for the facility has been approved by the director.
- (2) An insect and rodent control plan that specifies plans to minimize the activity of insects and rodents and their presence at the facility is to be integrated with other requirements of the permit to operate in accordance as set forth in rules 901:10-2-07 to 901-10-2-19 of the Administrative Code.

(B) Contents of an insect and rodent control plan.

- (1) An insect and rodent control plan shall be prepared by the owner or operator and shall be submitted to the director for approval. Upon approval by the director, the insect and rodent control plan shall be incorporated into the permit to operate. The insect and rodent control plan shall be specific to the agricultural animal species of the facility.
- (2) An insect and rodent control plan shall:
 - (a) Include a narrative description of balanced integrated pest management to minimize the presence and negative effects of insects and rodents;
 - (b) Set forth with specificity the standard operating procedures for actions to minimize the activity and reduce the presence of insects and rodents at the facility; and
 - (c) Set forth methods of monitoring and procedures for record keeping in the operating record to document inspection results and actions performed.
- (3) Standard operating procedures set forth in paragraphs (B)(3)(a) to (B)(3)(d) and paragraph (C) of this rule set forth some but not all of the necessary integrated pest management actions to minimize the activity and reduce the presence of insects and rodents at the facility.

- (a) Management controls. The following management controls require regular inspections to be conducted by the owner or operator in intervals as described in the insect and rodent control plans. Monitoring records and inspection records shall be maintained in the operating record as required by rule 901:10-2-16 of the Administrative Code. Management controls consist of the following:
- (i) The owner or operator shall specify inspection intervals in the insect and rodent control plan and shall conduct and document inspections as specified in the plan.
 - (ii) The owner or operator shall inspect for the presence or absence of watering and feeding system leaks. If any leaks are detected, appropriate repairs shall be undertaken promptly.
 - (iii) The owner or operator shall inspect and record observations made regarding the presence and level of pest activity. Appropriate control actions shall be undertaken promptly when activity of insects and rodents is observed that requires actions as described in the plan required by paragraph (B)(2) of this rule.
 - (iv) The owner or operator shall manage moisture levels in manure to minimize the activity and reduce the presence of insects and rodents at the facility. Methods to control moisture may include but are not limited to: building design; adequate ventilation; mechanical aeration; leak detection and repair; proper site grading and drainage and maintenance of watering and feeding systems.
 - (v) Except for manure storage ponds and manure treatment lagoons, manure storage or treatment facilities shall be covered unless the runoff and drainage is collected and stored, or directed to a specifically designed infiltration area or other adequate treatment system. Appropriate control actions shall be undertaken prior to the removal of manure to minimize the activity and reduce the presence of insects and rodents at the facility.
 - (vi) Except for manure storage ponds and manure treatment lagoons, the owner or operator shall inspect manure storage or treatment facilities for pest activity prior to the removal of manure. Appropriate control actions shall be undertaken prior to the removal of manure to minimize the activity and reduce the presence of insects and rodents.

- (vii) The owner or operator shall inspect land application areas during and after the land application of manure.
 - (viii) The owner or operator shall monitor manure stockpiles for insect and rodent activity on a seasonally appropriate basis.
- (b) The following management actions are required but do not require record keeping and consist of the following:
- (i) Maintain sanitation procedures designed to minimize the activity and reduce the presence of insects and rodents including: maintenance of vegetation around the buildings; cleaning of the facility; removal of dead or trapped animals at a frequency that prevents their accumulation and utilization of covered receptacles for food, feed, dead animals or refuse that are durable, cleanable, inaccessible to insects or rodents, leak proof and nonabsorbent;
 - (ii) Buildings shall be maintained and managed in such a manner as to minimize the activity and reduce the presence of insects and rodents. The director may consider the function, purpose and age of the buildings;
 - (iii) The owner or operator shall maintain or have prompt access to appropriate insect and rodent control equipment;
 - (iv) The owner or operator shall maintain or have prompt access to suitable cleaning implements and supplies as necessary for effective cleaning of the facility; and
 - (v) The owner or operator shall maintain or have prompt access to insect and rodent monitoring methods and devices.
- (c) Biological controls may be used to minimize the activity and reduce the presence of insects and rodents as part of integrated pest management. Biological controls shall include standard operating procedures designed to encourage the development and preservation of beneficial organisms.

Beneficial organisms may be appropriate when contained within the facility but may not be appropriate when removed from the facility. Prior to manure removal, the owner or operator is advised to evaluate the potential effects of beneficial organisms outside of the facility, e.g.,

at any site used for land application of manure

- (d) Chemical controls may be used to minimize the activity and reduce the presence of insects and rodents as part of integrated pest management.

Utilization of chemical controls may require, but not be limited to, asking the owner or operator to become a certified pest control applicator and keep accurate records on methods or products used and on dosage rates under Chapter 921. of the Revised Code

- (e) Utilization of chemical controls may include, but not be limited to the following:

- (i) Insecticides, larvicides, rodenticides, space sprays, fly baits, vapor strips;

- (ii) Chemical application equipment; and

- (iii) Inside and outside control measures.

(C) Storing, stockpiling and land applying manure.

- (1) The insect and rodent control plan shall be consistent with the manure management plan in order to minimize the activity and reduce the presence of insects and rodents at the facility and shall include both the manure storage or treatment facility and the land application area.

- (2) The storing, stockpiling and land application of manure shall be done in accordance with standard operating procedures set forth in this paragraph and in the owner or operator's insect and rodent control plan in order to minimize the activity and reduce the presence of insects and rodents. These standard operating procedures may include but are not limited to:

- (a) Treatment of pests at the land application site;

- (b) Setback distances during land application that are consistent with the manure management plan for the facility and with rule 901:10-2-14 of the Administrative Code;

- (c) Extended stockpiling times after removal from the facility for thermal treatment and prior to land application;

- (d) Covering of the manure storage or treatment facility or covering the stockpile for thermal treatment;
 - (e) Implementing appropriate control measures for manure staged or stockpiled more than one week; and
 - (f) Chemical treatment of the manure at the facility prior to the removal of manure from the manure storage or treatment facility, monitoring and observing fields spread with that manure for pest activity during application, and a final inspection of those fields when applications are complete;
 - (g) If the presence of insect and rodent activity is not minimized and/or reduced prior to the removal of manure from the manure storage or treatment facility, the owner or operator shall visually monitor and observe fields spread with that manure for pest activity during application and shall conduct a final inspection of those fields when applications are complete.
- (D) Emergency procedures. Each facility shall develop and maintain emergency procedures of action in order to minimize the activity and reduce the presence of insects and rodents at the facility.
- (E) Compliance. Compliance with an insect and rodent control plan shall be determined as follows:
- (1) Before proceeding with the procedures set forth in rule 901:10-5-03 of the Administrative Code, the director shall review the operating record, together with the insect and rodent control plan, examine any records of management actions taken, records of implementation of standard operating procedures and other appropriate control actions, and any monitoring data collected in the operating record.
 - (2) The director shall determine if insect and rodent activity has been minimized and the presence of the insects and rodents reduced by evaluating the records and assessing trends and making visual observations at the facility as evidenced by implementation of the insect and rodent control plan over an appropriate period of time and during periodic inspections at the facility. In making this determination for an appropriate period of time, consideration will be given, but not limited to the following: prevailing wind patterns, siting criteria, precipitation patterns, seasonal effects and weather conditions.

- (3) Upon completion of the evaluation described in paragraphs (E)(1) and (E)(2) of this rule, the director may do the following:
 - (a) If the owner or operator is in compliance with the plan, the director may seek voluntary action by the owner or operator to modify the insect and rodent control plan including but not limited to further minimizing and reducing the activity and presence of insects and/or rodents at the facility; or
 - (b) If the owner or operator will not consent to modifying the plan, or if the owner or operator is not in compliance with the plan, then the director may propose to modify the insect and rodent control plan or the owner or operator may submit an application to modify the plan, in accordance with the procedures in rule 901:10-1-09 of the Administrative Code.
- (4) The director is not required to comply with paragraphs (E)(1) to (E)(3) of this rule if the director determines:
 - (a) An emergency exists as described in rule 901:10-5-05 of the Administrative Code; or
 - (b) In consultation with federal, state or local health agencies, the director determines that there exists a high risk of zoonotic disease.
- (F) Criteria for approving, disapproving or modifying an insect and rodent control plan including any major operational change to an insect and rodent control plan..
 - (1) The director shall consider the following criteria in determining an action on an insect and rodent control plan:
 - (a) Compliance with paragraphs (B) to (D) of this rule.
 - (b) Completeness and appropriateness of the methods for disposal of rodents on a daily or weekly basis or if there is an emergency. The director will require compliance with rule 901:10-2-15 of the Administrative Code.
 - (c) In order to comply with rule 901:10-1-09 of the Administrative Code for any proposed major operational change of the insect and rodent control plan, the owner or operator shall:

- (i) Demonstrate that insect and rodent activity has been minimized; or
 - (ii) Demonstrate that the proposed major operational change will improve the management of pests; and
 - (iii) Authorize the director or the director's representative to evaluate the operating records and assess trends and make visual observations at the facility of implementation of the insect and rodent control plan over an appropriate period of time and during periodic inspections at the facility. In making a determination under this paragraph and rule 901:10-1-09 of the Administrative Code, the director may consider the following: prevailing wind patterns, siting criteria, precipitation patterns, seasonal effects, weather conditions, and applicable scientific and technical references for monitoring and control of insect and rodent populations.
- (2) The director must act upon, approve or deny an insect and rodent control plan within ninety days of receiving it.
- (G) Penalties. The director or his designated representative will determine civil penalties for violations of this rule in accordance with the rule 901:10-5-04 of the Administrative Code.

901:10-2-20

Annual report.

The owner or operator of a concentrated animal feeding operation with a permit must submit an annual report to the director. The annual report must include:

- (A) The number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, chickens other than laying hens, swine weighing fifty-five pounds or more, swine weighing less than fifty-five pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);
- (B) Estimated amount of total manure generated by the facility in the previous twelve months (tons/gallons);
- (C) Provide the amount of total manure transferred to other persons by the facility as recorded in the operating record in accordance with rule 901:10-2-11 of the Administrative Code;
- (D) Total number of acres for land application covered by the manure management plan developed in accordance with rule 901:10-2-07 of the Administrative Code;
- (E) Total number of acres under control of the facility that were used for land application of manure in the previous twelve months;
- (F) Summary of all manure discharges from the production area that have occurred in the previous twelve months, including date, time, and approximate volume; and
- (G) A statement indicating whether the current version of the facility's manure management plan was developed or approved by a certified nutrient management planner.
- (H) For NPDES permit annual reports, the actual crop(s) planted and actual yield(s) for each land application area under the control of the facility, the actual nitrogen and phosphorus content of the manure from each manure storage or treatment facility, the results of calculations conducted in accordance with paragraph (D)(1)(g)(ix) of rule 901:10-3-01 of the Administrative Code, the amount of manure applied to each land application area under the control of the facility during the previous twelve months, the results of any soil testing for nitrogen and phosphorus taken during the preceding twelve months, the data used in calculations conducted in accordance with paragraph (D)(1)(g)(ix) of rule 901:10-3-01 of the Administrative Code, and the amount of any supplemental fertilizer applied during the previous twelve months.

901:10-3-01

Additional requirements for a NPDES permit application.

- (A) Concentrated animal feeding operations must have or seek to obtain coverage under a NPDES permit within the time frame provided in accordance with 40 C.F.R. 122.23(f) and in division (J) of section 903.08 of the Revised Code.
- (B) Unless otherwise indicated, the application for an individual NPDES permit and the NPDES permit (if issued by the director) shall contain the following information:
- (1) The information required in rule 901:10-1-02 of the Administrative Code for NPDES permits.
 - (2) To the extent required by federal law, a manure management plan that complies with the requirements of rules 901:10-2-08 to 901:10-2-11, 901:10-2-13 to 901:10-2-16 and rule 901:10-2-18 of the Administrative Code.
 - (a) Inspections required in rule 901:10-2-08 of the Administrative Code.
 - (b) Information on nutrient budget, manure characterization, soil tests, distribution and utilization methods for manure (if applicable to the facility), and land application of manure as required in rules 901:10-2-09 to 901:10-2-14 of the Administrative Code.
 - (3) An operating record developed in accordance with rule 901:10-2-16 of the Administrative Code with the use of forms prescribed by the director and other forms selected by the owner or operator for the facility and approved by the director. The operating record shall be maintained at the site office at all times. Upon approval of the NPDES permit, the operating record shall be deemed part of the NPDES permit.
 - (4) An emergency response plan containing the information required in rule 901:10-2-17 of the Administrative Code.
- (C) Any person who discharges or proposes to discharge pollutants and who does not have an effective NPDES permit, except persons covered by a general NPDES permit, must submit a complete application to the director in accordance with this rule. The director shall not issue a NPDES permit before receiving a complete application for a NPDES permit except NPDES general permits. An application for a NPDES permit is complete when the director receives an application form and any supplemental information which are completed to his or her satisfaction. All applicants for NPDES permits must provide the following information to the director:

- (1) The activities conducted by the applicant, which require it to obtain a NPDES permit;
- (2) The following information about the applicant's facilities:
 - (a) Information about the number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, chickens other than layers, swine weighing fifty-five pounds or more, swine weighing less than fifty-five pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);
 - (b) The types of manure storage areas, waste containment areas, and total capacity for manure storage (tons/gallons);
 - (c) The total number of acres under control of the applicant available for land application of manure;
 - (d) Estimated amounts of manure generated per year (tons/gallons);
 - (e) Estimated amounts of manure transferred to other persons per year (tons/gallons); and
 - (f) For operations that must seek coverage under a permit after December 31, 2006, certification that a nutrient management plan has been completed and will be implemented upon the date of permit coverage.
- (3) The name and address of the owner and operator and information required by paragraph (C)(1) of rule 901:10-2-01 of the Administrative Code;
- (4) Whether the operation is located on Indian lands;
- (5) A listing of all permits or construction approvals received or applied for under any of the following programs:
 - (a) Hazardous waste management program under the Resource Conservation and Recovery Act (RCRA);
 - (b) Underground injection control (UIC) program under the Safe Drinking Water Act (SDWA);

- (c) The "Prevention of Significant Deterioration" (PSD) program under the Clean Air Act;
 - (d) Non-attainment program under the Clean Air Act;
 - (e) "National Emissions Standards for Hazardous Pollutants" (NESHAPS) preconstruction approval under the Clean Air Act;
 - (f) Dredge or fill permits under section 404 of the Clean Water Act;
 - (g) Other relevant environmental permits, including state permits;
- (6) Latitude and longitude of the production area (entrance to the production area); and
- (7) A topographic map of the geographic area in which the concentrated animal feeding operation is located showing the specific location of the production area.

(D) Purpose and applicability of the individual NPDES permit.

Persons that have been issued a NPDES permit by the director are required to comply with the following requirements as determined by the director:

- (1) Rule 901:10-3-10 of the Administrative Code;
- (2) Rules 901:10-3-02 to 901:10-3-06 of the Administrative Code;
- (3) Applicable water quality standards adopted under section 6111.041 of the Revised Code;
- (4) National standards of performance for new sources;
- (5) The antidegradation policy adopted under section 6111.12 of the Revised Code;
- (6) Other applicable requirements of the act; and,
- (7) The terms of the concentrated animal feeding operation's manure management plan. For purposes of NPDES permitting, the terms of the manure

management plan are the information, protocols, best management practices, and other conditions in the manure management plan determined by the director to be necessary to meet the following requirements:

- (a) Ensure adequate storage of manure, including procedures to ensure proper operation and maintenance of manure storage or treatment facilities. These requirements include the operating levels, freeboard, and inspections for manure storage or treatment facilities established in the manure management plan pursuant to paragraphs (D)(1) to (D)(3) and (D)(5) to (D)(7) of rule 901:10-2-08 of the Administrative Code;
- (b) Ensure proper management of livestock mortalities as required in paragraph (A)(4)(m) of rule 901:10-2-08 and rule 901:10-2-15 of the Administrative Code to ensure that there shall be no discharge of pollutants from mortalities to waters of the state and no disposal in a manure or storm water storage or treatment facility that is not specifically designed to treat animal mortalities;
- (c) Ensure that clean water is diverted, as appropriate, from the production area, in accordance with paragraph (D)(8) of rule 901:10-2-08 of the Administrative Code;
- (d) Prohibit direct contact of confined animals with waters of the state as required in paragraph (A) of rule 901:10-2-08 of the Administrative Code;
- (e) Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure or storm water storage or treatment facility that is not specifically designed to treat such chemicals and other contaminants, as required by paragraph (D)(4) of rule 901:10-2-08 of the Administrative Code;
- (f) Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the state, as required in paragraph (D)(8) of rule 901:10-2-08 of the Administrative Code;
- (g) Identify the protocols for appropriate testing of manure and soil as required in rules 901:10-2-10 and 901:10-2-13 of the Administrative Code;
- (h) Identify specific records that will be maintained as required by paragraphs

(A)(1)(a) to (A)(1)(f), (A)(1)(k) to (A)(1)(l), (A)(2), (A)(3)(b) to (A)(3)(s), and (A)(6) of rule 901:10-2-16, to the extent they are applicable to the facility's manure management plan;

(i) Establish protocols to land apply manure in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure. The terms of the manure management plan, with respect to protocols for land application of manure, include the land application areas identified as available pursuant to paragraph (C) of rule 901:10-2-09 of the Administrative Code; the field-specific rates of application properly developed, pursuant to the requirements of rule 901:10-2-14 of the Administrative Code, to ensure appropriate agricultural utilization of the nutrients in the manure; and any timing limitations identified in the manure management plan concerning land application on the land application areas. The terms must address rates of application using the approach set forth below, consistent with the requirements of rule 901:10-2-14 of the Administrative Code.

(i) The terms include the maximum amounts of nitrogen and phosphorus derived from all sources of nutrients, for each crop identified in the manure management plan, in chemical forms determined to be acceptable to the Director, in pounds per acre, for each land application area, and certain factors necessary to determine such amounts. At a minimum, the factors that are terms must include: the outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field determined pursuant to paragraphs (D) and (E) of rule 901:10-2-14 of the Administrative Code; the planned crops to be planted in each field or any other uses such as pasture or fallow fields (including alternative crops identified in accordance with paragraph (D)(1)(g)(ix)(b) of this rule; the realistic yield goal for each crop or use identified for each land application area; and the nitrogen and phosphorus recommendations from appendix C, tables 1, 2, or 3 of rule 901:10-2-14 of the Administrative Code for each crop or use identified for each field. In addition, the terms include the methodology by which the manure management plan accounts for the following factors when calculating the amounts of manure to be land applied: Results of soil tests; credits for all nitrogen in the field that will be plant available; the amount of nitrogen and phosphorus in the manure to be applied; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; the form and source of manure; the timing and

method of land application; and volatilization of nitrogen and mineralization of organic nitrogen. The methodology that must be used to account for each of these factors is set forth in rules 901:10-2-13 and 901:10-2-14 of the Administrative Code.

- (ii) The terms of the nutrient management plan include alternative crops identified in the concentrated animal feeding operation's manure management plan that are not in the planned crop rotation. Where a concentrated animal feeding operation includes alternative crops in its manure management plan, the crops must be listed by land application area, in addition to the crops identified in the planned crop rotation for that land application area, and the manure management plan must include realistic crop yield goals and the nitrogen and phosphorus recommendations from appendix C, tables 1, 2, or 3 of rule 901:10-2-14 of the Administrative Code for each crop. Maximum amounts of nitrogen and phosphorus from all sources of nutrients and the amounts of manure to be applied must be determined in accordance with the methodology identified in paragraph (D)(1)(g)(ix)(a).
- (iii) The following projections must be included in the manure management plan submitted to the director, but are not terms of the nutrient management plan: The concentrated animal feeding operation's planned crop rotations for each field for the period of permit coverage; the projected amount of manure to be applied; projected credits for all nitrogen in the field that will be plant available; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; and the predicted form, source, and method of application of manure, litter, and process wastewater for each crop. Timing of application for each field, insofar as it concerns the calculation of rates of application, is not a term of the manure management plan.
- (iv) Concentrated animal feeding operations must calculate maximum amounts of manure to be land applied at least once each year using the methodology identified in paragraph (D)(1)(g)(ix)(a) of this rule before land applying manure and must rely on the following data:
 - (a) A field-specific determination of soil levels of nitrogen and phosphorus, including, for nitrogen, a concurrent determination of nitrogen that will be plant available

consistent with the methodology required by paragraph (D)(1)(g)(ix)(a) of this rule, and for phosphorus, the results of the most recent soil test conducted in accordance with the soil testing requirements set forth in rule 901:10-2-13 of the Administrative Code; and

- (b) The results of most recent representative manure tests for nitrogen and phosphorus taken within twelve months of the date of land application in accordance with rule 901:10-2-10 of the Administrative Code, in order to determine the amount of nitrogen and phosphorus in the manure to be applied.
- (E) In establishing the terms and conditions of the NPDES permit, the director, to the extent consistent with the act, shall consider technical feasibility and economic costs and shall allow a reasonable period of time for coming into compliance with the permit.
- (F) In addition to conditions required in all permits to meet the requirements of rule 901:10-3-10 of the Administrative Code, the director shall establish conditions, as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the act and regulations. These shall include conditions under 40 CFR sections 122.44, 122.46, 122.47, 122.48 and 40 CFR Part 132 which establishes compliance schedules and authority to set interim compliance dates.

901:10-3-04

Dairy cows and cattle other than veal calves.

This rule applies to operations defined as concentrated animal feeding operations under division (F) of section 903.01 of the Revised Code and includes the following animals: mature dairy cows, either milking or dry; cattle other than mature dairy cows or veal calves. Cattle other than mature dairy cows includes but is not limited to heifers, steers, and bulls. This rule does not apply to such concentrated animal feeding operations with less than the following capacities: seven hundred mature dairy cows whether milked or dry; one thousand cattle other than mature dairy cows or veal calves.

(A) Effluent limitations attainable by the application of the best practicable control technology currently available (BPT). Except as provided in rule 901:10-3-08 of the Administrative Code, any existing point source subject to this rule must achieve the following effluent limitations representing the application of BPT:

(1) For the concentrated animal feeding operation production areas. Except as provided in paragraphs (A)(1) to (A)(2) of this rule, there must be no discharge of manure into waters of the state from the production area.

(a) Whenever precipitation causes an overflow of manure, pollutants in the overflow may be discharged into waters of the state provided:

(i) The production area is designed, constructed, operated and maintained to contain all manure including the runoff and the direct precipitation from a twenty-five year, twenty-four hour rainfall event;

(ii) The production area is operated in accordance with the requirements set forth in the manure management plan in rule 901:10-2-08 of the Administrative Code and the records required by rule 901:10-2-16 of the Administrative Code.

(b) Voluntary alternative performance standards. Any concentrated animal feeding operation subject to this rule may request the director to establish NPDES permit effluent limitations based upon site-specific alternative technologies that achieve a quantity of pollutants that would be discharged under the baseline performance standards as provided by paragraph (A)(1)(a) of this rule.

(i) Supporting information. In requesting site-specific effluent limitations to be included in the NPDES permit, the concentrated animal feeding facility owner or operator must submit a supporting technical analysis and any other relevant information and data that would support such site-specific effluent limitations

within the time frame provided by the director. The supporting technical analysis must include calculation of the quantity of pollutants discharged, on a mass basis where appropriate, based on a site-specific analysis of a system designed, constructed, operated and maintained to contain all manure including the runoff from a twenty-five year, twenty-four hour rainfall event. The technical analysis of the discharge of pollutants must include:

- (a) All daily inputs to the manure storage or treatment facility, including manure, direct precipitation, and runoff.
 - (b) All daily outputs from the manure storage or treatment facility, including losses due to evaporation, manure residuals removal, and the removal of process wastewater or process generated wastewater for use on cropland at the concentrated animal feeding operation or transport off site.
 - (c) A calculation determining the predicted median annual overflow volume based on a twenty-five year period of actual rainfall data applicable to the site.
 - (d) Site-specific pollutant data, including N, P, BOD5, and total suspended solids (TSS) for the concentrated animal feeding operation from representative sampling and analysis of all sources of input to the storage system or other pollutant data.
 - (e) Predicted annual average discharge of pollutants, expressed where appropriate as a mass discharge on a daily basis (lbs/day), and calculated considering paragraphs (A)(1)(b)(i)(a) to (A)(1)(b)(i)(d) of this rule.
- (ii) The director has the discretion to request additional information to supplement the supporting technical analysis, including inspection of the concentrated animal feeding operation.
- (c) The concentrated animal feeding operation shall attain the limitations and requirements of this rule as of the date of permit coverage.
- (2) For concentrated animal feeding operation land application areas.

Discharges from land application areas are subject to the following

requirements:

- (a) Develop and implement the best management practices set forth for the manure management plan in paragraph (A)(1) of rule 901:10-2-07 of the Administrative Code;
 - (b) Maintain the records specified in rule 901:10-2-16 of the Administrative Code; and
 - (c) The concentrated animal feeding operation shall attain the limitations and requirements of this rule by December 31, 2006.
- (B) Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT). Except as provided in rule 901:10-3-08 of the Administrative Code, any existing point source subject to this rule must achieve the following effluent limitations representing the application of BCT:
- (1) For the concentrated animal feeding operation production areas: the operation shall attain the requirements in paragraph (A)(1) of this rule.
 - (2) For the land application areas: The operation shall attain the same limitations and requirements set forth for the manure management plan in paragraph (A)(2) of this rule.
- (C) Effluent limitations attainable by the application of the best available technology economically achievable (BAT). Except as provided in rule 901:10-3-08 of the Administrative Code, any existing point source subject to this rule must achieve the following effluent limitations representing the application of BAT:
- (1) For concentrated animal feeding operation production areas: The operation shall attain the same limitations and requirements set forth in paragraph (A)(1) of this rule.
 - (2) For the operation land application areas: the facility shall attain the same limitations and requirements as those set forth for the manure management plan in paragraph (A)(2) of this rule.
- (D) New source performance standards (NSPS). Any new point source subject to this rule must achieve the following effluent limitations representing the application of NSPS:

- (1) For the concentrated animal feeding operation production areas, the facility shall comply with the requirements of paragraph (A)(1) of this rule.
- (2) For the land application areas, the operation shall attain the requirements as listed for the manure management plan in paragraph (A)(1) of rule 901:10-2-07 of the Administrative Code and the records required in rule 901:10-2-16 of the Administrative Code.
- (3) The facility shall attain the limitations and requirements of this rule as of the date of permit coverage.
- (4) Any source subject to this rule that commenced discharging after April 14, 1993 and prior to April 14, 2003 which was a new source subject to the standards specified in paragraph (C) of rule 901:10-3-03 of the Administrative Code, revised as of July 1, 2002, must continue to achieve those standards for the applicable time period specified in 40 CFR 122.29(d)(1). Thereafter, the source must achieve the standards specified in paragraphs (A)(1) and (A)(2) of this rule.

901:10-3-07

Designated operations and determinations by the director.

- (A) The director may designate any animal feeding facility as a concentrated animal feeding operation in accordance with division (F)(1) of section 903.10 of the Revised Code upon determining that it is a significant contributor of manure to waters of the state. In making a designation, the director shall consider the following factors:
- (1) The size of the animal feeding facility and the amount of manure reaching waters of the state;
 - (2) The location of the animal feeding facility relative to waters of the state;
 - (3) The means of conveyance of manure into waters of the state;
 - (4) The slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge of manure into waters of the state; and
 - (5) Other relevant factors.
- (B) No animal feeding facility shall be designated under this rule unless the director has conducted an on-site inspection of the animal feeding facility and determined that the facility should and could be regulated under the permit program. In addition, no animal feeding facility with numbers of animals below those established in division (Q) of section 903.01 of the Revised Code may be designated as a concentrated animal feeding operation or concentrated animal feeding facility unless:
- (1) Manure is discharged into waters of the state through a constructed ditch, flushing system, or other similar constructed device; or
 - (2) Manure is discharged directly into waters of the state which originate outside of the facility and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the facility.
- (C) The director may determine that an animal feeding facility that is not a medium concentrated animal feeding operation or a small concentrated animal feeding operation is a concentrated animal feeding facility in accordance with section 903.082 of the Revised Code.
- (D) If the director determines that an animal feeding facility shall be required to be permitted as a medium or small concentrated animal feeding operation, then the owner or operator shall apply to the director for an NPDES permit as a concentrated animal feeding operation. If the director determines that the existing

facility cannot comply with best management practices in Chapter 901:10-2 or Chapter 1505:15-5 of the Administrative Code, without modifying the existing facility, the owner or operator shall apply for a permit to install.

901:10-3-08

VariANCES.

- (A) A variance may be requested in accordance with section 301 or section 302 of the Federal Water Pollution Control Act. A request for a variance will be decided upon by the director, but the director's decision shall not be incorporated into any term or condition of a NPDES permit until the United States environmental protection agency regional administrator grants or denies the request for a variance or, in the case of variances under paragraph (B)(4) or (B)(5) of this rule, the administrator grants or denies the request for a variance.
- (B) The regional administrator may deny, forward or submit to the United States environmental protection agency office director for water enforcement and permits a recommendation for approval for a request for a variance listed in paragraph (B) of this rule that has been forwarded by the director:
- (1) Extensions based on delay in completion of a publicly owned treatment works provided that the extension meets the requirements of section 301(i) of the act;
 - (2) Extensions based on the use of innovative technology where effluent reduction will be significantly reduced with significantly reduced cost. The variances may provide an extended two-year period to comply provided that the extension meets the requirements of section 301(k) of the act;
 - (3) A variance based on the economic capability of the applicant provided that the variance shall meet the requirements of section 301(c) of the act. The owner or operator must show progress in reductions with the maximum use of technology while utilizing economic capability;
 - (4) A variance based on the presence of "fundamentally different factors" or "FDF" that meets the requirements of section 301(n) of the act. A FDF variance is not timely unless filed when effluent limits are to be modified in a rulemaking procedure. A FDF variance shall be "no less stringent a limit than justified by fundamental differences" while also demonstrating that the existing limit will cause adverse affect; or
 - (5) A variance that meets the requirements of section 301(g) of the act for nonconventional pollutants that include ammonia, chlorine, color, iron, and total phenols.
 - (6) A variance based on water quality related effluent limitations under section 302(b) of the act applies only to the owner or operator requesting the variance and only to the pollutant or pollutants specified in the variance. A variance does not affect or require corresponding changes to the water quality standard

for the waterbody as a whole.

(a) Eligibility. The owner or operator is not eligible for a variance under this paragraph if the following apply:

(i) The owner or operator is a new discharger or the owner or operator of a facility that commenced a discharge after March 23, 1997.

(ii) If the variance would likely jeopardize the continued existence of an endangered or threatened species listed under section four of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat.

(iii) If standards will be attained by implementing effluent limits required under sections 301 (b) and 306 of the act and by the owner or operator implementing cost-effective and reasonable best management practices for nonpoint source control.

(b) Timeframe for variances. A water quality based variance issued under paragraph (B)(6) of this rule shall not exceed five years or the term of the NPDES permit whichever is less. A water quality based variance shall be reviewed and modified if necessary as part of each water quality standards review pursuant to section 303(c) of the act.

(c) Conditions to grant a variance. A variance may be granted if:

(i) The owner or operator demonstrates to the director that attaining the water quality standard is not feasible because:

(a) Naturally occurring pollutant concentrations prevent the attainment of the water quality standard;

(b) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the water quality standard, unless these conditions may be compensated for by the discharge of a sufficient volume of effluent to enable the water quality standard to be met without violating water conservation requirements;

(c) Human-caused conditions or sources of pollution prevent the attainment of the water quality standard and cannot be

remedied, or would cause more environmental damage to correct than to leave in place;

- (d) Dams, diversions or other types of hydrologic modifications preclude the attainment of the water quality standard, and it is not feasible to restore the waterbody to its original condition or to operate such modification in a way that would result in the attainment of the water quality standard;
 - (e) Physical condition related to the natural features of the waterbody, such as the lack of a proper substrate cover, flow, depth, pools, riffles, and the like, unrelated to chemical water quality, preclude attainment of the water quality standard; or
 - (f) Controls more stringent than those required by sections 301(b) and 306 of the act would result in substantial and widespread economic and social impact.
- (ii) In addition to the requirements of paragraph (B)(6)(c)(i) of this rule the owner or operator shall also:
- (a) Show that the variance requested conforms to the requirements of the antidegradation policy as set forth in section 6111.12 of the Revised Code; and
 - (b) Characterize the extent of any increased risk to human health and the environment associated with granting the variance compared with compliance with the water quality standard absent the variance, such that the director is able to conclude that any such increased risk is consistent with the protection of the public health, safety and welfare.
- (d) Submittal of the variance application. The owner or operator shall submit an application for a variance to the director. The application shall include:
- (i) All relevant information demonstrating that attaining the water quality standard is not feasible based on one or more of the conditions in paragraphs (B)(6)(c)(i) and (B)(6)(c)(ii) of this rule.
 - (e) Public notice of preliminary decision. Upon receipt of a complete

application for a variance and upon making a preliminary decision regarding the variance the director shall provide public notice of the request and preliminary decision for a public comment pursuant to the procedures set forth in Chapter 901:10-6 of the Administrative Code. The director shall notify the other Great Lakes States and Tribes of the preliminary decision for discharges in the Lake Erie basin. This public notice requirement may be satisfied by including the supporting information for the variance and the preliminary decision in the public notice of the draft NPDES permit.

- (7) The director shall issue a final decision on the variance request within ninety days of the expiration of the public comment period required in paragraph (B)(6)(e) of this rule. If the director decides to grant or deny a variance then the director shall do so in accordance with Chapter 119. of the Revised Code. If all or part of the variance is approved by the director, the decision shall include all permit conditions needed to implement those parts of the variance so approved. Such permit conditions shall, at a minimum, require:
- (a) Compliance with an initial effluent limitation which, at the time the variance is granted, represents the level currently achievable by the owner or operator and which is no less stringent than that achieved under the previous permit;
 - (b) That reasonable progress be made toward attaining the water quality standards for the waterbody as a whole through appropriate conditions;
 - (c) When the duration of a variance is shorter than the duration of a permit, compliance with an effluent limitation sufficient to meet the underlying water quality standard, upon the expiration of said variance; and
 - (d) A provision that allows the director to reopen and modify the permits based on any triennial water quality standards revisions to the variance.

The director shall deny a variance request if the permittee fails to make the demonstrations required under paragraph (B)(6)(c) of this rule.

- (8) Incorporating into the permit. The director shall establish and incorporate into the NPDES permit all conditions needed to implement the variance as determined in paragraph (B)(7) of this rule.
- (9) Renewal of the variance. A variance may be renewed subject to the requirements of paragraph (B)(8) of this rule. As part of any renewal

application, the owner or operator shall again demonstrate that attaining a water quality standard is not feasible based on the requirements of paragraph (B)(6)(c) of this rule. The application shall also contain information concerning compliance with the conditions incorporated into its permit as part of the original variance pursuant to paragraphs (B)(7) and (B)(8) of this rule. Renewal of a variance may be denied if the owner or operator did not comply with the conditions of the original variance.

- (10) All variances and supporting information shall be submitted by the director to the regional administrator and shall include:
 - (a) Relevant applications as set forth in paragraph (B)(6)(d) of this rule;
 - (b) Public comments and records of any public hearings pursuant to paragraph (B)(6)(e) of this rule;
 - (c) The final decision of the director; and
 - (d) The NPDES permit.
 - (e) Information required by this paragraph shall be submitted by the director within thirty days of the date of the final variance decision. The information required by paragraph (B)(6)(d) of this rule shall be submitted in accordance with the terms of the memorandum of agreement with the regional administrator pursuant to 40 CFR 123.24.
- (11) All variances shall be transmitted to the Ohio environmental protection agency and appended to the water quality standard rules adopted in accordance with section 6111.041 of the Revised Code.
- (C) The United States environmental protection agency regional administrator or the United States environmental protection agency office of the director for water enforcement and permits may approve or deny any variance request submitted under paragraph (B) of this rule. If the regional administrator or office director approves the variance, the director may prepare a draft permit incorporating the variance. Any public notice of a draft permit for which a variance has been approved or denied shall identify the applicable procedures for appealing that decision. An owner or operator shall be afforded an appeal of the decision in accordance with 40 C.F.R. section 124.64 and Chapter 119. of the Revised Code.

901:10-3-09

Appeals of variances.

When the director issues a permit on which the United States environmental protection agency has made a variance decision, separate appeals of the state permit and of the United States environmental protection agency variance decision are possible. If the owner or operator is challenging the same issues in both proceedings, the regional administrator will decide, in consultation with state officials, which case will be heard first.

901:10-4-02

General permit to operate coverage.

- (A) A general permit to operate as described in rule 901:10-4-01 of the Administrative Code is issued by the director for a category of facilities located at multiple sites.
- (B) Each person eligible for a general permit to operate shall follow the requirements in rule 901:10-4-03 of the Administrative Code.
- (C) Upon issuance of a general permit to operate and issuance of an individual certificate of coverage, the individual permit to operate shall be terminated. All previous permits issued to a facility that can be covered by a general permit to operate are revoked upon request of the owner or operator, termination of the individual permit and issuance of the certification of coverage.
- (D) Any person covered under a general permit to operate may choose to pursue an individual permit for any facility covered by this rule.

901:10-4-05

General operating permit.

A general permit to operate shall be effective from the date of issuance for a fixed term not to exceed five years. Holders of certificates of coverage under this permit shall comply with the following specified conditions and limitations.

(A) Applicability. "Concentrated animal feeding operation" or "CAFO" has the same meaning as division (F) of section 903.01 of the Revised Code and refers to those operations that are subject to the federally enforceable provisions of a permit into which NPDES requirements have been incorporated. "Concentrated animal feeding facilities" or "facilities" have the same meaning as division (E) of section 903.01 of the Revised Code and refer to those facilities that are subject to permits to operate. With respect to NPDES operations, the following requirements also apply to and are enforceable pursuant to the Act and to the extent authorized by federal law:

- (1) The information required for NPDES permits in rule 901:10-1-02 of the Administrative Code;
- (2) The information required in rule 901:10-3-01 of the Administrative Code except where general NPDES permits are specifically excluded;
- (3) A manure management plan that complies with the requirements of rules 901:10-2-08 to 901:10-2-11, 901:10-2-13 to 901:10-2-16 and rule 901:10-2-18 of the Administrative Code;
- (4) Inspections required in rule 901:10-2-08 of the Administrative Code;
- (5) An operating record developed in accordance with rule 901:10-2-16 of the Administrative Code with the use of forms prescribed by the director and other forms selected by the owner or operator for the facility and approved by the director. The operating record shall be maintained at the site office at all times. Upon approval of the NPDES permit, the operating record shall be deemed part of the NPDES permit;
- (6) An emergency response plan containing the information required in rule 901:10-2-17 of the Administrative Code; and
- (7) An annual report required in rule 901:10-2-20 of the Administrative Code.

(B) Performance standards.

- (1) Compliance is required with rules 901:10-2-08 to 901:10-2-19 of the Administrative Code.

- (2) The facility permitted under a general permit shall be effectively maintained and operated to prevent the discharge of pollutants to waters of the state. Facilities which are in compliance with their manure management plan (MMP) and a general permit which unintentionally discharge as a result of the twenty-five year, twenty-four hour storm event or greater will not be considered to be in violation of this permit.
- (3) For new and existing facilities, the operating level of manure treatment lagoons and manure storage ponds in rule 901:10-2-06 of the Administrative Code must have at a minimum containment capacity at the prospective operating level that can also contain adequate storage for a twenty-five year, twenty-four hour storm event, one foot of freeboard and any additional storage required in the MMP.
- (4) For new and expanding facilities, the operating level of fabricated structures in rule 901:10-2-05 of the Administrative Code must have at a minimum storage volume at the prospective operating level that can also contain adequate storage for a twenty-five year, twenty-four hour storm event and six inches of freeboard and any additional storage required in the MMP.
- (5) The manure management plan, the operating record and insect and rodent control plan are incorporated by reference into a general permit to operate. The permittee shall maintain compliance with an approved MMP, the operating record rules and insect and rodent control plan as required under state law.
- (6) A facility may be expanded by not more than ten per cent in excess of the design capacity set forth in the current design capacity, provided that in no case during a five year period shall the facility's capacity be increased by more than ten per cent in the aggregate and further, that in no case shall the capacity be increased so as to exceed the number of animal units authorized in the category of the general permit.
- (7) New or expanding facilities are required to be inspected by the director or an authorized representative in a timely manner prior to stocking the animals.
- (8) A copy of the certificate of coverage ("COC"), general permit, distribution and utilization records, the insect and rodent control plan, the operating record and the MMP shall be maintained at the site office where manure management activities are being conducted for the life of the general permit. These documents shall be kept in good condition and shall be maintained in an orderly fashion.

(C) Operation and maintenance requirements.

- (1) The manure storage or treatment facilities and equipment shall be properly maintained at all times.
- (2) The manure land application sites and setbacks as required in appendix A of rule 901:10-2-14 of the Administrative Code shall be properly maintained at all times.
- (3) The phosphorus and nitrogen application rates shall be maintained as set forth in paragraphs (B) to (E) rule 901:10-2-14 of the Administrative Code. Available water capacity identified in the MMP shall be maintained in accordance with appendix B of rule 901:10-2-14 of the Administrative Code.
- (4) Unless designed and permitted to do so, domestic and/or industrial wastewater from showers, toilets, sinks, etc. shall not be discharged into the manure storage or treatment facility.
- (5) Disposal of dead animals shall be done in accordance with specified best management practices and rule 901:10-2-15 of the Administrative Code.
- (6) All stormwater conveyances shall be inspected and maintained to keep runoff from the surrounding property and buildings and shall be diverted away from the manure treatment lagoons and/or manure storage ponds to prevent any unnecessary addition to the liquid volume in these structures unless the lagoons and/or ponds are designed for such runoff containment.
- (7) A protective vegetative cover shall be maintained on all disturbed areas (manure treatment lagoon or manure storage pond embankments, berms, pipe runs, erosion control areas, etc.). Emerging vegetation such as trees, shrubs and other woody species shall not be allowed to grow on the dikes or side slopes of manure treatment lagoons or manure storage ponds. Manure treatment lagoon and manure storage pond areas are to be kept mowed and accessible unless these areas are grassed waterways or buffers that manage precipitation runoff and stormwater.
- (8) Management of the manure residuals shall be in accordance with the MMP.
- (9) When removal of manure residuals from the manure storage or treatment facilities is necessary, provisions must be taken to prevent damage.

- (10) Solid materials including, but not limited to, bottles, light bulbs, gloves, syringes or any other solid waste from the facility shall be prevented from entering the manure storage or treatment facility.
- (11) The owner or operator must have at all times: adequate manure application and handling equipment on site; an agreement to acquire or have use of the necessary equipment; a third party applicator capable of providing adequate manure application equipment; or a distribution and utilization plan.

The equipment must be capable of land applying the manure on the sites specified in the MMP, including compliance with the agronomic rate, available water capacity for the land application sites and incorporation of manure, where required. Records shall be maintained in the operating record as required in rule 901:10-2-16 of the Administrative Code.

(D) Monitoring and reporting requirements.

- (1) Manure treatment and storage facilities under the control of the owner or operator shall be inspected for evidence of erosion, leakage, damage or discharge. A written chronological record of maintenance and repairs shall be maintained in the operating record and be made readily available during a scheduled inspection of the facility. These records shall also be made available at the request of the director. All repairs shall be completed promptly. The department shall inspect any major structural repairs.
- (2) If not already installed at a facility, a liquid level board or staff gauge or other appropriate device, as approved by the director, shall be installed within sixty days of issuance of the COC under a general permit to monitor manure levels. This board or gauge or other appropriate device, as approved by the director, shall have readily visible permanent markings indicating the summation of the residual manure volume and minimum storage or treatment design volume and shall be designated as the "stop pumping" elevation. The liquid level board, staff gauge or other appropriate device, as approved by the director, shall also indicate the elevation corresponding to the summation of the maximum storage volume, residual solids minimum storage, volume, runoff and wash down volumes and manure volume and shall be designated as "start pumping" elevation. Where manure storage ponds are utilized, only a gauge with visible permanent markings indicating when the pump-out begins and freeboard elevations need be installed. Caution must be taken not to damage the integrity of the liner when installing the gauge. Levels shall be recorded in the operating record that must be maintained at the facility, in compliance with the MMP.

- (3) Soil testing shall be conducted as described in the MMP on each land application site receiving manure. The results of these tests shall be maintained in the operating record by the owner or operator for a minimum of five years and shall be made available to the director.
- (4) An analysis of the manure from the manure storage or treatment facility shall be conducted initially after issuance of the COC and thereafter as described in the MMP. This analysis shall include the parameters listed in the MMP.
- (5) Proper records, including maintenance, repairs and the operating record, shall be maintained on site and in chronological and legible form for a minimum of five years. These records shall be readily available for inspection in the operating record.

(E) Emergency response plan.

An emergency response plan must be developed that shall include the following:

- (1) The names and telephone numbers of persons who are identified by the owner or operator as responsible for implementing the plan;
- (2) Areas of the facility where potential spills can occur and their accompanying surface and subsurface drainage points;
- (3) Procedures to be followed in the event of a spill, including an actual or imminent discharge to waters of the state:
 - (a) Actions to contain or manage the spill or discharge;
 - (b) Identification of proper authorities to be contacted;
 - (c) Actions to mitigate any adverse effects of a spill or discharge; and
 - (d) Identification of equipment and cleanup materials to be used in the event of a spill or discharge.
- (4) Procedures for reporting. The owner or operator shall report by telephone to the department as soon as possible, but in no case more than twenty-four hours following first knowledge of the occurrence of the following:

- (a) The time at which the discharge or spillage occurred, if known, and or was discovered;
 - (b) The approximate amount and characteristics of the discharge or spillage;
 - (c) The receiving waters affected by the discharge or spillage;
 - (d) The circumstances that created the discharge or spillage;
 - (e) The names and telephone numbers of the persons who have knowledge of these circumstances;
 - (f) Those steps being taken to clean up the discharge or spillage; and
 - (g) The names and telephone numbers of the persons responsible for the cleanup.
- (5) For any emergency that requires immediate reporting after normal business hours, the owner or operator shall contact the Ohio department of agriculture's emergency telephone number.
- (6) If applicable, the owner or operator shall notify the appropriate local authorities.
- (7) The owner or operator shall also file a written report of the occurrence in letter form within five days following first knowledge of the occurrence unless waived by the director permitting an extension of time. This report shall outline the actions taken or proposed to be taken to correct the problem and to ensure that the problem does not recur.

(F) Inspections.

Any duly authorized officer, employee or representative of the department may inspect the permitted site at any reasonable time upon presentation of credentials and in accordance with reasonable and appropriate biosecurity measures, for the purpose of determining compliance with this permit; may inspect or obtain a copy of any records that must be kept under the terms and conditions of this permit; and may obtain samples of the manure, soil, groundwater or surface water.

(G) General conditions.

- (1) In addition to the general conditions set forth in this paragraph, the owner or operator of an NPDES operation shall comply with the standard terms and conditions set forth in rule 901:10-3-10 of the Administrative Code.
- (2) Upon reasonable cause to believe that any activities pursuant to this permit may cause or contribute any manure, directly or indirectly, to be intermixed with the waters of the state, the department may require any monitoring (including but not limited to groundwater, surface water and soil) necessary to determine the source, quantity, quality and effect of such waste upon the waters of the state. Such monitoring, including its scope, frequency, duration and any sampling, testing and reporting systems, shall meet all applicable requirements, including records maintained in the operating record. The director has the ability to determine that an individual NPDES or general NPDES permit may be required.
- (3) Failure to abide by the conditions and limitations contained in this permit and any COC issued under a general permit may subject the owner or operator to an enforcement action in accordance with Ohio law and may include the requirement to obtain an individual permit, the addition of manure storage or treatment facilities or the addition of land application sites.
- (4) The issuance of a COC under a permit does not excuse the owner or operator from the obligation to comply with all applicable statutes, rules, regulations, or ordinances (local, state and federal).
- (5) If animal production is to be suspended or terminated, the owner or operator is responsible for developing, implementing and completing a closure plan in accordance with rule 901:10-2-18 of the Administrative Code which will eliminate the possibility of an illegal discharge, pollution and the potential for environmental degradation to waters of the state and shall be in accordance with applicable closure standards in effect when the closure plan is developed and implemented.

901:10-5-05

Emergency enforcement and cost recovery.

- (A) If the director determines that an emergency exists requiring immediate action to protect the public health or safety or the environment, the director may issue an order without notice or adjudication hearing stating the existence of the emergency and requiring that action be taken that is necessary to meet the emergency. The order shall take effect immediately. A person to whom the order is directed shall comply immediately. A danger to public health, safety or the environment may include, but is not necessarily limited to, the following situations:
- (1) When discharge threatens public or private drinking water supplies;
 - (2) When discharge threatens waters of the state;
 - (3) When the discharge directly causes flooding of residential housing, commercial property or industrial property, where direct use of the property would be hazardous to public health; and/or
 - (4) Other situations as determined by the director upon consultation with state and/or local environmental protection or health agencies.
- (B) Following receipt of the emergency order, the owner or operator shall comply with the order. The order shall take effect immediately, however, the owner or operator shall be afforded the opportunity for a hearing in accordance with paragraph (C) of this rule.
- (C) On application to the director, the owner or operator shall be afforded an adjudication hearing in accordance with Chapter 119. of the Revised Code as soon as possible and not later than thirty days after application. The director's order is appealable in accordance with section 119.12 of the Revised Code. The applicant shall provide the following information to the director in writing or by telephone:
- (1) A statement requesting an adjudication hearing;
 - (2) The date when the order was issued; and
 - (3) The business or home address and phone number where the owner, operator or representative can be reached during business hours.
- (D) On the basis of the hearing, the director or his designee shall continue, revoke or modify the order. If the owner or operator does not request a hearing, the emergency order may remain in effect for one hundred twenty days after its issuance. An order issued following an adjudicatory hearing shall not be considered

an emergency order. The appeal provisions described in paragraph (C) of this rule shall apply.

- (E) A person responsible for causing or allowing an unauthorized release, spill or discharge of manure is liable to the director for any costs incurred in investigating, mitigating, minimizing, removing, abating the spill, release or discharge or other acts or events that resulted in the emergency and the emergency order. If no attempt is made to repay the director for costs incurred or damages assessed within that time, the director may request the attorney general to bring a civil suit against the person responsible to recover costs and any assessed damages. Reimbursed costs shall be deposited into the livestock management fund.

- (F) Livestock management fund. Funds deposited in the livestock management fund created under section 903.19 of the Revised Code shall be used for paying the costs for emergency actions. In addition to paying the costs incurred by the director under section 903.18 of the Revised Code, the director may make disbursements from the fund for any costs incurred by the department in investigating, mitigating, minimizing, removing, abating the release, spill or discharge or other acts or events that resulted in the emergency or the emergency order.

901:10-6-01

Notice.

(A) Notice by publication.

- (1) Notices in general. All notices required or authorized by section 903.09 of the Revised Code shall be published once in a newspaper having general circulation in the county in which the facility is located or proposed to be located. Publication shall be done at least thirty days prior to a public meeting, provided that publication shall be done at least forty-five days prior to a public meeting for any draft permit to install or draft NPDES permit subject to an antidegradation review. Public notice is complete upon publication.

Public notice will be given for any draft general permit to be issued by the director. Since general permits are written to cover categories of discharges within a geographic or political area, the director may give one or more notices in newspapers of general circulation for those geographic or political areas identified in the general permit.

- (2) Additional requirements for NPDES information. The department shall publish a public notice within thirty days regarding receipt of a NPDES permit application and permit to install for which an antidegradation review is applicable. The purpose of public notice for a draft permit to install and a draft NPDES permit for which an antidegradation review is applicable shall be: to inform other potentially affected persons; to allow for inspection and review of the applications; to indicate whether any of the exclusions or waivers within the antidegradation rules apply to the applications; to instruct interested persons to contact the director within thirty days if they want to be on the interested parties mailing list as described in rule 901:10-6-05 of the Administrative Code for that particular permit to install or NPDES permit application; and to advertise the date, time, and place of any public meeting required under division (C) of section 903.09 of the Revised Code.
- (3) The department shall give public notice of the issuance of a review compliance certificate issued pursuant to division (F) of section 903.04 of the Revised Code only to persons who own property that is contiguous to the facility for which the review compliance certificate is issued.
- (4) The director shall publish notice of the issuance of a final permit once in a newspaper of general circulation in the county in which the facility is located.
- (5) The director shall give public notice of the proposed action to deny, suspend, or revoke a permit to install, permit to operate, or NPDES permit, or for any actions pursuant to section 903.17 of the Revised Code.

(B) Notice by mail.

- (1) The director shall mail notice of the issuance of a draft permit and a copy of the draft permit to the applicant or owner or operator and to the board of county commissioners of the county, the board of township trustees of the township, the local board of health and the local soil and water conservation district in which the facility is located or proposed to be located. The director shall also notify owners or operators of public water systems as that term is defined in section 6109.01 of the Revised Code that have a surface water intake structure located within ten miles downstream of the facility or proposed facility described in the draft permit.
- (2) In addition, if an antidegradation review of a NPDES permit application indicates the potential to lower water quality, the director shall provide notice by mail to the Ohio department of natural resources, the United States fish and wildlife service, any affected local areawide planning agencies and the Ohio department of development.
- (3) The director shall mail notice of the proposed action to deny, suspend, or revoke a permit to install, permit to operate, or NPDES permit to the applicant or owner or operator and a copy of the proposed action to the board of county commissioners of the county and the board of township trustees of the township in which the facility is located or proposed to be located. The director shall also provide notice of the proposed action to deny, suspend, or revoke a NPDES permit to any other persons that are entitled to notice under the Federal Water Pollution Control Act.
- (4) Notices shall be mailed by certified mail, return receipt requested, to the person subject thereto. Notices shall state the time and method by which the applicant or permit holder may request public meeting. A statement as to when a final permit will be issued may accompany draft permits.
 - (a) If a draft permit or proposed action is issued with an effective date and the permit is later signed by the director without being changed further, the department need not, at the time of entry, provide notice or a copy of the permit to the person subject thereto.
 - (b) If a draft permit or proposed action is issued without an effective date, and the department later assigns an effective date without changing the action further, the department shall mail notice to the person subject thereto informing the person of the effective date.

- (5) If the applicable law grants a right to appeal the final permit or order of the director to the environmental review appeals commission, mailings required by this paragraph shall be accompanied by a notice stating the time and method by which the appeal must be filed.

- (C) Notice of a public meeting is not required for the modification of a permit made with the consent of the permittee for the correction of typographical errors.

- (D) The director may also hold a public meeting at the director's discretion, whenever, for example, such a public meeting might clarify one or more issues involved in the permit decision.

901:10-6-02

Contents of public notices.

(A) **Applicability.** This rule applies to public notices for the issuance of or proposed actions to deny, suspend, modify, or revoke permits to install, permits to operate, and NPDES permits. This rule applies to the issuance of final orders pursuant to section 903.17 of the Revised Code. In addition, this rule applies to public notices for the receipt of applications for NPDES permits including notification of the public of an applicable antidegradation review under section 6111.12 of the Revised Code. Public notices shall include the following information:

(1) The name, address and telephone number of the office of the Ohio department of agriculture where department files and records pertaining to the proposed action or issuance are located and may be inspected and copied and instructions for persons desiring to obtain additional information, including the NPDES mailing list provided for in rule 901:10-6-05 of the Administrative Code

(2) The name and address of the applicant.

(3) A brief description of the applicant's activities or operations.

(4) The location of the facility and a short description of any discharge indicating whether any discharge is a new or an existing discharge.

(5) A concise statement of the draft permit or the proposed action.

(6) A statement:

(a) That any interested person may submit a written comment on the draft permit and may request a public meeting within thirty days of appearance of public notice in a newspaper in the affected county. A request for a public meeting shall be in writing and shall state the nature of the issues proposed to be raised in the public meeting; and

(b) The any person has a right to provide a written or oral statement for the record at the public meeting if a meeting is scheduled; and

(c) That one public meeting shall be held prior to issuance of any final permit decision when required by paragraph (C) of rule 901:10-6-04 and may be held where authorized by paragraph (D) of rule 901:10-6-01 of the Administrative Code.

(7) In addition, if the public notice is for an NPDES permit application or a draft

permit on an NPDES permit the public notice shall contain the following information:

For a NPDES permit and permit to install application subject to an antidegradation review:

- (a) A statement summarizing the receipt of an application for an NPDES permit where an antidegradation review is required;
- (b) The date of issuance of the draft permit;
- (c) A statement on the applicability of an antidegradation review in section 6111.12 of the Revised Code to indicate whether waivers or exclusions of the policy apply or to indicate an evaluation of issues related to lower water quality.
- (d) A statement that the draft permit shall become final on an effective date or event specified therein, unless:
 - (i) A public meeting is requested;
 - (ii) The director amends or withdraws the draft permit; or
 - (iii) The draft NPDES permit has been disapproved by the United States environmental protection agency in accordance with rule 901:10-3-06 of the Administrative Code; and
- (e) A statement on the applicability of any of the requirements determined by the director in accordance with paragraph (D)(2) of rule 901:10-3-01 of the Administrative Code.

(B) Notice of NPDES permit applications to government agencies. The notice required by paragraph (A) of rule 901:10-6-01 of the Administrative Code to be given to state and governmental agencies shall include:

- (1) The information required in this rule and may include a copy of such public notices.
- (2) A statement that:

- (a) An affected state or agency, unless covered by paragraph (B)(2)(b) of this rule, may submit written recommendations to the director and to the regional administrator of the United States environmental protection agency which the director may incorporate into the NPDES permit if issued, and that if the recommendation of the state or agency is not incorporated in the final permit, a written explanation of the director's reasons for not accepting the recommendation will be provided for that state or agency and the regional administrator of the United States environmental protection agency; and
 - (b) If an army corps of engineers district engineer submits written recommendations to the director advising that anchorage and navigation of any of the waters of the United States would be substantially impaired by the granting of the NPDES permit, the director shall propose to deny the NPDES permit in accordance with division (F) of section 903.09 of the Revised Code, and the applicant shall be so notified. If the army corps of engineers district engineer advised the director that imposing specified conditions upon the permit is necessary to avoid any substantial impairment of anchorage or navigation, then the director shall include the specified conditions in the permit.
- (3) A copy of the fact sheet and a statement that a copy of the application for an NPDES permit or of the draft NPDES permit, including all ancillary papers, will be provided upon request.
- (C) The notice required by paragraph (B) of this rule shall also be given, when applicable, to:
- (1) Any agency responsible for an areawide waste treatment management plan pursuant to division (B) of section 208 (2004) of the Federal Water Pollution Control Act.
 - (2) Any agency responsible for the preparation of a plan pursuant to an approved continuing planning process under division (E) of section 303 (1972) of the Federal Water Pollution Control Act.

901:10-6-03

Coordination of federal water pollution control act permit program with agencies of the United States.

- (A) Upon the director's issuance of a draft permit for an application to issue or modify a permit, the department shall transmit by certified mail a copy of the permit application and the draft NPDES permit to the regional administrator of the United States environmental protection agency, unless by written agreement the regional administrator has waived the right to receive, review, object, or comment upon a draft permit. If the regional administrator makes timely objection in writing to the issuance of the NPDES permit as being outside the requirements of the Federal Water Pollution Control Act, the permit shall not become final. The director may issue an amended draft permit after consideration of written comments or recommendations of the regional administrator, or may withdraw a draft permit.
- (1) The director shall also transmit to the regional administrator of the United States environmental protection agency a copy of any significant comments presented in writing pursuant to the public notice of a draft permit and a summary of any significant comments presented at any public meeting on any permit if:
- (a) The regional administrator requests this information;
 - (b) The proposed permit contains requirements significantly different from those contained in the draft permit; or
 - (c) Significant comments objecting to the draft permit have been presented at the public meeting or in writing pursuant to the public notice. This does not apply to permits which by written agreement the regional administrator has waived the right to review and for which the United States environmental protection agency has not otherwise requested a receipt.
- (2) Immediately following final issuance or modification or renewal of a permit under division (D) of section 903.09 of the Revised Code, the department shall transmit by first class mail a copy to the regional administrator.
- (B) At the time of issuance of public notice of an application for issuance or modification of a permit pursuant to division (A) of section 903.09 of the Revised Code, for a discharge for which a fact sheet is prepared pursuant to rule 901:10-6-05 of the Administrative Code, the department shall transmit a copy of the fact sheet to the district engineer of the United States army corps of engineers for the district in which the discharge is located, unless by written agreement the district engineer has waived his right to receive a fact sheet for the discharge.

- (C) The department shall, on or before the date of newspaper publication of a NPDES permit, provide the information specified in rule 901:10-6-02 of the Administrative Code to any affected state, interstate, federal, or local government agency having jurisdiction over fish, shellfish, and wildlife resources or over coastal zone management plans, the relevant state historic preservations office, and any affected Indian tribe.

901:10-6-04

Public meetings; close of the public comment period.

(A) Not later than thirty days after public notice of a draft permit, draft permit modification, or a proposed action to deny, suspend, or revoke a permit, any person may file a request for a public meeting. This paragraph does not apply to amended draft actions or to a NPDES permit application where an antidegradation review is required.

(B) Public meetings and antidegradation review and NPDES permits.

(1) Within ninety days of receipt of the application for any permit to install with a NPDES permit, the director shall hold a public meeting where an antidegradation review is required for any category three wetland, a designated outstanding national resource water, outstanding high quality water, state resource water or superior high quality water. The public meeting shall be for the purpose of evaluating issues related to lower water quality.

(2) Within ninety days of receipt of the application, the director shall hold a public meeting for any permit to install application and any NPDES permit application where the application indicates that an antidegradation review is required for general high quality waters other than category three wetlands and for limited quality waters, and the director also determines that there is significant public interest. This meeting is held concurrently with the meeting for the draft permit.

(C) If the director determines that there is significant public interest as described in paragraph (D) of this rule in a draft permit to install, permit to operate, NPDES permit, or modification of any permit, in the antidegradation review described in paragraph (B)(2) of this rule, or in any proposed action to deny, suspend, or revoke a permit, or where required to do so by statute or rule, the director shall hold one public meeting in the county where the facility is located or in a contiguous county. In consideration of an application for issuance of a permit, the director may hold one public meeting prior to issuance of a permit. When allowed by the antidegradation policy, the director shall hold the public meeting on antidegradation issues concurrently with any public meeting held for the draft permit.

The director may take other, reasonable steps to inform the public about draft permits, including fact sheets, brochures or other informal sessions with the public and the permittee.

The director may include representatives from other government departments, offices and agencies to participate in public meetings and otherwise invite these persons to provide pertinent information to the public.

(D) Significant public interest means statements made in writing by twenty or more

persons expressing interest in the draft permit before the director or in the antidegradation review and requesting a public meeting. Significant public interest may also include expressed interest by one or more public officials.

(E) Public notice of the public meeting shall be published at least thirty days prior to the public meeting in a newspaper of general circulation and shall include:

(1) The address and telephone number of the office at the Ohio department of agriculture where department files and records pertaining to the proposed action or issuance are located and may be inspected and copied and instructions for persons desiring to obtain additional information, including the NPDES mailing list.

(2) The name and address of the applicant.

(3) The location of the facility and a short description of each existing or proposed discharge point and the name(s) of the receiving water(s).

(4) The date of issuance of the notice of the draft permit.

(5) The time, date, and location of the public meeting if applicable.

(6) A concise statement of the issues raised by those requesting a public meeting.

(7) A statement:

(a) That any interested person may appear and present written and/or oral statements, in person or by a representative.

(b) That the purpose of the meeting is to obtain additional information that will be limited to the criteria that are applicable to the permit application that is the subject of the public meeting and will be considered by the director prior to the director's taking final action on the draft permit under consideration.

(c) That a transcript, recording or other complete record will be made of the public meeting.

(F) In any public meeting, the director may appoint a presiding officer to conduct the meeting. The officer shall state at the beginning of the meeting the manner in which

the meeting will be conducted, time limits for testifying, and any other procedures for conducting the meeting. Procedures and time limits may vary according to the number of people wishing to testify, the time the meeting starts, weather conditions and other situations affecting the length of the meeting. On the date and at the time and place specified in the notice, the public meeting shall be held at which any person:

- (1) May appear and be heard in person or by a representative, or both;
 - (2) May present statements orally or in writing, or both. All comments whether written or oral shall be considered equally in making a final decision, provided that comments are submitted with the name and address of the person presenting the statements for the record.
- (G) Any person requesting time to make an oral comment at the meeting must register their name and address prior to the beginning of the meeting. Persons shall be called to provide a statement for the record in the order of registration, unless the presiding officer determines otherwise.
- (H) Information presented by any person shall be limited to the criteria and information that are applicable to the permit application that is the subject of the public meeting. The officer may rule out of order any person who does not address comments to the matter that is the subject of the public meeting.
- (I) Persons attending the public meeting are authorized to tape or videotape the proceedings provided the following requirements are met:
- (1) The hearing officer is notified at least twenty-four hours prior to the start of the public meeting unless prior notice is waived by the hearing officer; and
 - (2) The public meeting is not interrupted or disturbed.
- (J) Close of public comment period.
- (1) Persons, including applicants, who believe any condition of a draft permit is inappropriate or that the director's tentative decision to deny, issue, or terminate a permit is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period (including any public meeting). Any supporting materials which are submitted shall be included in full and may not be incorporated by reference, unless they are already part of the

record in the same action, or consist of state or federal statutes and regulations, or other generally available reference materials. Commenters shall make supporting materials not already included in the record available to the director.

- (2) At the time that any final permit action is issued the director shall issue a response to comments or "responsiveness summary."
- (3) No final action shall be issued until after the director has considered the responsiveness summary. The responsiveness summary shall briefly describe and respond to all significant comments raised during the public comment period or during the public meeting on the draft permit action or, in the case of a NPDES permit with antidegradation applicability, the permit application. The responsiveness summary shall specify which provisions, if any, of the draft permit have been changed in the final permit decision and the reasons for the change.