LIVESTOCK·A·SYST

FOR MICHIGAN PRODUCERS

FAS 112 · October 2019

For MAEAP Verification:
Contact the MAEAP Office at the Michigan Department of Agriculture & Rural Development

(517) 284-5609

MAEAP

MICHIGAN STATE UNIVERSITY | Extension

Livestock ◆A◆Syst

Livestock System Improvement Action Plan

Risk question	List high-risk practice(s) from Livestock◆A◆Syst and medium-risk practices that do not meet MAEAP requirements	Required for MAEAP verification	Alternative low-risk practice (include potential sources of technical and financial assistance)	Action plan	
				Planned completion date	Indicate date when completed
6.02	Example: Most roof water and upslope watershed drainage runs through livestock lot. No clean water system in place.	Yes	Divert clean roof runoff away from livestock lot. Repair barn gutters and downspouts, discharge roof water in vegetated area west of barn. Install curb/berm on east side of lot to divert runoff.	July, 2019	**(√)** Completed Aug. 28, 2019

(continued on next page)

I understand that this livestock system assessment (Livestock◆A◆Syst) and corresponding Livestock System Improvement Action Plan were developed on the basis that I have disclosed, to the best of my knowledge, all information pertaining to my livestock operations.

Farm Address:

Street_____

City_____

State_____Zip_____

Watershed name: _____

Producer's Signature _____

Date _____

Livestock◆A◆Syst conducted by:

Name _____

Title _____

Organization_____Date_____

Livestock ◆A◆Syst

Livestock System Improvement Action Plan (continued)

Risk question	List high-risk practice(s) from Livestock◆A◆Syst and medium-risk practices that do not meet MAEAP requirements	Required for MAEAP verification	Alternative low-risk practice (include potential sources of technical and financial assistance)	Action plan	
				Planned completion date	Indicate date when completed

MAEAP Verification Action Plan	Date
Target date for MAEAP verification of **Cropping System**	
Target date for MAEAP verification of **Farmstead System**	
Target date for MAEAP verification of **Livestock System**	
Target date for MAEAP verification of **Forest, Wetlands and Habitat System**	

For MAEAP verification, contact MAEAP office at the Michigan Department of Agriculture and Rural Development: 517-284-5609

Livestock ◆ A ◆ Syst

Introduction

In 2011, the Michigan Agriculture Environmental Assurance Program (MAEAP) was codified in law as set forth in P.A. 451, Part 82, of the Natural Resources and Environmental Protection Act (NREPA). The Livestock◆A◆Syst tool is updated annually to incorporate the current MAEAP Standards for this system. The tool also includes applicable Generally Accepted Agricultural and Management Practices (GAAMPs) established under Michigan Right to Farm. The completed A Syst tool and associated plan and practices meet the requirement of a Conservation Plan, as defined in Part 82 of NREPA and referenced in Part 87 of NREPA. This statute also ensures producer confidentiality for any information provided in connection with the development, implementation or verification of a conservation plan or associated practices and is exempt from disclosure under the Freedom of Information Act.

MAEAP provides an excellent opportunity for Michigan farmers to manage their farms proactively and voluntarily to protect and enhance soil and water resources. For livestock producers, the ultimate accomplishment in MAEAP is Livestock System verification. Some producers may elect to pursue immediately the completion of a Comprehensive Nutrient Management Plan (CNMP) and MAEAP Livestock System Verification. However, many producers find that smaller, progressive steps in environmental improvement are more economical and practical.

What is Livestock◆A◆Syst?

The MAEAP Livestock◆A◆Syst is designed to meet the needs of those producers who choose to use a risk management-based assessment to work their way to MAEAP verification via a progressive approach.

The Livestock◆A◆Syst is a series of risk questions and answers about livestock management practices reflecting components of a CNMP. Producers can work one-on-one with a non-regulatory MAEAP partner to identify potential environmental risks and to develop a confidential Livestock Improvement Action Plan to reduce those risks. The action plan is the producer's plan and can be completed at his or her own pace. There is no deadline. Producers determine how far and how fast to go.

Producers have several options for using Livestock◆A◆Syst:

1. Complete the risk questions to identify practices that present a high risk of contaminating water resources. At this point, producers may continue using Livestock◆A◆Syst to develop an implementation plan, or they may determine that they want to obtain the services of a certified CNMP provider to help them through the process of developing a plan to implement the desired changes.
2. Develop a Livestock Improvement Action Plan. Producers may choose to implement the action plan using their own resources, or they may choose to enter into a U.S. Department of Agriculture (USDA) Environmental Quality Incentives Program (EQIP) contract to obtain cost-share assistance. The EQIP contract may include the development of a CNMP.
3. Complete implementation of the Livestock Improvement Action Plan prepares the producer to develop a CNMP, if that is his or her choice. Livestock farm owners may achieve MAEAP Livestock System verification for their farms either through a completed CNMP or by using a completed Livestock◆A◆Syst, Livestock Improvement Action Plan and records indicating conformance with all boxed areas of the Livestock◆A◆Syst. Owners of farms operating in compliance with a Michigan Department of Environment, Great Lakes and Energy, National Pollutant Discharge Elimination System (EGLE NPDES) permit may also request MAEAP verification. These farms must indicate they meet the standards in Section 13 "Mortality Management and Veterinary Waste Disposal" and Section 14 "Odor Management" of the Livestock◆A◆ Syst, including section 14.01, for Siting GAAMPs verification, if applicable. All other standards for MAEAP verification will be met through the EGLE NPDES permit review and will not be reviewed for MAEAP verification.

The owner of a MAEAP-verified farm is eligible for a variety of incentives. Completion of a Livestock◆A◆Syst verification allows owners of small and medium-sized farms to enjoy the peace of mind knowing that their inspected practices are consistent with the identified current Right to Farm (RTF) Manure Management and Utilization GAAMPS and RTF siting requirements.

4. Farms that have been verified in the MAEAP Livestock System using a CNMP may complete the Livestock◆A◆Syst for reverification.

How Does Livestock◆A◆Syst Work?

1. The environmental risk questions are grouped into eight sections. Producers select all relevant sections. Not all risk questions will apply to all livestock farms.

   Sections are:
   - Livestock Improvement Action Plan
   - Whole-farm Nutrient Balance
   - Farm Site Review
   - Silage Storage
   - Drinking Water Well Condition
   - Manure Spreading Plan
   - Conservation Practices for Fields Used for Manure Application
   - Emergency Plan and Employee Training
   - Mortality Management and Veterinary Waste Disposal
   - Odor Management
   - Other Environmental Risks in the Livestock System

   Risk questions that address management practices that are regulated by the state or federal law indicate **illegal practices with black bold print**. The numbered footnotes indicate what regulation(s) is (are) violated. (See Table 1, on page 40.)

   Risk questions that address management practices included in the Manure Management GAAMPs indicate the management level required for consistence with the identified current GAAMPs ***with blue bold italic print***.

   Finally, a blue box indicates the management level(s) required for MAEAP verification.

   MAEAP management requirements are aligned with state and federal regulations, the Michigan Right to Farm GAAMPs and environmentally based management practices that are supported by research. The records and/or plans that indicate the approved management practices have been implemented on the farm are listed in the column next to the risk question. This evidence will provide the basis for awarding environmental assurance through MAEAP.

2. Producers answer each risk question by selecting the statement that best describes conditions on their farm. The risk question answers indicate whether management practices have a low, medium or high risk of pollution. As noted above, some questions are coded to indicate consistence with GAAMPs or violation of state law.

3. After completing each section, producers list the practices that present a high risk of contaminating water resources in the Livestock Improvement Action Plan. (The plan begins inside the front cover of the bulletin.) Medium risks are also included that do not meet MAEAP requirements.

4. In the Livestock Improvement Action Plan, producer's list alternative practices, structures or equipment that they plan to use to help reduce risks, and sources of technical and financial assistance. A target date is included for accomplishing the changes as well as a target date for MAEAP verification.

5. Participation in an approved MAEAP Phase 1 educational session is also required for the initial MAEAP verification.

After developing and implementing a Livestock Improvement Action Plan to address the risks indicated by the Livestock◆A◆Syst, producers may contact the Michigan Department of Agriculture and Rural Development (MDARD) to request a farm inspection by calling 517-284-5609. An MDARD inspector will schedule a visit at the producer's convenience.

Confidential Assistance

Participating farmers are offered confidential, one-on-one guidance through the risk assessment process. Confidential assistance is offered by members of MAEAP's non-regulatory partner organizations, including local conservation districts, Michigan State University Extension (MSUE) and the Michigan Milk Producers Association. Producers may indicate which organization they would prefer to work with or may contact the MAEAP office at 517-284-5609.

Assistance is available to help producers in a variety of ways, including:

- Guide producers through the Livestock◆A◆Syst assessment process.
- Help producers understand MAEAP and other environmental expectations.
- Identify farm-specific areas of concern and opportunities related to environmental stewardship.
- Set farm-specific areas of concern and opportunities related to environmental stewardship.

- Set farm-specific goals, timelines, and plans for improving and sustaining good environmental stewardship.
- Identify the appropriate resource persons to assist in the completion of specific steps toward environmental improvement.

No Obligation

Completing the Livestock◆A◆Syst does not obligate the farmer to specific changes. Farmers can progress as far as they feel comfortable or to meet individual farm goals. Note that some circumstances (e.g., Concentrated Animal Feeding Operation [CAFO] designations, some Environmental Quality Incentives Program [EQIP] requirements and Michigan Department of Environment, Great Lakes and Energy [EGLE] enforcement actions) require farms to implement a CNMP and/ or other farm practice changes more quickly.

A Few Final Words

The key to Livestock◆A◆Syst is that once producers have identified environmental risks, the plan is implemented to reduce the risk(s). Some of the stewardship practices that will reduce risks may cost very little and take very little time to implement.

Other practices may involve additional cost and may not be implemented for a few years. It is important, however, to have a plan to follow. Producers who have developed a plan and implemented changes to address the risks are ready to consider MAEAP verification of their Livestock System.

Points of Reference

The Michigan Right to Farm Act authorizes the Michigan Commission of Agriculture and Rural Development to develop and adopt GAAMPs for farms and farm operations in Michigan. These voluntary practices are based on available technology and scientific research and promote sound environmental stewardship. The current Right to Farm GAAMPs are posted on the MDARD Web site: **www.michigan.gov/mdard**.

P.A. 451 of 1994, Part 82, ensures the confidentiality of the producer information that farmers provide to the MDARD for system verification. Any information connected with the development, implementation or verification of a conservation plan or conservation practice is confidential.

Tools in the Livestock◆A◆Syst Supplement (FAS112S)

Animal Waste Management (AWM). AWM is a planning/design tool for animal feeding operations that can be used to estimate the production of manure, bedding and process water, and determine the size of storage/ treatment/facilities. The procedures and calculations used in AWM are based on the USDA Natural Resources Conservation Service (NRCS) Agricultural Waste Management Field Handbook.

Bodies of Dead Animals Act (BODA) Recordkeeping Forms. These forms provide the necessary documentation for both composting and burial of mortalities. These forms are found at **www.maeap.org** and in the MSUE bulletin "Recordkeeping System for Crop Production," E-2342.

Manure Management: Getting Started. This nutrient balance worksheet is a tool to determine farmland base sustainability. Found at **www.maeap.org**.

Manure Storage Review Sheets. This evaluation checklist assists in determining proper storage construction and notes if the structure can be verified. Found at **www.maeap.org**.

Odor Management Plan. This plan has been developed to address odors associated with livestock operations. Information on an odor management plan can be found at **www.maeap. org** and **msue.anr.msu.edu/resources/odor_management_plans**.

Proper Disposal of Dead Animal Carcasses Worksheet. This worksheet helps evaluate proper disposal of dead animal bodies and compliance with the BODA. Found at **www.maeap.org**.

Silage Leachate Management. This information provides tips for reducing silage leachate and associated risks. Find in the CNMP Guidance Document, question 7, at **www.maeap.org**.

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Whole-farm Nutrient Balance					
Risk Question	**Low Risk – 3 (Recommended)**	**Medium Risk – 2 (Potential Hazard)**	**High Risk - 1 (Significant Hazard)**	**Records or Evidence for MAEAP Verification**	**Your Risk**
1.01) Is there adequate land base for all nutrients used on the farm?	There is adequate land base or manure is sold or transferred off site.	Lacks adequate land base but fields test low ***(< 75 PPM)*** in phosphorus and manure applications can be balanced on nitrogen basis.	Lacks adequate land base.	Complete Manure Management: Getting Started (see Supplement) or use NRCS farm nutrient balance spreadsheet.	
1.02) What portion of the animal feed is produced on the farm?	75 percent or more of the protein and phosphorus in the ration originates from on-farm sources.	Between 50 and 75 percent of the protein and phosphorus in the ration originate from on-farm sources and no manure is sold or transferred off site.	Less than 50 percent of the protein and phosphorus in the ration originate from on-farm sources and no manure is sold or transferred off site. This results in the buildup of soil phosphorus and other nutrients.		
Farm Site Review					
2.01) Has there ever been a formal Right to Farm complaint against the farm?	There has never been a Right to Farm complaint, or the concern was not verified, or the concern was resolved.		There was a formal Right to Farm complaint and the concern was not resolved.	Producer's verbal indication of complaint history.	
2.02) Do rain, snow (including plowed snow) roof water or surface water come into contact with manure, compost, feed/silage, livestock lots or travel lanes resulting in contaminated runoff?	There is no clean water contact with the listed areas, or contaminated ***runoff is collected or treated*** and does not discharge directly to surface water.		Areas are exposed to rain/snow or surface water, and runoff is not collected or treated. **Runoff discharges directly to surface water.**[4]	Visual inspection of the farmstead. Visual inspection of flow patterns are most apparent during or shortly after a rainfall event and/or thaw.	
2.03) If surface drains are present around the farmstead, what are they collecting and where does the runoff end up?	Surface drains do not capture contaminated runoff or there are surface drains ***but runoff is collected or treated*** and does not discharge directly to surface water.		Surface drains collect contaminated **runoff and discharge directly to surface water** [4] or run to low areas and pond.	Visual inspection of the farmstead. Visual inspection of flow patterns are most apparent during or shortly after a rainfall event and/or thaw.	

A boxed risk level indicates the level required for environmental assurance verification.

Bold Black print indicates a violation of state or federal regulation.

Bold Blue Italic print indicates a management practice consistent with 2019 Right to Farm (RTF) Generally Accepted Agricultural Management Practices (GAAMPs).

Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
2.04) How far away is the well from the following areas: 1) Temporary manure stacking areas? 2) Livestock lots?	Isolation distance is maximized to the extent possible but is not less than 75 feet for public wells and 50 feet for private wells.	Three to six feet.	**Isolation distance is less than 75 feet for public wells and 50 feet for private wells.**[1,3]	Required for MAEAP Farmstead System verification.	
2.05) Do livestock watering systems have backflow prevention devices to protect the well from contamination?	All watering systems have backflow prevention build into the waterer or in the water lines to the waterers, or an air gap.		**No backflow prevention for livestock watering systems.**[1]	Required for MAEAP Farmstead System verification.	
Milking Center Wastewater					
3.01) How many gallons of water per cow per day are utilized in parlor cleanup?	Fewer than 10 gallons.	Between 10 to 20 gallons.	More than 20 gallons.		
3.02) Where are milking center chemicals, disinfectants and antibiotics stored?	Stored in a partitioned off protected area away from drains.	Stored in a location where a spill could reach the drain.	Stored in high-traffic area near drains.		
3.03) How is plate cooler water handled?	100% of plate cooler water is reused for livestock watering or other livestock-related use or permitted for discharge.	Less than 10,000 gal/day are discharged onto ground surface. Discharged water does not intercept surface water.	**More than 10,000 gal/day are discharged onto ground surface or intercept surface water without a permit.**[4]	Appropriate cooling water management demonstrated.	
3.04) What are the parlor cleanup practices?	Milk, milky rinse water, manure, and feed waste are land applied or otherwise appropriately utilized, and are never discharged to septic or other infiltration type treatment systems.	Some milk, milky rinse water, manure, or feed waste is discharged to septic or other infiltration-type treatment systems. Systems are monitored and managed for proper operation.	Significant milk, milky rinse water, manure, or feed waste is discharged to septic or other infiltration-type treatment systems. Wastewater is **discharged directly to surface water.**[4]	Appropriate milking center cleanup practices demonstrated.	
3.05) Is all wastewater collected and stored?	Wastewater is stored, used, hauled daily or passes through a designed treatment system.	Wastewater passes through a properly functioning filtration system.	**Wastewater is directly discharged to a lake, drainage ditch, stream or field.**[4]	Appropriate wastewater management is demonstrated. No direct discharge.	

A boxed risk level indicates the level required for environmental assurance verification.

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Bold Blue Italic print indicates a management practice consistent with 2019 Right to Farm (RTF) Generally Accepted Agricultural Management Practices (GAAMPs).

Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Milking Center Wastewater (continued)					
3.06) Is rejected milk collected and stored?	Rejected milk is stored, hauled out or fed.		**Milk is discharged to surface water**,[4] put into septic system or put into treatment strip.	Rejected milk is properly managed.	
Milking Center Septic Systems (If this method is not used, skip to the next section)					
3.07) Is all milkhouse waste water treated by the septic system?	All milkhouse waste water is treated by septic system.		Some waste water is not treated or **is discharged to tile, inlet or drainage ditch.**[4]	Collection and treatment of all wastewater is demonstrated.	
3.08) Is the septic system managed adequately to handle the volume of wastewater?	Septic system is ***managed in a manner to prevent pollution to waters of the state.***		Septic system is not managed adequately and **discharges directly to surface waters.**[4]	System operating effectively, without evidence of a discharge.	
3.09) Is the septic system periodically pumped?	Tank pumped more frequently than once a year.	Annual pumping.	Tank is pumped less frequently than once a year.		
Application of Wastewater to Vegetated Infiltration System (If this method is not used, skip to the next section)					
3.10) Is storage used prior to treatment, such as a settling tank or detention basin?	Properly sized settling tank, detention basin or other pretreatment system is used.	Undersized settling tank, lagoon or other pretreatment system.	No pretreatment.		
3.11) Does the system handle the capacity of milking center wastewater generated?	Infiltration area effectively treats the quantity of wastewater generated. ***Treatment area is managed to prevent pollution to waters of the state.***	Infiltration area effectively treats the quantity of wastewater generated, but shows minor erosion, wastewater ponding or burned vegetation.	Infiltration area has excessive erosion, wastewater ponding or burned vegetation.	Properly operating system confirmed by visual inspection of vegetated infiltration system. Refer to *Guidelines for Milking Center Wastewater (Wright and Graves, 1998)* and *Milking Center Wastewater Guidelines (Holmes and Struss, 2009)* for more information.	

A boxed risk level indicates the level required for environmental assurance verification.

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Bold Blue Italic print indicates a management practice consistent with 2019 Right to Farm (RTF) Generally Accepted Agricultural Management Practices (GAAMPs).

Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Application of Wastewater to Vegetated Infiltration System (If this method is not used, skip to the next section) (continued)					
3.12) How is the vegetated infiltration system maintained?	***Vegetation maintained and harvested at least once per year.*** Accumulated solids removed, if needed.	Occasional maintenance.	No maintenance.	Vegetation maintained and harvested. Records of maintenance kept.	
Direct Discharge to Surface Water					
3.13) Is wastewater directly discharged to a lake, drainage ditch, stream, regulated or natural wetlands or other surface waters?	***Milk parlor and milkhouse wastewater are managed in a manner to prevent discharge into waters of the state.***		Milking center wastewater is **discharged directly to surface water.**[4]	No discharge present. It is acceptable to discharge milk parlor and milkhouse wastewater into constructed wetlands designed and intended to process those wastes. (NRCS practice standard 656 "Constructed wetland").	
Manure Storage (includes all storage systems used for manure, wastewater or runoff containment)					
4.01) What is the storage capacity of manure systems?	There is six months or greater manure storage or manure is transferred offsite.	There is less than six months storage; adequate land base is available for winter and summer applications.	There is minimal or no manure storage on site. Adequate land base is not available.	Manure Application Risk Index (MARI) shows adequate acres for winter spreading. Records on manure production and storage capacity provided. MAEAP manure storage review sheets or NRCS animal waste management calculations are completed for storages to determine volume. (See FAS 112S.)	

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Bold Black print indicates a violation of state or federal regulation.

Bold Blue Italic print indicates a management practice consistent with 2019 Right to Farm (RTF) Generally Accepted Agricultural Management Practices (GAAMPs).

Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Manure Storage Systems					
4.02) How far is the liquid manure storage from any well? (Private wells include irrigation, livestock watering, cooling etc. Type IIb and Type III (Public wells include wells that service the milkhouse, bathrooms, drinking fountains, etc. on dairy farms or farms with employees) Use Table 1 in FAS107 for well type identification*	For private wells: • 150 feet or greater For Type IIb or Type III public wells: • More than 800 feet or greater from the farm well, OR, • Approved isolation distance deviation from the Local Health Department for the well, OR, • Between 200 and 800 feet with approved storage and well, and protective site features.* For Type IIa public wells, refer to FAS 112S.		For private wells: **Less than 150 feet.**[1] For public wells (dairy farms or farms with employees): **Less than 800 feet from the farm well.**[3]	Appropriate well isolation distance for site characteristics. Required for MAEAP Farmstead System verification.	
4.03) How far is the dry manure storage from any well? (Private wells include irrigation, livestock watering, cooling etc. Type IIb and Type III (Public wells include wells that service the milkhouse, bathrooms, drinking fountains, etc. on dairy farms or farms with employees) Use Table 1 in FAS107 for well type identification.*	For private wells: • 150 feet or greater OR • 50 feet or greater, for covered facility with protective site features, with an MDARD review. For Type IIb or Type III public wells: • More than 800 feet or greater from the farm well, OR • Approved isolation distance deviation from the Local Health Department for the well OR • Between 200 and 800 feet with approved storage and well, and protective site features.* OR • 75 feet or greater for covered facility with protective site features, with MDARD review.* For Type IIa public wells, refer to FAS 112S.		For private wells: **Less than 150 feet.**[1] For public wells (dairy farms or farms with employees): **Less than 800 feet from the farm well.**[3]	Appropriate well isolation distance for site characteristics. Required for MAEAP Farmstead System verification.	

*See MAEAP water stewardship technician for additional information on criteria for reduced isolation distances.

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Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Liquid Manure Storage Systems					
4.04) What design standards are utilized for liquid manure storage structures?	As-built documentation is available. ***Construction design for manure storage and treatment facilities meets standards and specifications in accordance with MI NRCS-FOTG, Concrete Manure Storages Handbook (MWPS-36), Circular Concrete Manure Tanks publication TR-9 (Midwest Plan Service, 1998)***. For steel: Manual of Steel Construction, American Institute of Steel Construction. For concrete: Building Code Requirements for Reinforced Concrete, ACI 318, American Concrete Institute. For earthen storage, the permeability of the earthen liner is known and the earthen storage meets NRCS standard 313: Waste Storage Facility. No evidence of overflow.	The storage was designed and built by professionals, but the as-built design standards are unknown. The storage structure meets the requirements as outlined in Extension Bulletin FAS 112S.	Storage design is unknown and conformance has not been determined or the system is not functioning properly.	Appropriate manure storage design and installation demonstrated. Completed MAEAP manure storage review sheets or as-built engineering standards available. (See FAS 112S) System analysis procedure (seepage meter) provides evidence storage meets conformance standards.	

A boxed risk level indicates the level required for environmental assurance verification.

Bold Black print indicates a violation of state or federal regulation.

Bold Blue Italic print indicates a management practice consistent with 2019 Right to Farm (RTF) Generally Accepted Agricultural Management Practices (GAAMPs).

Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Liquid Manure Storage Systems (continued)					
4.05) Are structures properly maintained?	Structure is properly maintained and in good condition. No damage to the liner or breaches are evident. No visible signs of issues with push-off ramps, load-out areas, pumps, piping, etc.	Structure appears to be in good condition.	Lining material integrity broken. Evidence of overflow. Coarse-textured soils, no clay liner. Evidence of extensive cracking, leaning, etc. Structure needs repair.	MAEAP manure storage review sheets completed. (See FAS 112S) Additional Criteria may be required for CNMP development.	
4.06) Are areas adjacent to manure storage structures properly maintained?	Banks are mowed and inspected regularly for potential problems. No brush, trees or animal burrows present.	Banks are not mowed regularly. Woody plant material present.	Lack of maintenance around storage site and/or numerous areas in need of repair and/or burrows present.	MAEAP manure storage review sheets completed. (See FAS 112S)	
4.07) Is clean water (i.e. roof and surface runoff) diverted away from the manure storage facility?	Clean water is diverted away from manure storage.	Clean water is not diverted but storage is designed to accommodate the additional water while still maintaining the freeboard.	Potential exists for overflow of manure storage.	MAEAP manure storage review sheets completed. (See FAS 112S)	
4.08) How is freeboard maintained and overflow prevented in storage structures?	Minimum freeboard is known and observed. ***A minimum freeboard of twelve inches (Six inches for fabricated structures) plus the additional storage volume necessary to contain the precipitation and runoff from a 25-year, 24-hour storm event.*** Freeboard markers are in place.	No evidence of manure overflowing storage. Safe freeboard level is known but not visibly marked. Freeboard not always maintained.	Evidence that manure overflowed the storage structure. Freeboard level is unknown and unmarked.	Appropriate manure storage management demonstrated. Safe freeboard level indicated on storage. Runoff is calculated.	
4.09) If liquid manure storage structures are no longer needed and are to be closed or converted to another use, how are they decommissioned?	Liquid manure storage structures are decommissioned according to the NRCS Practice standard 360 waste Facility Closure.	Liquid manure storage structures are not decommissioned but are closely monitored.	Liquid manure storage structures are abandoned.		

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Farm Site Review (continued)

Risk question	Low Risk – 3 (recommended)	Medium Risk – 2 (potential hazard)	High Risk - 1 (significant hazard)	Records or evidence for MAEAP verification	Your Risk
Solid-Bedded Manure Systems and Composted Manure Systems					
5.01) How are animal facilities with bedded manure packs designed and constructed?	Constructed with a floor of impermeable material or fine-textured soil. Adequate bedding is provided to maintain solid nature of manure. No rainfall or runoff enters the manure area. No waterers in the building.	Medium- to fine-textured soils, limited bedding provided, some rainfall or runoff enters manure area. Waterers in the building.	Building has an earthen floor on coarse-textured soil. **Contaminated runoff directly discharges to surface water.**[4]	Appropriate manure storage design and management for leachate/runoff control.	
5.02) At the farmstead, where is manure <u>temporarily</u> stacked?	***Manure can be temporarily stacked on an impermeable pad with sides. Runoff does not flow onto neighboring property or into surface waters.***	***Manure stacked on the ground with appropriate management to minimize leaching and prevent runoff flow onto neighboring property or into surface waters - such as rotating locations, complete removal of manure, records documenting timing of removal and location used and seeding of previous location.***	Manure is temporarily stacked on the ground without appropriate management to minimize leaching and prevent all runoff such as rotating locations, complete removal of manure, seeding of previous location and records documenting location used. For example: manure is stacked in the same location every year, piles are located within 50 feet of surface water, and/or there is evidence that **manure-contaminated runoff flows to surface water**[4] or to adjacent property.	Appropriate temporary manure stacking demonstrated at the farmstead for surface water and groundwater protection.	
5.03) At the farmstead, how long is manure <u>temporarily</u> stacked?	Less than 365 days with complete removal of manure.		Greater than 365 days without complete removal of manure.	Manure not stacked for more than 365 days. Refer to manure application records.	

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Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Solid-Bedded Manure Systems and Composted Manure Systems (continued)					
5.04) At the farmstead, what management practices are used to reduce odors and pests from outside temporary stacks?	***Stockpiled manure is at least 50 feet away from property lines or 150 feet away from non-farm homes and stockpiled manure is covered with a tarp, fleece blanket, straw, woodchips or other materials or additives to reduce odors and pests.***	***Stockpiled manure is at least 50 feet away from property lines or 150 feet away from non-farm homes or stockpiled manure is covered with a tarp, fleece blanket, straw, woodchips or other materials or additives to reduce odors and pests.***	Stockpiled manure is closer than 50 feet to property lines or 150 feet to non-farm homes and stockpiled manure is not covered. No additives are used to reduce odors and pests.	Appropriate manure storage management demonstrated for odor and pest control.	
5.05) At the farmstead, how are solid manure storage structures designed and constructed?	Constructed with a floor of concrete, or equivalent material, and with walls that prevent leachate from entering surrounding soils. Leachate and rainfall/snowmelt runoff discharged into a designed system.	Constructed with floor of compacted asphalt or fine- or medium-textured soils. Leachate will have direct contact with earthen floor or side walls. The permeability of the earthen floor is known and the earthen floor meets NRCS Standard 313. Leachate and rainfall/snowmelt runoff discharged into a designed system.	Earthen floor constructed with coarse-textured soils. Rainfall and leachate will have direct contact with earthen floor or sidewalls. Runoff and leachate are uncontrolled and **discharge directly to surface water.** [4]	Appropriate manure storage design and management for leachate/runoff control.	
5.06) At the farmstead, is runoff from solid manure storage structures directly discharging to surface water or groundwater?	***Provisions made to control and/or treat runoff from stored manure.*** And/or a designed and maintained vegetative infiltration area or runoff storage basin effectively handles storage runoff.	Inadequate runoff control. Signs of manure runoff past perimeter of vegetated area or exceeding storage basin capacity.	**Manure storage runoff discharges directly to surface water.**[4]	Appropriate runoff control from manure storage area(s).	

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Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Solid-Bedded Manure Systems and Composted Manure Systems (continued)					
5.07) In the field, how is manure temporarily stockpiled in relation to surface water?	***Manure stockpiles are kept a least 150 feet from surface waters or areas subject to flooding unless conservation practices are used to protect against runoff and erosion losses to surface waters.***		Manure stockpiles are closer than 150 feet to surface waters or areas subject to flooding, and conservation practices are not used to protect against runoff and erosion losses to surface waters.	Appropriate temporary manure stacking demonstrated in the field for surface water protection.	
5.08) In the field, what management practices are used to reduce odors and pests from manure temporarily stockpiled?	***Stockpiled manure is at least 150 feet away from non-farm homes and stockpiled manure is covered with a tarp, straw or other materials or additives are used to reduce odors and pests.***	***Stockpiled manure is at least 150 feet away from non-farm homes.***	Stockpiled manure is closer than 150 feet to non-farm homes.	Appropriate manure stockpiling demonstrated for odor and pest control.	
5.09) In the field, how long is manure temporarily stockpiled?	***Manure is spread as soon as field and weather conditions allow, and does not exceed six months; or if covered with an impermeable cover, twelve months.***		Manure stockpiled for more than six months without a cover, or more than twelve months with an impermeable cover.	Manure not stockpiled for more than 365 days. Refer to manure application records. For CNMP's manure may be stockpiled in the field for 20 days on soils with a High N Leaching index and 90 days on soils with a Medium N Leaching index. NRCS standard 634.	

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Farm Site Review (continued)

Risk question	Low Risk – 3 (recommended)	Medium Risk – 2 (potential hazard)	High Risk - 1 (significant hazard)	Records or evidence for MAEAP verification	Your Risk
Outside Livestock Lot Management					
6.01) How far is the livestock lot from surface water?	Livestock lot is more than 300 feet from surface water and ***runoff control protects neighboring land areas and prevents direct discharge to surface waters or groundwater.***	Livestock lot is less than 300 feet from surface water and ***runoff control protects neighboring land areas and prevents direct discharge to surface waters or groundwater.***	Evidence that manure-contaminated runoff flows from lot and **discharges directly to surface water** or to adjacent property.[4]	Appropriate livestock isolation distance from surface water.	
6.02) What efforts are made to divert unwanted drainage from upslope watersheds and roof water from becoming contaminated with manure?	***Provisions are made to collect, store, utilize and/or treat manure accumulations and contaminated runoff from outside open lot(s) used for raising livestock.*** Clean water is diverted away from the livestock lot(s).	Most roof water and upslope watershed drainage are diverted around livestock lot(s). Water that contacts manure is treated or contained and applied to cropland.	No clean water system in place. Most roof water and upslope watershed drainage runs through lot(s).	Appropriate clean water management for livestock lot(s).	
6.03) How is livestock lot runoff managed to protect surface water, groundwater and/or neighboring properties?	All lot runoff is directed to a properly designed and maintained runoff storage basin, or runoff is directed to a designed settling basin and vegetated infiltration area where vegetation is annually harvested. ***No evidence of runoff to surface water, groundwater and/or neighboring properties,*** or ponding in low areas.	***No evidence of runoff flow to surface water*** or ponding in low areas. Vegetation or cropland that is annually harvested exists between lot and surface water.	Evidence of runoff flow **discharging directly to surface water**[4] or intermittent waterway.	Appropriate site management for livestock lot(s). Producer records of manure scraping/collection should be kept and evaluated to assess risk reduction.	

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Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Outside Livestock Lot Management (continued)					
6.04) How often is manure scraped and removed from livestock lot(s)?	***Manure is scraped and removed periodically from livestock lot(s)*** or other heavy use areas.		Manure is seldom scraped and removed from lot and feeding and watering areas.	Appropriate manure management in livestock lot(s).	
6.05) What type of floor or base does the livestock lot(s) have?	Properly maintained concrete, compacted asphalt, or other equivalent material.	Continuous-use, compacted dirt or compacted gravel. Minimal plant material growing.	Poorly compacted dirt or gravel layer as indicated by plant growth.	Appropriate floor or base in livestock lot(s).	
Pasture Management					
7.01) Are there current soil tests on the pastures?	***All fields are sampled and tested on a regular basis***, at least every one to four years, depending on crops being grown and the cropping system.	Most fields are sampled and tested every one to four years. Producer plans to bring all field soil tests up-to-date within the next three years. (See also 10.01)	Fields have not been tested within the past four years.	Field names or map. Acres in the cropped portions of the field. Up-to-date soil test reports or schedule to bring all tests up-to-date. If pursuing a CNMP, soil samples should be taken every three years or more frequently.	
7.02) What is the condition of pasture vegetation?	Pasture is well-managed with all areas vegetated. ***Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface and groundwater.*** Or no contaminated runoff is noted.	Pasture is well-managed and vegetated except in feeding and watering areas, which are scraped. ***Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface and groundwater.*** Or, no contaminated runoff is noted.	Pasture is overgrazed with bare spots. Erosion may be present. **Runoff from pastures is carrying sediment and nutrients to surface waters**[4] or neighboring property.	No direct discharge from pasture(s).	

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Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Pasture Management (continued)					
7.03) How is the pasture managed to protect surface water?	***Livestock are excluded from actual contact with streams or watercourses except for controlled crossings and accesses.*** Flash grazing may be implemented to control vegetation between fenced-in areas.	Herd density in the pasture is such that the stream bank remains vegetated with no eroded areas. Animals are not allowed to congregate under trees close to the waterway causing bare areas. And/or the practices of flash grazing is being implemented to control vegetation between fenced-in areas.	Runoff results in **direct discharge to surface waters.**[4] Livestock have free access to streams or watercourses, causing erosion.	Pasture managed to protect surface water from erosion and contamination demonstrated. Refer to *Prescribed Grazing 528 (USDA-NRCS-MI eFOTG)* or *Acceptable Practices for Managing Livestock along Lakes, Streams and Wetlands (E-3066, MSUE, 2008)* for more information.	
7.04) If you plan to build a controlled stream crossing or access for livestock, do you have a permit from the of the Michigan Department of Environment, Great Lakes and Energy, Water Resources Division?	A Part 301, Inland Lakes and Streams permit has been obtained.	**No.**[4]			
7.05) What is being done to reduce manure concentration around watering tanks/feeders in pasture areas?	Water tank/feeding areas are rotated to different areas of pasture. Or, watering/ feeding areas are permanent, but manure is removed frequently to prevent concentration of nutrients. ***Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface water and groundwater.***	Watering/feeding areas are permanent, but manure is removed at least annually to prevent concentration of nutrients. ***Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface water and groundwater.***	Watering/feeding areas are permanent with infrequent or no manure removal. There is evidence of **direct discharge to surface water**[4] or ponding in low areas.	Proper manure management around water and feed demonstrated.	

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Farm Site Review (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Pasture Management (continued)					
7.06) How are animals handled in pastures or fields when ground is frozen or snow-covered?	Livestock are removed from fields or pastures during the winter months where runoff is a concern.	Livestock are grazed on fields or pastures for part of the winter months where runoff is a concern.	Livestock are present all winter on pastures or fields where runoff is a concern.		

Silage Storage

8.01) Does untreated silage leachate or polluted runoff run to a low area and pond?	***Provisions are made to control and/or treat leachate to protect groundwater and surface water.***		Silage leachate ponding and/or runoff evident.	Appropriate silage leachate management demonstrated.	
8.02) Is clean water (rainwater, snow melt, etc.) diverted away from silage?	Clean water is diverted away from silage.		Clean water is not diverted away from silage, resulting in contaminated runoff.		
8.03) Are silage leachate and contaminated runoff collected and/or treated?	***Provisions are made to control*** contaminated runoff ***and/or treat leachate to protect groundwater and surface water*** from a direct discharge. (Includes capturing of leachate from drains.) Designed system or management controls are in place.	Designed system in place but not maintained.	No system in place or lack of appropriate management or **direct discharge to surface water or groundwater**.[4]	Appropriate silage leachate management demonstrated.	
8.04) At what moisture content is silage typically harvested and stored?	Generally ***below 67 percent.***	Between 67 and 80 percent.	Over 80 percent.		

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Silage Storage (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
General Silage Storage					
8.05) Does an emergency plan exist for times when leachate production exceeds current management controls?	An up-to-date written plan is available and is reviewed with all applicable employees.	Emergency action plan is incomplete or out-of-date.	No emergency action plan that covers excess leachate.	An up-to-date emergency action plan.	
8.06) Are whole tires or tire sidewalls used for securing the cover on bunker silos?	- Use 3,000 or less whole tires (unless EGLE approved). No limit on tire side walls. - Whole tires are properly drilled for water drainage.		• **Use more than 3,000 whole tires without EGLE approval.** [11] • Whole tires are not drilled for water drainage.		
8.07) How are tires and tire sidewalls stored?	Tire and tire sidewall piles are: - Not more than 40' x 200' horizontal area. - Not higher than 15'. - No closer than 30' between piles. - No closer than 20' from property lines. - No closer than 60' from buildings and structures. - Not stored with hazardous products.		Tire and/or tire side-wall storage is not in conformance with low risk guidelines.		
8.08) In the case of a tire fire, does the farm have an up-to-date emergency farm plan?	The farm has an up-to-date emergency farm plan which is reviewed with all applicable employees.	More than one-year-old plan or an incomplete plan is available.	**No emergency farm plan when more than 3,000 whole scrap tires are stored on the farm.** [4]	An up-to-date emergency action plan.	
Bunker Silos					
8.09) What type of floor does the silage storage have?	Concrete, compacted asphalt or equivalent material. No excessive cracking (cracks that a finger can fit into or spider webs) or cracks are repaired.	Earthen floor with fine-textured soils (clay, clay loam, silty clay loam, sand clay, sandy clay loam and silty clay).	Earthen floor has permeable soils. Or, concrete, asphalt or lined surface contains many cracks.	A maintained impervious surface or fine-textured earthen floor.	

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Silage Storage (continued)

Risk question	Low Risk – 3 (recommended)	Medium Risk – 2 (potential hazard)	High Risk - 1 (significant hazard)	Records or evidence for MAEAP verification	Your Risk
Bunker Silos (continued)					
8.10) Is silage covered?	Silage is covered to prevent silage leachate.	Cover leaks.	No cover.		
8.11) Are the silage pad and surrounding area kept clean and free of loose silage?	Pad and surround area are kept clean.	Evidence of spilled or loose silage.	Pad is not kept clean.		
8.12) Is silage kept with a vertical face to reduce contact with clean water?	Yes.		No.		
Upright Silos					
8.13) If there is a floor drain, is leachate collected, treated and/or stored, and applied at agronomic rates?	All leachate is collected, treated, and/or stored and applied according to nutrient management plan.		Leachate is not collected and/or **directly discharges to surface water.** [4]	Appropriate silage management demonstrated.	
8.14) How often is silo inspected?	Twice a year.	Once a year.	Less than once a year.		
8.15) Is leachate evident around the outside of the silo?	No.	Yes. Leachate is treated or stored.	Yes. Leachate is not treated or stored.		
Silage Bag Management					
8.16) Are holes repaired and the bag water tight?	Yes, holes are repaired and the bag is watertight.	Some holes are repaired.	Holes are not repaired, and moisture is entering the bag.		

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Silage Storage (continued)					
Risk Question	**Low Risk – 3 (Recommended)**	**Medium Risk – 2 (Potential Hazard)**	**High Risk - 1 (Significant Hazard)**	**Records or Evidence for MAEAP Verification**	**Your Risk**
Silage Bag Management (continued)					
8.17) Is there a mechanism for collecting or treating or utilizing accumulated leachate?	Yes, leachate is collected and does not pond or reach surface water.		No. **Leachate runs from bags to surface water.**[4]	Appropriate silage management demonstrated.	
8.18) Is plastic disposed of in a licensed landfill or recycled?	Plastic is either recycled or disposed of in a landfill.	Plastic is stored on-site.	**No, plastic is burned on-site.**[4]		
Drinking Water Well Condition					
9.01) Is there an unused well located on the farmstead?	No unused well or abandoned well properly sealed.	Unused well temporarily abandoned properly: - Meets minimum isolation distances - Is disconnected from any water distribution piping. - Has the top of the casing securely capped.	**Unused, unsealed well at farmstead.**[1]	Required for MAEAP Farmstead System verification.	
9.02) How often is drinking water tested for nitrates and bacteria?	Tested yearly.	Tested within the past three years.	No water testing done, or more than three years since last test.	Required for MAEAP Farmstead System verification.	
9.03) What are the water test results?	No coliform bacterial or nitrate detected.	Water contamination detected. Public water well(s) test below health advisory limits.	Water contamination detected. **Public water well(s) test above health advisory limits.**[3]	Required for MAEAP Farmstead System verification.	

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Manure Spreading Plan

Risk question	Low Risk – 3 (recommended)	Medium Risk – 2 (potential hazard)	High Risk - 1 (significant hazard)	Records or evidence for MAEAP verification	Your Risk
10.01) How often are fields tested for nutrient levels (P, K, Ca, Mg) and pH?	***All fields are sampled and tested on a regular basis,*** at least every one to four years, depending on crops being grown and the cropping system.	Most fields are sampled and tested every one to four years. Manure is not applied to fields without a current soil test. Producer plans to bring all field soil tests up-to-date.	Fields have not been tested within the past four years.	Field names or map. Acres in the cropped portions of the field. Up-to-date soil test reports or schedule to bring all tests up-to-date. On farms pursuing a CNMP, soil samples must be taken every three years or more frequently.	
10.02) Do soil sampling procedures adequately represent field conditions?	One composite sample is taken from uniform field areas of 15 to 20 acres or from uniform management areas on grid or zone sampling procedures.	One composite sample is taken from uniform field areas of 20 to 40 acres.	One composite sample is taken from areas of greater than 40 acres.	Predominant soil types/soil maps. Cropping histories. Proper soil sampling procedure.	
10.03) How is the nutrient content of manure determined?	***Laboratory analysis for percent dry matter (solids), ammonium, and total N, P and K.***	Book values or standard nutrient content values used.	Manure nutrient content is unknown or not considered.	All manure analyses or book values on file. Multiple manure samples collected over one to two year period provide evidence of manure nutrient values.	
10.04) How are desired application rates achieved?	Manure analysis (book value, manure test, or mass balance) and ***field application rates are known.***		Application rate is not known.	Rate of manure applied known for all spreaders. Records indicate date of calibration.	

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Manure Spreading Plan (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
10.05) How is the soil's ability to hold water and nutrients considered when calibrating for manure application?	Rates are at or below a level that manure does not run off or escape via tile drains. Tile outlets inspected after application. ***Manure is prevented from reaching the tile lines.***		Manure application rates may be above the soil's ability to hold the water and nutrients. Manure reaches the tile lines and/or **directly discharges to surface water.**[4]	No evidence of runoff or tile discharge. Tile lines monitored before and after manure application.	
10.06) How are fertilizer application rates determined?	***Consistent with Michigan State University recommendations*** and manure nutrients are credited. When MSU recommendations are not available other land grant university recommendations developed for the region may be used.	Fertilizer rates are based on soil testing lab recommendations but not consistent with MSU or other land grant university recommendations.	Fertilizer is not based on soil testing.	Applications consistent with MSU recommendations (MSU soil test printout or calculated MSU or other land grant university recommendations on field). When MSU recommendations are not available, other land-grant university recommendations developed for the region may be used.	

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Manure Spreading Plan (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
10.07) What manure management records are maintained?	Complete application ***records of manure analysis, soil test results and rates of manure application for individual fields are maintained.***	A minimum of one season of manure application records, or partial manure application records have been kept. Complete manure application records will be kept immediately and will be available for review at the time of re-verification.	Minimal or no records maintained.	Additional nutrient management records that are needed. • Date(s) of manure application and incorporation when applicable. • Rate of manure application. • Weather conditions during application of manure (e.g., sunny, 70 degrees F). • Field conditions during application of manure (wet, dry, frozen, etc.) • Manure/wastewater quantities produced and nutrient analysis results. • Records of rental or other agreements for application of manure/wastewater on land not owned by the producer. • Record of manure/wastewater sold or given away to other landowners.	

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Manure Spreading Plan (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
10.08) Are weather forecasts monitored when making decisions about field applications of manure?	Weather forecasts are monitored before field application decisions. Manure applications are delayed if excessive precipitation is predicted. Manure is not applied if greater than or equal to 70% probability of more than 0.5 inches of precipitation is forecasted within the next 24 hours.	The weather forecasts are monitored but manure applications are based on when the storage is full or timing is convenient. Application may be made when excessive precipitation is predicted	The weather forecasts are not monitored. Manure applications made regardless of weather forecasts.	Producer has a procedure in place to monitor weather forecasts prior to making decisions about field application(s) of manure. Manure is not applied when excessive precipitation is predicted.	
10.09) How are manure nitrogen (N) application rates managed?	***Manure nitrogen rates do not exceed requirements of the crop*** and are credited toward fertilizer needs. Pre-sidedress nitrate test (PSNT) may be part of the program.	Manure nitrogen credits are considered but not to their full extent.	Commercial nitrogen is not reduced to account for manure nitrogen credits.	Manure rates do not exceed crop N needs, consistent with GAAMPs.	
10.10) How are manure phosphorus (P) application rates managed?	***High testing fields (>150 ppm Bray P1) do not receive manure, and fields between 75 and 150 ppm P receive no more than four years, crop P205 removal if one-year application, is impractical.***	High testing fields (>150 ppm Bray P1) removed from spreading plan, but crop removal rates are not followed.	Manure application rates are not based on soil tests and/or crop removal rates.	Manure rates do not exceed crop P needs. If developing a CNMP, refer to USDA-NRCS 590 Standard.	
10.11) Are odor reduction practices utilized when manure is land applied?	***Manure is incorporated within 48 hours or injected into the soil.***	If manure is not incorporated within 48 hours: ***Conservation practices*** (residue management, cover crops, perennial crops, etc.) ***are used to protect against runoff and erosion losses to surface waters*** or fields are snow covered or frozen preventing incorporation or injection.	All manures are surface applied and may not be incorporated until field is covered or until spring tillage.	Manure application records. Incorporation exceptions include: pastures or forage crops, or fields where crop residues are retained for erosion control or records show fields were snow covered or frozen preventing incorporation or injection.	

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Conservation Practices for Fields Used for Manure Application

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	YOUR RISK
11.01) Are manure applications managed to avoid ponding, soil erosion and/or runoff?	***Liquid manure applications are being managed in a manner to optimize nutrient utilization and do not result in ponding, soil erosion losses, or manure runoff to adjacent property, drainage ditches or surface water.***	Some consideration is given to ponding, soil erosion and/or runoff.	Ponding, soil erosion and/or runoff are not considered. Manure **directly discharges to surface water.**[4]	No evidence of manure ponding, soil erosion and/or runoff.	
11.02) Have environmentally sensitive areas been identified (land near surface water, highly erodible soils , soils with high leaching or runoff potentials, wells and surface inlets) that require additional management when applying nutrients (manure and fertilizers)?	Environmentally sensitive areas are identified. Family members, employees and contractors are aware of and understand the management practices to protect these areas.	Some environmentally sensitive areas are identified.	Environmentally sensitive areas are not considered.	Sensitive areas identified on field maps with appropriate management or setbacks: • Areas next to surface water. • Fields with shallow ground water. • Fields with water wells. • Areas near surface water inlets. • Fields with highly erodible soils. • Fields with highly leachable soils. • Fields with high runoff potential. Training/communication plan to inform workers and contractors of appropriate management or setbacks is in place.	

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Conservation Practices for Fields Used for Manure Application (continued)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	YOUR RISK
11.03) How are fields selected for spreading on frozen and snow-covered ground?	No applications on frozen or snow-covered ground without injection or incorporation.	Manure Application Risks Index (MARI)has been completed for each field receiving manure on frozen or snow-covered ground. Frozen or snow-covered fields receiving manure have met MARI criteria for either Very Low or Low rating ***and no liquid manure is applied on slopes greater than 3%, and no solid manure is applied to slopes over 6%.***	Applications are made to fields where runoff to water resources may occur.	MARI completed for each field receiving winter manure application, or spreading plan does not include winter spreading.	
11.04) Is soil erosion under control on the farm fields?	Soil erosion losses are within tolerances as documented by the Revised Universal Soil Loss Equation (RUSLE2) and the Wind Erosion Prediction System (WEPS). Minimal evidence of erosion and no evidence of concentrated water flows. Cover crop may be in place.	RUSLE2 and WEPS are run on fields that are not: In pasture or hay ground, or no-till planting systems. Receiving fall tillage, with >30% residue on less than 12% slopes. Receiving more than one pass fall tillage that leaves fields rough with >40% residue and less than 8% slopes. And regardless of fall tillage, spring tillage leaves > 20% residue. And for all of the above there is no evidence of sheet, rill or gully erosion.	Excessive soil erosion is occurring on the farm.	RUSLE2 and WEPS calculations completed and on file.	

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Conservation Practices for Fields Used for Manure Application (continued)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	YOUR RISK
11.05) How is manure generally applied to fields?	***Manure is incorporated within 48 hours or injected into the soil, and/or conservation practices*** (residue management, cover crops, perennial crops, etc.) ***are used to protect against runoff and erosion losses to surface waters.***	Manure is generally surface-applied, and conservation practices are employed to reduce the risk of runoff.	Manure is applied in a manner that results in ponding, soil erosion losses, or manure runoff to adjacent property, drainage ditches or **discharges directly to surface water.**[4]	Manure application records.	
11.06) How are streams, wetlands, farm ditches and other water bodies protected from manure runoff?	***Manure is incorporated within 48 hours or injected. Or, surface applications are not done within 150 feet of surface water. Or, filter strips, riparian buffer strips, and other conservation practices are maintained between fields and surface waters on the farm and around surface water inlets.***	Conservation practices are maintained on some fields.	Manure is applied within 150 feet of surface waters and not incorporated without conservation practices. And/or, manure occasionally reaches neighbor's property.	Field maps with setbacks and conservation practices identified. Records of manure incorporation.	
11.07) How are field tiles managed to prevent manure discharge to surface water?	***Liquid manure is prevented from reaching tile lines.*** Management practices are in place to prevent runoff to surface inlets. Tile line outlets are monitored.		Tile outlets are not monitored for manure discharge.	Tiled fields identified on map. Record of tile flow before and after application (flow rate, color and odor). It is recommended tile outlets are marked where possible using either physical markers (stakes or flags) or GPS.	

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Conservation Practices for Fields Used for Manure Application (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Manure Pipeline, Hose and Irrigation System Management					
11.08) If liquid manure is applied through an irrigation system, is care taken to assure that application rates do not exceed soil infiltration rates?	***Application rates do not exceed soil infiltration rates.*** System is monitored for proper function.		Application rates exceed soil infiltration rates, and/or runoff occurs.	No field evidence of runoff. Irrigation records.	
11.09) When systems are connected to a surface or well water source are appropriate backflow prevention devices in place and properly maintained when applying liquid manure through irrigation?	***Backflow prevention safety devices,*** chemigation valve that creates an air gap or Reduced Pressure Zone (RPZ) valve, ***are used*** and properly maintained when irrigating with liquid manure.	***Backflow prevention safety devices,*** chemigation valve that creates an air gap or Reduced Pressure Zone (RPZ) valve, are almost always used and/or properly maintained.	Backflow prevention devices are not used and/or properly maintained.	Operational backflow prevention devices field confirmed.	
11.10) When manure is transferred through a pipeline or hose is a system in place to continuously monitor for leaks and to rapidly stop flow if required?	Automatic or remotely-controlled shut down system installed.	Remote communication system in place and pump operator is always on standby when manure is being pumped.	Leaks not immediately detected. No means for remote communication or automatic shutdown. Delayed response time for system shutdown.	Satisfactory explanation of monitoring system provided by owner	
11.11) Are pipes, hoses and other system components in good repair, properly installed and supported, protected from damage and operated according to manufacturer recommendations?	System is regularly inspected and maintained. Manufacturer recommendation for proper installation, operation and maintenance are followed.		Leaks not immediately detected. No means for remote communication or automatic shutdown. Delayed response time for system shutdown.	This question is not required for MAEAP verification since the verifiers cannot verify operations based on manufacturer recommendations. 11.10 and 11.12 deal with the same topic in areas that can be verified. This question is for discussion and increasing awareness.	

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Conservation Practices for Fields Used for Manure Application (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Manure Pipeline, Hose and Irrigation System Management (continued)					
11.12) When disassembled or moved, how is the residual manure in the system handled?	An air-driven device is used, or system is flushed with water, or other means are employed to properly remove manure from the system prior to disassembly.	Residual manure is drained and collected for land application or returned to storage.	System is disassembled with manure allowed to dump at low points.	Satisfactory explanation of hose disassembly provided by owner	
11.13) Is care taken to ensure that irrigated manure does not flow into subsurface drains?	Field conditions are monitored before, during and after irrigation, and liquid manure is prevented from reaching tile lines. Appropriate measures are taken to avoid surface water discharges.		No care is taken to monitor field conditions, tile drains, etc., when irrigating liquid manure. **Direct discharge to surface water**. [4]	No evidence of manure flow into surface drains.	
11.14) If there are instances where diluted wastewater (≤ 1 percent solids) is applied to fields testing over 150 ppm P soil test, can the farmer document appropriate conditions for application?	***- Growing plants in the application area.*** ***- Wastewater application rate supplies less than 75% P crop removal.*** ***- Annual sampling of wastewater P content.*** ***- Soil P test levels decline over time.*** ***- No other P applied to field.*** ***- Tile drain fields monitored for manure flow.***	Appropriate conditions are partially met.	Appropriate conditions for dilute wastewater application are not present.	Appropriate dilute wastewater management demonstrated. Refer to the Manure Management and Utilization GAAMPs. Note: The CNMP guidelines and NRCS Nutrient Management Practice standard (590) require the use of the Michigan Phosphorus Index (PI) when wastewater is applied to fields testing over 150 ppm P soil test. A PI of 17 or lower is needed.	

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Emergency Plan and Employee Training					
Risk Question	**Low Risk – 3 (Recommended)**	**Medium Risk – 2 (Potential Hazard)**	**High Risk - 1 (Significant Hazard)**	**Records or Evidence for MAEAP Verification**	**Your Risk**
12.01) Is there an emergency plan in place in the event of a manure spill?	Up-to-date written plan available and understood by all appropriate farm employees. ***All uncontained spills or releases should be reported to the MDARD Agriculture Pollution Emergency Hotline: 1-800-405-0101,*** or the EGLE Pollution Emergency Alerting System: 1-800-292-4706	Incomplete or out-of-date action plan available.	No emergency action plan that deals with manure spills.	Up-to-date emergency farm plan, such as MSU Extension Bulletin E-2575 "Emergency Planning for the Farm".	
12.02) What method of training is used to inform employees about the farm's emergency plan?	Employees are trained either by formal (class) or informal methods to respond properly to spills and discharges.	Training is sporadic or occasional.	No training is provided to employee responsible for manure handling.		
Mortality Management and Veterinary Waste Disposal					
13.01) How are animal mortalities handled?	Animals are buried, incinerated (requires permit), land filled, placed in a compost pile or picked up by a rendering service within 24 hours of death or stored for a maximum of seven days at 40 degrees F or a maximum of 30 days at 0 degrees F before proper disposal of the carcass.		**Animals are not buried, incinerated, land filled, placed in a compost pile or picked up by a rendering service within 24 hours of death. Or, stored for more than 7 days at 40 degrees F or more than 30 days at 0 degrees F before disposal of the carcass.**[5]	Disposal of dead animal bodies is done according to the Bodies of Dead Animals Act (BODA), as amended in 2007. Up-to-date forms on file for verification. (See FAS 112S.) Forms for recording mortality disposal including burial record forms and compost record forms are available on the MAEAP website at: https://maeap.org/resource-library/?resource-type=livestock-system-resource.	
13.02) If burial of mortality (including both individual and common graves) is used, what are the isolation distances for the burial site(s)?	Burial site is located at least 200 feet from any well and dead animal(s) do not come into contact with waters of the state.		**Site(s) is located less than 200 feet from any well and/or come into contact with waters of the state.**[5]	Isolation distances meet BODA requirements. The BODA supplement, available at the MAEAP.org website, has been completed and reviewed.	

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Mortality Management and Veterinary Waste Disposal (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Mortality Composting (continued)					
13.03) If mortality composting is used, what are the isolation distances for the composting site?	Site is located at least 200 feet from waters of the state, 200 feet from any well, 200 feet from nearest non-farm residence and 2 feet above seasonal high water table.		**Site is located less than 200 feet from waters of the state, 200 feet from any well, 200 feet from nearest non-farm residence, and 2 feet above seasonal high water table.**[5]	Isolation distances meet BODA requirements. The BODA supplement, available at the MAEAP.org website, has been completed and reviewed.	
13.04) Is the site properly selected?	Site was properly selected for compost system regarding setbacks and composting method.		Site was NOT properly selected for compost system regarding setbacks and composting method.	Combining mortality from multiple sites may make the farm a large CAFO. See: http://msue.anr.msu.edu/news/can_combining_mortality_composting_from_two_separate_farms_constitute_a_caf	
13.05) Is the compost system sized to handle the normal, expected mortality for the facility?	System capacity is adequate for the mortality at all times.	Capacity is normally adequate; however, system capacity is at times exceeded because of normal fluctuations in mortality rate.	System is sized inadequately to handle the volume of mortality for the operation.	Properly operating compost system confirmed by visual inspection of mortality compost.	
13.06) Does the composting process follow standards identified in the Bodies of Dead Animals Act, (BODA), as amended in 2008?	Current BODA standards followed.		**BODA standards not followed.**[5]	Practices are followed as described in the Michigan Animal Tissue Composting Operation Standard (MATCOS), available online at: http://www.michigan.gov/documents/mda/BODA_Composting_Operational_Standards_216592_7.pdf. The BODA supplement has been completed and reviewed.	

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Mortality Management and Veterinary Waste Disposal (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
Mortality Composting (continued)					
13.07) Is compost actively aerated and temperature monitored at least weekly through three heat cycles?	Yes.		**No.**[5]	Compost is properly managed.	
13.08) Are records of compost management being kept according to BODA?	Yes.	Partial composting records have been kept. Complete composting records will be kept immediately and will be available for review at the time of reverification.	**No.**[5]	See FAS 112S, Proper Disposal of Dead Animals Worksheet for the required compost records.	
13.09) How are animal health care needles and syringes disposed?	Sharps are put into a puncture resistant container, labeled and taken to licensed landfill.		**Disposal at landfill without protective containment, or disposed of on the farm.**[2]	Presence of a Sharps disposal container.	
13.10) How are unwanted or unusable animal medications and healthcare products disposed of?	Taken to licensed landfill or veterinarian or distributor for disposal.		**Flushed down the drain, dumped on the farm or dumped in the manure pit.**[2]		

Odor Management

14.01) If the farm has 50 Animal Units (AU) or more, was the Michigan Right to Farm GAAMP for Site Selection and Odor Control for New and Expanding Livestock Facilities (Site Selection GAAMPs) used to site new or expanding livestock production facilities constructed after January 1, 2017?*	Farm has built new or expanded since January 1, 2017 and has Michigan Department of Agriculture and Rural Development (MDARD) ***Site Selection GAAMPs*** verification. MDARD verification is required for sites housing 50 AU or greater in Category 1 and Category 2 locations.		The farm has built new or expanded since January 1, 2017, and does not meet all of the ***Site Selection GAAMPs***, or the determination has not been made.	Consistent with Site Selection and Odor Control GAAMPs.	

*These questions do not apply to farms where siting is not applicable, such as farms located in municipalities with populations greater than 100,000 where a zoning ordinance has been enacted to allow for agriculture. In addition, siting does not apply to research and educational institutions, or other locations as determined by MDARD.

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Odor Management (continued)

Risk Question	Low Risk – 3 (Recommended)	Medium Risk – 2 (Potential Hazard)	High Risk - 1 (Significant Hazard)	Records or Evidence for MAEAP Verification	Your Risk
14.02) If the farm has 50 Animal Units (AU) or more, was the Michigan Right to Farm GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Facilities (Site Selection GAAMPs) used to site new or expanding livestock production facilities constructed after June 1, 2000 and prior to December 31, 2016?*	Farm has Michigan Department of Agriculture and Rural Development (MDARD) ***Site Selection GAAMPs*** verification. MDARD verification is required for sites housing 500 AU or greater in a Category 1 location or 250 AU or greater in a Category 2 location. The farm has built new or expanded between 2000 and 2016 to house between 50 and 499 AU in a Category 1 location or between 50 and 249 AU in a Category 2 location and the producer submitted the Siting checklist to MDARD for an informal review and MDARD determined the site meets all of the ***Site Selection GAAMPs.***	The farm has built new or expanded between 2000 and 2016 to house between 50 and 499 AU in a Category 1 location or between 50 and 249 AU in a Category 2 location and the producer used the Siting checklist and the producer determined the site meets all of the ***Site Selection GAAMPs.***	The farm has built new or expanded since 2000 and does not meet all of the ***Site Selection GAAMPs***, or the determination has not been made.	Consistent with Site Selection and Odor Control GAAMPs.	
14.03) If the farm has less than 50 Animal Units, was the Michigan Right to Farm GAAMPs for Site Selection and Odor Control for New and Expanding Livestock Facilities (Site Selection GAAMPs) used to determine the site category for facilities constructed after June 1, 2000*	The farm proactively achieved verification under the Michigan Right to Farm ***Site Selection GAAMPs***.	Land use zoning allows for agriculture or the location has been determined to be a Category 1, 2, or 3 site and is not required to complete the ***Site Selection GAAMPs*** verification process.	The farm has been determined to be a Category 4 location and is not eligible for MAEAP Livestock or Farmstead verification.	Zoning map or zoning use description provided or category determination provided by MDARD. See FAS 112S	

*These questions do not apply to farms where siting is not applicable, such as farms located in municipalities with populations greater than 100,000 where a zoning ordinance has been enacted to allow for agriculture. In addition, siting does not apply to research and educational institutions, or other locations as determined by MDARD.

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Odor Management (continued)					
Risk Question	**Low Risk – 3 (Recommended)**	**Medium Risk – 2 (Potential Hazard)**	**High Risk - 1 (Significant Hazard)**	**Records or Evidence for MAEAP Verification**	**Your Risk**
14.04) Has there ever been an odor complaint?	No.	Yes, but situation was mediated without third party involvement.	Yes, MDARD was called in and determined the farm was not following GAAMPs and the farmer chose to not continue to work with MDARD to resolve the issues and come into conformance with GAAMPs.	No odor complaints, or no verified odor complain(s) that were not resolved.	
14.05) Does the farm have an odor management plan?	An odor management plan has been developed and implemented. ***Farm is managed to minimize odor impacts upon neighbors.***	A partial odor management plan has been developed and implemented.	No odor management plan has been developed.	A written odor management plan has been developed and reviewed. (See FAS 112S Odor Management Plan.)	
Other Environmental Risks in the Livestock System					
15.01) If the groundwater and surface water pumps have a combined capacity to pump more than 100,000 gallons per day (70 gallons per minute) for agricultural purposes has "water use" been registered and reported to the State of Michigan?	Pump capacity is less than 100,000 gallons per day (70 gallons per minute), OR, registered and reported annual water use to Michigan Dept. of Agriculture and Rural Development.		**Pump capacity is greater than 100,000 gallons per day (70 gallons per minute) and water use is not reported to the State of Michigan.**[13]	Farm records indicate compliance.	
15.02) Are there other activities, products, processes/equipment, services, byproducts, and/or wastes at this farm that pose contamination risks to groundwater or surface water?	No additional contamination risk(s) are identified.	Plan to mitigate the identified contamination risk(s).	No plan to mitigate identified contamination risk(s).	No other environmental risks found.	

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Livestock Improvement Action Plan

Develop a Livestock Improvement Action Plan for risks on the farm beginning on the inside cover of this bulletin. Once the plan is implemented, MAEAP Livestock System verification can be requested by calling the Michigan Department of Agriculture and Rural Development at (517) 284-5609.

Table 1. Legal citations for environmental risks in Livestock•A•Syst

Footnote	Michigan Law	Description
1	Public Health Code, Public Act 368 of 1978, as amended	Part 127: Water Supply and Sewer Systems
2	Public Health Code, Public Act 368 of 1978, as amended	Part 138: Medical Waste Regulatory Act
3	Safe Drinking Water Act, Public Act 399 of 1976, as amended	
4	Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended	Part 31: Water Resources Protection
5	Bodies of Dead Animals Act, Public Act 239 of 1982, as amended	
8	Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended	Part 115: Solid Waste Management
9	Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended	Part 55: Air Pollution Control
10	Grade A Milk Law, Public Act 266 of 2001, as amended	
11	Natural Resources and Environmental Protection Act Public Act 451 of 1994, as amended	Part 169: Scrap Tires
13	Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended	Part 327: Great Lakes Preservation

Table 2. Federal, state and local environmental requirements for operation of this farm business.

This table contains the typical requirements for a farm business. There may be additional environmental requirements due to the type of operation and location. Contact the local or state permitting agencies for further information: EGLE Environmental Assistance Hotline — 1-800-662-9278, MDARD information — 1-800-292-3939.

Environmental regulatory requirements	Description	Frequency	Administering Agency	Your Expiration Date
Private pesticide applicator certification	Any persons using or supervising the use of restricted-use pesticides (RUP) in the production of an agricultural commodity on their own or their employer's land must be a certified pesticide applicator.	3 years	MDARD/Pesticide and Plant Pest Management Division (PPPM)	
Pesticide safety training for pesticide workers	The federal Worker Protection Standard for agricultural pesticides requires employers of pesticide handlers and workers to train employees on pesticide safety. Agricultural employers must be able to verify compliance.	Each employee must be trained every 5 years	MDARD/PPPM	
NPDES permit CAFO	National Pollutant Discharge Elimination System permit for large concentrated animal feeding operations (CAFOs).	5 years or as noted on permit	EGLE/Water Resources Division	
Farm motor vehicle fuel storage tanks greater than 1,100 gallon capacity (above- and below-ground tanks)	Fuel storage tanks have to be certified (aboveground) or registered (underground); a site plan has to have been submitted to the LARA before the installation is placed into service. Smaller tanks have other requirements to be met.	Annual	Department of Licensing and Regulatory Affairs (LARA)	
Air use permit	Permit to install and operate equipment or processes, which may emit air contaminants (incinerators for burning animal carcasses or manure, and biodigesters and associated equipment are examples).	Before construction	EGLE/Air Quality Division	N.A.
Groundwater discharge permit	Any discharge of waste or waste effluent into or onto the ground (e.g., egg wash water and milk cooling water [over 10,000 gallons/day] that is discharged), and any livestock facility over 5,000 animal units.	5 years	EGLE/Water Resources Division	
Well permit	A person who installs a well, pump or pumping equipment shall comply with applicable laws, regulation, ordinances and codes.	Before construction	Local health department	N.A.
Septic permit (house and farm operation)	The first step in the process of determining if a piece of land that does not have municipal wastewater services available can be considered for an on-site septic system.	Before construction	Local health department	N.A.

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Environmental Regulatory Requirements	Description	Frequency	Administering Agency	Your Expiration Date
Land and water interface construction permits	Construction activities (dredging, filling, draining, construction, structure placement) in, across, under water.	Before construction	EGLE/ Water Resources Division	N.A.
Soil erosion and sedimentation control permit	Earth change activities within 500 feet of a lake or a stream, or that will disturb an area greater than 1 acre in size.	Before construction	County soil erosion permitting agency	
Water use reporting	Agricultural water users with the capacity to withdraw surface or groundwater that exceeds 100,000 gallons per day (70 gallons per minute) are required to report actual water withdrawals annually.	Annual	MDARD	

Other Environmental Guidelines	Description	Administering Agency
Manure management and utilization	The Michigan Right to Farm Act (Act 93 of 1981) requires the establishment of generally accepted agricultural and management practices (GAAMPs). Agricultural producers who voluntarily follow these practices are provided protection from public or private nuisance litigation. The GAAMPs are reviewed annually. The latest GAAMPs can be accessed at: **www.michigan.gov/mdard**.	MDARD
Pesticide utilization and pest control		
Nutrient utilization		
Site selection and odor control for new and expanding livestock production facilities		
Irrigation water use		
MAEAP verification: Livestock, Farmstead, Cropping and Forest, Wetlands and Habitat Systems	MAEAP systems verification (PA 1 & 2, 2011) is valid for five years. MAEAP verification in good standing is dependent on following the practices specific to each system, being in conformance with the applicable GAAMPs, an annual plan review and update (livestock system) and updates as necessary as conditions change on the farm.	MDARD

BUSINESS NAME:_____
BUSINESS OWNER NAME:_____
BUSINESS PHONE:_____
EXTENSION:_____
BUSINESS WEB SITE:_____
DESCRIPTION:_____

BUSINESS ADDRESS INFORMATION (Main Office or Home Address)
(MAILING) STREET:_____
(MAILING) P.O. BOX:_____
(MAILING) CITY:_____
(MAILING) STATE:_____
(MAILING) ZIP CODE:_____

OWNERS CONTACT INFORMATION
SALUTATION: (Circle one)
MR or MRS or MS
FIRST NAME:_____
LAST NAME:_____
CONTACT ROLE:_____
EMAIL ADDRESS:_____

HOME PHONE NUMBER:_____-_____-_____
MOBILE/CELL NUMBER: _____-_____-_____
(MAILING) STREET:_____
(MAILING) P.O. BOX:_____
(MAILING) CITY:_____
(MAILING) STATE:_____
(MAILING) ZIP CODE:_____

FARM MANAGER CONTACT INFORMATION
SALUTATION: (Circle one)
MR or MRS or MS
FIRST NAME:_____
LAST NAME:_____
CONTACT ROLE:_____
EMAIL ADDRESS:_____

HOME PHONE NUMBER:_____-_____-_____
MOBILE/CELL NUMBER: _____-_____-_____
(MAILING) STREET:_____
(MAILING) P.O. BOX:_____
(MAILING) CITY:_____
(MAILING) STATE:_____
(MAILING) ZIP CODE:_____

FARM INFORMATION
FARM NAME:_____
(If no physical address, please use Section, Township, Range, ***and*** Latitude and Longitude)
FARM SITE STREET ADDRESS:_____
FARM SITE CITY:_____
STATE: **MICHIGAN** (ONLY) (Mailing Address May Vary)
FARM SITE ZIP CODE:_____
FARM SITE COUNTY:_____
FARM SITE TOWNSHIP:_____
LATITUDE:_____ LONGITUDE:_____
SECTION:_____ TIER:_____ RANGE:_____

(If there is no mailbox at the farm site location or not a place that receives mail.)
FARM MAILING ADDRESS:_____
(MAILING) STREET:_____
(MAILING) P.O. BOX:_____
(MAILING) CITY:_____
(MAILING) STATE:_____
(MAILING) ZIP CODE:_____

ADDITIONAL NOTES:

FARM NAME: _____

Is there Evidence of Discharge: Yes or No

FARMSTEAD

Fuel Storage: (Gallons) _____ (Pounds)_____
Fertilizer Storage: (Gallons) _____(Pounds)_____
Pesticide Storage: (Gallons) _____ (Pounds)_____
Farmstead Wells (each): _____
EHS Threshold: Yes or No

CROPPING

NMP (Acres): _____
Manure Applied (Acres): _____
Fertilizer Applied (Acres): _____
Pesticide Applied (Acres): _____
Irrigation (Acres): _____
Buffer Strips (Linear Feet): _____
Cover Crops (Acres): _____
No Till (Acres): _____
Conservation Tillage (Acres): _____
Grade Stabilization (Each): _____
Manure Applied (Gallons/Year): _____
Manure Purchased (Gallons/Year): _____
Manure N (Lbs/Year): _____
Manure P (Lbs/Year): _____
Manure K (Lbs/Year): _____

LIVESTOCK

CNMP (Acres): _____
CNMP Written By: _____
Date of CNMP Approval: _____
CNMP Reviewed By: _____
Name of Farm(s) Covered In CNMP: _____
Manure Applied (Acres): _____
Fertilizer Applied (Acres): _____
Pesticide Applied (Acres): _____
Irrigation (Acres): _____
Buffer Strips (Linear Feet): _____
Cover Crops (Acres): _____
No Till (Acres): _____
Conservation Tillage (Acres): _____
Grade Stabilization (Each): _____
Milkhouse Discharge (Gallons/year): _____
Livestock Exclusion (Linear Feet): _____
Silage Pad (Acres): _____
Manure Produced (Gallons/Year): _____
Manure Sold (Gallons/Year): _____
Manure Manifested (Gallons/Year): _____
Manure N (Lbs/Year): _____
Manure P (Lbs/Year): _____
Manure K (Lbs/Year): _____

GREENHOUSE

NMP (Square Feet): _____
Manure Applied (Square Feet): _____
Fertilizer Applied (Square Feet): _____
Pesticide Applied (Square Feet): _____
Irrigation (Square Feet): _____
Buffer/Filter Strips (Square Feet): _____
Annual Cover Crop (Square Feet): _____
No Till (Square Feet): _____
Conservation Tillage (Square Feet): _____
Grade Stabilization (Square Feet): _____
Greenhouse Size (Square Feet): _____
Fuel Storage: (Gallons)_____ (Pounds) _____
Fertilizer Capacity: (Gallons)_____ (Pounds)_____
Pesticide Capacity: (Gallons)_____ (Pounds)_____
Greenhouse Wells (Each) _____
EHS Threshold: Yes or No

FOREST, WETLANDS, AND HABITAT

Land Management Plan (Acres) _____
Plan Type: Forest Wetland Habitat All Three
Plan Writer:_____
Date Plan Written:_____
Date Plan Expires: _____
Forestland (Acres):_____
Grassland (Acres) _____
Wetland (Acres) _____
Restored/Improved Wetland Habitat (Acres): _____
Restored Non-Wetland Habitat (Acres): _____
Management for Invasive Species (Acres):_____
Managed as Buffers (Acres): _____
Length of Streambanks/Shorelines (Feet): _____

Notes:_____
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Farm Name: _____

Animal Unit (AU) Conversion Factors by Animal Type and Class			
Animal Type	**Class**	**Average Animal Weight**	**Quantity**
1,000 Beef cattle or cow/calf pairs = Large CAFO	CALF	450	
	HIGH FORAGE	750	
	HIGH ENERGY	750	
	HIGH FORAGE	1100	
	HIGH ENERGY	1100	
	COW	1000	
700 Mature dairy cattle (whether milked or dry cows), or 1,000 Veal calves = Large CAFO	CALF	150	
	CALF	250	
	HEIFER	750	
	HEIFER	1000	
	LACTATING COW	1400	
	DRY COW	1400	
	VEAL	250	
30,000 Laying hens or broilers liquid, or 125,000 Chickens dry (other than laying hens), or 82,000 Laying hens dry = Large CAFO	DRY SYSTEM		
	LIQUID SYSTEM		
	PULLETS		
55,000 turkeys = Large CAFO	ALL		
500 horses = Large CAFO	ALL	1000	
2,500 swine each weighing over 55 pounds, or 10,000 swine weighing less than 55 pounds = Large CAFO	NURSERY PIG	25	
	GROW-FINISH	150	
	GESTATING	275	
	LACTATING	375	
	BOAR	350	
	OTHER		
10,000 sheep or lambs	ALL	100	

OTHER LIVESTOCK TYPE:	OTHER LIVESTOCK QUANTITY:
OTHER LIVESTOCK TYPE:	OTHER LIVESTOCK QUANTITY:

Crop Commodities					
Crop Name	Acres	Crop Name	Acres	Crop Name	Acres
Alfalfa		Cucumbers, Fresh		Oats	
Apples		Cucumbers, Pickling		Peaches	
Apricots		Dry Beans		Pears	
Asparagus		Fruit, Other		Potatoes	
Blueberries		Grapes, Juice		Rye	
Carrots		Grapes, Wine		Small Grain, Other	
Cherries, Sweet		Green Beans		Soybeans	
Cherries, Tart		Greenhouse, Annual		Squash/Pumpkin	
Christmas Trees		Greenhouse, Perennial		Sugar Beets	
Clover, Seed		Greens, Herbs		Sunflower	
Corn, Grain		Hay/Pasture		Vegetable, Other	
Corn, Seed		Hops		Wheat	
Corn, Silage		Mixed Garden		Other:	
Corn, Sweet		Nursery		Other:	
Note: Express acres to the closest quarter acre.					

Notes:

Farm Name: _____

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