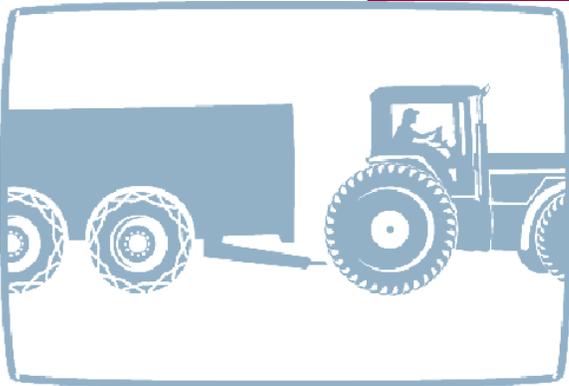


COMPLYING AS A CAFO — PART II



Guide to CAFO Permit Process, Requirements, and Regulations

March 2007



Michigan Department of Environmental Quality
Environmental Science and Services Division and Water Bureau

Jennifer M. Granholm, Governor • Steven E. Chester, Director

www.michigan.gov/deq
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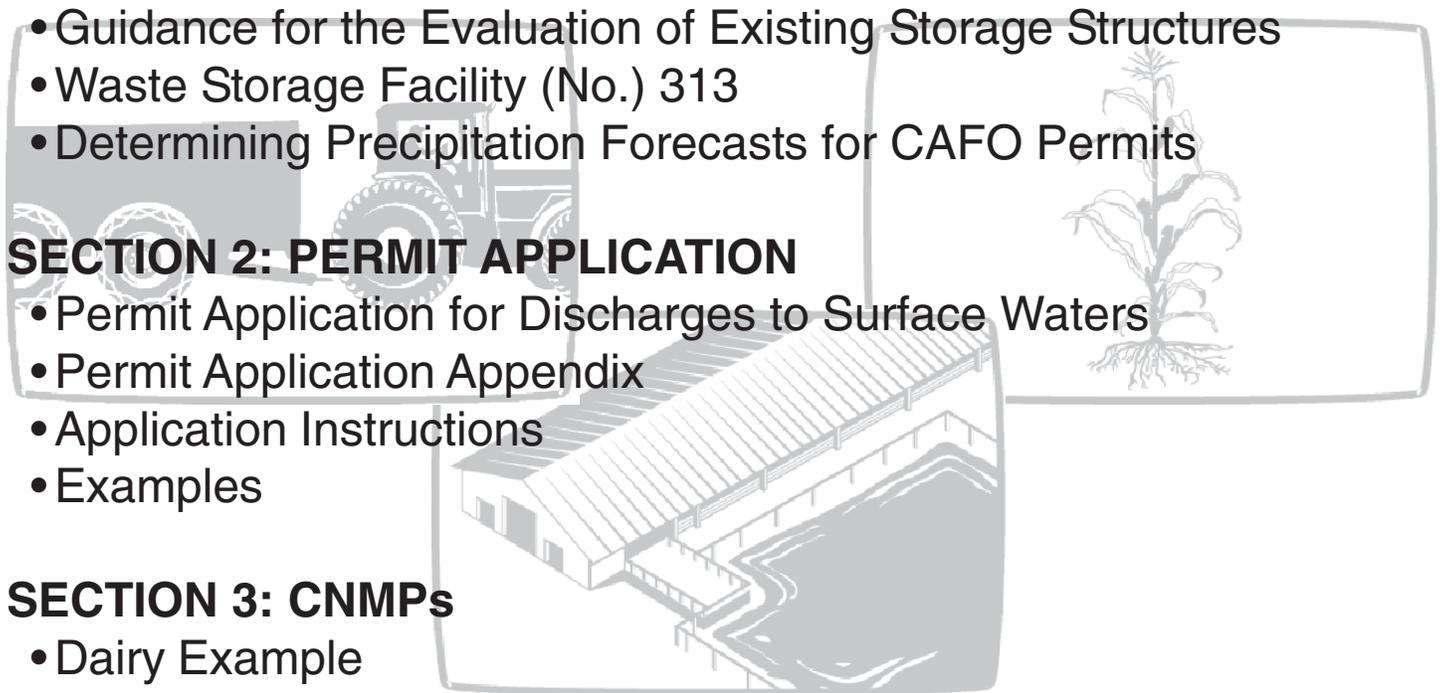
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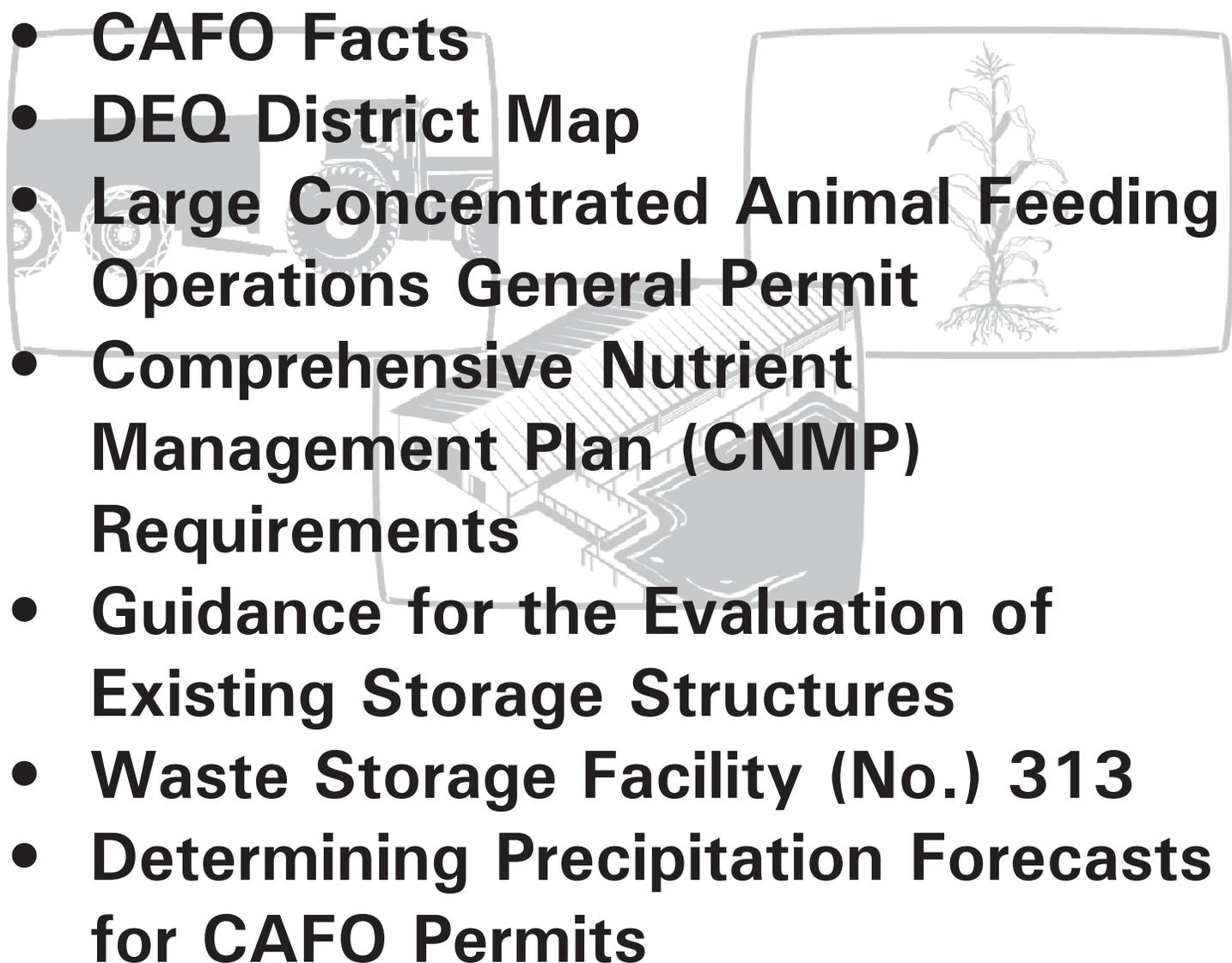
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SECTION 1

PERMIT AND GUIDANCE DOCUMENTS

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- 
- A faint background illustration of a farm scene. On the left, a tractor is visible. In the center, there is a large, rectangular storage structure, possibly a silo or a waste storage facility. On the right, a corn plant is shown with its roots and leaves. The entire scene is rendered in a light, sketchy style.

How do I know if my operation is considered a CAFO?

State rules designate concentrated animal feeding operations are regulated.

A CAFO is an animal feeding operation that stables or confines animals for 45 days in any 12-month period and vegetation doesn't normally grow in the confinement area.

And for the purpose of determining which animals to include for a head count...

Two or more livestock facilities that are under common ownership are considered to be one facility if they adjoin each other or they use a common area or system for land applications of waste.

For example, if two farm sites – i.e. the production areas – are across the road from one another, they would still be considered one facility because an easement – such as the road- is not considered a separation between production areas.

Another way a farm is considered one facility is if it uses the same land base for land application - the animal manure from a main facility – perhaps where mature stock is housed – and the manure from young stock (calves) is land applied on the same fields.

What are the numbers?

A large CAFO is defined by state rule as:

700 dairy cattle

1000 veal calves

1000 beef, heifers, steers, bulls cow/calf

2500 mature swine (over 55 lbs)

10,000 immature swine (less than 55 lbs)

500 horses

10,000 sheep/lambs

55,000 turkeys

30,000 laying hens/broilers w/ liquid manure handling system

125,000 chickens (other than broilers) w/ other than liquid....

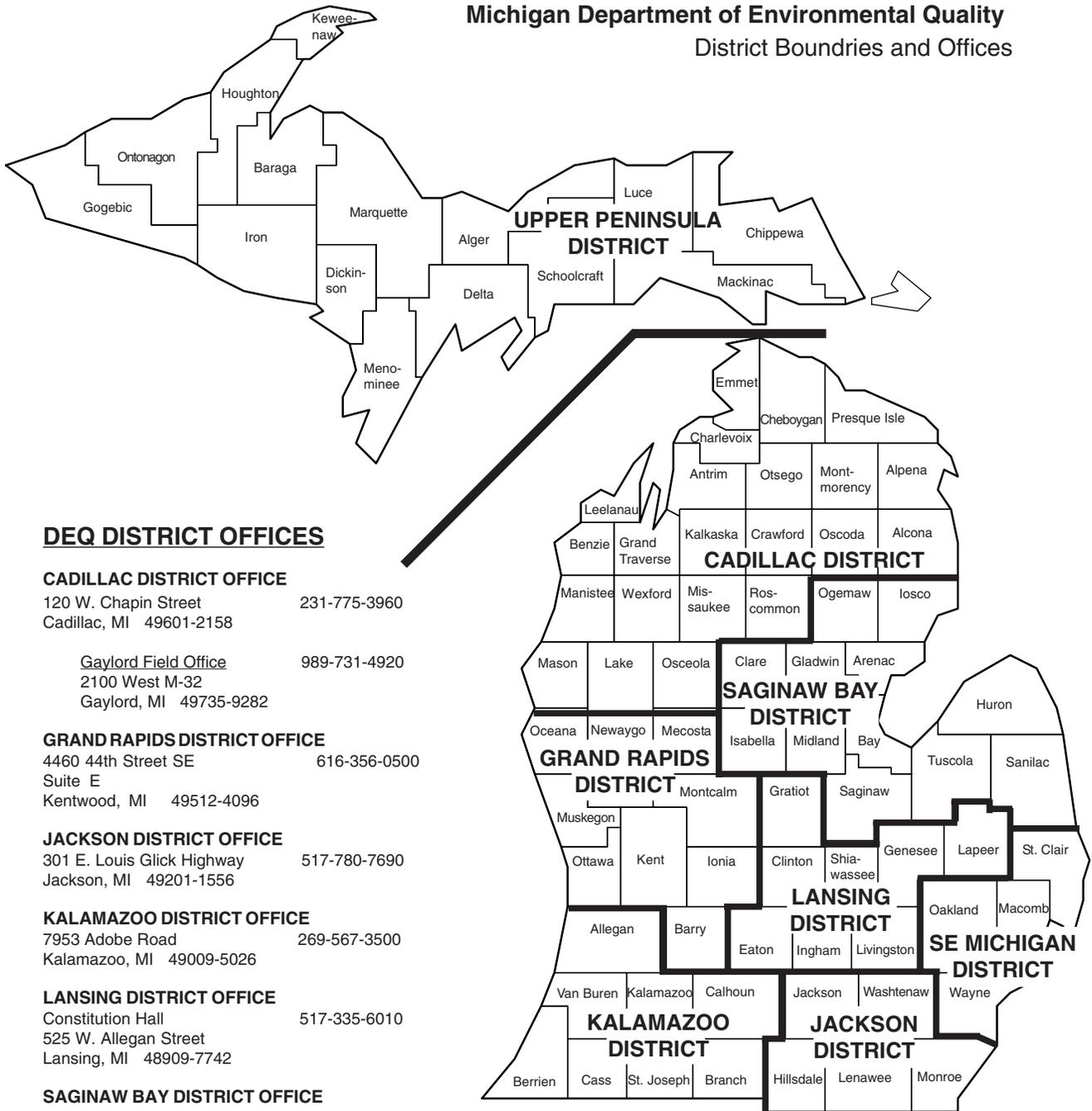
82,000 laying hens w/ other than liquid....

What if my operation is below the numbers?

A small or medium sized AFO can be designated a significant contributor and required to apply for a permit if pollutants are discharged into waters of the state through a man-made ditch, flushing system, or other similar man-made device or pollutants are discharged directly into waters of the US which originate outside of and pass over, across, or through the facility or come into contact with confined animals.

Therefore, it is important for these sized facilities not to have a discharge.

**Michigan Department of Environmental Quality
District Boundries and Offices**



DEQ DISTRICT OFFICES

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120 W. Chapin Street 231-775-3960
Cadillac, MI 49601-2158

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Detroit Field Office 313-456-4700
Cadillac Place
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420 5th Street 906-346-8300
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ENVIRONMENTAL ASSISTANCE CENTER

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POLLUTION EMERGENCIES

Telephone: 800-292-4706

DEQ WEB PAGE

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PERMIT NO. MIG019000

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

LARGE CONCENTRATED ANIMAL FEEDING OPERATIONS GENERAL PERMIT

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq; the "Federal Act"), Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Parts 31 and 41, and Michigan Executive Orders 1991-31, 1995-4 and 1995-18, large concentrated animal feeding operations (large CAFO), as defined in this permit, are authorized to operate facilities specified in individual "certificates of coverage" in accordance with the conditions set forth in this general permit (the "permit").

The applicability of this permit shall be limited to large CAFOs, as defined in this permit, not required to get individual permits and to other animal feeding operations that request coverage under the permit for which the Michigan Department of Environmental Quality (the Department) determines that this permit is appropriate for the applicant's operation. Upon issuance of this permit the Department will cease issuing certificates of coverage (COCs) under CAFO General Permits No. MIG440000 and MIG010000, except for COCs issued under MIG440000 for applications received by September 1, 2005.

In order to constitute a valid authorization, this permit must be complemented by a certificate of coverage (COC) issued by the Department. The following will be identified in the COC (as appropriate):

- The rainfall event size (25-year 24-hour or 100-year 24-hour rainfall) and magnitude at the production area.
- The date by which existing CAFOs shall attain six months storage (Part I.A.4.a.1)
- The date by which existing storage structures shall meet NRCS Practice Standard No. 313 (Part I.A.4.a.2)b)B)ii)
- The date by which the permittee shall have an operator certified by the Department.
- The date by which the permittee shall submit the approved CNMP as required by Part I.A.5.

All contact with the Department required by this permit shall be to the Department representative indicated in the certificate of coverage, and all Department approvals specified in this permit shall be by the Department representative indicated in the certificate of coverage, unless specified otherwise.

In accordance with Section 324.3120 of the Michigan Act, the permittee shall make payment of an annual permit fee to the Department for each October 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. The fee shall be postmarked by January 15 for notices mailed by December 1. The fee is due no later than 45 days after receiving the notice for notices mailed after December 1. Fees paid in accordance with the Michigan Act are not refundable. Failure to pay annual permit fees is a violation of this permit and may result in the revocation of permit coverage.

COCs and other documents related to applications for coverage under this permit will be posted on the Department website for a period of fourteen days prior to issuance. Any person may file comments with the Department on these documents. Any person may request a public hearing on the proposed COC. The Department may reject as untimely any comments or public hearing requests filed after the fourteen day public notice period.

The terms and conditions of this general permit shall apply to an individual facility on the effective date of a certificate of coverage for the facility. The Department may grant a contested case hearing on this general permit in accordance with the Michigan Act. Any person to whom this permit is not acceptable may file a sworn petition with the Office of Administrative Hearings of the Michigan Department of Environmental Quality, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department may reject any petition filed more than 60 days after issuance as untimely. The Department may grant a contested case hearing on the certificate of coverage issued to an individual facility under this general permit in accordance with Rule 2192(c) (Rule 323.2192 of the Michigan Administrative Code).

The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended or revoked in whole or in part during its term in accordance with applicable laws and rules. This general permit shall take effect immediately upon the date of issuance.

This general permit shall expire at midnight, April 1, 2010.

Issued November 18, 2005.

Original Signed
William Creal, Chief
Permits Section, Water Bureau

PART I

Section A. Effluent Limitations and Monitoring Requirements

1. Authorized Discharges and Overflows

During the period beginning on the effective date of this permit, and lasting until the expiration of this permit, the permittee is authorized to discharge the following, provided that the discharge does not cause or contribute to a violation of Michigan’s Water Quality Standards:

- a. Large CAFO waste in the overflow from the storage structures identified in Part I.A.4.a. below, when all of the following conditions are met:
 - 1) These structures are properly designed, constructed, operated and maintained.
 - 2) Either chronic or catastrophic precipitation events cause an overflow of the storage structures to occur.
 - 3) The production area is operated in accordance with the requirements of this permit.
- b. Runoff from precipitation events from land application areas and areas listed in Part I.A.4.b.8) that are managed in accordance with the Nutrient Management Plan (NMP)(see Part I.A.4., below).

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the Michigan Act.

2. Monitoring Discharges and Overflows from Storage Structures

The discharge authorized in Part I.A.1.a., above, shall be monitored four times daily (every six hours) by the permittee as specified below on any day when there is a discharge:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Overflow Volume (at storage structure)	MGD	Report Total Daily Volume
Discharge to Surface Waters Volume	MGD	Report Total Daily Volume
Overflow Observation (at storage structure)	---	Report Visual Condition of the Overflow
Discharge to Surface Waters Observation	---	Report Unusual Characteristics (see below)

Any unusual characteristics of the discharge at the point of discharge to surface waters (i.e., unnatural turbidity, color, oil film, odor, floating solids, foams, settleable solids, suspended solids, or deposits) shall be reported concurrently with the discharge reporting required in Part II.B.2. and included in the discharge report required by Part I.B.1.

3. Prohibited Discharges

During the period beginning on the effective date of this permit, and lasting until the expiration of this permit, the permittee is prohibited from having any dry weather discharge or discharging any large CAFO waste and/or runoff that doesn’t meet the requirements of Part I.A.1. An overflow that causes the washout or collapse of the storage structure dikes, sides or walls is not an authorized discharge. Discharges from land application that does not meet the requirements of Part I.A.1. or that violate Water Quality Standards are prohibited.

4. Nutrient Management Plan (NMP)

The permittee shall implement the following requirements.

- a. Large CAFO Waste Storage Structures
 - 1) Volume Design Requirements

The permittee shall have large CAFO waste storage structures in place and operational that are designed, constructed, maintained and operated to contain the total combined volume of all of the following:

 - a) All large CAFO waste generated from the operation of the large CAFO in a six-month or greater time period (including normal precipitation and runoff in the production area during the same time period). This is the operational volume of the storage structure.
 - b) All production area waste from the rainfall event size specified below.
 - A) The permittee shall use the 25-year 24-hour rainfall event for cattle, horses and sheep and existing swine, poultry & veal. Existing means populated prior to January 30, 2004.

PART I

Section A. Effluent Limitations and Monitoring Requirements

- B) The permittee shall use the 100-year 24-hour rainfall event for new swine, poultry & veal. New means populated on or after January 30, 2004.

The magnitude of the rainfall event will be specified in the certificate of coverage. This is an emergency volume to be kept available to contain large rainfall events.

- c) An additional design capacity of a minimum of 12 inches of freeboard for storage structures that are subject to precipitation caused runoff. For storage structures that are not subject to precipitation caused runoff, the freeboard shall be a minimum of 6 inches. This is the freeboard volume.

Records documenting the current design volume of any large CAFO waste storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity shall be kept with the permittee's CNMP for a minimum of five years. For existing CAFOs, the COC will specify the date by which the permittee shall attain six months storage volume capacity, but that date shall be no more than three years after the COC issuance date.

2) Physical Design & Construction Requirements

a) Depth Gauge

Large CAFO waste storage structures shall include an easily visible, clearly marked depth gauge. Clear, major divisions shall be marked to delineate each of the three volumes specified above in Part I.A.4.a.1).

b) Structural Design

Records documenting the current structural design, including as built drawings and specifications, of any large CAFO waste storage structures, whether or not currently in use, shall be kept with the permittee's CNMP until such structure is permanently closed in accordance with Part I.B.2.

A) New Storage Structures (constructed after the effective date of the COC)

Except as otherwise required by this permit, large CAFO waste storage structures shall, at a minimum, be constructed in accordance with NRCS standards, set forth in Conservation Practice Standard No. 313, Waste Storage Facility, dated June, 2003.

B) Existing Storage Structures

- i) In a permit application for coverage under this permit the applicant shall either:

(1) Provide documentation through an evaluation by a professional engineer that each storage structure is constructed in accordance with NRCS standards, set forth in Conservation Practice Standard No. 313, Waste Storage Facility, dated June, 2003, or

(2) For each storage structure, demonstrate environmental performance equivalent to NRCS standards, set forth in Conservation Practice Standard No. 313, Waste Storage Facility, dated June, 2003. The demonstration shall be accomplished through an evaluation by a professional engineer. Applicants verified under the Livestock System of the Michigan Agriculture Environmental Assurance Program (MAEAP) may submit the "Evaluation of Existing Components" for review by the Department. After review of the evaluation, the Department will notify the applicant if additional information is necessary to complete the application.

- ii) If the applicant cannot provide the documentation or demonstration required by (1) or (2) above, the applicant may request that the COC specify a date by which the permittee shall provide storage structures that attain (1) above, but that date shall be no more than three years after the COC issuance date.

3) Inspection Requirements

The permittee shall inspect the large CAFO waste storage structures a minimum of one time weekly year-round. A record of the inspections shall be maintained by the permittee and kept with the CNMP for a period of five years. These inspections shall include all of the following:

a) The large CAFO waste dikes for cracking, inadequate vegetative cover, woody vegetative growth, evidence of overflow, leaks, seeps, erosion, slumping, animal burrowing or breakthrough, and condition of the storage structure liner.

b) The depth of the large CAFO waste in the storage structure and the available operating volume as indicated by the depth gauge.

c) The collection system, lift stations, mechanical and electrical systems, transfer stations, control structures and pump stations to assure that valves, gates and alarms are set correctly and all are properly functioning.

PART I**Section A. Effluent Limitations and Monitoring Requirements**

4) Operation & Maintenance Requirements

The permittee shall implement a Storage Structure Operation & Maintenance Program that incorporates all of the following management practices. The permittee shall initiate steps to correct any condition that is not in accordance with the Storage Structure Operation & Maintenance Program. A copy of the program shall be kept with the CNMP.

- a) In the event that a rainfall event causes the level of large CAFO waste in the storage structure to rise above the maximum operational volume level and enter the emergency volume level, the Department shall be notified. The level in the storage structure shall be reduced within one week, unless a longer time period is authorized by the Department (the removed large CAFO waste shall be land applied in accordance with this permit or the Department shall be notified if another method of disposal is to be used) and the emergency volume shall be restored.
- b) At some point in time during the period of November 1 to December 31 of each year, there shall be a minimum available operational volume in the large CAFO waste storage structures equal to the volume of large CAFO waste generated from the operation of the large CAFO in a six-month or greater time period (including normal precipitation and runoff in the production area during the same time period). The date of this occurring shall be recorded with the CNMP.
- c) Vegetation shall be maintained at a height not more than 6 inches above the ground on large CAFO waste dikes and the vegetation shall have sufficient density to prevent erosion.
- d) Dike damage caused by erosion, slumping or animal burrowing shall be corrected immediately and steps taken to prevent occurrences in the future.
- e) The integrity of the large CAFO waste storage structure liner shall be protected. Liner damages shall be corrected immediately and steps taken to prevent future occurrences.
- f) Problems with the collection system, lift stations, mechanical and electrical systems, transfer stations, control structures and pump stations shall be corrected as soon as possible. Records of these inspections and records documenting any actions taken to correct deficiencies shall be kept with the CNMP for a minimum of five years. Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors causing the delayed correction.

b. Best Management Practices Requirements

The following are designed to achieve the objective of preventing unauthorized discharges to waters of the State from production areas and from land application activities.

1) Conservation Practices

The permittee shall maintain specific conservation practices near production areas and land application areas that are sufficient to control the runoff of pollutants to surface waters of the State in quantities that may cause or contribute to a violation of water quality standards. These practices shall be consistent with NRCS Conservation Practices.

2) Divert Clean Water

The permittee shall design and implement structures and management practices to divert clean storm water and floodwaters to prevent contact with contaminated portions of the production areas. Clean storm water may include roof runoff, runoff from adjacent land, and runoff from feed or silage storage areas where such runoff has not contacted feed, silage or silage leachate.

3) Prevent Direct Contact of Animals with Waters of the State

There shall be no access of animals to surface waters of the State at the production area of the large CAFO. The permittee shall develop and implement appropriate controls to protect water quality by preventing access of animals to waters of the State.

4) Animal Mortality

The permittee shall handle and dispose of dead animals in a manner that prevents contamination of waters of the State and in accordance with PA 239 of 1982, as amended, Bodies of Dead Animals Act (BODA). Mortalities must not be disposed of in any liquid large CAFO waste storage structure. Records of mortality management and practices shall be kept with the permittee's CNMP for a minimum of five years.

PART I

Section A. Effluent Limitations and Monitoring Requirements

5) Chemical Disposal

The permittee shall prevent introduction of hazardous or toxic chemicals (for purposes of disposal) into large CAFO waste storage structures. Examples of hazardous and toxic chemicals are pesticides and petroleum products/by-products.

6) Inspection, Proper Operation and Maintenance

The permittee shall implement an inspection, operation and maintenance program that includes periodic visual inspection, proper operation, and maintenance of all large CAFO waste handling equipment including piping and transfer lines, and all runoff management devices (e.g., cleaning separators, barnyards, catch basins, screens,) to prevent unauthorized discharges to surface water and to groundwater. Specific inspection requirements include all of the following:

- a) Weekly visual inspections of all clean storm water and floodwater diversion devices.
- b) Daily visual inspections of water lines, including drinking water and cooling water lines, and aboveground piping and transfer lines.
- c) Any deficiencies found as a result of inspections shall be corrected as soon as possible.
- d) Records of these inspections and records documenting any actions taken to correct deficiencies shall be kept with the CNMP for a minimum of five years. Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors causing the delayed correction.

7) Land Application of Large CAFO Waste

a) Field-by-Field Assessment

The permittee shall conduct a field-by-field assessment of all land application areas. Each field shall be assessed prior to use for land application of large CAFO waste. This assessment shall determine the form, source, amount, timing, rate and method of application of large CAFO waste and will demonstrate that land application of large CAFO waste is in accordance with field specific nutrient management practices that ensures appropriate agricultural utilization of the nutrients in the large CAFO waste and will not result in unauthorized discharges. The assessment shall identify field specific conditions including soil type, locations of tile outlets, tile risers and tile depth, and offsite conditions such as buffers and distance or conveyance to surface waters. Any new fields shall be assessed prior to their use for land application activities and the Department shall be notified of the new fields prior to their use. All assessments shall be kept in the Land Application Log. An assessment for a particular field can be deleted from the Land Application Log once that field is no longer used for land application.

b) Field Inspections

Prior to conducting land application of large CAFO waste to fields determined to be suitable under Part I.A.4.b.7)a) above, the permittee shall perform the following inspections at the indicated frequency to ensure that unauthorized discharges do not occur as a result of the land application of large CAFO waste. Records of inspections, monitoring and sampling required by this section shall be recorded in the Land Application Log required by Part I.A.4.b.7)g).

A) Large CAFO waste shall be sampled a minimum of once per year to determine nutrient content and analyzed for total Kjeldahl nitrogen (TKN), ammonium nitrogen, and total phosphorus. Large CAFO waste shall be sampled in a manner that produces a representative sample for analysis. Guidance for large CAFO waste sampling protocols can be found in Bulletin NCR 567 available from Michigan State University Extension. Analytical methods shall be as required by Part II.B.13. The results shall be used to determine land application rates. Record the nutrient levels, analysis methods used and basis for determining land application rates.

B) Soils at land application sites shall be sampled a minimum of once every three years to determine phosphorus levels and the results shall be used to determine land application rates. Sample soil using an 8 inch vertical core, and take 20 or more cores in a random pattern spread evenly over each uniform field area. A uniform field area shall be no greater than 20 acres or it can be up to 40 acres if that field has one soil map unit and has been managed as a single field for the last ten years. The 20 cores shall be composited into one sample and analyzed using the Bray P1 method. Alternate methods may be used upon approval of the Department. Record the phosphorus levels. Additional information on soil sampling can be found in Michigan State University Extension Bulletins E2904 and E498.

PART I

Section A. Effluent Limitations and Monitoring Requirements

C) The permittee shall inspect each field no earlier than 48 hours prior to each land application of large CAFO waste to that field to evaluate the current suitability of the site for application. This inspection shall include, at a minimum, the state of all tile outlets, evidence of soil cracking, the moisture holding capacity of the soil, crop maturity, and the condition of designated conservation practices (i.e., grassed waterways, buffers, diversions). Keep written records of the results and findings of all inspections.

D) The permittee shall visually inspect all tile outlets draining a given field immediately prior to the land application of large CAFO wastes to that field. Tile outlets shall be inspected again upon the completion of the land application to the field, or at the end of the working day should application continue on that field for more than one day (include written descriptions of tile inspections, and observe and compare color and odor before and after land application).

E) All tiled fields to which large CAFO wastes have been applied in the prior 30 days shall be visually inspected within 24 hours after the first rain event of one-half inch or greater, for signs of a discharge of large CAFO waste. Keep written descriptions of tile inspections. If an inspection reveals a discharge with color, odor, or other characteristics indicative of an unauthorized discharge of large CAFO waste, then permittee shall immediately notify the Department of the suspected unauthorized discharge in accordance with the reporting procedures contained in Part II.B.2.

F) The permittee shall inspect all land application equipment daily during use for leaks, structural integrity, and proper operation and maintenance. Land application equipment shall be calibrated annually to ensure proper application rates. Maintain written records of inspections and calibrations.

c) Rates

The permittee shall land apply large CAFO waste in accordance with land application rates developed on a field-specific basis (1) to prevent dry weather discharges, (2) to prevent wet weather discharges that cause or contribute to a violation of water quality standards; and (3) that do not exceed the capacity of the soil and the planned crops to assimilate nutrients; and are quantified and based on the most limiting nutrient in the soil (phosphorus or nitrogen), type of crop, realistic crop yield goals, soil type, and all nutrient inputs in addition to those from large CAFO waste.

The permittee shall comply with all of the following nutrient application limitations:

A) Phosphorus

i) If the Bray P1 soil test is 150 parts per million (PPM) or more large CAFO waste applications shall be discontinued until nutrient use by crops reduces phosphorus test levels to less than 150 PPM.

ii) If the Bray P1 soil test level is 75 PPM to 149 PPM, large CAFO waste applications shall be reduced to an annual rate where large CAFO waste phosphorus added does not exceed the phosphorus removed by the harvested crop. If this rate is impractical due to spreading equipment or crop production management, an annual quantity of large CAFO waste phosphorus equal to the amount of phosphorus removed by two crop years can be used for the first crop year (except where applied to shallow soils over bedrock). No additional phosphorus can be applied for the second crop year.

iii) If the Bray P1 soil test level is less than 75 PPM application rates shall be based on nitrogen as specified in B), below.

If the Department allows the use of methods other than Bray P1, the Department may revise the soil phosphorus limitations specified above.

B) Nitrogen

The annual rate of large CAFO waste application shall not exceed the nitrogen fertilizer recommendation (removal value for legumes) for the first crop year grown after the large CAFO waste is applied.

d) Prohibitions

A) Large CAFO waste shall not be applied on land that is flooded or saturated with water at the time of land application.

B) Large CAFO waste shall not be applied during rainfall events.

PART I

Section A. Effluent Limitations and Monitoring Requirements

C) Large CAFO waste shall not be surface applied without incorporation to frozen or snow covered ground except in accordance with the Department 2005 Technical Standard for the Surface Application of Large CAFO Waste on Frozen or Snow-Covered Ground Without Incorporation or Injection (page 25 of this permit).

D) Large CAFO waste application shall be delayed if rainfall exceeding one-half inch, or less if a lesser rainfall event is capable of producing an unauthorized discharge, is forecasted by the National Weather Service within 24 hours of the time of the planned application. Forecast models to be used can be found on the internet at <http://www.nws.noaa.gov/mdl/synop/products.shtml>. Model data to be used for one-half inch shall be:

i) GFS MOS (MAV) Forecast Graphics: If the 24H Prob. \geq 0.50 in. is 70% or greater for the land application location then land application shall be delayed until the 24H Prob. \geq 0.50 in. is less than 70%.

ii) GFS MOS (MEX) Text Message by Station Forecast: If the Q24 is 4 or greater then land application shall be delayed until the Q24 is less than 4. The station to be used shall be that which is closest to the land application area. If no station is close, then use the closest 2 or 3 stations.

Different model data shall be used if it is determined that rainfall less than ½" on a particular field is capable of causing an unauthorized discharge. For example: using the 24hr Prob. \geq .25" and a Q24 rating of 3 or greater may be appropriate on higher risk fields. If the NWS website is revised and the required forecast models are not available, the permittee shall contact the Department for information on which forecast models to use. Instructions for using this website are available from the Department. Other forecast services may be used upon approval of the Department.

e) Methods

Large CAFO waste shall be subsurface injected or incorporated into the soil within 24 hours of application. Large CAFO waste subsurface injected into frozen or snow covered ground shall have substantial soil coverage of the applied large CAFO waste. The following exceptions apply:

A) Injection or incorporation may not be feasible where large CAFO wastes are applied to pastures or forage crops, such as alfalfa, wheat stubble or where no-till practices are used. Large CAFO waste may not be applied to pastures or forage crops, such as alfalfa, wheat stubble or where no-till practices are used where large CAFO waste may enter waters of the state.

B) On ground that is frozen or snow-covered, large CAFO waste may be surface applied and not incorporated within 24 hours only if there is a field-by-field demonstration, in accordance with the Department 2005 Technical Standard for the Surface Application of Large CAFO Waste on Frozen or Snow-Covered Ground Without Incorporation or Injection (page 25 of this permit), showing that such land application will not result in a situation where large CAFO waste may enter waters of the state. Demonstrations shall be kept with the Land Application Log and submitted to the Department prior to use of the field.

f) Setbacks

The permittee shall comply with any of the following setback requirements:

A) Large CAFO waste shall not be applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or grassed waterways, ditches and swales that are conduits to surface waters.

B) The permittee may substitute the 100-foot setback required in A), above, with a 35-foot wide vegetated buffer. Large CAFO waste shall not be applied within the 35-foot buffer.

g) Land Application Log

The results of land application inspections, monitoring, testing and record keeping shall be recorded in a "Land Application Log" which shall be kept up-to-date and with the CNMP. Log records shall be kept for a minimum of five years. The permittee shall document in the log in writing, as a minimum, records required by Part I.A.4.b.7) and all of the following information and inspection results:

A) The time, date, quantity, method, location and application rate for each location at which large CAFO wastes are land applied.

B) Expected and actual crop yields for each field receiving large CAFO waste.

PART I

Section A. Effluent Limitations and Monitoring Requirements

- C) Calculations showing the total nitrogen and phosphorus to be applied to each field, including sources other than large CAFO waste.
- D) The total amount of nitrogen and phosphorus actually applied to each field including sources other than large CAFO waste, including documentation of calculations for the total amount applied.
- E) A written description of weather conditions at time of application and for 24 hours prior to and following application based on visual observation.
- F) Printouts of weather forecasts from the time of land application. Weather forecasts may also be saved as electronic files in which case the files do not need to be physically located in the log, but the log shall reference the location where the files are stored.

8) Non-Production Area Storm Water Management

The permittee shall implement practices including preventative maintenance, good housekeeping, and periodic inspections of at least once per year, to minimize and control pollutants in storm water discharges associated with the following areas:

- a) Immediate access roads and rail lines used or traveled by carriers of raw materials, waste material, or by-products used or created by the facility.
- b) Sites used for handling material other than large CAFO waste.
- c) Refuse sites.
- d) Sites used for the storage and maintenance of material handling equipment.
- e) Shipping and receiving areas.

5. Comprehensive Nutrient Management Plan (CNMP)

The CNMP shall apply to both production areas and land application areas and shall be a written document that describes the practices, methods and actions the permittee takes to meet all of the requirements of the Nutrient Management Plan, Part I.A.4.*

- a. Approval
The CNMP shall be approved by a Certified CNMP Provider.
- b. Submittal and Contents
The CNMP shall be submitted to the Department* by the date specified in the certificate of coverage. The CNMP submitted to the Department shall include:
 - 1) Large CAFO Waste Storage Structures - ensure adequate storage capacity of production area waste and CAFO process wastewater [Section A.4.a.]
 - a) Volume Design Requirements [Section A.4.a.1]
Records documenting current design volume of any large CAFO waste storage structures, including volume for solids accumulations, design treatment volume, total design volume, and approximate number of days of storage capacity.
 - b) Physical Design and Construction Requirements [Section A.4.a.2]
Records documenting the current structural design including as built drawings and specifications, of any large CAFO waste storage structures, whether or not currently in use.
 - c) Inspection Requirements [Section A.4.a.3]
Weekly inspection plan for waste storage structures.
 - d) Operation and maintenance [Section A.4.a.4]
Storage Structure Operation and Maintenance Plan.
 - 2) Best Management Practices Requirements [Section A.4.b.]
 - a) Divert Clean Water [Section A.4.b.1]
Identify structures and management practices used to divert clean water from the production area.
 - b) Prevent direct contact of confined animals with waters of the state in the production area [Section A.4.b.2]
Identify appropriate controls used to prevent animal access to waters of the state in the production area.

PART I**Section A. Effluent Limitations and Monitoring Requirements**

- c) **Animal Mortality [Section A.4.b.3)]**
Identify appropriate practices that ensure proper management of mortalities in accordance with PA 239 of 1982, as amended, BODA.
- d) **Chemical Disposal [Section A.4.b.4)]**
Identify appropriate practices that ensure chemicals and other contaminants handled at the CAFO are not disposed of in any production area, CAFO process wastewater, or storm water storage or treatment system.
- e) **Inspection, Proper Operation and Maintenance [Section A.4.a.5)]**
Provide an inspection, operation, and maintenance program for large CAFO wastewater and runoff handling equipment and management devices.
- f) **Land application of Large CAFO Waste [Section A.4.b.7)]**
Provide a land application plan that includes:
 - A) Field-by-field assessment of all land application areas.
 - B) Testing of production area waste and soils at land application sites.
 - C) Field Inspections prior to and following land application.
 - D) Inspections of land application equipment.
 - E) Field specific application rates for large CAFO wastes.
 - F) Appropriate prohibitions for land application.
 - G) Methods of application.
 - H) Setback requirements for each field.
- g) **Non-Production Area Storm Water Management [Section A.4.a.8)]**
Identify appropriate non-production area storm water management practices.

c. **Annual Review and Report**

The permittee shall annually review the CNMP and update the CNMP as necessary to meet the requirements of Part I.A.4.

The permittee shall submit an annual report for the preceding January 1 through December 31 (calendar year) to the Department by April 1 of each year. The annual report shall be submitted on a form provided by the Department. The annual report shall include, but is not limited to, all of the following:

- 1) The average number of animals, maximum number of animals at any one time, and the type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other).
- 2) Estimated amount of total large CAFO waste generated by the large CAFO in the previous 12 months (tons or gallons).
- 3) Estimated amount of total large CAFO waste transferred to other persons by the large CAFO in the previous 12 months (tons or gallons).
- 4) Total number of acres for land application covered by the CNMP developed in accordance with this permit.
- 5) Total number of acres under control of the large CAFO that were used for land application of large CAFO waste in the previous 12 months.
- 6) A field specific spreading plan which identifies where and how much large CAFO waste will be applied to fields for the upcoming 12 months. The plan must account for all large CAFO waste expected to be generated in the upcoming 12 months.
- 7) The Land Application Log.
- 8) A statement indicating whether the current version of the large CAFO's CNMP was developed or approved by a certified CNMP provider.
- 9) A summary of all production area waste and CAFO process wastewater discharges from the production area that have occurred in the previous 12 months, including date, time, and approximate volume.

PART I**Section A. Effluent Limitations and Monitoring Requirements**

d. CNMP Revisions

Prior to a significant change in the operation of the large CAFO, whenever there is an unauthorized discharge (see Parts I.A.1 and I.A.3.), or if the Department determines that the CNMP is inadequate in preventing pollution, the CNMP shall be revised and the revisions approved by a Certified CNMP Provider. Within ninety (90) days of a significant change, an unauthorized discharge or a Department requested revision; the revised portions of the CNMP shall be submitted to the Department with a copy of the Certified CNMP Provider certification that the revised CNMP has been approved.

Significant change includes, but is not limited to, any of the following:

- 1) An increase in the number of animals that is greater than or equal to 10% of the number identified in the CNMP.
- 2) An increase in the number of animals that results in a decrease in the waste storage capacity time, as identified in the CNMP, by one month or greater.
- 3) An increase in the number of animals where the large CAFO waste generated by the livestock requires more land for its application than is available at the time of the increase.
- 4) A decrease in the number of acres available for land application, where the large CAFO waste generated requires more land for application than will be available after the decrease.

* The Department recognizes that CNMPs are developed pursuant to programs other than the National Pollutant Discharge Elimination System (NPDES). The CNMP developed under this permit may follow the same format as the CNMP outline dated August 10, 2000 available at www.maeap.org or from the Department. If that CNMP outline is followed then the CNMP submitted to the Department may omit portions, such as animal inputs, not related to compliance with permit requirements.

PART I

Section B. Other Requirements

1. Reporting of Overflows and Discharges from Large CAFO Waste Storage Structures and Land Application

If, for any reason, there is an overflow from large CAFO waste storage structures and/or a discharge of pollutants to a surface water of the State from large CAFO waste storage structures, production areas, or land application areas, the permittee shall report the overflow and/or discharge to the Department in accordance with the reporting procedures contained in Part II.B.2. Discharges to surface waters shall also be reported to the Clerk of the local unit of government and the county health department. In addition, the permittee shall keep a copy of the report together with the approved CNMP. The report shall include all of the following information:

- a. A description of the overflow and/or discharge and its cause, including a description of the flow path to the surface water of the State.
- b. The period of overflow and/or discharge, including exact dates and times, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate and prevent recurrence of the overflow and/or discharge.
- c. Monitoring results as required by Part I.A.2.
- d. In the event of a discharge through tile lines, the permittee shall identify and document, for field(s) from which the discharge occurred, the location of tile and depth of tile. The permittee shall also document field conditions at the time of the discharge, determine why the discharge occurred and how to prevent future discharges.
- e. If the permittee believes that the discharge is an authorized discharge, then the permittee shall include a demonstration that the discharge meets the requirements of Part I.A.1.a. and/or Part I.A.1.b., as appropriate.

2. Closure of Structures and Facilities

The following conditions shall apply to the closure of lagoons, large CAFO waste storage structures, earthen or synthetic lined basins, other manure and wastewater facilities, and silage facilities (collectively referred to as "structure(s)" for the remainder of this Part):

No structure shall be permanently abandoned. Structures shall be maintained at all times until closed in compliance with this section. All structures must be properly closed if the permittee ceases operation. In addition, any structure that is not in use for a period of twelve consecutive months must be properly closed unless the permittee intends to resume use of the structure at a later date, and either: (a) maintains the structure as though it were actively in use, to prevent compromise of structural integrity and assure compliance with final effluent limitations, or (b) removes large CAFO waste to a depth of one foot or less and refills the structure with clean water to preserve the integrity of the synthetic or earthen liner. In either case, the permittee shall conduct routine inspections, maintenance, and record-keeping as though the structure were in use. The permittee shall notify the Department in writing prior to closing structures, or upon making a determination that the structures will be maintained as specified in (a) or (b) above. Prior to restoration of use of the structure, the permittee shall notify the Department in writing and provide the opportunity for inspection.

The permittee shall accomplish closure by removing all waste materials to the maximum extent practicable. This shall include agitation and the addition of clean water as necessary to remove the waste materials. The permittee shall utilize as guidance the closure techniques contained in NRCS Conservation Practice Standard No. 360, Closure of Waste Impoundments. All removed materials shall be utilized or disposed of in accordance with the permittee's approved CNMP, unless otherwise authorized by the Department.

Unless the structure is being maintained for possible future use in accordance with the requirements above, completion of closure for structures shall occur as promptly as practicable after the permittee ceases to operate or, if the permittee has not ceased operations, 12 months from the date on which the use of the structure ceased, unless otherwise authorized by the Department.

3. Standards, Specifications and Practices

The published standards, specifications and practices referenced in this permit are those which are in effect at the time of permit issuance, unless otherwise provided by law. NRCS Conservation Practice Standards referred to in this permit are currently contained in Section IV, Practice Standards and Specifications, of the Michigan NRCS Field Office Technical Guide.

PART I

Section B. Other Requirements

4. Facility Contact

The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing within 10 days after replacement (including the name, address and telephone number of the new facility contact).

- a. The facility contact shall be any of the following (or a duly authorized representative of this person):
 - For a corporation, a principal executive officer of at least the level of vice president, or a designated representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the permit application or other NPDES form originates.
 - For a partnership, a general partner.
 - For a sole proprietorship, the proprietor.
 - For a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager or other duly authorized employee.
- b. A person is a duly authorized representative only if both of the following requirements are met:
 - The authorization is made in writing to the Department by a person described in paragraph a. of this section.
 - The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).

Nothing in this section obviates the permittee from properly submitting reports and forms as required by law.

5. Expiration and Reissuance

In order to maintain permit coverage, as required by Part I.B.6., under this or another permit beyond this permit's expiration date, the permittee shall submit a written request to the Department on or before October 1, 2009. A person holding a valid certificate of coverage under an expired general permit shall continue to be subject to the terms and conditions of the expired permit until the permit is terminated, revoked, or reissued.

If this permit is modified or reissued, the permittee shall: a) request coverage under the modified or reissued permit, b) apply for an individual NPDES permit, or c) request termination of authorization. Lacking an adequate response, the permittee's authorization shall expire on the effective date of the reissued or modified permit.

If this permit is terminated or revoked, all authorizations under the permit shall expire on the date of termination or revocation.

If the permittee continues to operate and is a CAFO then the permittee is obligated to maintain permit coverage except where the permittee need not seek continued permit coverage as allowed in Part I.B.6.

6. Duty to Maintain Permit Coverage

No later than 180 days before the expiration of the permit, the permittee must submit an application to renew its permit. However, the permittee need not seek continued permit coverage or reapply for a permit if both of the following apply:

- a. The facility has ceased operation or is no longer a CAFO.
- b. The permittee has demonstrated to the satisfaction of the Department that there is no remaining potential for a discharge of large CAFO waste that was generated while the operation was a CAFO.

7. Requirements for Land Application Not Under the Control of the large CAFO Permittee

In cases where large CAFO waste is sold, given away or otherwise transferred to another person (recipient) such that the land application of that large CAFO waste is no longer under the operational control of the large CAFO owner or operator that generates the large CAFO waste (generator), a manifest shall be completed and used to track the transfer and use of the large CAFO waste.

PART I**Section B. Other Requirements**

- a. Prior to transfer of the large CAFO waste, the large CAFO owner or operator shall do all of the following:
 - 1) Prepare a manifest for tracking the large CAFO waste before transferring the large CAFO waste.
 - 2) Designate on the manifest the recipient of the large CAFO waste.
- b. The generator shall use a manifest form which is approved by the Department and which provides for the recording of all of the following information:
 - 1) A manifest document number.
 - 2) The generator's name, mailing address, and telephone number.
 - 3) The name and address of the recipient of the large CAFO waste.
 - 4) The nutrient content of the large CAFO waste to be transferred, in sufficient detail to determine the appropriate land application rates.
 - 5) The total quantity by units of weight or volume and the number and size of the loads or containers used to transfer that quantity of large CAFO waste.
 - 6) A statement that informs the recipient of his/her responsibility to properly manage the land application of the large CAFO waste as necessary to assure there is no illegal discharge of pollutants to waters of the State.
 - 7) The following certification by the generator: "I hereby declare that the large CAFO waste is accurately described above and is suitable for land application."
 - 8) Other certification statements as may be required by the Department.
 - 9) The address or other location description of the site or sites used by the recipient for land application or other disposal or use of the large CAFO waste.
 - 10) Signatures of the generator and recipient with dates of signature.
- c. The generator shall do all of the following with respect to the manifest:
 - 1) Sign and date the manifest certification prior to transfer of the large CAFO waste.
 - 2) Obtain a dated signature of the recipient on the manifest and the date of acceptance of the large CAFO waste.
 - 3) Retain a copy of the signed manifest.
 - 4) Provide a signed copy to the recipient.
 - 5) Advise the recipient of his or her responsibilities to complete the manifest and, if not completed at time of delivery, return a copy to the generator within 30 days after completion of the land application or other disposal or use of the large CAFO waste.
- d. One manifest may be used for multiple loads or containers of the same large CAFO waste transferred to the same recipient. The manifest shall list separately each address or location used by the recipient for land application or other disposal or use of the large CAFO waste. Each different address or location listing shall include the quantities of large CAFO waste transferred to that location and dates of transfer.
- e. The generator shall not sell, give away or otherwise transfer large CAFO waste to a recipient if any of the following are true:
 - 1) The recipient fails or refuses to provide accurate information on the manifest in a timely manner.
 - 2) The use or disposal information on the manifest indicates improper land application, use or disposal;
 - 3) The generator learns that there has been improper land application, use or disposal of the manifested large CAFO waste.
 - 4) The generator has been advised by the Department that the Department or a court of appropriate jurisdiction has determined that the recipient has improperly land applied, used, or disposed of a manifested large CAFO waste.
- f. If the generator has been prohibited from selling, giving or otherwise transferring large CAFO waste to a particular recipient under Part I.B.7.e., above, and the generator wishes to resume selling, giving or otherwise transferring large CAFO waste to that particular recipient, then the one of the following shall be accomplished:
 - 1) For improper paperwork only, such as incomplete or inaccurate information on the manifest, the recipient must provide the correct, complete information.
 - 2) For improper land application, use or disposal of the large CAFO waste by the recipient, the generator must demonstrate, in writing, to the Department that the improper land application, use or disposal has been corrected, and the Department has provided approval of the demonstration.
- g. All manifests shall be kept on-site with the large CAFO owner or operator's CNMP for a minimum of five years and made available to the Department upon request.
- h. The requirements of Part I.B.7. do not apply to quantities of large CAFO waste less than one pickup truck load, one cubic yard, or one ton per recipient per day.

PART II

Section A. Definitions

Animal feeding operation (AFO) means a lot or facility that meets both of the following conditions:

1. Animals, other than aquatic animals, have been, are, or will be stabled or confined and fed or maintained for a total of 45 calendar days or more in any 12-month period.
2. Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over the portion of the lot or facility where animals are confined.

Two or more AFOs under common ownership are considered to be a single AFO if they adjoin each other or if they use a common area or system for the disposal of wastes. Common area includes land application areas.

CAFO process wastewater means water directly or indirectly used in the operation of a large CAFO for any of the following:

1. Spillage or overflow from animal or poultry watering systems.
2. Washing, cleaning, or flushing, pens, barns, manure pits, or other AFO facilities.
3. Direct contact swimming, washing, or spray cooling of animals.
4. Dust control.
5. Any water which comes into contact with, or is a constituent of, any raw materials, products, or byproducts including manure, litter, feed, milk, eggs, or bedding.

Catastrophic precipitation event is equal to or greater in size than a 25-year or 100 year (as applicable), 24-hour rainfall event. Catastrophic events include tornadoes, hurricanes, or other catastrophic conditions that would cause an overflow from the large CAFO waste storage structure that is designed, constructed, operated, and maintained to meet all the requirements of this permit.

Certified CNMP Provider is a person that attains and maintains certification requirements through a program approved by the United States Department of Agriculture Natural Resources Conservation Service (NRCS).

Chronic precipitation event is a series of wet weather conditions, including snowmelt, that precludes reducing the volume of large CAFO waste storage structures and that cause an overflow from the large CAFO waste storage structure that is designed, constructed, operated, and maintained to meet all the requirements of this permit.

CNMP means Comprehensive Nutrient Management Plan and is the plan developed by the permittee to implement the requirements of the NMP.

Department means the Michigan Department of Environmental Quality.

Discharge as used in this permit means the addition of any waste, waste effluent, wastewater, pollutant, or any combination thereof to any surface water of the state.

Incorporation means a mechanical operation that physically mixes the surface applied large CAFO waste into the soil so that a significant amount of the surface applied large CAFO waste is not present on the land surface within one hour after mixing. Incorporation also means the soaking into the soil of "liquids being used for irrigation water" such that liquids and significant solid residues do not remain on the land surface. "Liquids being used for irrigation water" are contaminated runoff, milk house waste, or liquids from large CAFO waste treated to separate liquids and solids. "Liquids being used for irrigation water" does not include untreated liquid manures.

Land application means spraying or spreading of biosolids, large CAFO waste, wastewater and/or derivatives onto the land surface, injecting below the land surface, or incorporating into the soil so that the biosolids, large CAFO waste, wastewater and/or derivatives can either condition the soil or fertilize crops or vegetation grown in the soil.

Land application area means land under the control of an AFO owner or operator, whether it is owned, rented, leased, or subject to an access agreement to which large CAFO waste is or may be applied. Land application area includes land not owned by the AFO owner or operator but where the AFO owner or operator has control of the land application of large CAFO waste.

Large CAFO waste means CAFO process wastewater, manure, production area waste or any combination thereof.

Large concentrated animal feeding operation or large CAFO is an AFO that stables or confines as many as or more than the numbers of animals specified in any of the following categories:

1. 700 mature dairy cattle (whether milked or dry cows).
2. 1000 veal calves.
3. 1,000 cattle other than mature dairy cows or veal calves. Cattle includes heifers, steers, bulls, and cow/calf pairs.
4. 2,500 swine each weighing 55 pounds or more.

PART II

Section A. Definitions

5. 10,000 swine each weighing less than 55 pounds.
6. 500 horses.
7. 10,000 sheep or lambs.
8. 55,000 turkeys.
9. 30,000 laying hens or broilers, if the AFO uses a liquid manure handling system.
10. 125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system.
11. 82,000 laying hens, if the AFO uses other than a liquid manure handling system.

As used in this permit the term “large CAFO” includes any animal feeding operation that request coverage under the permit for which the Department determines that this permit is appropriate for the applicant’s operation. A large CAFO includes both production areas and land application areas.

Manure means animal excrement and is defined to include bedding, compost and raw materials or other materials commingled with animal excrement or set aside for disposal.

New Large CAFO means a large CAFO that is newly built and was not in production (i.e., animals were not on site) prior to February 27, 2004. New Large CAFO also means existing facilities where, due to expansion in production, the process or production equipment is totally replaced or new processes are added that are substantially independent of an existing source at the same site, after February 27, 2004. This does not include replacement due to acts of God or upgrades in technology that serve the existing production.

NMP means Nutrient Management Plan and is the requirements in the permit that set forth conditions to assure that water quality standards are met.

NRCS means the Natural Resources Conservation Service of the United States Department of Agriculture.

Overflow means the discharge of large CAFO waste resulting from the filling of large CAFO waste storage structures beyond the point at which no more large CAFO waste, or storm water can be contained by the structure.

Production area is the portion of the large CAFO that includes all areas used for animal product production activities. This includes, but is not limited to: the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milk rooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes feed silos, silage bunkers, and bedding materials. The waste containment area includes settling basins, and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of “production area” is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities. Production area does not include pasture lands (Pasture land is land that is primarily used for the production of forage upon which livestock graze. Pasture land is characterized by a predominance of vegetation consisting of desirable forage species. Sites such as loafing areas, confinement areas, or feedlots which have livestock densities that preclude a predominance of desirable forage species are not considered pasture land.). Production areas do not include land application areas.

Production area waste means manure and any waste from the production area and any precipitation (e.g., rain or snow) which comes into contact with, or is contaminated by, manure or any of the components listed in the definition for “production area”. Production area waste does not include water from land application areas.

Realistic crop yield goals means crop yield goals established based on soil productivity potential and the crop management practices utilized. A realistic crop yield goal is one which is achievable in three out of five crop years. If the goal is not achieved in at least three out of five years, then the goal shall be re-evaluated and revised.

Regional Administrator is the Region 5 Administrator, U.S. EPA, located at R-19J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

Silage leachate means a liquid, containing organic constituents, that results from the storage of harvested plant materials, which usually have a high water content.

Waste storage structure means both pond-type storage structures and fabricated storage structures.

Tile means a conduit, such as corrugated plastic tubing, tile, or pipe, installed beneath the ground surface to collect and/or convey drainage water.

PART II

Section A. Definitions

Vegetated buffer means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters.

Water Quality Standards means the Part 4 Water Quality Standards developed under Part 31 of Act No. 451 of the Public Acts of 1994, as amended, being Rules 323.1041 through 323.1117 of the Michigan Administrative Code.

25-year, 24-hour rainfall event or **100-year, 24-hour rainfall event** means the maximum 24-hour precipitation event with a probable recurrence interval of once in 25 years or 100 years, respectively, as defined by the “Rainfall Frequency Atlas of the Midwest”, Huff and Angel, Illinois State Water Survey, Champaign, Bulletin 71, 1992, and subsequent amendments, or equivalent regional or state rainfall probability information developed there from.

PART II

Section B. Reporting Requirements

1. Retained Self-Monitoring Requirements

The permittee shall maintain with the CNMP a year-to-date log of inspection, monitoring and record keeping results required by this permit and, upon request, provide such log for inspection to the staff of the Department. Such inspection, monitoring and record keeping results shall be submitted to the Department upon request.

The permittee shall certify, in writing, to the Department, on or before April 1st of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the animal feeding operation.

2. Discharge and Noncompliance Reporting

Compliance with all applicable requirements set forth in the Federal Act, Parts 31 and 41 of the Michigan Act, and related regulations and rules is required. All instances of discharge or noncompliance shall be reported as follows:

- a. 6-hour reporting – Any discharge shall be reported, verbally, as soon as practicable but no later than 6 hours from the time the permittee becomes aware of the discharge. A written report shall also be provided within five (5) days.
- b. other reporting - The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring or inspection results or records, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and/or cause of noncompliance and steps taken to correct the noncompliance; and 2) the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge. All reporting shall be to all of the following: the Department, the clerk of the local unit of government and the county health department. Verbal reporting to the Department after regular working hours shall be made by calling the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-7660). Verbal reporting to the clerk of the local unit of government and the county health department after regular working hours shall be made as soon as those agencies are next open for business unless those agencies provide after hours contact information.

3. Spill Reporting

The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state, unless the permittee has determined that the release is not in excess of the threshold reporting quantities specified in the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code), by calling the Department at the number identified on the cover page of this permit, or if the notice is provided after regular working hours call the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-7660).

Within ten (10) days of the release, the permittee shall submit to the Department a full written explanation as to the cause of the release, the discovery of the release, response (clean-up and/or recovery) measures taken, and preventative measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.

4. Anticipated Noncompliance

The permittee shall give advance notice to the Department of any planned changes in the permitted facility or any other activity which may result in noncompliance with permit requirements.

5. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which this authorization applies, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Department at least 30 days prior to the actual transfer of ownership or control.

PART II

Section B. Reporting Requirements

6. Records Retention

All records, reports, documents, logs and information resulting from the requirements of this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of five (5) years, or longer if requested by the Department.

7. Notification of Changes in Discharge

The permittee shall notify the Department, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the first page of this permit for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

8. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Department by a) submission of an increased use request (application) and all information required under Rule 323.1098 (Antidegradation) of the Water Quality Standards or b) by notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.B.9.; and 4) the action or activity will not require notification pursuant to Part II.B.7. Following such notice, the permit may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

9. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of Rules 323.1098 and 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

10. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Act and Rule 2128 (Rule 323.2128 of the Michigan Administrative Code), all reports submitted in accordance with the terms of this permit shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Federal Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Act and Sections 3112, 3115, 4106 and 4110 of the Michigan Act.

11. Representative Monitoring and Sampling

Monitoring shall be representative of the monitored activity. Samples and measurements taken as required herein shall be representative of both the large CAFO waste that is applied to the land and the soils that receive the large CAFO waste.

12. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be kept in accordance with the retained self-monitoring requirements of Part II.B.1. Such increased frequency shall also be indicated.

Monitoring required pursuant to Part 41 of the Michigan Act or Rule 35 of the Mobile Home Park Commission Act (Act 96 of the Public Acts of 1987) for assurance of proper facility operation shall be submitted as required by the Department.

PART II**Section B. Reporting Requirements****13. Test Procedures**

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Chief of the Permits Section, Water Bureau, Michigan Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan, 48909-7773. The permittee may use such procedures upon approval.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

PART II**Section C. Management Responsibilities****1. Duty to Comply**

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the Michigan Act and/or the Federal Act and constitutes grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of an application for permit renewal.

2. Operator Certification

The permittee shall have the waste control facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Section 3110 of the Michigan Act. The permittee shall provide the Department, in writing, the contact information for the certified operator(s).

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any requirement specified in this permit.

5. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of polluting materials in accordance with the requirements of the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code).

6. Right of Entry

The permittee shall allow the Department, any agent appointed by the Department or the Regional Administrator, upon the presentation of credentials and following appropriate biosecurity protocols:

- a. a. to enter upon the permittee's premises where an effluent source is located, production areas, land application areas or any place in which any records are required to be kept under the terms and conditions of this permit.
- b. b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

PART II

Section C. Management Responsibilities

7. Requirement to Obtain Individual Permit

The Department may require any person who has authorization by a certificate of coverage and this permit, to apply for and obtain an individual NPDES permit if any of the following circumstances apply:

- a. The discharge is a significant contributor to pollution as determined by the Department on a case-by-case basis.
- b. The permittee is not complying or has not complied with the conditions of this permit.
- c. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of waste applicable to the point source discharge.
- d. Effluent standards and limitations are promulgated for point source discharges subject to this permit.
- e. The Department determines that the criteria under which the permit was issued no longer apply.

Any person may request the Department to take action pursuant to the provisions of Rule 2191 (Rule 323.2191 of the Michigan Administrative Code).

8. Signatory Requirement

All applications, reports, or information submitted to the Department shall be signed and certified as specified in Rule 2114 (Rule 323.2114 of the Michigan Administrative Code).

9. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

PART II**Section D. Activities Not Authorized by This Permit****1. Discharge to the Groundwaters**

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the Michigan Act.

2. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

3. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

4. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Federal Act.

5. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits or approvals as may be required by law.

PART III**Permit Requirements Summary**

This is an informational summary of permit requirements and is provided only as a guide to assist in understanding the permit. This summary does not replace or supercede the permit, nor is it a substitute for reading and understanding the permit.

Inspections/Sampling/Records/Reporting

“Log” refers to the Land Application Log required by Part I.A.4.b.7)g)

<u>Activity</u>	<u>Minimum Frequency</u>	<u>Report to/ Keep with</u>	<u>Permit location, Part ~</u>
Authorized discharge monitoring	4 times daily during discharge	DEQ	I.A.2.
Waste storage structures	Weekly	CNMP	I.A.4.a.3)
Emergency volume level reporting	Each event	DEQ	I.A.4.a.4)a)
Minimum 6 months operational volume	Once per year in November or December	CNMP	I.A.4.a.4)b)
Waste handling equipment	Daily or weekly	CNMP	I.A.4.b.6)
Field assessments	Prior to land application	Log	I.A.4.b.7)a)
Waste nutrient content	Yearly	Log	I.A.4.b.7)b)A)
Soil fertility	Every 3 years	Log	I.A.4.b.7)b)B)
Field inspections prior	0-48 hours before Application	Log	I.A.4.b.7)b)C)
Tile outlets	Prior and after application	Log	I.A.4.b.7)b)D)
Tiled field Inspections after	After 0.5 inch rain	Log	I.A.4.b.7)b)E)
Land application equipment	Daily during use	Log	I.A.4.b.7)b)F)
Technical standard demos	Prior to land application	Log	I.A.4.b.7)e)B)
CNMP	per COC due date	DEQ	I.A.5.b.
Annual report	April 1 of each year	DEQ	I.A.5.c.
CNMP revisions	Within 90 days of revision	DEQ	I.A.5.d.
All discharges to surface waters	Each discharge	DEQ	I.B.1.
Closing structures	Not Applicable	DEQ	I.B.2.
Facility contact	Within 10 days of change	DEQ	I.B.4.
Manifest	Prior to transfer of waste	On farm	I.B.7.

PART III**Permit Requirements Summary**

<u>Activity</u>	<u>Minimum Frequency</u>	<u>Report to/ Keep with</u>	<u>Permit location, Part ~</u>
Retained self monitoring Certification	April 1 of each year	DEQ	II.B.1.
Spill reporting	Immediately upon release	DEQ	II.B.3.
Transfer of ownership or control	30 days prior to transfer	DEQ	II.B.5.

Records only

<u>Activity</u>	<u>Location of records</u>	<u>Permit location, Part ~</u>
Waste storage design volume	CNMP	I.A.4.a.1)
Waste storage structural design	CNMP	I.A.4.a.2)b)
Storage structure O&M Program	CNMP	I.A.4.a.4)
Mortality management	CNMP	I.A.4.b.4)
Waste nutrient levels, analytical methods, basis for land application rates	Log	I.A.4.b.7)b)A)
Time, date, quantity, method, location and application rate	Log	I.A.4.b.7)g)A)
Expected crop yield	Log	I.A.4.b.7)g)B)
Total nitrogen and phosphorus calculations for each field	Log	I.A.4.b.7)g)C)
Total nitrogen and phosphorus applied to each field	Log	I.A.4.b.7)g)D)
Land application weather conditions	Log	I.A.4.b.7)g)E)
Printout of weather forecasts (may use electronic storage)	Log	I.A.4.b.7)g)F)

PART IV**Technical Standard for the Surface Application of Concentrated Animal Feeding Operations Waste on Frozen or Snow-Covered Ground Without Incorporation or Injection**

When Concentrated Animal Feeding Operation (CAFO) waste is surface-applied to frozen or snow-covered ground, without incorporation or injection, and that application is followed by rainfall or temperatures rising above freezing, the CAFO waste can run off into lakes, streams, or drains. Documented evidence shows that this runoff can cause resource damage to the surface waters of the state. Therefore, in accordance with Title 40 of the Code of Federal Regulations, Section 123.36, Establishment of Technical Standards for Concentrated Animal Feeding Operations, and State Rule 323.2196(5), CAFO Permits, the Michigan Department of Environmental Quality, Water Bureau, establishes the following Technical Standard. This Technical Standard shall be used for field-by-field assessments, as required by National Pollutant Discharge Elimination System permits issued to CAFOs, to assure that the land application of CAFO waste to frozen or snow-covered ground, without incorporation or injection, will not result in CAFO waste entering the waters of the state.

Based on the frozen and/or snow-covered conditions, the minimal settling and breaking down of the waste during these conditions, and the inability to predict or control snowmelt and rainfall, there are no practices that can ensure the runoff from fields with surface-applied waste on frozen or snow-covered ground will not be polluted. This standard assumes that surface runoff from snowmelt and/or rainfall will occur, and that the runoff will be polluted if CAFO waste is surface-applied on frozen or snow-covered ground. Therefore, the way to prevent these discharges is to apply CAFO waste only to fields, or portions of fields, where the runoff will not reach surface waters.

A field-by-field assessment must be completed, and all of the following requirements must be met and documented:

1. The Natural Resources Conservation Service's Manure Application Risk Index (MARI)* has been completed to identify fields, or portions of fields, that scored 37 or lower on the MARI.
2. An on-site field inspection of the entire field, or portion of field, that scored 37 or lower under the MARI has been completed. The inspection will take into consideration the slope and location of surface waters, tile line risers, and other conduits to surface water.
3. Based on the on-site field inspection, the Comprehensive Nutrient Management Plan (CNMP) will include documentation on topographic maps, the fields or portions of fields where the runoff will not flow to surface waters, and designate those areas as the only areas authorized for surface application without incorporation to frozen or snow-covered ground.
4. The findings of the inspection and documentation in the CNMP will be approved by a certified CNMP provider.

This assessment must be incorporated into the CNMP, and submitted as part of the CNMP Executive Summary each year.

* Grigar, J., and Lemunyon, J. A Procedure for Determining the Land Available for Winter Spreading of Manure in Michigan. NRCS publication. (Available on the MDEQ NPDES website)

ORIGINAL SIGNED

Richard A. Powers, Chief
Water Bureau

April 19, 2005

Date

MDEQ Comprehensive Nutrient Management Plan (CNMP) Requirements
December 2, 2005

The following outline identifies the elements that are required to be contained in the Michigan Department of Environmental Quality's (MDEQ) CNMP, as specified in National Pollutant Discharge Elimination System (NPDES) Permit No. MIG019000. The bolded print describes the elements that need to be included in the CNMP; the parenthesis cross-references the permit section.

The MDEQ recognizes that CNMPs are developed pursuant to programs other than the NPDES Program. The CNMP developed under this permit may follow the same format as the CNMP outline dated August 10, 2000, available at www.maeap.org or from the MDEQ. If that CNMP outline is followed, then the CNMP submitted to the MDEQ may omit portions, such as animal inputs and feed management, not related to compliance with permit requirements.

- a. Approval:
The CNMP shall be approved by a Certified CNMP Provider.
- b. Submittal and Contents:
The CNMP shall be submitted to the MDEQ by the date specified in the certificate of coverage. The CNMP submitted to the MDEQ shall include:
 - 1) Large CAFO Waste Storage Structures - ensure adequate storage capacity of production area waste and CAFO process wastewater [Section A.4.a.]
 - a) Volume Design Requirements [Section A.4.a.1])
Records documenting current design volume of any large CAFO waste storage structures, including volume for solids accumulations, design treatment volume, total design volume, and approximate number of days of storage capacity.
 - b) Physical Design and Construction Requirements [Section A.4.a.2])
Records documenting the current structural design, including as-built drawings and specifications, of any large CAFO waste storage structures, whether or not currently in use.
 - c) Inspection Requirements [Section A.4.a.3])
Weekly inspection plan for waste storage structures.
 - d) Operation and maintenance [Section A.4.a.4])
Storage Structure Operation and Maintenance Plan.
 - 2) Best Management Practices Requirements [Section A.4.b.]
 - a) Divert Clean Water [Section A.4.b.1])
Identify structures and management practices used to divert clean water from the production area.

b) Prevent direct contact of confined animals with the waters of the state in the production area [Section A.4.b.2)]

Identify appropriate controls used to prevent animal access to the waters of the state in the production area.

c) Animal Mortality [Section A.4.b.3)]

Identify appropriate practices that ensure proper management of mortalities in accordance with PA 239 of 1982, as amended, BODA.

d) Chemical Disposal [Section A.4.b.4)]

Identify appropriate practices that ensure chemicals and other contaminants handled at the CAFO are not disposed of in any production area, CAFO process wastewater, or storm water storage or treatment system.

e) Inspection, Proper Operation, and Maintenance [Section A.4.a.5)]

Provide an inspection, operation, and maintenance program for large CAFO wastewater- and runoff-handling equipment and management devices.

f) Land application of Large CAFO Waste [Section A.4.b.7)]

Provide a land application plan that includes:

A) Field-by-field assessment of all land application areas.

B) Testing of production area waste and soils at land application sites.

C) Field inspections prior to and following land application.

D) Inspections of land application equipment.

E) Field-specific application rates for large CAFO wastes.

F) Appropriate prohibitions for land application.

G) Methods of application.

H) Setback requirements for each field.

g) Non-Production Area Storm Water Management [Section A.4.a.8)]

Identify appropriate non-production area storm water management practices.

Michigan Department of Environmental Quality
Water Bureau
Guidance for the Evaluation of Existing Storage Structures
December 2, 2005

This guidance is being provided to assist in the preparation and review of applications for the general permit for Large Concentrated Animal Feeding Operations, NPDES Permit Number MIG019000. This guidance is intended to clarify certain provisions of Part 31 of the NREPA and provide information to encourage consistent administration of these provisions. It is not intended to modify the provisions of Part 31. Should there be any apparent inconsistency between this guidance and the statutory and administrative rule requirements, the language in the statute and rules should obviously guide staff decisions.

This guidance specifically addresses Part I, Section A.4.a.2)b)B) Structural Design – Existing Storage Structures. This part of the permit reads as follows:

B) Existing Storage Structures

i) In a permit application for coverage under this permit the applicant shall either:

(1) Provide documentation through an evaluation by a professional engineer that each storage structure is constructed in accordance with NRCS standards, set forth in Conservation Practice Standard No. 313, Waste Storage Facility, dated June, 2003, or

(2) For each storage structure, demonstrate environmental performance equivalent to NRCS standards, set forth in Conservation Practice Standard No. 313, Waste Storage Facility, dated June, 2003. The demonstration shall be accomplished through an evaluation by a professional engineer. Applicants verified under the Livestock System of the Michigan Agriculture Environmental Assurance Program (MAEAP) may submit the "Evaluation of Existing Components" for review by the Department. After review of the evaluation, the Department will notify the applicant if additional information is necessary to complete the application.

ii) If the applicant cannot provide the documentation or demonstration required by (1) or (2) above, the applicant may request that the COC specify a date by which the permittee shall provide storage structures that attain (1) above, but that date shall be no more than three years after the COC issuance date.

This part of the permit allows for two options in the permit application; to either document that the NRCS standard is achieved, or to demonstrate that environmental performance equivalent to the NRCS standard is achieved. Details for the documentation option are contained in A.1 and A.2 below. For the demonstration option suggestions are provided in B below. , An additional option for applicants verified under the Livestock System of the MAEAP is provided in C below.

A. Documentation of existing storage structure(s) meeting NRCS standard 313.

The permit application should address both construction (1) and current operating condition (2).

1. Provide documentation through a professional engineer that each storage structure was constructed in accordance with NRCS Conservation Practice No. 313, Waste Storage Structure, dated June 2003. This documentation should address the following items which are in the NRCS 313 standard.
 - a. Considerations for the potential failure of waste storage pond liner (page 10 of 313 standard)
 - i. Are any of the conditions in Table 6 present?
 - ii. If yes, indicate how they are addressed (see suggested options in the NRCS standard).
 - b. Location (page 1 of the standard):
 - i. Not in floodplain or If in floodplain, properly protected
 - ii. No field tile within 50 feet
 - iii. Properly isolated from drinking water wells
 - c. Service Life and Durability (Page 4 of standard)
 - i. Minimum service life of 10 years
 - ii. Determine initial service life, where the structure is in age relative to the initial service life, and the expected remaining service life
 - d. Determine seasonal high water table (page 4)
 - e. Subsurface investigation (page 4)– required for all waste storage structures
 - f. Additional Criteria for Storage Ponds Page 5)
 - i. Soil and foundation – the pond shall be located in soils with an acceptable permeability and meet all applicable regulations, or the pond shall be lined.
 - ii. Design bottom elevation – no lower than 2 feet above the seasonal high water table. If documentation is not available or suitable, evaluate a minimum of three locations surrounding the structure to determine if the pond bottom is at least 2 feet above the seasonal high water table.
 - iii. Liners (page 5) – no self sealing ponds. See the standard for details on Compacted Earth, Flexible Membrane, Bentonite, Concrete, and Natural Clay Base liners.
 1. For compacted earth liners - Voids within the liner are to be refilled with Bentonite chips or equivalent
 - a. When documentation does not exist conduct a soils evaluation by sampling side slopes at least every 100 linear feet using the Unified Soil Classification System (ASTM D 2487 or ASTM D 2488)

- Plasticity Index (PI) must be of at least 15 and classifies as CL, CH, MH, SC, or GC

b. Measure liner and pond side soil cover thicknesses. Both liner and cover should be an average of 1-foot measured perpendicular to the finished surface

c. Conduct permeability testing of liner using undisturbed core samples. A minimum of two permeability tests shall be taken from side slopes to demonstrate liner permeability rate. Core samples shall be taken from the middle third of the side slope. The permeability should be 0.0028 ft/day (1×10^{-6} cm/sec) or less.

2. For a natural clay base liners - When documentation does not exist determine the minimum liner thickness below the design bottom elevation (should be at least 10 feet), and conduct soils evaluation based on Unified Soil Classification System by sampling side slopes at least every 100 linear feet and the bottom every 10,000 square feet.

- Plasticity Index (PI) must be of at least 15 and classifies as CL, CH, MH, SC, or GC
- Voids within the liner are to be refilled with Bentonite chips or equivalent

iv. Outlets (Page 6)– only manual release of storage allowed

v. Minimum top widths (Page 6)– see Table 2

vi. Excavations (Page 6)– no steeper than 2 horizontal to 1 vertical unless supported by a soil investigation

g. Additional Criteria for Fabricated Structures

i.–

i. Design bottom elevations (Page 7) – No lower than seasonal high water table. If documentation is not available or suitable, evaluate a minimum of three locations surrounding the structure to determine if the pond bottom is at or above the seasonal high water table.

ii. Liquid tightness (page 7)– In accordance with standard engineering and industrial practices

h. Plans and specifications (page 10): Supply support data documentation as listed in 313.

2. Conduct an Inspection of the existing storage structure to determine if the structure is in good operating condition. Observe and document the following for the specific liner as follows:

❖ All structures:

- Evaluate inlets, agitation points, and pump out locations for damage to liner or structure
 - Evaluate the side slopes for erosion and liner damage
 - Evaluate storage embankments for excessive woody vegetation (more than 6" high), presence of burrowing animals, and soft soils or leakage at the toe (outside bottom of embankment).
- ❖ Concrete liner – at least 2/3 of the side slope must be visible and clean
 - Look at side slopes for significant cracking
 - Vertical cracking equal to width of 1 mm is ok
 - Not more than 1 crack per 20 feet
 - No horizontal cracking is allowed
 - ❖ Fabricated structures
 - Conduct visual inspection on exterior and interior
 - Walls appear to be vertical – no bowing
 - No significant cracking
 - No horizontal cracking is allowed
 - Determine adequacy of and describe concrete floor and wall support.
 - In the instances of precast concrete tanks or slurry store where NRCS pre-approved standard requirements are used, obtain letter from design company.

B. For each storage structure, a study/evaluation/etc. may be conducted to demonstrate environmental performance equivalent to NRCS standards set forth in Conservation Practice No. 313, Waste Storage Structure, dated June 2003. The equivalent environmental demonstration shall be conducted by a professional engineer. This demonstration should address the items that could not be addressed in A above.

C. For applicants verified under the Livestock System of the MAEAP, you may submit the "Evaluation of Existing Components" as this portion of your application for review by the Department. It is suggested that as much information as possible be submitted with this evaluation to help address the items identified in either the documentation or demonstration options described above. The Department will review the evaluation and information submitted, and notify the applicant if additional information is necessary to complete this portion of the application.

Waste Storage Facility (No.) 313

DEFINITION

A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.

PURPOSES

To temporarily store wastes such as manure, wastewater, and contaminated runoff as a storage function component of an agricultural waste management system.

CONDITIONS WHERE PRACTICE APPLIES

- Where the storage facility is a component of a planned agricultural waste management system or comprehensive nutrient management plan.
- Where temporary storage is needed for organic wastes generated by agricultural production or processing.
- Where the storage facility can be constructed, operated, and maintained without polluting air or water resources.
- Where site conditions are suitable for construction of the facility.
- To facilities utilizing embankments with an effective height of 35 feet (10.7 m) or less where damage resulting from failure would be limited to damage of farm buildings, agricultural land, or township and country roads.
- To fabricated structures including tanks, stacking facilities, and pond appurtenances.

CRITERIA

General Criteria Applicable to All Purposes

Laws and Regulations. Waste storage facilities shall be planned, designed, and installed to meet all federal, state, local, and tribal laws and regulations.

Location. To minimize the potential for contamination of streams, waste storage facilities should be located outside of floodplains. However, if site restrictions require location within a floodplain, they shall be protected from inundation or damage from a 25-year flood event, or larger if required by laws, rules, and regulations. Waste storage facilities shall be located so the potential impacts from breach of embankment, accidental release, and liner failure are minimized; and separation distances are such that prevailing winds and landscape elements such as building arrangement, landforms, and vegetation minimize odors and protect aesthetic values.

All field tile (subsurface drains) within 50 feet (16 m) of a waste storage facility shall be removed and capped. The distance shall be measured from the nearest point in the storage facility at the maximum operating level. This does not apply to drainage systems designed in accordance with the Water Table section of this standard.

The isolation distances between waste storage facilities and drinking water wells shall be as follows:

Well Type	Isolation Distance ^{1/}
Private ^{2/}	150 ft (45 m)
Public - Type IIb and III ^{3/}	800 ft (244 m)
Public - Type I and IIa ^{3/}	2,000 ft (610 m)

^{1/} The isolation distance for existing Type IIb and Type III public wells with a capacity of less than 70 gallons per minute (265 L/min) may be reduced where the conditions described in Table 1 apply.

^{2/} As defined by Part 127, 1978 PA 368, Michigan Public Health Code.

^{3/} As defined by 1976 PA 399, Michigan Safe Drinking Water Act.

TABLE 1 - CRITERIA FOR REDUCING THE 800-FOOT MINIMUM WELL ISOLATION DISTANCE FOR MAJOR SOURCES OF CONTAMINATION WITHOUT SECONDARY CONTAINMENT ^{1/}

FOR EXISTING TYPE IIB AND TYPE III PUBLIC WATER SUPPLIES WITH A CAPACITY OF LESS THAN 70 GPM (265 L/min)

Isolation distance reduction allowed down to 400 feet (122 m) where at least one of the following Protection Factor ^{2/} combinations is documented	Isolation distance reduction allowed down to 200 feet (61 m) where at least one of the following Protection Factor ^{2/} combinations is documented
A or, B+D or, C+D or, F	A+B or, A+C or, A+D or, A+F or, F+E or, F+B+C or, F+B+D or, F+C+D

^{1/} The actual isolation distance should be maximized to the extent possible.

^{2/} **PROTECTION FACTORS** (use information from well records, as appropriate)

- A - Ground water flow direction is away from well
- B - Confining material of 10 feet (3 m) of continuous clay or shale or 20 feet (6 m) of a continuous clay mixture* below the design bottom elevation of the waste storage facility
- C - Well casing depth is 100 feet (30 m) or more
- D - Well pump capacity is 25 gallons per minute (95 L/min) or less
- E - Confining material [minimum of 10 feet (3 m) continuous clay or shale or 20 feet (6 m) continuous clay mixture* below the design bottom elevation of the waste storage facility] + Well casing depth [minimum of 60 feet (18 m) casing depth] = 100 feet (30 m) or more
- F - Waste storage facility constructed with flexible membrane liner, reinforced concrete, or steel, or solid manure stacking facility with roof and concrete floor constructed in accordance with USDA Natural Resources Conservation Service-Michigan Field Office Technical Guide standards and specifications and sited /graded to protect the water supply in the event of failure

*Note – For continuous clay mixtures, when interpreting water well record information contained under Formation Description, the first material named is the dominant material in the strata being described. For example: (a) If the material is described as “clay/sand/gravel,” clay is the dominant material and would classify as a continuous clay mixture; (b) If the material is described as “sand/clay,” it would not be acceptable as a continuous clay mixture since sand is the dominant material.

APPLICABILITY

The criteria in this table shall be used where it is necessary to upgrade an existing storage, handling area, tank, or structure for major source contaminants within the 800-foot (244 m) isolation of a Type IIb or Type III public drinking water well. Tanks or structures that comply with applicable regulations and are located in accordance with the above procedures are considered to be complying with requirements to maintain isolation distance from the well to the contaminant source. Wells must be properly constructed and unused wells properly abandoned, as determined by the Michigan Department of Environmental Quality, local health department, or a registered well drilling contractor and bacteriologic and nitrate standard levels meet drinking water standards.

Deviations from isolation distances authorized through issuance of well construction permits by the Michigan Department of Environmental Quality or local health department may incorporate alternative or additional criteria in accordance with the Michigan Safe Drinking Water Act (1976 PA 399) or Part 127, Water Supply and Sewer Systems, of the Michigan Public Health Code (1978 PA 368).

VARIANCES TO CRITERIA

The NRCS State Conservation Engineer or a non-NRCS professional engineer licensed in the State of Michigan may approve variances to the isolation distance criteria with concurrence from the Michigan Department of Environmental Quality or the local health department.

Storage Period. The storage period is the maximum length of time anticipated between emptying events. The minimum storage period shall be:

- 6 months, or
- 6 months less the time period equivalent to the volume of manure spread on land suitable for winter application based on the Manure Application Risk Index analysis for each field where winter application of manure is planned.

If livestock are in confinement less than 6 months, the duration of confinement may be used in lieu of 6 months in the minimum storage period criteria above.

Design Storage Volume. The design storage volume equal to the required storage volume shall consist of the total of the following, as appropriate:

- (a) Manure, wastewater, bedding, and other wastes accumulated during the storage period.
- (b) Normal (mean monthly) precipitation less evaporation on the surface area of the facility during the storage period.
- (c) Normal (mean monthly) runoff from the facility's drainage area during the storage period.
- (d) 25-year, 24-hour precipitation on the surface of the facility.
- (e) 25-year, 24-hour runoff from the facility's drainage area.
- (f) Drifted snow accumulation. (Accumulation in excess of the precipitation that falls directly onto the structure surface.)
- (g) Residual solids after liquids have been removed. A minimum of 6 inches (150 mm) shall be provided for tank fabricated structures. (This may be eliminated if a sump or other device that allows for complete emptying is included in the design.)
- (h) Additional storage as may be required to meet management goals or regulatory requirements.

Non-polluted runoff shall be excluded from the structure to the fullest extent possible except where its storage is advantageous to the operation of the agricultural waste management system.

Waste storage facilities designed for use as reception pits shall be sized in accordance with the Manure Transfer Practice Standard (634).

Freeboard - Waste Storage Ponds. In addition to the design volume, a minimum of 1 foot (0.3 m) shall be provided for freeboard.

Freeboard - Fabricated Structures. In addition to the design volume, a minimum of 6 inches (150 mm) shall be provided for freeboard except for solid stacking fabricated structures. Solid stacking implies that the manure has a consistency that does not flow, but stays in place even during the wettest time of the storage period. The design volume for solid stacking fabricated structures may exceed the height of the structure walls. The anticipated stacking angle of the manure must be considered in determining the required wall height and design loads.

Inlet. Inlets shall be of any permanent type designed to resist corrosion, plugging, freeze damage, and ultraviolet ray deterioration while incorporating erosion protection as necessary.

Emptying Component. Some type of component shall be provided for emptying storage facilities. It may be a facility such as a gate, pipe, dock, wet well, pumping platform, retaining wall, or ramp. Features to protect against erosion, tampering, and accidental release shall be incorporated as necessary.

Ramps used to empty liquids shall have a slope of 4 horizontal to 1 vertical or flatter. Those used to empty slurry, semi-solid, or solid waste shall have a slope of 10 horizontal to 1 vertical or flatter unless special traction surfaces are provided.

Accumulated Solids Removal. Provisions shall be made for periodic removal of accumulated solids to preserve storage capacity. The anticipated method for doing this must be considered in planning, particularly in determining the configuration of ponds and type of seal or liner, if any.

Safety. Design shall include appropriate safety features to minimize the hazards of the facility. Warning signs, fences, ladders, ropes, bars, rails, and other devices shall be provided, as appropriate, to ensure the safety of humans and livestock. Ponds and uncovered fabricated structures for liquid or slurry waste with walls less than 5 feet (1.5 m) above ground surface shall be fenced and warning signs posted to prevent children and others from using them for other than their intended purpose.

Ventilation and warning signs must be provided for covered waste storage facilities, as necessary, to prevent explosion, poisoning, or asphyxiation. Pipelines shall be provided with a water-sealed trap and vent, or similar device, if there is a potential, based on design configuration, for gases to enter buildings or other confined spaces.

Covers and gratings over openings shall be designed such that livestock or humans cannot accidentally displace them and fall into the facility.

Livestock shall be excluded from the storage facility, as appropriate, to prevent damage to liners and to avoid harm to the animals.

Erosion Protection. Embankments and disturbed areas surrounding the facility shall be treated to control erosion.

Service Life and Durability. Storage facilities shall be planned, designed, and installed to provide a minimum service life of 10 years.

Planning, design, and construction shall ensure that the storage facility is sound and of durable materials commensurate with the anticipated service life, initial and replacement costs, maintenance and operation costs, and safety and environmental considerations.

Water Table. The seasonal high water table shall be determined either by long-term monitoring or by the presence of diagnostic soil redoximorphic features as identified during on-site investigations conducted by an individual trained in soil and water relationships. Terms related to water table are as defined below.

- **Water table** - The uppermost surface of the zone of saturation; that surface of a body of unconfined groundwater at which the pressure is equal to atmospheric pressure.
- **Seasonal high water table** - The uppermost surface of the zone of saturation during the wettest season.
- **Perched water table** - Unconfined groundwater separated from the underlying main body of groundwater by an unsaturated zone.
- **Potentiometric surface** - In confined (artesian) conditions, the surface to which water in an aquifer would rise by hydrostatic pressure.

A seasonal high water table may be lowered only if ALL of the following conditions are met:

- It is a perched seasonal high water table.
- The perched condition is verified by subsurface investigation and/or surface hydrology and information contained in logs of nearby water wells.
- The artificial drainage system uses only gravity flow.
- The artificial drainage system is approved by the NRCS State Conservation Engineer or a non-NRCS professional engineer licensed in the State of Michigan.

Subsurface Investigations. A subsurface investigation is required for all waste storage facilities. Subsurface investigations shall be conducted by individuals trained in soil science, engineering, geology, or a related field. The number and depth of test holes, pits, or borings will vary depending on the planned surface area and depth of the structure and the conditions encountered during the investigation such as the complexity of the soils, the depth to groundwater, and the presence or absence of seeps. At a minimum, there shall be one test hole, pit, or boring for each 5,000 ft² (460 m²) for the first 20,000 ft² (1,840 m²) of planned storage facility surface area plus at least one test hole, pit, or boring for each additional 20,000 ft² (1,840 m²). Each test hole, pit, or boring shall extend at least 2 feet (0.6 m) below the planned bottom of the structure. The log for each test hole, pit, or boring shall indicate the following:

- Existing ground surface elevation.
- A description of the soil material encountered using the Unified Soil Classification System (ASTM D 2487 or ASTM D 2488).
- Depth to changes in the soil material encountered.
- Depth to any seeps encountered.
- Depth to high water (note method of determination: mottling, free water encountered, etc.).
- Depth to bottom of test hole, pit, or boring.

The location and log information for all test holes, pits, and/or borings in or near the structure shall be shown on the construction drawings.

Additional Criteria Where the Animal Feeding Operation Stables or Confines and Feeds or Maintains 5,000 or MORE Animal Units for a Total of 45 Days or More in Any 12 Month Period

- In addition to the criteria in this practice standard, waste storage facility criteria for animal feeding operations with 5,000 or more animal units (animal units as defined by the Michigan Department of Environmental Quality) are described in R 323.2201 through R 323.2240 of the Michigan Administrative Code (Part 22 Groundwater Quality Administrative Rules Promulgated Pursuant to Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended).

Additional Criteria for Waste Storage Ponds

Soil and Foundation. The pond shall be located in soils with an acceptable permeability that meets all applicable regulations, or the pond shall be lined. Information and guidance on controlling seepage from waste impoundments can be found in the Agricultural Waste Management Field Handbook (AWMFH), Appendix 10D.

Design Bottom Elevation. The design bottom elevation of the waste storage pond shall be no lower than 2 feet (0.6 m) above the seasonal high water table unless it is a perched water table lowered in accordance with Water Table criteria.

Liners. Self-sealing ponds are not an acceptable means of containing waste. The storage pond shall be sealed by one of the liners as described below. The subgrade shall be a dense base regardless of liner method.

Compacted Earth - Compacted earth liners designed using the procedure in Appendix 10D of the AWMFH with a maximum allowable specific discharge (v) of 0.028 ft/day (1×10^{-5} cm/sec). A compacted earth liner shall have a minimum thickness of 1 ft (0.3 m) on pond sides and bottom, measured perpendicular to the finished surface.

The liner material shall be placed in layers not over 9 inches (230 mm) thick before compaction. A minimum of two compacted layers is required. Liner compaction shall result in a minimum of 90 percent of Standard Proctor Density (ASTM D-698) or

compaction shall follow the methods described in Construction Specification MI-154, Earthfill.

Earth liner material shall have a laboratory permeability (k) of 0.0028 ft/day (1×10^{-6} cm/sec) or less. Materials that are acceptable without a permeability test are soils that have a Plasticity Index (PI) of at least 15 and classify as CL, CH, MH, SC, or GC based on the Unified Soil Classification System (ASTM D 2487 or ASTM D 2488). Organic soils are not acceptable as earth liner material.

Compacted earth liners shall have side slopes of 3:1 or flatter, except where compacted earth liners are part of (brought up with) an earthfill.

The compacted earth liner shall be covered with not less than 1 foot (0.3 m) of compacted on-site material measured perpendicular to the finished surface.

Flexible Membrane - A flexible membrane liner designed and constructed in accordance with NRCS Practice Standard 521-A, Pond Sealing or Lining - Flexible Membrane; and Construction Specification MI-184, Flexible Membrane Liners.

Bentonite - A bentonite liner designed and constructed in accordance with NRCS Practice Standard 521-C, Pond Sealing or Lining - Bentonite or Other High Swell Clay Material; and Construction Specification MI-183, Bentonite Sealant.

Concrete - A concrete liner designed and constructed in accordance with Construction Specification MI-159, Plain Concrete and the following criteria:

1. For side slopes and bottoms that will not have any vehicular traffic, use a minimum 5-inch (125 mm) thick concrete slab. No joints, wire mesh, or fiber reinforcement is required.
2. For concrete-lined areas such as approaches, ramps, and bottoms that will have vehicular traffic of any kind, use a minimum 5-inch (125 mm) thick concrete slab placed over a minimum 4-inch (100 mm) thick layer of compacted sand. No joints, wire mesh, or fiber reinforcement is required.
3. Concrete-lined side slopes shall be 2:1 or flatter, except for concrete push-off ramps. Concrete push-off ramp slopes shall be 1:1 or flatter on cut slopes or fill slopes with 5 feet (1.5 m) or less of fill. Concrete push-off ramps on slopes with greater than 5 feet (1.5 m) of fill must be approved by the NRCS State Conservation

Engineer or a non-NRCS professional engineer licensed in the State of Michigan.

Natural Clay Base - A natural clay base liner shall have a minimum thickness of 10 feet (3 m) below the design bottom elevation of the storage pond. The soil shall meet the criteria for a unified soil classification of CL, CH, MH, SC, or GC. Subsurface investigations must demonstrate that suitable natural soil material exists for the entire 10 feet (3 m) below the design bottom elevation of the pond.

Natural clay-based liners shall have side slopes of 2:1 or flatter.

Natural clay base soils that have a blocky structure or desiccation cracks shall be disked to a minimum depth of 6 inches (150 mm) and recompact following the methods described in Construction Specification MI-154, Earthfill.

Maximum Operating Level. The maximum operating level for waste storage ponds shall be the pond level that provides for the required volume less the volume contribution of precipitation and runoff from the 25-year, 24-hour storm event. A permanent marker or recorder shall be installed at this maximum operating level to indicate when drawdown should begin. The marker or recorder shall be referenced and explained in the Operation and Maintenance plan.

Outlet. No outlet shall automatically release storage from the required design volume. Manually-operated outlets shall be of a permanent type designed to resist corrosion and plugging.

Embankments. The minimum elevation of the top of the settled embankment shall be the waste storage pond's required volume plus the 1-foot (0.3 m) freeboard. This settled height shall be increased by the amount needed to ensure that the top elevation will be maintained after settlement. This increase shall be not less than 5 percent.

The minimum top widths are shown in Table 2. The combined side slopes of the settled embankment shall not be less than 5 horizontal to 1 vertical, and neither slope shall be steeper than 2 horizontal to 1 vertical unless provisions are made to provide stability.

Total Embankment Height	Top Width
15 ft. (4.6 m) or less	8 ft. (2.4 m)
15 - 20 ft. (4.6 – 6.1 m)	10 ft. (3.0 m)
20 - 25 ft. (6.1 – 7.6 m)	12 ft. (3.7 m)
25 - 30 ft. (7.6 – 9.1 m)	14 ft. (4.3 m)
30 - 35 ft. (9.1 – 10.7 m)	15 ft. (4.6 m)

Excavations. Unless supported by a soil investigation, excavated side slopes shall be no steeper than 2 horizontal to 1 vertical.

Additional Criteria for Fabricated Structures

Foundation. The foundations of fabricated waste storage structures shall be proportioned to safely support all superimposed loads without excessive movement or settlement.

Where a non-uniform foundation cannot be avoided or applied loads may create highly variable foundation loads, settlement should be calculated from site-specific soil test data. Index tests of site soil may allow correlation with similar soils for which test data is available. If no test data is available, presumptive bearing strength values for assessing actual bearing pressures may be obtained from Table 3 or another nationally recognized building code. In using presumptive bearing values, adequate detailing and articulation shall be provided to avoid distressing movements in the structure.

Foundation Description	Allowable Stress
Crystalline Bedrock	12,000 psf (575,000 Pa)
Sedimentary Rock	6,000 psf (285,000 Pa)
Sandy Gravel or Gravel	5,000 psf (240,000 Pa)
Sand, Silty Sand, Clayey Sand, Silty Gravel, Clayey Gravel	3,000 psf (145,000 Pa)
Clay, Sandy Clay, Silty Clay, Clayey Silt	2,000 psf (95,000 Pa)

^{1/} Basic Building Code, 12th Edition, 1993, Building Officials and Code Administrators, Inc. (BOCA)

Foundations consisting of bedrock with joints, fractures, or solution channels shall be treated or a separation distance provided consisting of a minimum of 1 foot (0.3 m) of impermeable soil

between the floor slab and the bedrock, or an alternative that will achieve equal protection.

Design Bottom Elevation. The design bottom elevation of the fabricated structure waste storage facility shall be no lower than the seasonal high water table unless it is a perched water table lowered in accordance with Water Table criteria.

Liquid Tightness. Applications such as tanks, that require liquid tightness, shall be designed and constructed in accordance with standard engineering and industry practices appropriate for the construction materials used to achieve this objective.

Structural Loadings. Waste storage structures shall be designed to withstand all anticipated loads including internal and external loads, hydrostatic uplift pressure, concentrated surface and impact loads, water pressure due to seasonal high water table, frost or ice pressure, and load combinations in compliance with this standard and applicable local building codes. Hydrostatic uplift pressures from perched seasonal high water tables shall be eliminated by a drain system with a gravity outlet. Refer to the Water Table section of this standard.

The design load under footings for walls and columns shall not exceed 3,000 lb/ft² (145,000 Pa) unless the design is based on soil-bearing strength tests made at the site.

The lateral earth pressures should be calculated from soil strength values determined from the results of appropriate soil tests. Lateral earth pressures can be calculated using the procedures in TR-74, Lateral Earth Pressures. If soil strength tests are not available, the presumptive lateral earth pressure values indicated in Table 4 shall be used.

Lateral earth pressures based upon equivalent fluid assumptions shall be assigned according to the following conditions:

- **Rigid Frame or Restrained Wall.** Use the values shown in Table 4 under the column “Frame Tanks,” which gives pressures comparable to the at-rest condition.
- **Flexible or Yielding Wall.** Use the values shown in Table 4 under the column “Free-Standing Walls,” which gives pressures comparable to the active condition. Walls in this

category are designed on the basis of gravity for stability or are designed as a cantilever having a base wall thickness to height of backfill ratio not more than 0.085.

Internal lateral pressure used for design shall be 65 lb/ft² (3,120 Pa) where the stored waste is not protected from precipitation. A value of 60 lb/ft² (2,880 Pa) may be used where the stored waste is protected from precipitation and will not become saturated. Lesser values may be used if supported by measurement of actual pressures of the waste to be stored. If heavy equipment is to be operated within 5 feet (1.5 m) of the walls, a surcharge (horizontal pressure) of 100 lb/ft² (4,800 Pa) on the wall shall be added.

Tank covers shall be designed to withstand both dead and live loads. The 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 Storages, shall be the minimum used. The actual axle load for tank wagons having more than a 2,000 gallon (7,600 L) capacity shall be used.

If the facility is to have a roof, snow and wind loads shall be as specified in ASAE EP288.5, Agricultural Building Snow and Wind Loads.

TABLE 4 - Lateral Earth Pressure Values^{1/}

Soil		Equivalent Fluid Pressure lb/ft ² /ft (Pa/m) of depth	
		Above Seasonal High Water Table ^{2/}	
Description ^{3/}	Unified Classification ^{3/}	Free-Standing Walls	Frame Tanks
Clean gravel, sand, or sand-gravel mixtures (maximum 5% fines) ^{4/}	GP, GW, SP, SW	30 (4,700)	50 (7,900)
Gravel, sand, silt, and clay mixtures (less than 50% fines) Coarse sands with silt and/or clay (less than 50% fines)	All gravel/sand dual symbol classifications and GM, GC, SC, SM, SC-SM	35 (5,500)	60 (9,400)
Low-plasticity silts and clays with some sand and/or gravel (50% or more fines) Fine sands with silt and/or clay (less than 50% fines)	CL, ML, CL-ML, SC, SM, SC-SM	45 (7,100)	75 (11,800)
Low to medium plasticity silts and clays with little sand and/or gravel (50% or more fines)	CL, ML, CL-ML	65 (10,200)	85 (13,300)
High plasticity silts and clays (liquid limit more than 50) ^{5/}	CH, MH	NA	NA

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

If a fabricated structure is to serve as part of a foundation or support for a building, the total load shall be considered in the structural design and the following conditions shall be met:

1. The building shall not cause any eccentric loads on the storage structure walls. Therefore, the building walls shall: (a) be located so that the load is directly over the storage structure wall; (b) be located outside the storage structure wall by a distance no less than the depth of the storage structure wall below ground; or (c) have footings that extend at least to the bottom elevation of the storage structure and are not connected to the storage structure footings.
2. Sill plates for the building walls should not be placed in direct contact with slatted floors.
3. Storage structure reinforcing steel shall not be extended to connect the building to the storage structure. Bolts or separate reinforcing steel may be used to connect the building to the storage

structure. The distance from the face of the storage structure wall to the connecting bolts or reinforcing steel shall be at least 1.5 inches (40 mm).

Structural Design. The structural design shall consider all items that will influence the performance of the structure, including loading assumptions, material properties, and construction quality. Design assumptions and construction requirements shall be indicated on the plans. For structures that include slatted floors, the walls, which parallel the slats, are usually not supported at the top by the slats and therefore may require a special design.

Tanks may be designed with or without covers. Covers, beams, or braces that are integral to structural performance must be indicated on the construction drawings. The openings in covered tanks shall be designed to accommodate equipment for loading, agitating, and emptying. These openings shall be equipped with grills or secure covers for safety, and for odor and vector control. Adequate

reinforcing shall be designed and detailed for all areas around cover openings. Exposed reinforcing bars across openings shall not be used to provide structural strength.

All structures shall be underlain by free draining material or shall have a footing located below the anticipated frost depth.

Fabricated structures shall be designed according to the criteria in the following references as appropriate:

- Steel: “Manual of Steel Construction,” American Institute of Steel Construction.
- Timber: “National Design Specifications for Wood Construction,” American Forest and Paper Association, or Construction Specification MI-174, Timber Fabrication and Installation.
- Concrete: “Building Code Requirements for Reinforced Concrete, ACI 318,” American Concrete Institute.
- Masonry: “Building Code Requirements for Masonry Structures, ACI 530,” American Concrete Institute.

Slabs on Grade. Slab design shall consider the required performance and the critical applied loads along with both the subgrade material and material resistance of the concrete slab. Construction Specification MI-158, Concrete Construction, with the following criteria, shall be used:

1. For areas that will not have any vehicular traffic, use a minimum 5-inch (125 mm) thick concrete slab. No joints, wire mesh, or fiber reinforcement is required.
2. For areas that will have vehicular traffic of any kind, use a minimum 5-inch (125 mm) thick concrete slab placed over a minimum 4-inch (100 mm) thick layer of compacted sand. No joints, wire mesh, or fiber reinforcement is required.
3. When heavy equipment loads are to be resisted and/or where a non-uniform foundation cannot be avoided, an appropriate design procedure incorporating a subgrade resistance parameter(s) such as ACI 360, “Design of Slabs on Grade,” shall be used.

CONSIDERATIONS

Waste storage facilities should be located as close to the source of waste and polluted runoff as practicable.

Consider the potential effects of installation and operation of waste storage facilities on the cultural, archeological, historic and economic resources.

Solid/liquid separation of runoff or wastewater entering waste storage facilities should be considered to minimize the frequency of accumulated solids removal and to facilitate pumping and application of the stored waste.

Considerations for Siting

The following factors shall be considered in selecting a site for waste storage facilities:

- Proximity of the waste storage facility to the source of wastes;
- Access to other facilities;
- Ease of loading and emptying wastes;
- Appropriate health regulations;
- Direction of prevailing winds to minimize odors;
- Compatibility with the existing landforms and vegetation, including building arrangement, to minimize odors and adverse impacts on visual resources; and
- Adequate maneuvering space for operating, loading, and unloading equipment.

Considerations for Minimizing the Potential for and Impacts of Sudden Breach of Embankment or Accidental Release from the Required Volume

Features, safeguards, and/or management measures to minimize the risk of failure or accidental release; or to minimize or mitigate impact of this type of failure should be considered when any of the categories listed in Table 5 might be significantly affected.

The following should be considered, either singly or in combination, to minimize the potential of or the consequences of sudden breach of embankments

when one or more of the potential impact categories listed in Table 5 may be significantly affected:

1. An auxiliary (emergency) spillway.
2. Additional freeboard.
3. Storage for wet year rather than normal year precipitation.
4. Reinforced embankment - such as additional top width, or flattened and/or armored downstream side slopes.
5. Secondary containment.

TABLE 5 - Potential Impact Categories From Breach of Embankment or Accidental Release

1. Surface water bodies - perennial streams, lakes, wetlands, and estuaries.
2. Critical habitat for threatened and endangered species.
3. Riparian areas.
4. Farmstead or other areas of habitation.
5. Off-farm property.
6. Historical and/or archaeological sites or structures that meet the eligibility criteria for listing in the National Register of Historical Places.

The following options should be considered to minimize the potential for accidental release from the required volume through gravity outlets when one or more of the potential impact categories listed in Table 5 may be significantly affected:

1. Outlet gate locks or locked gate housing.
2. Secondary containment.
3. Alarm system.
4. Another means of emptying the required volume.

Considerations for Minimizing the Potential of Waste Storage Pond Liner Failure

Sites with categories listed in Table 6 should be avoided unless no reasonable alternative exists. Under those circumstances, consideration should be given to providing an additional measure of safety from pond seepage when any of the potential impact categories listed in Table 6 may be significantly affected.

TABLE 6 - Potential Impact Categories for Liner Failure

1. Any underlying aquifer is at a shallow depth and not confined.
2. The vadose zone is rock.
3. The aquifer is a domestic water supply or ecologically vital water supply.
4. The site is located in an area of solutionized bedrock such as limestone or gypsum.

Should any of the potential impact categories listed in Table 6 be affected, consideration should be given to the following:

1. A clay liner designed in accordance with procedures of AWMFH Appendix 10D with a thickness and coefficient of permeability so that specific discharge is less than 1×10^{-6} cm/sec.
2. A flexible membrane liner over a clay liner.
3. A geosynthetic clay liner (GCL) flexible membrane liner.
4. A concrete liner designed in accordance with slabs on grade criteria for fabricated structures requiring water tightness.

Considerations for Improving Air Quality

To reduce emissions of greenhouse gases, ammonia, volatile organic compounds, and odor:

Consider alternatives and additional practices including Waste Treatment Lagoons (359), Covered Anaerobic Digesters (365), and Composting Facilities (317).

Adjusting pH below 7 may reduce ammonia emissions from the waste storage facility but may increase odor when waste is surface applied (see Waste Utilization 633).

PLANS AND SPECIFICATIONS

Plans and specifications shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended use.

Support data documentation requirements are as follows:

- Inventory and evaluation records
 - Conservation Assistance notes or special report
- Survey notes, where applicable
 - Design survey
 - Construction layout survey
 - Construction check survey
- Design records
 - Physical data, functional requirements, and site constraints, where applicable
 - Soils/subsurface investigation report, where applicable
- Design and quantity calculations
- Construction drawings/specifications with:
 - Location map
 - “Designed by” and “Checked by” names or initials
 - Approval signature
 - Job class designation
 - Initials from preconstruction conference
 - As-built notes
- Construction inspection records
 - Conservation Assistance notes or separate inspection records
 - Construction approval signature
- Record of any variances approved, where applicable
- Record of approvals of in-field changes affecting function and/or job class, where applicable
- For Waste Storage Ponds with a clay liner, include an evaluation report (soils lab or qualified specialist) documenting suitability of liner material

American Society for Testing and Materials (ASTM), 2000. D 2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).

OPERATION AND MAINTENANCE

An Operation and Maintenance (O&M) plan shall be developed for this practice. The O&M plan shall be consistent with the purposes of the practice, its intended life, safety requirements, and the criteria for the design.

REFERENCES

American Society for Testing and Materials (ASTM), 2000. D 2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).

Instructions for Determining Precipitation Forecasts for CAFO Permits using the National Weather Service website

WARNING: Do not be intimidated. This is much easier than it may seem at first. Once you learn how to do this and save the results in your Favorites you can check both forecasts in less than a minute (or up to a few minutes depending on your internet connection speed). In fact, you may find these forecast models useful in planning other areas of work on your farm.

Start at this website: <http://www.nws.noaa.gov/mdl/synop/products.shtml>. Once you are there you may wish to save it in your Favorites. If the website has changed or the required forecast models are not longer available, please contact the Michigan Department of Environmental Quality Office listed on your Certificate of coverage or on the cover page of your permit

1. Click on "Forecast Graphics" in the "GFS MOS (MAV)" box (near the center of the page).
2. In the column on the left side, in the drop down box under "Precipitation", click on "24H Prob. >= 0.50 in.". Note: if it has been determined that a smaller precipitation event is capable of producing runoff or erosion then use a smaller precipitation probability such as "24H Prob. >= 0.25 in.".
3. This will bring up a map of the U.S. showing precipitation probabilities as colored bands or areas for the upcoming 24 hour period. Precision is not ideal because it covers all of the U.S. but estimate the color for the proposed land application area. If the precipitation probability is 70% or greater (blue shades) then you may not land apply. You can save the map in your favorites.
4. Underneath the map are day & time boxes such as "Tuesday" and "00" and "12". That would be Tuesday midnight and noon, GMT (Greenwich Mean Time) which is 5 hours ahead of EST (Eastern Standard Time) and 4 hours ahead of EDT (Eastern Daylight Time). So "Tuesday 00" would be 7 p.m. EST or 8 p.m. EDT Monday. The map forecast is for the 24 hour period ending at the highlighted time. The first box, which will be highlighted when you bring up the map, will give the map for the upcoming 24 hour period. You can click on subsequent time periods to see future forecasts. You should always check the immediate upcoming 24 hour forecast just prior to a planned land application event.

After you have finished checking the maps use your back button or go to your Favorites to return to the above website.

1. Click on "Text Message By Station List" in the "GFS MOS (MEX)" box (toward the right side on the page).
2. In the list of states on the left side click on "Michigan".
3. In the list that comes up on the right side click in the box for the station closest to the land application location. You may need to select 2 or 3 stations if none are close to the land application area. If selecting more than one station, note the 4-letter station designation after each station name so you know which chart is for which station.

4. Once you have selected the station(s) scroll to the bottom of the Michigan station list and click on "Go to the bottom to submit now". Then click on the "Submit Query" box.
5. You will now have a very confusing chart for each selected station (you can save this page in your Favorites). Look down the left hand column for "Q24" and read across the first number. It will be one digit from 0 to 6. This is the only number you need to be concerned with. This number is the quantity precipitation forecast for the upcoming 24 to 48 hour period. 0 = no precipitation, 1 = 0.01" to 0.09", 2 = 0.1" to 0.24", 3 = 0.25" to 0.49", 4 = 0.5" to 0.99", 5 = 1.0" to 1.99" and 6 = > 2.0". If it is 4 or greater you may not land apply. Note: if it has been determined that a smaller precipitation event is capable of producing runoff or erosion then use a smaller precipitation quantity forecast number. For example, if 0.35" of precipitation in 24 hours on a particular field will produce runoff or erosion then you may not land apply if the number is 3 or greater.
6. You may need to check the charts 2 or 3 times in advance of a planned land application event to determine the precipitation amount forecasted for the land application time frame.

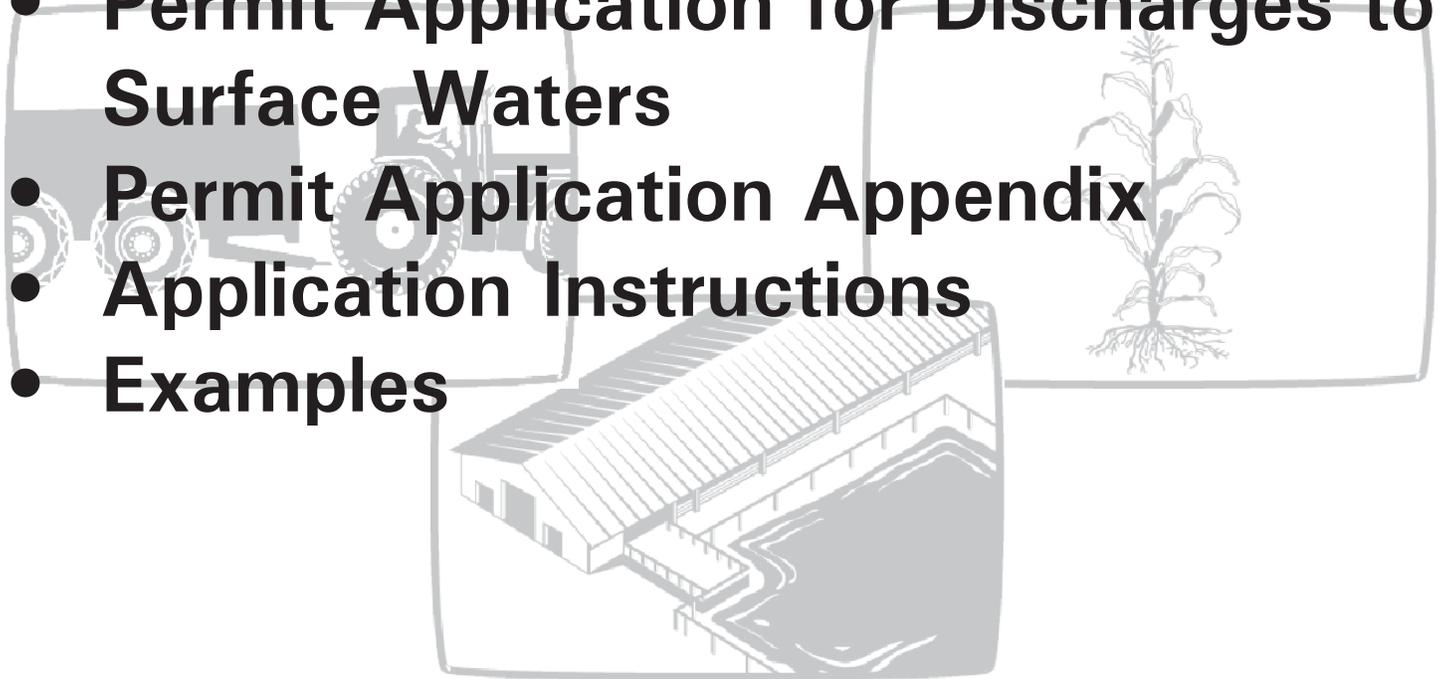
In the event that you are immensely curious as to what all the rest of the data on these charts mean, then go back to the website at the top on these instructions and in the left hand column click on "GFS Description" to get to an explanation page.

Once you have saved the map and charts in your Favorites, you can click on those links and get to the current map or chart(s) with just one click!

SECTION 2

PERMIT APPLICATION

- **Permit Application for Discharges to Surface Waters**
- **Permit Application Appendix**
- **Application Instructions**
- **Examples**





State of Michigan

National Pollutant Discharge Elimination System Permit Application for Discharges to Surface Waters

General Instructions	Pages i - iii
Section I - General Facility Information	Pages 1 - 6
Section II - Sanitary Wastewater Facilities	Pages 7 - 21
Section III - Industrial and Commercial Wastewater Facilities	Pages 23 - 31

DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU
PERMITS SECTION
P.O. BOX 30273
LANSING, MICHIGAN 48909-7773
TELEPHONE: 517-241-1346
FAX: 517-241-8133



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PURPOSE AND AUTHORITY

The National Pollutant Discharge Elimination System (NPDES) Program protects the surface waters of the state by assuring that discharges of domestic and industrial wastewater comply with state and federal regulations. Public or private facilities that discharge, or propose to discharge, wastewater to the surface waters of the state or to land apply biosolids generated in the wastewater treatment process are required to make application for and obtain a valid NPDES permit prior to wastewater discharge or land application of biosolids.

NPDES permits are required under Section 402 of the Federal Clean Water Act (the "Federal Act"), as amended (33 U.S.C. 1251 et seq, P.L. 92-500, 95-217), and under Part 31 of Michigan's "Natural Resources and Environmental Protection Act," 1994 PA 451, as amended (the "Michigan Act"). Part 31 of the Michigan Act also provides authority for the State to issue NPDES permits. The Michigan Department of Environmental Quality (MDEQ) administers the NPDES permit program for the State of Michigan.

This application should be used to apply for any municipal, commercial, or industrial wastewater discharge to the surface waters of the state. Depending on the nature of the discharge, the MDEQ may issue either an Individual Permit or Certificate of Coverage (COC) under a valid General Permit.

This Application **should not** be used to apply for authorization to discharge under the Wastewater Discharge General Permits for "Storm Water from Industrial Activity" or "Storm Water Discharges with Required Monitoring," or the "Permit by Rule for Storm Water from Construction Activities."

Note: In accordance with Section 3120 of the Michigan Act (revised April 2004), application fees are now required with NPDES Permit Applications. The applicant is obligated to submit the appropriate fee with the Application. Application fees are non-refundable. For information on application fees for NPDES Permits, see the Frequently Asked Question Section of the NPDES Permit Application Appendix (Appendix). Information on annual permit fees can be viewed via the Internet (<http://www.michigan.gov/deq> and on the left side of the screen click on **Water**, click on **Surface Water**, click on **NPDES Permits**; then click on "**NPDES Permit Fees**" which is under the Information banner, then click on NPDES Fees: Frequently Asked Questions and Answers). **Applications submitted without the application fee are administratively incomplete and will not be processed until the fee is received.**

PENALTIES

The information in this Application is required by the Part 21 Rules of the Michigan Act. A municipality, business, or industry which violates the Part 21 Rules may be enjoined by action commenced by the Attorney General in a court of competent jurisdiction.

Federal and State laws provide penalties for submitting false application information. The laws imposing those penalties are cited below.

The Federal Act, Section 309(c)(4): "Any person who knowingly makes false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this act or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this act, shall upon conviction, be punished by a fine not more than \$10,000, or by imprisonment for not more than 2 years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or by both."

The Michigan Act, Section 3115(2): "A person who at the time of the violation knew or should have known that he or she discharged a substance contrary to this part, or contrary to a permit, order, rule, or stipulation of the department, or who intentionally makes a false statement, representation, or certification in an application form pertaining to a permit or in a notice or report required by the terms and conditions of an issued permit, or who intentionally renders inaccurate a monitoring device or record required to be maintained by the department, is guilty of a felony and shall be fined not less than \$2,500.00 or more than \$25,000.00 for each violation. The court may impose an additional fine of not more than \$25,000.00 for each day during which the unlawful discharge occurred. If the conviction is for a violation committed after a first conviction of the person under this subsection, the court shall impose a fine of not less than \$25,000.00 per day and not more than \$50,000.00 per day of violation. Upon conviction, in addition to a fine, the court, in its discretion, may sentence the defendant to imprisonment for not more than 2 years or impose probation upon a person for a violation of this part. With the exception of the issuance of criminal complaints, issuance of warrants, and the holding of an arraignment, the circuit court for the county in which the violation occurred has exclusive jurisdiction. However, the person shall not be subject to the penalties of this subsection if the discharge of the effluent is in conformance with and obedient to a rule, order, or permit of the department. In addition to a fine, the Attorney General may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation."

The Michigan Department of Environmental Quality will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to the Office of Personnel Services, P.O. Box 30473, Lansing MI 48909.

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GENERAL PROVISIONS

COMPLETION OF FORMS

If assistance is needed completing this Application, contact the Water Bureau, Permits Section (Permits Section) at 517-241-1346.

1. There are three sections in this Application: All applicants are required to complete Section I and **either** Section II **or** Section III.
 - **Section I** (Pages 1-6) -- General information and application certification signature that is required to be provided by all applicants.
 - **Section II** (Pages 7-21) -- Information to be provided by applicants that discharge treated domestic sanitary wastewater. These facilities include both publicly-owned treatment works (POTWs) and privately-owned treatment facilities such as mobile home parks, campgrounds, condominiums, etc. These facilities are collectively known as **Treatment Works Treating Domestic Sewage (TWTDS)**.
 - **Section III** (Pages 23-31) -- Information to be provided by applicants that discharge from industrial and commercial facilities, including process, cooling, and sanitary wastewaters, and concentrated animal feeding operations.
2. The NPDES Permit Application Appendix (Appendix) contains supplemental information that will assist the applicant in completing the Application. **Please do not return the Appendix with the Application.**
3. The applicant is required to provide all requested information, unless otherwise specified. If a particular item or choice of answers in the application does not fit the circumstances or characteristics at the facility, enter **“NA” for “Not Applicable”** to indicate that the particular item was considered and not inadvertently omitted.

It is the applicant's responsibility to adequately characterize the existing or proposed discharge. The applicant is required to provide additional information if the completed Application fails to provide that adequate characterization. Additional information can include, but is not limited to: narratives describing unique situations, additional monitoring performed by the applicant, whole effluent toxicity tests, water treatment additive descriptions, material data sheets, etc., and should be submitted as an attachment to the Application.

Attachments can be additional copies of Application pages, information submitted on 8½ x 11 paper, or electronic documentation submitted on a CD-R.

4. When there are both existing facilities and proposed expansions of wastewater treatment facilities, or increases or changes in production, provide information for both. Make an extra copy of each Application page where there are differences between the existing and the proposed facility. (Include the “proposed facility” information only if the proposed facility is expected to be constructed and discharging within the next five years.)
5. Pollutant analysis shall be conducted in accordance with the requirements in Title 40 of the Code of Federal Regulations (CFR), Part 136, “Guidelines Establishing Test Procedures for the Analysis of Pollutants.” Permitted dischargers that have EPA approval for the use of an alternate test procedure (in accordance with 40 CFR 136.4 and .5) are required to include a copy of the approval letter with their Application.

Data submitted with the Application shall comply with Quality Assurance / Quality Control (QA/QC) requirements of 40 CFR 136 and other appropriate QA/QC requirements for analytes not addressed by 40 CFR 136. Analytical results shall be no more than five years old.

When analytical results are below the parameter's quantification level, report the result as less than the value of the quantification level. Do not record the results as zero. Quantification levels for select parameters can be found in the Application Appendix in Table 7. **Analysis for those select parameters must be able to achieve the specified quantification level.**

6. After completing Section I and **either** Section II or Section III of the Application, return it along with any attachments and the **application fee** to one of the addresses below:

Mail Delivery

**Michigan Department of Environmental Quality
Cashiers Office
WB-NP2
P.O. Box 30657
Lansing, Michigan 48909-8157**

Office Delivery (e.g. UPS, Fed Ex, by hand)

**Michigan Department of Environmental Quality
Cashiers Office
WB-NP2
5th Floor South, Constitution Hall
525 West Allegan
Lansing, Michigan 48933**

Please Note: An Application that is submitted without the appropriate Application Fee is administratively incomplete and will not be processed until the fee has been received.

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INSTRUCTIONS FOR COMPLETING SECTION I, ITEMS 1 THROUGH 8

- 1) NPDES PERMIT NUMBER: Applicants for permit reissuances and modifications should provide the NPDES permit number of the existing permit. Applicants for new discharges should enter NA (not applicable).
- 2) APPLICANT NAME AND MAILING ADDRESS:
 - For industrial facilities - provide the parent company name and the division name.
 - For federal and state facilities - provide the department name and the division or bureau name.
 - For commercial facilities - provide both the owner's name and business's name.
 - For publicly-owned facilities - identify the legal owner of the facility and their mailing address.
- 3) FACILITY NAME AND LOCATION: Provide the name of the facility or plant. Provide the street address of the facility or plant. **DO NOT USE** P.O. Box numbers.
- 4) CONTACTS: Please provide the name, mailing address, telephone number and, where appropriate, the fax number and e-mail address of the following contacts:
 - Application: The person who should be contacted with questions concerning this permit application.
 - Facility: Each facility is required to have a facility contact. The facility contact for a publicly-owned treatment works should be the superintendent or a properly certified operator who is in charge of the day-to-day operation and maintenance of the treatment facility. The facility contact for a corporation should be a principal executive officer of at least the level of vice president, or their designated representative if the representative is responsible for the overall operation of the facility from which the discharge described in this permit application occurs. The facility contact for a partnership should be a general partner. The facility contact for a sole proprietorship should be the proprietor. The facility contact for a municipal, state, or other public facility should be a principal executive officer, the mayor, village president, city or village manager, or other duly authorized employee.
 - Discharge Monitoring Reports (DMRs): The person responsible for completing and returning the facility's Discharge Monitoring Reports.
 - Biosolids Billing: The person responsible for payment of the land application fee required by Section 324.3132 of the Michigan Act.
 - Storm Water Billing: The person responsible for payment of the facility's storm water permit fee required by Section 324.3118 of the Michigan Act.
 - NPDES Annual Billing: The person responsible for payment of the facility's NPDES Permit annual fee required by Section 324.3120 of the Michigan Act.
- 5) PERMIT ACTION REQUESTED: Indicate what type of permit action is being requested.
- 6) RULE 98 - ANTIDegradation REQUIREMENTS: If this facility has never discharged wastewater to the surface waters (New Use), or the facility is discharging but has never been issued an NPDES permit (existing unpermitted), or the facility has previously been issued an NPDES permit but the facility is increasing the loading of pollutants to the receiving water, then check "yes" in this section and provide an Antidegradation Demonstration.
- 7) ADDITIONAL FACILITY LOCATION INFORMATION: Provide the following information.
 - A. Is the treatment facility located within municipal boundaries?
 - B. Identify the county and, where appropriate, the township where the facility is located.
 - C. Identify the location of the facility using State Planar Coordinates (e.g., Town 1 N, Range 12 E, Section 34, SE1/4, NE 1/4), or where applicable, the Private (French) Land Claim designation.
 - D. Identify the location of the facility using latitude and longitude, accurate to within 15 seconds (e.g., Latitude = 42°27'15", Longitude = -83°02'30"), or accurate to within 0.004 decimal degrees (e.g., Latitude = 42.454167, Longitude = -83.041667).
- 8) CERTIFIED OPERATOR: Provide the operator's name, certification number, certification classification(s), address, telephone number(s), and e-mail address. The Michigan Act requires that all dischargers to the surface waters of the State of Michigan employ a properly certified operator. Questions about operator certification should be directed to the Environmental Sciences and Services Division, Operator Training and Certification Unit, at 517-373-4755.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION I - General Information

Section I shall be completed by all permit applicants. See Page iii for instructions on completing Section I, Pages 1 and 2. To submit additional information, see Page ii, Item 3.

<p style="text-align: center;">Water Bureau Use Only</p> <p>Receipt Number: _____</p> <p>Permit ID #: _____</p>	<p style="text-align: center;">Cashier Use Only: 37000-40535-9412-481000-00</p>
--	--

PLEASE TYPE OR PRINT

1	NPDES PERMIT NUMBER					
2. APPLICANT	Applicant Name					
	Address		Address 2 or P.O. Box			
	City	State	ZIP Code			
	Telephone (with area code)		FAX (with area code)			
3. FACILITY	Facility Name 1					
	Facility Name 2					
	Facility Name 3					
	Street Address (do not use a P.O. Box Number)					
	City	State	ZIP Code			
	Telephone (with area code)		FAX (with area code)			
4. CONTACTS	<input type="checkbox"/> Application Contact <input type="checkbox"/> Facility Contact <input type="checkbox"/> Discharge Monitoring Reports <input type="checkbox"/> Storm Water Billing <input type="checkbox"/> Biosolids Billing <input type="checkbox"/> NPDES Annual Billing	First Name		Last Name		
		Title		Business		
		Address 1		Address 2		
		City		State	ZIP Code	
		Telephone (with area code)		FAX (with area code)		e-mail address
		First Name		Last Name		
	<input type="checkbox"/> Application Contact <input type="checkbox"/> Facility Contact <input type="checkbox"/> Discharge Monitoring Reports <input type="checkbox"/> Storm Water Billing <input type="checkbox"/> Biosolids Billing <input type="checkbox"/> NPDES Annual Billing	Title		Business		
		Address 1		Address 2		
		City		State	ZIP Code	
		Telephone (with area code)		FAX (with area code)		e-mail address
		First Name		Last Name		
		<input type="checkbox"/> Application Contact <input type="checkbox"/> Facility Contact <input type="checkbox"/> Discharge Monitoring Reports <input type="checkbox"/> Storm Water Billing <input type="checkbox"/> Biosolids Billing <input type="checkbox"/> NPDES Annual Billing	Title		Business	
	Address 1		Address 2			
	City		State	ZIP Code		
	Telephone (with area code)		FAX (with area code)		e-mail address	

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
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5. PERMIT ACTION REQUESTED (Check one box only) - Instructions for this item are on Page iii.

NEW USE A proposed discharge OR an existing discharge that is currently unpermitted.

REISSUANCE of current permit.

MODIFICATION of current permit. Attach a description of the proposed modification.

Note: Applications for **New Use** discharges and applications for either **Reissuance** or **Modification** that include an increased loading of pollutants to the receiving water are required to submit a Rule 98 Demonstration with the Application. See Item 6.

6. RULE 98 - ANTIDegradation REQUIREMENTS - Instructions for this item are on Page iii.

In accordance with Rule 323.1098 of the Michigan Water Quality Standards, the applicant is required to submit an Antidegradation Demonstration for any new or increased loading of pollutants to the surface waters of the state. An Antidegradation Demonstration must contain the information specified in Rule 1098, Antidegradation section of the Appendix. For assistance completing this item, contact the Permits Section.

Will this discharge be an increased loading of pollutants to the surface waters of the state?

Yes. Submit an Antidegradation Demonstration.

No. Continue with Item 7.

7. ADDITIONAL FACILITY LOCATION INFORMATION - Instructions for this item are on Page iii.

A. Is the treatment facility within municipal boundaries? Yes No

B. County	Township				
C. Town	Range	Section	¼	¼, ¼	Private (French) Land Claim
D. Latitude	Longitude				

8. CERTIFIED OPERATOR Does the facility have a DEQ certified operator? Yes No Instructions for this item are on Page iii.

First Name		Last Name		
Certification Number		Certification Classification(s)		
Address 1		Address 2		
City		State	Zip Code	
Telephone Number	Fax Number		e-mail address	

9. OTHER ENVIRONMENTAL PERMITS

Provide the information requested below for any other federal, state, or local environmental permits in effect or applied for at the time of submittal of this Application form; including, but not limited to, permits issued under any of the following programs: Air Pollution Control, Hazardous Waste Management, Wetlands Protection, Soil Erosion and Sedimentation Control, and other NPDES permits. To submit additional information, see Page ii, Item 3.

Issuing Agency	Permit or COC Number	Permit Type

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
---------------	---------------------

10. WATER FLOW DIAGRAM AND NARRATIVE DESCRIPTION

Provide a flow diagram (using **8½" x 11"** paper **if possible**) showing the wastewater flow through the facility (from intake through discharge), including all processes, treatment units, and bypass piping, and include a narrative description that explains the diagram. Show all operations contributing wastewater and the locations of flow meters, chemical feeds, and monitoring and discharge points. The water balance shall show the daily average flow rates at the intake and discharge points, and approximate daily flow rates between treatment units, including influent and treatment rates. Use actual measurements whenever available, otherwise use the best estimate. Show all significant losses of water to products, atmosphere, and discharge. In addition, provide a flow diagram for any storm water discharges from secondary structures that are required by state or federal law, and for storm water runoff from any Site of Environmental Contamination, pursuant to Part 201 of the Michigan Act. **Do not send blueprints.**

Do the treatment facility processes described above include any lagoons or ponds used for wastewater treatment or storage? Yes No
 If yes, include the ponds or lagoons in the flow diagram.

Municipal Facilities - Include a narrative that briefly describes the history of the wastewater treatment facility and collection system, including the initial construction, the facility improvements that have been made, future plans for upgrade, the location of all constructed emergency overflows, and other pertinent information.

Industrial and Commercial Facilities - The line diagram shall include all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and storm water runoff. **Also include a narrative** that provides a brief description of the nature of the business and the manufacturing processes.

ATTACH THIS INFORMATION TO THIS APPLICATION. PLEASE DO NOT BIND THIS INFORMATION.

11. MAP OF FACILITY AND DISCHARGE LOCATION

Provide a detailed map on 8½" x 11" paper showing the location of the existing or proposed facility, wastewater and biosolid treatment system(s), and wastewater monitoring and discharge points into receiving waters (including bypasses). Include the exact location of the wastewater monitoring and discharge point(s) and all areas through which the discharge flows (e.g., wetlands, open drains, storm sewers), if applicable, between the discharge point and the receiving water. If the discharge is to a storm sewer, label the storm sewer and show its flow path to the receiving water. Also include the location of any water supply intakes or wells, and groundwater monitoring wells. This map shall be a United States Geological Survey Quadrangle (7.5 minute series) or other map of comparable detail, scale, and quality (which shows surface water bodies, roads, bathing beaches, and other pertinent landmarks). **The minimum area this map shall encompass is approximately one mile beyond the property boundaries.**

ATTACH THIS INFORMATION TO THIS APPLICATION.

12. CONTRACT LABORATORIES THAT PROVIDE ANALYTICAL SUPPORT

Provide the name and address of each contract laboratory or consulting firm that performed any analyses submitted as part of this Application. To submit additional information, see Page ii, Item 3.

Laboratory Name			Laboratory Name		
Street Address			Street Address		
City	State	ZIP Code	City	State	ZIP Code
Telephone (with area code)		Fax (with area code)	Telephone (with area code)		Fax (with area code)
Analysis Performed			Analysis Performed		
Laboratory Name			Laboratory Name		
Street Address			Street Address		
City	State	City	State	City	State
Telephone (with area code)		Fax (with area code)	Telephone (with area code)		Fax (with area code)
Analysis Performed			Analysis Performed		
FACILITY NAME			NPDES PERMIT NUMBER		

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I - General Information

PLEASE TYPE OR PRINT

14. STORM WATER DISCHARGES

Facilities that discharge storm water must provide the following information. (Please Note: The following discharges are also covered by storm water authorization, provided they are addressed in the facility's Storm Water Pollution Prevention Plan [SWPPP]): Discharges from fire hydrant flushing; potable water sources, including water line flushing; fire system test water; irrigation drainage; lawn watering; routine building wash down which does not use detergents or other compounds; pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents. **Unless otherwise specified answer the following questions.**

A. Is the storm water from this facility discharged to the waters of the state either directly or through another conveyance? Note: If storm water is discharged to a municipal wastewater treatment system or a privately owned activated sludge treatment system check the "No" box.

- Yes.
- No. Continue with Item 15.

B. Is the facility identified in this application primarily engaged in an "industrial activity" as defined in 40 CFR 122.26(b)(14)?

- Yes.
- No. Continue with Item 15.

C. Are there any industrial activities or materials exposed to storm water at this facility? Storm water discharge requirements may be excluded from an NPDES permit when there are no industrial activities or materials exposed to storm water. To qualify, the applicant shall certify that the facility has met all the eligibility requirements to claim a condition of "no exposure". These requirements are found in the No-Exposure Certification form in the appendix. This form is also available on the DEQ's Internet Page. To access the form, go to <http://www.michigan.gov/deq>. In the left column click on WATER, click on Surface Water, click on Storm Water, in the middle column click on Industrial Program, then click on No Exposure Certification.

- Yes.
- No. Complete the No-Exposure Certification form, and submit it with this application. Continue with Item 15.

D. Does this facility have a current and up-to-date SWPPP?

- Yes.
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

E. Has the facility implemented the nonstructural controls described in the SWPPP?

- Yes.
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

F. Have all the structural controls described in the SWPPP been constructed and put into operation?

- Yes.
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

G. Does this facility have a certified industrial storm water operator who supervises the facility's storm water treatment and control measures included in the Storm Water Pollution Prevention Plan?

- Yes. _____

Storm Water Operator Name
Certification Number
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

H. Is any of the storm water discharged from (check all that apply):

- Secondary containment structures that are required by state or federal law. On a separate page, provide a list the materials that are stored in this area.
- Areas identified on Michigan's list of Sites of Environmental Contamination, pursuant to the Natural Resources and Environmental Protection Act, PA 451 of 1994, Part 201 (formerly 307).

I. The storm water from this facility discharges to the following receiving water(s): _____

Please note that applicants should provide any sample data taken of the storm water discharge as an attachment. To submit additional information, see Page ii, Item 3.

FACILITY NAME	NPDES PERMIT NUMBER
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Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I - General Information

PLEASE TYPE OR PRINT

15 CERTIFICATION

Rule 323.2114(1-4), promulgated under the Michigan Act, requires that this Application be signed as follows:

- A. For an organization, company, corporation, or authority, by a principal executive officer.
- B. For a partnership, by a general partner.
- C. For a sole proprietor, by the proprietor.
- D. For a municipal, state, or other public facility, by a principal executive officer or ranking elected official (such as the mayor, village president, city or village manager, or clerk).

Note: If the signatory is not listed above, but is authorized to sign the Application, please provide documentation of that authorization.

"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 the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for having knowledge of violations."

Print Name: _____ Title: _____

Representing: _____

Signature: _____ Date: _____

This completes Section I. Publicly-Owned Treatment Works discharging sanitary and industrial wastewater to the surface waters, and privately-owned treatment works discharging sanitary wastewater to the surface waters should complete Section II. Privately-owned treatment works include, but are not limited to, Mobile Home Parks, Campgrounds, Condominiums, Hotels and Motels, Nursing Homes, etc. All other applicants should complete Section III. If assistance is needed completing this Application, contact the Permits Section.

Permit Application Submittal Checklist

Please confirm the following before submitting the application form:

- 1. Section I has been completed, including all diagrams, maps, and the treatment process narrative.
- 2. The Application has been signed as required above in Section I.15. (A.-D.) or a copy of the letter authorizing the signatory to sign the letter has been included.
- 3. Section II or Section III has been completed, including any additional information or submissions.
- 4. A check or Money Order for the appropriate application fee has made out to the "State of Michigan and has been included with the application submittal.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater

Section III is to be completed by all facilities classified as Industrial or Commercial facilities. Industrial and Commercial facilities include, but are not limited to, facilities that discharge or propose to discharge a wastewater generated by a production process, a service provided, or through a remediation project. Municipal and public facilities are not required to complete Section III (unless requesting authorization for discharges other than sanitary wastewater).

A. Facility Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
---------------	---------------------

1. BUSINESS INFORMATION

A. Provide up to four Standard Industrial Classification (SIC) or North American Industry Classification System (NAICS) codes, in order of economic importance, which best describe the major products or services provided by this facility.

1.	2.	3.	4.
----	----	----	----

B. Indicate if this facility is a primary industry (refer to Table 1 of the Appendix to determine if this facility is a primary industry).

- Yes. This facility is a primary industry. Indicate the primary industry as identified in Table 1 of the Appendix: _____
- No. This facility is not a primary industry. Continue with Item C.

C. Is this facility a Concentrated Animal Feeding Operation (CAFO)?

- Yes. Continue with Section III.B.11.
- No. Continue with Item 2.

2. WATER SUPPLY AND DISCHARGE TYPE

A. Identify all water sources entering the facility and treatment systems, and provide average flows. The volume may be estimated from water supply meter readings, pump capacities, etc. Provide the name of the source where appropriate (i.e., Grand River, Lake Michigan, City of Millpond). To submit additional information, see Page ii, Item 3.

	Name and Location of Source	Average Volume or Flow Rate	Units
Municipal Supply			
Surface Water Intake			
Private Well			
Other:			

B. Identify water discharged by the facility and treatment systems, and provide average flows. If water is first used for one purpose and then is subsequently used for another purpose, indicate the type and amount of the last use. For example, if water is initially used for noncontact cooling water and then for process water, indicate the amount of process water. The amount of water from sources should approximate the amount of water usage. If they are different, provide an explanation.

	Average Flow Rate	Units		Average Flow Rate	Units
Process Wastewater			Sanitary Wastewater		
Contact Cooling Water			Regulated Storm Water		
Noncontact Cooling Water			High Pressure Test Water		
Groundwater Clean-Up			Other:		

Note: For A and B above, indicate units as MGD (million gallons per day), MGY (million gallons per year), GPD (gallons per day), or other appropriate unit.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

INSTRUCTIONS FOR COMPLETING SECTION III B. OUTFALL INFORMATION, ITEMS 1. A - J

1. OUTFALL INFORMATION

This item requires detailed information on each outfall at the facility. For this item, outfall refers to the point where treated wastewater is discharged to the surface waters of the state. "Surface Waters of the State" include the Great Lakes and their connecting waters, all inland lakes, rivers, streams, impoundments, open drains, and other surface bodies of water within the confines of the state. The applicant will need to complete Pages 25 – 31 for each outfall. Fill in the Outfall Number in the top right-hand box, identifying the outfall by number, e.g., 001, 002, etc. Applicants with existing NPDES permits should refer to the facility's current NPDES permit for outfall number identification. For each outfall, provide the location, the type of wastewater, the expected and/or measured volume of effluent discharged, the frequency of discharge, and the flow variation of the discharge.

- A. Identify the watershed where the outfall is located. See the Upper and Lower Peninsula Hydrologic Maps in the Appendix for the state's watersheds and their Hydrologic Unit Codes (HUC). Then match the HUC code to the watershed name in the associated table of Watershed Names.
- B. Identify the receiving water (Waters of the State) to which the facility's outfall(s) discharge.
- C. Identify the county and township where the outfall is located.
- D. Identify the location of the outfall using State Planar Coordinates (e.g., Town 1N, Range 12E, Section 34, SE 1/4, NE 1/4) or, where applicable the Private (French) Land Claim designation.
- E. Identify the location of the outfall using latitude and longitude, accurate to within 15 seconds (e.g., Latitude = 42°27'15", Longitude = -83°02'30"), or accurate to within 0.004 decimal degrees (e.g., Latitude = 42.454167, Longitude = -83.041667).
- F. Identify the type(s) of wastewater the facility will discharge from this outfall. Check as many types of wastewater as are appropriate. If the water is used in multiple areas, such as water that is first used for noncontact cooling water and then for another use, such as process water, indicate the final use only. For other common wastewater types, see "Table 9 - Other Types of Wastewater" - in the Appendix.
- G. When reporting the Maximum Design Flow Rate, identify the design flow for this specific outfall (e.g., batch treatment system flow, package treatment system flow, or some other finite treatment system flow). Please provide an explanation if "Pollution Prevention Measures" are expected to provide flow reductions.
- H. Identify the Maximum Discharge Flow Rate that the facility is expecting to discharge in the next five years. This flow will be used to determine the facility's effluent limitations and will be the flow authorized in an issued permit. NOTE: Discharges of flows greater than the Discharge Flow Rate authorized in the permit will constitute a violation of the Michigan Act and would be subject to the penalties specified therein.
- I. A discharge is considered to be seasonal if the facility treats and then stores wastewater throughout the year, or a portion of the year, and then discharges it a few days, weeks, or months a year. Provide the dates the facility discharges the treated wastewater (e.g., October 15 through November 10) and the average discharge flows (e.g., 5 MGD).
- J. A continuous discharge is any discharge that is not a seasonal discharge. Identify the average number of hours per day and the number of days per year that the discharge occurs from this outfall. Batch dischargers are required to provide the peak batch flow rate, the number of batches per day, the per-batch minimum, the average and maximum volumes in gallons, and the per-batch minimum, average, and maximum batch discharges in minutes.

NOTE: The units are as follows: GPD = gallons per day, MGD = millions of gallons per day, MGY = millions of gallons per year.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

Complete a separate Section III.B. - Outfall Information (Pages 25-31) - for each outfall at the facility. Make copies of this blank section of the Application as necessary for additional outfalls.

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
---------------	---------------------	----------------

1. OUTFALL INFORMATION - Instructions for this item are on Page 23.

A.	Watershed	HUC Code				
B.	Receiving Water					
C.	County	Township				
D.	Town	Range	Section	¼	¼, ¼	Private (French) Land Claim
E.	Latitude				Longitude	

F. Type of Wastewater Discharged (check all that apply to this outfall):

- Contact Cooling Groundwater Cleanup Hydrostatic Pressure Test Noncontact Cooling Water
 Process Wastewater Sanitary Wastewater Storm Water - not regulated Storm Water - regulated
 Storm water subject to effluent guidelines (indicate under which category): _____
 Other – specify (see "Table 8 - Other Common Types of Wastewater" - in the Appendix) _____

G. What is the Maximum Design Flow Rate for this outfall: _____ MGD

H. What is the Maximum Authorized Discharge Flow for this outfall for the next five years?
 Seasonal Dischargers _____ MGY (Continue with Item I)
 Continuous Dischargers _____ MGD (Continue with Item J)

I. Seasonal Discharge:

List the discharge periods (by month) and the volume discharged in the space provided below.

From	Through	Discharge Volume	Annual Total

J. Continuous Discharge:

How often is there a discharge from this outfall (on the average)? _____ Hours/Day _____ Days/Year

Batch dischargers are required to provide the following additional information:

Is there effluent flow equalization? Yes No

Batch Peak Flow Rate: _____ Number of batches discharged per day: _____

	Minimum	Average	Maximum
Batch Volume (gallons)			
Batch Duration (minutes)			

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
<p>2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE</p> <p>Federal Regulations require that different industries report different information depending on the type facility. The information below is used to determine the applicable federal regulations for this facility. An abbreviated list is in the Summary of Information to be reported by Industry Type section of the Appendix. Applicants are required to provide the name and the SIC or the NAICS code of each process at the facility. Facilities with production-based limits must report an estimated annual production rate for the next five years or the life of the permit. If the wastestream is not regulated under federal categorical standards, the applicant is required to report all pollutants which have the reasonable potential to be present in the discharge. To submit additional information, see Page ii, Item 3.</p>		
<p>PROCESS INFORMATION</p> <p>A. Name of the process contributing to the discharge: _____</p> <p>B. SIC or NAICS code: _____</p> <p>C. Describe the process and provide measures of production:</p>		
<p>PROCESS INFORMATION</p> <p>A. Name of the process contributing to the discharge: _____</p> <p>B. SIC or NAICS code: _____</p> <p>C. Describe the process and provide measures of production:</p>		
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<p>PROCESS INFORMATION</p> <p>A. Name of the process contributing to the discharge: _____</p> <p>B. SIC or NAICS code: _____</p> <p>C. Describe the process and provide measures of production:</p>		

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

INSTRUCTIONS FOR COMPLETING SECTION III B. OUTFALL INFORMATION, ITEM B.3.

In accordance with 40 CFR 122.21, all applicants are required to report CBOD₅, Chemical Oxygen Demand, Total Organic Carbon, Total Suspended Solids, Ammonia as N, Temperature (both summer and winter), and pH. The applicant may, however, request that reporting of data for one or more of these required parameters be waived. Such requests shall be supported by adequate rationale. The request shall be included as an attachment to this Application.

Report available discharge data for the parameters listed in Section III.B.3 of this Application. Actual data shall be provided for existing discharges, and expected or estimated data provided for proposed discharges. Please include an explanation if "Pollution Prevention Measures" are expected to reduce pollutants. Certain types of discharges shall provide a minimum of analytical test date for specific parameters. See "Minimum Analytical Testing Requirements for Various Discharge Requests" in the Appendix for a list of specific discharge types and their specific parameters (e.g., noncontact cooling waters, petroleum groundwater cleanups, etc.). For assistance in determining the appropriate parameters to report, contact the Permits Section. Data for other conventional parameters not listed in Section III.B.3. can be reported on the blank spaces provided. To submit additional information, see Page ii, item 3.

Report all data in the units provided and for the sample types specified in the table. If more than one option is available, check the appropriate box. The units are as follows: µg/l = micrograms per liter, mg/l = milligrams per liter, °F = degrees Fahrenheit, °C = degrees Celsius. **For analytical test requirements, see Page ii, Item 5.**

To analyze for pH, temperature, total residual chlorine, oil and grease, and fecal coliform, use **Grab Samples** unless other frequency-sample type analyses are available. To analyze for total BOD₅, total phosphorus, COD, TOC, ammonia nitrogen, and total suspended solids, use **24-hour composite samples** unless other frequency-sample type analyses are available.

For two or more substantially identical outfalls, permission may be requested from the appropriate district office to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If the request is granted by the district office, on a separate sheet attached to the Application, identify which outfall was sampled and describe why the outfalls which were not sampled are substantially identical to the outfall which was sampled. See the Appendix, "Definitions" Section for sampling definitions, including "maximum daily concentration" and "maximum monthly concentration."

REPORTING OF INTAKE DATA

Applicants attempting to demonstrate eligibility for "net" effluent limitations for one or more pollutants are required to report intake water data. A "net" effluent limitation is determined by subtracting the average level of the pollutant(s) present in the intake waters from the average level of the pollutant(s) remaining after treatment. NPDES regulations allow net limitations only in certain circumstances (see 40 CFR, Part 122.45(g)). To demonstrate eligibility, report the average concentration and/or mass of the results of the analyses on the intake water. If the intake water is treated prior to use, report the intake concentrations and/or mass after treatment. In addition to the analytical results, the following information shall be submitted for each parameter:

- a) A statement that the intake water is drawn from the body of water into which the discharge is made. If the discharge is not to the same body of water from which the water is withdrawn, the facility is not eligible for net limitations.
- b) A statement of the extent to which the level of the pollutant in the intake water is reduced by treatment of the wastewater. Limitations for the net removal of pollutants are adjusted only to the extent that the pollutant is not removed.
- c) When applicable (for example, when the pollutant represents a class of compounds, e.g., BOD₅, TSS, etc.), a demonstration of the extent to which the pollutants in the intake vary physically, chemically, and biologically from the pollutants contained in the discharge. Limitations are adjusted only to the extent that the concentrations of the intake pollutants vary from the discharged pollutants.

Note: Applicants for groundwater remediation discharges should also report the intake characteristics of the contaminated groundwater.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
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3. EFFLUENT CHARACTERISTICS - CONVENTIONAL POLLUTANTS - Instructions for this item are on Page 26.

Existing facilities are required to report **data** from effluent analysis for the parameters listed below. **For analytical test requirements, or if alternate test procedures for any parameter listed below have been approved, see Page ii, Item 5**

New facilities are required to provide estimated effluent concentrations for the parameters listed below. (See the Definition Section in the Appendix for sampling definitions, including "maximum daily concentration" and "maximum monthly concentration.")

Check this box if additional information is included as an attachment. To submit additional information, see Page ii, Item 3.

Please Note: Rule 323.1062 allows the use of either Escherichia Coliform Bacteria or Fecal Coliform Bacteria as an indicator that effluent has been disinfected. The Department will use the indicator selected below in the permit issued based on this Application.

Use Escherichia Coliform Bacteria as an indicator of disinfection.

Use Fecal Coliform Bacteria as an indicator of disinfection.

Parameter	Maximum Monthly Concentration	Maximum Daily Concentration	Units	Number of Analyses	Sample Type
Biochemical Oxygen Demand – five day (BOD ₅)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Chemical oxygen demand (COD)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total organic carbon (TOC)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Ammonia Nitrogen (as N)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Suspended Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Dissolved Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Phosphorus (as P)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Fecal Coliform Bacteria (report geometric means)		maximum 7-day	counts/100ml		Grab
Escherichia Coliform Bacteria (report geometric means)		maximum 7-day	counts/100 ml		Grab
Total Residual Chlorine			<input type="checkbox"/> mg/l <input type="checkbox"/> µg/l		Grab
Dissolved Oxygen	Do Not Use	minimum daily	mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
pH (report maximum and minimum of individual samples)	minimum	maximum	standard units		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Summer			<input type="checkbox"/> °F <input type="checkbox"/> °C		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Winter			<input type="checkbox"/> °F <input type="checkbox"/> °C		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Oil & Grease			mg/l		Grab
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
<p>Note: For questions on this page, Tables 1-5 are found in the Appendix.</p> <p>4. PRIMARY INDUSTRY PRIORITY POLLUTANT INFORMATION</p> <p>Existing primary industries that discharge process wastewater are required to submit the results of at least one effluent analysis for <u>selected</u> organic pollutants identified in Table 2 (as determined from Table 1, <u>Testing Requirements for Organic Toxic Pollutants by Industrial Category</u>), and all of the pollutants identified in Table 3. Existing primary industries are required to also provide the results of at least one effluent analysis for any other chemical listed in Table 2 known or believed to be present in facility effluent.</p> <p>In addition, submit the results of all other effluent analyses performed within the last five years for any chemical listed in Tables 2 and 3.</p> <p>New primary industries that propose to discharge process wastewater are required to provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in facility effluent.</p> <p>5. DIOXIN AND FURAN CONGENER INFORMATION</p> <p>Existing industries that use or manufacture 2,3,5-trichlorophenoxy acetic acid (2,4,5-T); 2- (2,3,5-trichlorophenoxy) propanoic acid, (Silvex, 2,3,5-TP); 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon); 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothionate (Ronnell); 2,4,5-trichlorophenol (TCP); or hexachlorophrene (HCP), or knows or has reason to believe that 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) is present in facility effluent, are required to submit the results of at least one effluent analysis for the dioxin and furan congeners listed in Table 6. All effluent analyses for dioxin and furan congeners shall be conducted using EPA Method 1613.</p> <p>In addition, submit the results of all other effluent analyses performed within the last five years for any dioxin and furan congener listed in Table 6.</p> <p>New industries that expect to use or manufacture 2,3,5-trichlorophenoxy acetic acid (2,4,5-T); 2- (2,3,5-trichlorophenoxy) propanoic acid (Silvex, 2,3,5-TP); 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon); 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothionate (Ronnell); 2,4,5-trichlorophenol (TCP) or hexachlorophrene (HCP), or knows or has reason to believe that 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) is present in facility effluent shall provide estimated effluent concentrations for the dioxin and furan congeners listed in Table 6.</p> <p>6. OTHER INDUSTRY PRIORITY POLLUTANT INFORMATION</p> <p>Existing secondary industries, or existing primary industries that discharge non-process wastewater, are required to submit the results of at least one effluent analysis for any chemical listed in Tables 2 and 3 known or believed to be present in facility effluent.</p> <p>In addition, submit the results of all other effluent analyses performed within the last five years for any chemical listed in Tables 2 and 3.</p> <p>New secondary industries, or new primary industries that propose to discharge non-process wastewater, are required to provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in facility effluent.</p> <p>7. ADDITIONAL TOXIC AND OTHER POLLUTANT INFORMATION</p> <p>All existing industries, regardless of discharge type, are required to provide the results of at least one analysis for any chemical listed in Table 4 known or believed to be present in facility effluent, and a measured or estimated effluent concentration for any chemical listed in Table 5 known or believed to be present in facility effluent. In addition, submit the results of any effluent analysis performed within the last five years for any chemical listed in Tables 4 and 5.</p> <p>New industries, regardless of discharge type, are required to provide an estimated effluent concentration for any chemical listed in Tables 4 and 5 expected to be present in facility effluent.</p> <p>8. INJURIOUS CHEMICALS NOT PREVIOUSLY REPORTED</p> <p>New or existing industries, regardless of discharge type, are required to provide a measured or estimated effluent concentration for any toxic or otherwise injurious chemicals known or believed to be present in facility effluent that have not been previously identified in this Application. Quantitative effluent data that are less than five years old for these chemicals shall be reported.</p> <p>NOTE: All effluent data submitted in response to questions 4, 5, 6, 7, and 8 above should be recorded on Page 30. To submit additional information, see Page ii, Item 3. If the effluent concentrations are estimated, place an "E" in the "Analytical Method" column. The following fields shall be completed for each data row: Parameter, CAS No., Concentration(s), Sample Type, Analytical Method, Quantification Level, and Detection Level. For analytical test requirements, see Page ii, Item 5.</p> <p>If Alternate Test Procedures have been approved for any parameter listed above (Items 4 through 8), see Page ii, Item 5 for additional instructions.</p>		

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
<p>9. WATER TREATMENT ADDITIVES</p> <p>Water treatment additives include any material that is added to water used at the facility or to wastewater generated by the facility to condition or treat the water.</p> <p>Approvals of water treatment additives are authorized by the DEQ under separate correspondence. The issuance of an NPDES permit does not constitute approval of the water treatment additives that are included in this Application.</p> <p>A. Are there water treatment additives in the discharge from this facility?</p> <p><input type="checkbox"/> Yes.</p> <p><input type="checkbox"/> No. Proceed to Question 10.</p> <p>B. Have these water treatment additives been previously approved?</p> <p><input type="checkbox"/> Yes. Submit a list of the previously-approved water treatment additives and the date on which they were approved. The information listed in Item C., Items 1-8 shall be updated if it has changed since the previous approval.</p> <p><input type="checkbox"/> No. Continue with Item C.</p> <p>C. Submit a list of water treatment additives that are or may be discharged from the facility. Applicants are required to submit the information listed below for each additive.</p> <ol style="list-style-type: none"> 1. The water treatment additive Material Safety Data Sheet. 2. The proposed water treatment additive discharge concentration. 3. The discharge frequency (i.e., number of hours per day, week, etc.). 4. The outfall from which the water treatment additive is to be discharged. 5. The type of removal treatment, if any, that the water treatment additive receives prior to discharge. 6. The water treatment additive function (i.e., microbicide, flocculant, etc.). 7. A 48-hour LC50 or EC50 for a North American freshwater planktonic crustacean (either Ceriodaphnia sp., Daphnia sp., or Simocephalus sp.). 8. The results of a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of Rule 323.1057(2)(a) of the Water Quality Standards. Examples of tests that would meet this requirement include a 96-hour LC50 for rainbow trout, bluegill, or fathead minnow. <p>The required toxicity information (described in Items 7 and 8 above) is currently available in the Water Bureau files for the water treatment additives listed on the DEQ's Internet page. To access that information, go to http://www.michigan.gov/deq, click on "Site Map," at the bottom of the right column under Water Quality Monitoring, click on "Assessment of Michigan Waters." Under the Information heading, click on the "Water Treatment Additive List." If you intend to use one of the water treatment additives on this list, only the information in Items 1 through 6 above needs to be submitted to the WD.</p> <p>Note: The availability of toxicity information for a water treatment additive does not constitute approval to discharge the water treatment additive.</p>		
<p>10. WHOLE EFFLUENT TOXICITY TESTS</p> <p>Have any acute or chronic WET tests been conducted on any discharges or receiving water(s) in relation to facility discharges within the last three years? If yes, identify the tests and summarize the results on a separate sheet, unless the test has been submitted to the DEQ in the last five years. For assistance in WET testing, see "Whole Effluent Toxicity Test Guidance and Requirements" in the Appendix.</p>		
<p>11. COMPREHENSIVE ANIMAL FEEDING OPERATION (CAFO) INFORMATION. To be completed by CAFO's only</p> <p>The applicant shall provide: Specific information about the number and type of animals, and type of housing. The type of containment and storage, and total capacity for CAFO waste storage. CAFO waste storage structure design. The total number of acres under control of the applicant available for land application of CAFO waste. Estimated amounts of CAFO waste generated per year. Estimated amounts of CAFO waste transferred to other persons per year. A list and map(s) showing the location of all land application fields. All potential receiving waters for both the production area and all land application areas. For additional information see "CAFO Guidance and Requirements" in the Appendix..</p>		

This completes Section III. Return the completed Application (Sections I and III, and any attachments) to one of the addresses on Page ii of this Application. If assistance is needed to complete this Application, contact the Permits Section.



State of Michigan

National Pollutant Discharge Elimination System Permit Application Appendix

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Please Do Not Return This Appendix with the Completed Application

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU
PERMITS SECTION
P.O. BOX 30273
LANSING, MICHIGAN 48909-7773
TELEPHONE: 517-241-1346
FAX: 517-241-8133



Frequently-Asked Questions About the NPDES Permit Application

Q. Why do I have to apply for an NPDES permit?

A. The National Pollutant Discharge Elimination System (NPDES) Program protects the surface waters of the state by assuring that discharges of domestic and industrial wastewater comply with state and federal regulations. NPDES permits are required under Section 402 of the Federal Clean Water Act (the "Federal Act"), as amended (33 U.S.C. 1251 et seq, P.L. 92-500, 95-217), and under Part 31 of Michigan's "Natural Resources and Environmental Protection Act, Act 451, Public Acts of 1994, as amended (the "Michigan Act"). Part 31 of the Michigan Act also provides authority for the State to issue NPDES permits. The Michigan Department of Environmental Quality (MDEQ) administers the NPDES permit program for the State of Michigan.

Q. I have never applied for an NPDES Permit. What will happen after I submit my application?

A. The application will be reviewed by the Permits Section staff for administrative and technical completeness. Applicants with incomplete applications will be contacted and required to supply any missing information. Only complete applications will move on to the next step.

Permits staff will determine if the proposed discharge qualifies for coverage under a general permit. A certificate of coverage will be issued to qualifying dischargers. If the discharge does not qualify for coverage under a general permit, the staff will begin processing the application for an individual permit.

Processing for an individual permit can include: development of treatment technology and/or water quality-based effluent limitations; drafting the permit, public notice, fact sheet, and other pertinent documents; a pre-public notice review period that allows the applicant to review the draft permit and other documents; and a public notice period.

There can be additional steps that occur during processing for an individual permit. Applicants may provide additional information and request review or clarification of permit conditions. During the public notice period, the general public may request that meetings or hearings be held to provide further input on the proposed discharge. The applicant or general public may request a meeting with the person issuing the permit. Each of these actions could impact the requirements of the draft permit.

If no objections are received to the proposed permit action during the public notice period the MDEQ will make a final determination and the permit will be issued.

Q. Which POTWs are required to submit Whole Effluent Toxicity (WET) tests as part of their NPDES Permit Application?

A. All POTWs with a design flow of 1 MGD or greater, or a Federal Industrial Pretreatment Program, or if otherwise required by the MDEQ, are required to submit Whole Effluent Toxicity Tests with their Application.

Q. How many WET tests are required for the NPDES Permit Application?

A. The MDEQ requires that POTWs that are required to submit WET tests shall, at a minimum, submit four tests that have been run quarterly in the previous year, or four tests that have been run once a year over the last five years. The tests shall be taken in such a manner that they will reflect seasonal variation.

Q. I have not completed the WET tests required for my NPDES Permit Application, and the Application is due. What do I do?

A. Submit your Application and provide a schedule for submission of the WET tests. Please note that the Application will be considered incomplete until the WET tests have been submitted. Submission of an incomplete Application may put applicants out of compliance with an existing NPDES permit, as applications for reissuance must be submitted 180 days prior to permit expiration.

Q. There is not enough space on the Application to submit all the information that the application requires. What should I do?

A. Many of the pages on the Application have been created so that they can be easily duplicated and used to submit outfall or effluent data. Additional information can be submitted in spreadsheets or other appropriate media.

Q. How do I determine what watershed I am in?

A. Pages 15 and 16 of this Appendix are watershed maps of the upper and lower peninsulas. Determine your watershed using these maps, or you may visit the U.S. EPA Surf Your Watershed website. The URL for that site is www.epa.gov/surf/.

Q. How do I determine the latitude and longitude of my discharge?

A. This information can be obtained using a Global Positioning System, by the use of USGS Topographical maps, or at various World Wide Web map sites.

Q. How do I determine the quarter-quarter section, township, and range of my discharge?

A. This information can be obtained using USGS Topographical maps, plat maps, or at various World Wide Web map sites.

Q. Do I really need to list all of the adjacent property owners?

A. Yes, this information is required for the Application to be considered administratively complete. The information can be obtained from the local unit of government via tax rolls. Please use the property owners mailing address not the address for a vacant lot or empty building.

Q. How detailed must the Antidegradation Demonstration be?

A. The Antidegradation Demonstration must supply sufficient detail to justify the lowering of the water quality in the receiving stream.

Frequently-Asked Questions

Q. What if I do not have all of the information required by the Application?

A. Applications for new discharges will not be processed unless all of the requested information is provided. Applications for existing discharges may be processed without all of the required information, provided that the missing information is not needed to draft the reissued permit, and provided that the applicant has agreed to provide the missing information prior to the public notice period for the draft permit.

Q. I do not know the average flow rate for regulated storm water that flows from my facility, what now?

A. You may enter "UNKNOWN" in the column for Average Flow Rate.

Q. How much effluent data is sufficient for the Application to be considered complete?

A. The effluent data must be sufficient to accurately characterize the facility's discharge. Effluent limitations will be based in part on the information submitted. If the data is insufficient, the effluent limitations will not reflect the facility discharge and may be unnecessarily restrictive.

Q. Is there an NPDES Permit Application Fee?

A. Yes, this non-refundable Fee must be submitted along with the Permit Application. Application fees are as follows:

EPA major facility individual permit	\$750.00
EPA minor facility individual permit, CSO permit, or wastewater stabilization lagoon individual permit	\$400.00
EPA minor facility general permit.....	\$75.00

Q. Is there an Annual Permit Fee?

A. Yes, permittees with authorization to discharge wastewater are subject to annual permit fees. Further information on annual permit fees can be viewed via the Internet (<http://www.michigan.gov/deq> and on the left side of the screen click on Water, Surface Water, and NPDES Permits; click on "NPDES Permit Fees" which is under the Information banner, then click on NPDES Fees: Frequently Asked Questions and Answers).

Acronyms Used in the NPDES Permit Application

CERCLA ----- Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)	
CD-R ----- Compact Disk Recordable	MAHL ----- Maximum Allowable Headworks Loading
COC ----- Certificate of Coverage	NAICS ----- North American Industry Classification System
CNMP ----- Comprehensive Nutrient Management Plan	POTW ----- Publicly-Owned Treatment Works
CPLR ----- Cumulative Pollutant Loading Rate	QA/QC ----- Quality Assurance / Quality Control
DL ----- Detection Level	QL ----- Quantification Level
DMR ----- Discharge Monitoring Report	SIC ----- Standard Industrial Classification
FIPP ----- Federal Industrial Pretreatment Program	SIU ----- Significant Industrial User
IPP ----- Industrial Pretreatment Program	TWTDS ----- Treatment Works Treating Domestic Sewage
HUC ----- Hydrologic Unit Code	WET ----- Whole Effluent Toxicity

Definitions for Purposes of This Application

24-Hour Composite Sample is a flow proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period.

Average Monthly Concentration is the average of all of the monthly concentrations.

Biosolids refers to the solids resulting from the treatment of domestic sanitary sewage. Following treatment, these solids are suitable for land application.

Certificate of Coverage is a site-specific document that authorizes a facility to discharge under a general permit.

Cumulative Pollutant Loading Rate (CPLR) means the maximum amount of an inorganic pollutant that can be applied to an area of land.

Detection Level means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

Discharge Location is defined as the point where a discharge enters the "waters of the state."

Flow Proportioned Sample is a composite sample, with the sample volume proportional to the effluent flow.

Geometric Mean is the n^{th} root of the product of n numbers.

Grab Sample is a single sample taken at neither a set time nor flow.

Definitions

Maximum Allowable Headworks Loading is the maximum loading of a pollutant that will not cause a POTW to violate a treatment plant or environmental criterion developed to prevent process inhibition or interference, or to violate effluent or biosolids standards.

Maximum Daily Concentration is the maximum daily concentration recorded since the last permit issuance. (Daily Concentration is the sum of the concentrations of the individual samples of a parameter divided by the number of samples taken during any calendar day. If the parameter concentration in any sample is less than the method quantification level, regard that value as the quantification level when calculating the daily concentration, and indicate that the result is "less than" the value reported.)

Maximum 7-Day Concentration is the maximum seven-day concentration recorded since the last permit issuance. (Seven-Day Concentration is the sum of the daily concentrations determined during any seven consecutive days in a calendar month, divided by the number of daily concentrations determined. If any daily concentration is less than the method quantification level, regard that value as the quantification level when calculating the monthly concentration, and indicate that the result is "less than" the value reported.)

Maximum Monthly Concentration is the maximum monthly concentration recorded since the last permit issuance. (Monthly Concentration is the sum of the daily concentrations determined during a reporting month (or 30 consecutive days), divided by the number of daily concentrations determined. If any daily concentration is less than the method quantification level, regard that value as the quantification level when calculating the monthly concentration, and indicate that the result is "less than" the value reported.)

Michigan Water Quality Standards are rules that establish water quality requirements for the state's surface waters that protect public health and welfare, enhance and maintain the state's water quality, and protect the state's natural resources.

Noncontact Cooling Water is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product, or finished product.

Primary Industries are listed in Table 1 of the Appendix.

Quantification Level means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring the contaminant.

Secondary Industries are those industries that are not listed as primary industries.

Significant Industrial User is defined in the Code of Federal Regulations (CFR), Title 40, Section 403.3(t).

Storm Water - Not Regulated is a storm water discharge that does not need a permit under federal storm water regulations at 40 CFR 122.26(b)(14).

Storm Water - Regulated is defined in 40 CFR 122.26 (b) (14), Storm Water Discharges Associated with Industrial Activities, and includes storm water discharges from 1) various types of industries, identified in the regulations; 2) Treatment Works Treating Domestic Sewage (TWTDS) with design flows equal to or greater than 1 MGD, or that have Federal Industrial Pretreatment Programs; and 3) any storm water discharge subject to effluent guidelines as defined below.

Storm Water Subject to Effluent Guidelines is a regulated storm water discharge for which federal effluent limitation guidelines exist. Such guidelines currently exist under the following sections of the federal regulations, 40 CFR: 411 - cement manufacturing; 412 - feedlots; 418 - fertilizer manufacturing; 419 - petroleum refining; 422 - phosphate manufacturing; 423 - steam electric; 434 - coal mining; 436 - mineral mining and processing; 440 - ore mining and dressing; and 443 Subpart A - asphalt emulsion.

Rule 323.1098 Antidegradation

Rule 1098 of the Part 4 Rules applies to any NPDES permit action that is anticipated to result in a new or increased loading of pollutants to the surface waters of the state. It requires applicants to show how the discharge is exempt under subrule (8) or (9), or provide a demonstration under subrule (4) that identifies the social or economic development and benefits that will be foregone in the area where the waters are located if the lowering of the water quality is not allowed.

The following examples are considered to be an increase in loading, requiring either a statement of exemption or an Antidegradation Demonstration:

- A new use.
- An increase in flow.
- An increase in a mass limit.
- An increase in thermal loading.
- An increase in concentration limits with no change in flow..
- The addition of a new waste stream that will not require an authorization to increase the flow of the discharge.
- An existing discharger which has never received an effective NPDES permit for discharges at a particular site.

The following examples are not considered to be increases in loading, and do not require an Antidegradation Demonstration:

- A change in the Water Quality-Based Effluent Limits (WQBEL) for mercury or Polychlorinated Biphenyls (PCBs) due to a change in the Water Quality Standard.
- A newly-established limit for a parameter when there has been no action on the part of the permittee to increase the mass loading.
- Limits that are eliminated.

Antidegradation

In accordance with subrules (8) and (9), certain discharges are exempt from submitting an Antidegradation Demonstration. Applicants with these discharges shall submit a statement of exemption from the antidegradation requirements, detailing the reason(s) why the discharge is exempt. The following examples do not constitute a lowering of water quality and therefore are exempt from the antidegradation requirements:

- Short-term (weeks to months) or temporary lowering of water quality.
- Bypasses that are not prohibited by regulations set forth in 40 CFR §122.41(m).
- Response actions undertaken to alleviate a release of pollutants into the environment that may pose an imminent and substantial danger to the public health or welfare.
- Discharges of pollutant quantities from the intake water at a facility if the intake and discharge are on the same body of water.
- Increases in flow, if the increase is within the design flow of the facility, it is not specifically authorized in the current permit, and there is no significant change expected in the characteristics of the wastewater collected.
- Intermittent increased loading related to wet-weather conditions.
- New or increased loading due to MDEQ-approved controls related to wet-weather conditions.
- Discharges authorized by certificates of coverage and notices of coverage.
- Increased loadings within the authorized levels of a limit in an existing control document, except those loadings that result from actions by the permittee that would otherwise require submittal of an increased use request.
- Increased loadings of a pollutant which do not involve a BCC and which use less than 10 percent of the unused loading capacity that exists at the time of the request.

All other applicants shall submit an Antidegradation Demonstration. In accordance with Rule 1098(4)(a), the applicant shall identify the social or economic development and the benefits to the area in which the waters are located that would be forgone if the new or increased loading of pollutants is not allowed. Examples of social or economic development and benefits may include:

- Employment Increases.
- Production Level Increases.
- Employment Reductions Avoidance.
- Efficiency Increases.
- Industrial, Commercial, or Residential Growth.
- Environmental or Public Health Problem Corrections.
- Economic or Social Benefits to the Community.

The applicant shall identify in the Antidegradation Demonstration alternatives to the proposed surface water discharge that have been considered and an explanation as to why the alternatives were not feasible. Alternatives to a surface water discharge may include, but are not limited to:

- Groundwater discharges.
- Discharges to available sewerage systems.
- Water reuse.
- Water recycling.

If there are any bioaccumulative chemicals of concern (BCC) in the proposed discharge, then the Antidegradation Demonstration shall include the alternatives evaluated to reduce or eliminate the BCCs and which of the alternatives were selected.

Antidegradation Demonstrations for privately-owned treatment systems serving the public for the treatment of domestic wastewater from two or more residences shall include documentation of the methods established for the ongoing operation and maintenance of the sewerage system, as required under Section 4107 of Part 41 of the Michigan Act.

Please note: The applicant may indicate if the property is zoned for the intended use.

Rule 1098 can be found on the DEQ's Internet Page. To access Rule 1098, go to <http://www.wichigan.gov/deq>. In the left column click on **WATER**, click on **Surface Water**, click on **NPDES Permits**, in the middle column under the "Information" banner click on **Applicable Rules and Regulations**, under the Applicable Rules and Regulations banner click on **Part 4 Rules**. Search for Rule 323.1098 Antidegradation.

Concentrated Animal Feeding Operation Guidance and Requirements

CAFO waste means CAFO process wastewater, manure, production area waste, silage leachate & runoff, any contaminated runoff, etc.

(1) The average and maximum number of animals expected during the 5 year permit, the type of animals (beef cattle, broilers, layers, swine more or less than 55 lbs., mature dairy cows, dairy heifers, veal calves, turkeys, etc.), and type of housing (open confinement, under roof, etc.).

(2) The type of CAFO waste storage (roofed storage shed, storage ponds, underfloor pits, above or below ground storage tanks, concrete pad, etc.) and total combined capacity of all CAFO waste storage structures [both by volume (tons, gallons, cu. ft.) and by time (months)].

Concentrated Animal Feeding Operation Guidance and Requirements

(3) CAFO waste storage structure design – All new CAFO waste storage structures shall, at a minimum, be constructed in accordance with NRCS standards. NRCS standards means Conservation Practice Standard No. 313, Waste Storage Facility, dated June, 2003. For existing storage structures at existing CAFOs, through an evaluation by a professional engineer either (1) provide documentation that each storage structure is constructed in accordance with NRCS standards, or (2) demonstrate environmental performance equivalent to NRCS standards. If your farm is verified under the Livestock System of MAEAP you may submit the “Evaluation of Existing Components” for review by the Department. After review, the Department will notify you if additional information is necessary to complete your application. If you cannot provide the documentation or demonstration required by (1) or (2) above, you may request that the permit or COC specify a date by which you will provide storage structures that attain (1) above, but that date cannot be more than three years after permit or COC issuance. Guidance for the Evaluation of Existing Storage Structures can be found on our website or is available in print.

(4) The total number of acres under your control available for land application of CAFO waste. This would be land that you own, lease or otherwise have access for land application of CAFO waste. This does not include land application where you sell or give away your CAFO waste. If you are in the process of acquiring land at the time of application, then explain how much land and when you expect to acquire it.

(5) Estimated amounts of CAFO waste generated per year (annual average over the life of the permit)(tons, gallons, or cu. ft.).

(6) Estimated amounts of CAFO waste transferred (sold, given away, etc. where you have no control over the land application of that waste) to other persons per year (annual average) (tons, gallons, or cu. ft.).

(7) A list and map(s) showing the location of all land application fields. This list would include a name and/or number to identify the field and size in acres. Maps could be plat maps, aerial maps or soil maps with each field highlighted or colored in, with a number to correspond to the list or FSA Form # 578 and associated maps. Information such as crop, soil type, and analysis will be included with the field-by-field analysis. This analysis does not need to be completed until after the permit or COC is issued.

(8) All potential receiving waters for both the production area and land application areas. This would be rivers, creeks and major drains where runoff would flow overland or through tiles. Consider slope and tile outlet locations to determine flow pathways. Include maps if possible, with the waterways highlighted and named, if they have names. The same maps showing your application fields could show the receiving waters.

To Access the DEQ CAFO web site go to <http://www.michigan.gov/deq> in the left column click on Water, click on Surface Water, click on NPDES Permits, in the middle column under the Information banner click on Concentrated Animal Feeding Operation (CAFO).

Minimum Analytical Testing Requirements for Various Discharge Requests

Each discharge is evaluated on a case-by-case basis. This list is not inclusive of all analytical tests that may be requested from an applicant, but does include those parameters which we believe have the reasonable potential to violate water quality standards in these types of discharges.

Contact Cooling Water: Submit average and maximum levels of oil and grease, and average and maximum levels of total suspended solids; average and maximum summer and winter temperatures; and maximum and minimum pH. Total Residual Chlorine (TRC) analysis may be required if a city water source is used, or a water treatment additive containing chlorine is used.

Cooling Tower Blowdown: Submit average and maximum levels of total dissolved solids, sulfates, chlorides, and total suspended solids; average and maximum summer and winter temperatures; maximum and minimum pH; Total Residual Chlorine (TRC), and all relevant information pertaining to the water treatment additives used.

Gasoline and Petroleum Related Cleanups: Submit analytical test data for BETX (Benzene, Ethylbenzene, Toluene, and Xylenes), MTBE (Methyl tert Butyl Ether), total phosphorus, and total lead. If a treatment other than activated carbon is proposed or used, submit analytical test data for polynuclear aromatic hydrocarbons (PAHs).

Gypsum Mine Discharges: Submit average and maximum levels of total suspended solids, total dissolved solids, sulfates, and chlorides; minimum and maximum pH; analysis for the following metals (using quantification levels indicated in Table 7): total beryllium, total copper, total lithium, total selenium, total silver, total strontium, total thallium, and total zinc; analysis for dissolved sulfides (using either the Methylene Blue or Iodometric method referenced in Standard Methods with a quantification level of 20 µg/l) with temperature, conductivity, and pH measured with each sample taken for dissolved sulfides; and a value for hydrogen sulfide calculated using Standard Method 4500-S²-H.

Limestone Quarry Discharges: Submit average and maximum levels of total suspended solids, total dissolved solids, sulfates, and chlorides; minimum and maximum pH; analysis for the following metals (using quantification levels indicated in Table 7): total beryllium, total copper, total lithium, total selenium, total silver, total strontium, total thallium, and total zinc; analysis for dissolved sulfides (using either the Methylene Blue or Iodometric method referenced in Standard Methods with a quantification level of 20 µg/l) with temperature, conductivity, and pH measured with each sample taken for dissolved sulfides; and a hydrogen sulfide value calculated using Standard Method 4500-S²-H.

Noncontact Cooling Waters: Submit average and maximum summer and winter temperatures; and if pH control is required, the maximum and minimum pH. Total Residual Chlorine (TRC) analysis is required if a city water source or a water treatment additive containing chlorine is used.

Quarry Discharges (not specified above): Submit average and maximum levels of total suspended solids, total dissolved solids, sulfates, and chlorides; and maximum and minimum pH.

Water Softener Discharge: Submit average and maximum levels of total dissolved solids, sulfates, and chlorides.

Summary of Information to Be Reported by Industry Type

- 40 CFR 405 Dairy Products Processing: Report mass of raw materials (milk equivalent or fluid raw whey) and mass of BOD₅ input of raw materials. If your facility is regulated under Subparts K or L of this category, also report total suspended solids of the raw materials.
- 40 CFR 406 Grain Mills: Report volume of final product per-volume of raw material in standard bushels or mean standard bushels (for corn or wheat); hundredweight (rice); or volume per-volume on a weight basis (for cereal or wheat flour as raw material).
- 40 CFR 407 Canned and Preserved Fruits and Vegetables Processing: Facilities regulated under Subparts A-G, report volume per-volume (weight basis) of raw materials. Facilities regulated under Subpart H, report volume per-volume (weight basis) of final product.
- 40 CFR 409 Sugar Processing: Facilities regulated under Subpart A, report volume per-volume (weight basis) of final product (crystallized refined sugar). Facilities regulated under Subparts B and C, report pounds per ton of melt, where melt is the amount of raw material (sugar) contained within an aqueous solution at the beginning of the process for production of refined sugar cane.
- 40 CFR 411 Cement Manufacturing: Facilities regulated under Subpart A, report pounds of final product. Facilities regulated under Subpart B, report pounds of dust leached.
- 40 CFR 414 Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF): Report (1) flow rates of individual process wastewater streams; (2) flow rates of individual metal-bearing or cyanide-bearing wastewater streams; (3) pounds of product generated per year for each product; and (4) indicate if end-of-pipe biological treatment exists.
- 40 CFR 415 Inorganic Chemicals Manufacturing: Report pounds of product.
- 40 CFR 419 Petroleum Refining: Report volume of feedstock (number of barrels) and volume of flow.
- 40 CFR 420 Iron and Steel Manufacturing: Report pounds of product. If air or vent scrubbers are used at the facility, describe the operations they are used in, and indicate the number of scrubbers in use.
- 40 CFR 421 Nonferrous Metals Manufacturing: Report weight of product produced, cast, or material recovered (see individual subparts for specific materials regulated), and provide a description of each specific process that produces a wastewater stream.
- 40 CFR 423 Steam Electric Power Generating: Report volume of flow from process wastewater streams, including contact cooling, cooling tower blowdown, and any other wastewaters other than noncontact cooling water, and total rating of electric generating capacity.
- 40 CFR 424 Ferroalloy Manufacturing: Report (1) megawatt hour(s) of electrical energy consumed in the smelting process (for electric furnaces only); (2) weight of product (for non-electric furnaces only and other if appropriate); and (3) weight of raw material processed.
- 40 CFR 425 Leather Tanning and Finishing: Report weight of raw material.
- 40 CFR 428 Rubber Manufacturing: Report (1) weight of raw material or raw material equivalent; and (2) weight of gross production.
- 40 CFR 429 Timber Products Processing: Report (1) weight per volume of production; and (2) weight of gross production.
- 40 CFR 430 Pulp, Paper, and Paperboard: Report (1) weight of product; and (2) provide a statement certifying that chlorophenolic containing biocides are not being used at the facility, if these biocides are not being used.
- 40 CFR 432 Meat Products: Report (1) weight of raw material (raw material measured in live weight killed or equivalent live weight killed); (2) weight of finished product, and if the facility is regulated under Subparts E-J; and (3) the manufacturing rate for individual products.
- 40 CFR 433 Metal Finishing: Report flow rates of individual processes generating wastewater streams.
- 40 CFR 436 Mineral Mining and Processing: If the facility uses HF floatation as a treatment process, report weight of total product.
- 40 CFR 440 Ore Mining and Dressing: Report (1) treatment or milling technique(s) employed; and (2) if the facility is regulated under Subparts F-H or J, report tons of product.
- 40 CFR 461 Battery Manufacturing: (1) Report weight of raw materials used, applied, deposited, or processed; and (2) weight of cells, powder, or other material produced.
- 40 CFR 463 Plastics Molding and Forming: Report average process wastewater usage flow rates for each individual process.
- 40 CFR 464 Metal Molding and Casting: Report (1) weight of material poured (casted); and (2) if air scrubbers are used, report volume of air scrubbed. If the facility is regulated under Subpart C, report (1) the weight of sand reclaimed (if applicable); and (2) the weight of metal poured annually (if applicable).
- 40 CFR 465 Coil Coating: Report (1) the total surface area of the material processed; and (2) if the facility is regulated under Subpart D, report the number of cans manufactured.
- 40 CFR 466 Porcelain Enameling: Report the total surface area of raw material processed or coated.
- 40 CFR 467 Aluminum Forming: Report the weight of raw material (aluminum) processed, including rolling, casting, forging, quenching, drawing, extruding, cleaning, and etching operations.
- 40 CFR 468 Copper Forming: Report weight of raw material (copper) processed, including rolling, drawing, heat treating, extruding, annealing, cleaning, pickling, tumbling, burnishing, coating, and forming operations.
- 40 CFR 471 Nonferrous Metals Forming and Metals Powders: Report weight of raw materials processed for various operations (see guidelines for descriptions of processes).

TABLE 1 - Testing Requirements for Organic Toxic Pollutants by Industrial Category

(Table I from 40 CFR 122, Appendix D)

Industrial Category	GC/MS Fraction			Pesticide
	Volatile	Acid	Base/Neutral	
Adhesives and Sealants	X	X	X	---
Aluminum Forming	X	X	X	---
Auto and Other Laundries	X	X	X	X
Battery Manufacturing	X	---	X	---
Coal Mining	X	X	X	X
Coil Coating	X	X	X	---
Copper Forming	X	X	X	---
Electric and Electronic Components	X	X	X	X
Electroplating	X	X	X	---
Explosives Manufacturing	---	X	X	---
Foundries	X	X	X	---
Gum and Wood Chemicals	X	X	X	X
Inorganic Chemicals Manufacturing	X	X	X	---
Iron and Steel Manufacturing	X	X	X	---
Leather Tanning and Finishing	X	X	X	X
Mechanical Products Manufacturing	X	X	X	---
Nonferrous Metals Manufacturing	X	X	X	X
Ore Manufacturing	X	X	X	X
Organic Chemicals Manufacturing	X	X	X	X
Paint and Ink Formulation	X	X	X	X
Pesticides	X	X	X	X
Petroleum Refining	X	X	X	X
Pharmaceutical Preparations	X	X	X	---
Photographic Equipment and Supplies	X	X	X	X
Plastic and Synthetic Materials Manufacturing	X	X	X	X
Plastic Processing	X	---	---	---
Porcelain Enameling	X	---	X	X
Printing and Publishing	X	X	X	X
Pulp, Paper, and Paperboard Mills	X	X	X	X
Rubber Processing	X	X	X	---
Soap and Detergent Manufacturing	X	X	X	---
Steam Electric Power Plants	X	X	X	---
Textile Mills	X	X	X	X
Timber Products Processing	X	X	X	X

Following is a list of industrial categories and subcategories which are specifically suspended from submitting certain GC/MS data in 40 CFR Part 122, Appendix D, Note 1. If your industrial category or subcategory is specifically listed in the suspensions, you are not required to submit analytical data for the suspended GC/MS fractions listed below. In addition to the listed industries, 40 CFR Part 122.21 (g)(8) also provides for an exemption from reporting GC/MS analytical data for small businesses. Refer to the federal guidelines to determine if your facility is exempt.

Coal Mining Industry and Porcelain Enameling Industry

All four GC/MS organic fractions for all subcategories of these industries are suspended.

Leather Tanning and Finishing Industry, Paint and Ink Formulation, and Photographic Supplies

Pesticide fraction is suspended for all subcategories of these industries.

Petroleum Refining Industry

Acid, base/neutral, and pesticide fractions are suspended for all subcategories of this industry.

Textile Mills Industry

All four GC/MS organic fractions in the Greige Mills Subcategory are suspended.

Pesticide fraction in this category is suspended for all other subcategories of this industry.

Ore Mining and Dressing Industry

Volatile, base/neutral, and pesticide fractions in the Base and Precious Metals Subcategory are suspended.

All four GC/MS organic fractions in all other subcategories of this industry are suspended.

Gum and Wood Chemicals Industry

Pesticide fraction in the Tall Oil Rosin Subcategory and the Rosin-Based Derivatives Subcategory are suspended.

Pesticide and base/neutral fractions in all other subcategories of this industry are suspended.

Pulp and Paper Industry

Pesticide fraction in Papergrade Sulfite subcategories (Subparts J and U) is suspended.

Base/neutral and pesticide fractions in Deink (Subpart Q), Dissolving Kraft (Subpart F), and Paperboard from Waste Paper (Subpart E) are suspended.

Volatile, base/neutral, and pesticide fractions in the BCT Bleached Kraft (Subpart H), Semi-Chemical (Subparts B and C), and Non-Integrated Fine Papers (Subpart R) are suspended.

Acid, base/neutral, and pesticide fractions in Fine Bleached Kraft (Subpart I), Dissolving Sulfite Pulp (Subpart K), Groundwood Fine Papers (Subpart O), Market Bleached Kraft (Subpart G), Tissue from Wastepaper (Subpart T), and Nonintegrated Tissue Papers (Subpart S) are suspended.

Steam Electric Power Plant Industry

Base/neutral fraction in the Once-Through Cooling Water, Fly Ash, and Bottom Ash Transport Water process wastestreams are suspended.

TABLE 2 - Organic Toxic Pollutants in each GC/MS Fraction

(Table II from 40 CFR 122, Appendix D)

Volatiles		
1,1,1-Trichloroethane	Acrolein	Ethylbenzene
1,1,2,2-Tetrachloroethane	Acrylonitrile	Methyl Bromide
1,1,2-Trichloroethane	Benzene	Methyl Chloride
1,1-Dichloroethane	Bromoform	Methylene Chloride
1,1-Dichloroethylene	Carbon Tetrachloride	Tetrachloroethylene
1,2-Dichloroethane	Chlorobenzene	Toluene
1,2-Dichloropropane	Chlorodibromomethane	Trichloroethylene
1,2-Trans-Dichloroethylene	Chloroethane	Vinyl Chloride
1,3-Dichloropropylene	Chloroform	
2-Chloroethylvinylether	Dichlorobromomethane	
Acid Compounds		
2,4,6-Trichlorophenol	2-Chlorophenol	P-Chloro-M-Cresol
2,4-Dichlorophenol	2-Nitrophenol	Pentachlorophenol
2,4-Dimethylphenol	4,6-Dinitro-O-Cresol	Phenol
2,4-Dinitrophenol	4-Nitrophenol	
Base/Neutral		
1,2,4-Trichlorobenzene	Benzidine	Fluoranthene
1,2-Dichlorobenzene	Benzo (a) Anthracene	Fluorene
1,2-Diphenylhydrazine (as Azobenzene)	Benzo (a) Pyrene	Hexachlorobenzene
1,3-Dichlorobenzene	Benzo (ghi) Perylene	Hexachlorobutadiene
1,4-Dichlorobenzene	Benzo (k) Fluoranthene	Hexachlorocyclopentadiene
2,4-Dinitrotoluene	Bis (2-Chloroethoxy) Methane	Hexachloroethane
2,6-Dinitrotoluene	Bis (2-Chloroethyl) Ether	Indeno (1,2,3-cd) Pyrene
2-Chloronaphthalene	Bis (2-Chloroisopropyl) Ether	Isophorone
3,3'-Dichlorobenzidine	Bis (2-Ethylhexyl) Phthalate	N-Nitrosodi-N-Propylamine
3,4-Benzofluoranthene	Butylbenzyl Phthalate	N-Nitrosodimethylamine
4-Bromophenylphenylether	Chrysene	N-Nitrosodiphenylamine
4-Chlorophenyl Phenyl Ether	Di-N-Butyl Phthalate	Naphthalene
Acenaphthene	Di-N-Octyl Phthalate	Nitrobenzene
Acenaphthylene	Dibenzo (a,h) Anthracene	Phenanthrene
Anthracene	Diethyl Phthalate	Pyrene
	Dimethyl Phthalate	
Pesticides		
4,4'-DDD	δ-BHC	PCB-1221
4,4'-DDE	Dieldrin	PCB-1232
4,4'-DDT	Endosulfan Sulfate	PCB-1242
α-BHC	Endrin	PCB-1248
α-Endosulfan	Endrin Aldehyde	PCB-1254
Aldrin	γ-BHC (Lindane)	PCB-1260
β-BHC	Heptachlor	Toxaphene
β-Endosulfan	Heptachlor Epoxide	
Chlordane	PCB-1016	

TABLE 3 - Other Toxic Pollutants (Metals and Cyanide) and Total Phenols

(Table III from 40 CFR 122, Appendix D)

Total Antimony	Total Copper	Total Phenols
Total Arsenic	Available Cyanide (EPA Method OIA-1677)	Total Selenium
Total Beryllium	Total Lead	Total Silver
Total Cadmium	Total Mercury (EPA Method 1631)	Total Thallium
Total Chromium	Total Nickel	Total Zinc

TABLE 4 - Conventional and Non-Conventional Pollutants to Be Tested by Existing Dischargers if Expected to Be Present in Discharge

(Table IV from 40 CFR 122, Appendix D)

Aluminum, Total	Magnesium, Total	Radium, Total
Barium, Total	Manganese, Total	Radium 226, Total
Boron, Total	Molybdenum, Total	Sulfate (as SO ₄)
Bromide	Nitrate-Nitrite (as N)	Sulfide (as S)
Chlorine, Total Residual	Nitrogen, Total Organic (as N)	Sulfite (as SO ₃)
Cobalt, Total	Oil and Grease	Surfactants
Color	Phosphorus (as P), Total	Tin, Total
Fecal Coliform	Radioactivity	Titanium, Total
Fluoride	Alpha, Total	
Iron, Total	Beta, Total	

TABLE 5 - Toxic Pollutants and Hazardous Substances Required to Be Identified by Existing Dischargers if Expected to Be Present in Discharge

(Table V from 40 CFR 122, Appendix D)

Toxic Pollutant		
Asbestos		
Hazardous Substances		
2,2-Dichloropropionic Acid	Diethyl Amine	Monomethyl Amine
2,4,5-T (2,4,5-Trichlorophenoxy Acetic Acid)	Dimethyl Amine	Naled
2,4-D (2,4-Dichlorophenoxyacetic acid)	Dinitrobenzene	Napthenic Acid
Acetaldehyde	Diquat	Nitrotoluene
Allyl Alcohol	Disulfoton	Parathion
Allyl Chloride	Diuron	Phenolsulfonate
Amyl Acetate	Epichlorohydrin	Phosgene
Aniline	Ethanolamine	Propargite
Benzonitrile	Ethion	Propylene Oxide
Benzyl Chloride	Ethylene Diamine	Pyrethrins
Butyl Acetate	Ethylene Dibromide	Quinoline
Butylamine	Formaldehyde	Resorcinol
Captan	Furfural	Silvex
Carbaryl	Guthion	Strontium
Carbofuran	Isoprene	Strychnine
Carbon Disulfide	Isopropanolamine	Styrene
Chlorpyrifos	Kelthane	TDE (Tetrachlorodiphenylethane)
Coumaphos	Kepone	Trichlorofon
Cresol	Malathion	Triethylamine
Crotonaldehyde	Mercaptodimethur	Trimethylamine
Cyclohexane	Methoxychlor	Uranium
Diazinon	Methyl Mercaptan	Vanadium
Dicamba	Methyl Methacrylate	Vinyl Acetate
Dichlobenil	Methyl Parathion	Xylene
Dichlone	Mevinphos	Xylenol
Dichlorvos	Mexacarbate	Zirconium
	Monoethyl Amine	

Table 5 continued

Other or Additional Toxic Pollutants (Michigan Critical Materials)

1,1,1,2-tetrachloroethane	5-chloro-o-toluidine	Cobalt
1,1,2,2-tetrachloroethane	5-nitro-o-anisidine	Copper
1,1,2-trichloroethane	5-nitroacenaphthene	Crotoxyphos
1,1-dichloroethylene	Abietic acid	Cupferron
1,2,3,4-tetrachlorobenzene	Acetone cyanohydrin	Cyanides
1,2,3,5-tetrachlorobenzene	Acrolein	Cycasin
1,2,3-trichlorobenzene	Acrylonitrile	Cycloheximide
1,2,4,5-tetrachlorobenzene	Actinomycin D	Cyclophosphamide
1,2,4-trichlorobenzene	Aflatoxins	DDT (p,p', o,p' and technical grade)
1,2-dichlorobenzene	Aldicarb	Dehydroabietic acid
1,2-dichloroethane	Aldrin	Demeton
1,2-epoxybutane	Aminoazobenzene	Di-n-octyl phthalate
1,2:3,4-diepoxybutane	Amitrole	Diallate
1,3-butadiene	Anilazine	Dibenz(a,h)anthracene
1,3-dichlorobenzene	Aniline hydrochloride	Dibromochloropropane (DBCP)
1,3-dichloropropene	Antimony	Dibutyl phthalate
1,3-propane sultone	Antimycin A	Dichrotophos
1,4-dichlorobenzene	Aramite	Dieldrin
1,4-dioxane	Arsenic	Diethylhexyl phthalate
1,5-naphthalenediamine	Asbestos	Diethylstilbestrol
1-amino-2-methylanthraquinone	Azinphos-ethyl	Dihydrosafrole
1-chloro-4-phenoxybenzene	Azinphos-methyl	Dimethoate
1-chloropropene	Azobenzene	Dimethyl disulphide
2,3,4,5-tetrachlorophenol	Barban	Dimethyl sulfate
2,3,4,6-tetrachlorophenol	Bendiocarb	Dimethylhydrazines
2,3,5,6-tetrachlorophenol	Benomyl	Dinitrotoluenes
2,4,5-trichlorophenol	Benz(a)anthracene	Dinocap
2,4,5-trichlorotoluene	Benzene	Dinoseb
2,4,5-trimethylaniline	Benzidine (and salts)	Dioxathion
2,4,6-trichlorophenol	Benzo(a)pyrene	Diphenyl ether
2,4-diaminoanisole sulfate	Beryllium	Endosulfan
2,4-diaminotoluene	beta-propiolactone	Endrin
2,4-dichlorophenol	Bis(2-chloroethyl)ether	EPN
2,4-dinitrophenol	Bis(chloromethyl)ether	Ethyl chloride
2-acetylaminofluorene	Bromomethane	Ethylene oxide
2-aminoanthraquinone	Bromoxynil	Ethylene thiourea
2-methyl-1-nitroanthraquinone	Butyl benzyl phthalate	Ethyleneimine
2-naphthylamine	Butylbutanol nitrosamine	Ethylmethanesulfonate
2-nitropropane	Cadmium	Fensulfothion
3,3'-dichlorobenzidine	Captafol	Fenthion
3-(chloromethyl)pyridine hydrochloride	Carbon tetrachloride	Fluchloralin
3-amino-9-ethylcarbazole	Carbophenothion	Furathiazole
3-amino-9-ethylcarbazole hydrochloride	Chloramines	Heptachlor
4,4'-diaminodiphenyl ether	Chlordane	Heptachlor epoxide
4,4'-methylenebis (2-methylaniline)	Chlordecone	Hexachlorobenzene
4,4'-methylenebis(N,N-dimethyl) benzenamine	Chlorfenvinphos	Hexachlorobutadiene
4,4'-thiodianiline	Chlorine (elemental cl and hypochlorite salts)	Hexachlorocyclohexane (all isomers)
4,6-dinitro-o-cresol	Chlorobenzene	Hexachlorocyclopentadiene
4-aminobiphenyl	Chlorobenzilate	Hexachloroethane
4-aminopyridine	Chloroform	Hexamethylphosphoramide
4-bromophenyl phenyl ether	Chloromethane	Hydrazine
4-chloro-m-phenylenediamine	Chloroprene	Hydrazobenzene
4-chloro-o-phenylenediamine	Chromium	Hydrogen sulfide
4-dimethylaminoazobenzene	Clonitralid	Hydroquinone

Table 5 continued

Isonicotinic acid hydrazine	Neoabietic acid	Polychlorinated dibenzofurans (PCDF)
Kanechlor C	Nickel	Polychlorinated dioxins (PCDD)
Ketene	Nifurthiazole	Polychlorinated naphthalenes
Lactonitrile	Niridazole	Propyleneimine
Lasiocarpine	Nithiazide	Propylthiouracil
Lead	Nitrobenzene	Rotenone
Leptophos	Nitrofen	Selenium
Lithium	Nitrogen mustard	Semicarbazide
m-cresol	o-Aminoazotoluene	Semicarbazide hydrochloride
Malachite green	o-Anisidine	Silver
Mercury	o-Anisidine hydrochloride	Silvex, propylene glycol butyl ether ester
Mestranol	o-Cresol	Sodium fluoroacetate
Methacrylonitrile	o-Phenylphenol	Sodium-o-phenylphenol
Methomyl	o-Toluidine	Sulfallate
Methyl chloroform	o-Toluidine hydrochloride	Sulfotepp
Methyl hydrazine	Octachlorostyrene	TEPP
Methylene chloride	Oydemetonmethyl	Terbufos
Methylenebis(2-chloroaniline)	p,p'-DDE	Tetrachloroethylene
Methylthiouracil	p,p'-TDE (p,p'-DDD)	Tetrachloroguaiacol
Mirex	p-Chlorophenol	Tetrachlorvinphos
Mitomycin C	p-Cresidine	Tetranitromethane
Monocrotaline	p-Cresol	Thallium
Monocrotophos	p-Nitrosodiphenylamine	Thioacetamide
Mustard gas	Paraquat	Thiourea
N,N'-diethylthiourea	Pentachloronitrobenzene	Thiram
N-(2-hydroxyethyl) ethyleneimine	Pentachlorophenol (and salts)	Toluene
N-methyl formamide	Phenazopyridine hydrochloride	Toxaphene
N-nitroso-di-N-butylamine	Phenesterin	Triaryl phosphate esters
N-nitroso-N-ethylurea	Phenobarbitol	Tributyltin (and salts and esters)
N-nitroso-N-methylurea	Phenol	Trichloroethylene
N-nitroso-N-methylurethane	Phenytoin	Trifluralin
N-nitrosodi-N-propylamine	Phenytoin sodium	Trimethylphosphate
N-nitrosodiethylamine	Phorate	Tris(2,3-dibromopropyl)phosphate
N-nitrosodimethylamine	Phosazetim	Uracil mustard
N-nitrosodiphenylamine	Phosmet	Urethane (monomer)
N-nitrosomethylvinylamine	Phosphamidon	Vinyl bromide
N-nitrosomorpholine	Piperonyl sulfoxide	Vinyl chloride
N-nitrososarcosine	Polybrominated biphenyls (PBB)	Zinc
Naphthalene	Polychlorinated biphenyls (PCB)	Ziram

TABLE 6 - Dioxin and Furan Congeners

<u>Dioxin congeners</u>	<u>Furan Congeners</u>
2,3,7,8-Tetrachlorodibenzo-p-dioxin	2,3,7,8-Tetrachlorodibenzofuran
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1,2,3,7,8-Pentachlorodibenzofuran
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2,3,4,7,8- Pentachlorodibenzofuran
1,2,3,6,7,8- Hexachlorodibenzo-p-dioxin	1,2,3,4,7,8-Hexachlorodibenzofuran
1,2,3,7,8,9- Hexachlorodibenzo-p-dioxin	1,2,3,6,7,8- Hexachlorodibenzofuran
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	2,3,4,6,7,8- Hexachlorodibenzofuran
Octachlorodibenzo-p-dioxin	1,2,3,7,8,9- Hexachlorodibenzofuran
	1,2,3,4,6,7,8-Heptachlorodibenzofuran
	1,2,3,4,7,8,9-Heptachlorodibenzofuran
	Octachlorodibenzofuran

TABLE 7 - Quantification Levels for Selected Parameters

Total Antimony	1 µg/l	Total Cyanide	5 µg/l
Total Arsenic	1 µg/l	Total Lead	1 µg/l
Total Berium.....	5 µg/l	Total Lithium.....	<96 µg/l
Total Beryllium	1 µg/l	Total Mercury	0.5 µg/l
Total Boron	20 µg/l	Total Nickel	5 µg/l
Total Cadmium.....	0.2 µg/l	Total Selenium	1.0 µg/l
Hexavalent Chromium.....	5 µg/l	Total Silver	0.5 µg/l
Total Chromium.....	10 µg/l	Total Strontium.....	< 8300 µg/l
Total Copper	1 µg/l	Total Thallium.....	1 µg/l
Available Cyanide.....	2 µg/l	Total Zinc	10 µg/l

TABLE 8 Other Common Types of Wastewater

Demineralizer regeneration water	Hydrostatic pressure test water	Raceway cleaning water
Drinking fountain overflow	Intake screen backwash	Sand filter backwash
Filter backwash	Iron filter backwash	Sanitary wastewater
Fire system test water	Landfill leachate	Secondary containment area water
Fish rearing water	Mine dewatering water	Swimming pool wastewater
Floor drainage water	Peat mine dewatering water	Tank bottom water
Foundation drainage water	Petroleum contaminated water	Vegetable wash water
Groundwater seepage	Pump screen backwash	Water softener backwash

Whole Effluent Toxicity Test Guidance and Requirements

Whole Effluent Toxicity (WET) tests shall be conducted in accordance with the following. Chronic tests shall be conducted unless the applicant has requested and received DEQ approval for the use of Acute tests. Approval will be based on high receiving water dilution or other site-specific factors. An 40:1 or greater dilution ratio of the receiving water's 95 percent drought flow to the facility's design flow may justify reduction to acute testing. Such requests, with supporting rationale, shall be made in writing to the appropriate District Supervisor of the Water Bureau (see Pages 2 and 3 of this Appendix). *If the permittee has previously received approval to conduct toxicity testing using a more sensitive species, the permittee may request approval from the District Supervisor to waive the multiple species testing requirements specified below. Such approval will be based on no significant changes to facility operations and wastewater characteristics.*

The following requirements apply to chronic tests:

- 1) Test species shall include the fathead minnow or Ceriodaphnia dubia.
- 2) Testing and reporting procedures for the fathead minnow and *Ceriodaphnia* are contained in the "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (Fourth Edition)" (EPA-821-R-02-013).
- 3) If the Total Ammonia Nitrogen level in the effluent is greater than 3 mg/l, then toxicity test pH shall be maintained at 8 standard units.

The following requirements apply to acute tests:

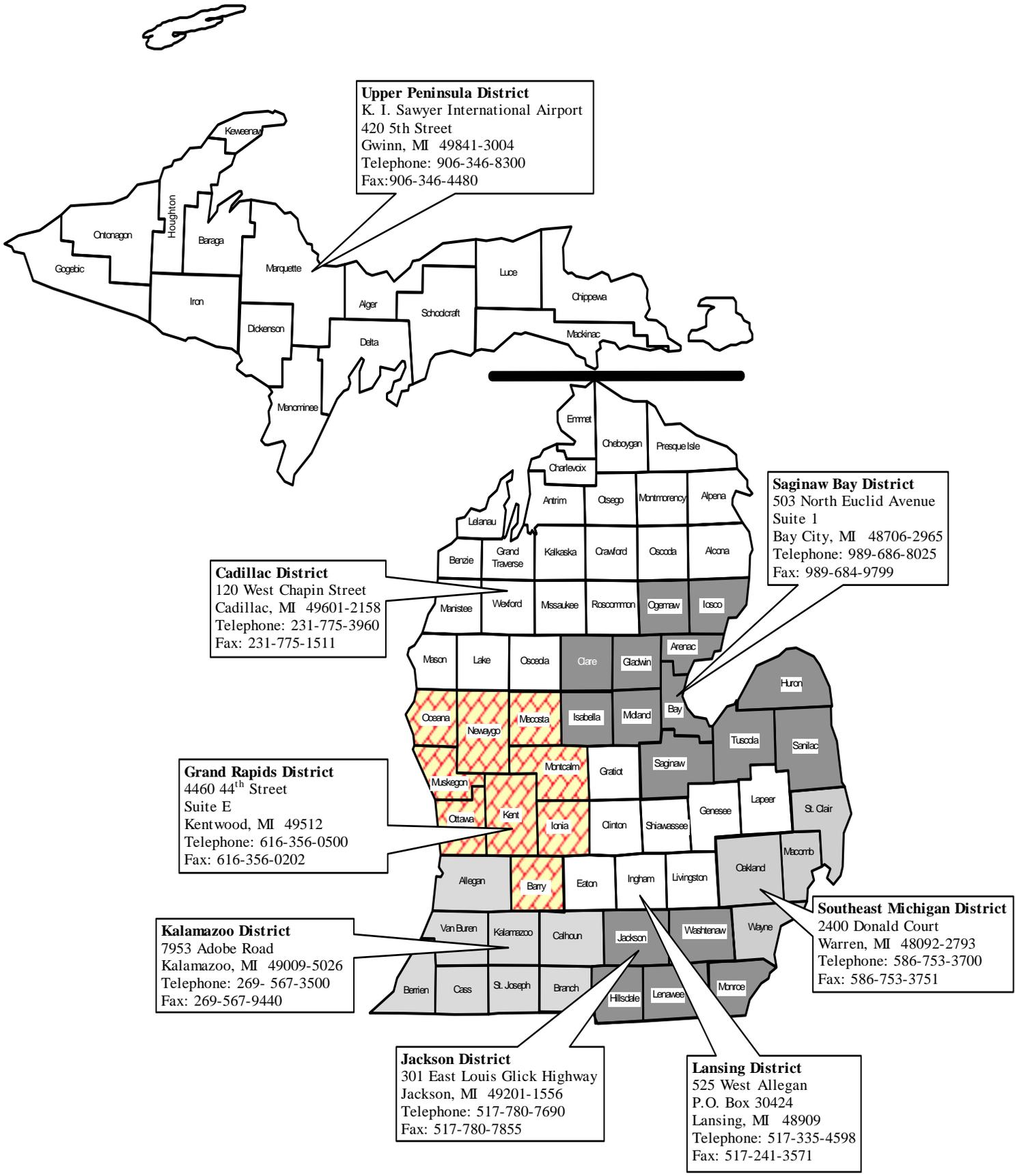
- 1) Acute test species shall include fathead minnow and either *Daphnia magna*, *Daphnia pulex*, or *Ceriodaphnia dubia*.
- 2) Testing and reporting procedures shall follow procedures contained in EPA-821-R-02-012, "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (Fifth Edition)"
- 3) If the Total Ammonia Nitrogen level in the effluent is greater than 5 mg/l, acute test pH shall be maintained at the pH of the effluent at the time of sample collection.

Toxicity test data acceptability is contingent upon the validation of the test method by the testing laboratory. Such validation shall be submitted to the DEQ upon request. Previously submitted toxicity test results need not be resubmitted. Rather, provide a summary of the results of all previous tests indicating: (1) date of test; (2) species tested; and (3) all acute and/or chronic toxic unit values (TUa, TUc) obtained.

The results of the tests shall be reported using the Acute Toxicity Test Report, *Ceriodaphnia Dubia* Chronic Toxicity Test Report and the Fathead Minnow Chronic Toxicity Test Report available in this Appendix. Please do not submit additional forms or paperwork pertaining to WET tests with this application.

The applicant does not need to submit results for previously submitted WET Tests.

Water Bureau District Boundaries with County Divisions



Upper Peninsula Hydrologic Map with Hydrologic Unit Codes



Upper Peninsula Watershed Names

04010302 -----Bad-Montreal	04030110 -----Escanaba
04020101 -----Black-Presque Isle	04030111 -----Tacoosh-Whitefish
04020102 -----Ontonagon	04030112 -----Fishdam-Sturgeon
04020103 -----Keweenaw Peninsula	04020201 -----Betsy-Chocolay
04020104 -----Sturgeon	04020202 -----Tahquamenon
04020105 -----Dead-Kelsey	04020203 -----Waiska
04030106 -----Brule	04060101 -----Pere Marquette
04030107 -----Michigamme	04060107 -----Brevoort-Millecoquins
04030108 -----Menominee	04070001 -----St. Marys
04030109 -----Cedar-Ford	04070002 -----Carp-Pine

Lower Peninsula Hydrologic Map with Hydrologic Unit Codes



Lower Peninsula Watershed Names

04040001 -----Little Calumet-Galien	04070003----- Lone Lake-Ocqueoc	04080205----- Cass
04050001 -----St. Joseph	04070004----- Cheboygan	04080206----- Saginaw
04050002 -----Black-Macatawa	04070005----- Black	04090001----- St. Clair
04050003 -----Kalamazoo	04070006----- Thunder Bay	04090002----- Lake St. Clair
04050004 -----Upper Grand	04070007----- Au Sable	04090003----- Clinton
04050005 -----Maple	04080101----- Au Gres-Rifle	04090004----- Detroit
04050006 -----Lower Grand	04080102----- Kawkawlin-Pine	04090005----- Huron
04050007 -----Thornapple	04080103----- Pigeon-Wiscoggin	04100001----- Ottawa-Stony
04060102 -----Muskegon	04080104----- Birch-Willow	04100002----- Raisin
04060103 -----Manistee	04080201----- Tittabawassee	04100003----- St. Joseph
04060104 -----Betsie-Platte	04080202----- Pine	04100006----- Tiffin
04060105 -----Boardman-Charlevoix	04080203----- Shiawassee	
04060106 -----Manistique	04080204----- Flint	



DEQ only do not write in this space

NO EXPOSURE CERTIFICATION
FOR EXCLUSION OF COVERAGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY
By Authority of Act 451, PA 1994, Part 31

Submission of this No Exposure Certification constitutes certification the Facility identified below does not require permit authorization for storm water discharges associated with industrial activity in Michigan based on 40CFR 122. The Michigan Department of Environmental Quality may deny an exclusion at any time it determines that conditions at the facility do not meet the exclusion requirements. If the exclusion is denied, the owner must obtain authorization to discharge prior to any point source discharge of storm water from the facility.

Be advised that facilities excluded from permit requirements due to "no exposure" are required to submit a no exposure certification form to the Michigan Department of Environmental Quality once every five years to continue to be excluded from the permitting requirements.

SECTION I

FACILITY INFORMATION (where discharge occurs)		OWNER / PERMITEE INFORMATION	
SITE/FACILITY NAME		COMPANY NAME	
ADDRESS 1		ADDRESS 1	
ADDRESS 2		ADDRESS 2	
CITY	STATE ZIP CODE	CITY	STATE ZIP CODE
RECEIVING WATERS		CONTACT PERSON	
LATITUDE (to nearest 15 seconds)	LONGITUDE (to nearest 15 seconds)	CONTACT PERSON'S TELEPHONE #)	

____ ¼ of ____ ¼ Section: _____, Town: T _____, Range: R _____, Township: _____, County: _____.

PRIMARY STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE

TO DETERMINE THE PRIMARY INDUSTRIAL ACTIVITY, USE THE VALUE OF NET REVENUES. IF SUCH INFORMATION IS NOT AVAILABLE FOR A PARTICULAR FACILITY, THE NUMBER OF EMPLOYEES OR PRODUCTION RATE FOR EACH PROCESS MAY BE COMPARED. THE OPERATION THAT GENERATES THE MOST NET REVENUE OR EMPLOYS THE MOST PERSONNEL IS THE OPERATION IN WHICH THE FACILITY IS PRIMARILY ENGAGED.

THIS FACILITY HOLDS EXISTING NPDES PERMIT:

Please list any other NPDES number(s):

PLEASE RETURN THIS COMPLETED FORM (Page 1 & 2), AND ANY ATTACHMENTS, TO THE FOLLOWING ADDRESS:

**WATER DIVISION
PO BOX 30438
LANSING, MI 48909-7938**

If you have any questions regarding the completion of this form, please call (517) 241-8993.

NOTE: There are TWO pages to a complete no exposure exclusion request. Please make sure that both pages have been completed prior to submitting

SECTION II

PLEASE COMPLETE ALL OF THE FOLLOWING INFORMATION

EXPOSURE CHECK LIST

Are any of the following materials or activities exposed to storm water, now or in the foreseeable future?

- | | | | |
|--------------|--|-----|----|
| 1. | Using, storing, or cleaning of industrial machinery or equipment, or residuals from such practices. | Yes | No |
| 2. | Materials or residuals on the ground or in storm water inlets from spills or leaks. | Yes | No |
| 3. | Materials or products from past industrial activities. | Yes | No |
| 4. | Material handling equipment (except adequately maintained vehicles). | Yes | No |
| 5. | Materials or products during loading, unloading or transporting activities. | Yes | No |
| 6. | Materials or products stored outdoors (except final product intended to be used outside where exposure to storm water does not result in a discharge of pollutants). | Yes | No |
| 7. | Materials contained in open, unsealed, deteriorated, leaking, or improperly managed drums, barrels, tanks, etc. | Yes | No |
| 8. | Materials or products handled or stored on roads or railways owned or maintained by the facility. | Yes | No |
| 9. | Waste materials (except general office trash). | Yes | No |
| 10. | Application or disposal of process wastewater (unless otherwise permitted). | Yes | No |
| 11. | Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e. under an air quality control permit). | Yes | No |
| NOTE: | If you answered yes to any of the above questions (1-11), you are not eligible for the no exposure exclusion | Yes | No |
| 12. | Facility has conducted an investigation to locate any illicit connections to the storm sewer system. | Yes | No |
| 13. | Based on the above investigation, the facility has concluded that there are no illicit connections to the storm water system. | Yes | No |

SECTION III

CERTIFICATION

State of Michigan regulations require this form be signed as follows:

- **Corporation:** by the principal executive officer or vice-president or higher, or his/her designated representative if the representative is responsible for the overall operation of the facility from which the discharge described originates.
- **Partnership:** by a general partner
- **Sole proprietorship:** by the proprietor
- **Municipal, state, or other public facility:** by a principal executive officer, the mayor, village president, city or village manager, or other duly authorized employee.

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of “no exposure” and obtaining an exclusion from storm water permitting.

I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under 40 CFR 122.26(g)(2))

I understand that I am obligated to submit a no exposure certification form to the Michigan Department of Environmental Quality once every 5 years. I understand that I must allow the Michigan Department of Environmental Quality to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain discharge authorization under an NPDES permit prior to any point source discharge of storm water associated with industrial activity from the facility.

I certify, under penalty of law, that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system to assure qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed name:	Title:
Signature:	Date:



ACUTE TOXICITY TEST REPORT

By authority of PA 451 of 1994, as amended.

INSTRUCTIONS: Use this form to report acute toxicity test results. Use separate forms for more than 1 test.

1. NAME OF FACILITY (on NPDES permit)				2. NPDES PERMIT #			
				M	I	0	0
3. RECEIVING WATER (as designated in permit)			4. OUTFALL		5. RECEIVING WATER CONCENTRATION (if known)		
6. TEST LAB (Name and Address)					7. AGE RANGE OF ORGANISMS AT TEST START		
8. TEST START DATE		9. TEST END DATE		10. TEST SPECIES		11. REPORT DATE	
12. NAME OF PERSON CONDUCTING TEST				13. NAME/PHONE # OF PERSON WHO CAN ANSWER QUESTIONS ABOUT THIS REPORT			
14. SAMPLE COLLECTION DATES		15. DATE RECEIVED		16. ARRIVAL TEMPERATURE (°C)			
Sample 1:		Sample 1:		Sample 1:			
Sample 2 (if any):		Sample 2 (if any):		Sample 2 (if any):			
17. DATE OF FIRST USE		18. TOTAL RESIDUAL CHLORINE (mg/l)		19. AMMONIA (mg/l as N)			
Sample 1:		Sample 1:		Sample 1:			
Sample 2 (if any):		Sample 2 (if any):		Sample 2 (if any):			
20. WAS SAMPLE DECHLORINATED?				21. DESCRIBE DECHLORINATION (if any)			
Sample 1: <input type="radio"/> YES <input type="radio"/> NO							
Sample 2: <input type="radio"/> YES <input type="radio"/> NO							
22. EFFLUENT SAMPLES WERE COLLECTED (check one) <input type="radio"/> BEFORE CHLORINATION <input type="radio"/> AFTER CHLORINATION							
<input type="radio"/> AFTER CHLORINATION, BEFORE DECHLORINATION <input type="radio"/> AFTER DECHLORINATION <input type="radio"/> FACILITY DOES NOT CHLORINATE							
23. DESCRIBE ANY DEVIATIONS FROM TEST METHODS (For example, pH-controlled test, reduced DO levels in test leading to aeration, sample exceeded holding time.							
24. WAS THE EFFLUENT FILTERED?				25. STATE MESH SIZE OF FILTER (if filtered)			
<input type="radio"/> YES <input type="radio"/> NO							
26. EFFLUENT SAMPLE TYPE (check one type for each sample)					27. IDENTIFY THE DILUENT (O ₁) CONTROL		
Sample 1: <input type="radio"/> 24-HR COMPOSITE <input type="radio"/> GRAB/COMPOSITE (give # of grabs)____ <input type="radio"/> GRAB					_____		
Sample 2: <input type="radio"/> 24-HR COMPOSITE <input type="radio"/> GRAB/COMPOSITE (give # of grabs)____ <input type="radio"/> GRAB (if any)					IDENTIFY THE SECONDARY (O ₂) CONTROL (if used)		

28. SUMMARY OF RESULTS - PERCENT MORTALITY PER CONCENTRATION							
	CONTROLS		EFFLUENT CONCENTRATIONS				
DAY	O ₁	O ₂	%	%	%	%	%
29. 48-HOUR LC ₅₀ (for <i>Daphnia magna</i> or <i>Ceriodaphnia dubia</i> acute tests)			30. 96-HOUR LC ₅₀ (for fathead minnow acute tests)		31. TU _a (acute toxic units)		



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY – WATER BUREAU
CERIODAPHNIA DUBIA CHRONIC TOXICITY TEST REPORT
 By authority of PA 451 of 1994, as amended.

INSTRUCTIONS: Use this form to report chronic toxicity test results. Use separate forms for more than 1 test.

1. NAME OF FACILITY (on NPDES permit)				2. NPDES PERMIT #			
3. RECEIVING WATER (as designated in permit)				4. OUTFALL		5. RECEIVING WATER CONCENTRATION (if known)	
6. TEST LAB (Name and Address)							
7. TEST START DATE		8. TEST END DATE		9. AGE RANGE OF ORGANISMS AT TEST START		10. REPORT DATE	
11. NAME OF PERSON CONDUCTING TEST				12. NAME/PHONE # OF PERSON WHO CAN ANSWER QUESTIONS ABOUT THIS REPORT			
13. SAMPLE COLLECTION DATES		14. DATE RECEIVED		15. ARRIVAL TEMP (°C)			
Sample 1:		Sample 1:		Sample 1:			
Sample 2:		Sample 2:		Sample 2:			
Sample 3:		Sample 3:		Sample 3:			
16. DATE OF FIRST USE		17. TOTAL RESIDUAL CHLORINE (mg/l)		18. AMMONIA (mg/l as N)			
Sample 1:		Sample 1:		Sample 1:			
Sample 2:		Sample 2:		Sample 2:			
Sample 3:		Sample 3:		Sample 3:			
19. WAS SAMPLE DECHLORINATED?		20. DESCRIBE DECHLORINATION (if any)					
Sample 1: <input type="radio"/> YES <input type="radio"/> NO							
Sample 2: <input type="radio"/> YES <input type="radio"/> NO							
Sample 3: <input type="radio"/> YES <input type="radio"/> NO							
21. EFFLUENT SAMPLES WERE COLLECTED (check one) <input type="radio"/> BEFORE CHLORINATION <input type="radio"/> AFTER CHLORINATION							
<input type="radio"/> AFTER CHLORINATION, BEFORE DECHLORINATION <input type="radio"/> AFTER DECHLORINATION <input type="radio"/> FACILITY DOES NOT CHLORINATE							
22. DESCRIBE ANY DEVIATIONS FROM TEST METHODS (For example, pH-controlled test, reduced DO levels in test leading to aeration, sample exceeded holding time.)							
23. EFFLUENT FILTERED?		24. STATE MESH SIZE OF FILTER (if filtered)					
<input type="radio"/> YES <input type="radio"/> NO							
25. EFFLUENT SAMPLE TYPE (check one type for each sample)						26. IDENTIFY THE DILUENT (O ₁) CONTROL	
Sample 1: <input type="radio"/> 24-HR COMPOSITE <input type="radio"/> GRAB/COMPOSITE (give # of grabs)_____ <input type="radio"/> GRAB SAMPLE						_____	
Sample 2: <input type="radio"/> 24-HR COMPOSITE <input type="radio"/> GRAB/COMPOSITE (give # of grabs)_____ <input type="radio"/> GRAB SAMPLE						IDENTIFY THE SECONDARY (O ₂) CONTROL (if used)	
Sample 3: <input type="radio"/> 24-HR COMPOSITE <input type="radio"/> GRAB/COMPOSITE (give # of grabs)_____ <input type="radio"/> GRAB SAMPLE						_____	
27. SUMMARY OF DATA AND RESULTS - SURVIVAL AND REPRODUCTION							
CONCENTRATION OF EFFLUENT (%)		O ₁	O ₂	%	%	%	100%
48-HOUR SURVIVAL (%)							
7-DAY MEAN REPRODUCTION/FEMALE							
7-DAY MEAN SURVIVAL (%)							
28. 48-HOUR LC ₅₀ (%)			29. TU _a (acute toxic units)				
30. 7-DAY CHRONIC VALUE (%)		31. NOEC		32. LOEC		33. TU _c (chronic toxic units)	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER BUREAU
FATHEAD MINNOW CHRONIC TOXICITY TEST REPORT
 By authority of PA 451 of 1994, as amended.

INSTRUCTIONS: Use this form to report chronic toxicity test results. Use separate forms for more than one test.

1. NAME OF FACILITY (on NPDES permit)				2. NPDES PERMIT #			
				M	I	0	0
3. RECEIVING WATER (as designated in permit)			4. OUTFALL		5. RECEIVING WATER CONCENTRATION (if known)		
6. TEST LAB (Name and Address)							
7. TEST START DATE		8. TEST END DATE		9. AGE RANGE OF ORGANISMS AT TEST START		10. REPORT DATE	
11. NAME OF PERSON CONDUCTING TEST				12. NAME/PHONE # OF PERSON WHO CAN ANSWER QUESTIONS ABOUT THIS REPORT			
				() -			
13. SAMPLE COLLECTION DATES		14. DATE RECEIVED		15. ARRIVAL TEMPERATURE (°C)			
Sample 1:		Sample 1:		Sample 1:			
Sample 2:		Sample 2:		Sample 2:			
Sample 3:		Sample 3:		Sample 3:			
16. DATE OF FIRST USE		17. TOTAL RESIDUAL CHLORINE (mg/l)		18. AMMONIA (mg/l as N)			
Sample 1:		Sample 1:		Sample 1:			
Sample 2:		Sample 2:		Sample 2:			
Sample 3:		Sample 3:		Sample 3:			
19. WAS SAMPLE DECHLORINATED?		20. DESCRIBE DECHLORINATION (if any)					
Sample 1: <input type="radio"/> YES <input type="radio"/> NO							
Sample 2: <input type="radio"/> YES <input type="radio"/> NO							
Sample 3: <input type="radio"/> YES <input type="radio"/> NO							
21. EFFLUENT SAMPLES WERE COLLECTED (check one) <input type="radio"/> BEFORE CHLORINATION <input type="radio"/> AFTER CHLORINATION							
<input type="radio"/> AFTER CHLORINATION, BEFORE DECHLORINATION <input type="radio"/> AFTER DECHLORINATION <input type="radio"/> FACILITY DOES NOT CHLORINATE							
22. DESCRIBE ANY DEVIATIONS FROM TEST METHODS (For example, pH-controlled test, reduced DO levels in test leading to aeration, sample exceeded holding time.)							
23. EFFLUENT FILTERED?		24. STATE MESH SIZE OF FILTER (if filtered)					
<input type="radio"/> YES <input type="radio"/> NO							
25. EFFLUENT SAMPLE TYPE (check one type for each sample)				26. IDENTIFY THE DILUENT (O ₁) CONTROL			
Sample 1: <input type="radio"/> 24-HR COMPOSITE <input type="radio"/> GRAB/COMPOSITE (give # of grabs)_____ <input type="radio"/> GRAB				_____			
Sample 2: <input type="radio"/> 24-HR COMPOSITE <input type="radio"/> GRAB/COMPOSITE (give # of grabs)_____ <input type="radio"/> GRAB				IDENTIFY THE SECONDARY (O ₂) CONTROL (if used)			
Sample 3: <input type="radio"/> 24-HR COMPOSITE <input type="radio"/> GRAB/COMPOSITE (give # of grabs)_____ <input type="radio"/> GRAB				_____			
27. SUMMARY OF DATA AND RESULTS - SURVIVAL AND GROWTH							
CONCENTRATION OF EFFLUENT (%)	O ₁ (diluent)	O ₂ (if used)	%	%	%	%	100%
96-HOUR SURVIVAL (%)							
7-DAY MEAN BIOMASS (mg/initial fish)							
7-DAY MEAN SURVIVAL (%)							
28. 96-HOUR LC ₅₀ (%)		29. TU _a (acute toxic units)					
30. 7-DAY CHRONIC VALUE (%)		31. NOEC		32. LOEC		33. TU _c (chronic toxic units)	

Completion of NPDES permit applications (revision 2/06) for CAFOs

Section I

Items 1 through 4, first page – all items must be completed, item 4 may have only 1 or 2 contacts. If there is more than one, please check the appropriate boxes, but it's ok if the same box is checked for multiple contacts. For example, if 2 contacts are listed it's ok to check Application Contact or Facility Contact for both.

Items 5 through 9, second page – all items must be completed. Item 5 – if you don't have a permit at all, check New Use, if you have a permit & it has or will be expiring soon check Reissuance, if you have a permit and it needs to be changed check Modification.

Item 6 – A rule 1098 demonstration is needed for new individual permits. An exemption statement is needed for coverage under a general permit. It is not needed for reissuances.

Item 7 – This is location information for the production area. Line C would be something like: Town: T6S; Range: R3E; Section: 25; ¼: NW; ¼, ¼: SE. This information can be found on some maps, perhaps on your deed or property description, or from somebody at the township hall. If you can't figure this out, find somebody with a GPS unit, have them stand in the middle of your production area & get the latitude and longitude. DEQ can figure it out from the latitude-longitude.

Item 8 – If you have a certified operator fill this out, if not check the “no” box and you will need to get somebody certified soon.

Item 9 – if you have any other permits, fill this out.

Items 10 and 11, third page - A map and/or site drawing (or 2 as needed) showing the location of the farm production area with all nearby surface waters identified. The map(s) shall include:

- Public roads in the area of the farm production area
- General location of the production area and animal barns
- General location of manure storage structures and silage storage areas

Also show storm water flow patterns and all nearby surface waters including county drains. Maps & drawings will not be put on our website.

Item 12 – List any labs you may use including those for manure or soil analysis.

Item 13, fourth page – adjacent property owners (to the production area, includes across the road) are needed for individual permits. If you are applying for coverage under a general permit you can leave this blank.

Item 14, fifth page – you would most likely check A. Yes and B. No.

Item 15, sixth page – Sign & date the application. Also include application fees: \$75 for coverage under a general permit and \$400 for an individual permit.

Now throw away Section II and continue with Section III

Section III

A. Facility Information, Item 1 – Line A. SIC codes are: Beef – 211, Hogs – 213, Dairy – 241, Chickens, not eggs – 251, Chicken eggs – 252, Turkey (including eggs) - 253

Line B. - check the “No” box

Line C. – check the “Yes” box and go to III.B.11

B. Outfall Information, Item 11:

Provide all of the information requested. See “CAFO Guidance and Requirements” in the Appendix for details.

NOTE: Due to recent court rulings individual permits for new CAFOs will require submittal of the entire CNMP prior to population with animals (or by a certain date for an existing CAFO).

Mail the completed application, application fee check, list of fields, maps and drawings to the address in the application instructions.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION I - General Information

Section I shall be completed by all permit applicants. See Page iii for instructions on completing Section I, Pages 1 and 2. To submit additional information, see Page ii, Item 3.

Water Bureau Use Only	Cashier Use Only: 37000-40535-9412-481000-00
Receipt Number: _____	
Permit ID #: _____	

PLEASE TYPE OR PRINT

1	NPDES PERMIT NUMBER <i>MIGO 19000</i>
----------	--

2. APPLICANT	Applicant Name <i>David Brown</i>		
	Address <i>456 Deer Rd.</i>		Address 2 or P.O. Box
	City <i>Junction</i>	State <i>MI</i>	ZIP Code <i>49999</i>
	Telephone (with area code) <i>123.555.7890</i>		FAX (with area code)

3. FACILITY	Facility Name 1 <i>MI Example Dairy</i>		
	Facility Name 2		
	Facility Name 3		
	Street Address (do not use a P.O. Box Number) <i>456 Deer Rd</i>		
	City <i>Junction</i>	State <i>MI</i>	ZIP Code <i>49999</i>

4. CONTACTS	<input type="checkbox"/> Application Contact	First Name <i>David</i>	Last Name <i>Brown</i>
	<input type="checkbox"/> Facility Contact	Title <i>Co-owner</i>	Business
	<input type="checkbox"/> Discharge Monitoring Reports	Address 1 <i>456 Deer Rd</i>	Address 2
	<input type="checkbox"/> Storm Water Billing	City <i>Junction</i>	State <i>MI</i>
	<input type="checkbox"/> Biosolids Billing	Telephone (with area code)	FAX (with area code)
	<input checked="" type="checkbox"/> NPDES Annual Billing		e-mail address
			ZIP Code <i>49999</i>

4. CONTACTS	<input type="checkbox"/> Application Contact	First Name	Last Name
	<input type="checkbox"/> Facility Contact	Title	Business
	<input type="checkbox"/> Discharge Monitoring Reports	Address 1	Address 2
	<input type="checkbox"/> Storm Water Billing	City	State
	<input type="checkbox"/> Biosolids Billing	Telephone (with area code)	FAX (with area code)
	<input type="checkbox"/> NPDES Annual Billing		e-mail address
			ZIP Code

4. CONTACTS	<input type="checkbox"/> Application Contact	First Name	Last Name
	<input type="checkbox"/> Facility Contact	Title	Business
	<input type="checkbox"/> Discharge Monitoring Reports	Address 1	Address 2
	<input type="checkbox"/> Storm Water Billing	City	State
	<input type="checkbox"/> Biosolids Billing	Telephone (with area code)	FAX (with area code)
	<input type="checkbox"/> NPDES Annual Billing		e-mail address
			ZIP Code

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME <i>MI Example Dairy</i>	NPDES PERMIT NUMBER <i>MIGO 19000</i>
--	--

5. PERMIT ACTION REQUESTED (Check one box only) - Instructions for this item are on Page iii.

NEW USE A proposed discharge OR an existing discharge that is currently unpermitted.

REISSUANCE of current permit.

MODIFICATION of current permit. Attach a description of the proposed modification.

Note: Applications for **New Use** discharges and applications for either **Reissuance** or **Modification** that include an increased loading of pollutants to the receiving water are required to submit a Rule 98 Demonstration with the Application. See Item 6.

6. RULE 98 - ANTIDegradation REQUIREMENTS - Instructions for this item are on Page iii.

In accordance with Rule 323.1098 of the Michigan Water Quality Standards, the applicant is required to submit an Antidegradation Demonstration for any new or increased loading of pollutants to the surface waters of the state. An Antidegradation Demonstration must contain the information specified in Rule 1098, Antidegradation section of the Appendix. For assistance completing this item, contact the Permits Section.

Will this discharge be an increased loading of pollutants to the surface waters of the state?

Yes. Submit an Antidegradation Demonstration.

No. Continue with Item 7.

7. ADDITIONAL FACILITY LOCATION INFORMATION - Instructions for this item are on Page iii.

A. Is the treatment facility within municipal boundaries? Yes No

B. County <i>SAND</i>	Township <i>Green</i>
C. Town <i>(circled)</i> Range <i>(circled)</i> Section <i>(circled)</i> $\frac{1}{4}$ <i>(circled)</i> $\frac{1}{4}, \frac{1}{4}$ <i>(circled)</i> Private (French) Land Claim	
D. Latitude <i>(circled)</i>	Longitude <i>(circled)</i>

8. CERTIFIED OPERATOR Does the facility have a DEQ certified operator? Yes No Instructions for this item are on Page iii.

First Name <i>DAVID</i>	Last Name <i>Brown</i>
Certification Number	Certification Classification(s)
Address 1 <i>456 Deer Rd</i>	Address 2
City <i>Junction</i>	State <i>MI</i> Zip Code <i>49899</i>
Telephone Number <i>123-555-7890</i>	Fax Number <i>(circled)</i> e-mail address <i>(circled)</i>

9. OTHER ENVIRONMENTAL PERMITS

Provide the information requested below for any other federal, state, or local environmental permits in effect or applied for at the time of submittal of this Application form; including, but not limited to, permits issued under any of the following programs: Air Pollution Control, Hazardous Waste Management, Wetlands Protection, Soil Erosion and Sedimentation Control, and other NPDES permits. To submit additional information, see Page ii, Item 3.

Issuing Agency	Permit or COC Number	Permit Type

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I - General Information

SEE TYPE OR PRINT

FACILITY NAME

NPDES PERMIT NUMBER

10. WATER FLOW DIAGRAM AND NARRATIVE DESCRIPTION

Provide a flow diagram (using 8½" x 11" paper **if possible**) showing the wastewater flow through the facility (from intake through discharge), including all processes, treatment units, and bypass piping, and include a narrative description that explains the diagram. Show all operations contributing wastewater and the locations of flow meters, chemical feeds, and monitoring and discharge points. The water balance shall show the daily average flow rates at the intake and discharge points, and approximate daily flow rates between treatment units, including influent and treatment rates. Use actual measurements whenever available, otherwise use the best estimate. Show all significant losses of water to products, atmosphere, and discharge. In addition, provide a flow diagram for any storm water discharges from secondary structures that are required by state or federal law, and for storm water runoff from any Site of Environmental Contamination, pursuant to Part 201 of the Michigan Act. **Do not send blueprints.**

Do the treatment facility processes described above include any lagoons or ponds used for wastewater treatment or storage? Yes No
 If yes, include the ponds or lagoons in the flow diagram.

Municipal Facilities - Include a narrative that briefly describes the history of the wastewater treatment facility and collection system, including the initial construction, the facility improvements that have been made, future plans for upgrade, the location of all constructed emergency overflows, and other pertinent information.

Industrial and Commercial Facilities - The line diagram shall include all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and storm water runoff. **Also include a narrative** that provides a brief description of the nature of the business and the manufacturing processes.

ATTACH THIS INFORMATION TO THIS APPLICATION. PLEASE DO NOT BIND THIS INFORMATION.

11. MAP OF FACILITY AND DISCHARGE LOCATION

Provide a detailed map on 8½" x 11" paper showing the location of the existing or proposed facility, wastewater and biosolid treatment system(s), and wastewater monitoring and discharge points into receiving waters (including bypasses). Include the exact location of the wastewater monitoring and discharge point(s) and all areas through which the discharge flows (e.g., wetlands, open drains, storm sewers), if applicable, between the discharge point and the receiving water. If the discharge is to a storm sewer, label the storm sewer and show its flow path to the receiving water. Also include the location of any water supply intakes or wells, and groundwater monitoring wells. This map shall be a United States Geological Survey Quadrangle (7.5 minute series) or other map of comparable detail, scale, and quality (which shows surface water bodies, roads, bathing beaches, and other pertinent landmarks). **The minimum area this map shall encompass is approximately one mile beyond the property boundaries.**

ATTACH THIS INFORMATION TO THIS APPLICATION.

12. CONTRACT LABORATORIES THAT PROVIDE ANALYTICAL SUPPORT

Provide the name and address of each contract laboratory or consulting firm that performed any analyses submitted as part of this Application. To submit additional information, see Page ii, Item 3.

Laboratory Name <i>MSU Soil Testing Lab</i>			Laboratory Name		
Street Address <i>DSS Building</i>			Street Address		
City <i>E. Lansing</i>	State <i>MI</i>	ZIP Code <i>48824</i>	City	State	ZIP Code
Telephone (with area code) <i>517.355.0218</i>		Fax (with area code)		Telephone (with area code)	
Analysis Performed <i>SOIL</i>		Analysis Performed			
Laboratory Name <i>A & L</i>			Laboratory Name		
Street Address			Street Address		
State		City		State	
Telephone (with area code)		Fax (with area code)		Telephone (with area code)	
Analysis Performed <i>manure</i>			Analysis Performed		

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME

NPDES PERMIT NUMBER

14. STORM WATER DISCHARGES

Facilities that discharge storm water must provide the following information. (Please Note: The following discharges are also covered by storm water authorization, provided they are addressed in the facility's Storm Water Pollution Prevention Plan [SWPPP]): Discharges from fire hydrant flushing; potable water sources, including water line flushing; fire system test water; irrigation drainage; lawn watering; routine building wash down which does not use detergents or other compounds; pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents. **Unless otherwise specified answer the following questions.**

A. Is the storm water from this facility discharged to the waters of the state either directly or through another conveyance? Note: If storm water is discharged to a municipal wastewater treatment system or a privately owned activated sludge treatment system check the "No" box.

- Yes.
 No. Continue with Item 15.

B. Is the facility identified in this application primarily engaged in an "industrial activity" as defined in 40 CFR 122.26(b)(14)?

- Yes.
 No. Continue with Item 15.

C. Are there any industrial activities or materials exposed to storm water at this facility? Storm water discharge requirements may be excluded from an NPDES permit when there are no industrial activities or materials exposed to storm water. To qualify, the applicant shall certify that the facility has met all the eligibility requirements to claim a condition of "no exposure". These requirements are found in the No-Exposure Certification form in the appendix. This form is also available on the DEQ's Internet Page. To access the form, go to <http://www.michigan.gov/deg>. In the left column click on WATER, click on Surface Water, click on Storm Water, in the middle column click on Industrial Program, then click on No Exposure Certification.

- Yes.
 No. Complete the No-Exposure Certification form, and submit it with this application. Continue with Item 15.

D. Does this facility have a current and up-to-date SWPPP?

- Yes.
 No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

E. Has the facility implemented the nonstructural controls described in the SWPPP?

- Yes.
 No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

F. Have all the structural controls described in the SWPPP been constructed and put into operation?

- Yes.
 No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

G. Does this facility have a certified industrial storm water operator who supervises the facility's storm water treatment and control measures included in the Storm Water Pollution Prevention Plan?

- Yes. _____
Storm Water Operator Name Certification Number
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

H. Is any of the storm water discharged from (check all that apply):

- Secondary containment structures that are required by state or federal law. On a separate page, provide a list the materials that are stored in this area.
 Areas identified on Michigan's list of Sites of Environmental Contamination, pursuant to the Natural Resources and Environmental Protection Act, PA 451 of 1994, Part 201 (formerly 307).

I. The storm water from this facility discharges to the following receiving water(s): _____

Please note that applicants should provide any sample data taken of the storm water discharge as an attachment. To submit additional information, see Page ii, Item 3.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME <i>MI Example Dairy</i>	NPDES PERMIT NUMBER <i>MIGO 19000</i>
--	--

15 CERTIFICATION

Rule 323.2114(1-4), promulgated under the Michigan Act, requires that this Application be signed as follows:

- A. For an organization, company, corporation, or authority, by a principal executive officer.
- B. For a partnership, by a general partner.
- C. For a sole proprietor, by the proprietor.
- D. For a municipal, state, or other public facility, by a principal executive officer or ranking elected official (such as the mayor, village president, city or village manager, or clerk).

Note: If the signatory is not listed above, but is authorized to sign the Application, please provide documentation of that authorization.

"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 the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for having knowledge of violations."

Print Name: *Producer's Name* Title: *Co-owner*

Representing: _____

Signature: *Producer's Signature* Date: *Today*

This completes Section I. Publicly-Owned Treatment Works discharging sanitary and industrial wastewater to the surface waters, and privately-owned treatment works discharging sanitary wastewater to the surface waters should complete Section II. Privately-owned treatment works include, but are not limited to, Mobile Home Parks, Campgrounds, Condominiums, Hotels and Motels, Nursing Homes, etc. All other applicants should complete Section III. If assistance is needed completing this Application, contact the Permits Section.

Permit Application Submittal Checklist

Please confirm the following before submitting the application form:

- 1. Section I has been completed, including all diagrams, maps, and the treatment process narrative.
- 2. The Application has been signed as required above in Section I.15. (A.-D.) or a copy of the letter authorizing the signatory to sign the letter has been included.
- 3. Section II or Section III has been completed, including any additional information or submissions.
- 4. A check or Money Order for the appropriate application fee has made out to the "State of Michigan and has been included with the application submittal.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

Section II is to be completed by Publicly-Owned Treatment Works discharging treated or untreated sanitary and industrial wastewater to the surface waters. Section II is also to be completed by all privately-owned treatment works discharging treated sanitary wastewater to the surface waters. The privately-owned treatment works include, but are not limited to, Mobile Home Parks, Campgrounds, Condominiums, Hotels and Motels, Nursing Homes, etc.

A. Facility Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
---------------	---------------------

1. WATER SUPPLY INFORMATION

List the source(s) of water supply in the area served by sewers. Identify groundwater wells and surface water intakes, as well as the name(s) of any surface water(s) from which intake water is drawn.

*all of section II can be omitted
for large CAFO's*

2. SERVICE AREA INFORMATION

Publicly-Owned Treatment Works are required to provide the following information: List the governmental jurisdictions (cities, townships, villages, etc.) that this facility serves (applicants should include themselves). What is the population in each jurisdiction? Is the jurisdiction's collection system separate, combined, or both? If the collection system is both separate and combined, what percentage is combined? To submit additional information, see Page ii, Item 3.

Name	Type of Collection System	Percent Combined	Population Served
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total population served by this facility: _____

Privately-Owned Treatment Works are required to provide the following information:

Describe the area served by this facility (mobile home park, condominium, nursing home, industrial facility, etc.).

Provide the number of residential units served by this facility: _____

3. BIOMONITORING FOR ACUTE AND CHRONIC TOXICITY

Publicly-Owned Treatment Works (POTWs) meeting one or more of the following criteria are required to submit with this application the **results of four** whole effluent toxicity (WET) tests for each of the facility's discharge points, excluding combined sewer overflows: 1) POTWs with a design flow rate greater than or equal to one (1) million gallons per day; 2) POTWs with an approved Federal Industrial Pretreatment Program (FIPP); and/or 3) POTWs required to develop a FIPP.

The results of the tests shall be reported using the Acute Toxicity Test Report, *Ceriodaphnia Dubia* Chronic Toxicity Test Report and the Fathead Minnow Chronic Toxicity Test Report available in the Appendix. Please do not submit additional forms or paperwork pertaining to WET tests with this application.

At a minimum, the applicant shall submit the results of quarterly WET testing for a 12-month period prior to this application, or the results of annual WET tests conducted during the five years prior to this Application. In addition, the applicant shall submit the results of any other WET tests from the past five years. If a WET test in the past 4-½ years revealed toxicity, provide all the information on the cause of toxicity or the results of all toxicity reduction evaluations, if any were conducted. The applicant does not need to submit results for previously submitted WET Tests. **For assistance, see the "Whole Effluent Toxicity Test Guidance and Requirements" section in the Appendix.**

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater

Section III is to be completed by all facilities classified as Industrial or Commercial facilities. Industrial and Commercial facilities include, but are not limited to, facilities that discharge or propose to discharge a wastewater generated by a production process, a service provided, or through a remediation project. Municipal and public facilities are not required to complete Section III (unless requesting authorization for discharges other than sanitary wastewater).

A. Facility Information

PLEASE TYPE OR PRINT

FACILITY NAME <i>MI Example Dairy</i>	NPDES PERMIT NUMBER <i>MI60 19000</i>
--	--

1. BUSINESS INFORMATION

A. Provide up to four Standard Industrial Classification (SIC) or North American Industry Classification System (NAICS) codes, in order of economic importance, which best describe the major products or services provided by this facility.

1. <i>DAIRY = 241</i>	2.	3.	4.
-----------------------	----	----	----

B. Indicate if this facility is a primary industry (refer to Table 1 of the Appendix to determine if this facility is a primary industry).

- Yes. This facility is a primary industry. Indicate the primary industry as identified in Table 1 of the Appendix: _____
- No. This facility is not a primary industry. Continue with Item C.

C. Is this facility a Concentrated Animal Feeding Operation (CAFO)?

- Yes. Continue with Section III.B.11.
- No. Continue with Item 2.

2. WATER SUPPLY AND DISCHARGE TYPE

A. Identify all water sources entering the facility and treatment systems, and provide average flows. The volume may be estimated from water supply meter readings, pump capacities, etc. Provide the name of the source where appropriate (i.e., Grand River, Lake Michigan, City of Millpond). To submit additional information, see Page ii, Item 3.

	Name and Location of Source	Average Volume or Flow Rate	Units
Municipal Supply			
Surface Water Intake			
Private Well			
Other:			

B. Identify water discharged by the facility and treatment systems, and provide average flows. If water is first used for one purpose and then is subsequently used for another purpose, indicate the type and amount of the last use. For example, if water is initially used for noncontact cooling water and then for process water, indicate the amount of process water. The amount of water from sources should approximate the amount of water usage. If they are different, provide an explanation.

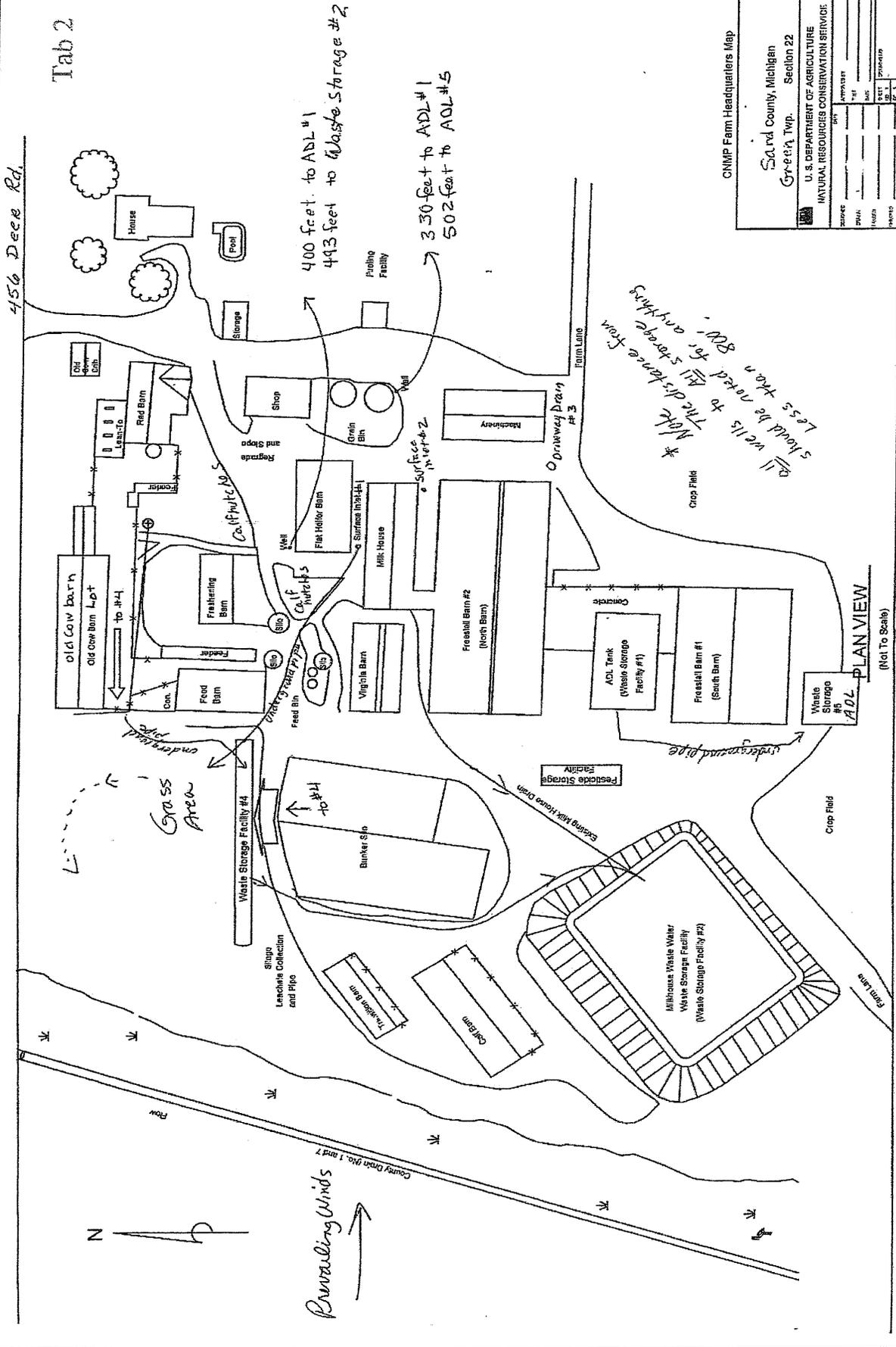
	Average Flow Rate	Units		Average Flow Rate	Units
Process Wastewater			Sanitary Wastewater		
Contact Cooling Water			Regulated Storm Water		
Noncontact Cooling Water			High Pressure Test Water		
Groundwater Clean-Up			Other:		

Note: For A and B above, indicate units as MGD (million gallons per day), MGY (million gallons per year), GPD (gallons per day), or other appropriate unit.

Farm Headquarters Map

Tab 2

456 Deere Rd.

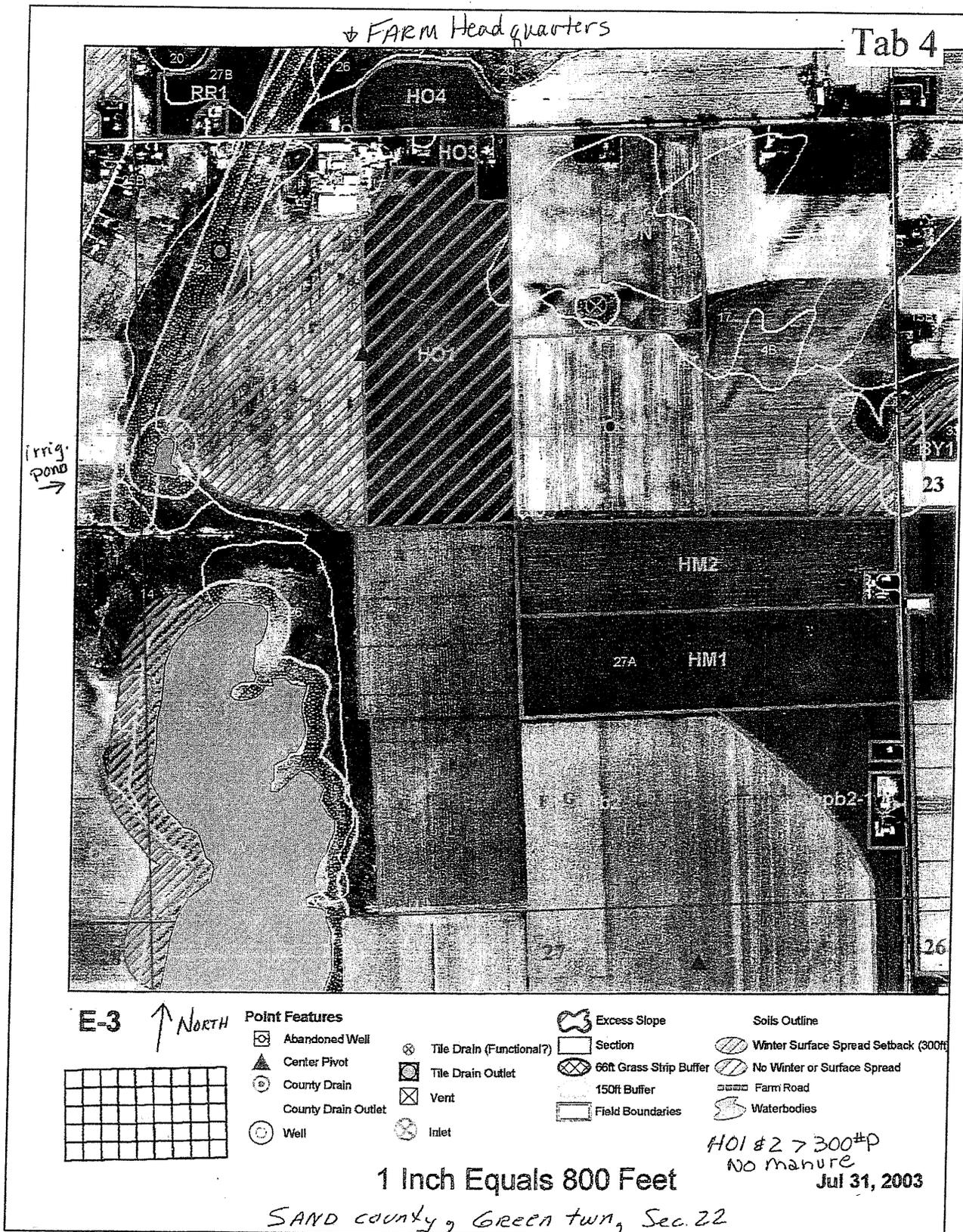


PLAN VIEW
(Not To Scale)

This page would list all of the fields, with their identification and their acreage. Only an example listing is shown to save space.

Field ID	Subfield	Size(Ac.)
BG	1	10.3
BG	4	16.8
Bg	2	14.3
Bg	3	26.0
BK	1	21.7
BK	2	11.3
BK	3	16.8
BK	4	16.9
BK	5	54.0
BK	6	5.9
BK	7	3.0
BM	2	20.0
BM	1	27.5
BM3	a	10.0
BY	1	47.4
CN	1S	19.5
CN	1N	20.0
CN	2	29.2
CN	3	14.1
CN	4	6.7
CN	5	5.2
CO	N	36.4
CO	S	40.0
CS	1	45.7
CS	2	6.8
CS	3	3.6
D	1	50.0
D	2	36.9
D	3	45.0
D 10		4.5
D 11		3.2
D 12		2.3
Fields omitted in lieu of space		
Total		2,284.4

1.1 Field Assessment Map



Evaluation of Existing Components.

~~Waiting
on
DEQ
Edits~~

Michigan Example Dairy

Permit application as per Wastewater Discharge Permit Application Section III – Industrial and Commercial Wastewater

B. Outfall Information

11. Comprehensive Animal Feeding Operation (CAFO) Information.



Number and Type of Animals

750 head of milking and dry (mature) dairy cows

340 head of young stock replacement heifers

Remaining young stock is housed at contract facilities.

Type of Housing

Housing includes total enclosed/roofed freestall barns for the mature herd.

Young stock is housed in several other barns, some total confinement and some with outside lots adjacent to the barns for feed and exercise areas.

Type of containment and storage

Manure, parlor water and process waste water all go to one of the following:

Two, concrete, prefab, outside, storage structures.

One earthen storage structure (for parlor water and runoff water)

One concrete, short term storage for runoff and silage collection which is transferred to the earthen storage as needed.

Straw or sawdust bedded heifer barns.

Outside lot areas that are scraped of manure, but precipitation is captured in the runoff storage.

Total capacity for CAFO waste storage

The facility has a combined capacity of a minimum of 6 months of storage.

The two concrete storages combined have 6 months of storage.

The earthen storage has a 7 months capacity but can be transferred to the concrete systems.

CAFO Waste Storage Structure Design

Storage number 2: Earthen Storage, clay lined.

Storages ADL 1,4,5: Pre-cast concrete ADL tanks.

Total number of acres under control of the applicant

2432 (of which, 905 is rented)

And Available for land application of CAFO waste

2284

Manure also goes to offsite to Hillview Crop Farm

Estimated amounts of CAFO waste generated per year

7,335,078 gallons (5,379,751 manure, 1,955,327 gallons wash and runoff)

3,600 tons

Estimated amounts of CAFO waste transferred to other persons per year

1,500,000 gallons

Map of all land application fields

Attached

All potential receiving waters for both the production area and land application areas

Attached

This page would list all of the fields with their identification and acreage. Only an example listing is shown to save space.

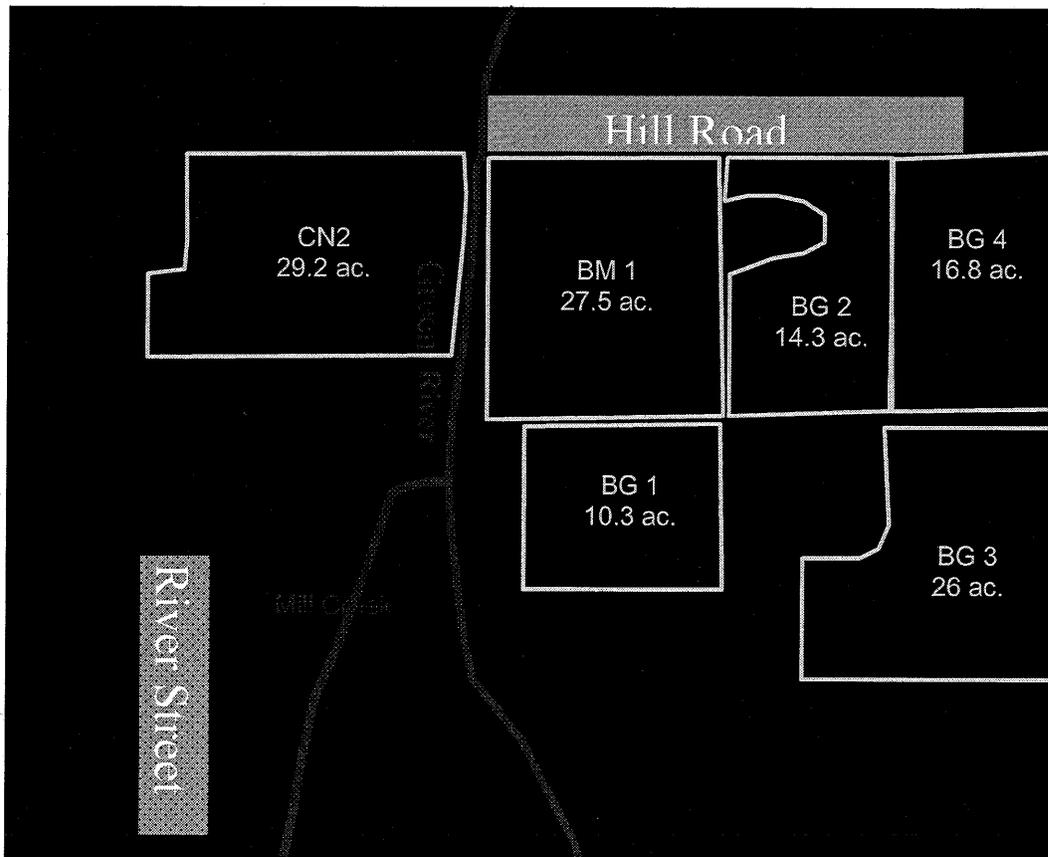
Field ID	Subfield	Size(Ac.)
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BK	3	16.8
BK	4	16.9
BK	5	54.0
BK	6	5.9
BK	7	3.0
BM	2	20.0
BM	1	27.5
BM3	a	10.0
BY	1	47.4
CN	1S	19.5
CN	1N	20.0
CN	2	29.2
CN	3	14.1
CN	4	6.7
CN	5	5.2
CO	N	36.4
CO	S	40.0
CS	1	45.7
CS	2	6.8
CS	3	3.6
D	1	50.0
D	2	36.9
D	3	45.0
D 10		4.5
D 11		3.2
D 12		2.3
Fields omitted in lieu of space		
Total		2,284.4

Maps showing all fields, with ID and acres and all receiving bodies of water.
Only one page shown for example, others omitted in lieu of space.

Example Dairy Field Assessment Map

(All maps would be included in a real plan. Only 1 page is shown in this example).

Sec. 21, Green Township,
Sand County



November 30, 2005

Existing Components Inventory

Engineering for Agriculture

2333 Ag. Lane
Sample, MI 49999

Engineering – Sample Dairy, Comprehensive Nutrient Management Plan,
Evaluation of Existing Components
Sand County, Michigan

Mr. David and Joe Brown,

This letter is provided as documentation for your evaluation of existing components to be included in the Comprehensive Nutrient Management Plan (CNMP) for your farm operation.

On May 5, 2004, an inspection of the waste storage facilities were conducted at the Sample Dairy farm operation located in Sand County, Michigan. This is a family owned and operated farm with three concrete tanks and one earthen storage facility.

The inspection of these facilities addressed the suitability of using the existing waste storage facilities as components of the CNMP. As-Built documentation was available for review on all of the waste storage facilities for this evaluation of existing component document.

Freeboard for each storage type and estimated usable storage capacity is identified below. The capacities calculated may be less due to limitations of pumping accumulated solids out of each storage facility.

Ag CNMP consultants provided the manure and wastewater production amounts for each facility. Based on this information the estimated number of available storage days for each storage facility is calculated.

The Michigan Agricultural Environmental Assurance Program has identified the conditions under which existing components may be included in a Comprehensive Nutrient Management Plan (CNMP). These conditions are described below.

Existing Components may be included as part of a CNMP only if all of the following are met:

1. The existing component is consistent with the safety guidance of the CNMP.
2. An investigation/inspection of the existing component indicates it is in good operating condition, based on observable and/or measurable features and conditions;
3. The failure of an existing component will not impair the structural integrity or operation of new components;
4. The existing component can be managed as part of the CNMP.

This letter reports the finding of Ag Engineering's inspection in terms of the criteria described above. This investigation and evaluation is **not a certification** of the components, only an investigation of existing conditions. Refer to the CNMP site map for the locations of the existing components.

Waste Storage Facilities Evaluated:

Waste Storage Facility # 1 – Pre-cast concrete ADL tank (transfers waste to # 5)

Waste Storage Facility # 5 – Pre-cast concrete ADL tank

Waste Storage Facility # 2 – Milkhouse wastewater storage pond (clay lined)

Waste Storage Facility # 4 – Pre-cast concrete ADL tank (transfers waste to # 2)

Carcass Composting – Remodeled lean-to barn

Waste Storage Facility # 1 – ADL tank:

This facility is located between the Freestall Barn # 2 (North Barn) and the Freestall Barn # 1 (South Barn). Manure from 500 lactating cows, sand bedding, and 5,000 sq.ft. area runoff is stored in this facility. The dimensions of this waste storage facility is 80 ft x 112 ft x 8 ft deep. It was constructed in 1998 by ADL, Inc and approved for cost share dollars from NRCS. This structure is constructed with pre-cast, reinforced concrete panels and the floor and access ramp are poured in place concrete. The facility contained approximately 1 foot of waste during the day of inspection. The panel joints were visible along the sides and at the top and appeared to be tight and well sealed. The walls showed no bowing or tilting. There is a fence barrier around the entire facility. No signs of deterioration in the concrete were evident. The top of the storage facility is only slightly above ground level so there appears to be no potential for a failure of the structure that would not affect surface water quality. Clean runoff adjacent to the storage facility is diverted away. As long as the facility joints remain in the conditions observed, the waste storage facility should provide adequate protection from seepage and ground water contamination. ADL uses designs that have been approved as meeting NRCS Waste Storage Facility practice standard and American Concrete Institute for reinforced concrete structures. Accumulation of waste stored is visible and is monitored.

Fabricated storage structures must maintain 0.5 feet of freeboard plus the volume generated from a 25yr/24hr storm event on the storage surface and from the 5,000 sq.ft. area. This equates to a depth of 1.25 ft. of which must be maintained open in order to store the 25yr/24hr storm event while maintaining the required freeboard depth.

The usable storage capacity of this tank is calculated to be 402,125 gallons. Based on production information given in the CNMP, this facility can store a little over 4 months of waste, generated from the N and S freestall facilities and normal monthly rainfall.

Responses to the existing component criteria are as follows:

-This facility appears to be consistent with the safety guidance of the CNMP with the presence of a fence barrier around the entire facility.

-Based on observable features and conditions, the waste storage tank appears to be in good operating condition. This facility has been in operation for 5 years without any evidence of deterioration in the structure.

-The failure of an existing component will not impair the structural integrity or operation of new components.

-The existing component can be managed as part of the CNMP.

Waste Storage Facility # 5 – ADL tank:

This facility is located south of the Freestall Barn # 1(South Barn). Liquid waste that accumulates in the ADL # 1 storage tank is transferred via an under ground pipe to this facility. The dimensions of this waste storage facility is 172 ft x 172 ft x 12 ft deep. It was constructed in 2002 by ADL, Inc and approved for cost share dollars from NRCS. This structure is constructed with pre-cast, reinforced concrete panels and the floor and access ramp are poured in place concrete. The facility contained approximately 2.5 foot of waste during the day of inspection.

The panel joints were visible along the sides and at the top and appeared to be tight and well sealed. The walls showed no bowing or tilting. There is a fence barrier around the entire facility. No signs of deterioration in the concrete were evident. The top of the storage facility is slightly above ground level so there appears to be no potential for a failure of the structure that would affect surface water quality. Clean runoff adjacent to the storage facility is diverted away. As long as the facility joints remain in the conditions observed, the waste storage facility should provide adequate protection from seepage and ground water contamination. ADL uses designs that have been approved as meeting NRCS Waste Storage Facility practice standard and American Concrete Institute for reinforced concrete structures. Accumulation of waste stored is visible and is monitored.

Fabricated storage structures must maintain 0.5 feet of freeboard plus the volume generated from a 25yr/24hr storm event on the storage surface. This equates to a depth of 1.0 ft of which must be maintained open in order to store the 25yr/24hr storm event while maintaining the required freeboard depth.

The usable storage capacity of this tank is calculated to be 2,326,460 gallons. Based on the percentage of production information transferred given in the CNMP that is transferred into this storage facility from ADL # 1(75%), ADL # 5 can store approximately 11 months of waste and normal monthly rainfall.

Responses to the existing component criteria are as follows:

-This facility appears to be consistent with the safety guidance of the CNMP with the presence of a fence barrier around the entire facility.

-Based on observable features and conditions, the waste storage tank appears to be in good operating condition. This facility has been in operation for 2 years without any evidence of deterioration in the structure.

-The failure of an existing component will not impair the structural integrity or operation of new components.

-The existing component can be managed as part of the CNMP.

Milkhouse Wastewater Waste Storage Pond (Waste Storage Facility # 2):

The waste storage facility (pond) is located in the southwest part of the farm headquarters. It is an earthen structure with a clay liner that was constructed in accordance with a design developed and approved by NRCS in 1997. It was designed to store the volume of milkhouse wastewater produced in 180 days. Currently, this facility receives wastewater generated in the milkhouse parlor and wastewater from ADL # 4 (silage leachate/ runoff collection storage tank) is pumped into this storage. The As-Built dimensions of this storage facility are 230 ft x 164 ft x 8 ft deep and indicate that one foot of clay liner material was installed along with 1 foot of soil cover. The maximum outside embankment height is approximately 7 ft in the southwest corner of the facility.

The facility was ½ full on the day of inspection for the facility evaluation. Based on what could be observed of the embankment it appeared to be in good condition with no bulging, erosion, rodent holes or trees. There is a fence around the entire facility. No signs of deterioration in the embankment material were evident. The Browns use a float on the end of the pump-out pipe in order to prevent damage to the clay liner during emptying. As long as the embankment remains in good condition and the liner is not damaged, the waste storage facility should provide adequate protection from seepage and ground water contamination and the risk of a failure of the structure and the potential contamination to surface water is minimal. Accumulation of waste stored is visible and is monitored.

Earthen storage structures must maintain 1.0 feet of freeboard plus the volume generated from a 25yr/24hr storm event on the storage surface. This equates to a depth of 1.4 ft. of which must be maintained open in order to store the 25yr/24hr storm event while maintaining the required freeboard depth.

The usable storage capacity of this storage pond is calculated to be 1,212,067 gallons. Based on milk house waste production and amount of wastewater pumped from ADL # 4 information given in the CNMP, this facility can store approximately 7.5 months of wastewater generated from the milkhouse, normal monthly rainfall and an estimated 461,320 gallons transferred from the runoff collection and silage leachate storage tank – ADL # 4.

Responses to the existing component criteria are as follows:

-This facility appears to be consistent with the safety guidance of the CNMP with the presence of a fence barrier around the entire facility.

-Based on observable features and conditions, the waste storage pond appears to be in good operating condition. This facility has been in operation for 6 years. As-Built design documentation was also reviewed indicating evidence of a clay liner installed to the depth indicated on the design.

-The failure of an existing component will not impair the structural integrity or operation of new components.

-The existing component can be managed as part of the CNMP.

Waste Storage Facility # 4 – ADL tank:

This storage facility is located north of the bunker silo. The facility collects polluted runoff from the Old Cow Barn concrete lot (38,400 sq.ft. area), silage leachate and the bunkers initial runoff is stored in this facility. The dimensions of this waste storage facility is 120 ft x 20 ft x 4 ft deep. It was constructed in 2003 by ADL, Inc and approved for cost share dollars from NRCS. This structure is constructed with pre-cast, reinforced concrete panels and the ramp and floor is poured in place concrete. The facility contained approximately 1 foot of waste during the day of inspection. The panel joints were visible along the sides and at the top and appeared to be tight and well sealed. The walls showed no bowing or tilting. There is no fence barrier around the facility. No signs of deterioration in the concrete were evident. The top of the storage facility is slightly above ground level so there appears to be no potential for a failure of the structure that would affect surface water quality. Clean runoff adjacent to the storage facility is diverted away into a well established vegetative channel. As long as the facility joints remain in the conditions observed, the waste storage facility should provide adequate protection from seepage and ground water contamination. ADL uses designs that have been approved as meeting NRCS Waste Storage Facility practice standard and American Concrete Institute for reinforced concrete structures. Accumulation of waste stored is visible and is monitored.

Fabricated storage structures must maintain 0.5 feet of freeboard plus the volume generated from a 25yr/24hr storm event on the storage surface, and the Old Cow Lot runoff area (38,400sq.ft.), plus the bunker silo runoff area. This equates to a depth of 1.58 ft. of which must be maintained open in order to store the 25yr/24hr storm event while maintaining the required freeboard depth.

The usable storage capacity of this tank is calculated to be 43,384 gallons. This structure is considered a temporary storage where liquids are transferred on a regular basis through an underground pipe to the earthen storage pond # 2. Based on the runoff calculated, this storage needs to transfer waste to the earthen storage pond # 2 every 34 days.

Responses to the existing component criteria are as follows:

-This facility is NOT consistent with the safety guidance of the CNMP. A safety fence or barrier needs to be installed around the entire facility.

-Based on observable features and conditions, the waste storage tank appears to be in good operating condition. This facility has been in operation for over one year now without any evidence of deterioration in the structure.

-The failure of an existing component will not impair the structural integrity or operation of new components.

-The existing component can be managed as part of the CNMP once the safety fencing or barrier is installed.

In summary, the ADL Tank (Waste Storage Facility # 1), (Waste Storage Facility # 5), and the milkhouse wastewater storage pond (Waste Storage Facility # 2) are suitable for use in the CNMP. The ADL tank (Waste Storage Facility # 4) is not suitable for use in the CNMP until it meets the safety requirements by installing a fence or barrier around the entire facility.

It is also recommended that waste depth gauges be installed in each waste storage facility. This will add thorough recordkeeping to better estimate the volume of waste generated in each storage facility along with the volume of waste transferred to ADL # 5 and the earthen storage pond # 2. The depth gauges will also provide good information on the volume of waste hauled to the fields during land applications, and verify the land application rates.

In 2004 the carcass composting was moved into a remodeled lean-to structure. This structure has a concrete floor, existing roof and modular blocks were brought in to construct the bins needed.

This facility appears to be consistent with the safety guidance of the CNMP.

Based on observable features and conditions, the remodeled structure appears to be in good operating condition.

The failure of this component will not impair the structural integrity or operation of new components.

The existing component can be managed as part of the CNMP.

Sincerely,

I. M. Engineer

I. M. Engineer, PE
Environmental Engineer

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION I - General Information

Action I shall be completed by all permit applicants. See Page iii for instructions on completing Section I, Pages 1 and 2. To submit additional information, see Page ii, Item 3.

<p style="text-align: center;">Water Bureau Use Only</p> <p>Receipt Number: _____</p> <p>Permit ID #: _____</p>	<p style="text-align: center;">Cashier Use Only: 37000-40535-9412-481000-00</p>
--	--

PLEASE TYPE OR PRINT

1	NPDES PERMIT NUMBER <i>MIGO19000</i>
----------	---

2. APPLICANT	Applicant Name <i>Ken Jones</i>		
	Address <i>1508 Cork Rd</i>		Address 2 or P.O. Box
	City <i>Anytown</i>	State <i>MI</i>	ZIP Code
	Telephone (with area code) <i>555-555-3163</i>		FAX (with area code)

3. FACILITY	Facility Name 1 <i>MI Example Swine</i>		
	Facility Name 2		
	Facility Name 3		
	Street Address (do not use a P.O. Box Number) <i>1508 Cork Rd</i>		
City <i>Anytown</i>		State	ZIP Code
Telephone (with area code)		FAX (with area code)	

4. CONTACTS	<input checked="" type="checkbox"/> Application Contact	First Name <i>Ken</i>	Last Name <i>Jones</i>
	<input type="checkbox"/> Facility Contact	Title <i>Co-Owner</i>	Business
	<input type="checkbox"/> Discharge Monitoring Reports	Address 1 <i>1508 Cork Rd</i>	Address 2
	<input type="checkbox"/> Storm Water Billing	City <i>Anytown</i>	State <i>MI</i>
	<input type="checkbox"/> Biosolids Billing	Telephone (with area code)	FAX (with area code)
	<input checked="" type="checkbox"/> NPDES Annual Billing	e-mail address	
	<input type="checkbox"/> NPDES Annual Billing	ZIP Code	

4. CONTACTS	<input type="checkbox"/> Application Contact	First Name	Last Name
	<input type="checkbox"/> Facility Contact	Title	Business
	<input type="checkbox"/> Discharge Monitoring Reports	Address 1	Address 2
	<input type="checkbox"/> Storm Water Billing	City	State
	<input type="checkbox"/> Biosolids Billing	Telephone (with area code)	FAX (with area code)
	<input type="checkbox"/> NPDES Annual Billing	e-mail address	
	<input type="checkbox"/> NPDES Annual Billing	ZIP Code	

4. CONTACTS	<input type="checkbox"/> Application Contact	First Name	Last Name
	<input type="checkbox"/> Facility Contact	Title	Business
	<input type="checkbox"/> Discharge Monitoring Reports	Address 1	Address 2
	<input type="checkbox"/> Storm Water Billing	City	State
	<input type="checkbox"/> Biosolids Billing	Telephone (with area code)	FAX (with area code)
	<input type="checkbox"/> NPDES Annual Billing	e-mail address	
	<input type="checkbox"/> NPDES Annual Billing	ZIP Code	

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME <i>MI Example Swine</i>	NPDES PERMIT NUMBER <i>MI6019000</i>
---------------------------------------	--------------------------------------

5. PERMIT ACTION REQUESTED (Check one box only) - Instructions for this item are on Page iii.

NEW USE A proposed discharge OR an existing discharge that is currently unpermitted.

REISSUANCE of current permit.

MODIFICATION of current permit. Attach a description of the proposed modification.

Note: Applications for **New Use** discharges and applications for either **Reissuance** or **Modification** that include an increased loading of pollutants to the receiving water are required to submit a Rule 98 Demonstration with the Application. See Item 6.

6. RULE 98 - ANTIDEGRADATION REQUIREMENTS - Instructions for this item are on Page iii.

In accordance with Rule 323.1098 of the Michigan Water Quality Standards, the applicant is required to submit an Antidegradation Demonstration for any new or increased loading of pollutants to the surface waters of the state. An Antidegradation Demonstration must contain the information specified in Rule 1098, Antidegradation section of the Appendix. For assistance completing this item, contact the Permits Section.

Will this discharge be an increased loading of pollutants to the surface waters of the state?

Yes. Submit an Antidegradation Demonstration.

No. Continue with Item 7.

7. ADDITIONAL FACILITY LOCATION INFORMATION - Instructions for this item are on Page iii.

A. Is the treatment facility within municipal boundaries? Yes No

B. County Township

C. Town Range Section $\frac{1}{4}$ $\frac{1}{4}, \frac{1}{4}$ Private (French) Land Claim

D. Latitude Longitude

8. **CERTIFIED OPERATOR** Does the facility have a DEQ certified operator? Yes No Instructions for this item are on Page iii.

First Name		Last Name	
Certification Number		Certification Classification(s)	
Address 1		Address 2	
City		State	Zip Code
Telephone Number	Fax Number	e-mail address	

9. OTHER ENVIRONMENTAL PERMITS

Provide the information requested below for any other federal, state, or local environmental permits in effect or applied for at the time of submittal of this Application form; including, but not limited to, permits issued under any of the following programs: Air Pollution Control, Hazardous Waste Management, Wetlands Protection, Soil Erosion and Sedimentation Control, and other NPDES permits. To submit additional information, see Page ii, Item 3.

Issuing Agency	Permit or COC Number	Permit Type

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION I - General Information

EASE TYPE OR PRINT

CILITY NAME

NPDES PERMIT NUMBER

10. WATER FLOW DIAGRAM AND NARRATIVE DESCRIPTION

Provide a flow diagram (using **8½" x 11"** paper if possible) showing the wastewater flow through the facility (from intake through discharge), including all processes, treatment units, and bypass piping, and include a narrative description that explains the diagram. Show all operations contributing wastewater and the locations of flow meters, chemical feeds, and monitoring and discharge points. The water balance shall show the daily average flow rates at the intake and discharge points, and approximate daily flow rates between treatment units, including influent and treatment rates. Use actual measurements whenever available, otherwise use the best estimate. Show all significant losses of water to products, atmosphere, and discharge. In addition, provide a flow diagram for any storm water discharges from secondary structures that are required by state or federal law, and for storm water runoff from any Site of Environmental Contamination, pursuant to Part 201 of the Michigan Act. **Do not send blueprints.**

Do the treatment facility processes described above include any lagoons or ponds used for wastewater treatment or storage? Yes No
 If yes, include the ponds or lagoons in the flow diagram.

Municipal Facilities - Include a narrative that briefly describes the history of the wastewater treatment facility and collection system, including the initial construction, the facility improvements that have been made, future plans for upgrade, the location of all constructed emergency overflows, and other pertinent information.

Industrial and Commercial Facilities - The line diagram shall include all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and storm water runoff. **Also include a narrative** that provides a brief description of the nature of the business and the manufacturing processes.

ATTACH THIS INFORMATION TO THIS APPLICATION. PLEASE DO NOT BIND THIS INFORMATION.

11. MAP OF FACILITY AND DISCHARGE LOCATION

Provide a detailed map on 8½" x 11" paper showing the location of the existing or proposed facility, wastewater and biosolid treatment system(s), and wastewater monitoring and discharge points into receiving waters (including bypasses). Include the exact location of the wastewater monitoring and discharge point(s) and all areas through which the discharge flows (e.g., wetlands, open drains, storm sewers), if applicable, between the discharge point and the receiving water. If the discharge is to a storm sewer, label the storm sewer and show its flow path to the receiving water. Also include the location of any water supply intakes or wells, and groundwater monitoring wells. This map shall be a United States Geological Survey Quadrangle (7.5 minute series) or other map of comparable detail, scale, and quality (which shows surface water bodies, roads, bathing beaches, and other pertinent landmarks). **The minimum area this map shall encompass is approximately one mile beyond the property boundaries.**

ATTACH THIS INFORMATION TO THIS APPLICATION.

12. CONTRACT LABORATORIES THAT PROVIDE ANALYTICAL SUPPORT

Provide the name and address of each contract laboratory or consulting firm that performed any analyses submitted as part of this Application. To submit additional information, see Page ii, Item 3.

Laboratory Name			Laboratory Name		
Street Address			Street Address		
City	State	ZIP Code	City	State	ZIP Code
Telephone (with area code)		Fax (with area code)	Telephone (with area code)		Fax (with area code)
Analysis Performed			Analysis Performed		
Laboratory Name			Laboratory Name		
Street Address			Street Address		
y	State	City	State	City	State
Telephone (with area code)		Fax (with area code)	Telephone (with area code)		Fax (with area code)
Analysis Performed			Analysis Performed		

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME

NPDES PERMIT NUMBER

14. STORM WATER DISCHARGES

Facilities that discharge storm water must provide the following information. (Please Note: The following discharges are also covered by storm water authorization, provided they are addressed in the facility's Storm Water Pollution Prevention Plan [SWPPP]): Discharges from fire hydrant flushing; potable water sources, including water line flushing; fire system test water; irrigation drainage; lawn watering; routine building wash down which does not use detergents or other compounds; pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents. **Unless otherwise specified answer the following questions.**

A. Is the storm water from this facility discharged to the waters of the state either directly or through another conveyance? Note: If storm water is discharged to a municipal wastewater treatment system or a privately owned activated sludge treatment system check the "No" box.

- Yes.
- No. Continue with Item 15.

B. Is the facility identified in this application primarily engaged in an "industrial activity" as defined in 40 CFR 122.26(b)(14)?

- Yes.
- No. Continue with Item 15.

C. Are there any industrial activities or materials exposed to storm water at this facility? Storm water discharge requirements may be excluded from an NPDES permit when there are no industrial activities or materials exposed to storm water. To qualify, the applicant shall certify that the facility has met all the eligibility requirements to claim a condition of "no exposure". These requirements are found in the No-Exposure Certification form in the appendix. This form is also available on the DEQ's Internet Page. To access the form, go to <http://www.michigan.gov/deg>. In the left column click on WATER, click on Surface Water, click on Storm Water, in the middle column click on Industrial Program, then click on No Exposure Certification.

- Yes.
- No. Complete the No-Exposure Certification form, and submit it with this application. Continue with Item 15.

D. Does this facility have a current and up-to-date SWPPP?

- Yes.
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

E. Has the facility implemented the nonstructural controls described in the SWPPP?

- Yes.
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

F. Have all the structural controls described in the SWPPP been constructed and put into operation?

- Yes.
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

G. Does this facility have a certified industrial storm water operator who supervises the facility's storm water treatment and control measures included in the Storm Water Pollution Prevention Plan?

- Yes. _____
Storm Water Operator Name Certification Number
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

H. Is any of the storm water discharged from (check all that apply):

- Secondary containment structures that are required by state or federal law. On a separate page, provide a list the materials that are stored in this area.
- Areas identified on Michigan's list of Sites of Environmental Contamination, pursuant to the Natural Resources and Environmental Protection Act, PA 451 of 1994, Part 201 (formerly 307).

I. The storm water from this facility discharges to the following receiving water(s): _____

Please note that applicants should provide any sample data taken of the storm water discharge as an attachment. To submit additional information, see Page ii, Item 3.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION II - Sanitary Wastewater

Section II is to be completed by Publicly-Owned Treatment Works discharging treated or untreated sanitary and industrial wastewater to the surface waters. Section II is also to be completed by all privately-owned treatment works discharging treated sanitary wastewater to the surface waters. The privately-owned treatment works include, but are not limited to, Mobile Home Parks, Campgrounds, Condominiums, Hotels and Motels, Nursing Homes, etc.

A. Facility Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
---------------	---------------------

1. WATER SUPPLY INFORMATION

List the source(s) of water supply in the area served by sewers. Identify groundwater wells and surface water intakes, as well as the name(s) of any surface water(s) from which intake water is drawn.

All of Section II can be omitted
for Large CAFOs

2. SERVICE AREA INFORMATION

Publicly-Owned Treatment Works are required to provide the following information: List the governmental jurisdictions (cities, townships, villages, etc.) that this facility serves (applicants should include themselves). What is the population in each jurisdiction? Is the jurisdiction's collection system separate, combined, or both? If the collection system is both separate and combined, what percentage is combined? To submit additional information, see Page ii, Item 3.

Name	Type of Collection System	Percent Combined	Population Served
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total population served by this facility: _____

Privately-Owned Treatment Works are required to provide the following information:

Describe the area served by this facility (mobile home park, condominium, nursing home, industrial facility, etc.).

Provide the number of residential units served by this facility: _____

3. BIOMONITORING FOR ACUTE AND CHRONIC TOXICITY

Publicly-Owned Treatment Works (POTWs) meeting one or more of the following criteria are required to submit with this application the **results of four** whole effluent toxicity (WET) tests for each of the facility's discharge points, excluding combined sewer overflows: 1) POTWs with a design flow rate greater than or equal to one (1) million gallons per day; 2) POTWs with an approved Federal Industrial Pretreatment Program (FIPP); and/or 3) POTWs required to develop a FIPP.

The results of the tests shall be reported using the Acute Toxicity Test Report, *Ceriodaphnia Dubia* Chronic Toxicity Test Report and the Fathead Minnow Chronic Toxicity Test Report available in the Appendix. Please do not submit additional forms or paperwork pertaining to WET tests with this application.

At a minimum, the applicant shall submit the results of quarterly WET testing for a 12-month period prior to this application, or the results of annual WET tests conducted during the five years prior to this Application. In addition, the applicant shall submit the results of any other WET tests from the past five years. If a WET test in the past 4-½ years revealed toxicity, provide all the information on the cause of toxicity or the results of all toxicity reduction evaluations, if any were conducted. The applicant does not need to submit results for previously submitted WET Tests. **For assistance, see the "Whole Effluent Toxicity Test Guidance and Requirements" section in the Appendix.**

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater

Section III is to be completed by all facilities classified as Industrial or Commercial facilities. Industrial and Commercial facilities include, but are not limited to, facilities that discharge or propose to discharge a wastewater generated by a production process, a service provided, or through a remediation project. Municipal and public facilities are not required to complete Section III (unless requesting authorization for discharges other than sanitary wastewater).

A. Facility Information

PLEASE TYPE OR PRINT

FACILITY NAME <i>ARI Example Swine</i>	NPDES PERMIT NUMBER <i>MIG 0 19000</i>
---	---

1. BUSINESS INFORMATION

A. Provide up to four Standard Industrial Classification (SIC) or North American Industry Classification System (NAICS) codes, in order of economic importance, which best describe the major products or services provided by this facility.

1. <i>Swine = 213</i>	2.	3.	4.
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B. Indicate if this facility is a primary industry (refer to Table 1 of the Appendix to determine if this facility is a primary industry).

Yes. This facility is a primary industry. Indicate the primary industry as identified in Table 1 of the Appendix: _____

No. This facility is not a primary industry. Continue with Item C.

C. Is this facility a Concentrated Animal Feeding Operation (CAFO)?

Yes. Continue with Section III.B.11.

No. Continue with Item 2.

2. WATER SUPPLY AND DISCHARGE TYPE

A. Identify all water sources entering the facility and treatment systems, and provide average flows. The volume may be estimated from water supply meter readings, pump capacities, etc. Provide the name of the source where appropriate (i.e., Grand River, Lake Michigan, City of Millpond). To submit additional information, see Page ii, Item 3.

	Name and Location of Source	Average Volume or Flow Rate	Units
Municipal Supply			
Surface Water Intake			
Private Well			
Other:			

B. Identify water discharged by the facility and treatment systems, and provide average flows. If water is first used for one purpose and then is subsequently used for another purpose, indicate the type and amount of the last use. For example, if water is initially used for noncontact cooling water and then for process water, indicate the amount of process water. The amount of water from sources should approximate the amount of water usage. If they are different, provide an explanation.

	Average Flow Rate	Units		Average Flow Rate	Units
Process Wastewater			Sanitary Wastewater		
Contact Cooling Water			Regulated Storm Water		
Noncontact Cooling Water			High Pressure Test Water		
Groundwater Clean-Up			Other:		

Note: For A and B above, indicate units as MGD (million gallons per day), MGY (million gallons per year), GPD (gallons per day), or other appropriate unit.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

INSTRUCTIONS FOR COMPLETING SECTION III B. OUTFALL INFORMATION, ITEMS 1. A - J

1. OUTFALL INFORMATION

This item requires detailed information on each outfall at the facility. For this item, outfall refers to the point where treated wastewater is discharged to the surface waters of the state. "Surface Waters of the State" include the Great Lakes and their connecting waters, all inland lakes, rivers, streams, impoundments, open drains, and other surface bodies of water within the confines of the state. The applicant will need to complete Pages 25 – 31 for each outfall. Fill in the Outfall Number in the top right-hand box, identifying the outfall by number, e.g., 001, 002, etc. Applicants with existing NPDES permits should refer to the facility's current NPDES permit for outfall number identification. For each outfall, provide the location, the type of wastewater, the expected and/or measured volume of effluent discharged, the frequency of discharge, and the flow variation of the discharge.

A. Identify the watershed where the outfall is located. See the Upper and Lower Peninsula Hydrologic Maps in the Appendix for the state's watersheds and their Hydrologic Unit Codes (HUC). Then match the HUC code to the watershed name in the associated table of Watershed Names.

B. Identify the receiving water (Waters of the State) to which the facility's outfall(s) discharge.

C. Identify the county and township where the outfall is located.

D. Identify the location of the outfall using State Planar Coordinates (e.g., Town 1N, Range 12E, Section 34, SE 1/4, NE 1/4) or, where applicable the Private (French) Land Claim designation.

Identify the location of the outfall using latitude and longitude, accurate to within 15 seconds (e.g., Latitude = 42°27'15", Longitude = -83°02'30"), or accurate to within 0.004 decimal degrees (e.g., Latitude = 42.454167, Longitude = -83.041667).

F. Identify the type(s) of wastewater the facility will discharge from this outfall. Check as many types of wastewater as are appropriate. If the water is used in multiple areas, such as water that is first used for noncontact cooling water and then for another use, such as process water, indicate the final use only. For other common wastewater types, see "Table 9 - Other Types of Wastewater" - in the Appendix.

G. When reporting the Maximum Design Flow Rate, identify the design flow for this specific outfall (e.g., batch treatment system flow, package treatment system flow, or some other finite treatment system flow). Please provide an explanation if "Pollution Prevention Measures" are expected to provide flow reductions.

H. Identify the Maximum Discharge Flow Rate that the facility is expecting to discharge in the next five years. This flow will be used to determine the facility's effluent limitations and will be the flow authorized in an issued permit. NOTE: Discharges of flows greater than the Discharge Flow Rate authorized in the permit will constitute a violation of the Michigan Act and would be subject to the penalties specified therein.

I. A discharge is considered to be seasonal if the facility treats and then stores wastewater throughout the year, or a portion of the year, and then discharges it a few days, weeks, or months a year. Provide the dates the facility discharges the treated wastewater (e.g., October 15 through November 10) and the average discharge flows (e.g., 5 MGD).

J. A continuous discharge is any discharge that is not a seasonal discharge. Identify the average number of hours per day and the number of days per year that the discharge occurs from this outfall. Batch dischargers are required to provide the peak batch flow rate, the number of batches per day, the per-batch minimum, the average and maximum volumes in gallons, and the per-batch minimum, average, and maximum batch discharges in minutes.

NOTE: The units are as follows: GPD = gallons per day, MGD = millions of gallons per day, MGY = millions of gallons per year.

Michigan Department of Environmental Quality- Water Bureau
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
---------------	---------------------	----------------

9. WATER TREATMENT ADDITIVES

Water treatment additives include any material that is added to water used at the facility or to wastewater generated by the facility to condition or treat the water.

Approvals of water treatment additives are authorized by the DEQ under separate correspondence. The issuance of an NPDES permit does not constitute approval of the water treatment additives that are included in this Application.

A. Are there water treatment additives in the discharge from this facility?

- Yes.
- No. Proceed to Question 10.

B. Have these water treatment additives been previously approved?

- Yes. Submit a list of the previously-approved water treatment additives and the date on which they were approved. The information listed in Item C., Items 1-8 shall be updated if it has changed since the previous approval.
- No. Continue with Item C.

C. Submit a list of water treatment additives that are or may be discharged from the facility. Applicants are required to submit the information listed below for each additive.

1. The water treatment additive Material Safety Data Sheet.
2. The proposed water treatment additive discharge concentration.
3. The discharge frequency (i.e., number of hours per day, week, etc.).
4. The outfall from which the water treatment additive is to be discharged.
5. The type of removal treatment, if any, that the water treatment additive receives prior to discharge.
6. The water treatment additive function (i.e., microbicide, flocculant, etc.).
7. A 48-hour LC50 or EC50 for a North American freshwater planktonic crustacean (either Ceriodaphnia sp., Daphnia sp., or Simocephalus sp.).
8. The results of a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of Rule 323.1057(2)(a) of the Water Quality Standards. Examples of tests that would meet this requirement include a 96-hour LC50 for rainbow trout, bluegill, or fathead minnow.

The required toxicity information (described in Items 7 and 8 above) is currently available in the Water Bureau files for the water treatment additives listed on the DEQ's Internet page. To access that information, go to <http://www.michigan.gov/deq>, click on "Site Map," at the bottom of the right column under **Water Quality Monitoring**, click on "Assessment of Michigan Waters." Under the **Information** heading, click on the "Water Treatment Additive List." If you intend to use one of the water treatment additives on this list, only the information in Items 1 through 6 above needs to be submitted to the WD.

Note: The availability of toxicity information for a water treatment additive does not constitute approval to discharge the water treatment additive.

10. WHOLE EFFLUENT TOXICITY TESTS

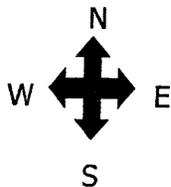
Have any acute or chronic WET tests been conducted on any discharges or receiving water(s) in relation to facility discharges within the last three years? If yes, identify the tests and summarize the results on a separate sheet, unless the test has been submitted to the DEQ in the last five years. For assistance in WET testing, see "Whole Effluent Toxicity Test Guidance and Requirements" in the Appendix.

11. COMPREHENSIVE ANIMAL FEEDING OPERATION (CAFO) INFORMATION. To be completed by CAFO's only *See Next Page Details*

The applicant shall provide: Specific information about the number and type of animals, and type of housing. The type of containment and storage, and total capacity for CAFO waste storage. CAFO waste storage structure design. The total number of acres under control of the applicant available for land application of CAFO waste. Estimated amounts of CAFO waste generated per year. Estimated amounts of CAFO waste transferred to other persons per year. A list and map(s) showing the location of all land application fields. All potential receiving waters for both production area and all land application areas. For additional information see "CAFO Guidance and Requirements" in the Appendix.

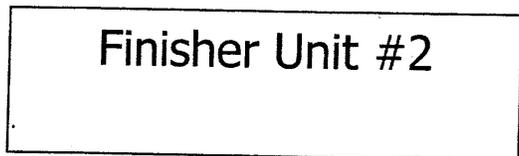
This completes Section III. Return the completed Application (Sections I and III, and any attachments) to one of the addresses on Page ii of this Application. If assistance is needed to complete this Application, contact the Permits Section.

Farm Headquarters Map
Jones Pork
Juniper Co., Green Twp., Section 11



Map Not to Scale

Water flow direction



8

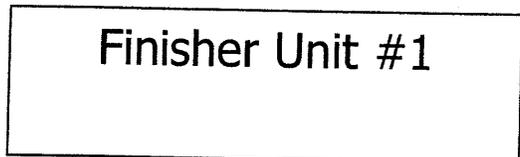
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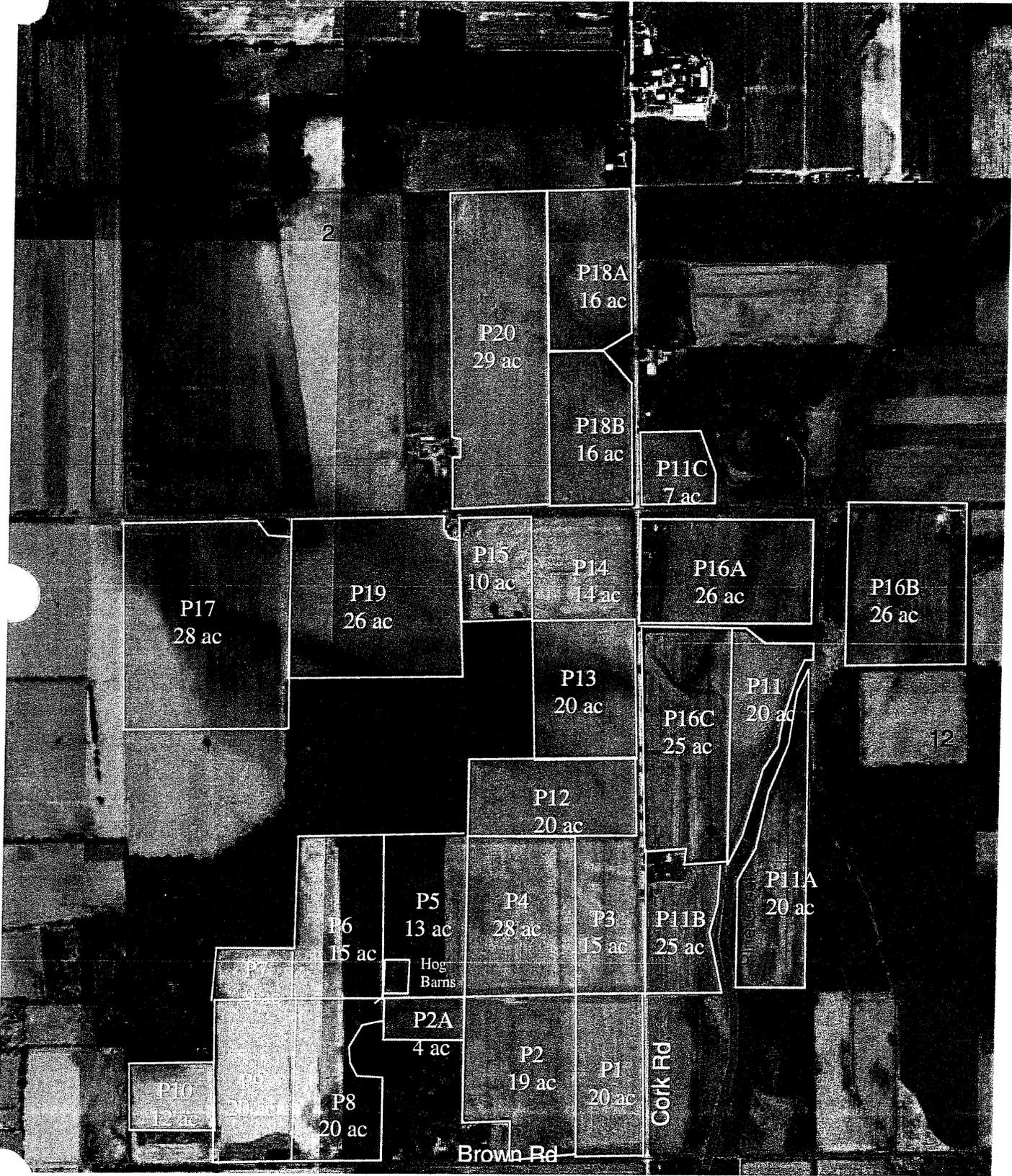
Feed Bins

Cork Road

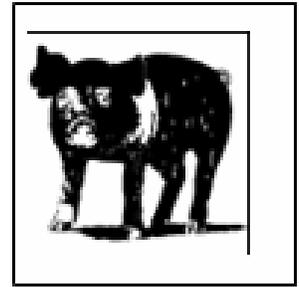
Brown Road

1.2 Field Map

Juniper County,
Green Twp, Sec. 1, 2, 11, 12



Michigan Example Swine



Permit application as per Wastewater Discharge Permit Application Section III – Industrial and Commercial Wastewater

B. Outfall Information

11. Comprehensive Animal Feeding Operation (CAFO) Information.

Number and Type of Animals

2500 market hogs, >55 lbs.

Type of Housing

2 identical, separate, slatted floor finishing barns, total confinement, under roof.
Each barn holds 1125 hogs.

Type of containment and storage

Both are concrete, under slat storage, all under roof.

Total capacity for CAFO waste storage

Each barn holds 1125 head of hogs.

Each barn has a total maximum capacity of 514,624 gallons

When the 6 inch freeboard is deducted, the remaining operational capacity is 482,920 gallons in each barn, for a combined operational capacity for both barns of 964,920 gallons.

This provides 7.5 months of storage capacity in each barn

CAFO Waste Storage Structure Design

The storage structures are a cast-in-place, reinforced concrete tank lying below slatted floors, totally roofed.

The 8 inch gang slats are 6 ft. x 10 ft and supported by 6-foot long reinforced 12" x 12" beams.

Total number of acres under control of the applicant and available for land application of CAFO waste

503 acres, all owned

Estimated amounts of CAFO waste generated per year

1,217,640 gallons (1,164,000 gallons manure plus 53,640 gallons wash water per year)

Estimated amounts of CAFO waste transferred to other persons per year

zero gallons

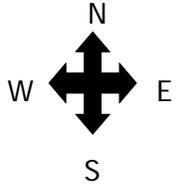
Map of all land application fields

Attached

All potential receiving waters for both the production area and land application areas

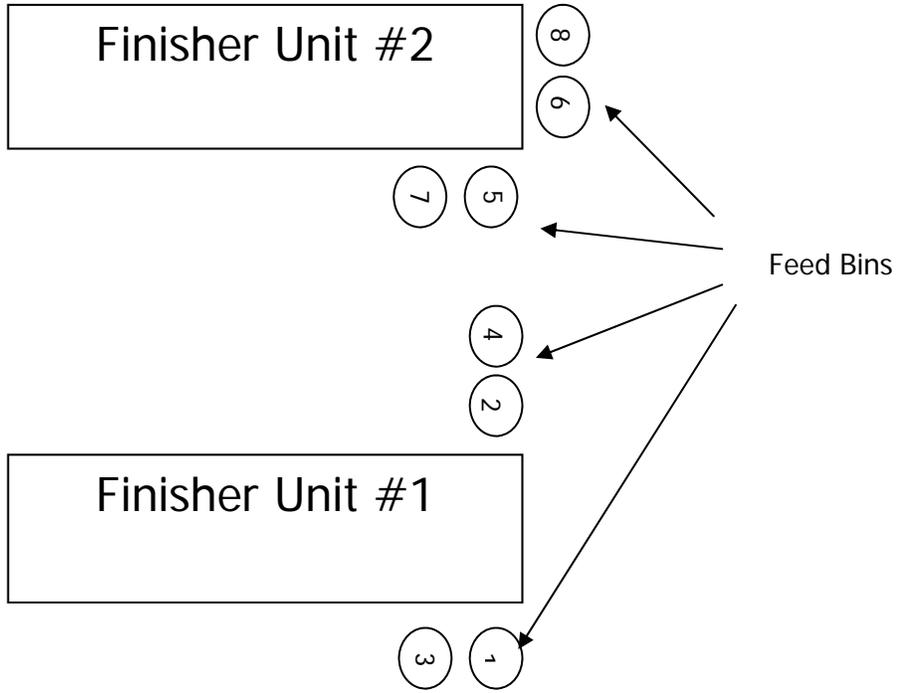
Attached

Farm Headquarters Map
Jones Pork
Juniper Co., Green Twp., Section 11



Map Not to Scale

Water flow direction



Cork Road

Brown Road

Field Map

Juniper County,
Green Twp, Sec. 1, 2, 11, 12



Existing Components Evaluation

MIDWEST PROFESSIONAL ENGINEERING FIRM

SUBJECT: ENG – Jones Pork,
Evaluation of Existing Components for a
Comprehensive Nutrient Management Plan,
Juniper County, MI

TO: Department of Environmental Quality
101 Brook Rd.
Anywhere, MI 49123

Date: July 12, 2006

To Whom It May Concern,

Jones Pork has two existing waste storage components. An inspection of these storage components was conducted on May 5th, 2006, as part of a field visit for preparation of the landowner's Comprehensive Nutrient Management Plan (CNMP). The inspection addressed the suitability of using existing waste storage facilities as components of the CNMP.

Existing components may be included as part of a CNMP only if all of the following conditions are met:

1. The existing component is consistent with the safety requirements of the CNMP.
2. An investigation of the existing component indicates it is in good operating condition based upon observable and or measurable features and conditions.
3. The failure of the existing component will not impair the structural integrity of new Components.
4. The existing component can be managed as part of the CNMP.

This letter reports the findings of my inspection in terms of the criteria described above. This investigation and evaluation is not a certification of the components, only an investigation of existing conditions. Refer to the site map for locations of the existing components.

Manure Storage Tanks

This facility has two waste storage components. Both are cast-in-place reinforced concrete tanks lying below finishing barns. The facilities were built 10 years ago and are identical. The finishing barns are 215 ft. x 40 ft. with an 8 ft. deep tank. Livestock is brought in at 60 pounds and shipped out at 265 pounds. This facility capacity is 1000 animals per barn, at an average weight of 162 pounds. The manure storage capacity for each facility is 482,460 gallons, with a 6 inch freeboard, and 964,920 gallons combined two storages. The livestock is on 8 inch thick gang slats. The gangs are 6 ft. x 10 ft. and are supported by 6-foot long reinforced 12" x 12" beams. The Swine Barn Company of Indiana constructed the facility and its components. The design drawings were reviewed during the inspection and the floor and walls meet NRCS 313 standard.

Visual inspection of this storage was conducted by walking around the outside perimeter of the barn. There was no evidence of animal burrowing, damage to the outside of the foundation, and gutter systems were in place to carry water away from the storage.

Visual inspection of the inside of the storage structure is limited to using a flashlight to observe that there were no cracks, the walls are straight and slats in good repair. There is no damage to the structures, including the pump out areas. The structure is in good operating conditions, based on observable features.

Responses to the existing component criteria are as follows:

1. The existing component is consistent with the safety requirements of the CNMP.
2. An investigation of the existing component indicates it is in good operating condition based upon observable and or measurable features and conditions.
3. The failure of the existing component will not impair the structural integrity of new components.
4. The existing component can be managed as part of the CNMP.

In summary, the manure storage tanks are in good working condition and are being used as they were intended.

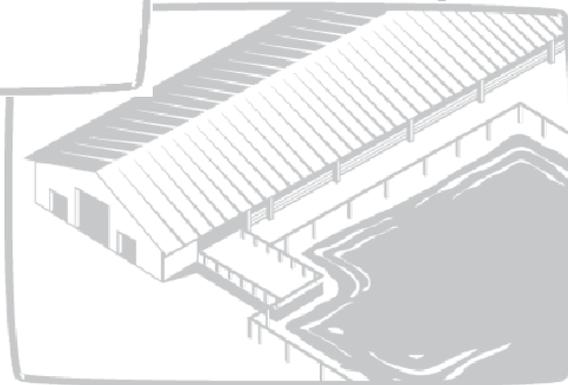
Respectfully Submitted,

John Smith, PE
Midwest Professional Engineering Firm

SECTION 3

CNMPs

- Dairy Example
- Swine Example



DEQ CNMP for
Michigan Example Dairy

January 2007



I. General Information:

Date of Implementation: _____

Date of latest update of NMP: _____

Facility Information

Sec. 21, Green Township, Sand County, Michigan
456 Deer Rd.
Junction, MI 49999

Driving directions to the farm from nearest town: Take Main Street in Junction, MI, go south 4 miles to Hill Rd. Go west 2.5 miles to Deer Rd. The farm buildings are on the north side, at 456 Deer Rd.

Owners and Operators:

David and Joe Brown

Phone numbers:

Farm: (123) 555-7890

David Brown home: (123) 555-7890; cell: (123) 555-2345

Joe Brown home: (123) 555-7891; cell: (123) 555-3456

Signature of CNMP Provider

Print Name

Address

Phone and email contact information

Signature of Producer

Print Name

Background

Management

Example Dairy, Inc. is owned and operated by father and son David and Joe Brown.

Animals

The farm currently has 750 mature cows.

There are 340 replacement heifer calves on site.

Additional young stock is raised at contracted facilities, not a part of this CNMP. The manure generated off-site from these animals will be utilized by the individual landowners on their own land and are not included in this plan.

The number and size of off-site livestock may vary due to time of year and as the farm adds new milk cows to the herd.

Annual updates will capture the current numbers and reflect them in future CNMPs.

Cropland

Example Dairy has 2,284 acres of cropland (905 of these are rented). 728.2 acres are irrigated.

The farm has sufficient land base for the manure but manure is sold, off site, to a Hillview Crop Farm, a neighboring farm. This is custom applied and manifest requirements are in this CNMP.

The land application strategy is to utilize all manure nutrients agronomically and maintain soil tests about where they are over time. There are numerous fields adjacent to surface water as well as tiled fields on this farm. Proper application setbacks are observed. The primary resource concern is nitrogen leaching. This is being addressed by only applying 2 years of phosphorus per application, which limits the nitrogen, such that PSNT tests are taken before any additional nitrogen is applied to the corn crop.

There are over 599 acres acceptable for winter spreading on this farm, scoring less than 37 on MARI analysis.

There is 6 months of storage on this farm. Straw pack manure could be left in the barns for 6 months but by following MARI scores, this manure is applied during the winter.

Approximately 80 acres are needed each winter for this winter spreading.

There is 6 months of liquid storage on this farm but, by following MARI scores, some of this may be applied during the winter to relieve spring time rush.

Example Dairy raises corn, silage, hay, haylage, soybeans, wheat, straw and some double crop rye green chop.

Manure is injected when hauled as a liquid and incorporated as appropriate when solids are hauled.

In no-till situations, alfalfa and wheat stubble, the manure is not injected or incorporated.

Tile drain inlets and outlets are noted on maps. These outlets are monitored prior to, during and after manure applications.

Manure Storage

The farmstead has two main freestall barns using sand bedding. All of this manure goes first to ADL #1, then liquids are pumped over to ADL #5 (both pre-cast concrete structures) for a combined capacity of 6 months of storage.

Annual Inputs into ADL #1 and ADL #5	Annual gallons generated
Total Sand used for 750 cow herd: 40 lbs. per day per cow (farmer's knowledge) x 750 cows x 365 days = 10,950,000 lbs. sand x 50% deduction when mixed with manure = 5,475,000 lbs. sand ÷ 105lbs/cu.ft.(conversion unit) = 52,142 cu. ft. of sand x 7.48 lbs. per gal. =	390,028
Annual rainfall into ADL #1 storage is: [3 inches (rain – evaporation) ÷ 12 in/ft] x 112 ft. x 80 ft. = 2240 cu. ft. x 7.48 =	16,755
Annual rainfall into ADL #5 storage is: [3 inches (rain – evaporation) ÷ 12 in/ft] x 172ft x 172ft = 7396 cu. ft. x 7.48 gal./cu. ft. =	55,322
Annual rainfall from the 5000 sq. ft of concrete surface that will runoff into ADL #1 storage is: 5000 sq. ft. x (32.5 inches annual rain ÷ 12in/ft) x 50% x 7.48 =	50,646
Annual amount of manure from 750 mature cows (as per MMP calculations, based on MWPS as excreted) =	4,867,000
	5,379,751 gallons per year
One time capacity of ADL #1 and ADL #5 = 2,728,585 gallons	
5,379,751 ÷ 12 months = 448,313 gallons per year; 2,728,585 ÷ 448,313 gal/mo. = 6 months of combined storage.	

The manure in ADL #1 has a much greater sand content than ADL #5, so two different manure analysis are utilized in the spreading plan.

Stormwater from several paved outdoor lots and the silage area goes to Storage #4. The total capacity of ADL #4 is 47,872 gallons (approximately 1 week of storage). This is pumped over as needed to Earthen Structure #2.

Milkhouse wash water is stored in an Earthen Structure (#2), with 6 months capacity. The total volume capacity for Storage #2 is 1,212,067 gallons. 1,955,356 gallons are collected annually. This is irrigated onto cropland twice per year.

Ten percent of the phosphorus on this farm is in 7 different replacement livestock facilities. This manure is straw or sand bedded and weekly hauled requiring 36 acres per year for two year's worth of phosphorus crop removal. This manure is surface applied on no-till, wheat stubble and alfalfa. MARI scores are followed for manure applications to frozen and or snow covered ground.

5.b.1. Large CAFO Waste Storage Structures

a) Volume Design Requirements

Storage ID	Storage Type	Dimensions, Capacity, Freeboard
Calf Barn	Manure pack	Total Confinement. hauled every 6 weeks
ADL Tank #1	Outside prefab liquid storage	112 ft x 80 ft x 8 ft (6.75 useable 15 in. freeboard)=60,480 cu. ft. Ramp (84 x 20 x 8 divided by 2 = 6,720 = 53,769 cu. ft x 7.48 = 402,125 gal capacity)
Earthen storage #2 Washwater and some runoff	Earthen storage	230 ft. x 164 ft (top) x 8 ft. (1.4 ft. or 16 in. freeboard) 4:1 slope =1,212,067 gal. capacity. (utilizing MMP calculator)
Transition Barn	Manure pack	Total Confinement, hauled MWF
#4 ADL Production area stormwater/runoff collection	Outside prefab liquid storage	120 ft. x 20 ft x 4 ft (3 ft useable). Ramp = 10 x 40 x 4 divided by 2 = 6400 cu. ft.= 47,872 gal All of this is sump pumped over to #2 as needed, and accounted for in system #2 for hauling purposes.
#5 ADL New	Outside prefab liquid storage	172 ft x 172 ft. x 12 ft deep, 11' useable (1ft. fbd.). 20 x 120 x 12' ramp = 311,024 cu. ft. = 2,326,460 gal.
Virginia Barn	Manure pack	hauled MWF, small outdoor, concrete lot in middle of barn
Flat Heifer Barn	Daily scrape & haul (liquid)	hauled MWF, total confinement
Freshening Barn	Manure pack	weekly haul, outdoor concrete lot goes to #4
Old Cow Barn sand	Daily scrape & haul (liquid)	weekly haul, outdoor concrete lot goes to #4
Old Cow Barn straw	Manure pack	weekly haul, Indoor area of barn.

Estimated Days of Storage

Storage ID	Storage Type	Capacity	Units	Annual Collected	Days Storage
#1 ADL	Outside prefab liquid storage	402,125	Gal	753,165	195
#5 ADL	Outside prefab liquid storage	2,326,460	Gal	4,626,406	184
Earthen storage #2	Earthen storage	1,212,067	Gal	1,955,356	226
Mon.Wed. Fri. Haul	Daily scrape & haul (solid)		1 Ton	1,700	0
Weekly Haul	Manure pack		1 Ton	1,900	0

Storage Totals		Capacity	Units	Annual Collected
Liquid Manure		3,940,652	Gal	7,334,927
Solid Manure			2 Ton	3,600

Estimated Annual Acres Needed for Each Storage System

Storage ID	Annual Volume	Units	Annual P205	Acres for one year or P crop removal	Acres for 2-yr. P crop removal applications	Acres needed for 2-yr P rate for winter
#1 ADL	753,165	Gal	18,076	322.8	161	
#5 ADL	4,626,406	Gal	69,396	1,239.2	620	
Earthen storage #2	1,955,356	Gal	1,564	27.9	14	
Mon.Wed. Fri. Haul	1,700	Ton	3,060	54.6	71 for all solid manure	
Weekly Haul	1,900	Ton	4,940	88.2		36

The 25 yr./24 hr. storm event for this county is: 4.3 inches

Between the dates of November 1st and December 31st, manure from the ADL tanks and earthen storage ponds is drawn down to a level that provides a minimum of 6 months of storage during the winter months.

5.b.1. Large CAFO Waste Storage Structures

b) Physical Design and Construction Requirements

An existing components inventory was completed on all storage structures. The inspection indicated that the structures are consistent with the requirements of a CNMP. The components inventory and design documentation of the storage structures are attached.

c) Inspection Requirements

All structural and vegetative practices will be operated and maintained in accordance with the manufacturer's recommendations and other guidelines (e.g. NRCS). Records of all scheduled and completed inspection and maintenance activities will be kept on file.

All waste storage structures contain easily visible, clearly marked depth gauges. The minimum required freeboards are currently maintained at all times.

All storage areas are inspected on a weekly basis and documented in the Storage Inspection Form. Weekly inspections consist of the following:

- Assessment of functional and structural soundness of storage facility
- High traffic areas, (i.e., pump access and agitation equipment areas),
- Fences, posts, wire, gates, etc.
- Piping, pumps, agitation equipment, valves, etc.,
- Areas adjacent to storage system – identify signs of wet soil or unusual settlement indicating potential leakage.
- Safety equipment (swim rings, ropes, guardrails) and warning signs
- Assessment of push-off ramps adjacent to storage structures. The ramps are inspected for separation, cracks, erosion, etc.

Concrete storage systems

Inspections of concrete waste storage facilities will include:

- Visual check for evidence of leaking
- Visual check for cracks in concrete or joint sealer
- Check for wall movement as evidenced by tilting (vertical alignment) or bulging (horizontal alignment)

Repairs are made immediately. If vegetation is damaged, the cover is reestablished promptly.

Vegetation around storage structures is mowed a minimum of twice per year to discourage weeds and tree growth.

Human waste, pesticides, oil, syringes, dead animals or waste other than that intended for the manure storage is never added to any waste storage facility.

Earthen Pond

Whenever the pond is emptied, the integrity of the clay liner is assessed and any necessary repairs are made immediately.

Agitation equipment is inspected weekly to verify that it is not causing damage to the bottom surface and creating the potential for leakage out the bottom. Any needed repairs are made immediately.

All sides of the earthen storage are inspected weekly to check for burrow holes, eroding areas, wet or soggy areas (that might be an indication of potential leakage or potential beginning breaches in the sides), etc. Vegetation is maintained and kept mowed to 6 inches. Any areas needing attention are repaired and reseeded where necessary. All unwanted animals are controlled.

Weekly records are maintained of the depth of manure. The storage will have 6 months of available capacity some time between November 1 and December 31.

Manure handling equipment

All application equipment is calibrated annually to ensure proper application rates. Written records of inspections and calibrations are maintained. Hoses and fittings are kept in good repair on all manure spreaders.

When in use, manure handling equipment is checked daily and written records are maintained.

Irrigation Equipment

Pumps, hoses and fittings are in good repair on all irrigation equipment used for manure and wastewater applications. Worn or damaged component(s) that will prevent the equipment from operating as intended are repaired as needed. At a minimum, visible portions of the transfer component(s) are inspected at least once a year. Damaged, missing, or inoperable safety items are repaired or replaced immediately.

Bunker Silo

The silage pile is covered at all times and the silo pad is scraped daily after loading to reduce waste.

Leachate runoff from the bunker silo is diverted to ADL #4 (runoff collection structure) and transferred to the Earthen Storage Pond (#2) with the milkhouse wash water.

d) Operation and Maintenance

The O & M schedule will be conducted in accordance with the regular inspections.

Records of inspections and records documenting any actions taken to correct deficiencies will be kept with the CNMP for a minimum of 5 years. Deficiencies not corrected within 30 days will be accompanied by an explanation of the factors causing the delayed correction.

November 30, 2005

Existing Components Inventory

Engineering for Agriculture

2333 Ag. Lane
Sample, MI 49999

Engineering – Sample Dairy, Comprehensive Nutrient Management Plan,
Evaluation of Existing Components
Sand County, Michigan

Mr. David and Joe Brown,

This letter is provided as documentation for your evaluation of existing components to be included in the Comprehensive Nutrient Management Plan (CNMP) for your farm operation.

On May 5, 2004, an inspection of the waste storage facilities were conducted at the Sample Dairy farm operation located in Sand County, Michigan. This is a family owned and operated farm with three concrete tanks and one earthen storage facility.

The inspection of these facilities addressed the suitability of using the existing waste storage facilities as components of the CNMP. As-Built documentation was available for review on all of the waste storage facilities for this evaluation of existing component document.

Freeboard for each storage type and estimated usable storage capacity is identified below. The capacities calculated may be less due to limitations of pumping accumulated solids out of each storage facility.

Ag CNMP consultants provided the manure and wastewater production amounts for each facility. Based on this information the estimated number of available storage days for each storage facility is calculated.

The Michigan Agricultural Environmental Assurance Program has identified the conditions under which existing components may be included in a Comprehensive Nutrient Management Plan (CNMP). These conditions are described below.

Existing Components may be included as part of a CNMP only if all of the following are met:

1. The existing component is consistent with the safety guidance of the CNMP.
2. An investigation/inspection of the existing component indicates it is in good operating condition, based on observable and/or measurable features and conditions;
3. The failure of an existing component will not impair the structural integrity or operation of new components;
4. The existing component can be managed as part of the CNMP.

This letter reports the finding of Ag Engineering's inspection in terms of the criteria described above. This investigation and evaluation is **not a certification** of the components, only an investigation of existing conditions. Refer to the CNMP site map for the locations of the existing components.

Waste Storage Facilities Evaluated:

Waste Storage Facility # 1 – Pre-cast concrete ADL tank (transfers waste to # 5)

Waste Storage Facility # 5 – Pre-cast concrete ADL tank

Waste Storage Facility # 2 – Milkhouse wastewater storage pond (clay lined)

Waste Storage Facility # 4 – Pre-cast concrete ADL tank (transfers waste to # 2)

Carcass Composting – Remodeled lean-to barn

Waste Storage Facility # 1 – ADL tank:

This facility is located between the Freestall Barn # 2 (North Barn) and the Freestall Barn # 1 (South Barn). Manure from 500 lactating cows, sand bedding, and 5,000 sq.ft. area runoff is stored in this facility. The dimensions of this waste storage facility is 80 ft x 112 ft x 8 ft deep. It was constructed in 1998 by ADL, Inc and approved for cost share dollars from NRCS. This structure is constructed with pre-cast, reinforced concrete panels and the floor and access ramp are poured in place concrete. The facility contained approximately 1 foot of waste during the day of inspection. The panel joints were visible along the sides and at the top and appeared to be tight and well sealed. The walls showed no bowing or tilting. There is a fence barrier around the entire facility. No signs of deterioration in the concrete were evident. The top of the storage facility is only slightly above ground level so there appears to be no potential for a failure of the structure that would not affect surface water quality. Clean runoff adjacent to the storage facility is diverted away. As long as the facility joints remain in the conditions observed, the waste storage facility should provide adequate protection from seepage and ground water contamination. ADL uses designs that have been approved as meeting NRCS Waste Storage Facility practice standard and American Concrete Institute for reinforced concrete structures. Accumulation of waste stored is visible and is monitored.

Fabricated storage structures must maintain 0.5 feet of freeboard plus the volume generated from a 25yr/24hr storm event on the storage surface and from the 5,000 sq.ft. area. This equates to a depth of 1.25 ft. of which must be maintained open in order to store the 25yr/24hr storm event while maintaining the required freeboard depth.

The usable storage capacity of this tank is calculated to be 402,125 gallons. Based on production information given in the CNMP, this facility can store a little over 4 months of waste, generated from the N and S freestall facilities and normal monthly rainfall.

Responses to the existing component criteria are as follows:

-This facility appears to be consistent with the safety guidance of the CNMP with the presence of a fence barrier around the entire facility.

-Based on observable features and conditions, the waste storage tank appears to be in good operating condition. This facility has been in operation for 5 years without any evidence of deterioration in the structure.

-The failure of an existing component will not impair the structural integrity or operation of new components.

-The existing component can be managed as part of the CNMP.

Waste Storage Facility # 5 – ADL tank:

This facility is located south of the Freestall Barn # 1 (South Barn). Liquid waste that accumulates in the ADL # 1 storage tank is transferred via an under ground pipe to this facility. The dimensions of this waste storage facility is 172 ft x 172 ft x 12 ft deep. It was constructed in 2002 by ADL, Inc and approved for cost share dollars from NRCS. This structure is constructed with pre-cast, reinforced concrete panels and the floor and access ramp are poured in place concrete. The facility contained approximately 2.5 foot of waste during the day of inspection. The panel joints were visible along the sides and at the top and appeared to be tight and well sealed. The walls showed no bowing or tilting. There is a fence barrier around the entire facility. No signs of deterioration in the concrete were evident. The top of the storage facility is slightly above ground level so there appears to be no potential for a failure of the structure that would affect surface water quality. Clean runoff adjacent to the storage facility is diverted away. As long as the facility joints remain in the conditions observed, the waste storage facility should provide adequate protection from seepage and ground water contamination. ADL uses designs that have been approved as meeting NRCS Waste Storage Facility practice standard and American Concrete Institute for reinforced concrete structures. Accumulation of waste stored is visible and is monitored.

Fabricated storage structures must maintain 0.5 feet of freeboard plus the volume generated from a 25yr/24hr storm event on the storage surface. This equates to a depth of 1.0 ft of which must be maintained open in order to store the 25yr/24hr storm event while maintaining the required freeboard depth.

The usable storage capacity of this tank is calculated to be 2,326,460 gallons. Based on the percentage of production information transferred given in the CNMP that is transferred into this storage facility from ADL # 1(75%), ADL # 5 can store approximately 11 months of waste and normal monthly rainfall.

Responses to the existing component criteria are as follows:

- This facility appears to be consistent with the safety guidance of the CNMP with the presence of a fence barrier around the entire facility.
- Based on observable features and conditions, the waste storage tank appears to be in good operating condition. This facility has been in operation for 2 years without any evidence of deterioration in the structure.
- The failure of an existing component will not impair the structural integrity or operation of new components.
- The existing component can be managed as part of the CNMP.

Milkhouse Wastewater Waste Storage Pond (Waste Storage Facility # 2):

The waste storage facility (pond) is located in the southwest part of the farm headquarters. It is an earthen structure with a clay liner that was constructed in accordance with a design developed and approved by NRCS in 1997. It was designed to store the volume of milkhouse wastewater produced in 180 days. Currently, this facility receives wastewater generated in the milkhouse parlor and wastewater from ADL # 4 (silage leachate/ runoff collection storage tank) is pumped into this

storage. The As-Built dimensions of this storage facility are 230 ft x 164 ft x 8 ft deep and indicate that one foot of clay liner material was installed along with 1 foot of soil cover. The maximum outside embankment height is approximately 7 ft in the southwest corner of the facility.

The facility was ½ full on the day of inspection for the facility evaluation. Based on what could be observed of the embankment it appeared to be in good condition with no bulging, erosion, rodent holes or trees. There is a fence around the entire facility. No signs of deterioration in the embankment material were evident. The Browns use a float on the end of the pump-out pipe in order to prevent damage to the clay liner during emptying. As long as the embankment remains in good condition and the liner is not damaged, the waste storage facility should provide adequate protection from seepage and ground water contamination and the risk of a failure of the structure and the potential contamination to surface water is minimal. Accumulation of waste stored is visible and is monitored.

Earthen storage structures must maintain 1.0 feet of freeboard plus the volume generated from a 25yr/24hr storm event on the storage surface. This equates to a depth of 1.4 ft. of which must be maintained open in order to store the 25yr/24hr storm event while maintaining the required freeboard depth.

The usable storage capacity of this storage pond is calculated to be 1,212,067 gallons. Based on milk house waste production and amount of wastewater pumped from ADL # 4 information given in the CNMP, this facility can store approximately 7.5 months of wastewater generated from the milkhouse, normal monthly rainfall and an estimated 461,320 gallons transferred from the runoff collection and silage leachate storage tank – ADL # 4.

Responses to the existing component criteria are as follows:

-This facility appears to be consistent with the safety guidance of the CNMP with the presence of a fence barrier around the entire facility.

-Based on observable features and conditions, the waste storage pond appears to be in good operating condition. This facility has been in operation for 6 years. As-Built design documentation was also reviewed indicating evidence of a clay liner installed to the depth indicated on the design.

-The failure of an existing component will not impair the structural integrity or operation of new components.

-The existing component can be managed as part of the CNMP.

Waste Storage Facility # 4 – ADL tank:

This storage facility is located north of the bunker silo. The facility collects polluted runoff from the Old Cow Barn concrete lot (38,400 sq.ft. area), silage leachate and the bunkers initial runoff is stored in this facility. The dimensions of this waste storage facility is 120 ft x 20 ft x 4 ft deep. It was constructed in 2003 by ADL, Inc and approved for cost share dollars from NRCS. This structure is constructed with pre-cast, reinforced concrete panels and the ramp and floor is poured in place concrete. The facility contained approximately 1 foot of waste during the day of inspection. The panel joints were visible along the sides and at the top and appeared to be tight and well sealed. The walls showed no bowing or tilting. There is no fence barrier around the facility. No signs of

deterioration in the concrete were evident. The top of the storage facility is slightly above ground level so there appears to be no potential for a failure of the structure that would affect surface water quality. Clean runoff adjacent to the storage facility is diverted away into a well established vegetative channel. As long as the facility joints remain in the conditions observed, the waste storage facility should provide adequate protection from seepage and ground water contamination. ADL uses designs that have been approved as meeting NRCS Waste Storage Facility practice standard and American Concrete Institute for reinforced concrete structures. Accumulation of waste stored is visible and is monitored.

Fabricated storage structures must maintain 0.5 feet of freeboard plus the volume generated from a 25yr/24hr storm event on the storage surface, and the Old Cow Lot runoff area (38,400sq.ft.), plus the bunker silo runoff area. This equates to a depth of 1.58 ft. of which must be maintained open in order to store the 25yr/24hr storm event while maintaining the required freeboard depth.

The usable storage capacity of this tank is calculated to be 43,384 gallons. This structure is considered a temporary storage where liquids are transferred on a regular basis through an underground pipe to the earthen storage pond # 2. Based on the runoff calculated, this storage needs to transfer waste to the earthen storage pond # 2 every 34 days.

Responses to the existing component criteria are as follows:

-This facility is NOT consistent with the safety guidance of the CNMP. A safety fence or barrier needs to be installed around the entire facility.

-Based on observable features and conditions, the waste storage tank appears to be in good operating condition. This facility has been in operation for over one year now without any evidence of deterioration in the structure.

-The failure of an existing component will not impair the structural integrity or operation of new components.

-The existing component can be managed as part of the CNMP once the safety fencing or barrier is installed.

In summary, the ADL Tank (Waste Storage Facility # 1), (Waste Storage Facility # 5), and the milkhouse wastewater storage pond (Waste Storage Facility # 2) are suitable for use in the CNMP. The ADL tank (Waste Storage Facility # 4) is not suitable for use in the CNMP until it meets the safety requirements by installing a fence or barrier around the entire facility.

It is also recommended that waste depth gauges be installed in each waste storage facility. This will add thorough recordkeeping to better estimate the volume of waste generated in each storage facility along with the volume of waste transferred to ADL # 5 and the earthen storage pond # 2. The depth gauges will also provide good information on the volume of waste hauled to the fields during land applications, and verify the land application rates.

In 2004 the carcass composting was moved into a remodeled lean-to structure. This structure has a concrete floor, existing roof and modular blocks were brought in to construct the bins needed.

This facility appears to be consistent with the safety guidance of the CNMP.

Based on observable features and conditions, the remodeled structure appears to be in

good operating condition.

The failure of this component will not impair the structural integrity or operation of new components.

The existing component can be managed as part of the CNMP.

Sincerely,

I. M. Engineer

I. M. Engineer, PE
Environmental Engineer

5.b.2. Best Management Practices

a) Divert Clean Water

The gutters and downspouts are designed to keep clean water from entering feedlots and animal holding areas and are checked and maintained regularly to insure their effectiveness.

If problems (such as broken, damaged, leaking or missing sections of gutters, erosion or pooling near outlet points, etc.) are observed, then repairs are done immediately.

This clean storm water is diverted to grassed areas, away from the production areas.

Debris is removed on a regular basis to keep gutters functioning as designed.

A weekly inspection of clean water diversion areas is conducted and information is documented in the Storage Inspection Form.

Two surface inlets (#1 and #2) around the farmstead travel via underground pipe to a grass area. The grass is in excellent condition. Surface Inlet #1 is located in a driveway area and has no contact with manure. Surface Inlet #2 is by the milking parlor. Since both of these collect water from non-production sites on the farm, they are directed to a grassed area. A driveway drain (#3), located at the south end of the machinery barn, collects only rain and travels to the field tile system. (marked in blue on map)

Production Area stormwater:

Storage ADL #4 is designed for silage leachate and runoff from outdoor lots associated with the Old Cow Barn, the Freshening Barn and the Feeder area. These are all concrete surfaces. This storage was designed by NRCS in 2002 and is functioning successfully. These lots are also scraped on Monday, Wednesday and Friday, to reduce the volume and nutrients that need to go to #4. This is then pumped over, weekly or as needed, to Earthen Storage #2.

b) Prevent Direct Contact of Confined Animals with Waters of the State

There are no areas on this farm where animals come into direct contact with waters of the state.

c) Animal Mortality

Dead cows are being composted in the old lean-to.

The Bodies of Dead Animals Act (BODA) is followed for the composting requirements.

Records are on file in the farm office.

d) Chemical Disposal

No hazardous or toxic chemicals (i.e., pesticides, petroleum products) are allowed to enter waste storage structures. Any banned pesticides or those no longer needed are disposed of at a hazardous waste landfill. Refer to the Emergency Plan (posted at the farm) for steps in handling products as a result of a spill, leak, or accident.

e) Inspection, Proper Operation and Maintenance

Daily inspections of water lines, drinking water and cooling water lines, above ground piping and transfer lines are conducted and recorded.

Weekly visual inspections of the clean storm water area will be conducted.

Records of the inspections and corrective actions taken will be kept for a minimum of 5 years. An inspection of manure application equipment will be kept daily during use of the equipment.

f) Land Application of Large CAFO Waste

A) Field-by-Field Assessment of all land application areas

See attached maps at end of this section.

All fields were evaluated on-site for appropriateness of land application of manure. The field assessment determines the form, source, amount, timing, rate and method of application to assure that the application is in accordance with appropriate utilization of nutrients. The assessment has identified soil types, drainage tile, tile outlet locations, and offsite conditions such as buffers and distance to surface water.

There are over 590 acres of cropland that contain either complete or random tile drainage. All surface water inlets and tile outlets are documented on field maps in the CNMP and are carefully considered prior to land application of manure.

Field conditions are checked no more than 48 hours prior to land application to evaluate the suitability for application, including the state of all tile outlets, evidence of soil cracking, the moisture holding capacity of the soil, and condition of conservation practices.

All tiled fields that will be applied with manure, will be checked within 24 hours of the next rain event of one-half inch or greater within 30 days of application. Written records will be kept of color, odor or other characteristics from the tile outlet point.

MARI scores plus a field-by-field assessment have been conducted with 599 acres acceptable for spreading on frozen and snow covered times. Only whole fields that are acceptable are being recommended since there are plenty of these fields on this farm.

B) Testing of production area waste and soils at land application sites

Large CAFO waste will be sampled a minimum of once per year for nutrient content. Nutrient levels, analysis methods used, and the basis for determining land application rates will be recorded. An average of the samples is utilized for planning purposes. The entire Nutrient Management Plan is on file at the farm.

Sampling procedures are as follows: Manure samples are collected during hauling after manure has been agitated to be most representative of what is going to the fields. Sequential samples are taken of the liquid fraction (in ADL #5) and of the sand fraction (in ADL #1). Samples are then frozen and submitted for analysis.

Fields are soil tested every three years and all fields in this plan have a current test (less than 3 years). Soil tests are taken by Ag Co-op and are pulled using soil management groups to determine sampling areas, in less than 20 acre increments, unless the soil types and 10 year cropping history is similar. If this is the case, then a maximum of 40 acre sample sizes will be taken. When soil tests are similar, based on the phosphorus levels, the twenty acre increments are averaged together for one soil test for an entire field. This is how the Brown's farm the field and how manure is spread. Where soil tests indicate a significant difference, they are separated out and treated as a new sub-field.

Tri-State fertilizer recommendations are utilized and generated via MMP.

- C) Field Inspections prior to and following land applications
Records of inspections, monitoring, and sampling will be recorded in the Land Application Log. Fields receiving manure will be inspected prior to application. Tile outlets are monitored before and after manure applications. Field observations and any corrective actions taken, if necessary, are documented in the Land Application Log.
- D) Inspections of land application equipment
All application equipment is calibrated annually to ensure proper application rates. Written records of daily inspections during hauling as well as calibrations are documented on a form and kept on file. Hauling records and acres covered are a double check on the maintained accuracy of application rates. See Land Application Equipment Inspection Form.
- Hoses and fittings are kept in good repair on all manure spreader tanks.
Damaged, missing, or inoperable safety items are repaired or replaced immediately.
- E) Field specific application rates for large CAFO wastes
Land application rates are applied on the basis of: 1) preventing dry weather discharges, 2) wet weather discharges, and 3) not exceeding the capacity of the soil and planned crops to assimilate nutrients, and are quantified and based on the most limiting nutrient in the soil, type of crop, realistic crop yield goals, soil type, and all nutrient inputs in addition to those from the large CAFO waste. All manure nutrients can be used agronomically. It is planned to utilize manure ahead of corn crops. Fields are generally rotated corn/soybeans, so manure is planned to be applied at two years of phosphorus and the same field is not applied two years in a row. This program is expected to keep the soil tests about where they are over time. There is sufficient land base for the nutrients produced. There are limited surface waters on this farm and since manure is injected, are a limited concern. The primary resource concern is nitrogen leaching. This is being addressed by only applying 2 years of phosphorus per application, which limits the nitrogen, such that PSNT tests are taken before any additional nitrogen is applied to the corn crop. This also allows for any residual nitrogen from the soybean crop to be accounted for in the corn year. Manure samples are used for this plan.
- The basis for determining nutrient applications for each individual field is carefully considered prior to application and detailed information is listed in the CNMP.
- F) Appropriate prohibitions for land application.
Manure is never applied on land that is flooded or saturated with water or during rainfall events. All waste application will be delayed if rainfall exceeding ½ inch (or less if a lesser event is capable of producing an unauthorized discharge) is forecasted by the National Weather Service within 24 hours of the time of the planned application. All manure is incorporated within 24 hours of application. (See Copy of Forecast.)
- G) Methods of application.
Liquid manure is injected at time of application unless the field is in no-till, alfalfa or wheat stubble. Liquid manure may be surface applied and immediately incorporated upon occasion.
Solid manure is surface applied and incorporated, unless in no-till, alfalfa or wheat stubble.
Frozen and snow covered conditions are surface applied based on MARI ratings.

H) Setback requirements for each field.

Waste is not applied closer than 100 feet (injected or incorporated) to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural wellheads, or grassed waterways, ditches and swales that are conduits to surface waters. All setbacks and vegetative buffers are identified on field maps. See maps.

Fields Acceptable for Frozen and Snow Covered Applications

This summarizes all fields that score less than 37 on the manure application risk index (MARI)

The lower the MARI score the better for winter spreading. Fields over a score of 37 are NOT to be applied with manure during frozen and snow covered times of the year.

Only fields where the entire field is acceptable to winter apply have been suggested for utilization on this farm since there are plenty of acres and only approximately 80 acres are needed for winter time. Therefore topographic maps are not included.

Field ID	Sub ID	Acres	MARI
DTS	S	12.4	15
LM	1	40	29
CN	2	29.2	29.5
SE	1A	8.3	29.5
CN	3	14.1	31
D	1	50	31
HM	2	38.8	31
SW	1	12.1	31
SW	2	23.9	31
CN	1S	19.5	31.5
SH	4	10.3	31.5
W	4	20.4	31.5
CN	4	6.7	32
LM	2	36.5	32
SE	7	10.1	32
SE	8	10.1	32
SE	9	10.1	32
CO	N	36.4	32.5
SH	3	18.3	33
BG	4	17.3	33.4
F	N3,4	37.2	33.5
SH	5	14	33.5
HM	1	19.4	34
CN	1N	20	34.5
CO	S	40	35.5
HO	3	9	36
F	S1,2	35	36.5
		599.1	

MICHIGAN MANURE APPLICATION RISK INDEX WORKSHEET					Fill in shaded areas only!			ctrl "c" to c	
Farm Number:	Sample Dairy				Date:				
Township:	Sand County				Tract No:	as is			
Farm or Producer Name:									
Field No:	F S	F N	HM 1	HM 2	HM 3	HO 1	HO 2	CO N	
Acres:	35	37.2	39.1	39.1	20	57	51.8	36.4	
FIELD FEATURES "INPUT"									
I. SOIL MAP UNIT									
If drained, enter Y									
Insert Soil Series									
	Fox	fox	fox	fox	fox	fox	fox	oshtemo	
1. Soil Hydrologic Group	B	B	B	B	B	B	B	B	B
2. Soil Management Group	3/5a	3/5a	3/5a	3/5a	3/5a	3/5a	3/5a	3/5a	4a
3. Percent Slope	1	1	1	1	1.9	1	1	1	1
II. WATER QUALITY									
4. Soil Test Phosphorus Value	160	104	142	138	104	322	468	138	
5. Conc. Water/Surface Inlet	p	p	p	p	f	p	s	p	
6. Nitrogen leaching Index	m	m	m	m	m	m	m	m	
	prompt for cell above	m	m	m	m	m	m	m	m
III. SURFACE COVER									
7. Residue/Cover Crops/Per. Cover	40	40	40	40	40	40	40	40	40
8. Surface Water Setback	1	1	1	1	8	1	2	1	
9. Vegetative Buffer Width	na	na	na	na	15	na	25	150	
IV. MANURE									
10. Manure Phosphorus Application	90	90	90	90	90	45	45	90	
11. Manure Nitrogen Application	130	150	140	150	125	125	125	150	
12. Manure Application Method	s>3	s>3	s>3	s>3	s>3	s>3	s>3	s>3	s>3
FIELD FEATURES "OUTPUT"									
I. SOIL SMG									
1. Soil Hydrologic Group	3/5a	3/5a	3/5a	3/5a	3/5a	3/5a	3/5a	3/5a	4a
2. Soil Management Group	2	2	2	2	2	2	2	2	2
3. Percent Slope	1	1	1	1	1	1	1	1	1
II. WATER QUALITY									
4. Soil Test Phosphorus Value	6	3	3	3	3	12	12	3	
5. Concentrated Water Flow or Surface Inlet Discharge	1.5	1.5	1.5	1.5	3	1.5	6	1.5	
6. Nitrogen Leaching Index for Soil Hydrologic Group	6	6	6	6	6	6	6	6	
III. SURFACE COVER									
7. Residue/Cover Crop/Per. Cover	1	1	1	1	1	1	1	1	1
8. Surface Water Setback	1	1	1	1	8	1	2	1	
9. Vegetative Buffer Width	1.5	1.5	1.5	1.5	12	1.5	6	1.5	
IV. MANURE									
10. Manure "P" Application	4	4	4	4	4	2	2	4	
11. Manure "N" Application	2	4	4	4	2	2	2	4	
12. Manure Application Method	8	8	8	8	8	8	8	8	8
FIELD FEATURES INDEX TOTALS									
	36	35	35	35	52	40	50	35	
	LOW	LOW	LOW	LOW	MEDIUM	HIGH	HIGH	LOW	
TOTAL ACRES BY "MARI" RISK CATEGORY:									
	0	599.1	1252	433	2284.1				
	V. LOW	LOW	MEDIUM	HIGH	TOTAL		599.1	Total Low	

5.d. Effluent Limitations and Monitoring Requirements

CNMP Revisions

Prior to a significant change in the operation of the large CAFO, whenever there is an unauthorized discharge or if the Department determines that the CNMP is inadequate in preventing pollution, the CNMP shall be revised and the revisions approved by a certified CNMP Provider. Within ninety (90) days of a significant change, an unauthorized discharge or a Department requested revision; the revised portions of the CNMP shall be submitted to the Department with a copy of the Certified CNMP Provider certification that the revised CNMP has been approved.

Significant change includes, but is no limited to, any of the following:

1. An increase in the number of animals that is greater than or equal to 10% of the number identified in the CNMP.
2. An increase in the number of animals that results in a decrease in the waste storage capacity time, as identified in the CNMP, by one month or greater.
3. An increase in the number of animals where the large CAFO waste generated by the livestock requires more land for its application than is available at the time of the increase.
4. A decrease in the number of acres available for land application, where the large CAFO waste generated requires more land for application than will be available after the decrease.

Field Specific Information

Field	Sub ID	Size(Ac.)	Spreadsize	Predominant Soil Type	P Lvl	Unit s	MARI	Crop Year 1	Yld	Crop Year 2007	Yld	Crop Year 2008	Yld	Notes
BK	2	11.3	11.3	Locke FSL (15B 1-4%)	12	ppm	36	Soybean	35	Wheat	50	Corn grain	135	
BM3	A	10.0	10.0	Fox SL (27A 0-2%)	13	ppm	32	Corn grain	150	Corn silage	25	Corn grain	145	
BG	4	16.8	16.8	Hatmaker L (7B 1-4%)	15	ppm	48.5	Soybean	45	Corn grain	145	Soybean	45	BG4: 100' setback around surface riser. No winter spread.
BK	5	54.0	54.0	Elmdale FSL (11B 0-6%)	16	ppm	39	Soybean	35	Corn grain	135	Soybean	35	BK5: No winter spread.
BK	6	5.9	5.9	Elmdale FSL (11B 0-6%)	16	ppm	43.5	Soybean	35	Corn grain	135	Soybean	35	BK 6: No winter spreading
BK	7	3.0	3.0	Hillsdale FSL (5B 2-6%)	16	ppm	43.5	Soybean	35	Corn grain	135	Soybean	45	BK 7: no winter spread
BK	1	21.7	21.7	Kidder FSL (2B 2-6%)	17	ppm	36	Soybean	35	Wheat	50	Corn grain	135	
BK	4	16.9	16.9	Locke FSL (15B 1-4%)	17	ppm	33	Soybean	35	Corn grain	135	Soybean	35	
NO	4	29.1	29.1	Barry L (17 0-1%)	21	ppm	37.5	Soybean	45	Corn grain	145	Soybean	45	NO4: 66' buffer on W No winter spreading
SH	4	10.3	10.3	Locke FSL (15B 1-4%)	21	ppm	33	Corn grain	145	Soybean	50	Corn grain	145	
SH	5	14.0	14.0	Hatmaker L (7B 1-4%)	21	ppm	35	Corn grain	145	Soybean	50	Corn grain	145	
W	1	19.7	19.7	Locke FSL (15B 1-4%)	23	ppm	44.5	Corn grain	145	Soybean	50	Corn grain	145	No winter spreading
W	2	10.0	10.0	Locke FSL (15B 1-4%)	23	ppm	31	Corn grain	145	Soybean	50	Corn grain	145	
W	3	23.9	23.9	Locke FSL (15B 1-4%)	24	ppm	52.5	Corn grain	145	Soybean	50	Corn grain	145	No winter spreading.
W	4	20.4	20.4	Locke FSL (15B 1-4%)	24	ppm	37.5	Corn grain	145	Soybean	50	Corn grain	145	No winter spreading
SA	3	23.3	23.3	Teasdale FSL (12A 0-3%)	25	ppm	42.5	Soybean	45	Corn grain	145	Soybean	45	SA3: 100' setback from tile riser, no winter spread
SA	4	14.5	14.5	Teasdale FSL (12A 0-3%)	25	ppm	42.5	Soybean	45	Corn grain	145	Soybean	45	SA4: 66' buffer on east ditch.
D	3	45.0	45.0	Teasdale FSL (12A 0-3%)	26	ppm	45.5	Corn grain	175	Corn grain	175	Soybean	55	no winter spread
CN	2	29.2	29.2	Ormas LS (33B 0-6%)	27	ppm	36	Alfalfa topdress	6	Corn grain	145	Alfalfa seeding	3	CN 2, 100 ft. setback for surface spread on east. no winter spread
SE	2	11.3	11.3	Fox SL (27B 2-6%)	27	ppm	54.5	Alfalfa topdress	6	Alfalfa topdress	6	Alfalfa topdress	6	SE 2: No winter
SE	3	7.4	7.4	Fox SL (27A 0-2%)	27	ppm	54.5	Alfalfa topdress	6	Alfalfa topdress	6	Alfalfa topdress	6	SE 3: No winter spreading or surface applications
BM	2	20.0	20.0	Locke FSL (15B 1-4%)	28	ppm	46.5	Corn silage	25	Corn silage	25	Corn silage	25	No surface winter spreading
BM	2	20.0	20.0	Locke FSL (15B 1-4%)	28	ppm	46.5	Rye for cover		Corn silage	25	Corn silage	25	No surface winter spreading
SE	4	14.2	14.2	Fox SL (27A 0-2%)	28	ppm	52.5	Alfalfa topdress	6	Alfalfa topdress	6	Alfalfa topdress	6	SE4: No winter spreading. 100 ft. setback from pond when surface applying

Rest of fields omitted in lieu of space.

Table 17: Summary of Total Annual Acres and Nutrients Spread

Crop Yr	Acres Spread	Avail.N	P2O5	K2O
2007	699.1	62,651	56,711	99,109
2008	552.3	59,501	43,114	72,953

Table 18: Summary of Manure Hauled for each storage system

Crop Yr	Storage	Annual Volume or Wt.	Amount Hauled	Units	Acres Spread	N	Annual P2O5	P2O5	K2O
2007	#1 ADL	753,165	642,000	Gal	131.5	5,717	18,076	15,442	16,674
2007	#5 ADL	4,626,406	2,178,000	Gal	391.6	52,310	69,396	32,772	63,187
2007	Earthen storage #2	1,955,356	2,052,000	Gal	76.0	1,824	1,564	1,672	9,424
2007	Mon.Wed. Fri. Haul	1,700	950	Ton	47.5	1,330	3,060	1,995	5,415
2007	Weekly Haul	1,900	1,050	Ton	52.5	1,470	4,940	4,830	4,410
2008	#1 ADL	753,165	720,000	Gal	175.7	10,250	18,076	17,288	18,721
2008	#5 ADL	4,626,406	1,494,000	Gal	282.8	46,911	69,396	22,473	43,331
2008	Earthen storage #2	1,955,356	1,940,000	Gal	71.8	1,723	1,564	1,580	8,903
2008	Mon.Wed. Fri. Haul	1,700	100	Ton	5.0	140	3,060	210	570
2008	Weekly Haul	1,900	340	Ton	17.0	476	4,940	1,564	1,428

Annual volume and annual P₂O₅ are calculated values from this plan. Amount hauled is based on actual (from records) or projected values. N, P₂O₅ and K₂O are total pounds per year, per storage system.

Manure transferred off site via Manifest

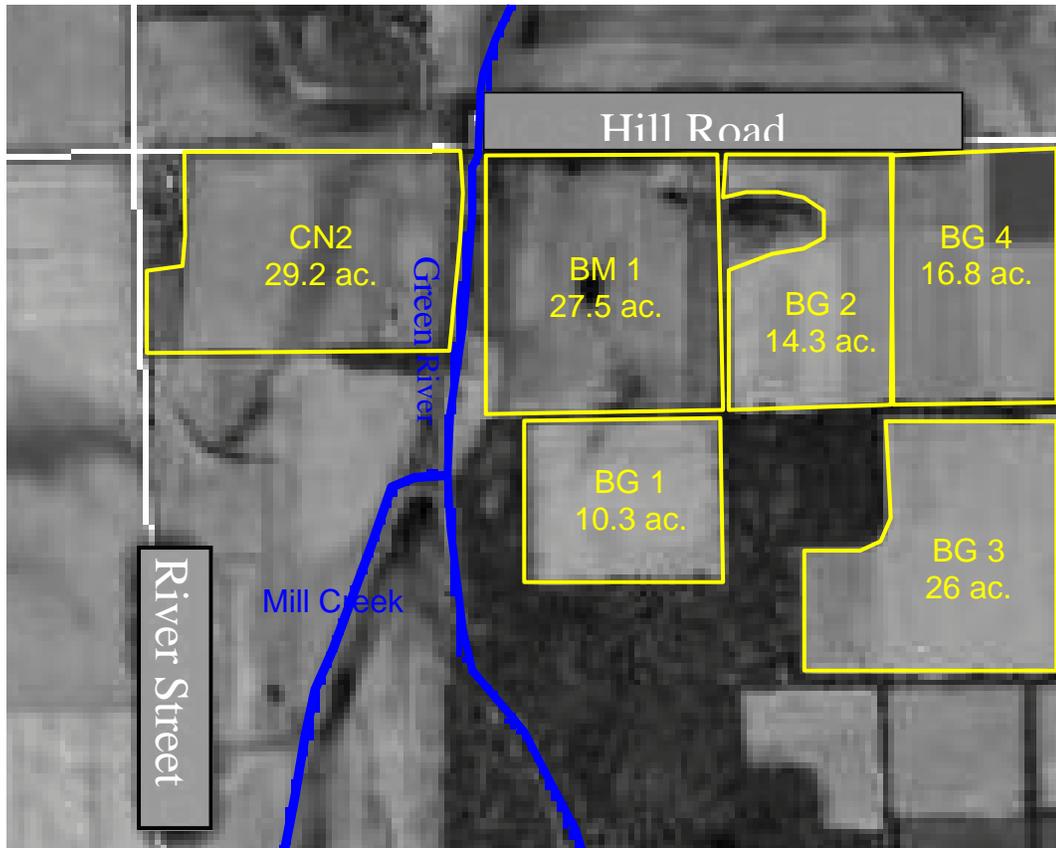
TransferType	Storage ID	Nutrient Content	Year	Month	Amount	Units	Operation	Location
Exported manure	#1 ADL	16 – 24 – 24	2007	May	300000	Gal	Hillview Crop Farm	Missy Farm Address:
Exported manure	#5 ADL	16 – 24 – 24	2006	Apr	900000	Gal	Hillview Crop Farm	Jones Farm Address:
Exported manure	#5 ADL	16 – 24 – 24	2006	May	500000	Gal	Hillview Crop Farm	Sackett Farm Address:
Exported manure	#5 ADL	16 – 24 – 24	2006	Oct	900000	Gal	Hillview Crop Farm	Park Farms Address:
Exported manure	#5 ADL	16 – 24 – 24	2006	Nov	370000	Gal	Hillview Crop Farm	Summers Farm Address:
Exported manure	#5 ADL	16 – 24 – 24	2007	Mar	900000	Gal	Hillview Crop Farm	Billy Farm Address:
Exported manure	#5 ADL	16 – 24 – 24	2007	Apr	300000	Gal	Hillview Farms	Sears Farm Address:

Field ID	Subfield	Size(Ac.)	SpreadSize	Predominant Soil Type	Irrigated	No Manure	Drained	Rented
BG	1	10.3	10.3	Branch LS (25B 1-4%)				
BG	4	16.8	16.8	Hatmaker L (7B 1-4%)			x	
BG	2	14.3	14.3	Branch LS (25B 1-4%)				
BG	3	26.0	26.0	Branch LS (25B 1-4%)				
BK	1	21.7	21.7	Kidder FSL (2B 2-6%)				x
BK	2	11.3	11.3	Locke FSL (15B 1-4%)				x
BK	3	16.8	16.8	Locke FSL (15B 1-4%)				x
BK	4	16.9	16.9	Locke FSL (15B 1-4%)				x
BK	5	54.0	54.0	Elmdale FSL (11B 0-6%)				x
BK	6	5.9	5.9	Elmdale FSL (11B 0-6%)				
BK	7	3.0	3.0	Hillsdale FSL (5B 2-6%)				x
BM	2	20.0	20.0	Locke FSL (15B 1-4%)	x		x	
BM	1	27.5	27.5	Locke FSL (15B 1-4%)	x			
BM3	a	10.0	10.0	Fox SL (27A 0-2%)	x		x	
BY	1	47.4	47.4	Fox SL (27A 0-2%)	x		x	x
CN	1S	19.5	19.5	Fox SL (27A 0-2%)				x
CN	1N	20.0	20.0	Fox SL (27A 0-2%)				x
CN	2	29.2	29.2	Ormas LS (33B 0-6%)				x
CN	3	14.1	14.1	Ormas LS (33B 0-6%)				x
CN	4	6.7	6.7	Fox SL (27A 0-2%)				x
CN	5	5.2	5.2	Fox SL (27B 2-6%)				x
CO	N	36.4	36.4	Oshtemo SL (4B 0-6%)	x			
CO	S	40.0	40.0	Fox SL (27A 0-2%)	x			
CS	1	45.7	45.7	Locke FSL (15B 1-4%)				
CS	2	6.8	.1	Fox SL (27A 0-2%)		x		x
CS	3	3.6	.1	Fox SL (27A 0-2%)		x		
D	1	50.0	50.0	Teasdale FSL (12A 0-3%)	x		x	
D	2	36.9	36.9	Teasdale FSL (12A 0-3%)	x		x	
D	3	45.0	45.0	Teasdale FSL (12A 0-3%)	x		x	
D 10		4.5	4.5	Oshtemo SL (4B 0-6%)				
D 11		3.2	3.2	Oshtemo SL (4B 0-6%)				
D 12		2.3	2.3	Teasdale FSL (12A 0-3%)				
The rest of the fields were omitted in lieu of space								
Totals:		2432.9	2284.4		728.2	149.1	593.2	905.8

Example Dairy Field Assessment Map

(All maps would be included in a real plan.
Only 1 page is shown in this example).

Sec. 21, Green Township,
Sand County



Map Not to Scale

Michigan DEQ CNMP

(as per MIGO 19000)

January 2007

for Jones Pork

I. General Information:

Date of Implementation: _____

Date of latest update of NMP: _____

Farm Ownership

Jones Pork, Ken or Brian Jones, 1508 Cork Road, Anytown, MI 49123
Home: (555) 555-3163; Office: (555) 555-3732; Mobile: (555) 555-2155

Location:

Sec. 11, Green Township, Juniper County, Michigan. Corner of Cork and Brown Roads.
Annual rainfall: 32.53 in (mean 1960-1990), Annual evaporation: 29 in (mean 1960-1990)

Address:

1508 Cork Road
Anytown, MI 49123

Signature of CNMP Provider

Print Name

Address

Phone and email contact information

Signature of Producer

Print Name

Background

Animals

There are 2500 finish hogs housed in two barns.

The barns are at capacity for an average of 312 days per year based on a three week clean out schedule. The pigs come into the facility at 60 lbs. and are marketed at 265 lbs.

There are three turns per year.

Annually, they generate 1,164,000 gallons of manure plus 53,640 gallons of wash water, for a total of 1,217,640 gallons.

There are 503 tillable acres with 23,752 lbs. of P₂O₅ average annual crop removal using a corn/soybean rotation.

Manure is injected during spring and fall. No manure is winter spread.

Barn 1 and Barn 2

There are two identical 1125 head capacity finishing barns.

Both finishing barns contain underfloor liquid manure storage.

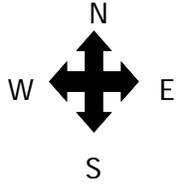
Dimensions: 215 ft. (length) x 40 ft. (width) x 8 ft. (depth) w/7.5 ft. usable. Each barn and concrete waste storage tank are the same size, each having 482,460 gallons of useable capacity.

The storage tanks provide 7.5 months of storage, but are emptied every 6 months.

The barns are fully confined, naturally ventilated, have fully slatted floors, and were constructed in 1998.

Swing waterers are used.

Farm Headquarters Map
Jones Pork
Juniper Co., Green Twp., Section 11



Map Not to Scale



Feed Bins

Cork Road

Brown Road

5.b.1. Large CAFO Waste Storage Structures – Information for Barn 1 and Barn 2

a) Volume Design Requirements

Total Design Volume: with 6 inch freeboard: 64,500 cu. ft. (482,460 gallons)

(With no freeboard: 514,624 gallons)

Days of Storage Capacity: 225, 7.5 months. (but pumped out every 6 months). Both pits are pumped out between November 1st and December 31st to assure 6 months of available storage, leaving an unused capacity of a minimum of 4' 11" for each structure (includes 6" freeboard)

Freeboard: 6 inches

25 yr./24 hr. storm: 0

b) Physical Design and Construction Requirements

Complete designs are available at the farm.

c) Inspection Requirements

Visual inspection will be conducted weekly and recorded.

The inspections will look for cracks, leaks, seepage, overflow, structural integrity by walking around the outside of the building and by looking for wet areas, animal burrowing and to see the foundation is not bowing. From inside the building, without entering the pit, the storage will be viewed for cracks or evidence of overflows.

Records will be kept on file for 5 years.

d) Operation and Maintenance

The O & M schedule will be conducted in accordance with the regular inspections.

At some point between Nov. 1 and Dec. 31, of each year, there will be a minimum available operational volume equal to or greater than 6 months of storage, which in each barn is 4 ft. 11 inches of empty space or more.

Gutters and downspouts will be maintained to insure that rain moves away from the foundation.

The area will be mowed and grass maintained to direct water away from the building.

Records of inspections and records documenting any actions taken to correct deficiencies will be kept with the CNMP for a minimum of 5 years.

Deficiencies not corrected within 30 days will be accompanied by an explanation of the factors causing the delayed correction.

MIDWEST PROFESSIONAL ENGINEERING FIRM

SUBJECT: ENG – Jones Pork,
Evaluation of Existing Components for a
Comprehensive Nutrient Management Plan,
Juniper County, MI

TO: Department of Environmental Quality
101 Brook Rd.
Anywhere, MI 49123

Date: July 12, 2006

To Whom It May Concern,

Jones Pork has two existing waste storage components. An inspection of these storage components was conducted on May 5th, 2006, as part of a field visit for preparation of the landowner's Comprehensive Nutrient Management Plan (CNMP). The inspection addressed the suitability of using existing waste storage facilities as components of the CNMP.

Existing components may be included as part of a CNMP only if all of the following conditions are met:

1. The existing component is consistent with the safety requirements of the CNMP.
2. An investigation of the existing component indicates it is in good operating condition based upon observable and or measurable features and conditions.
3. The failure of the existing component will not impair the structural integrity of new Components.
4. The existing component can be managed as part of the CNMP.

This letter reports the findings of my inspection in terms of the criteria described above. This investigation and evaluation is not a certification of the components, only an investigation of existing conditions. Refer to the site map for locations of the existing components.

Manure Storage Tanks

This facility has two waste storage components. Both are cast-in-place reinforced concrete tanks lying below finishing barns. The facilities were built 10 years ago and are identical. The finishing barns are 215 ft. x 40 ft. with an 8 ft. deep tank. Livestock is brought in at 60 pounds and shipped out at 265 pounds. This facility capacity is 1000 animals per barn, at an average weight of 162 pounds. The manure storage capacity for each facility is 482,460 gallons, with a 6 inch freeboard, and 964,920 gallons combined two storages. The livestock is on 8 inch thick gang slats. The

gangs are 6 ft. x 10 ft. and are supported by 6-foot long reinforced 12" x 12" beams. The Swine Barn Company of Indiana constructed the facility and its components. The design drawings were reviewed during the inspection and the floor and walls meet NRCS 313 standard.

Visual inspection of this storage was conducted by walking around the outside perimeter of the barn. There was no evidence of animal burrowing, damage to the outside of the foundation, and gutter systems were in place to carry water away from the storage.

Visual inspection of the inside of the storage structure is limited to using a flashlight to observe that there were no cracks, the walls are straight and slats in good repair. There is no damage to the structures, including the pump out areas. The structure is in good operating conditions, based on observable features.

Responses to the existing component criteria are as follows:

1. The existing component is consistent with the safety requirements of the CNMP.
2. An investigation of the existing component indicates it is in good operating condition based upon observable and or measurable features and conditions.
3. The failure of the existing component will not impair the structural integrity of new components.
4. The existing component can be managed as part of the CNMP.

In summary, the manure storage tanks are in good working condition and are being used as they were intended.

Respectfully Submitted,

John Smith, PE
Midwest Professional Engineering Firm

5.b.2. Best Management Practices

a) Divert Clean Water

This is a total confinement facility. Roof water lands on grassed areas that slope away from the building. The perimeter of the building will be checked weekly to insure that rain water continues to flow away from the building site.

b) Prevent Direct Contact of Confined Animals with Waters of the State

All animals are totally confined. Animals have no access to surface water.

c) Animal Mortality

Dead hogs, estimated at 94 per year, are buried following the Bodies of Dead Animals Act (BODA).

Records of animal mortality handling practices will be kept with the CNMP for at least 5 years.

d) Chemical Disposal

The introduction of hazardous or toxic chemicals (i.e., pesticides, petroleum products) into waste storage structures does not occur. Any banned pesticides or those no longer needed are disposed of at a hazardous waste landfill. An Emergency Plan is in place on the farm to provide steps in handling products as a result of a spill, leak, or accident.

e) Inspection, Proper Operation and Maintenance for handling equipment and management devices.

Drinking water lines and waterers are inspected visually daily and recorded.

Pumps used for moving manure out of the pit are inspected prior to use.

Manure application equipment is inspected daily during use and recorded.

Manure application equipment is calibrated annually and recorded.

Grassed buffer areas are kept in good vegetative condition, no herbicides or manures are applied.

f) Land Application of Large CAFO Waste

A) Field-by-Field Assessment of all land application areas (See Table 1 & 2)

All fields were evaluated on-site for appropriateness of land application of manure. The field assessment determines the form, source, amount, timing, rate and method of application to assure that the application is in accordance with appropriate utilization of nutrients. The assessment has identified soil types, drainage tile and tile outlet locations (none present on this farm), and offsite conditions such as buffers and distance to surface water.

There are open ditches adjacent to several fields in this CNMP. They are documented under the field notes column in the Assessment Tab in MMP and located in this document. Minimum manure application setbacks will be maintained along the waterways and will be documented in manure application records. All practices, including grassed waterways and riparian buffers, have been established and are maintained based on NRCS standards and specifications.

B) Testing of production area waste and soils at land application sites

Large CAFO waste is sampled a minimum of once per year for nutrient content. Sampling procedures: Manure is circulated in the pit then vacuumed up into the manure applicator. Manure is collected back out of the manure application tanker several times over the application season, frozen, and submitted for analysis. Nutrient levels, analysis methods used, and the basis for determining land application rates is recorded. An average of the samples is utilized for planning purposes.

Soil sampling: Ken Jones takes his own soil samples, following MSU guidelines for dividing fields into management units and past history of crop yields. Samples are taken to an 8 inch depth, 15-20 cores per sample. Samples generally represent less than 20 acres based on field history. Soil samples are collected every three years and fertilizer recommendations are based on crop to be grown and realistic yield goals. A&L Agricultural Laboratories are used for soil analysis. A & L reports soil nutrient concentration as ppm. The soil tests have been run through the Purdue MMP software, generating fertilizer recommendations based on Tri-State requirements.

The average whole farm crop removal for this farm is 49 lbs. per acre P_2O_5 .

No fields test higher than 300 pounds/acre (150 ppm) Bray-P1. The entire Nutrient Management Plan is on file at the farm. Refer to Table 1 for phosphorus test levels.

C) Field Inspections prior to and following land applications

All records of field inspections, monitoring, and sampling are recorded in the Land Application Log available at the farm.

Fields are inspected within 48 hours of land applications and recorded in the land application log.

Weather forecasts are checked within 24 hours of land application and after land application and kept on file.

D) Inspections of land application equipment

All application equipment is calibrated annually to ensure proper application rates. Written records of daily inspections during hauling as well as calibrations are documented on a form and kept on file. Hauling records and acres covered are a double check on the maintained accuracy of application rates.

Hoses and fittings are kept in good repair on all manure spreader tanks.

Damaged, missing, or inoperable safety items are repaired or replaced immediately.

E) Field specific application rates for large CAFO wastes (See 2007 & 08 spreading plans)

Land application rates are applied on the basis of: 1) preventing dry weather discharges, 2) wet weather discharges, and 3) not exceeding the capacity of the soil and planned crops to assimilate nutrients, and are quantified and based on the most limiting nutrient in the soil, type of crop, realistic crop yield goals, soil type, and all nutrient inputs in addition to those from the large CAFO waste. All manure nutrients can be used agronomically. It is planned to utilize manure ahead of corn crops. Fields are generally rotated corn/soybeans, so manure is planned to be applied at two years of phosphorus and the same field is not applied two years in a row. This program is expected to keep the soil tests about where they are over time. There is sufficient land base for the nutrients produced. There are limited surface waters on this farm and since manure is injected, are a limited concern. The primary resource concern is nitrogen leaching. This is being addressed by only applying 2 years of phosphorus per

application, which limits the nitrogen, such that PSNT tests are taken before any additional nitrogen is applied to the corn crop. This also allows for any residual nitrogen from the soybean crop to be accounted for in the corn year. Manure samples are used for this plan.

F) Appropriate prohibitions for land application.

Manure is never applied on land that is flooded or saturated with water or during rainfall events. All waste application will be delayed if rainfall exceeding ½ inch (or less if a lesser event is capable of producing an unauthorized discharge) is forecasted by the National Weather Service within 24 hours of the time of the planned application. All manure is incorporated within 24 hours of application. No manure is applied on frozen or snow covered ground.

G) Methods of application.

All manure is injected at time of application.

H) Setback requirements for each field.

Waste is not applied closer than 100 feet (injected or incorporated) to any down-gradient surface waters, sinkholes, agricultural wellheads, grassed waterways, or ditches and swales that are conduits to surface waters. All setbacks and vegetative buffers are identified on field maps and in Table 2.

5.d. Effluent Limitations and Monitoring Requirements

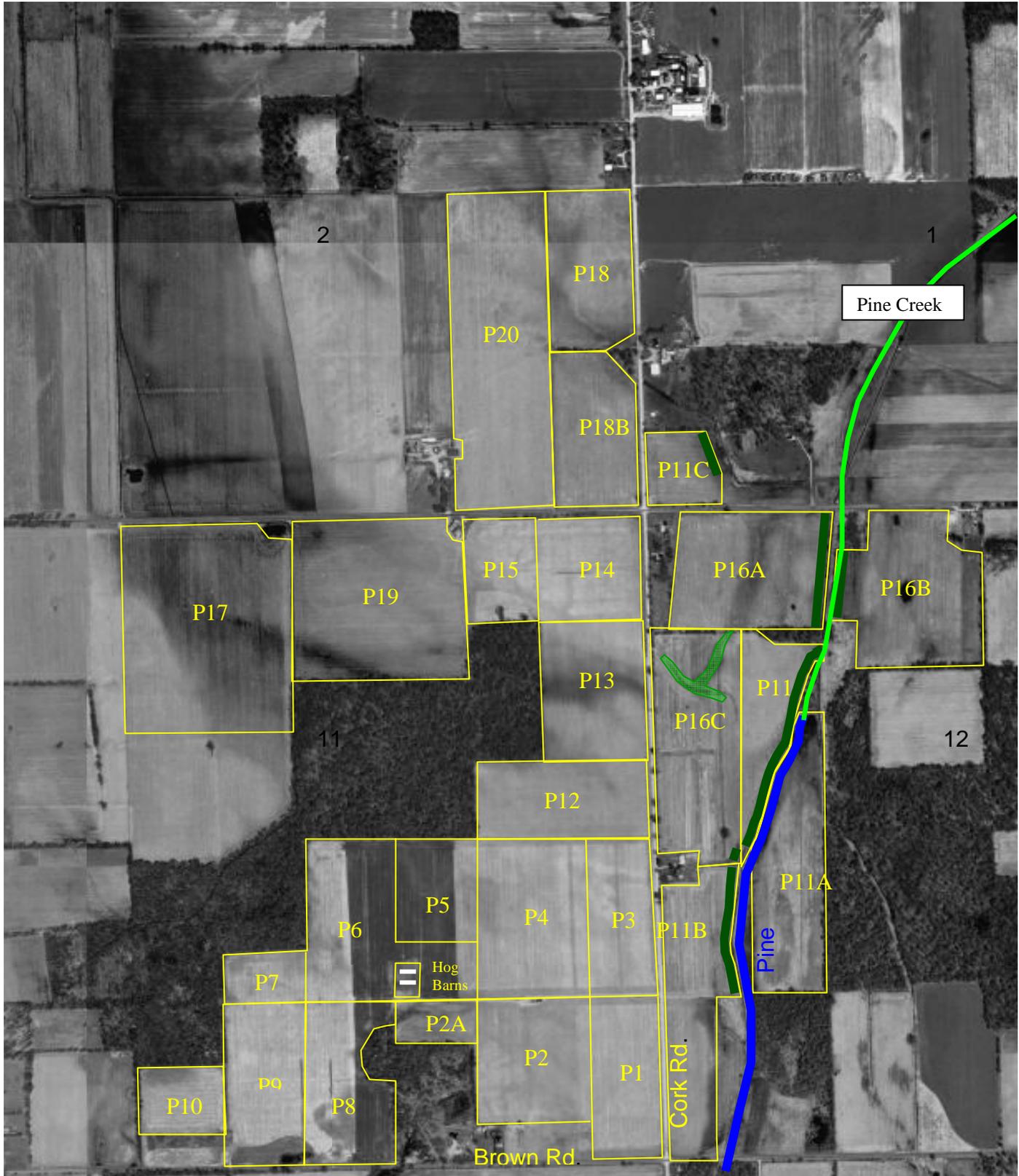
CNMP Revisions

Prior to a significant change in the operation of the large CAFO, whenever there is an unauthorized discharge or if the Department determines that the CNMP is inadequate in preventing pollution, the CNMP shall be revised and the revisions approved by a certified CNMP Provider. Within ninety (90) days of a significant change, an unauthorized discharge or a Department requested revision; the revised portions of the CNMP shall be submitted to the Department with a copy of the Certified CNMP Provider certification that the revised CNMP has been approved.

Significant change includes, but is no limited to, any of the following:

1. An increase in the number of animals that is greater than or equal to 10% of the number identified in the CNMP.
2. An increase in the number of animals that results in a decrease in the waste storage capacity time, as identified in the CNMP, by one month or greater.
3. An increase in the number of animals where the large CAFO waste generated by the livestock requires more land for its application than is available at the time of the increase.
4. A decrease in the number of acres available for land application, where the large CAFO waste generated requires more land for application than will be available after the decrease.

Map of Land Application Areas and Farm Headquarters
 Juniper County, Green Twp, Sec. 1, 2, 11, 12



-  Grassed Waterway (No manure within 100 ft. of waterway)
-  100 ft. Setback (Injected/Incorporated)/150 ft. Setback (Surface applied) for manure applications
-  Riparian Buffer Strip (35 ft. wide - No manure)

2008 Manure Spreading Plan

Crop Yr	App Yr	Mon	Field	Acres	For Crop	Storage Id	Equipment	P Test	Units	MARI	Rate/A	Unit	Amt Applied	Avail. N	P2O 5	K2O
2008	2007	Dec	P11A	19.2/19	Corn grain	Pit 2	Houle	80 ppm			4300 Gal		82,500	97	97	132
2008	2007	Dec	P11B	25.1/24.5	Corn grain	Pit 2	Houle	77 ppm			3500 Gal		88,000	79	79	107
2008	2007	Dec	P11C	7.9/6.5	Corn grain	Pit 1	Houle	75 ppm			3500 Gal		27,500	79	79	107
2008	2007	Dec	P14	14.1/14	Corn grain	Pit 1	Houle	72 ppm			3500 Gal		49,500	79	79	107
2008	2008	Jan	P18A	16.6/16	Corn grain	Pit 1	Houle	51 ppm			4300 Gal		71,500	97	97	132
2008	2008	Jan	P18B	16.6/16	Corn grain	Pit 2	Houle	45 ppm			4300 Gal		71,500	97	97	132
2008	2008	Feb	P20	29.4/29	Corn grain	Pit 1	Houle	45 ppm			4300 Gal		126,500	97	97	132
2008	2008	Apr	P02A	4.7/4	Soybean	Pit 1	Houle	64 ppm			3500 Gal		16,500	79	79	107
2008	2008	Apr	P03	15.7/15	Corn grain	Pit 2	Houle	74 ppm			3500 Gal		55,000	79	79	107
2008	2008	Apr	P04	28.1/28	Corn grain	Pit 2	Houle	103 ppm			4300 Gal		121,000	97	97	132
2008	2008	Apr	P07	9.4/9	Soybean	Pit 1	Houle	23 ppm			3500 Gal		33,000	79	79	107
2008	2008	Apr	P10	12.6/12	Soybean	Pit 1	Houle	75 ppm			3500 Gal		44,000	79	79	107
2008	2008	Apr	P11	19.2/19	Corn grain	Pit 1	Houle	75 ppm			4300 Gal		82,500	97	97	132

2007 and 2008 Manure Hauling Schedule

Crop Yr	Storage	Annual Volume or Wt.	Amount Hauled	Units	Acres Spread	N	Annual P2O5	P2O5	K2O
2007	Pit 1	439,766	434,500	Gal	112.4	9,801	9,939	9,801	13,307
2007	Pit 2	439,766	462,000	Gal	110.1	10,426	9,939	10,426	14,181
2008	Pit 1	439,766	451,000	Gal	113.9	10,172	9,939	10,172	13,817
2008	Pit 2	439,766	418,000	Gal	104.7	9,422	9,939	9,422	12,800

2007 Manure Applications

Crop Yr	App Yr	Mon	Field	Acres	For Crop	Storage Id	Equipment	P Test	Units	MARI	Rate/Ac	Unit	Amt Applied	Avail. N	P2O5	K2O
2007	2006	Nov	P02A	4.7/4	Corn grain	Pit 2	Houle	64 ppm			3500 Gal		16,500	79	79	107
2007	2006	Nov	P08	20.4/20	Corn grain	Pit 1	Houle	45 ppm			3500 Gal		71,500	79	79	107
2007	2006	Nov	P09	20.4/20	Corn grain	Pit 1	Houle	47 ppm			3500 Gal		71,500	79	79	107
2007	2006	Dec	P07	9.4/9	Corn grain	Pit 2	Houle	23 ppm			3500 Gal		33,000	79	79	107
2007	2006	Dec	P16A	26.9/25	Corn grain	Pit 2	Houle	43 ppm			4300 Gal		115,500	97	97	132
2007	2006	Dec	P16B	26.9/25.5	Corn grain	Pit 2	Houle	41 ppm			4300 Gal		115,500	97	97	132
2007	2006	Dec	P16C	24.3/24	Corn grain	Pit 1	Houle	31 ppm			4300 Gal		104,500	97	97	132
2007	2006	Dec	P17	28.1/28	Corn grain	Pit 2	Houle	45 ppm			4300 Gal		121,000	97	97	132
2007	2007	Mar	P13	20.4/20	Corn grain	Pit 1	Houle	47 ppm			3500 Gal		71,500	79	79	107
2007	2007	Mar	P19	26.9/26	Corn grain	Pit 1	Houle	46 ppm			4300 Gal		115,500	97	97	132
2007	2007	Apr	P05	14.1/13	Corn grain	Pit 2	Houle	73 ppm			4300 Gal		60,500	97	97	132

Field Nutrient Status Details

Example of one field

Plan File: C:\Documents and Settings\My Documents\CNMP's\Swine sample for permit.mmp
 11/27/2006*
Operation: Swine Sample

Last Saved:
State: Michigan

Year	Field ID	Sub ID	Nutrient Needs	Crop	Equipment/Method	Yield Goal	Acres	N	P ₂ O ₅	K ₂ O
2006	P19		Crop Fertilizer Recs	Soybean		50 Bu	26	0	0	70
2006	P19		Crop Nutrient Removal	Soybean		50 Bu	26	190	40	70
Date	Field ID	Sub ID	Nutrient Activity	Source	Equipment/Method	Rate	Acres	N	P ₂ O ₅	K ₂ O
Apr 06	P19		Fertilizer App (1-yr K)	0-0-60	Surface broadcast	116 Lb	26	0	0	70
2006	P19		Total Nutrients Applied	Spreadable Area		26	26	0	0	70
2006	P19		Balance After Recs	Spreadable Area		26	26	0	0	0
2006	P19		Balance After Removal	Spreadable Area		26	26	-190	-40	0

Year	Field ID	Sub ID	Nutrient Needs	Crop	Equipment/Method	Yield Goal	Acres	N	P ₂ O ₅	K ₂ O
2007	P19		Crop Fertilizer Recs	Corn grain		150 Bu	26	145	0	40
2007	P19		Crop Nutrient Removal	Corn grain		150 Bu	26	135	56	41
Date	Field ID	Sub ID	Nutrient Activity	Source	Equipment/Method	Rate	Acres	N	P ₂ O ₅	K ₂ O
Mar 07	P19		Manure App (2-yr P)	Pit 1	Houle	4,300 Gal	26.9	97	97	132
May 07	P19		Fertilizer App (1-yr N)	28-0-0	Shallow subsurface band (<4")	15 Gal	26	45	0	0
2007	P19		Total Nutrients Applied	Spreadable Area		26	26	145	100	137
2007	P19		Balance After Recs	Spreadable Area		26	26	0	100	97
2007	P19		Balance After Removal	Spreadable Area		26	26	10	45	97

Year	Field ID	Sub ID	Nutrient Needs	Crop	Equipment/Method	Yield Goal	Acres	N	P ₂ O ₅	K ₂ O
2008	P19		Crop Fertilizer Recs	Soybean		50 Bu	26	0	0	70
2008	P19		Crop Nutrient Removal	Soybean		50 Bu	26	190	40	70
Date	Field ID	Sub ID	Nutrient Activity	Source	Equipment/Method	Rate	Acres	N	P ₂ O ₅	K ₂ O
2008	P19		Residual Manure N				26	40		
2008	P19		Total Nutrients Applied	Spreadable Area		26	26	40	0	0
2008	P19		Balance After Recs	Spreadable Area		26	26	0	100	27
2008	P19		Balance After Removal	Spreadable Area		26	26	-150	5	27

Table 1. Phosphorus Levels for Planning Manure Applications

Field	Sub ID	Size (Ac.)	Spreadable size	Predominant Soil Type	P Level	Units	MARI	Crop Year 2007	Yield Goal	Crop Year 2008	Yield Goal	Notes
P07		9.0	9.0	Locke FSL (40A 0-3%)	23	ppm		Corn grain	150	Soybean	50	
P16C		25.0	25.0	Sebewa L (17 0-2%)	31	ppm		Corn grain	150	Soybean	50	
P15		10.0	10.0	Hillsdale SL (10B 2-6%)	39	ppm		Soybean	50	Corn grain	150	
P16B		26.0	26.0	Sebewa L (17 0-2%)	41	ppm		Corn grain	150	Soybean	50	
P16A		26.0	26.0	Sebewa L (17 0-2%)	43	ppm		Corn grain	150	Soybean	50	
P08		20.0	20.0	Hillsdale SL (10B 2-6%)	45	ppm		Corn grain	150	Soybean	50	
P17		28.0	28.0	Hillsdale SL (10B 2-6%)	45	ppm		Corn grain	150	Soybean	50	
P18B		16.0	16.0	Fox SL (16B 0-6%)	45	ppm		Soybean	50	Corn grain	150	
P20		29.0	29.0	Matherton L (37A 0-3%)	45	ppm		Soybean	50	Corn grain	150	
P19		26.0	26.0	Sebewa L (17 0-2%)	46	ppm		Corn grain	150	Soybean	50	
P09		20.0	20.0	Hillsdale SL (10B 2-6%)	47	ppm		Corn grain	150	Soybean	50	
P13		20.0	20.0	Sebewa L (17 0-2%)	47	ppm		Corn grain	150	Soybean	50	
P18A		16.0	16.0	Fox SL (16B 0-6%)	51	ppm		Soybean	50	Corn grain	150	
P01		20.0	20.0	Fox SL (16B 0-6%)	59	ppm		Corn grain	150	Soybean	50	
P02A		4.0	4.0	Hillsdale SL (10B 2-6%)	64	ppm		Corn grain	150	Soybean	50	
P14		14.0	14.0	Hillsdale SL (10B 2-6%)	72	ppm		Soybean	50	Corn grain	150	
P05		13.0	13.0	Hillsdale SL (10B 2-6%)	73	ppm		Corn grain	150	Soybean	50	
P03		15.0	15.0	Fox SL (16B 0-6%)	74	ppm		Soybean	50	Corn grain	150	
P10		12.0	12.0	Hillsdale SL (10B 2-6%)	75	ppm		Corn grain	150	Soybean	50	
P11		20.0	20.0	Seward LS (58B 0-3%)	75	ppm		Soybean	50	Corn grain	150	
P11C		7.0	7.0	Sebewa L (17 0-2%)	75	ppm		Soybean	50	Corn grain	150	
P11B		25.0	25.0	Sebewa L (17 0-2%)	77	ppm		Soybean	50	Corn grain	150	
P11A		20.0	20.0	Sebewa L (17 0-2%)	80	ppm		Soybean	50	Corn grain	150	
P12		20.0	20.0	Matherton L (37A 0-3%)	85	ppm		Corn grain	150	Soybean	50	
P06		15.0	15.0	Hillsdale SL (10B 2-6%)	88	ppm		Corn grain	150	Soybean	50	
P02		19.0	19.0	Fox SL (16B 0-6%)	93	ppm		Corn grain	150	Soybean	50	
P04		28.0	28.0	Fox SL (16B 0-6%)	103	ppm		Soybean	50	Corn grain	150	

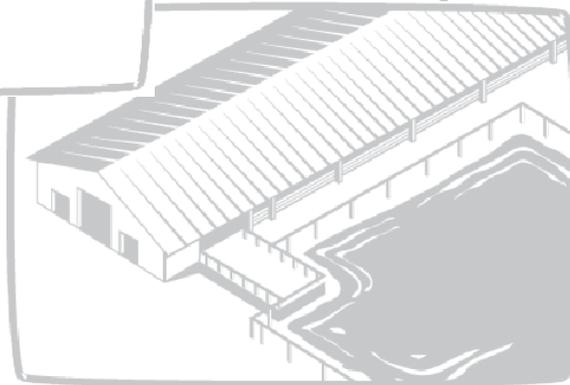
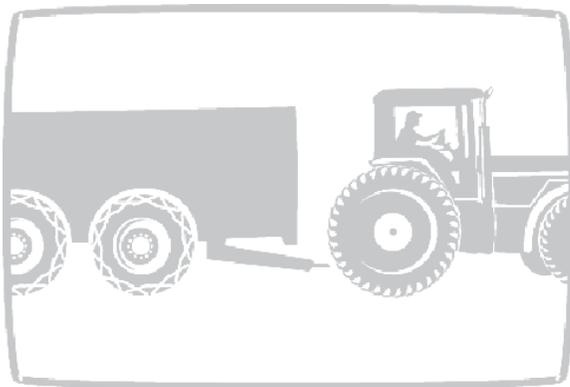
Totals	
Spreadable Size	503.0

Table 2. Field Information and Setbacks (Field by Field Assessment)

Field ID	Total Acres	Spread-able Acres	Tile Present (Y or N)	Surface Water Present (Y or N)	Predominant Soil Type	Field Assessment Notes (list manure application setbacks, surface water concerns, location of risers/drainage tile, etc.)
P01	20.0	20.0	N	N	16B (Fox SL)	
P02	19.0	19.0	N	N	16B (Fox SL)	
P02A	4.0	4.0	N	N	37A (Matherton L)	
P03	15.0	15.0	N	N	16B (Fox SL)	
P04	28.0	28.0	N	N	37A (Matherton L)	
P05	13.0	13.0	N	N	50B (Coloma S)	
P06	15.0	15.0	N	N	10B (Hillsdale SL)	
P07	9.0	9.0	N	N	10B (Hillsdale SL)	
P08	20.0	20.0	N	N	10B (Hillsdale SL)	Avoid spreading manure around wet area and steep slopes located in southwest corner of field.
P09	20.0	20.0	N	N	10B (Hillsdale SL)	Avoid spreading manure on steep slopes along south and southeast portions of field.
P10	12.0	12.0	N	N	10B (Hillsdale SL)	
P11	20.0	19.0	N	N	37A (Matherton L)	Maintain 100 ft. setback (when injected, incorporated, or surface-applied).
P11A	20.0	19.0	N	N	37A (Matherton L)	
P11B	25.0	24.5	N	Y	16B (Fox SL)	Maintain 100 ft. setback (when injected, incorporated, or surface-applied).
P11C	7.0	6.5	N	Y	17 (Sebewa L)	Maintain 100 ft. setback (when injected, incorporated, or surface-applied).
P12	20.0	20.0	N	N	37A (Matherton L)	
P13	20.0	20.0	N	N	17 (Sebewa L)	
P14	14.0	14.0	N	N	10B (Hillsdale SL)	
P15	10.0	10.0	N	N	10B (Hillsdale SL)	
P16A	26.0	25.0	N	Y	10B (Hillsdale SL)	Maintain 100 ft. setback (when injected, incorporated, or surface-applied).
P16B	26.0	25.5	N	Y	42B (Riddles SL)	Maintain 100 ft. setback (when injected, incorporated, or surface-applied).
P16C	25.0	24.0	N	Y	37A (Matherton L)	Avoid spreading manure within 100 ft. of grassed waterway.
P17	28.0	28.0	N	N	17 (Sebewa L)	
P18A	16.0	16.0	N	N	39 (Gliford SL)	
P18B	16.0	16.0	N	N	10B (Hillsdale SL)	
P19	26.0	26.0	N	N	37A (Matherton L)	
P20	29.0	29.0	N	N	10B (Hillsdale SL)	
Total	503	497.5				

SECTION 4

RECORDS AND FORMS



MANIFEST for LARGE CAFO WASTE

No. _____

This form is to be used where large CAFO waste (as defined in General Permit No. MI010000) is sold, given away or otherwise transferred to another person (recipient) such that the land application of that large CAFO waste is no longer under the operational control of the large CAFO owner or operator that generates the large CAFO waste (generator). Once completed, this form is to be kept with the generator's CNMP for a minimum of five years.

GENERATOR INFORMATION: Name: _____

Address: _____ City: _____ State: _____ Zip: _____

Nutrient Concentration (lbs/1000 gal. or lbs/ton): Phosphorus (P₂O₅): _____ Total Nitrogen: _____

Waste Type: _____ (solid, liquid, beef, dairy, compost, etc.)

"I hereby declare that the large CAFO waste is accurately described above and is suitable for land application."

Signature: _____ Date: _____

RECIPIENT INFORMATION: Name: _____

Address: _____ City: _____ State: _____ Zip: _____

"I hereby declare that the large CAFO waste described above will be properly land applied and that the destination information provided below is accurate."

Signature: _____ Date: _____

DESTINATION/DISPOSAL INFORMATION:					
Field location or other destination/disposal information: _____					
Date	Quantity	Date	Quantity	Date	Quantity
					No. of Acres: _____
Field location or other destination/disposal information: _____					
Date	Quantity	Date	Quantity	Date	Quantity
					No. of Acres: _____
Field location or other destination/disposal information: _____					
Date	Quantity	Date	Quantity	Date	Quantity
					No. of Acres: _____
Field location or other destination/disposal information: _____					
Date	Quantity	Date	Quantity	Date	Quantity
					No. of Acres: _____
Field location or other destination/disposal information: _____					
Date	Quantity	Date	Quantity	Date	Quantity
					No. of Acres: _____



Report of Discharge(s) from Concentrated Animal Feeding Operation (CAFO)

This information is required to be submitted under Michigan Act 451, Public Acts of 1994, as amended, Part 31.

Report Submitted by:	
Name and Title or Position	
CAFO name	
NPDES permit or COC number	
Address	
City, State, Zip, County	
Telephone #	
Fax #	
E-mail address	
Signature and Date (authorized representative)	

Discharge Information (see instructions for completing this section)	
1. Description of the discharge and its cause, including description of flow path to the surface water of the state. If discharge is through tile, also include information on the tile.	
2. Location of the discharge	
3. Estimate of volume discharged	
4. Surface waters impacted by the discharge(s)	
5. Period of discharge, including exact dates and times	
6. Anticipated time it is expected to continue	
7. Steps taken or planned to reduce, eliminate and prevent recurrence of the discharge	
8. Was the District Office, the Clerk of the local unit of government, and the county health department notified? If not, please explain.	
9. If the discharge is an authorized discharge, include a demonstration that the discharge meets the requirements contained in your NPDES Permit	
10. Precipitation type and amount	
11. Additional information (attach sheets and maps as necessary)	

Report of Discharge(s) from Concentrated Animal Feeding Operation Instructions

The CAFO responsible for the discharge shall report verbally, as soon as practicable but no later than 6 hours from the time the permittee becomes aware of the discharge. During normal business hours, notification to the Department shall be made to the phone number shown on the attached table. Notification during non-business hours shall be made to the Pollution Emergency Alerting System at 1-800-292-4706. The written report of discharge shall be submitted within 5 days of the discharge. Both verbal and written reports of the discharge shall be submitted to the appropriate District Office (see attached table), the Clerk of the local unit of government, and the county health department.

1. Describe of the discharge and its cause, including a description of flow path to the surface water of the State

Provide a description and the reason, the volume, and flow path to surface water for each discharge, such as lagoon overflow due to heavy rain, manure application on excessive slope, etc. If discharge is also through tile, then report needs to include information on the tile(s), such as depth, location, field conditions, etc. Be specific.

2. Location of the discharge(s)

Provide street address or other descriptive location (provide a map if necessary) for each point of discharge. Provide the latitude and longitude to within 10 seconds, if known or obtainable. Indicate the county where the discharge is located.

3. Estimate of the volume of the discharge

Provide the volume discharged in gallons or tons (clearly indicate which units are being used). If multiple discharge locations are included in the report, provide information for each discharge location, and the total volume for all discharges.

4. Surface waters impacted by the discharge(s)

Provide the name of the surface waters into which the discharge flows. If the discharge did not reach a surface water body, indicate "None". If the discharge goes to an unnamed surface waterbody, indicate that and provide the name of the first downstream waterbody with a name and a description of the path to this waterbody

5. Period of discharge, including exact dates and times

Provide the date and time the discharge began and ended. If multiple discharge locations are included in the report, provide information for each discharge location.

6. Anticipated time it is expected to continue

Provide the date and time the discharge is expected to continue

7. Steps taken or planned to reduce, eliminate and prevent recurrence of the discharge

Provide a detailed description of steps taken or planned (but not yet implemented). Include a schedule for planned actions.

8. Were initial notification procedures followed?

The CAFO responsible for the discharge is required to report verbally, as soon as practicable but no later than 6 hours from the time the permittee becomes aware of the discharge to the appropriate District Office (see attached table), the Clerk of the local unit of government, and the county health department. Was this done? If initial notification procedures were not followed, please explain why this happened and what steps will be taken to correct this situation.

9. If the discharge is an authorized discharge, include a demonstration that the discharge meets the requirements of your NPDES Permit.

Provide a detailed demonstration that the discharge meets the requirements for an authorized discharge as listed in your permit (typically Part I.A.1.) and provide the monitoring results if required in your permit (General Permit MIG440000 does not have monitoring requirements).

10. Precipitation type and amount

If the reason for the discharge is related to rainfall and/or snowmelt, provide the precipitation type, the amount of precipitation, time and duration of the precipitation (e.g., 2 inches of rain over a 6-hour period beginning at 3:00 a.m. on 9/9/2005).

11. Additional information

Provide any additional information you deem appropriate.

Water Division District Office Addresses And County Jurisdictions

<u>DEQ DISTRICT OFFICES</u>	<u>TELEPHONE #</u> <u>FAX #</u>	<u>COUNTY JURISDICTIONS</u>		
CADILLAC DISTRICT OFFICE SWQD DISTRICT SUPERVISOR 120 WEST CHAPIN ST CADILLAC, MI 49601-2158	231-775-3960 231-775-1511	ALPENA ALCONA ANTRIM BENZIE CHARLEVOIX CHEBOYGAN CRAWFORD EMMET	GRAND TRAVERSE KALKASKA LAKE LEELANAU MANISTEE MASON MISSAUKEE MONTMORENCY	OSCEOLA OSCODA OTSEGO PRESQUE ISLE ROSCOMMON WEXFORD
SOUTHEAST MICHIGAN DISTRICT OFFICE SWQD DISTRICT SUPERVISOR 38980 SEVEN MILE RD LIVONIA, MI 48152-1006	734-953-8905 734-953-1467	MACOMB OAKLAND ST. CLAIR WAYNE		
GRAND RAPIDS DISTRICT OFFICE SWQD DISTRICT SUPERVISOR STATE OFFICE BUILDING 6TH FLOOR 350 OTTAWA N.W. GRAND RAPIDS, MI 49503-2341	616-356-0500 616-356-0202	BARRY IONIA KENT MECOSTA MONTCALM MUSKEGON	NEWAYGO OCEANA OTTAWA	
JACKSON DISTRICT OFFICE SWQD DISTRICT SUPERVISOR 301 EAST LOUIS GLICK HIGHWAY JACKSON, MI 49201-1556	517-780-7690 517-780-7855	HILLSDALE JACKSON LENAWEE MONROE WASHTENAW		
MARQUETTE DISTRICT OFFICE SWQD DISTRICT SUPERVISOR 1990 U.S. 41 SOUTH MARQUETTE, MI 49855	906-228-6568 906-228-5245	ALGER BARAGA CHIPPEWA DELTA DICKINSON GOGEBIC	HOUGHTON IRON KEWEENAW LUCE MARQUETTE MACKINAC	MENOMINEE ONTONAGON SCHOOLCRAFT
KALAMAZOO DISTRICT OFFICE SWQD DISTRICT SUPERVISOR 7953 Adobe Road KALAMAZOO, MI 49009-5026	616-567-3500 616-567-9440	ALLEGAN BERRIEN BRANCH CALHOUN CASS KALAMAZOO	ST. JOSEPH VAN BUREN	
SAGINAW BAY DISTRICT OFFICE SWQD DISTRICT SUPERVISOR 503 NORTH EUCLID AVENUE BAY CITY, MI 48706-2965	989-686-8025 989-684-9799	ARENAC BAY CLARE GLADWIN HURON IOSCO	ISABELLA MIDLAND OGEMAW SAGINAW SANILAC TUSCOLA	
SHIAWASSEE DISTRICT OFFICE SWQD DISTRICT SUPERVISOR 10650 SOUTH BENNETT MORRICE, MI 48857-9792	517- 625-5515 517-625-5000	CLINTON EATON GENESEE GRATIOT INGHAM	LAPEER LIVINGSTON SHIAWASSEE	

GFS MOS FORECASTS

KMGN	GFS MOS GUIDANCE																		11/29/2006		1200 UTC		
DT /NOV	29/NOV			30						/DEC			1						/DEC			2	
HR	18	21	00	03	06	09	12	15	18	21	00	03	06	09	12	15	18	21	00	06	12		
N/X							34				36				23				32		25		
TMP	54	51	46	45	41	38	35	34	34	33	31	28	26	25	25	28	30	31	30	28	27		
DPT	51	47	42	38	35	32	28	24	22	22	21	21	20	20	20	21	21	22	22	23	23		
CLD	OV	OV	OV	OV	OV	OV	OV	OV	OV	BK	OV	OV	SC	BK	OV	OV	OV	OV	OV	OV	OV		
WDR	24	27	31	28	28	29	31	35	34	35	35	36	04	05	06	06	05	04	02	30	27		
WSP	07	07	07	09	08	09	10	10	10	07	07	06	06	06	10	12	13	15	08	04	05		
P06			68		85		67		26		6		0		3		26		50	29	16		
P12							91				30				6				57		33		
Q06			2		2		2		1		0		0		0		1		1	1	0		
Q12							3				0				0				2		0		
T06		5/	0	11/	1	3/	1	0/	0	1/	0	0/	0	0/	0	1/	0	1/	0	0/	0		
T12				16/	3			3/	1			1/	0			1/	0		1/		0		
POZ	1	3	4	5	8	11	6	5	5	1	1	1	0	1	4	3	2	0	0	0	0		
POS	0	1	8	29	41	48	71	73	87	95	97	97	98	97	96	96	95	97	97	97	98		
TYP	R	R	R	R	R	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		
SNW							0								0						4		
CIG	5	5	4	6	5	6	6	7	6	8	8	7	8	8	8	8	5	5	5	6	6		
VIS	5	5	5	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
OBV	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		



[To view other MOS products](#)



[Go back to the Statistical Modeling Branch HomePage](#)

Storage Pit # 1

Month, Year

Sun	Mon	Tue	Wed	Thu	Fri	Sat						
	Weekly Manure Depth: _____				1 Inside Inspection____ Outside Inspection____ Water Line Inspection____	2 Inside Inspection____ Outside Inspection____ Water Line Inspection____						
3 Inside Inspection____ Outside Inspection____ Water Line Inspection____	Weekly Manure Depth____ Inside Insp.____ Outside Inspection____ Water Lines	4 Inside Inspection____ Outside Inspection____ Water Line Inspection____	5 Inside Inspection____ Outside Inspection____ Water Line Inspection____	6 Inside Inspection____ Outside Inspection____ Water Line Inspection____	7 Inside Inspection____ Outside Inspection____ Water Line Inspection____	8 Inside Inspection____ Outside Inspection____ Water Line Inspection____	9 Inside Inspection____ Outside Inspection____ Water Line Inspection____					
10 Inside Inspection____ Outside Inspection____ Water Line Inspection____	Weekly Manure Depth____ Inside Insp.____ Outside Inspection____ Water Lines	11 Inside Inspection____ Outside Inspection____ Water Line Inspection____	12 Inside Inspection____ Outside Inspection____ Water Line Inspection____	13 Inside Inspection____ Outside Inspection____ Water Line Inspection____	14 Inside Inspection____ Outside Inspection____ Water Line Inspection____	15 Inside Inspection____ Outside Inspection____ Water Line Inspection____	16 Inside Inspection____ Outside Inspection____ Water Line Inspection____					
17 Inside Inspection____ Outside Inspection____ Water Line Inspection____	Weekly Manure Depth____ Inside Insp.____ Outside Inspection____ Water Lines	18 Inside Inspection____ Outside Inspection____ Water Line Inspection____	19 Inside Inspection____ Outside Inspection____ Water Line Inspection____	20 Inside Inspection____ Outside Inspection____ Water Line Inspection____	21 Inside Inspection____ Outside Inspection____ Water Line Inspection____	22 Inside Inspection____ Outside Inspection____ Water Line Inspection____	23 Inside Inspection____ Outside Inspection____ Water Line Inspection____					
24 Inside Inspection____ Outside Inspection____ Water Line Inspection____	Weekly Manure Depth____ Inside Insp.____ Outside Inspection____ Water Lines	25 Inside Inspection____ Outside Inspection____ Water Line Inspection____	26 Inside Inspection____ Outside Inspection____ Water Line Inspection____	27 Inside Inspection____ Outside Inspection____ Water Line Inspection____	28 Inside Inspection____ Outside Inspection____ Water Line Inspection____	29 Inside Inspection____ Outside Inspection____ Water Line Inspection____	30 Inside Inspection____ Outside Inspection____ Water Line Inspection____					
31 Inside Inspection____ Outside Inspection____ Water Line Inspection____	<table border="1"> <thead> <tr> <th>Date</th> <th>Corrective Action Taken</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>						Date	Corrective Action Taken				
Date	Corrective Action Taken											

