MARYLAND DEPARTMENT OF THE ENVIRONMENT

Land and Materials Administration • Resource Management Program
1800 Washington Boulevard • Suite 610 • Baltimore Maryland 21230-1719
410-537-3314 • 800-633-6101 x3314 • www.mde.maryland.gov

NOTICE OF INTENT

General Discharge Permit for Animal Feeding Operations (AFOs) (19AF, MDG01)
Land and Materials Administration – Resource Management Program
Issued Pursuant to Title 9, Environment Article, *Annotated Code of Maryland*, and Code of Maryland Regulations (COMAR) 26.08.04

Submission of this Notice of Intent (NOI) constitutes notice that the person identified in this form intends to operate under and comply with all terms and conditions of the State/NPDES General Discharge Permit for AFOs (AFO Permit). The discharge of animal waste, including manure, poultry litter, and process wastewater to waters of the State is prohibited unless an AFO has been registered under the AFO Permit by the Maryland Department of the Environment ("MDE"). A person shall hold a CAFO discharge permit issued by MDE before beginning construction on any part of a new CAFO.

Please submit this completed NOI Form to the following address:

Maryland Department of the Environment
Land and Materials Administration/AFO Division
1800 Washington Boulevard, Suite 610
Baltimore, Maryland 21230-1719

RECEIVED
SEP 15 2020
AFO DIVISION

General Information

AI Number: 133820

1. LEGAL Name of Applicant *(must match name on required plan)*:
Mark Eck (Dad's Farm)

2. AFO Type *(circle one)*: (CAFO) / MAFO

3. Applying for *(check one)*:
- ☐ New Coverage *see column 'A' in Question 4*
- ☒ Continuation of Coverage (renewal) *see column 'B' in Question 4*
- ☐ Modification of 19AF Coverage *see column 'C' in Question 4*

4. Reason for NOI *(please fill out corresponding column)*:

A. New Coverage	B. Continuation of Coverage (renewal)	C. Modification of 19AF Coverage
☐ New owner/operator ☐ Proposed operation *(NO construction may begin until permit coverage is obtained)* • Date of anticipated start of AFO operation: _____	☒ No changes in operation ☐ There has been a change in one or more of the following *(please indicate)*: o Size or number of houses o Animal number, resulting in change of size category o CAFO to MAFO, MAFO to CAFO o No-Land to Land, Land to No-Land o Conventional operation to organic	☐ Expanding ☐ Change in animal number, resulting in change of size category ☐ Change from CAFO to MAFO ☐ Change from MAFO to CAFO ☐ Change from no-land to land ☐ Change from land to no-land ☐ Change from conventional to organic operation

Applicant (Owner/Operator Information)

5. Mailing Address of Applicant: 450 Ell Morris Road
City: Henderson **State:** MD **Zip Code:** 21640

6. Telephone Number(s) of Applicant: (Home) [redacted]
(Cell) [redacted]

7. Email of Applicant: —

Farm Information

Please attach a topographic map including the production area as well as the land application area (if applicable)

8. Farm Name: ☒ Same as Legal Name
☐ Other *(please specify)*: _____

9. Farm Address: 851 Bridgetown Road
City: Henderson **County:** Queen Annes **Zip Code:** 21640

10. Watershed/Hydrologic Unit Code (HUC) (12-digit): 021304050536

11. Latitude/Longitude of Production Area (Deg/Min/Sec): 39° - 03 - 22.5175 - 53 - 22.6

12. Animal Information:

A. Animal Type(s) *(from AFO size chart)*	B. Maximum Number of Animals *at any given time* *(For poultry, please indicate bird type and number per flock)*	C. Operation Size *(consult AFO size chart)*	D. Animal Confinement Type *(e.g. house, feedlot, barn, milking parlor, pen)*
Chickens Broiler	Roasters - 71,000	Medium	House

**For poultry only (13-16):*

13. *Number of poultry houses: 3

14. *Combined square footage of *all* poultry houses: 62640 sqft

15. *Date(s) poultry houses constructed: 1977, 1986

16. *Integrator *(check one)*:
☐ Allen-Harim ☒ Mountaire
☐ Amick ☐ Perdue
☐ Coleman ☐ Tyson
☐ Other *(please specify)*: _____

Contact Information:
Phone No.: 302-934-1100
Address: P.O. Box 1320
Millsboro DE 19966

Manure/Mortality Management

17. Total Manure/Litter/Wastewater generated *annually*: 284 *circle one:* (tons / lbs / gallons)

18. Total Manure/Litter/Wastewater transported offsite *annually*: 270 *circle one:* (tons / lbs / gallons)

19. **Total number of acres controlled by applicant available for land application of manure/litter/process wastewater: *Owned:* no land *Leased:* 0

***40 CFR Parts 122.23(b)(3) and 412.2(e) define "land application area" as all land under the control of the AFO owner/operator, whether by ownership, lease, or agreement, to which manure, litter or process wastewater is or may be applied.*

20. Manure Storage *(please list individually)*:

A. Type *(e.g. shed, lagoon, pit)*	B. Capacity *(ft^3, gal)*	C. Solid/Liquid
Manure shed	1600 cuft	Solid

21. Mortality Management Method:

- ☑ Compost
- ☐ Freeze
- ☐ Render
- ☐ Incinerate
- ☐ Other *(please specify)*: _____

CAFOs Only - Fees

Once a completed NOI is received by MDE and processed, MDE will invoice the applicant for any permit fees owed pursuant to COMAR 26.08.04.09-1.

Required Plan

CAFO permit application requirements at 40 CFR §122.21(i)(1)(x) specify that applications for coverage (including NOIs) must include nutrient management plans (NMPs) that at a minimum satisfy the requirements specified in 40 §122.42(e). Comprehensive Nutrient Management Plans (CNMPs), as defined in the General Discharge Permit for Animal Feeding Operations (AFOs) (19AF, MDG01), satisfy these requirements. An application will not be processed until a completed NOI form and a current CNMP are received. A CNMP must be developed by a certified and licensed plan writer, and in addition to the federal requirements, must satisfy the nutrient management requirements in COMAR 15.20.07 and 15.20.08.

Certification

By signing this form, I the applicant or duly authorized representative, do solemnly affirm under the penalties of perjury that the contents of this application are true to the best of my knowledge, information, and belief. I hereby authorize the representatives of MDE to have access to the AFO and associated lots/facilities (farms) for inspection and to records relating to this application at any reasonable time. I acknowledge that depending on the type of permit applied for, other permits or approvals may be required. The personal information requested on this form is intended to be used in processing your NOI. This Notice is provided pursuant to Title 4 of the General Provisions Article, Annotated Code of Maryland. Your NOI may not be processed if you fail to provide all requested information. You have the right to inspect, amend, or correct this form. MDE is a public agency and subject to the Maryland Public Information Act (Md. Code Ann., Gen. Prov. §§ 4-101, et seq.). This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not otherwise protected by federal or State law.

Mark A Eck — **Signature of Applicant / duly authorized representative**

9/3/2020 — **Date**

Mark A. Eck — **Printed Name of Applicant / duly authorized representative**

Farmer — **Title**

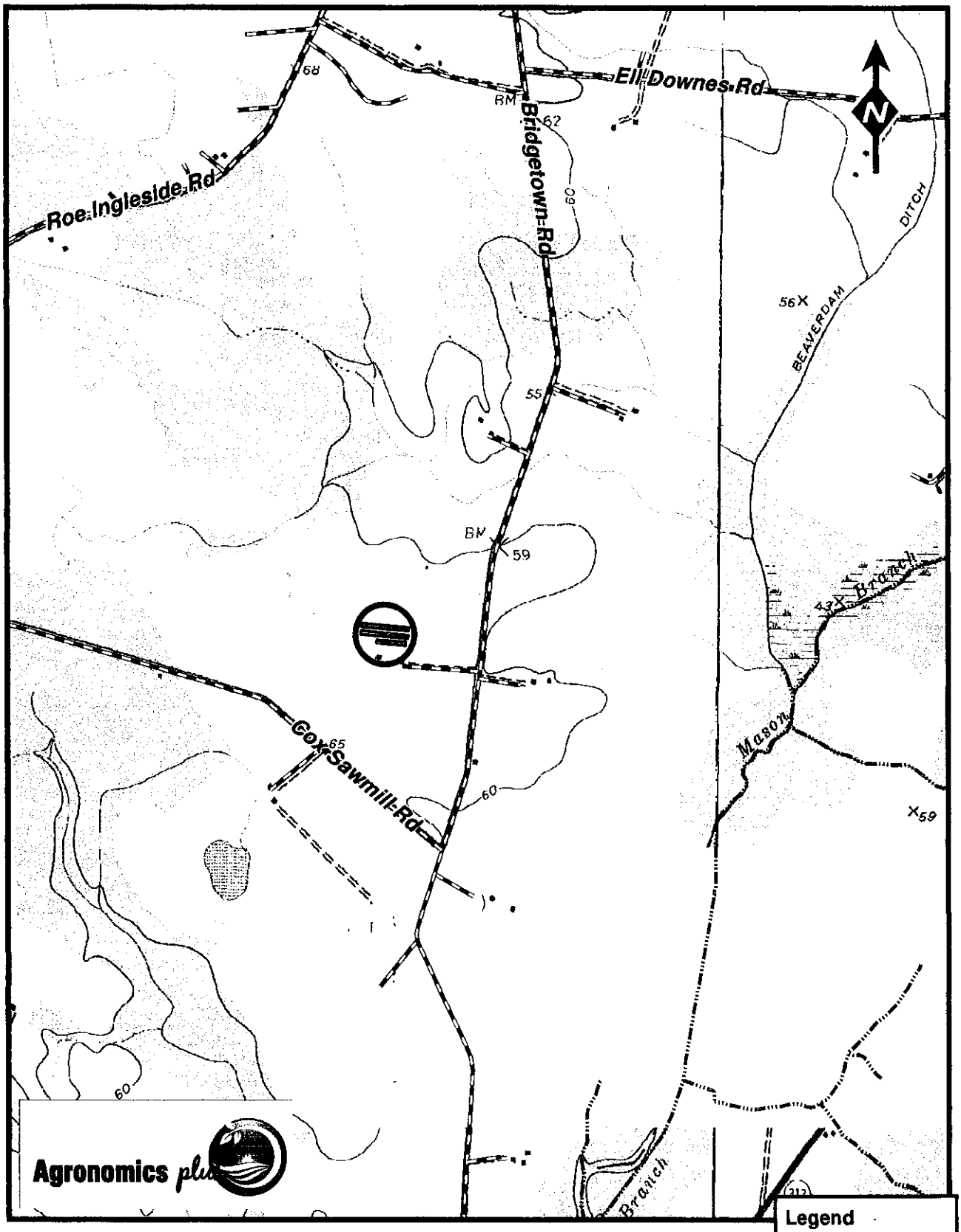
AFO Size Chart

Animal Type	Circumstances under which Animal Feeding Operations Require Permit Coverage		
	CAFO or MAFO Registration Required	**CAFO/MAFO Registration Required under Certain Circumstances**	**Registration Needed Only if Designated**
	Large	**Medium**	**Small**
Cattle (includes heifers)	1000 or more animals	300—999 animals	less than 300 animals
Dairy cattle	700 or more animals	200—699 animals	less than 200 animals
Horses	500 or more animals	150—499 animals	less than 150 animals
Veal	1000 or more animals	300—999 animals	less than 300 animals
Swine ≥ 55 pounds	2500 or more animals	750—2499 animals	less than 750 animals
Swine < 55 pounds	10,000 or more animals	3,000—9,999 animals	less than 3,000 animals
Sheep and lambs	10,000 or more animals	3,000—9,999 animals	less than 3,000 animals
Ducks with liquid manure handling+	5,000 or more animals	1,500—4,999 animals	less than 1,500 animals
Chickens with liquid manure handling	30,000 or more animals	9,000—29,999 animals	less than 9,000 animals
Ducks with dry manure handling	30,000 or more animals	10,000—29,999 animals	less than 10,000 animals
Laying hens with dry manure handling	82,000 or more animals	25,000—81,999 animals	less than 25,000 animals
Chickens (other than laying hens) with dry manure handling	125,000 or more animals or greater than or equal to total house size of 100,000 ft^2	37,500—124,999 animals *and* less than total house size of 100,000 ft^2	less than 37,500 animals
Turkeys	55,000 or more animals	16,500—54,999 animals	less than 16,500 animals

+A separate discharge permit is required for large category duck CAFOs

Mark Eck

Dad's Farm



Comprehensive Nutrient Management Plan

Dad's Farm
Mark Eck
450 Ell Morris Road
Henderson, MD 21640

Farm Location:

851 Bridgetown Road
Henderson, MD 21640

Plan developed by:
Name: David Kann
Address: PO Box 1011
East Berlin, PA 17316
Phone: 717-792-1274
E-mail: agplanner@comcast.net

Queen Anne's Soil Conservation District
211 E Water Street
Centreville, Maryland 21617
410-758-3136

Plan Written: 10/29/2024 *(original: August 2011)*

Type of Plan: ☐ No-Land ☑ Land

**Concentrated Animal Feeding Operation (CAFO) or Maryland Animal Feeding Operation (MAFO) – provide the numbers below (if applicable)

AI Number: 66542

CNMP Purpose and Agreement

The Comprehensive Nutrient Management Plan (CNMP) is an important part of the conservation management system (CMS) for your Animal Feeding Operation (AFO). This CNMP documents the planning decisions and operation and maintenance for the AFO.

This CNMP is valid as long as there are no major changes to the operation. A CNMP plan revision will be needed when the number of animals deviates by 10% from the planned amount or when the operation changes from one type of livestock to another. Nutrient management plan revisions will be needed based on Maryland Department of Agriculture Nutrient Management regulations.

This CNMP was developed paying special attention to the USEPA's required nine minimum practices for water quality protection. This plan when implemented by the farmer will ensure clean runoff is diverted from manure storage and production areas and livestock are prevented from making direct contact with waters.

Owner/Operator

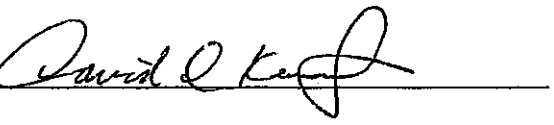
As the owner/operator of this CNMP, I, as the decision maker, have been involved in the planning process and agree that the items/practices listed in each element of the CNMP are needed. I understand that I am responsible for keeping all necessary records associated with implementation of this CNMP. It is my intention to implement/accomplish this CNMP in a timely manner as described in the plan.

Signature:_____ Date:_____

Name *(print)*:_____

Certified Comprehensive Nutrient Management Plan (CNMP) Planner

As a Certified Comprehensive Nutrient Management Plan (CNMP) Planner, I certify that I have reviewed the *Comprehensive Nutrient Management Plan* and that the elements of the documents are technically compatible, reasonable and can be implemented.

Signature  Date: 10/29/2024

Name: David D. Kann

Title: Engineering Technician / Environmental Planner
Company: Agronomics Plus

Planner Certification: PA-134 CCP: 259 and TSP-04-4509

CNMP Purpose and Agreement

The Comprehensive Nutrient Management Plan (CNMP) is an important part of the conservation management system (CMS) for your Animal Feeding Operation (AFO). This CNMP documents the planning decisions and operation and maintenance for the AFO.

This CNMP is valid as long as there are no major changes to the operation. A CNMP plan revision will be needed when the number of animals deviates by 10% from the planned amount or when the operation changes from one type of livestock to another. Nutrient management plan revisions will be needed based on Maryland Department of Agriculture Nutrient Management regulations.

This CNMP was developed paying special attention to the USEPA's required nine minimum practices for water quality protection. This plan when implemented by the farmer will ensure clean runoff is diverted from manure storage and production areas and livestock are prevented from making direct contact with waters.

Owner/Operator

As the owner/operator of this CNMP, I, as the decision maker, have been involved in the planning process and agree that the items/practices listed in each element of the CNMP are needed. I understand that I am responsible for keeping all necessary records associated with implementation of this CNMP. It is my intention to implement/accomplish this CNMP in a timely manner as described in the plan.

Signature: Mark A Eck Date: 12/2/24

Name *(print)*: Mark A. Eck

Certified Comprehensive Nutrient Management Plan (CNMP) Planner

As a Certified Comprehensive Nutrient Management Plan (CNMP) Planner, I certify that I have reviewed the *Comprehensive Nutrient Management Plan* and that the elements of the documents are technically compatible, reasonable and can be implemented.

Signature David D Kann Date: 10/29/2024

Name: David D. Kann

Title: Engineering Technician / Environmental Planner
Company: Agronomics Plus

Planner Certification: PA-134 CCP: 259 and TSP-04-4509

County Soil Conservation District ***(if applicable)***

As the County District Manager, I certify that I have reviewed this CNMP and concur that the plan meets the District's conservation goals.

Signature:_____ Date:_____

Name: _____

Plan Contents
CNMP Purpose and Special Conditions
General Operation Narrative and Introduction
Emergency Contact Phone Numbers for Persons/Agencies
Farmstead and Production Area Information *Manure and Wastewater Handling and Storage*
Environmental Status
Description of nearby Water Bodies
Animal Mortality Management
Biosecurity
Maps of the Agricultural Operation *Conservation Plans (under separate cover)* *Soil Descriptions, Tillage Management, and Soil Loss Calcs*
Implementation Schedule & Responsibility Guide
Nutrient Management Plan (NMP) *Manure Generation Calcs and Manure/Litter Test Results*
Emergency Action Plans
Techniques in collecting a Manure Analysis & Application Equipment Calibration Procedures
Required Record Keeping (template forms)

Appendix: Additional Supporting Information

- AFO Resource Concerns Evaluation Worksheet
- CAFO / AFO Online References

Purpose of the Comprehensive Nutrient Management Plan (CNMP)

A Comprehensive Nutrient Management Plan (CNMP) is a conservation system that is unique to your animal feeding operation (AFO). This plan is a grouping of conservation practices and management activities which, when implemented as part of a conservation system, will help to ensure that both production and natural resource protection goals are achieved for your operation. A CNMP incorporates practices to utilize animal manure and organic by-products as a beneficial resource. Your CNMP addresses natural resource concerns dealing with soil erosion, manure, and organic by-products and their potential impacts on water quality, which may derive from an AFO. A CNMP is developed to assist an AFO owner/operator in meeting all applicable local, tribal, State, and Federal water quality goals or regulations. For nutrient impaired stream segments or water bodies, additional management activities or conservation practices may be required to meet local, tribal, State, or Federal water quality goals or regulations.

The conservation practices and management activities planned and implemented as part of a CNMP must meet NRCS technical standards. For those elements included by an owner and/or operator in a CNMP for which NRCS currently does not maintain technical standards (i.e., feed management, vector control, air quality), producers should meet criteria established by Land Grant Universities, industry, or other technically qualified entities. Within each state, the NRCS State Conservationist has the authority to approve non-NRCS criteria established for use in the planning and implementation of CNMP elements.

Nutrient management and waste utilization manage the source, rate, form, timing, placement, and utilization of manure, rather than disposing of it as a waste residual. The goal is to effectively and efficiently use nutrient resources derived from animal waste to adequately supply soils and plants to produce food, forage, fiber, and cover while minimizing environmental impacts.

Minimum Standards of a CNMP

The Nine Minimum Standards to Protect Water Quality:

1. Ensure adequate storage capacity. Design, construct, operate, and maintain the production area and all animal waste storage structures to contain all animal waste, including any runoff or direct precipitation from a 25-year, 24-hour storm. Need to store dry manure in a way that prevents polluted runoff. Properly operate and maintain all storage facilities.

2. Ensure proper management of mortalities to prevent the discharge of pollutants into waters of the State. Do not dispose of mortalities in an animal waste or other storage or treatment system that is not specifically designed to treat animal mortalities without written permission from the Department, which may be granted if the Department determines catastrophic circumstances.

3. Divert clean water, as appropriate, from the production area to keep it separate from process wastewater. For CAFOs, conduct daily inspections of all outdoor water lines, and those located inside buildings with grated floors, on all days the CAFO is in operation. Correct any deficiencies found as a result of the inspections as soon as possible, and maintain a log of deficiencies found and corrected. The log must contain records of any deficiencies not corrected within 30 days and an explanation of the factors preventing immediate correction.

4. Prevent direct contact of confined animals with waters of the State.

5. Chemical Handling. Ensure that chemicals and other contaminants handled on-site are not disposed in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants. No pesticides, cleaning agents, or fuels shall be stored in any animal operation area, unless directly necessary for animal care and public health. These products shall not be allowed to enter waters of the State. The permittee shall notify the Department of any spills or other discharges as detailed under Part V.F. "Noncompliance Notification."

6. Conservation practices to control nutrient loss, including site-specific conservation practices.

a. An **AFO** shall maintain a setback of 100 feet or a 35 foot **vegetated filter strip** between stored **poultry litter** and **manure** and **waters of the State**, as well as field ditches. For existing permanent storage structures, an alternative to this requirement is provided in paragraph IV.A.1.b.6 of this permit.

b. For a poultry CAFO, permit condition IV.B.1. applies to the storage of poultry litter manure. In addition, poultry manure stored for more than 14 calendar days in the field, where manure may be applied as nutrients for crop growth under a nutrient management plan, shall be separated from ground water and storm water to prevent leaching or runoff of pollutants through the use of both a plastic liner and cover, at least 6 mils thick, or an equivalent method approved by the NRCS (if a standard is adopted by NRCS that meets federal requirements for CAFOs and is approved by the Department).

c. For a poultry MAFO, MDA and NRCS requirements apply to the field storage of poultry litter manure. The following additional requirements for poultry litter manure field storage areas do not include authorization to discharge pollutants to surface waters of the State:

i) **MAFO** poultry litter manure stored for more than 30 calendar days in the field shall be separated from ground water and storm water to prevent leaching or runoff of pollutants through the use of both a plastic liner and cover, at least 6 mils thick, or an equivalent method approved by the NRCS.

ii) If reputable research is performed, based on a plan approved by the Department and MDA, resulting in data that indicates that 30 calendar days is more restrictive than necessary to protect water quality, and/or other more effective approaches to controlling discharges from poultry manure stockpiles are recommended and available as a result of the study, the 30 calendar day requirement shall be automatically stayed and the permit reopened to implement appropriate permit revisions through a public process.

7. Protocols for manure and soil testing. Identify specific animal waste sample collection and analysis protocols to include at least annual analysis for phosphorus and nitrogen content. Include analysis of soil samples for pH and phosphorus content at least once every three years for all fields where animal waste may be applied. Protocols shall be consistent with Maryland's technical standards at COMAR 15.20.07 and 15.20.08.

8. Protocols for the Land Application of Manure and Wastewater. Follow protocols for development of a nutrient management plan and for the land application of animal waste in COMAR 15.20.07 and 15.20.08, which specify who is eligible to develop a NMP, determination of limiting nutrient, nutrient recommendations, acreage, and expected yield for each field. Animal waste shall not be applied at a rate higher than agronomic requirements in accordance with the Maryland Nutrient Management Manual. Animal waste shall be prevented from entering field ditches, adjacent properties, and other waters of the

State, or conduits to waters of the State, except floodplains. In addition, the following requirements for setbacks shall be maintained:

a. A **setback** of at least 100 feet from waters of the State, as well as field ditches, other conduits, intermittent streams, and drinking water wells, shall be maintained; or an **approved alternative** may be substituted for the 100 foot setback.
b. A setback of at least 100 feet from property lines shall be maintained, unless an approved alternative setback for property lines is established with the consent of the adjacent property owner.
c. Alternative Setback Requirements Applicable to Poultry MAFOs. For slopes of 2% or less, a MAFO may satisfy the land application setback and buffer requirements of this permit by maintaining 1) a vegetated filter strip at least ten feet wide along field ditches and in the final 35 feet of the field ditches (applicable to ditch embankments and, to the maximum extent practicable, the channel) adjoining the receiving waters or the operation boundary, whichever occurs first, and 2) a 35 foot vegetated filter strip or a 50 foot setback from all other surface waters of the State, as defined in Part II.JJ.1. In Critical Areas, other alternative setbacks may be required by the Department.

9. Record Keeping. Maintain all records necessary to document the development and implementation of the NMP and Conservation Plan and all other requirements of Parts IV and V of this permit. These records shall be maintained for five years.

The nutrient management plan, contained in this CNMP, is a multi-year plan. The NM plan will need revised on or before the expiration date. Any substantial changes, before this expiration date will need to be documented and revisions made by a certified consultant. A copy of this revision must be kept with your nutrient management records.

A Nutrient Management Annual Implementation Report must be submitted, each year, to the Maryland Department of Agriculture on or before March 1st.

Operator information:

Mark Eck
450 Ell Morris Road
Henderson, MD 21640

CNMP - Consultant information:

David D. Kann
PO Box 1011
East Berlin, PA 17316
(717) 792-1274
Certification #: PA-134
License Number: 2399

Farm Location: 851 Bridgetown Road

Location (Lat./Long.) **39°03'20.4"N 75°53'17.9"W**

Nutrient Management Plan Narrative:

The farm is a grain farm and raises roasters for Mountaire. The information in this plan addresses the issue of handling poultry litter and crust-outs along with the necessary nutrient recommendations for the crops to be planted.

County Location: Queen Anne's County

CODE: 0047 WS CODE: 02-13-04-05 (Tuckahoe)

Property ID	Acct ID Acres	Farm Name	Tract No.	Acres	County	Watershed
	13.15 357.0	Dad's	7075	276	Queen Anne's	0047

TOTAL ACRES UNDER PLAN 276

Emergency Contact Information

Farm Name	Dad's Farm
Address	851 Bridgetown Road, Henderson, MD 21640
Farm Phone	[redacted]
Directions to Farm	From Centreville, turn right onto MD-304 E/Railroad Ave. Continue to follow MD-304 East; about 10.5 miles. Turn left(north) onto Bridgetown Road. Travel approximately 1.7 miles, farm on the left.

Farm Contacts

	Name	Daytime Phone	Farm Phone	Cell Phone	Night Phone
Farm Owner	Mark Eck	[redacted]			
Farm Operator	Mark Eck	[redacted]		[redacted]	
Fire or Ambulance	**911**	**911**	**911**	**911**	**911**

Agency Contacts

Contact Agency	Person / Office	Day Phone	Emergency Number
Health Department	**County Office**	**410-758-0720**	
	County Office	**410-537-3000**	
Before you DIG, call Maryland's Miss Utility		**1-800-441-8355**	
Maryland Department of the Environment	**Office:** **MDE** **Animal Feeding Operation Division** **1800 Washington Blvd.** **Suite 605** **Baltimore, MD 21230**	**410-537-3000**	**1-800-633-6101**
USDA Veterinary Services State Veterinarian	**Dr. Jennifer Trout**	**1-866-536-7593** **410-841-5810**	**410-841-5971** **after hours**

Description of Operation/Additional Information

The Nutrient Management Plan is contained within this CNMP. The NMP section will be revised before the expiration date.

The 3 production houses contain roasters. 4.5 flocks are grown-out annually. A manure storage was built in 1990 and a mortality compost facility was constructed in 2008. The installation of HUAs on the poultry houses occurred over a series of years starting in 2009 on the ends of each poultry house. Currently, all vegetation buffers each production facility. Stormwater comes off the poultry house roofs and is sloped away from buildings. The stormwater pathways are in vigorous sod and are in good condition.

Operation's List of Livestock and/or Poultry

	Animal 1 – Site 1
Location (Structure(s)):	851 Bridgetown Road Henderson, MD
Animal Type:	Roasters
Number of Animals (In Structure):	70,000 birds per flock
Number of Structures (Per Animal Type)	Total of 3 **Tract 7075** House 1 42' x 604' (27,000 birds/house) House 2 42' x 604' (27,000 birds/house) House 3 42' x 368' (16,000 birds/house)
Time In Location:	Year Round Each
Number of Herds/Flocks (Per Year):	4.5 flocks/year 70,000 birds per flock
Storage Structure Receiving Manure:	40'x80' Roofed Dry-stack Manure Storage. Designed for cake-outs and partial removal from under feed lines
Total Solid Manure Collected (Annually)	284 tons generated annually

*See manure quantity estimation sheets in the "Nutrient Management" section of this plan.

CNMP Resource Concerns

No resource concerns currently exist at the farm site. See the attached Resource Inventory worksheet in the Appendix of this plan.

Concentrated Livestock Areas

No outdoor animal concentration areas exist.

Feedlot ID	Animal		Lot Size (sq. feet)	Tributary Areas (type and size)	Cleaning Interval	Lot Surface Type(s)
	Type	No.				
N/A						

Poultry is the only livestock on the Farm.

Storage Facilities

Storage ID	Size/Volume of Storage Unit	Type of Liner	Transfer ID	Meets 313[1] (Y / N / ?)	Length (days)
Manure Storage	40' x 80' 14,800 cuft	Earth Floor		Y	365

Composting takes place in a bin style facility outside the manure shed.

Stacking Areas

Stacking Area ID	Size/Volume of Stack	Manure Consistency (solid, semi-solid)	Soil Type	D.S. Slope	Distance to Concentrated Flow
Not applicable					

Wells

A well must be secure and protected. To ensure the safety and purity of the well, follow these *steps to ensure the integrity of the well:*

· Regularly inspect activities in the sanitary protective radius.
· Restrict access to the well.
· Keep hazardous materials away from the well.
· Cap and/or screen all vents, access ports, and other openings of the well.

· Check the condition of sanitary seals and replace those that are not intact.
· Slope parking areas and concrete pads under storage areas away from the well, periodically check their condition, and repair any permeable areas.
· Use a properly constructed sample tap and take other measures to avoid cross-connections.
· Inspect backflow prevention valves and replace as needed.
· Keep good grass growth around the well head and maintain as such. A buffer, no less than 15 feet around the well head, should be maintained.

Surface Water Runoff

Identify any problems related to surface water runoff (erosion, ponding, flooding, etc.).

All surface water is being handled appropriately through the use of vegetated swales and the proper maintenance of roadways.

Air Quality

Are any of the following a concern at the facility itself, or to nearby neighbors? If so, describe the issues in terms of timing, extent, etc.

- **Dust:** No apparent problems
- **Gaseous Emissions:** No
- **Odor:** Normal.
- **Other Potential Resource Concerns:** No other problems are apparent.

Description of Local Environmental Status and nearby Water Bodies

Description of nearby Water Bodies

The farmstead and production area sits within the Tuckahoe Creek Watershed. See the table below for the specifics for each production site. All production areas, manure storage, manure cleanup - heavy use areas, and mortality management is greater than 1500' from any Public Drainage Ditches (PDAs) and/or Streams, Creeks, or Rivers. **The site is in a designated Tier II High Quality Watershed.**

Farm Name	Name of nearest Waterbody	Distance to Waterbody	Watershed Name	12-digit Watershed number	Water Quality Status TMDL impairments (N, P, Bacteria, Sediment)
Dad's	*UNT of Mason Branch*	*1500 ft*	*Tuckahoe Creek*	*021304050536*	*Nitrogen Phosphorus Bacteria Sediment*

Sensitive Environmental Areas

Briefly describe any sensitive environmental areas on the farm including streams, wetlands, HEL land, hydric soils, 100 year floodplain, and distance to regulatory waters.

No sensitive areas were being impacted or diminished by farming activities at the time of the site visits. All required setbacks are outlined in this plan. The nearest body of water is 200 feet from the production facility. The production areas are outside of the 100 year floodplain.

Environmental Justice (EJ) Score

The EJ Score is an overall evaluation of an area's environment and existing environmental justice indicators; including pollution burden exposure, pollution burden environmental effects, sensitive populations, and socioeconomic factors. **This location's score is 39.37 percentile.**

Animal Mortality Disposal

Animals die because of disease, injury, or other causes in any confined livestock operation. The mortality rate is generally highest for newborn animals because of their vulnerability.

Catastrophic mortality can occur if an epidemic infects and destroys a large portion of the herd or flock in a short time, or if a natural disaster, such as a flood or excessive heat strikes. There are also incidences when an entire herd or flock must be destroyed to protect human health or other farms in the area.

Methods for managing mortality include:

1. Rendering
2. Composting
3. Incineration*

*NOTE: Incineration may only be used with proper equipment and permits must be obtained by the producer.

4. Sanitary landfills
5. Burial*
6. Disposal pits*

*NOTE: Burial and Disposal pits should only be considered for catastrophic mortality if all other methods are not possible. The operator will follow local and state guidance if it is determined that burial is an acceptable means of disposal.

Typical Mortality Management

List the type of normal disposal method used on the operation.

Current Typical Mortality Disposal Method(s)

Animal Type	Disposal Method	Capacity of Structure (# of bins, length of channels, etc.)	Location of Disposal Facility
Roasters	Mortality Composting - roofed Facility	4 Bin Composter	The facility adjoins the manure shed.

This farm operation will use composting for normal mortality and Composting for catastrophic mortality depending on the emergency situation. See below:

Composting

Composting is the controlled aerobic biological decomposition of organic matter into a stable, humus-like product, called compost. Decomposition is enhanced and accelerated by mixing organic waste with other

ingredients in a manner that optimizes microbial growth. Composting mortality can be likened to aboveground burial in a biomass filter where most of the pathogens are killed by high temperatures.

As the microbial population consumes the most readily degradable material and grows in numbers, the temperature of the compost pile begins to rise. Efficient composting requires that the initial compost mix have:

A balance source of energy (carbon) and nutrients (primarily nitrogen), typically with a carbon-to-nitrogen (C:N) ratio of 15:1 to 35:1.
Sufficient moisture, typically 40% to 60%.
Sufficient oxygen for an aerobic environment.
A pH in the range of 6 to 8.

For proper composting, correct proportions of carbon, nitrogen, moisture, and oxygen need to be present in the mix. Common carbon sources are sawdust or wheat straw. It is desirable because of its bulking ability, which allows entry of oxygen. Other carbon sources that could be used are peanut hulls, cottonseed hulls, sawdust, leaves, etc. If lab testing of the litter or experience indicates that the carbon/nitrogen ratio is adequate (20 - 35:1 ratio), then litter alone should be sufficient for composting mortality as long as desirable bulking ability is achieved and moisture is properly managed. Moisture management is critical and must be maintained between 40 and 55 percent (40% -does not leave your hand moist when squeezed, 55% - if more than two drops drip from your hand the material is too moist).

Compost process
The first layer is one foot of litter.
A 4-6 inch layer of carbon amendment (sawdust is preferred) is added according to the recipe
A layer of carcasses is added. Carcasses shall be laid side-by-side and shall not be stacked on top of one another. Carcasses placed directly on dirt or concrete floors, or against bin walls will not compost properly.
Water is added (uniform spray).
Carcasses are covered with a 6-inch layer of litter.
Next layer of carcasses begun with carbon amendment and above steps repeated.
When composter is full, cap the 6-inch layer with four additional inches.

Maintain the moisture content at 40 to 55 percent during the composting process (40% - does not leave your hand moist when squeezed, 55% will allow about one drop of water to be released when squeezed, > 55% - if more than two drops drip from your hand the material is too moist, therefore add sawdust or dry carbon source).

Temperature is the primary indicator to determine if the composting process is working properly. A minimum temperature of 130° F shall be reached during the composting process. A temperature of 140° F is optimum; however, temperatures may range up to 160° F. If the minimum temperature is not reached, the resulting compost shall be incorporated immediately after land application or recomposted by turning and adding moisture as needed. Compost managed at the required temperatures will favor destruction of any pathogens and weed seeds.

Good carcass compost should heat up to the 140° range within a few days. Failure of the compost material to heat up properly normally results from two causes. First, the nitrogen source is inadequate (example wet or leached litter). A pound of commercial fertilizer spread over a carcass layer will usually solve this problem. Secondly, the compost fails when too much water has been added and the compost pile becomes anaerobic. An anaerobic compost bin is characterized by temperatures less than 120°, offensive

odors, and black oozing compound flowing from the bottom of the compost bin. In this case a drier bulking / carbon amendment should be added to dry the mix. Then, the material should be remixed and composted.

It is possible, though unlikely, for the temperature to rise above the normal range and create conditions suitable for spontaneous combustion. If temperature rises above 170° F, the material should be removed from the bin and cooled, spread on the ground to a depth not to exceed six inches in an area away from buildings. Water should be added only if flames occur. If temperature falls significantly during the composting period and odors develop, or if material does not reach operating temperature, investigate piles for moisture content, porosity, and thoroughness of mixing.

Inspect compost structure at least twice annually when the structure is empty. Replace any broken or badly worn parts or hardware. Patch concrete floors and curbs as necessary to assure water tightness. Examine roof structures for structural integrity and leaks. Inspections shall be documented on the attached worksheet.

The primary and secondary composters and the litter storage area should be protected from outside sources of water such as rain or surface runoff.

In order to assure desired operation of the composting facility, daily records should be kept during the first several compost batches. This can be helpful in identifying certain problems that may occur.

Catastrophic Mortality Management

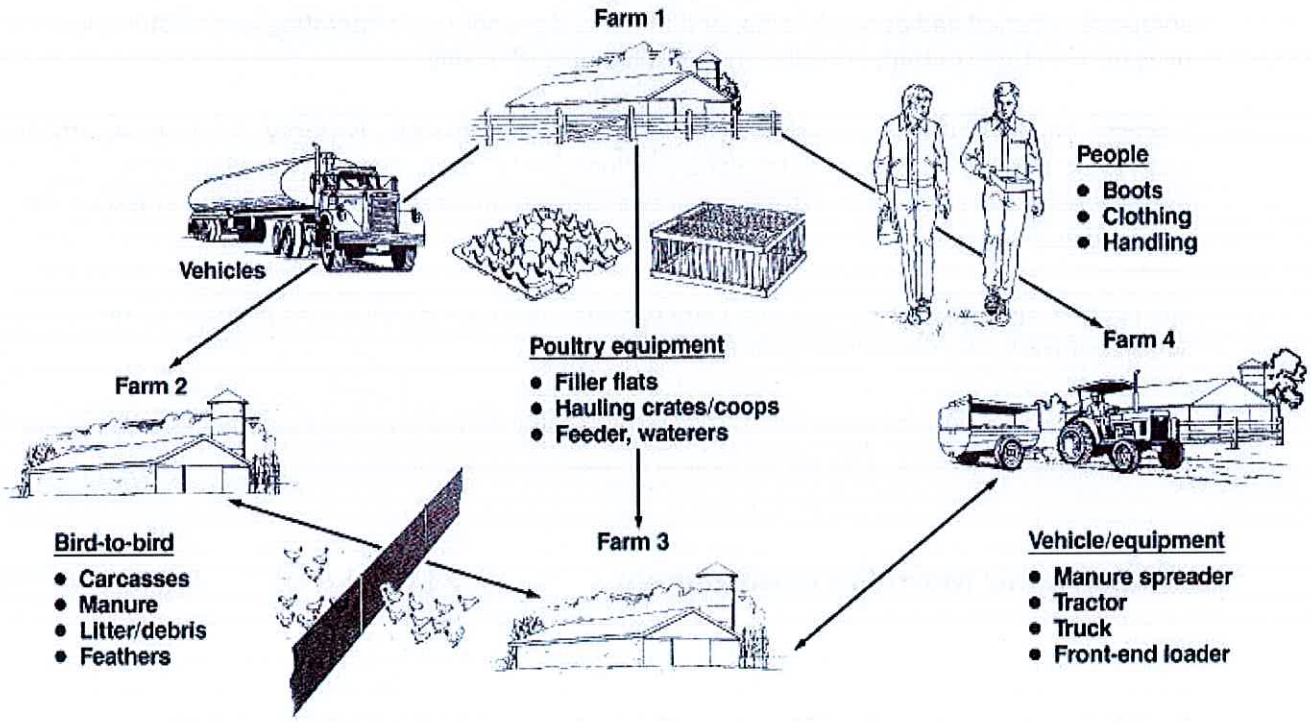
Briefly describe the type of catastrophic disposal method used on the operation.

If circumstances do not allow for composting the large number of dead birds in the Manure Storage Facility, during a catastrophic event, birds will be composted within the poultry houses.

Biosecurity

An outbreak of animal disease could not only harm your livestock, it could affect other nearby animals and quickly spread through your area.

How Diseases Spread (Example – Poultry Operation)



Steps to Take to Avoid Disease Spread

To reduce the risk of introducing disease entering into an animal feeding operation, maintain a biosecurity barrier (physical barrier, personal hygiene, and equipment sanitation) between wildlife, animals, animal containment areas, and other commercial facilities. Some examples of good biosecurity practices include:

1. Permit only essential workers and vehicles on the premises.
2. Give Germs the Boot
    1. Keep a pair of shoes or boots to wear only around your animals.
    2. Clean and disinfect your shoes often.
    3. Always ask visitors and employees to clean their boots and shoes.
3. Don't Haul Home Disease
    1. Always clean and disinfect vehicles used for moving animals.
    2. Limit traffic of incoming people, products and vehicles that could bring in a disease.
    3. Clean and disinfect all equipment that comes in contact with your animals.
4. Keep Your Farm Secure
    1. Restrict access to your property and animals.
    2. Keep doors and gates locked.
    3. Have tracking records on animals.
5. Give Germs Space – Newly acquired animals should be isolated for at least two weeks to ensure you don't introduce disease to your main herd or flock.
6. Look for Signs
    1. Unusual animal health symptoms or behavior
    2. Sudden, unexplained death loss in the herd or flock
    3. Severe illness affecting a high percentage of animals
    4. Blisters around an animal's mouth, nose, teats or hooves
    5. Staggering, falling or central nervous system disorders that prevent animals from rising or walking normally.
    6. Large number of dead insects, rodents or wildlife
7. Don't Wait – Call in Signs of Disease Immediately

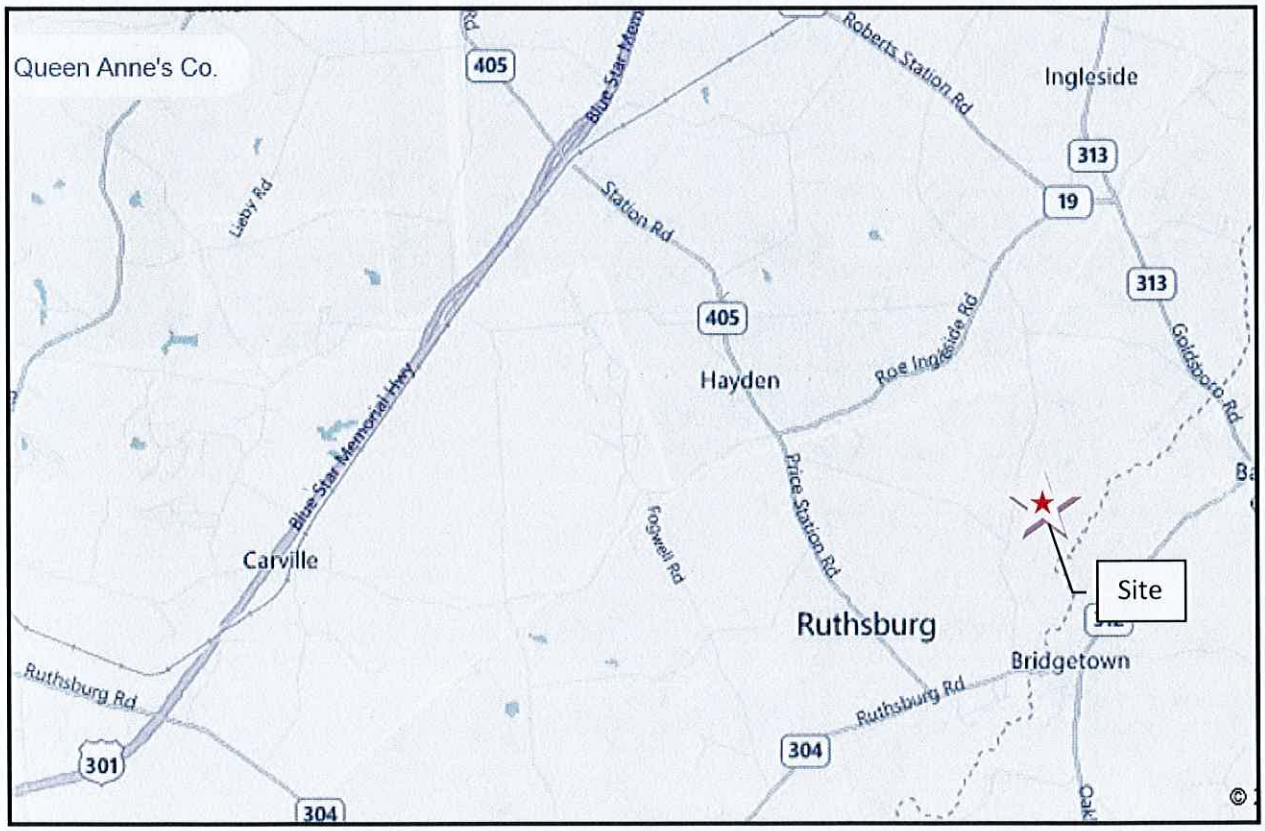
Do not self-diagnose. Seek veterinary services, as early detection is your best protection. If you have animals with signs of suspect disease, call your local veterinarian, extension agent or the state veterinarian. Rapid response and investigation are the only ways to control and eliminate disease and stop large numbers of casualties or damage to our economic system.

FARMSTEAD (Production Area) & CROPLAND *(receiving manure or the possibility to receive manure)*:

1. PLAN MAPS
2. CONSERVATION PLANS include soil descriptions AND SOIL LOSS CALCS
3. Implementation Schedule of Practices
4. OPERATION & MAINTENANCE FOR MANAGEMENT PRACTICES

LOCATION MAP

Dad's Farm
851 Bridgetown Road
Henderson, MD 21640

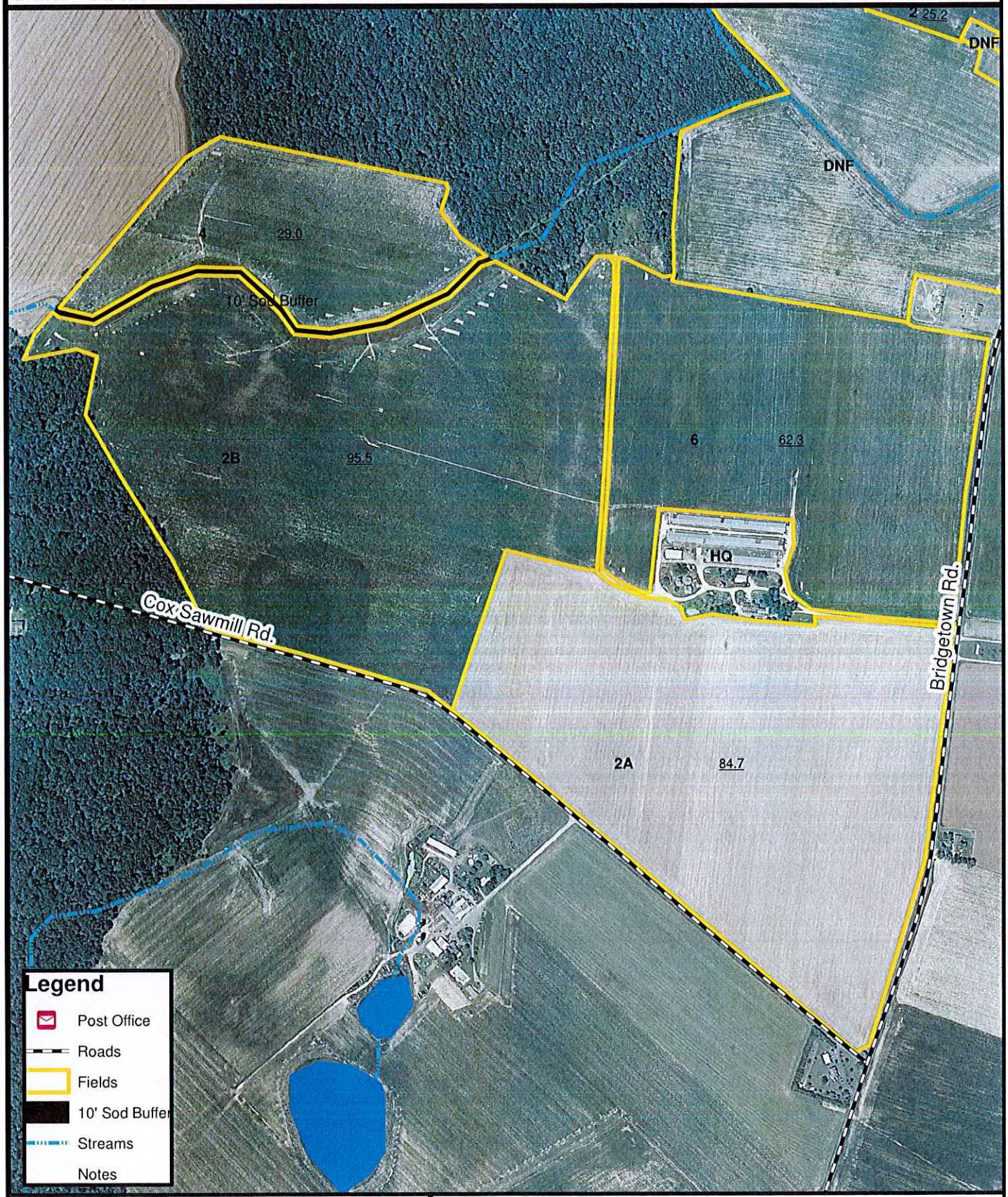


CONSERVATION PLAN – FARM MAP

Mark Eck – Owner ***Mae-Vue Farms, Mark Eck - Operator***

Approximate Acres: 370.15

Date: 06/02/2011 1 inch = 695 feet



AET

FSA Farm Number: 1863

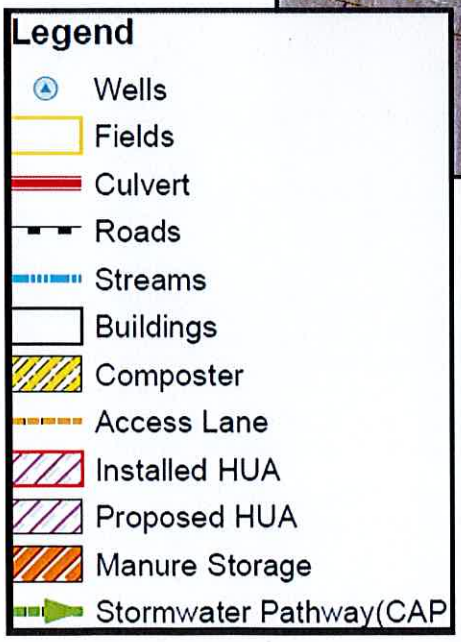
FSA Tract Number: 7075

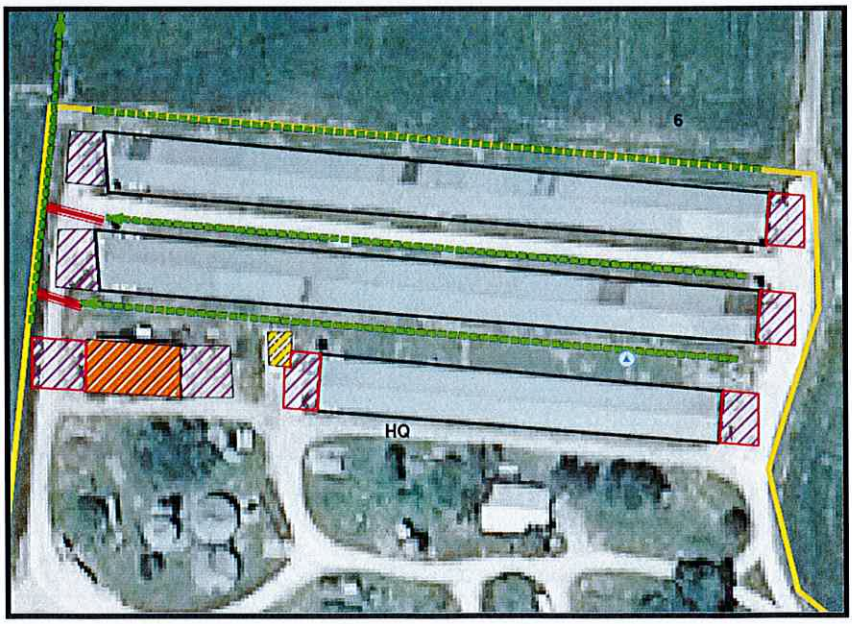
USGS Quadrangle(s): Price

FARMSTEAD (Production Area)

This element addresses the components and activities associated with the production facility, feedlot or animal loafing facilities, manure and wastewater storage and treatment structures and areas, animal mortality facilities, feed and other raw material storage areas, and any areas used to facilitate transfer of manure and wastewater.

Production Facility Site Sketch/Data





Sheriff's Office	Sheriff Gary Hofmann	410-758-0770	
NRCS	County Office	410-758-1671	
U of MD Extension	County Office	410-758-0166	
MDA Nutrient Management	Headquarters	410-841-5959	1-800-492-5590
MDA Nutrient Management	Regional office 28577 Marys Court, Ste 4 Easton, MD 21601 Mailing address: PO Box 549 Cordova, MD 21625	410-279-4003	
Agronomics Plus (plan writer)	David Kann	717-792-1274	

Practice	Amount	Year practice was Installed
Waste Storage Facility **Maintain a poultry manure stack facility to store solid waste on a temporary basis. The facility will provide ample storage during the summer and winter months when crop fields are not open.** • **See the approved engineering plan for construction specifications and maintenance.** • **[1] Manure will be collected from the buildings.** • **[2] Refer to the Nutrient Management Plan for guidance on times of removal and recommended rates.**	Tract 7075 Dad's 1 no. (40'x80')	1990
Heavy Use Areas **The stabilization of areas frequently and intensively used by people, animals or vehicles by establishing vegetative cover, by surfacing with suitable materials, and/or by installing needed structures. These concrete structures will be 40'x40' (or an approved substitute) concrete pads at each end of the poultry houses at the farm. The opposite end (northwest) of buildings are not used.**	Tract 7075 Dad's .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac	 2009 2009 2009 2012 2012
Heavy Use Areas **The stabilization of areas in front of manure shed which is frequently and intensively used by people, animals or vehicles by establishing by surfacing with suitable materials, and/or by installing needed structures.**	Tract 7075 Dad's .1 ac (20x40) .1 ac	 2009 2012

Practice	Amount	Year practice was Installed
Animal Mortality Facility **Maintain a dead bird composting facility for the economical and environmentally safe disposal of dead poultry. The structure shall be built according to NRCS standards and specifications and maintained as described in the Operation and Maintenance plan.**	Tract 7075 Dad's 1 no.	2008
Amendments for the Treatment of Agricultural Waste **A litter amendment will be applied to the poultry houses (10) to reduce ammonia volatilization and to increase the proportion of nitrogen in the litter, making a more valuable and balanced fertilizer. Some amendments are also effective at reducing phosphorus solubility.**	710 ani	2010
Filter Strip **A strip or area of herbaceous vegetation situated between cropland, grazing land, or disturbed land (including forestland), and environmentally sensitive areas. Storm water pathways will be maintained in vigorous sod.**	Tract 7075 Dad's 0.3 ac.	2010

Implementation Schedule for the Farm Operation

This element addresses the need for and implementation of appropriate conservation practices to meet the quality criteria for soil erosion, air and water quality.

Practice and Facility Implementation Schedule

Complete the table below with those practices that are required to address identified resource concerns. If there are no identified resource concerns which need to be addressed, check the box indicating that there are no practices are recommended.

Schedule of Implementation has been completed.

☐ **The list of BMPs contained in this *Schedule of Implementation* will address ALL of the resource concerns at the Production Area and Crop/Pasture land which receive manure.**

☒ **All resource concerns have been addressed. ALL BMPs associated with the production area and associated facilities, to address these concerns, have been completed and no additional best management practices are recommended or required at this time. *(this item will be checked only after the entire Schedule of Implementation has been implemented and no other resource concerns have been identified)***

Schedule of Implementation Agreement

The schedule of conservation practices presented here has been reviewed by the person responsible for compliance with the requirements of the agricultural farm operation.

As the owner/operator, I certify that as the decision-maker, I have been involved in the planning process and agree that the items/practices listed in the table above are needed on my farm operation. I understand that I am responsible for implementing these practices according to the schedule above. Should I not be able to implement any of the above items according to the schedule, I will contact NRCS or my Technical Service Provider and have the schedule revised.

Signature:_____ Date:_____

Name (*print*):_____

Schedule of Implementation Agreement

The schedule of conservation practices presented here has been reviewed by the person responsible for compliance with the requirements of the agricultural farm operation.

As the owner/operator, I certify that as the decision-maker, I have been involved in the planning process and agree that the items/practices listed in the table above are needed on my farm operation. I understand that I am responsible for implementing these practices according to the schedule above. Should I not be able to implement any of the above items according to the schedule, I will contact NRCS or my Technical Service Provider and have the schedule revised.

Signature: Mark A Eck Date: 12/2/24

Name (*print*): Mark A. Eck

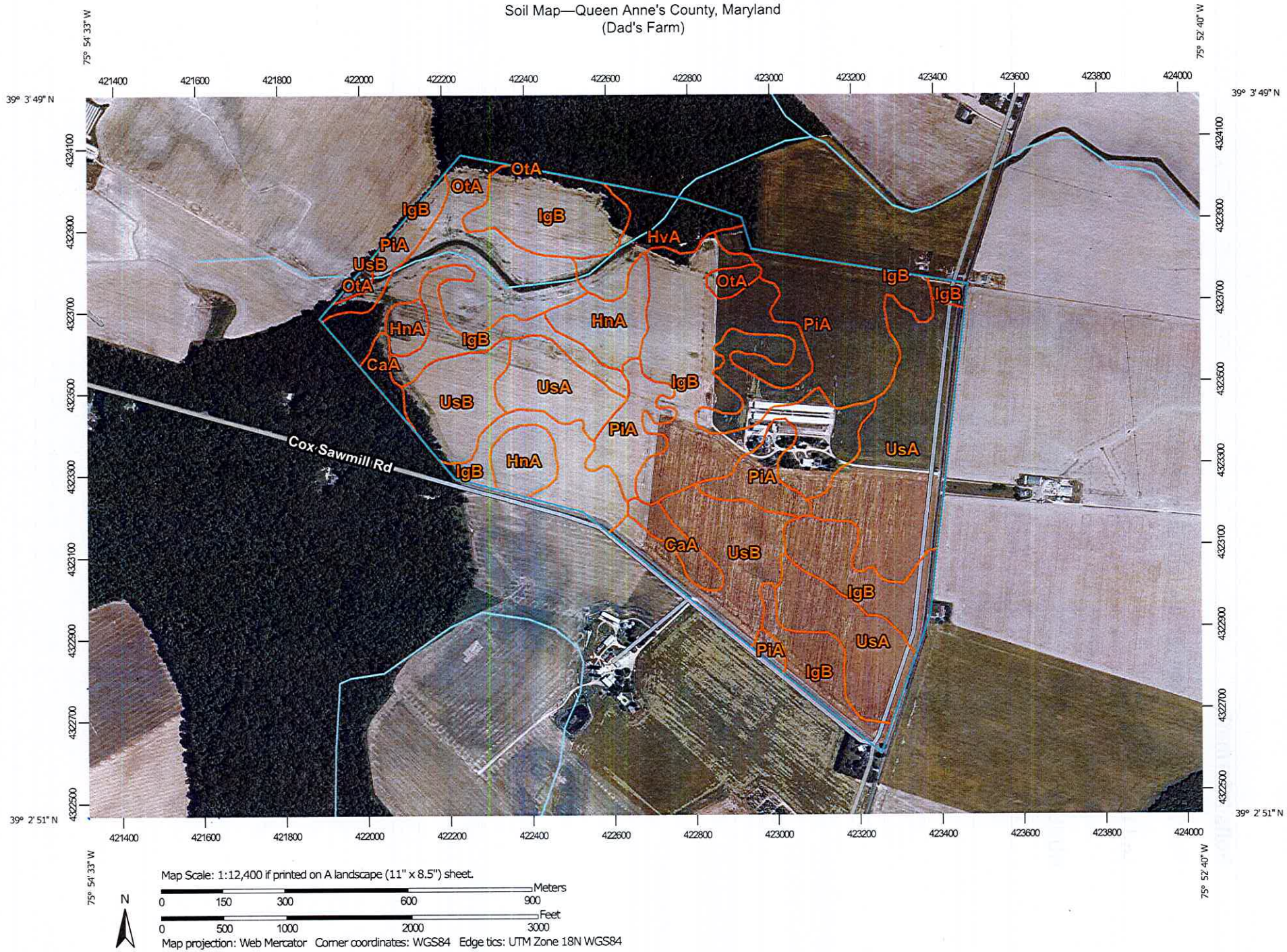
Soils Information

See Soils Info Section (on the following pages)

Soil Descriptions

RUSLE2 Calculations

Soil Map—Queen Anne's County, Maryland
(Dad's Farm)



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CaA	Carmichael loam, 0 to 2 percent slopes	6.5	2.1%
HnA	Hammonton sandy loam, 0 to 2 percent slopes	17.2	5.5%
HvA	Hurlock sandy loam, 0 to 2 percent slopes	11.2	3.6%
IgB	Ingleside sandy loam, 2 to 5 percent slopes	104.5	33.3%
OtA	Othello silt loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	28.5	9.1%
PiA	Pineyneck silt loam, 0 to 2 percent slopes	54.4	17.3%
UsA	Unicorn-Sassafras loams, 0 to 2 percent slopes	59.7	19.0%
UsB	Unicorn-Sassafras loams, 2 to 5 percent slopes	31.8	10.1%
Totals for Area of Interest		**313.8**	**100.0%**

Map Unit Description (Brief)

Queen Anne's County, Maryland

[Only those map units that have entries for the selected non-technical description categories are included in this report]

Map Unit: Ca - Carmichael loam

Description Category: SOI

The Carmichael component(drained) makes up 35 percent of the map unit. The assigned Kw erodibility factor is .37. Soil drainage has been altered. The slowest permeability within 60 inches is slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 3w. Under natural conditions this component is a hydric soil. The hydrology of this component has been altered for agricultural use.

The Carmichael component (undrained) makes up 30 percent of the map unit. The assigned Kw erodibility factor is .37. This soil is poorly drained. The slowest permeability within 60 inches is slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 4w. This component is a hydric soil.

Map Unit: HnA - Hammonton sandy loam, 0 to 2 percent slopes

Description Category: SOI

The Hammonton component makes up 55 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .32. This soil is moderately well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 30 inches. There are no saline horizons. It is in nonirrigated land capability class 2w. This component is not a hydric soil.

Map Unit: HnB - Hammonton sandy loam, 2 to 5 percent slopes

Description Category: SOI

The Hammonton component makes up 65 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .32. This soil is moderately well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 30 inches. There are no saline horizons. It is in nonirrigated land capability class 2w. This component is not a hydric soil.

Map Unit: Hr - Hurlock sandy loam

Description Category: SOI

The Hurlock component (drained) makes up 35 percent of the map unit. Drained component is Prime farmland. The assigned Kw erodibility factor is .15. Under natural conditions this soil is poorly drained. The slowest permeability within 60 inches is moderately rapid. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 3w. The hydrology of this component has been altered for agricultural use.

The Hurlock component (undrained) makes up 30 percent of the map unit. Prime farmland if drained. The assigned Kw erodibility factor is .15. This soil is poorly drained. The slowest permeability within 60 inches is moderately rapid. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 4w. This component is a hydric soil.

Map Unit: IgA - Ingleside sandy loam, 0 to 2 percent slopes

Description Category: SOI

The Ingleside component makes up 65 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .20. This soil is well drained. The slowest permeability within 60 inches is moderately rapid. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. It is in nonirrigated land capability class 1. This component is not a hydric soil.

Map Unit Description (Brief)

Queen Anne's County, Maryland

Map Unit: IgB - Ingleside sandy loam, 2 to 5 percent slopes

Description Category: SOI

The Ingleside component makes up 60 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .20. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. It is in nonirrigated land capability class 2e. This component is not a hydric soil.

Map Unit: IgC - Ingleside sandy loam, 5 to 10 percent slopes

Description Category: SOI

The Ingleside component makes up 55 percent of the map unit. The assigned Kw erodibility factor is .20. This soil is well drained. The slowest permeability within 60 inches is moderately rapid. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. It is in nonirrigated land capability class 3e. This component is not a hydric soil.

Map Unit: Kn - Kentuck mucky silt loam

Description Category: SOI

The Kentuck component makes up 50 percent of the map unit. The assigned Kw erodibility factor is .24. This soil is very poorly drained. The slowest permeability within 60 inches is very slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 0 inches. There are no saline horizons. It is in nonirrigated land capability class 5w. This component is a hydric soil.

Map Unit: Lo - Longmarsh mucky loam, 0 to 1 percent slopes

Description Category: SOI

The Longmarsh component makes up 65 percent of the map unit. The assigned Kw erodibility factor is .15. This soil is very poorly drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 0 inches. There are no saline horizons. It is in nonirrigated land capability class 5w. This component is a hydric soil.

Map Unit: LZ - Longmarsh and Zekiah soils, 0 to 2 percent slopes

Description Category: SOI

The Longmarsh component makes up 30 percent of the map unit. The assigned Kw erodibility factor is .15. This soil is very poorly drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 0 inches. There are no saline horizons. It is in nonirrigated land capability class 5w. This component is a hydric soil.

The Zekiah component makes up 30 percent of the map unit. The assigned Kw erodibility factor is .43. This soil is poorly drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 5w. This component is a hydric soil.

Map Unit Description (Brief)

Queen Anne's County, Maryland

Map Unit: Ot - Othello silt loam

Description Category: SOI

The Othello component (drained) makes up 35 percent of the map unit. Prime farmland if drained. The assigned Kw erodibility factor is .37. This soil under natural conditions is poorly drained. The slowest permeability within 60 inches is moderately slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 3w. The hydrology of this component has been altered for agricultural use.

The Othello component (undrained) makes up 25 percent of the map unit. Prime farmland if drained. The assigned Kw erodibility factor is .37. This soil is poorly drained. The slowest permeability within 60 inches is moderately slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 4w. This component is a hydric soil.

Map Unit: PiA - Pineyneck silt loam, 0 to 2 percent slopes

Description Category: SOI

The Pineyneck component makes up 50 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .43. This soil is moderately well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This
soil is not flooded and is not ponded. The top of the seasonal high water table is at 27 inches. There are no saline horizons. It is in nonirrigated land capability class 2w. This component is not a hydric soil.

Map Unit: UsA - Unicorn-Sassafras loams, 0 to 2 percent slopes

Description Category: SOI

The Unicorn component makes up 45 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .32. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. There are no saline horizons. It is in nonirrigated land capability class 1. This component is not a hydric
soil.

The Sassafras component makes up 25 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .28. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The water table is deeper than 6 feet. There are no saline horizons. It is in nonirrigated land capability class 1. This component is not a hydric soil.

Map Unit: UsB - Unicorn-Sassafras loams, 2 to 5 percent slopes

Description Category: SOI

The Unicorn component makes up 35 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .32. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. There are no saline horizons. It is in nonirrigated land capability class 2e. This component is not a hydric soil.

The Sassafras component makes up 30 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .28. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The water table is deeper than 6 feet. There are no saline horizons. It is in nonirrigated land capability class 2e. This component is not a hydric soil.

Map Unit Description (Brief)

Queen Anne's County, Maryland

Map Unit: Wh - Whitemarsh silt loam

Description Category: SOI

The Whitemarsh component makes up 30 percent of the map unit. The assigned Kw erodibility factor is .49. This soil is poorly drained. The slowest permeability within 60 inches is slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 4w. This component is a hydric soil.

RUSLE2 Related Attributes

Queen Anne's County, Maryland

Map symbol and soil name	Pct. of map unit	Hydrologic group	Kf	T factor	Representative value		
					% Sand	% Silt	% Clay
Ca:							
Carmichael	35	C/D	.37	4	45.3	43.2	11.5
Carmichael	30	C/D	.37	4	45.3	43.2	11.5
HnA:							
Hammonton	55	B	.20	5	68.5	24.0	7.5
HnB:							
Hammonton	65	B	.20	5	68.5	24.0	7.5
Hr:							
Hurlock	35	B/D	.20	5	67.8	23.7	8.5
Hurlock	30	B/D	.20	5	67.8	23.7	8.5
IgA:							
Ingleside	65	B	.20	5	67.8	23.7	8.5
IgB:							
Ingleside	60	B	.20	5	67.8	23.7	8.5
IgC:							
Ingleside	55	B	.20	5	67.8	23.7	8.5
Kn:							
Kentuck	50	C/D	.37	5	13.9	70.1	16.0
Lo:							
Longmarsh	65	D	.02	5	45.3	43.2	11.5
LZ:							
Longmarsh	30	D	.02	5	45.3	43.2	11.5
Zekiah	30	D	.37	5	32.3	56.2	11.5
Ot:							
Othello	35	C/D	.49	5	11.2	67.3	21.5
Othello	25	C/D	.49	5	11.2	67.3	21.5
PiA:							
Pineyneck	50	B	.37	5	30.9	56.6	12.5
UsA:							
Unicorn	45	D	.37	5	45.6	43.4	11.0

RUSLE2 Related Attributes

Queen Anne's County, Maryland

Map symbol and soil name	Pct. of map unit	Hydrologic group	Kf	T factor	Representative value		
					% Sand	% Silt	% Clay
UsA:							
Sassafras	25	B	.37	5	47.2	45.3	7.5
UsB:							
Unicorn	35	D	.37	5	45.6	43.4	11.0
Sassafras	30	B	.37	5	47.2	45.3	7.5
Wh:							
Whitemarsh	30	C/D	.37	4	20.9	68.1	11.0
Whitemarsh	30	C/D	.37	4	20.9	68.1	11.0

USDA NRCS Natural Resources Conservation Service

Rusle Program Version:
Rusle Science Version:
Data Base:

RUSLE2 Erosion Calculation Record

File: plans\Eck
Access Group: R2_NRCS_Fld_Office

Inputs:

Owner name	*Location*	*Info*
Mark Eck	**Maryland\Queen Annes County**	**Dad's Farm (T7075)**

Field name	*Soil*	*Slope T Value*	*Slope length, ft*	*Slope steepness, %*
T7075-2A,2B,4	Queen Anne's, MD\IgB Ingleside sandy loam, 2 to 5 percent slopes\Ingleside sandy loam 60%	5.0	300	4.0
T7075-6	Queen Anne's, MD\PiA Pineyneck silt loam, 0 to 2 percent slopes\Pineyneck silt loam 50%	5.0	300	1.0

Results:

Field name	*Description*	*Management*	*Contouring system*	*Support practices*	*Terrace/diversion system*	*Cons. plan. soil loss, t/ac/yr*	*Sed. delivery*	*Fuel cost, US$/ac*
T7075-2A,2B,4	cropland	temp\Eck_C,CC,C,WdcSoybeans	default	-- none --	-- none --	0.53	0.53	23.1
T7075-6	cropland	temp\Eck_C,CC,C,WdcSoybeans	default	-- none --	-- none --	0.31	0.31	25.6

BMP Operation & Maintenance

Amendments for Treatment of Ag Waste

- ~ Observe all the necessary safety precautions when handling the specific chemicals or biological amendments to be used.

Animal Mortality Composting Facility

- ~ Where the operator/owner/manager has a lack of understanding of the composting process; it is a requirement for the operator to obtain mortality compost training.
- ~ The facility itself needs to be solely used for composting mortality.
- ~ Dead birds pulled from the grow-out facilities, need to be placed directly into composter.
- ~ The mix proportions, moisture requirements, and carbon sources need to be used to properly compost.
- ~ All maintenance and management of the compost facility and compost management must be done to prevent scavenging animals and leachate problems.
- ~ Manage the compost piles for temperature, odors, moisture, and oxygen, as appropriate. Make adjustments throughout the composting period to insure proper composting processes.
- ~ Closely monitor temperatures above 165oF. Take action immediately to cool piles that have reached temperatures above 185oF.

Critical Area Planting (CAP) and Filter Strips

- ~ Vegetation must be maintained in vigorous condition.
- ~ In order to keep the optimum sediment retention and other water quality benefits, mow 3-4 times annually to a height 3 to 5 inches.
- ~ Control undesirable plants by pulling, mowing, or spraying with selective herbicide. Control noxious weeds as required by state law.
- ~ Maintain sheet flow entering the filter strip. Repair all rills and small channels within this vegetative area.
- ~ Sediment that accumulates along the upper part and within the filter strip area shall be removed before it accumulates to a height that diverts runoff water away from the vegetative filter area. The area disturbed by this removal shall be re-graded and reseeded.

Heavy Use Area (HUA)

- ~ Maintain a stable, non-eroding surface for areas frequently used by vehicles or animals.
- ~ Maintain and repair adjacent companion conservation practices that handle sediment, nutrients, particulate matter, and organic matter.
- ~ After each and every manure handling or bird removal event that leaves behind, manure, litter, and or debris on the HUA surface; it must be cleaned-up. In all cases, material left behind on the HUA must be swept-up or vacuumed.
- ~ Repair any deteriorating areas.
- ~ Maintain flow into filter areas by removing accumulated solids, reconstructing waterbars, etc.

Roofs and Covers

~An inspection plan of structural components such as the condition of concrete, curbing, sump, access roads, building structure, etc. Note the timing of inspections, conditions that would cause concern, and required actions as appropriate.

~Any weekly, monthly, or annual maintenance that may be necessary for the proper functioning of the system components including, but not limited to, concrete surfaces, sumps, building materials, electrical equipment, and other materials and equipment.

~A schedule of any required written inspection and maintenance reports.

~Proper winterization of the facility.

~Required safety signage.

Roof Runoff Structures

~Structures will be checked and necessary maintenance, including removal of debris, shall be performed after major storms and at least semiannually. Water level management and timing shall be adequately described wherever applicable.

Underground Outlet

- ~ Keep inlets, trash guards, and collection boxes and structures clean and free of materials that can reduce the flow;
- ~ Repairing leaks and broken or crushed lines to insure proper functioning of the conduit;
- ~ Checking outlet conduit and animal guards to ensure proper functioning of the conduit;
- ~ Keeping adequate backfill over the conduit;
- ~ Repairing any eroded areas at the pipe outlet.

Waste Storage Facility - 313

- ~ Check walls and floors often - minimum of 2 times a year when facility is empty - for cracks and/or separations. Where concrete is used make inspections and repair as needed.
- ~ All building materials shall be kept in good working condition free from defect.
- ~ Check backfill areas around structure (concrete, steel, timber, etc) often for excessive settlement. Determine if the settlement is caused by backfill consolidation, piping, or failure of the structure walls or floor. Necessary repairs must be made.
- ~ Outlets of foundations and sub-drains should be checked frequently and kept open. The outflow from these drains should be checked when the facility is being used to determine if there is leakage from the storage structure into these drains.
- ~ Trusses/roof supports shall be examined during snowfall events.
- ~ Roof materials shall be replaced as wear/leakage occurs. Metal roofing may require periodic painting.

Nutrient Management

This element addresses the Nutrient Management component of the CNMP. The nutrient management plan is developed by a Maryland Department of Agriculture certified nutrient management consultant.

Soil Sampling and Testing

Maryland Department of Agriculture regulations require up-to-date soil analyses be included in the Nutrient Management Plan. To fulfill this requirement you must follow these guidelines:

1. Soil test(s) are required to be taken every 3 years or sooner for each management unit
2. It is recommended that soil sampling be conducted consistently at the same time of the year
3. Soil sampling depth for P and K shall be 8 inches; pH testing sampling depth for no-till is only 4 inches

Soil testing shall include analysis for any nutrients for which specific information is needed to develop the plan. The minimum analysis for Maryland is to include: pH, organic matter, phosphorus, potassium, calcium, magnesium, and CEC.

Manure and Wastewater Testing/Analysis

Maryland Department of the Environment and the Environmental Protection Agency require an analysis of manure generated on your operation be obtained to meet conditions in a General Discharge Permit for Animal Feeding Operations under CAFO regulations. If you land-apply manure, it is a required component of your NMP according to MDA regulations. To fulfill this requirement you may do one of the following:

1. collect a sample of manure and obtain an analysis, OR
2. if exported, obtain a copy of the manure analysis from one of the farmers who will be receiving the manure from your operation.

Manure should be analyzed on an annual basis from each storage structure for: % Solids or % Moisture, Total N, Organic N, NH_4 or NH_3, P_2O_5, K_2O, and pH. These analyses are part of the recordkeeping requirement.

Additional Record Keeping requirements for Litter/Manure

Operators must keep records of the actual:

- Quantity estimate of manure (stable waste) removed from production and/or storage facility; and
- Date of removal of manure from production and/or storage facility

Nutrient Application Equipment Calibration:

The load area method was used to calibrate the litter spreader used as well as the plastic tarp capture method. The current application rate achieved was 2 ton/ac at the H1 gear setting with spreader w/full open gate opening. 1 ton/ac at the half gate opening.

Manure Allocation Balance

Type of Manure	Utilized in the NM Plan	Amount of Manure Produced and Captured (annually)	Excess/Deficit (-)
Poultry Litter	*387 tons*	*284 tons*	*(-103)*

The Nutrient Management Plan that follows, looks at all generated nutrients on the farm.

FARMSTEAD (Production Area) & CROPLAND *(receiving manure or the possibility to receive manure):*

1. PLAN MAPS
2. CONSERVATION PLANS include soil descriptions AND SOIL LOSS CALCS
3. Implementation Schedule of Practices
4. OPERATION & MAINTENANCE FOR MANAGEMENT PRACTICES

Steps to Take to Avoid Disease Spread

To reduce the risk of introducing disease entering into an animal feeding operation, maintain a biosecurity barrier (physical barrier, personal hygiene, and equipment sanitation) between wildlife, animals, animal containment areas, and other commercial facilities. Some examples of good biosecurity practices include:

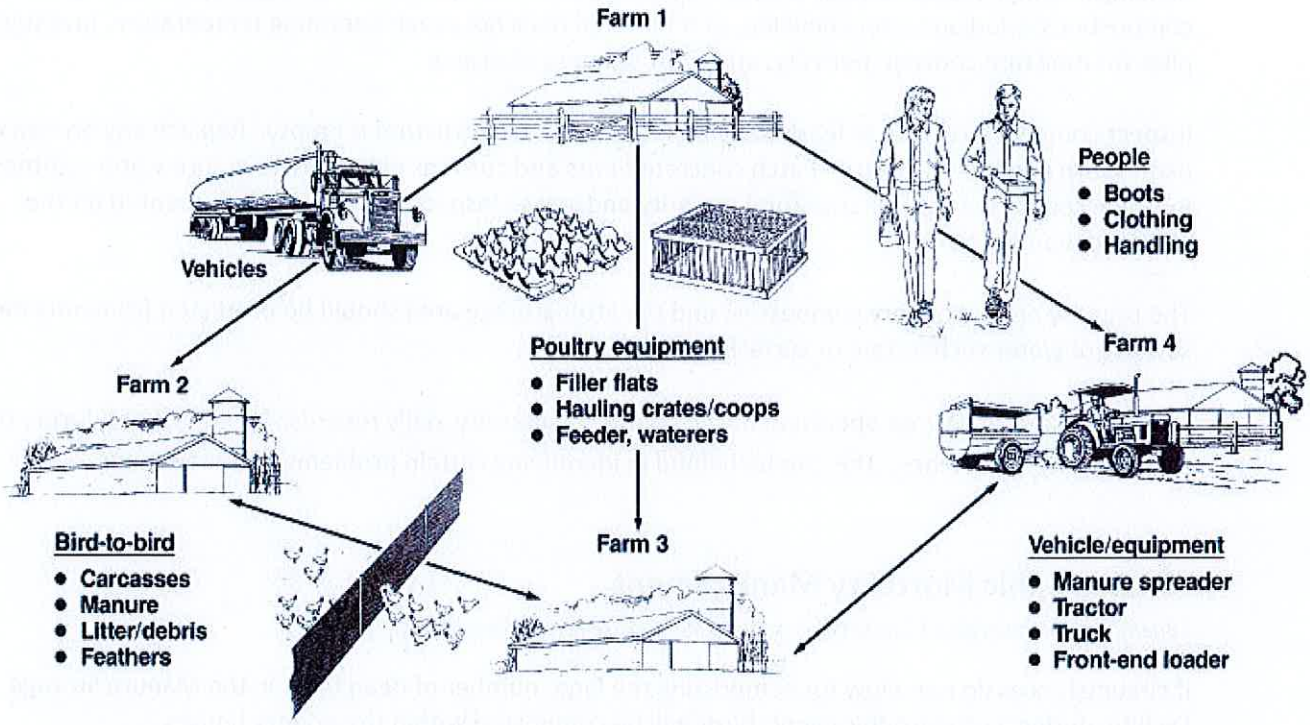
1. Permit only essential workers and vehicles on the premises.
2. Give Germs the Boot
    1. Keep a pair of shoes or boots to wear only around your animals.
    2. Clean and disinfect your shoes often.
    3. Always ask visitors and employees to clean their boots and shoes.
3. Don't Haul Home Disease
    1. Always clean and disinfect vehicles used for moving animals.
    2. Limit traffic of incoming people, products and vehicles that could bring in a disease.
    3. Clean and disinfect all equipment that comes in contact with your animals.
4. Keep Your Farm Secure
    1. Restrict access to your property and animals.
    2. Keep doors and gates locked.
    3. Have tracking records on animals.
5. Give Germs Space – Newly acquired animals should be isolated for at least two weeks to ensure you don't introduce disease to your main herd or flock.
6. Look for Signs
    1. Unusual animal health symptoms or behavior
    2. Sudden, unexplained death loss in the herd or flock
    3. Severe illness affecting a high percentage of animals
    4. Blisters around an animal's mouth, nose, teats or hooves
    5. Staggering, falling or central nervous system disorders that prevent animals from rising or walking normally.
    6. Large number of dead insects, rodents or wildlife
7. Don't Wait – Call in Signs of Disease Immediately

Do not self-diagnose. Seek veterinary services, as early detection is your best protection. If you have animals with signs of suspect disease, call your local veterinarian, extension agent or the state veterinarian. Rapid response and investigation are the only ways to control and eliminate disease and stop large numbers of casualties or damage to our economic system.

Biosecurity

An outbreak of animal disease could not only harm your livestock, it could affect other nearby animals and quickly spread through your area.

How Diseases Spread (Example – Poultry Operation)



odors, and black oozing compound flowing from the bottom of the compost bin. In this case a drier bulking / carbon amendment should be added to dry the mix. Then, the material should be remixed and composted.

It is possible, though unlikely, for the temperature to rise above the normal range and create conditions suitable for spontaneous combustion. If temperature rises above 170° F, the material should be removed from the bin and cooled, spread on the ground to a depth not to exceed six inches in an area away from buildings. Water should be added only if flames occur. If temperature falls significantly during the composting period and odors develop, or if material does not reach operating temperature, investigate piles for moisture content, porosity, and thoroughness of mixing.

Inspect compost structure at least twice annually when the structure is empty. Replace any broken or badly worn parts or hardware. Patch concrete floors and curbs as necessary to assure water tightness. Examine roof structures for structural integrity and leaks. Inspections shall be documented on the attached worksheet.

The primary and secondary composters and the litter storage area should be protected from outside sources of water such as rain or surface runoff.

In order to assure desired operation of the composting facility, daily records should be kept during the first several compost batches. This can be helpful in identifying certain problems that may occur.

Catastrophic Mortality Management

Briefly describe the type of catastrophic disposal method used on the operation.

If circumstances do not allow for composting the large number of dead birds in the Manure Storage Facility, during a catastrophic event, birds will be composted within the poultry houses.

ingredients in a manner that optimizes microbial growth. Composting mortality can be likened to aboveground burial in a biomass filter where most of the pathogens are killed by high temperatures.

As the microbial population consumes the most readily degradable material and grows in numbers, the temperature of the compost pile begins to rise. Efficient composting requires that the initial compost mix have:

A balance source of energy (carbon) and nutrients (primarily nitrogen), typically with a carbon-to-nitrogen (C:N) ratio of 15:1 to 35:1.
Sufficient moisture, typically 40% to 60%.
Sufficient oxygen for an aerobic environment.
A pH in the range of 6 to 8.

For proper composting, correct proportions of carbon, nitrogen, moisture, and oxygen need to be present in the mix. Common carbon sources are sawdust or wheat straw. It is desirable because of its bulking ability, which allows entry of oxygen. Other carbon sources that could be used are peanut hulls, cottonseed hulls, sawdust, leaves, etc. If lab testing of the litter or experience indicates that the carbon/nitrogen ratio is adequate (20 - 35:1 ratio), then litter alone should be sufficient for composting mortality as long as desirable bulking ability is achieved and moisture is properly managed. Moisture management is critical and must be maintained between 40 and 55 percent (40% -does not leave your hand moist when squeezed, 55% - if more than two drops drip from your hand the material is too moist).

<u>Compost process</u>
The first layer is one foot of litter.
A 4-6 inch layer of carbon amendment (sawdust is preferred) is added according to the recipe
A layer of carcasses is added. Carcasses shall be laid side-by-side and shall not be stacked on top of one another. Carcasses placed directly on dirt or concrete floors, or against bin walls will not compost properly.
Water is added (uniform spray).
Carcasses are covered with a 6-inch layer of litter.
Next layer of carcasses begun with carbon amendment and above steps repeated.
When composter is full, cap the 6-inch layer with four additional inches.

Maintain the moisture content at 40 to 55 percent during the composting process (40% - does not leave your hand moist when squeezed, 55% will allow about one drop of water to be released when squeezed, > 55% - if more than two drops drip from your hand the material is too moist, therefore add sawdust or dry carbon source).

Temperature is the primary indicator to determine if the composting process is working properly. A minimum temperature of 130° F shall be reached during the composting process. A temperature of 140° F is optimum; however, temperatures may range up to 160° F. If the minimum temperature is not reached, the resulting compost shall be incorporated immediately after land application or recomposted by turning and adding moisture as needed. Compost managed at the required temperatures will favor destruction of any pathogens and weed seeds.

Good carcass compost should heat up to the 140° range within a few days. Failure of the compost material to heat up properly normally results from two causes. First, the nitrogen source is inadequate (example wet or leached litter). A pound of commercial fertilizer spread over a carcass layer will usually solve this problem. Secondly, the compost fails when too much water has been added and the compost pile becomes anaerobic. An anaerobic compost bin is characterized by temperatures less than 120°, offensive

Animal Mortality Disposal

Animals die because of disease, injury, or other causes in any confined livestock operation. The mortality rate is generally highest for newborn animals because of their vulnerability.

Catastrophic mortality can occur if an epidemic infects and destroys a large portion of the herd or flock in a short time, or if a natural disaster, such as a flood or excessive heat strikes. There are also incidences when an entire herd or flock must be destroyed to protect human health or other farms in the area.

Methods for managing mortality include:

1. Rendering
2. Composting
3. Incineration*

*NOTE: Incineration may only be used with proper equipment and permits must be obtained by the producer.

4. Sanitary landfills
5. Burial*
6. Disposal pits*

*NOTE: Burial and Disposal pits should only be considered for catastrophic mortality if all other methods are not possible. The operator will follow local and state guidance if it is determined that burial is an acceptable means of disposal.

Typical Mortality Management

List the type of normal disposal method used on the operation.

Current Typical Mortality Disposal Method(s)

Animal Type	Disposal Method	Capacity of Structure (# of bins, length of channels, etc.)	Location of Disposal Facility
Roasters	Mortality Composting - roofed Facility	4 Bin Composter	The facility adjoins the manure shed.

This farm operation will use composting for normal mortality and Composting for catastrophic mortality depending on the emergency situation. See below:

Composting

Composting is the controlled aerobic biological decomposition of organic matter into a stable, humus-like product, called compost. Decomposition is enhanced and accelerated by mixing organic waste with other

Description of Local Environmental Status and nearby Water Bodies

Description of nearby Water Bodies

The farmstead and production area sits within the Tuckahoe Creek Watershed. See the table below for the specifics for each production site. All production areas, manure storage, manure cleanup - heavy use areas, and mortality management is greater than 1500' from any Public Drainage Ditches (PDAs) and/or Streams, Creeks, or Rivers. **The site is in a designated Tier II High Quality Watershed.**

Farm Name	Name of nearest Waterbody	Distance to Waterbody	Watershed Name	12-digit Watershed number	Water Quality Status TMDL impairments (N, P, Bacteria, Sediment)
Dad's	*UNT of Mason Branch*	*1500 ft*	*Tuckahoe Creek*	*021304050536*	*Nitrogen Phosphorus Bacteria Sediment*

Sensitive Environmental Areas

Briefly describe any sensitive environmental areas on the farm including streams, wetlands, HEL land, hydric soils, 100 year floodplain, and distance to regulatory waters.

No sensitive areas were being impacted or diminished by farming activities at the time of the site visits. All required setbacks are outlined in this plan. The nearest body of water is 200 feet from the production facility. The production areas are outside of the 100 year floodplain.

Environmental Justice (EJ) Score

The EJ Score is an overall evaluation of an area's environment and existing environmental justice indicators; including pollution burden exposure, pollution burden environmental effects, sensitive populations, and socioeconomic factors. **This location's score is 39.37 percentile.**

· Check the condition of sanitary seals and replace those that are not intact.
· Slope parking areas and concrete pads under storage areas away from the well, periodically check their condition, and repair any permeable areas.
· Use a properly constructed sample tap and take other measures to avoid cross-connections.
· Inspect backflow prevention valves and replace as needed.
· Keep good grass growth around the well head and maintain as such. A buffer, no less than 15 feet around the well head, should be maintained.

Surface Water Runoff

Identify any problems related to surface water runoff (erosion, ponding, flooding, etc.).

All surface water is being handled appropriately through the use of vegetated swales and the proper maintenance of roadways.

Air Quality

Are any of the following a concern at the facility itself, or to nearby neighbors? If so, describe the issues in terms of timing, extent, etc.

- **Dust:** No apparent problems
- **Gaseous Emissions:** No
- **Odor:** Normal.
- **Other Potential Resource Concerns:** No other problems are apparent.

CNMP Resource Concerns

No resource concerns currently exist at the farm site. See the attached Resource Inventory worksheet in the Appendix of this plan.

Concentrated Livestock Areas

No outdoor animal concentration areas exist.

Feedlot ID	Animal		Lot Size (sq. feet)	Tributary Areas (type and size)	Cleaning Interval	Lot Surface Type(s)
	Type	No.				
N/A						

Poultry is the only livestock on the Farm.

Storage Facilities

Storage ID	Size/Volume of Storage Unit	Type of Liner	Transfer ID	Meets 313[1] (Y / N / ?)	Length (days)
Manure Storage	40' x 80' 14,800 cuft	Earth Floor		Y	365

Composting takes place in a bin style facility outside the manure shed.

Stacking Areas

Stacking Area ID	Size/Volume of Stack	Manure Consistency (solid, semi-solid)	Soil Type	D.S. Slope	Distance to Concentrated Flow
Not applicable					

Wells

A well must be secure and protected. To ensure the safety and purity of the well, follow these *steps to ensure the integrity of the well:*

· Regularly inspect activities in the sanitary protective radius.
· Restrict access to the well.
· Keep hazardous materials away from the well.
· Cap and/or screen all vents, access ports, and other openings of the well.

Description of Operation/Additional Information

The Nutrient Management Plan is contained within this CNMP. The NMP section will be revised before the expiration date.

The 3 production houses contain roasters. 4.5 flocks are grown-out annually. A manure storage was built in 1990 and a mortality compost facility was constructed in 2008. The installation of HUAs on the poultry houses occurred over a series of years starting in 2009 on the ends of each poultry house. Currently, all vegetation buffers each production facility. Stormwater comes off the poultry house roofs and is sloped away from buildings. The stormwater pathways are in vigorous sod and are in good condition.

Operation's List of Livestock and/or Poultry

	Animal 1 – Site 1
Location (Structure(s)):	851 Bridgetown Road Henderson, MD
Animal Type	Roasters
Number of Animals (In Structure):	70,000 birds per flock
Number of Structures (Per Animal Type)	Total of 3 **Tract 7075** House 1 42' x 604' (27,000 birds/house) House 2 42' x 604' (27,000 birds/house) House 3 42' x 368' (16,000 birds/house)
Time In Location:	Year Round Each
Number of Herds/Flocks (Per Year):	4.5 flocks/year 70,000 birds per flock
Storage Structure Receiving Manure:	40'x80' Roofed Dry-stack Manure Storage. Designed for cake-outs and partial removal from under feed lines
Total Solid Manure Collected (Annually)	284 tons generated annually

*See manure quantity estimation sheets in the "Nutrient Management" section of this plan.

Emergency Contact Information

Farm Name	Dad's Farm
Address	851 Bridgetown Road, Henderson, MD 21640
Farm Phone	[redacted]
Directions to Farm	From Centreville, turn right onto MD-304 E/Railroad Ave. Continue to follow MD-304 East; about 10.5 miles. Turn left(north) onto Bridgetown Road. Travel approximately 1.7 miles, farm on the left.

Farm Contacts

	Name	Daytime Phone	Farm Phone	Cell Phone	Night Phone
Farm Owner	Mark Eck	[redacted]			
Farm Operator	Mark Eck	[redacted]		[redacted]	
Fire or Ambulance	**911**	**911**	**911**	**911**	**911**

Agency Contacts

Contact Agency	Person / Office	Day Phone	Emergency Number
Health Department	**County Office**	**410-758-0720**	
	County Office	**410-537-3000**	
Before you DIG, call Maryland's Miss Utility		**1-800-441-8355**	
Maryland Department of the Environment	**Office:** **MDE** Animal Feeding Operation Division **1800 Washington Blvd.** **Suite 605** **Baltimore, MD 21230**	**410-537-3000**	**1-800-633-6101**
USDA Veterinary Services State Veterinarian	**Dr. Jennifer Trout**	**1-866-536-7593** **410-841-5810**	**410-841-5971** **after hours**

The nutrient management plan, contained in this CNMP, is a multi-year plan. The NM plan will need revised on or before the expiration date. Any substantial changes, before this expiration date will need to be documented and revisions made by a certified consultant. A copy of this revision must be kept with your nutrient management records.

A Nutrient Management Annual Implementation Report must be submitted, each year, to the Maryland Department of Agriculture on or before March 1st.

Operator information:

Mark Eck
450 Ell Morris Road
Henderson, MD 21640

[redacted]

CNMP - Consultant information:

David D. Kann
PO Box 1011
East Berlin, PA 17316
(717) 792-1274
Certification #: PA-134
License Number: 2399

Farm Location: 851 Bridgetown Road

Location (Lat./Long.) **39°03'20.4"N 75°53'17.9"W**

Nutrient Management Plan Narrative:

The farm is a grain farm and raises roasters for Mountaire. The information in this plan addresses the issue of handling poultry litter and crust-outs along with the necessary nutrient recommendations for the crops to be planted.

County Location: Queen Anne's County

CODE: 0047 WS CODE: 02-13-04-05 (Tuckahoe)

Property ID	Acct ID Acres	Farm Name	Tract No.	Acres	County	Watershed
[redacted]	13.15 357.0	Dad's	7075	276	Queen Anne's	0047

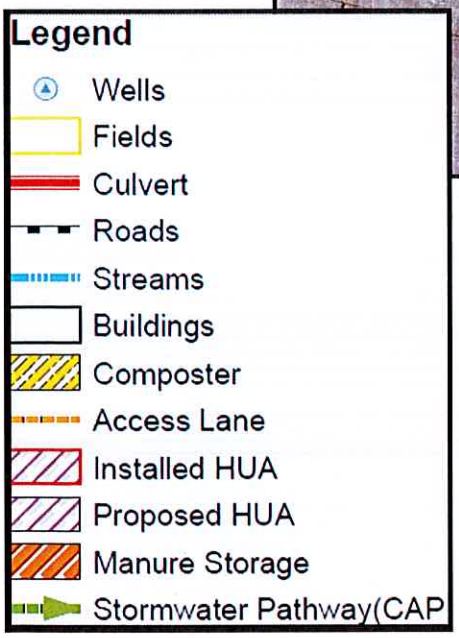
TOTAL ACRES UNDER PLAN 276

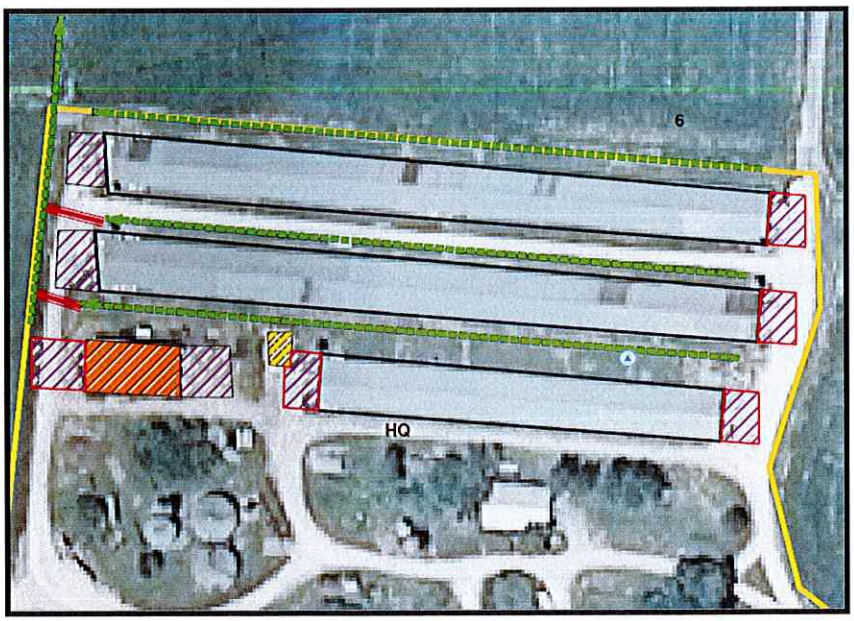
Sheriff's Office	Sheriff Gary Hofmann	410-758-0770	
NRCS	County Office	410-758-1671	
U of MD Extension	County Office	410-758-0166	
MDA Nutrient Management	Headquarters	410-841-5959	1-800-492-5590
MDA Nutrient Management	Regional office 28577 Marys Court, Ste 4 Easton, MD 21601 Mailing address: PO Box 549 Cordova, MD 21625	410-279-4003	
Agronomics Plus (plan writer)	David Kann	717-792-1274	

FARMSTEAD (Production Area)

This element addresses the components and activities associated with the production facility, feedlot or animal loafing facilities, manure and wastewater storage and treatment structures and areas, animal mortality facilities, feed and other raw material storage areas, and any areas used to facilitate transfer of manure and wastewater.

Production Facility Site Sketch/Data





Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Name:	Mark Eck - **851 Bridgetown Road**	**Agency Interest #:**	133820
Planner:	David D. Kann	**Farm # / Tract #:**	T7075
Site Visit Date:	01/25/2024	**Total Acres:**	276
County:	Queen Anne's	**Production Area Acres:**	10 acres

	RESOURCE CONCERN	YES	NO	ASSESSMENT
a.	Biosecurity measures	☐	☒	All precautionary measures are in place and being followed. Visitor restrictions.
b.	Chemical handling	☐	☒	All chemicals are stored in an appropriate designated storage area.
c.	Cultural resources	☐	☒	The production area is established and there are no proposed ground disturbance activities scheduled for the area.
d.	Feedlot area	☐	☒	N/A
e.	Floodplains	☐	☒	This is an existing operation and the production area is not located in the FEMA-100 year floodplain as per online mapping resources.
f.	Gully erosion	☐	☒	No gully erosion was identified in the production area or associated water conveyances.
g.	Livestock travel lanes	☐	☒	N/A
h.	Nutrient discharge	☐	☒	There are no observable nutrient discharges occurring, at the time of the site evaluation, from the production areas.
i.	Objectionable odors	☐	☒	No unusual or excessive odors were observed during the site visit.
j.	Particulate matter emissions	☐	☒	Through ventilation fans, typical levels. Grass filters in place to harbor and treat emissions.
k.	Ponding, flooding, seasonal high water table	☐	☒	No issues were identified during the site visit.
l.	Sediment	☐	☒	No obvious and observable sediment discharges are occurring from the production areas.
m.	Streambank/shoreline erosion	☐	☒	None present.
n.	Threatened/endangered species	☐	☒	No geospatial indicators have been identified on the production area.
o.	Waste storage	☐	☒	There are no resource concerns identified with the waste storage. Roofed manure shed (80' x 40') being managed appropriately.
p.	Waterways	☐	☒	In good vigorous sod. All water conveyances are being managed appropriately.
q.	Wetlands	☐	☒	Production area and manageable prior converted cropland are either 100 feet from wetlands or skirted with vegetation and the required setbacks are in place to protect these resources.

9-STEP PLANNING PROCESS

- Identify Problems
- Determine Objectives
- Inventory Resources
- Analyze Resource Data
- Formulate Alternatives
- Evaluate Alternatives
- Make Decisions
- Implement Plan
- Evaluate Plan

EMERGENCY ACTION PLANS

&

REQUIRED RECORD KEEPING

(SEE THE TEMPLATES

WHICH FOLLOW)

United States Environmental Protection Agency

Office of Solid Waste and Emergency Response

November 2011
www.epa.gov/emergencies

Oil Spill Prevention, Control, and Countermeasure (SPCC) Program: Information for Farmers

This fact sheet will assist you, as a farmer, in understanding your obligations under the SPCC Program.

What is SPCC?

The goal of the SPCC program is to prevent oil spills into waters of the United States and adjoining shorelines. Oil spills can cause injuries to people and damage to the environment. A key element of this program calls for farmers and other facilities to have an oil spill prevention plan, called an ***SPCC Plan***. These Plans can help farmers prevent oil spills which can damage water resources needed for farming operations.

What is considered a farm under SPCC?

Under SPCC, a farm is: "a facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, $1,000 or more of agricultural products during a year."

Is my farm covered by SPCC?

SPCC applies to a farm which:

- Stores, transfers, uses, or consumes **oil** or **oil products**, such as diesel fuel, gasoline, lube oil, hydraulic oil, adjuvant oil, crop oil, vegetable oil, or animal fat; and
- Stores more than **1,320 US gallons** in aboveground containers or more than **42,000 US gallons** in completely buried containers; and
- Could **reasonably be expected to discharge oil to waters** of the US or adjoining shorelines, such as interstate waters, intrastate lakes, rivers, and streams.

If your farm meets all of these criteria, then your farm is covered by SPCC.

TIPS:
** Count only containers of oil that have a storage capacity of 55 US gallons and above.*

** Adjacent or non-adjacent parcels, either leased or owned, may be considered separate facilities for SPCC purposes. Containers on separate parcels (that the farmer identifies as separate facilities based on how they are operated) do not need to be added together in determining whether the 1,320-gallon applicability threshold is met.*

If my farm is covered by SPCC, what should I do?

The SPCC program requires you to prepare and implement an SPCC Plan. If you **already have a Plan,** maintain it. **If you do not have a Plan,** you should prepare and implement one. Many farmers will need to have their Plan certified by a Professional Engineer ("PE"). However, you may be eligible to self-certify your amended Plan if:

- Your farm has a total oil storage capacity between 1,320 and 10,000 gallons in aboveground containers, and the farm has a good spill history (as described in the SPCC rule), you may prepare and self-certify your own Plan. (However, if you decide to use certain alternate measures allowed by the federal SPCC Rule, you will need a PE.)
- Your farm has storage capacity of more than 10,000 gallons, or has had an oil spill you may need to prepare an SPCC Plan **certified by a PE.**

TIP: *If you are eligible to self certify your Plan, and no aboveground container at your farm is greater than 5,000 gallons in capacity, then you may use the Plan template that is available to download from EPA's Web site at:* http://www.epa.gov/oem/content/spcc/tier1temp.htm

United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
November 2011
www.epa.gov/emergencies

Oil Spill Prevention, Control, and Countermeasure (SPCC) Program: Information for Farmers

This fact sheet will assist you, as a farmer, in understanding your obligations under the SPCC Program.

What is SPCC?

The goal of the SPCC program is to prevent oil spills into waters of the United States and adjoining shorelines. Oil spills can cause injuries to people and damage to the environment. A key element of this program calls for farmers and other facilities to have an oil spill prevention plan, called an ***SPCC Plan***. These Plans can help farmers prevent oil spills which can damage water resources needed for farming operations.

What is considered a farm under SPCC?

Under SPCC, a farm is: "a facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, $1,000 or more of agricultural products during a year."

Is my farm covered by SPCC?

SPCC applies to a farm which:

- Stores, transfers, uses, or consumes **oil** or **oil products**, such as diesel fuel, gasoline, lube oil, hydraulic oil, adjuvant oil, crop oil, vegetable oil, or animal fat; and
- Stores more than **1,320 US gallons** in aboveground containers or more than **42,000 US gallons** in completely buried containers; and
- Could **reasonably be expected to discharge oil to waters** of the US or adjoining shorelines, such as interstate waters, intrastate lakes, rivers, and streams.

If your farm meets all of these criteria, then your farm is covered by SPCC.

TIPS:
** Count only containers of oil that have a storage capacity of 55 US gallons and above.*

** Adjacent or non-adjacent parcels, either leased or owned, may be considered separate facilities for SPCC purposes. Containers on separate parcels (that the farmer identifies as separate facilities based on how they are operated) do not need to be added together in determining whether the 1,320-gallon applicability threshold is met.*

If my farm is covered by SPCC, what should I do?

The SPCC program requires you to prepare and implement an SPCC Plan. If you **already have a Plan,** maintain it. **If you do not have a Plan,** you should prepare and implement one. Many farmers will need to have their Plan certified by a Professional Engineer ("PE"). However, you may be eligible to self-certify your amended Plan if:

- Your farm has a total oil storage capacity between 1,320 and 10,000 gallons in aboveground containers, and the farm has a good spill history (as described in the SPCC rule), you may prepare and self-certify your own Plan. (However, if you decide to use certain alternate measures allowed by the federal SPCC Rule, you will need a PE.)
- Your farm has storage capacity of more than 10,000 gallons, or has had an oil spill you may need to prepare an SPCC Plan **certified by a PE.**

TIP: *If you are eligible to self certify your Plan, and no aboveground container at your farm is greater than 5,000 gallons in capacity, then you may use the Plan template that is available to download from EPA's Web site at:* http://www.epa.gov/oem/content/spcc/tier1temp.htm

EMERGENCY ACTION PLANS

&

REQUIRED RECORD KEEPING

(SEE THE TEMPLATES

WHICH FOLLOW)

When should I prepare and implement a Plan?
Farms in operation on or before August 16, 2002, must maintain or amend their existing Plan by ***May 10, 2013***. Any farm that started operation after August 16, 2002, but before May 10, 2013, must prepare and use a Plan on or before ***May 10, 2013***.

Note: If your farm was in operation before August 16, 2002, and you do not already have a Plan, you must prepare a Plan now. ***Do not*** *wait until May 10, 2013.*

What information will I need to prepare an SPCC Plan for my farm?
- A list of the oil containers at the farm by parcel (including the contents and location of each container);
- A brief description of the procedures that you will use to prevent oil spills. For example, steps you use to transfer fuel from a storage tank to your farm vehicles that reduce the possibility of a fuel spill;
- A brief description of the measures you installed to prevent oil from reaching water (see next section);
- A brief description of the measures you will use to contain and cleanup an oil spill to water; and
- A list of emergency contacts and first responders.

What spill prevention measures should I implement and include in my SPCC Plan?
- **Use** containers suitable for the oil stored. For example, use a container designed for flammable liquids to store gasoline;
- **Identify** contractors or other local personnel who can help you clean up an oil spill;
- **Provide overfill prevention** for your oil storage containers. You could use a high-level alarm, or audible vent, or establish a procedure to fill containers;
- **Provide effective, sized secondary containment** for bulk storage containers, such as a dike or a remote impoundment. The containment must be able to hold the full capacity of the container plus possible rainfall. The dike may be constructed of earth or concrete. A double-walled tank may also suffice;
- **Provide effective, general secondary containment** to address the most likely discharge where you transfer oil to and from containers and for mobile refuelers, such as fuel nurse tanks mounted on trucks or trailers. For example, you may use sorbent materials, drip pans or curbing for these areas; and
- **Periodically inspect and test pipes and containers.** You should visually inspect aboveground pipes and inspect aboveground containers following industry standards. You must "leak test" buried pipes when they are installed or repaired. EPA recommends you keep a written record of your inspections.

How and when do I maintain my SPCC Plan?
Amend and update your SPCC Plan when changes are made to the farm, for example, if you add new storage containers (e.g. tanks) that are 55 gallons or larger, or if you purchase or lease parcels with containers that are 55 gallons or larger. You must review your Plan every five years to make sure it includes any changes in oil storage at your farm.

What should I do if I have an oil spill?
- Activate your SPCC Plan procedures to prevent the oil spill from reaching a creek or river.
- Implement spill cleanup and mitigation procedures outlined in your Plan.
- **Notify the National Response Center (NRC)** at **800-424-8802** if you have an oil discharge to waters or adjoining shorelines.
- If the amount of oil spilled to water is more that 42 gallons on two different occasions within a 12-month period or more than 1,000 gallons to water in a single spill event, then notify your EPA Regional office in writing.

For More Information

Read the SPCC rule and additional resources:
http://www.epa.gov/emergencies/spcc

Call or send an e-mail to the EPA Ag Compliance Assistance Center: 1-888-663-2155
http://www.epa.gov/agriculture/agctr.html

Call the Superfund, TRI, EPCRA, RMP, and Oil Information Center:
(800) 424-9346 or (703) 412-9810
TDD (800) 553-7672 or (703) 412-3323
http://www.epa.gov/superfund/resources/infocenter

In Case of an Emergency Storage Facility Spill, Leak, or Failure:

Implement the following first containment steps and where containment material is located:

This plan will be implemented in the event that animal by-products from your operation are leaking, overflowing, running off site or there is imminent danger that such may occur from damage or failure of the system or a threatening natural occurrence, such as a hurricane. You should not wait until manure reaches surface waters or leaves your property to consider that you have a problem. You should make every effort to ensure that this does not happen. This plan should be posted in an accessible location for all employees at the facility. The following are some action items you should take in the event of an emergency:

Action Plan

In case of an emergency; including a spill, leak, or failure:

Spills during transportation on public roadways:

1. Coordinate efforts with local law enforcement and emergency personnel.
2. Contain spill and divert waste away from watercourses;
3. Call for additional assistance, equipment, and supplies, as appropriate;
4. Remove spill with appropriate equipment such as: vacuum tank, front-end loader and spreader, or other method as directed by local or state authorities.

Spill area clean up:

1. Break down dike.
2. Dry out sand bags.
3. Properly discard any absorbent pads used.
4. Level any soil disturbance and incorporate residue.
5. Re-vegetate disturbed area.

If manure is spilled directly into waters of the state, it can create an environmental or public health hazard. Contact MDE as soon as possible within 24 hours after a spill.

Provide the following information:

1. Name and identification of the farm;
2. A description of the discharge and cause, including a description of the flow path to the receiving waters, and an estimate of the volume discharged;
3. Any obvious damage, such as a fish kill or property damage;
4. The period of discharge, including exact dates and times, and, if not corrected, the anticipated time the discharge is expected to continue;
5. Describe the steps being taken to reduce, eliminate, and prevent recurrence of the discharge.

Threatening Natural Occurrences

Prevent or minimize damage caused by threatening natural occurrences, such as hurricanes or strong storms associated with approaching fronts - actions include:

1. Do not spread manure on fields just prior to an approaching storm.
2. Do not spread manure on fields that flood during high rainfall events.
3. Notify State Veterinary Office - Animal Emergency Response Coordinator (See Table below) or Local Animal Emergency Response Coordinator for relocation of animals if needed.

Personal injury

1. Stop all other activities to deal with the emergency.
2. Call for help (See Emergency Contact Information).

Catastrophic deaths – Disease Related

1. Notify State Veterinary Office.
2. Limit exposure to other animals.
3. Prevent visitation by unnecessary people.
4. Dead animals should be moved into a DHEC approved transport vehicle or a DHEC approved storage area or bin.
5. Record date of catastrophic deaths, number of deaths, method and location of disposal.

Catastrophic deaths – Disaster Related

1. Notify State Veterinary Office - Animal Emergency Response Coordinator immediately. (See Emergency Contact Information)
2. Remove mortality from the barns/houses.
3. Dispose of mortality in the manner given in this CNMP for emergency dead animal disposal.
4. Record date of catastrophic deaths, number of deaths, method and location of disposal.

Manure Removal

1. Place manure in stacking structure if available. Do not stack old manure next to new or wet manure next to dry.
2. Records should be kept for any manure which is transported off the farm site.

Fire

1. Stop all other activities to deal with the emergency.
2. Try to extinguish the fire with the appropriate rated fire extinguishers.
3. If fire cannot be contained, call for help (See Emergency Contact Information)

Assess the extent of the spill and note any obvious damages

1. Did the by-product reach any surface waters?
2. Approximately how much was released and for what duration?
3. Any damage noted, such as employee injury, fish kills, or property damage?
4. Did the spill leave the property?
5. Did the spill have the potential to reach surface waters?
6. Could a future rain event cause the spill to reach surface waters?
7. Are potable water wells in danger (either on or off of the property)?

8. How much reached surface waters?

Provide the following information when reporting an emergency

1. Your name and phone number.
2. Directions to the farm.
3. Description of emergency.
4. Estimate of the amounts, area covered, and distance traveled.
5. Has manure reached surface waters or major field drains?
6. Is there any obvious damage: employee injury, fish kill, or property damage?
7. What activities are currently in progress to contain situation?

Implement procedures as advised by MD NRCS and technical assistance agencies to rectify the damage, repair the system, and reassess the manure management plan to keep problems with release of manure from happening again.

Documentation

The following items shall be documented in writing and filed with your farm operation records for future reference and emergency response training:

1. Date and time, location of spill, affected landowners.
2. Affect of manure spill on any surface water body or potable water well.
3. Approximately how much manure was released and for what duration.
4. Amount of manure, if any, which left the farm property.
5. Any damage, such as personal injury, fish kill, property damage.
6. Cause of the spill.
7. Procedure to handle the emergency.
8. Clean up efforts.
9. List of authorities called, those that responded, and the time it took for them to respond.
10. Recommendations to prevent a reoccurrence.

In Case of a Chemical Handling Emergency

Chemical Handling

This section contains information on using pesticides safely, emergency contact information, spill information and the proper disposal of pesticide containers. For further information, please contact the Maryland Department of Agriculture Pesticide Regulation Program.

USE PESTICIDES SAFELY

1. Check the label - Be sure the pest you need to control is listed on the label.
2. Buy only enough pesticide for one or, at most, two years. Pesticides stored longer may degrade and become less active.
3. Always wear long trousers, a long-sleeved shirt, socks, and shoes when applying any pesticide. Other protective equipment, such as a respirator, goggles, impermeable gloves and boots maybe necessary or desirable for extra protection.
4. Do not wear leather shoes, boots, or gloves while handling pesticides. Leather absorbs pesticides and cannot be decontaminated easily.
5. Take care to avoid pesticides coming into contact with your eyes, mouth, or skin.
6. Wash your hands with soap and water immediately after applying a pesticide. Shower as soon as possible.
7. Stand upwind while mixing and applying pesticides.
8. Unless the label specifically allows such use, never apply a pesticide where it could contact water sources, and avoid applying to bare ground.
9. Never apply a pesticide at a higher rate than the label directs.
10. Wash all clothing worn during mixing and application separately from household laundry. Use a heavy duty detergent and hot water. Dry the clothes in a hot dryer or outside in the sun.
11. Store pesticides only in their original containers. Keep them away from food, feed, seed, and fertilizers in a locked building or cabinet.
12. Dispose of empty pesticide containers in accordance with label directions and state and local requirements. See Disposal of Pesticide Containers

DISPOSAL OF PESTICIDE CONTAINERS

Pesticides (herbicides, insecticides, fungicides, etc.) are designed to be toxic. Improper disposal of pesticides or their containers can lead to environmental contamination and may incur both civil and criminal penalties. There is usually no safe and legal way to dispose of leftover pesticide; all of the chemical must be used up on registered sites or crops according to directions on the label. The Environmental Protection Agency (EPA) has accepted certain procedures, outlined below, which are designed to remove as much residue from the container as possible. Only after following these procedures may pesticide containers be deposited in a licensed sanitary landfill.

Containers of Liquid Formulations

1. Triple rinse the container immediately after emptying it into the spray tank:
   Fill the container 1/4 full with the proper diluent (usually water or oil). Replace the closure or plug the opening. Rotate the container. Add rinsate to the spray tank. Repeat this procedure 2 more times
2. Puncture the top and bottom of the container to prevent its reuse.
3. Deposit the empty container in a licensed sanitary landfill.

Containers of Dry Formulations

1. Empty the contents into the tank, shaking the container to remove as much residue as possible. Take care not to inhale any dust.
2. Open both ends of the container to help remove residue and to prevent reuse.
3. Deposit the empty container in a licensed sanitary landfill.

If checked, the indicated measures will be taken to prevent chemicals and other contaminants from contaminating process waste water or storm water storage and treatment systems.

√	*Measure*
√	**All chemicals are stored in proper containers. Expired chemicals and empty containers are properly disposed of in accordance with state and federal regulations. Pesticides and associated refuse are disposed of in accordance with the FIFRA label.**
√	**Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area.**
√	**Chemical storage areas are covered to prevent chemical contact with rain or snow.**
	Emergency procedures and equipment are in place to contain and clean up chemical spills.
	Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.
	All chemicals are custom applied and no chemicals are stored at the operation. Equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.

EMERGENCY CONTACTS:

For individuals exposed to chemicals the following are the telephone numbers for emergency treatment centers and the telephone number for the nearest poison control center.

1. Maryland Poison Control Center 1-800-222-1222
2. Maryland Department of Agriculture (Pesticide Section), 410-841-2721
3. Delaware Department of Agriculture (Pesticide Section), 302-698-4570
4. CHEMTREC Emergency Hotline, 1-800-424-9300

5. Local Police/Fire 911
6. National Pesticide Information Center (NPIC), 1-800-858-7387, Monday - Friday, 6:30 a.m. to 4:30 p.m. Pacific Time

EMERGENCY SPILLS:

1. Fires, spills or other incidents of pesticide release to the environment must be reported immediately to the Maryland Department of the Environment (MDE), Emergency Response at: 1-866-633-4686 or 1-866 MDE-GOTO (24 hours a day, 7 days a week)

2. Fires, spills or other incidents of pesticide release to the environment can also be reported immediately to the State of Maryland Department of Agriculture: 1-410-841-5710 or 1-800-492-5590 (8:00 AM to 4:30 PM - Monday through Friday)

3. The 24-hour CHEMTRAC telephone number for emergency assistance is: 1-800-424-9300

Documentation of Records

Operators should maintain the following records to document plan implementation, as applicable.

Record	Description	Agency Requiring
Animal Mortality & Disposal	Date and number of dead animals collected and disposal method.	MDE
Documentation of Manure Storage Conditions	Design volume and days of capacity; any deficiencies in the manure handling system and actions taken to correct (for example: damage due to fire or storm, date occurred, how damage was fixed and date of repair)	MDE
Documentation of Discharges	Date, time, and estimated quantity of any discharges and steps taken to correct	MDE
Manure Available for Use and/or Removal	Estimate of removal of manure from poultry house (crust-out, total cleanout, center cut, etc) and destination (manure shed or export)	MDA/MDE
Manure Analysis	Copy of laboratory nutrient analysis of sample of manure produced on-farm (taken annually)	MDA/MDE
Animal Information	Type and number of animals kept on-farm and any changes in animal numbers	MDA/MDE
Manure Export/Transfer	Record of manure that leaves the farm – date, quantity (tons/gallons), and destination (Name/Address)	MDA/MDE
Comprehensive Nutrient Management Plan (CNMP)	Retain approved CNMP and documentation related to updates or changes to your CNMP	MDA/MDE
Nutrient Management Plan (NMP)	Retain certified Maryland NMP and documentation related to updates or changes to your NMP for a minimum of 3 years.	MDA/MDE
Calibration Record for Spreading Equipment	Time of year, calibration method used (load area, weight area). Must calibrate annually.	MDA
Soil test results	Who collected the samples and when, appropriate mgt. units	MDA/MDE
Results of Pre-Side Dress Nitrogen, Fall Nitrate Test, and/or Tissue Testing	Any alternative sampling technique used to address specific crop requirements that lead to a change in the applied amounts should be documented.	MDA
Crop records	Crops planted and planting/harvesting dates by field.	MDA
Nutrient Application Summary by Field	Nutrient Application records for each application event, including commercial fertilizers that are applied to supplement manure.	MDA
Reviews by third parties	Records associated with any reviews by NRCS, third-party consultants, or representatives of regulatory agencies.	MDE
Annual Implementation Report	Annual reports which summaries nutrient application activities	MDA/MDE

Manure Analysis Sampling Procedures

Solid Manure (Dairy, Beef, Swine, Poultry)

Collect a composite sample by following one of the procedures listed below. A method for mixing a composite sample is to pile the manure and then shovel from the outside to the inside of the pile until well mixed. Fill a one-gallon plastic heavy-duty zip lock bag approximately one-half full with the composite sample, squeeze out excess air, close and seal. Store sample in freezer if not delivered to the laboratory immediately.

Procedure 1. Sampling while loading - *Recommended method for sampling from a stack or bedded pack.* Take at least ten samples while loading several spreader loads and combine to form one composite sample. Thoroughly mix the composite sample and take an approximately one pound sub sample using a one-gallon plastic bag. *Sampling directly from a stack or bedded pack is not recommended.*

Procedure 2. Sampling during spreading - Spread a tarp in field and catch the manure from one pass. Sample from several locations and create a composite sample. Thoroughly mix the composite sample together and take a one-pound sub sample using a one-gallon plastic bag.

Procedure 3. Sampling daily haul - Place a five-gallon bucket under the barn cleaner 4-5 times while loading a spreader. Thoroughly mix the composite sample together and take a one-pound sub sample using a one-gallon plastic bag. Repeat sampling 2-3 times over a period of time and test separately to determine variability.

Procedure 4. Sampling poultry in-house - Collect 8-10 samples from throughout the house to the depth the litter will be removed. Samples near feeders and waterers may not be indicative of the entire house and sub samples taken near here should be proportionate to their space occupied in the whole house. Mix the samples well in a five-gallon pail and take a one-pound sub sample, place it in a one-gallon zip lock bag.

Procedure 5. Sampling stockpiled litter - Take ten sub samples from different locations around the pile at least 18 inches below the surface. Mix in a five-gallon pail and place a one-pound composite sample in a gallon zip lock bag.

Sample Identification and Delivery

Identify the sample container with information regarding the farm, animal species and date. This information should also be included on the sample information sheet along with application method, which is important in determining first year availability of nitrogen.

Keep all manure samples frozen until shipped or delivered to a laboratory. Ship early in the week (Mon.-Wed.) and avoid holidays and weekends.

Record Keeping - Monthly Animal & Mortality Count

Animal/Type: **Year:**

Production Phase:

Month	Animal Count and Weight	Mortality	Mortality %	Comments
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

In Case of an Emergency Storage Facility Spill, Leak, or Failure:

Implement the following first containment steps and where containment material is located:

This plan will be implemented in the event that animal by-products from your operation are leaking, overflowing, running off site or there is imminent danger that such may occur from damage or failure of the system or a threatening natural occurrence, such as a hurricane. You should not wait until manure reaches surface waters or leaves your property to consider that you have a problem. You should make every effort to ensure that this does not happen. This plan should be posted in an accessible location for all employees at the facility. The following are some action items you should take in the event of an emergency:

Action Plan

In case of an emergency; including a spill, leak, or failure:

Spills during transportation on public roadways:

1. Coordinate efforts with local law enforcement and emergency personnel.
2. Contain spill and divert waste away from watercourses;
3. Call for additional assistance, equipment, and supplies, as appropriate;
4. Remove spill with appropriate equipment such as: vacuum tank, front-end loader and spreader, or other method as directed by local or state authorities.

Spill area clean up:

1. Break down dike.
2. Dry out sand bags.
3. Properly discard any absorbent pads used.
4. Level any soil disturbance and incorporate residue.
5. Re-vegetate disturbed area.

If manure is spilled directly into waters of the state, it can create an environmental or public health hazard. Contact MDE as soon as possible within 24 hours after a spill.

Provide the following information:

1. Name and identification of the farm;
2. A description of the discharge and cause, including a description of the flow path to the receiving waters, and an estimate of the volume discharged;
3. Any obvious damage, such as a fish kill or property damage;
4. The period of discharge, including exact dates and times, and, if not corrected, the anticipated time the discharge is expected to continue;
5. Describe the steps being taken to reduce, eliminate, and prevent recurrence of the discharge.

When should I prepare and implement a Plan?
Farms in operation on or before August 16, 2002, must maintain or amend their existing Plan by ***May 10, 2013***. Any farm that started operation after August 16, 2002, but before May 10, 2013, must prepare and use a Plan on or before ***May 10, 2013***.

Note: If your farm was in operation before August 16, 2002, and you do not already have a Plan, you must prepare a Plan now. ***Do not*** *wait until May 10, 2013.*

What information will I need to prepare an SPCC Plan for my farm?
- A list of the oil containers at the farm by parcel (including the contents and location of each container);
- A brief description of the procedures that you will use to prevent oil spills. For example, steps you use to transfer fuel from a storage tank to your farm vehicles that reduce the possibility of a fuel spill;
- A brief description of the measures you installed to prevent oil from reaching water (see next section);
- A brief description of the measures you will use to contain and cleanup an oil spill to water; and
- A list of emergency contacts and first responders.

What spill prevention measures should I implement and include in my SPCC Plan?
- **Use** containers suitable for the oil stored. For example, use a container designed for flammable liquids to store gasoline;
- **Identify** contractors or other local personnel who can help you clean up an oil spill;
- **Provide overfill prevention** for your oil storage containers. You could use a high-level alarm, or audible vent, or establish a procedure to fill containers;
- **Provide effective, sized secondary containment** for bulk storage containers, such as a dike or a remote impoundment. The containment must be able to hold the full capacity of the container plus possible rainfall. The dike may be constructed of earth or concrete. A double-walled tank may also suffice;
- **Provide effective, general secondary containment** to address the most likely discharge where you transfer oil to and from containers and for mobile refuelers, such as fuel nurse tanks mounted on trucks or trailers. For example, you may use sorbent materials, drip pans or curbing for these areas; and
- **Periodically inspect and test pipes and containers.** You should visually inspect aboveground pipes and inspect aboveground containers following industry standards. You must "leak test" buried pipes when they are installed or repaired. EPA recommends you keep a written record of your inspections.

How and when do I maintain my SPCC Plan?
Amend and update your SPCC Plan when changes are made to the farm, for example, if you add new storage containers (e.g. tanks) that are 55 gallons or larger, or if you purchase or lease parcels with containers that are 55 gallons or larger. You must review your Plan every five years to make sure it includes any changes in oil storage at your farm.

What should I do if I have an oil spill?
- Activate your SPCC Plan procedures to prevent the oil spill from reaching a creek or river.
- Implement spill cleanup and mitigation procedures outlined in your Plan.
- **Notify the National Response Center (NRC)** at **800-424-8802** if you have an oil discharge to waters or adjoining shorelines.
- If the amount of oil spilled to water is more that 42 gallons on two different occasions within a 12-month period or more than 1,000 gallons to water in a single spill event, then notify your EPA Regional office in writing.

For More Information

Read the SPCC rule and additional resources:
http://www.epa.gov/emergencies/spcc

Call or send an e-mail to the EPA Ag Compliance Assistance Center: 1-888-663-2155
http://www.epa.gov/agriculture/agctr.html

Call the Superfund, TRI, EPCRA, RMP, and Oil Information Center:
(800) 424-9346 or (703) 412-9810
TDD (800) 553-7672 or (703) 412-3323
http://www.epa.gov/superfund/resources/infocenter

Threatening Natural Occurrences

Prevent or minimize damage caused by threatening natural occurrences, such as hurricanes or strong storms associated with approaching fronts - actions include:

1. Do not spread manure on fields just prior to an approaching storm.
2. Do not spread manure on fields that flood during high rainfall events.
3. Notify State Veterinary Office - Animal Emergency Response Coordinator (See Table below) or Local Animal Emergency Response Coordinator for relocation of animals if needed.

Personal injury

1. Stop all other activities to deal with the emergency.
2. Call for help (See Emergency Contact Information).

Catastrophic deaths – Disease Related

1. Notify State Veterinary Office.
2. Limit exposure to other animals.
3. Prevent visitation by unnecessary people.
4. Dead animals should be moved into a DHEC approved transport vehicle or a DHEC approved storage area or bin.
5. Record date of catastrophic deaths, number of deaths, method and location of disposal.

Catastrophic deaths – Disaster Related

1. Notify State Veterinary Office - Animal Emergency Response Coordinator immediately. (See Emergency Contact Information)
2. Remove mortality from the barns/houses.
3. Dispose of mortality in the manner given in this CNMP for emergency dead animal disposal.
4. Record date of catastrophic deaths, number of deaths, method and location of disposal.

Manure Removal

1. Place manure in stacking structure if available. Do not stack old manure next to new or wet manure next to dry.
2. Records should be kept for any manure which is transported off the farm site.

Fire

1. Stop all other activities to deal with the emergency.
2. Try to extinguish the fire with the appropriate rated fire extinguishers.
3. If fire cannot be contained, call for help (See Emergency Contact Information)

Assess the extent of the spill and note any obvious damages

1. Did the by-product reach any surface waters?
2. Approximately how much was released and for what duration?
3. Any damage noted, such as employee injury, fish kills, or property damage?
4. Did the spill leave the property?
5. Did the spill have the potential to reach surface waters?
6. Could a future rain event cause the spill to reach surface waters?
7. Are potable water wells in danger (either on or off of the property)?

8. How much reached surface waters?

Provide the following information when reporting an emergency

1. Your name and phone number.
2. Directions to the farm.
3. Description of emergency.
4. Estimate of the amounts, area covered, and distance traveled.
5. Has manure reached surface waters or major field drains?
6. Is there any obvious damage: employee injury, fish kill, or property damage?
7. What activities are currently in progress to contain situation?

Implement procedures as advised by MD NRCS and technical assistance agencies to rectify the damage, repair the system, and reassess the manure management plan to keep problems with release of manure from happening again.

Documentation

The following items shall be documented in writing and filed with your farm operation records for future reference and emergency response training:

1. Date and time, location of spill, affected landowners.
2. Affect of manure spill on any surface water body or potable water well.
3. Approximately how much manure was released and for what duration.
4. Amount of manure, if any, which left the farm property.
5. Any damage, such as personal injury, fish kill, property damage.
6. Cause of the spill.
7. Procedure to handle the emergency.
8. Clean up efforts.
9. List of authorities called, those that responded, and the time it took for them to respond.
10. Recommendations to prevent a reoccurrence.

In Case of a Chemical Handling Emergency

Chemical Handling

This section contains information on using pesticides safely, emergency contact information, spill information and the proper disposal of pesticide containers. For further information, please contact the Maryland Department of Agriculture Pesticide Regulation Program.

USE PESTICIDES SAFELY

1. Check the label - Be sure the pest you need to control is listed on the label.
2. Buy only enough pesticide for one or, at most, two years. Pesticides stored longer may degrade and become less active.
3. Always wear long trousers, a long-sleeved shirt, socks, and shoes when applying any pesticide. Other protective equipment, such as a respirator, goggles, impermeable gloves and boots maybe necessary or desirable for extra protection.
4. Do not wear leather shoes, boots, or gloves while handling pesticides. Leather absorbs pesticides and cannot be decontaminated easily.
5. Take care to avoid pesticides coming into contact with your eyes, mouth, or skin.
6. Wash your hands with soap and water immediately after applying a pesticide. Shower as soon as possible.
7. Stand upwind while mixing and applying pesticides.
8. Unless the label specifically allows such use, never apply a pesticide where it could contact water sources, and avoid applying to bare ground.
9. Never apply a pesticide at a higher rate than the label directs.
10. Wash all clothing worn during mixing and application separately from household laundry. Use a heavy duty detergent and hot water. Dry the clothes in a hot dryer or outside in the sun.
11. Store pesticides only in their original containers. Keep them away from food, feed, seed, and fertilizers in a locked building or cabinet.
12. Dispose of empty pesticide containers in accordance with label directions and state and local requirements. See Disposal of Pesticide Containers

DISPOSAL OF PESTICIDE CONTAINERS

Pesticides (herbicides, insecticides, fungicides, etc.) are designed to be toxic. Improper disposal of pesticides or their containers can lead to environmental contamination and may incur both civil and criminal penalties. There is usually no safe and legal way to dispose of leftover pesticide; all of the chemical must be used up on registered sites or crops according to directions on the label. The Environmental Protection Agency (EPA) has accepted certain procedures, outlined below, which are designed to remove as much residue from the container as possible. Only after following these procedures may pesticide containers be deposited in a licensed sanitary landfill.

Containers of Liquid Formulations

1. Triple rinse the container immediately after emptying it into the spray tank:
   Fill the container 1/4 full with the proper diluent (usually water or oil). Replace the closure or plug the opening. Rotate the container. Add rinsate to the spray tank. Repeat this procedure 2 more times
2. Puncture the top and bottom of the container to prevent its reuse.
3. Deposit the empty container in a licensed sanitary landfill.

Containers of Dry Formulations

1. Empty the contents into the tank, shaking the container to remove as much residue as possible. Take care not to inhale any dust.
2. Open both ends of the container to help remove residue and to prevent reuse.
3. Deposit the empty container in a licensed sanitary landfill.

If checked, the indicated measures will be taken to prevent chemicals and other contaminants from contaminating process waste water or storm water storage and treatment systems.

√	*Measure*
√	**All chemicals are stored in proper containers. Expired chemicals and empty containers are properly disposed of in accordance with state and federal regulations. Pesticides and associated refuse are disposed of in accordance with the FIFRA label.**
√	**Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area.**
√	**Chemical storage areas are covered to prevent chemical contact with rain or snow.**
	Emergency procedures and equipment are in place to contain and clean up chemical spills.
	Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.
	All chemicals are custom applied and no chemicals are stored at the operation. Equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.

EMERGENCY CONTACTS:

For individuals exposed to chemicals the following are the telephone numbers for emergency treatment centers and the telephone number for the nearest poison control center.

1. Maryland Poison Control Center 1-800-222-1222
2. Maryland Department of Agriculture (Pesticide Section), 410-841-2721
3. Delaware Department of Agriculture (Pesticide Section), 302-698-4570
4. CHEMTREC Emergency Hotline, 1-800-424-9300

5. Local Police/Fire 911
6. National Pesticide Information Center (NPIC), 1-800-858-7387, Monday - Friday, 6:30 a.m. to 4:30 p.m. Pacific Time

EMERGENCY SPILLS:

1. Fires, spills or other incidents of pesticide release to the environment must be reported immediately to the Maryland Department of the Environment (MDE), Emergency Response at: 1-866-633-4686 or 1-866 MDE-GOTO (24 hours a day, 7 days a week)

2. Fires, spills or other incidents of pesticide release to the environment can also be reported immediately to the State of Maryland Department of Agriculture: 1-410-841-5710 or 1-800-492-5590 (8:00 AM to 4:30 PM - Monday through Friday)

3. The 24-hour CHEMTRAC telephone number for emergency assistance is: 1-800-424-9300

Documentation of Records

Operators should maintain the following records to document plan implementation, as applicable.

Record	Description	Agency Requiring
Animal Mortality & Disposal	Date and number of dead animals collected and disposal method.	MDE
Documentation of Manure Storage Conditions	Design volume and days of capacity; any deficiencies in the manure handling system and actions taken to correct (for example: damage due to fire or storm, date occurred, how damage was fixed and date of repair)	MDE
Documentation of Discharges	Date, time, and estimated quantity of any discharges and steps taken to correct	MDE
Manure Available for Use and/or Removal	Estimate of removal of manure from poultry house (crust-out, total cleanout, center cut, etc) and destination (manure shed or export)	MDA/MDE
Manure Analysis	Copy of laboratory nutrient analysis of sample of manure produced on-farm (taken annually)	MDA/MDE
Animal Information	Type and number of animals kept on-farm and any changes in animal numbers	MDA/MDE
Manure Export/Transfer	Record of manure that leaves the farm – date, quantity (tons/gallons), and destination (Name/Address)	MDA/MDE
Comprehensive Nutrient Management Plan (CNMP)	Retain approved CNMP and documentation related to updates or changes to your CNMP	MDA/MDE
Nutrient Management Plan (NMP)	Retain certified Maryland NMP and documentation related to updates or changes to your NMP for a minimum of 3 years.	MDA/MDE
Calibration Record for Spreading Equipment	Time of year, calibration method used (load area, weight area). Must calibrate annually.	MDA
Soil test results	Who collected the samples and when, appropriate mgt. units	MDA/MDE
Results of Pre-Side Dress Nitrogen, Fall Nitrate Test, and/or Tissue Testing	Any alternative sampling technique used to address specific crop requirements that lead to a change in the applied amounts should be documented.	MDA
Crop records	Crops planted and planting/harvesting dates by field.	MDA
Nutrient Application Summary by Field	Nutrient Application records for each application event, including commercial fertilizers that are applied to supplement manure.	MDA
Reviews by third parties	Records associated with any reviews by NRCS, third-party consultants, or representatives of regulatory agencies.	MDE
Annual Implementation Report	Annual reports which summaries nutrient application activities	MDA/MDE

Manure Analysis Sampling Procedures

Solid Manure (Dairy, Beef, Swine, Poultry)

Collect a composite sample by following one of the procedures listed below. A method for mixing a composite sample is to pile the manure and then shovel from the outside to the inside of the pile until well mixed. Fill a one-gallon plastic heavy-duty zip lock bag approximately one-half full with the composite sample, squeeze out excess air, close and seal. Store sample in freezer if not delivered to the laboratory immediately.

Procedure 1. Sampling while loading - *Recommended method for sampling from a stack or bedded pack.* Take at least ten samples while loading several spreader loads and combine to form one composite sample. Thoroughly mix the composite sample and take an approximately one pound sub sample using a one-gallon plastic bag. *Sampling directly from a stack or bedded pack is not recommended.*

Procedure 2. Sampling during spreading - Spread a tarp in field and catch the manure from one pass. Sample from several locations and create a composite sample. Thoroughly mix the composite sample together and take a one-pound sub sample using a one-gallon plastic bag.

Procedure 3. Sampling daily haul - Place a five-gallon bucket under the barn cleaner 4-5 times while loading a spreader. Thoroughly mix the composite sample together and take a one-pound sub sample using a one-gallon plastic bag. Repeat sampling 2-3 times over a period of time and test separately to determine variability.

Procedure 4. Sampling poultry in-house - Collect 8-10 samples from throughout the house to the depth the litter will be removed. Samples near feeders and waterers may not be indicative of the entire house and sub samples taken near here should be proportionate to their space occupied in the whole house. Mix the samples well in a five-gallon pail and take a one-pound sub sample, place it in a one-gallon zip lock bag.

Procedure 5. Sampling stockpiled litter - Take ten sub samples from different locations around the pile at least 18 inches below the surface. Mix in a five-gallon pail and place a one-pound composite sample in a gallon zip lock bag.

Sample Identification and Delivery

Identify the sample container with information regarding the farm, animal species and date. This information should also be included on the sample information sheet along with application method, which is important in determining first year availability of nitrogen.

Keep all manure samples frozen until shipped or delivered to a laboratory. Ship early in the week (Mon.-Wed.) and avoid holidays and weekends.

Record Keeping - Monthly Animal & Mortality Count

Animal/Type: **Year:**

Production Phase:

Month	Animal Count and Weight	Mortality	Mortality %	Comments
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

Maryland
Department of the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Daily Water Line Inspection Log Sheet

Facility Name: _____ NPDES Permit No.:_____

Instructions:

- Initial the form *each day* after the inspection is complete
- If a leak is detected, place a check in the "leak detected" column

January, 20____		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
February, 20____		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		

March, 20____

Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		

7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		

April, 20____

Day	Initials	√ if Leak Detected

1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

29		
30		

May, 20____

Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

25		
26		
27		
28		
29		
30		
31		

June, 20____

Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		

20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

July, 20____

Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		

August, 20____

Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		

September, 20____

Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		

6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

October, 20____		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		

November, 20____		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

December, 20____		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		

18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		

Manure, Litter, and Wastewater Storage Structures Documentation

Facility Name: _____ NPDES Permit No.: _____

Instructions:
For each storage structure, provide the following information in the table below:

- Structure Type: the type of storage structure (e.g. roofed storage shed, storage pond, anaerobic lagoon…)
- Total Design Storage Volume: the total capacity the storage structure was designed to hold (e.g. 100 ft^3 or 1000 gallons)
- Design Treatment Volume: **(*N/A for dry manure storage)** the treatment capacity the structure was designed to treat
- Days of Storage Capacity: **(*N/A for dry manure storage)** the number of days the structure can accommodate its contents at the rate the operation places waste in it
- Volume for Solids Accumulation: the capacity of the structure available to accumulate solids

Structure Type	**Total Design Storage Volume**	**Design Treatment Volume** (N/A for dry manure storage)	**Days of Storage Capacity** (N/A for dry manure storage)	**Volume for Solids Accumulation**

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Manure, Litter, and Wastewater Transfer Record Keeping Form

Facility Name: _____ NPDES Permit No.: _____

Use this sheet any time that manure or poultry litter is removed from a production or storage area and transferred to other persons (not under the control of your CAFO). Use additional sheets as necessary.

Date of Transfer (indicate whether import or export)	**Manure Type** (e.g. litter, wastewater)	**Name and Address of Person(s) Received From or Transferred To**	**Quantity Transported** (tons/gallons)

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Nutrient Land Application Log Sheet

Facility Name: _____ **NPDES Permit No.:** _____

Instructions:
For each land application for each field, provide the following information in the table below:

- Date: the date you applied the manure/litter/process wastewater to the field
- Field ID: the field where you applied manure/litter/process wastewater. Use the same field identification that is used in your nutrient management plan
- Method: how you applied the manure/litter/process wastewater (e.g. surface w/incorporation, surface w/out incorporation, subsurface injection…)
- Application Rate: the number of tons or gallons *actually* applied per acre
- Acres Applied: the number of acres the manure/litter/process wastewater was applied to on the field
- Total N: the total amount of nitrogen you applied to the field from animal waste
- Total P: the total amount of phosphorous you applied to the field from animal waste

Date	Field ID	Method	Actual Application Rate	Acres Applied	Total N	Total P

Date	Field ID	Method	Actual Application Rate	Acres Applied	Total N	Total P

Weather and Soil Condition Documentation

When land applying manure/litter/process wastewater, you also need to document the **weather and soil conditions**. Please provide this information in the following table:

Date	Field ID	Weather Conditions			Soil Conditions
		24 hours before	*During*	*24 hours after*	

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Weekly Storage and Containment Structure Inspections Log Sheet

Facility Name: _____ NPDES Permit No.: _____

Instructions:
Use this form to keep records of weekly visual inspections of the structures you use to store or contain manure/litter/process wastewater. Use a separate form for each structure.

**Any deficiencies observed must be corrected within 30 days*

Storage or Containment Structure: _____

	Date	**Initials**	**Depth Marker Reading** (N/A for dry manure handling)	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 1						
Week 2						
Week 3						
Week 4						
Week 5						
Week 6						
Week 7						

	Date	**Initials**	**Depth Marker Reading** (N/A for dry manure handling)	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 8						
Week 9						
Week 10						
Week 11						
Week 12						
Week 13						
Week 14						
Week 15						
Week 16						
Week 17						
Week 18						
Week 19						

	Date	**Initials**	**Depth Marker Reading** (N/A for dry manure handling)	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 20						
Week 21						
Week 22						
Week 23						
Week 24						
Week 25						
Week 26						
Week 27						
Week 28						
Week 29						
Week 30						
Week 31						

	Date	**Initials**	**Depth Marker Reading** (N/A for dry manure handling)	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 32						
Week 33						
Week 34						
Week 35						
Week 36						
Week 37						
Week 38						
Week 39						
Week 40						
Week 41						
Week 42						
Week 43						

	Date	**Initials**	**Depth Marker Reading** (N/A for dry manure handling)	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 44						
Week 45						
Week 46						
Week 47						
Week 47						
Week 49						
Week 50						
Week 51						
Week 52						

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Weekly Wastewater Facilities Inspections Log Sheet

Facility Name: _____ NPDES Permit No.: _____

Instructions:
Use this form to keep records of weekly visual inspections of your wastewater facilities (including pumps, storm water and runoff diversion devices, and devices used to channel contaminated storm water to a wastewater storage or containment structure).

**Any deficiencies observed must be corrected within 30 days*

List the items that need to be inspected below:

_____ _____
_____ _____
_____ _____
_____ _____

	Date	**Initials**	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 1					
Week 2					
Week 3					
Week 4					
Week 5					
Week 6					

	Date	**Initials**	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 7					
Week 8					
Week 9					
Week 10					
Week 11					
Week 12					
Week 13					
Week 14					
Week 15					
Week 16					
Week 17					
Week 18					
Week 19					
Week 20					

	Date	**Initials**	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 21					
Week 22					
Week 23					
Week 24					
Week 25					
Week 26					
Week 27					
Week 28					
Week 29					
Week 30					
Week 31					
Week 32					
Week 33					
Week 34					

	Date	**Initials**	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 35					
Week 36					
Week 37					
Week 38					
Week 39					
Week 40					
Week 41					
Week 42					
Week 43					
Week 44					
Week 45					
Week 46					
Week 47					
Week 48					

	Date	**Initials**	**OK** (√ if no problems)	**Description of any Deficiencies Observed** (put "N/A" if none observed)	**Date Deficiency Corrected***
Week 49					
Week 50					
Week 51					
Week 52					

Appendix: Additional Supporting Information

Online References

Maryland Department of the Environment (MDE) Regulations and General Permit for Animal Feeding Operations (AFO)

http://www.mde.state.md.us/programs/Land/SolidWaste/CAFOMAFO/Pages/Programs/LandPrograms/Solid_Waste/cafo/index.aspx

Environmental Protection Agency (EPA) Concentrated Animal Feeding Operations (CAFO) - Final Rule

http://cfpub.epa.gov/npdes/afo/cafofinalrule.cfm

Crop Fertilizer Recommendations

"Soil Fertility Management," Maryland Cooperative Extension, SFM-1, Oct. 2002
http://www.anmp.umd.edu/Pubs/Pubs_Crops.cfm

Nutrient Management Information Sheets

http://www.anmp.umd.edu/Pubs/index.cfm

Manure Nutrient Availability

Maryland Department of Agriculture, COMAR 15.20.08.05
http://www.mda.state.md.us/resource_conservation/nutrient_management/manual/estimated_mineralization_rates.php

Calibrating Manure Spreaders

University of Maryland Extension Fact Sheet 416 and Worksheets
http://www.anmp.umd.edu/Pubs/Pubs_Manure.cfm
http://www.anmp.umd.edu/Pubs/Pubs_Equip.cfm

Phosphorus Assessment

"The Maryland Phosphorus Site Index: An Overview," Maryland Cooperative Extension SFM-6, April 2005
http://www.anmp.umd.edu/files/SFM-6.pdf

"The Maryland Phosphorus Site Index: Technical Users Guide," Maryland Cooperative Extension SFM-7, April 2005
http://www.anmp.umd.edu/files/SFM-7.pdf

Mid-Atlantic Nutrient Management Handbook

http://www.mawaterquality.org/Publications/pubs/manhcomplete.pdf

Maryland Pesticide Regulation

http://www.mda.state.md.us/plants-pests/pesticide_regulation/index.php

Maryland Practice Standards eFOTG Section IV — Practice Standards and Specifications

http://www.nrcs.usda.gov/technical/efotg/

NUTRIENT MANAGEMENT PLAN

developed by:

Agronomics Plus

August 2, 2024

Fall 2024, 2025
Queen Anne's County

prepared for:

Mark Eck – Dad's Farm
450 Ell Morris Road
Henderson, MD 21640

Plan Type: NMP – Roasters (larger size bird) poultry operation

FIV Risk Tier- Medium Risk (* litter/manure application setback of 100' from streams on this farm)

This plan has been tailored for the Dad's Farm site (for Mountaire purposes aka Cornerview).

Agronomics plus
717-792-1274
agricultural, environmental & technical consulting

Farm Plan Identification

PLAN IDENTIFICATION

This nutrient management plan will be updated before the expiration date. The plan will need revised on or before the expiration date. Any substantial changes, before this expiration date will need to be documented and revisions made by a certified consultant. A copy of this revision must be kept with your nutrient management records.

A Nutrient Management Annual Implementation Report must be submitted, each year, to the Maryland Department of Agriculture on or before March 1st.

Operator information:

Mark Eck
450 Ell Morris Road
Henderson, MD 21640
[redacted]

Consultant information:

David D. Kann
PO Box 1011
East Berlin, PA 17316
(717) 792-1274
Certification #: PA-134
License Number: 2399

Farm Locations: 851 Bridgetown Road (aka Corner View)

Date Nutrient Management Plan Developed:

August 2, 2024

Nutrient Management Plan Narrative:

At this farm site, roasters are raised in several flocks throughout the year for Mountaire. The manure generated within in the poultry houses is used on the farmed acreage at the "Dads Farm."

AFO AI Number: 133820

County Location: Queen Anne's

CODE: 0047 WS CODE: 02-13-04-05 (Tuckahoe)

Property ID	Acct ID Acres	Farm Name	Tract No.	Acres	County	Watershed
[redacted]	13.15 357.0	Dad's	7075	10 (farmstead acres only) + 276	Queen Anne's	0047

TOTAL ACRES UNDER PLAN **276 acres of cropland**

NUTRIENT APPLICATION SETBACKS FROM SURFACE WATER:

A minimum of a 10' vegetative setback must be in place next to surface water. The chart below indicates if surface water is present that requires a setback on any farm/operation and identifies the fields that are required to have a nutrient application setback. **An**

application of crop nutrients using a broadcast method either with or without incorporation requires a 35'setback. A directed spray application or the injection of crop nutrients only requires a 10'setback. Excepting perennial forage crops grown for hay and pasture, vegetation in the 10' setback area may not include plants that would be considered part of the crop grown in the field (i.e. row crops). Pastures and hayfields are subject to a 10' and/or a 35' nutrient application setback depending on application methods. Nutrients may not be applied within the 10' setback.

If nutrients are custom-applied, it is the operator's responsibility to inform the applicator of the setback distance based on the method of application.

Water Resources - Farm Location and Type of Setback				
Farm	**Field**	**Water Resource**	**Setback Distance (ft.)**	**Type of Nutrient Application**
N/A				

See more details on the Nutrient Application Setback Requirements found in the Manure Management and Field Information Sections of this Nutrient Management Plan.

PLAN MAINTENANCE

This nutrient management plan was written for the 2024 and 2025 growing season and will need updated for the 2026 growing season. In addition, if any of the following events occur, the plan will need to be updated before the next scheduled update or before the 2027-growing season begins. New soil samples will be needed before an update is made to your NMP.

1. A change in crop rotation or field acres.
2. Modification of the sidedress application of Nitrogen based on PSNT results.
3. Adjustments to the nutrients applied or manure additions.
4. Changes in animal unit numbers or changes in housing of animals on the farm.
5. New manure analysis taken (minimum of once every 2 years).
6. New soil analysis taken.

If high P levels exist, BMPs should be applied and nutrient rates should be reduced.

Each spring the planter should be calibrated to ensure the correct rate of starter is applied.

Soil samples should be collected at least once every three years to maximize utilization of soil nutrients.

Crop rotation is important to prevent soil borne diseases and to use soil nutrients efficiently. Split applications of nitrogen on environmentally sensitive sites reduce potential for runoff and leaching. Utilization of a Pre-Sidedress Nitrogen Test (PSNT) or tissue test can help determine additional N requirements during the growing season.

Application of nutrients should be timed as close as possible to crop growth or uptake and placed near the root zone for efficient crop use. Application to saturated, frozen or snow-covered ground should be avoided unless a crop covers the ground.

OPERATOR RECORD KEEPING REQUIREMENTS:

1. All nutrient management plans and updates for the last 3 years.
2. A record of crops and actual yields for the last 5 years.
3. Analysis of nutrients (all forms) applied to plants and/or crop acreage.
4. Soil analysis results for the entire agricultural operation.
5. Record of timing, location, and amounts of all nutrient applications.
6. Receipts related to the purchase of nutrients.
7. Documentation to justify any changes from the Nutrient Management Plan as written.
8. **If operator is an applicator of nutrients to 10 acres or more**; operator must hold a current Maryland Nutrient Applicator's Voucher.

The operator has the primary responsibility for plan implementation, installation of the agreed upon Best Management Practices outlined in the plan and required by the Water Quality Improvement Act (WQIA). The operator also has the responsibility of maintaining all practices associated with the nutrient management plan and all record keeping associated with the WQIA Regulations.

Animal Information & Manure Management

MANURE MANAGEMENT

Poultry Operation: Farm 2 (Dad's – Bridgetown Road site) is growing out 70,000 roasters. 9 houses comprise this poultry operation. All material removed from the grow-out facilities is placed in the Manure Shed on the properties. See population numbers in table below:

House #	Flock Size/House	Total Number of Birds
1 (42'x368') and 2, 3 (42'x604' each)	27,000 and 16,000	70,000
	TOTAL	70,000

Refer to the Animal Waste Quantity Worksheets for specific information.

Animal Information					
Animal Type	**Start**	**End**	**Weight lbs.**	**Number**	**Manure Generation***
Roasters	01/01/25	12/31/25	4 (Avg weight)	70,000	Approx. 284 tons total generated annually.

*** See Animal Waste Quantity Estimate Worksheet for more details.**

Manure Storage, Usage, and Handling				
Manure Type	**Manure Used in the Farm Operation**	**Storage & Manure Type**	**Handling & Application**	**Manure Exported**
Poultry	0 ton annually	A temporary roofed stack storage to handle the cakeouts. The manure Shed measures 40'x80' at site2.	Manure will be used on the crop acres of the operation.	284 ton exported to Eck grain operation

Currently, ALL litter/manure produced at this site is exported to the crop portion of the Eck farm business.

Approximate acres receiving manure under this plan is 0 acres.

Manure application equipment should be calibrated to better gage the current output per acre. A manure analysis should be taken at the time manure is being removed from the buildings. Manure will be sampled at least twice a year until a base line of nutrients is established.

Application of nutrients should be timed as close as possible to crop growth or uptake and placed near the root zone for efficient crop use. See Field Information Section for incorporation details. Application to saturated, frozen or snow-covered ground should be avoided unless a crop covers the ground.

Manure stockpiles should be stored in an appropriate roofed structure or covered with an impermeable cover. If no structure is available, manure should be in a 6-foot conical pile.

When choosing a site to stockpile manure, wetlands and low lying areas should be avoided, as should any site that would allow runoff from stockpile to enter into any ditch, stream, or other surface water body.

The following is a list of conditions to be followed when hauling manure when **adverse weather conditions** arise:

- 100 feet from wells
- 35 feet from surface waters (unless injected). Injected requires a 10–foot minimum setback.

BMP RECOMMENDATION

No further recommendations for additional BMPs at this time.

FARMSTEAD OR MANAGEMENT UNIT SPECIFIC INFORMATION

A soil conservation plan should be implemented as time and resources allow. The conservation plan helps to minimize soil erosion which translates into reducing the amount of phosphorus lost with movement of soil and/or sediment.

Nutrients - On Farm Sources (all poultry litter is exported):

Nutrient Source	Amount Available	Rate of Application	Nutrients Supplied N - P_2O_5 - K_2O (lbs/acre)
Roaster (Dads) Growout/Crustouts	284 t	1 t/ac	31-52-68
Roaster (Dads) Growout/Crustouts		3 t/ac	93-155-203

Production Area Management Guidelines

To provide environmental benefits, conservation practices must be operated and maintained as designed. The following list describes some common problems to look for in the production area of poultry operations. **It is VERY IMPORTANT that the production area (manure storage, composters, HUA pads, etc...) be kept clean and free from ANY manure that could come in contact with surface water.**

Natural Resources Conservation Service (NRCS) and Soil Conservation District staff are available to provide follow-up assistance if needed.

Manure Storage Area

Manure removed from poultry houses should be stored in a covered shed until it can be applied to crops or otherwise used. The following are potential problems you may see that MUST be addressed to keep clean water on your farm, clean:

- Manure piled outside shed.
- Manure stacked too high against walls.
- Shed contains equipment or supplies that are not easily moveable (e.g., not on wheels).
- Obvious surface water conveyance near the open ends of the shed to a drainage ditch or swale.
- Structural damage to shed.
- Evidence of water or "puddling" in the storage shed.

Composters

Properly operated composters provide an environmentally sound method for disposing of normal mortality from poultry houses.

The following are potential problems you may see:

- Leakage.
- Excessive odor or flies.
- Dead birds visible.
- Evidence of animals feeding on dead birds.
- Thermometer not readily available (DE only).
- Recipe sign not posted (DE only).
- Missing or broken boards.
- Misuse and nonuse. Composter should be used for what it was intended for.

Concrete Pads
Concrete pads at the ends of poultry houses and manure sheds can reduce erosion and protect surface and ground water from contamination.
Concrete pads should be properly installed, maintained, and kept clean of manure.

The following are potential problems you may see:

- Manure present on pads.
- Obvious surface water conveyance to a drainage ditch or swale near the open ends of poultry houses and manure sheds.
- Concrete cracking or breaking off.

Proper and maintained Vegetation Around Production Area and Between Houses
It is very important to have good grass cover around the farm buildings and between the poultry houses. Well established grasses also prevent soil erosion which in severe cases could result in damage to the house pad or the footing and foundation of the poultry house. Grass also helps reduce reflected heat which in turn helps keep house temperatures under control in hot weather. Grass should always be kept mowed and weeds should also be kept under control. Not only are un-mowed weeds and grass unsightly, but they can encourage rodents and can also reduce the effectiveness of natural ventilation. Tall weeds and grass provide rats and mice a place to hide that is close to the building. Most rodent control programs will stress the need to keep areas around buildings mowed frequently.

Standing puddles of water encourage mosquitoes and kill vegetation, so low spots should be filled to prevent such problems. Also, drainage ditches, drainage ways, and swales should be properly mowed and maintained to give storm water an easy exit. Any trash and debris should be removed from ditches and grass and weeds kept short to encourage water flow.

Windbreak/Shelterbelt
Windbreaks, or vegetative environmental buffers, are planted around poultry houses to provide shelter from winter winds; reduce particulates, ammonia, and other odors from tunnel fans; create visual screens; and provide shade to reduce extreme summer heat.
The following are potential problems you may see:

- Trees dead, dying, or damaged (e.g., broken off, mowed over, bagworms, etc.).
- Lack of weed control around trees or insect control.
- Irrigation system not functioning (e.g., major leaks, broken lines, etc.).
- No irrigation system (newly established trees should be irrigated for the first 2-3 years).

Other Concerns
Other issues that may result in environmental concerns include, but are not limited to:

- Manure scattered around the production area on roads, along the edge of concrete pads or building foundations.
- Manure runoff visible.
- Roof runoff that is creating erosion or drainage problems.
- Lack of good vegetative cover for filtering storm runoff between waste storage structures, composters, or ends of the poultry houses, and drainage outlets.
- Overall farm appearance (a farm that "looks good" is less likely to generate complaints from neighbors).
- **Potholes in travelways or standing water in swales, near exhaust fans.**
- **Maintenance of stormwater management structures or ponds.**

CHECK LIST

ITEMS Farmer Needs For Nutrient Mgmt Inspections

ITEM	" √ "
All nutrient management plans and updates for the last 5 years.	
Receipts related to the purchase of nutrients.	
Analysis of litter each year.	
Monthly reporting of manure storage shed conditions and capacity levels.	
Documentation of all manure/litter exports and movements.	
Documentation to justify any changes from the Nutrient Management Plan as written.	
A current Annual Implementation Report (AIR) filed with the Department of Agriculture.	

Agronomics *plus*
717-792-1274

UNIVERSITY OF MARYLAND EXTENSION
Solutions in your community

POULTRY LITTER QUANTITY ESTIMATE

Name: **Mark Eck** Tract / Farm: **7075 Site 2** Date: **1/1/2025**

Houses included: **3** **Bird type:** **Roaster**

Average Bird Market Weight (lbs): **4**

A.	Years between total cleanouts: Yr. next total cleanout:	**2027**
	- Yr. last total cleanout:	**2024**
	= Years in cleanout cycle:	3
B.	Total # of birds per flock (for all houses on this cleanout cycle):	**70,000**
C.	Flocks per year	**4.5**
D.	Number of flocks per cleanout cycle (A x C):	13
E.	Estimated tons of cake/crust per 1000 birds per flock: *	**0.2**
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	**0.9005**
G.	Tons cake/crust produced per flock (B x E/1000):	14
H.	Tons cake/crust produced per cycle (G x D)	182
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	819
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	637
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	212
L	Tons of litter + cake/crust produced per year (I/A)	273

* 2007 Delmarva Poultry Litter Production Estimates, George W. Malone, University of Delaware, Georgetown Delaware.

Quantity of Poultry Litter, Cake/Crust Available per Year

Year	M Tons of litter remaining in the house from last year (N-P) + (R-S) (previous year)	N Total tons of litter present in the house this year (K) + (M, this year)	O % of partial or total litter to be removed this year in excess of cakeout/crustout (enter % of N removed)	P Tons of litter removed this year (N x O)/100	Q Flocks this Year	R *** Tons Cake/Crust Produced this Year (Q x G)	S Tons Cake/Crust removed this Year	T Tons litter + cake/crust removed this year (P + S)
2025	0	212	**60**	127	4	56	56	183
2026	85	297	**60**	178	5	70	70	248
2027	119	331	**100**	331	4	56	56	387
				637	13	182	182	819

*** Cake/Crust not removed due to windrowing, is added with the litter remaining in the house the following year. Windrowing may likely result in actual quantities of litter being less than the estimates shown here. The actual amount of Cake/Crust removed may also be less than the estimated amounts produced due to improved drinker systems, ventilation, etc.

Manure stockpiles should be stored in an appropriate roofed structure or covered with an impermeable cover. If no structure is available, manure should be in a 6-foot conical pile.

When choosing a site to stockpile manure, wetlands and low lying areas should be avoided, as should any site that would allow runoff from stockpile to enter into any ditch, stream, or other surface water body.

The following is a list of conditions to be followed when hauling manure when **adverse weather conditions** arise:

- 100 feet from wells
- 35 feet from surface waters (unless injected). Injected requires a 10–foot minimum setback.

BMP RECOMMENDATION

No further recommendations for additional BMPs at this time.

Report Number: 22-349-0516
Account Number: 25006

GROWMARK FS, Inc.
PHONE: (302) 422-3001 • P.O. BOX 308 • N.E. FRONT ST. • MILFORD, DELAWARE
PHONE: (302) 875-7511 • 431 N. POPLAR ST. • MILFORD, DELAWARE

Send To: Growmark FS
1002 Hope Road
Centreville MD 21617

Grower: Mark Eck
Cornview

SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 12/15/2022 **Date Of Analysis:** 12/16/2022 **Date Of Report:** 12/16/2022

Sample ID / Field ID	Lab Number	OM % / Rate	W/V Soil Class	ENR lbs/A	Phosphorus M3 ppm Rate	Phosphorus ppm Rate	Phosphorus ppm Rate	Potassium K ppm Rate	Magnesium Mg ppm Rate	Calcium Ca ppm Rate	Sodium Na ppm Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
2	16039	2.2 L		85	191 VH MD = 210			138 H MD = 88	106 M MD = 83	883 M MD = 85	16 VL	6.2		0.8	6.5
3	16040	1.9 L		80	189 VH MD = 208			153 VH MD = 97	81 M MD = 64	679 M MD = 59	14 VL	6.0	6.85	0.8	5.3
4	16041	2.3 L		88	123 VH MD = 136			141 H MD = 90	114 H MD = 89	681 M MD = 59	12 VL	6.2		0.7	5.5
5	16042	2.2 L		85	132 VH MD = 146			135 H MD = 86	89 M MD = 70	793 M MD = 73	12 VL	5.8	6.81	1.2	6.3

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3 N ppm Rate	Sulfur S ppm Rate	Zinc Zn ppm Rate	Manganese Mn ppm Rate	Iron Fe ppm Rate	Copper Cu ppm Rate	Boron B ppm Rate	Soluble Salts SS ms/cm Rate		
	5.4	13.6	67.9	1.1	12.3		11 L	9.0 VH	30 H	157 VH	9.4 VH	0.3 VL			
	7.4	12.7	64.1	1.1	15.1		12 L	11.4 VH	34 H	126 VH	7.8 VH	0.2 VL			
	6.6	17.3	61.9	0.9	12.7		12 L	10.2 VH	57 VH	98 VH	7.3 VH	0.2 VL			
	5.5	11.8	62.9	0.8	19.0		10 L	8.4 VH	46 H	119 VH	8.1 VH	0.3 VL			

alues on this report represent the plant available nutrients in the oil. Rating after each value: VL (Very Low), L (Low), M (Medium), (High), VH (Very High). ENR - Estimated Nitrogen Release. E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

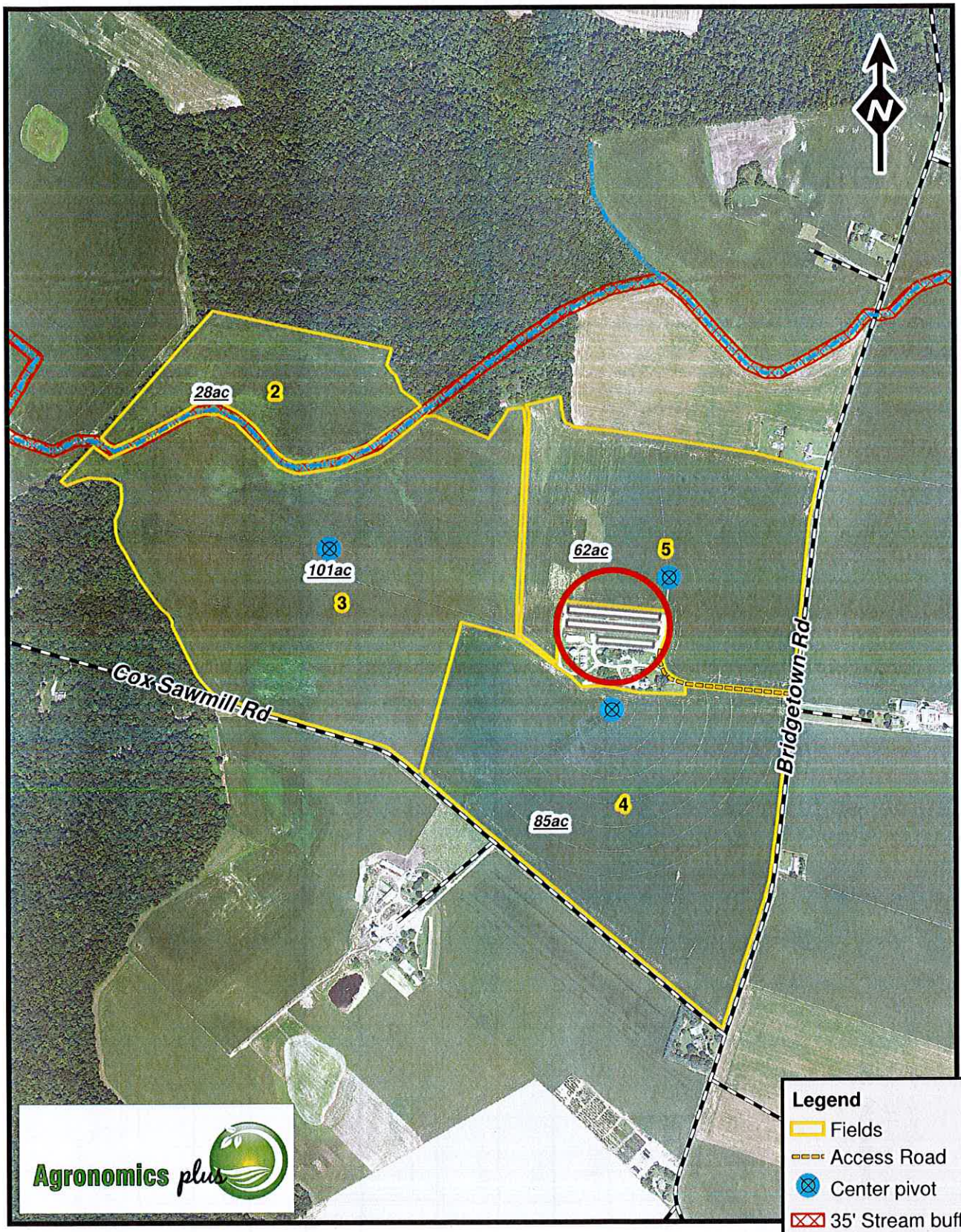
Analysis prepared by: Waypoint Analytical Virginia, Inc.

by:

Brandi Watson

Mark Eck

Dad's Farm



Account ID #: 1806006213

Spectrum Analytic
1087 Jamison Road NW
Washingon Court House, OH 43160-8748

www.spectrumanalytic.com

AGRONOMICS PLUS
BOX 1011
EAST BERLIN, PA 17316

Prepared For
MARK ECK
ECKS CORNER VIEW
MD

Sample Information			
Lab Number	FF65585	Sampled	03-05-2024
Sample	ROASTER	Tested	03-14-2024
Manure Type	Poultry, Solid with litter		

Certificate of Analysis
Manure

Analysis	Result	Unit	*Nutrients lbs/Ton*	*Available 1st Yr [3] lbs/Ton*		
Moisture	25.23	%				
Nitrogen, Total	2.97	%	59.4	38.1 [4]		
Nitrogen, Ammonium	.31	%	6.2	6.2 [4]		
Nitrogen, Organic	2.66	%	53.2	31.9 [4]		
Phosphorus [P2O5], Total	2.59	%	51.8	51.8 [4]		
Potassium [K2O]	3.38	%	67.6	67.6 [4]		

(1) Estimates of 1st year nutrient availability are unavailable if manure type is not specified.
(2) Estimates of 1st year nutrient availability of "Total Nitrogen" are unavailable if no "Ammonium Nitrogen" test is run.
(3) Estimates of 1st year nutrient availability do not take into consideration losses in handling and storage prior to incorporation. Nutrient Management Plan guidelines use 100% availability the 1st year for phosphorus and potassium. Actual 1st year availability varies from 40-90% depending on manure type, soil temperature, moisture and other factors. When using manure credits in fertility programs other than NMP, consult state publications, MWP-18, "Livestock Waste Facilities Handbook" or Spectrum Analytic for more specific 1st year availability percentages.
(4) Source: MWP-18, "Livestock Waste Facilities Handbook"
(5) Source: A3411, "Manure Nutrient Credit Worksheet", University of Wisconsin

Soil Test Results

ıer/Operator	Mark Eck	Plan Year	2025
:t Address	450 Ell Morris Road	MDA operator no.	450
State, Zip, County	Henderson, MD 21640 Queen Anne's	Date Plan Prepared	11-6-2024

Tract No.	Field No.	Lab	Test Date	Soil Texture	Test Number	pH	O.M	P	K	Mg	Ca	Al	Fe
ds-T7075	2 back field	WPT	12/16/2022	SiL	16039	6.20	2.20	191	138	106	883		
					Conversion to FIV	**6.20**	**2.20**	**210 (E)**	**88 (O)**	**83 (O)**	**85 (O)**		
ds-T7075	3 Back Lane	WPT	12/16/2022	SiL	16040	6.00	1.90	189	153	81	679		
					Conversion to FIV	**6.00**	**1.90**	**208 (E)**	**97 (O)**	**64 (O)**	**59 (O)**		
ds-T7075	4	WPT	12/16/2022	SiL	16041	6.20	2.30	123	141	114	681		
					Conversion to FIV	**6.20**	**2.30**	**136 (E)**	**90 (O)**	**89 (O)**	**59 (O)**		
ds-T7075	5	WPT	12/16/2022	SiL	16042	5.80	2.20	132	135	89	793		
					Conversion to FIV	**5.80**	**2.20**	**146 (E)**	**86 (O)**	**70 (O)**	**73 (O)**		

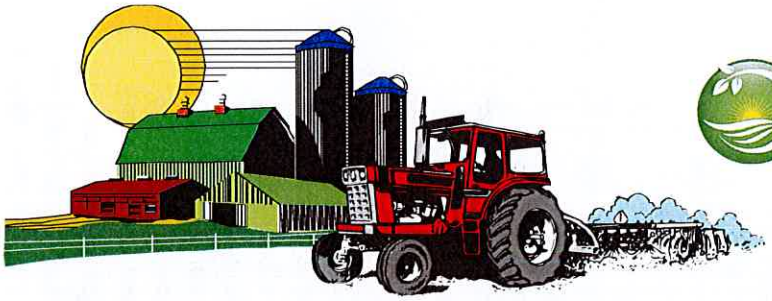
UM Phosphorus Management Tool (PMT) Report

Farmer Name	Mark Eck	Plan Year	2025
	1	2	
Account ID	[redacted]	[redacted]	
County	Queen Anne's	Queen Anne's	
Tract or Farm ID	Dads-T7075	Dads-T7075	
Field ID	2 back field	3 Back Lane	
MUSYM	IgB	IgB	
Area | Crop	28.00 Acres | 2	101.00 Acres | 2	
Organics	Pltr, Int +L |	Pltr, Int +L |	
R Factor			
Adj. K Factor | LS Factor			
C | P Factors			
RUSLE A	0.53	0.53	
	Transport Risk Factors		
SED Value	2	2	
Soil Permeability Class	Moderate	Moderate	
Field slope | Concave? | SR Factor	4.00 | No | 5.6	4.00 | No | 5.6	
Soil Drainage Class	well	well	
HSG | Artificial Drainage? | SD Factor	A | No | 0.0	A | No | 0.0	
	Management Factors		
Distance to Water (DF)	100-199 ft | 0.8	100-199 ft | 0.8	
Buffer Width & Type (BF)	> 35' veg. | 0.9	> 35' veg. | 0.9	
Soil Test P Fertility Index Value	210	208	
Degree of P Saturation (DPS M3)	52.7 (est.)	52.4 (est.)	
Fert. P appl. rates, lb/A | FP * PSC	| - | - | - | 0	| - | - | - | 0	
Org. P appl. rates, lb/A | OP * PSC	|155 | - | - | 78	|155 | - | - | 78	
Runoff Fert. P appl. methods | AMr(f)	| - | - | - | 0.00	| - | - | - | 0.00	
Runoff Org. P appl. methods | AMr(o)	| M3 | - | - | 0.60	| M3 | - | - | 0.60	
›surface Fert. P appl. methods | AMsub(f)	| - | - | - | 0.00	| - | - | - | 0.00	
surface Org. P appl. methods | AMsub(o)	| M3 | - | - | 0.64	| M3 | - | - | 0.64	
P particulate | P runoff | P subsurface	30 | 61 | 0 |	30 | 61 | 0 |	
P Loss Rating Score	92 (M)	91 (M)	

CHECK LIST

ITEMS Farmer Needs For Nutrient Mgmt Inspections

ITEM	" √ "
All nutrient management plans and updates for the last 5 years.	
Receipts related to the purchase of nutrients.	
Analysis of litter each year.	
Monthly reporting of manure storage shed conditions and capacity levels.	
Documentation of all manure/litter exports and movements.	
Documentation to justify any changes from the Nutrient Management Plan as written.	
A current Annual Implementation Report (AIR) filed with the Department of Agriculture.	



Agronomics plus
717-792-1274

Recommendations using Organic Nutrient Sources

Farmer/Operator	Mark Eck	Plan Year	2025
Street Address	450 Ell Morris Road	MDA operator no.	450
City, State, Zip, County	Henderson, MD 21640 Queen Anne's	Date Plan Prepared	11-6-2024

Tract No. / Farm Name	Field No.	Area	Crops & Note Numbers	Yield Goal	Plant Nutrients Needed N-P2O5-K2O	Nitrogen Credits			Nutrient Sources to be Applied						
						Leg.	Man.	Slu.	Organic Nutrient Sources					Commercial Fertilizer N-P2O5-K2O	Lime
									Type / Source	Min. Rate	Applic. Rate [Time Inc.]	Organic Waste Applic. Basis	Available N-P2O5-K2O		
Dads-T7075	2 back field 2025 [*]	28.00 Acres	2 Corn grain, conservation till 7 28 1 2 3 27 60 92 93	175 Bu/A	175- 0- 44 #/A	0 #/A	35 #/A	0 #/A	(2) Pltr, Int +L	0.50	3.0 tons/A [8-14 days]	Preset Rate	93- 155- 203 #/A	47- 0- 0 #/A	0.6 t/A
Dads-T7075	3 Back Lane 2025 [*]	101.00 Acres	2 Corn grain, conservation till 7 28 1 2 3 27 60 92 93	210 Bu/A	210- 0- 50 #/A	0 #/A	35 #/A	0 #/A	(2) Pltr, Int +L	0.50	3.0 tons/A [8-14 days]	Preset Rate	93- 155- 203 #/A	82- 0- 0 #/A	1.0 t/A
Dads-T7075	4 2025	85.00 Acres	2 Corn grain, conservation till 7 28 1 2 3 27 60 92 93	210 Bu/A	210- 0- 57 #/A	0 #/A	0 #/A	0 #/A	(2) Pltr, Int +L	0.50	1.0 tons/A [8-14 days]	Preset Rate	31- 52- 68 #/A	179- 0- 0 #/A	0.6 t/A
Dads-T7075	5 2025	62.00 Acres	2 Corn grain, conservation till 7 28 1 2 3 27 60 92 93	210 Bu/A	210- 0- 60 #/A	0 #/A	0 #/A	0 #/A	(2) Pltr, Int +L	0.50	3.0 tons/A [8-14 days]	Preset Rate	93- 155- 203 #/A	117- 0- 0 #/A	0.9 t/A

Fertilizer Recommendations

Farmer/Operator	Mark Eck	Plan Year	2025
Street Address	450 Ell Morris Road	MDA operator no	450
City, State, Zip, County	Henderson, MD 21640 Queen Anne's	Date Plan Prepared	11-6-2024

Tract No. / Farm Name	Field No.	Crops & Note Numbers	Area	Yield Goal	Plant Nutrients Needed N-P2O5-K2O	Nitrogen Credits			Fertilizer To Be Applied					Lime
						Leg	Man	Slu	Method	N	P2O5	K2O	Mg	
Dads-T7075	4 2025 [M]	16 Barley/Double Crop Soybeans 7 28 3 4 30 41 44 142	85.00 Acres	100 Bu/A 40 Bu/A	100-0-34 #/A	0 #/A	0 #/A	0 #/A	Total	100 #/A	0 #/A	34 #/A		0.6 t/A
									tpdrs@ green-up	50 #/A	0 #/A	34 #/A		
									tpdrs @ Feekes 5-6	50 #/A	0 #/A	0 #/A		
Dads-T7075	5 2025	2 Corn grain, conservation till 7 28 1 2 3 27 60 92 93	62.00 Acres	210 Bu/A	210-0-60 #/A	0 #/A	0 #/A	0 #/A	Total	210 #/A	0 #/A	60 #/A		0.9 t/A
									broadcast	30 #/A	0 #/A	30 #/A		
									banded w/planter	30 #/A	0 #/A	30 #/A		
									sidedress	150 #/A	0 #/A	0 #/A		
Dads-T7075	5 2025 [M]	15 Wheat/Double Crop Soybeans 7 28 3 4 30 41 44 142	62.00 Acres	80 Bu/A 40 Bu/A	80-0-39 #/A	0 #/A	0 #/A	0 #/A	Total	80 #/A	0 #/A	39 #/A		0.9 t/A
									tpdrs@ green-up	40 #/A	0 #/A	39 #/A		
									tpdrs @ Feekes 5-6	40 #/A	0 #/A	0 #/A		

[*] - indicates primary recommendation used for the PMT calculation.

Fertilizer Recommendations

Farmer/Operator	Mark Eck	Plan Year	2025
Street Address	450 Ell Morris Road	MDA operator no.	450
City, State, Zip, County	Henderson, MD 21640 Queen Anne's	Date Plan Prepared	11-6-2024

Tract No. / Farm Name	Field No.	Crops & Note Numbers	Area	Yield Goal	Plant Nutrients Needed N-P2O5-K2O	Nitrogen Credits			Fertilizer To Be Applied					Lime
						Leg.	Man.	Slu.	Method	N	P2O5	K2O	Mg	
Dads-T7075	2 back field 2025 [M]	2 Corn grain, conservation till 7 28 1 2 3 27 60 92 93	28.00 Acres	175 Bu/A	175-0-44 #/A	0 #/A	35 #/A	0 #/A	Total	140 #/A	0 #/A	44 #/A		0.6 t/A
									broadcast	0 #/A	0 #/A	0 #/A		
									banded w/planter	30 #/A	0 #/A	44 #/A		
									sidedress	110 #/A	0 #/A	0 #/A		
Dads-T7075	3 Back Lane 2025 [M]	2 Corn grain, conservation till 7 28 1 2 3 27 60 92 93	101.00 Acres	210 Bu/A	210-0-50 #/A	0 #/A	35 #/A	0 #/A	Total	175 #/A	0 #/A	50 #/A		1.0 t/A
									broadcast	30 #/A	0 #/A	25 #/A		
									banded w/planter	30 #/A	0 #/A	25 #/A		
									sidedress	115 #/A	0 #/A	0 #/A		
Dads-T7075	4 2025	2 Corn grain, conservation till 7 28 1 2 3 27 60 92 93	85.00 Acres	210 Bu/A	210-0-57 #/A	0 #/A	0 #/A	0 #/A	Total	210 #/A	0 #/A	57 #/A		0.6 t/A
									broadcast	30 #/A	0 #/A	29 #/A		
									banded w/planter	30 #/A	0 #/A	28 #/A		
									sidedress	150 #/A	0 #/A	0 #/A		

[*] - indicates primary recommendation used for the PMT calculation.

Report Number: 22-349-0516
Account Number: 25006

GROWMARK FS, Inc.

PHONE: (302) 422-3001 • P.O. BOX 308 • N.E. FRONT ST. • MILFORD, DELAWARE
PHONE: (302) 875-7511 • 431 N. POPLAR ST. • MILFORD, DELAWARE

Send To: Growmark FS
1002 Hope Road
Centreville MD 21617

Grower: Mark Eck
Cornview

SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 12/15/2022 **Date Of Analysis:** 12/16/2022 **Date Of Report:** 12/16/2022

Sample ID / Field ID	Lab Number	OM % Rate	W/V Soil Class	ENR lbs/A	Phosphorus M3 ppm Rate	Phosphorus ppm Rate	Phosphorus ppm Rate	Potassium K ppm Rate	Magnesium Mg ppm Rate	Calcium Ca ppm Rate	Sodium Na ppm Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
2	16039	2.2 L		85	191 VH MD = 210			138 H MD = 88	106 M MD = 83	883 M MD = 85	16 VL	6.2		0.8	6.5
3	16040	1.9 L		80	189 VH MD = 208			153 VH MD = 97	81 M MD = 64	679 M MD = 59	14 VL	6.0	6.85	0.8	5.3
4	16041	2.3 L		88	123 VH MD = 136			141 H MD = 90	114 H MD = 89	681 M MD = 59	12 VL	6.2		0.7	5.5
5	16042	2.2 L		85	132 VH MD = 146			135 H MD = 86	89 M MD = 70	793 M MD = 73	12 VL	5.8	6.81	1.2	6.3

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3N ppm Rate	Sulfur S ppm Rate	Zinc Zn ppm Rate	Manganese Mn ppm Rate	Iron Fe ppm Rate	Copper Cu ppm Rate	Boron B ppm Rate	Soluble Salts SS ms/cm Rate		
2	5.4	13.6	67.9	1.1	12.3		11 L	9.0 VH	30 H	157 VH	9.4 VH	0.3 VL			
3	7.4	12.7	64.1	1.1	15.1		12 L	11.4 VH	34 H	126 VH	7.8 VH	0.2 VL			
4	6.6	17.3	61.9	0.9	12.7		12 L	10.2 VH	57 VH	98 VH	7.3 VH	0.2 VL			
5	5.5	11.8	62.9	0.8	19.0		10 L	8.4 VH	46 H	119 VH	8.1 VH	0.3 VL			

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

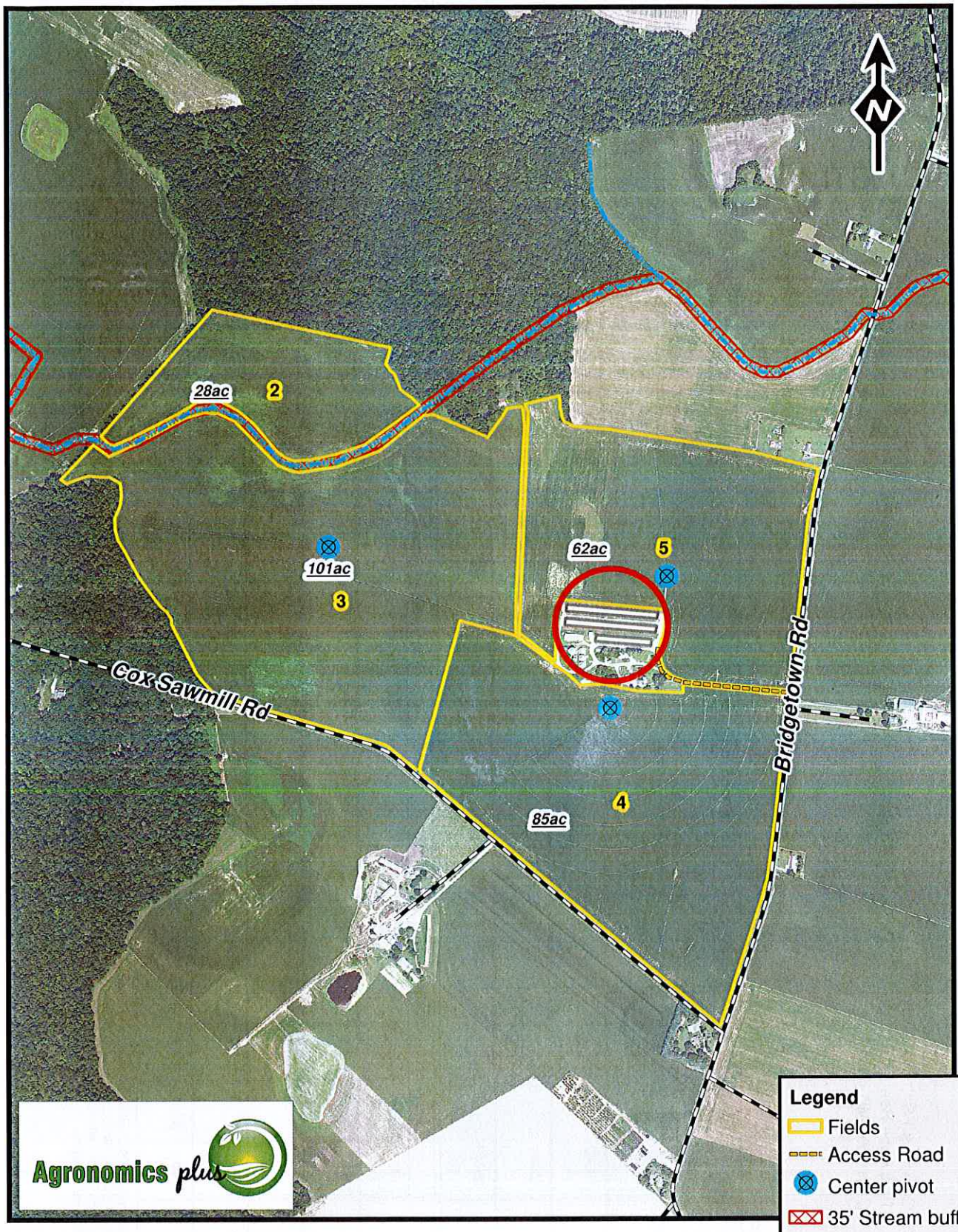
Analysis prepared by: Waypoint Analytical Virginia, Inc.

by:

Brandi Watson

Mark Eck

Dad's Farm



Account ID #: [redacted]

NRCS Natural Resources Conservation Service
QUEEN ANNE'S COUNTY SERVICE CENTER
211 E WATER ST
CENTREVILLE, MD 21617-1101
(410) 758-1671

David D. Kann
Conservation Planner
AET agricultural, environmental & technical consulting

Conservation Plan

MARK ECK
450 ELL MORRIS ROAD
HENDERSON, MD 21640

OBJECTIVES

The Conservation Plan addresses best management practices for sustaining and improving the natural resource base on the farm. It is the responsibility of the landuser to obtain all necessary or appropriate permits. All practices are to be maintained to ensure that their intended purposes are achieved. No significant cultural resources are known to exist on the farm.

The main objective is to implement a Conservation Plan for the mandated compliance of the CAFO Permit.

Headquarters / Production Area

Tract: 7075

Amendments for the Treatment of Agricultural Waste

A litter amendment will be applied to the poultry house/s to reduce ammonia volatilization and to increase the proportion of nitrogen in the litter, making a more valuable and balanced fertilizer. Some amendments are also effective at reducing phosphorus solubility. Litter amendments can include the following: AL+, liquid AL+, Dry Alum, PLT, and Poultry Guard.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	280 ani	1	2025		
HQ	280 ani	1	2026		
HQ	280 ani	1	2027		
Total:	840 ani				

Access Road

Build a designated route or constructed travel way to be used by vehicles necessary for management of the operation. Use suitable materials for handling traffic loads and keep free of potholes and standing water. Seek engineering assistance from NRCS when needed to regrade or shape roadway. Operation & Maintenance: Inspect roadway following significant rainfall events. Repair damaged areas as soon as practical. Limit traffic during periods when use may cause damage to the surface.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1300 ft.	10	2010	1300 ft.	10/1/2010
Total:	1300 ft.			1300 ft.	

Animal Mortality Facility

Maintain a dead bird composting facility for the economical and environmentally safe disposal of dead poultry. The structure shall be built according to NRCS standards and specifications and maintained as described in the Operation and Maintenance plan.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1 no.	10	2008	1 no.	10/1/2008
Total:	1.0 no.			1.0 no.	

Comprehensive Nutrient Management Plan

Obtain a comprehensive nutrient management plan (CNMP) that describes and documents a conservation system within a conservation plan that is unique to animal feeding operations. The CNMP addresses all aspects of the Animal Feeding Operation including manure handling, nutrient management, feed management, and other conservation practices. Implementation of the CNMP is voluntary; however, any components that are funded through cost-share programs must be implemented as scheduled. State Law requires implementation of the Nutrient Management component.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1 no.	8	2011	1 no.	8/11/2011
Total:	1 no.			1 no.	

Filter Strip - Vegetative Buffer

Maintain an area indicated as a grass swale on the Conservation Plan Map. The area needs to be maintained lush vigorous sod for the purpose of preventing erosion. These vegetative critical areas will be monitored annually by the operator. The vegetation will slow the velocity of storm water and help to remove sediment, organic matter, and other nutrients from storm water runoff.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	0.3 ac	6	2010	0.3 ac	6/1/2010
Total:	0.3 ac			0.3 ac	

Heavy Use Area Protection

Construct and maintain a heavy use area at the front ends (access) of the poultry houses shown on the plan map where poultry manure and other waste products are handled. These structures will be 40'x40' concrete pads (or an approved substitute) at the entrance(s) to the house.The poultry pad will protect the soil from erosion and reduce nutrient contamination of surface and groundwater. Pads will be designed and installed according to NRCS standards and specifications, and will be maintained according to the attached Operation and Maintenance plan.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	0.1 ac	11	2006	0.1 ac	10/6/2006
HQ	0.1 ac	11	2006	0.1 ac	10/6/2006
HQ	0.1 ac	11	2006	0.1 ac	10/6/2006
HQ	0.1 ac	11	2006	0.1 ac	10/6/2006
HQ	0.1 ac	11	2012		
HQ	0.1 ac	11	2012		
Total:	0.6 ac			0.4 ac	

Heavy Use Area Protection

Construct a heavy use area (poultry pad) at the front end (access) of the Manure Shed shown on the plan map where poultry manure and other waste products are handled. The poultry pad will protect the soil from erosion and reduce nutrient contamination of surface and groundwater. Pads will be designed and installed according to NRCS standards and specifications, and will be maintained according to the attached Operation and Maintenance plan.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	0.1 ac	11	2010	0.1 ac	8/1/2010
HQ	0.1 ac	6	2012		
Total:	0.2 ac			0.1 ac	

Nutrient Management

Manage the amount, form, placement and timing of plant nutrient application to protect surface and groundwater from runoff and/or leaching of nutrients. A Nutrient Management Plan (NMP) will be developed and followed for each crop to be grown on each field. This NMP will be developed by a consultant licensed and certified by the Maryland Department of Agriculture. The Maryland Water Quality Improvement Act of 1998 requires all nutrient management plans to address both nitrogen and phosphorus as the limiting nutrients. The NMP will account for all sources and forms of plant nutrients applied for plant growth and production. The amount of all nutrients applied must be based on a current analysis of the soil's potential to produce a realistic yield. All fields will have current soil test analysis of not more than 3 years old. Plans should be implemented as written, and updated at least once every 3 years or whenever there is a major change in the farming operation. Records will be kept which document handling and export of nutrient sources.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	7 ac	5	2010	7 ac	5/20/2010
Total:	7 ac			7 ac	

Waste Storage Facility

Construct and maintain a manure storage structure(s) at the location shown on the plan map. The structure will be built according to NRCS design, and operated and maintained in accordance with a Comprehensive Nutrient Management Plan or a Waste Management System plan developed for this operation. This structure will contain poultry litter and crust-outs from the operation. All necessary permits and notifications will be obtained before construction.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1 no	1	1990	1 no.	1/19/1990
Total:	1.0 no.				

Underground Outlet

Install and maintain a underground (culvert pipes) pipeline to convey water from supply source to stable points below the production area. An engineering plan will be provided detailing the installation and material specifications for the pipeline. Operation and Maintenance: Inspect and test valves, pressure regulators, pumps, switches and other appurtenances to ensure proper functioning. Check for debris, minerals, algae and other materials which may restrict system flow.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	40 ft.	10	1990	40 ft.	10/1/1990
HQ	40 ft.	10	1990	40 ft.	10/1/1990
Total:	80 ft.			80 ft.	

Cropland

Tract: 7075

Conservation Crop Rotation

Grow crops in a planned rotation for biodiversity and to provide adequate amounts of organic material for erosion reduction, nutrient balance and sustained soil organic matter. Plant crops as listed: a rotation of **Corn, Smgrain cc, Corn, Smgrain, dc Soybeans**. Generally High residue no-tilled crops such as corn, grain, or hay crops may be added to the rotation without increasing soil loss.

Field	Planned Amount	Month	Year	Applied Amount	Date
2a	84.7 ac	5	2011	84.7 ac	6/7/2011
2b	95.5 ac	5	2011	95.5 ac	6/7/2011
4	29 ac	5	2011	29 ac	6/7/2011
6	62.3 ac	5	2011	62.3 ac	6/7/2011
Total:	271.5 ac			271.5 ac	

Nutrient Management

Lime and fertilizer will be applied in accordance with a nutrient management plan (NMP) prepared by a certified nutrient management consultant licensed by the Maryland Department of Agriculture. Fields with a Phosphorus Fertility Index Value (FIV-P) >150 shall be analyzed with the MD Phosphorus Site Index and NMP's developed accordingly. Application equipment must be properly calibrated and maintained. Adequate records shall be maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
2a	84.7 ac	6	2011	84.7 ac	6/7/2011
2b	95.5 ac	6	2011	95.5 ac	6/7/2011
4	29 ac	6	2011	29 ac	6/7/2011
6	62.3 ac	6	2011	62.3 ac	6/7/2011
Total:	271.5 ac			271.5 ac	

Residue and Tillage Management, No-Till

Following an appropriate rotation, use no-till planting methods for planting the crops listed below. Crops will be planted directly into prior crop residues or into a cover crop. Planting into corn stubble, 50% or greater residue ground cover should remain after the planting process. Planting behind soybeans, at least 40% residue cover should remain after planting.

Field	Planned Amount	Month	Year	Applied Amount	Date
2a	84.7 ac	6	2012		
2b	95.5 ac	6	2012		
4	29 ac	6	2012		
6	62.3 ac	6	2012		
Total:	271.5 ac				

CERTIFICATION OF PARTICIPANTS

Mark Eck _____ DATE _____

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST

NRCS Representative _____ DATE _____

CONSERVATION PLANNER

David D. Kann 9/1/2024 DATE

PUBLIC BURDEN STATEMENT

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collections is 0578-0013. The time required to complete this information collection is estimated to average 45/0.75 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

PRIVACY ACT

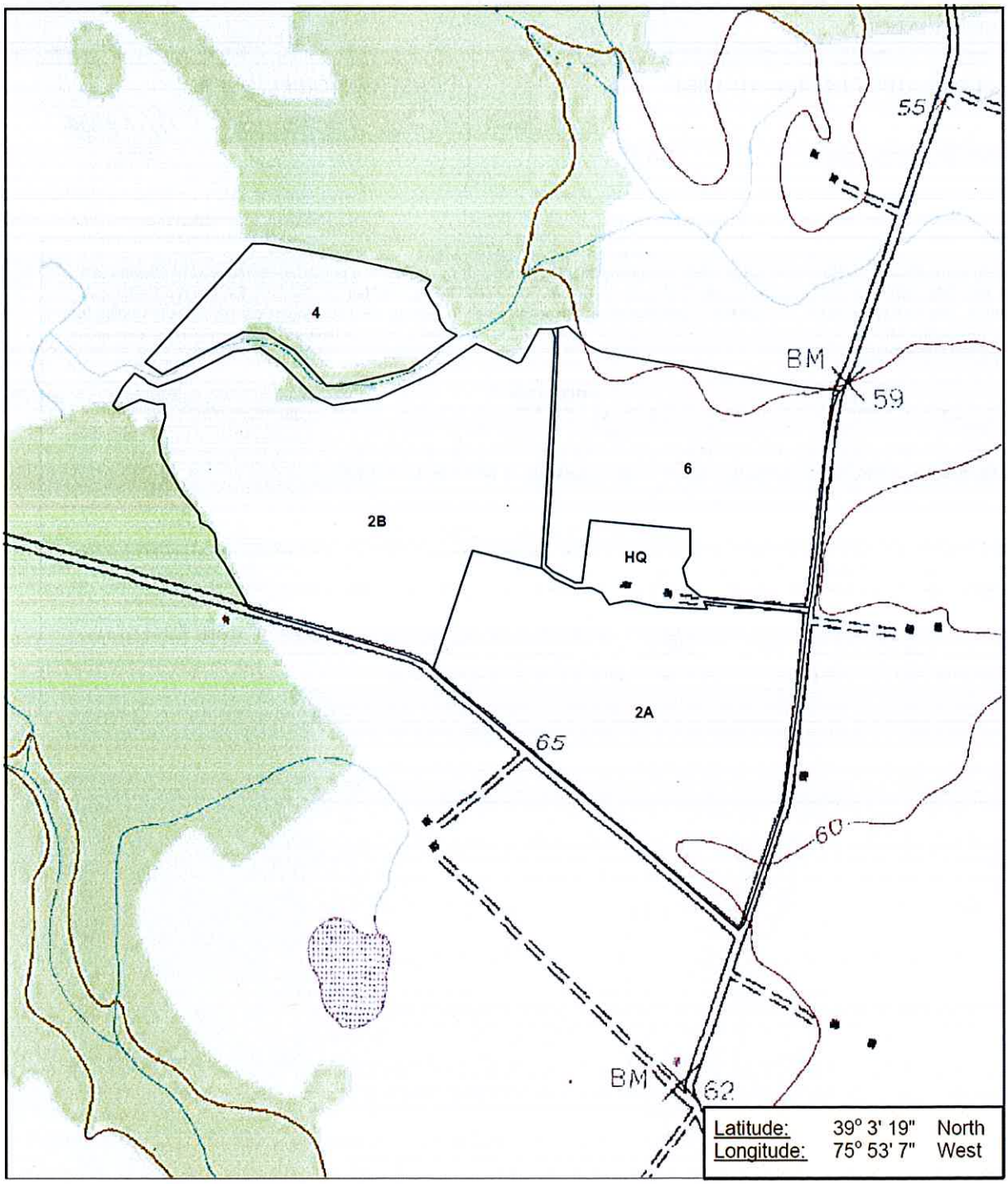
The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C 522a). Furnishing this information is voluntary; however failure to furnish correct, complete information will result in the withholding or withdrawal of such technical or financial assistance. The information may be furnished to other USDA agencies, the Internal Revenue Service, the Department of Justice, or other state or federal law enforcement agencies, or in response to orders of a court, magistrate, or administrative tribunal.

USDA NON-DISCRIMINATION STATEMENT

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, family status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."

Topo Map

Owner: Mark Eck
Operator: Mae-Vue Farms, Mark Eck
County: Queen Anne
State: Maryland
Soil survey sheet (s) or code #: MD035
Scale: 1" = 980'
Approximate Acres: 370.15
FSA Tract: 7075

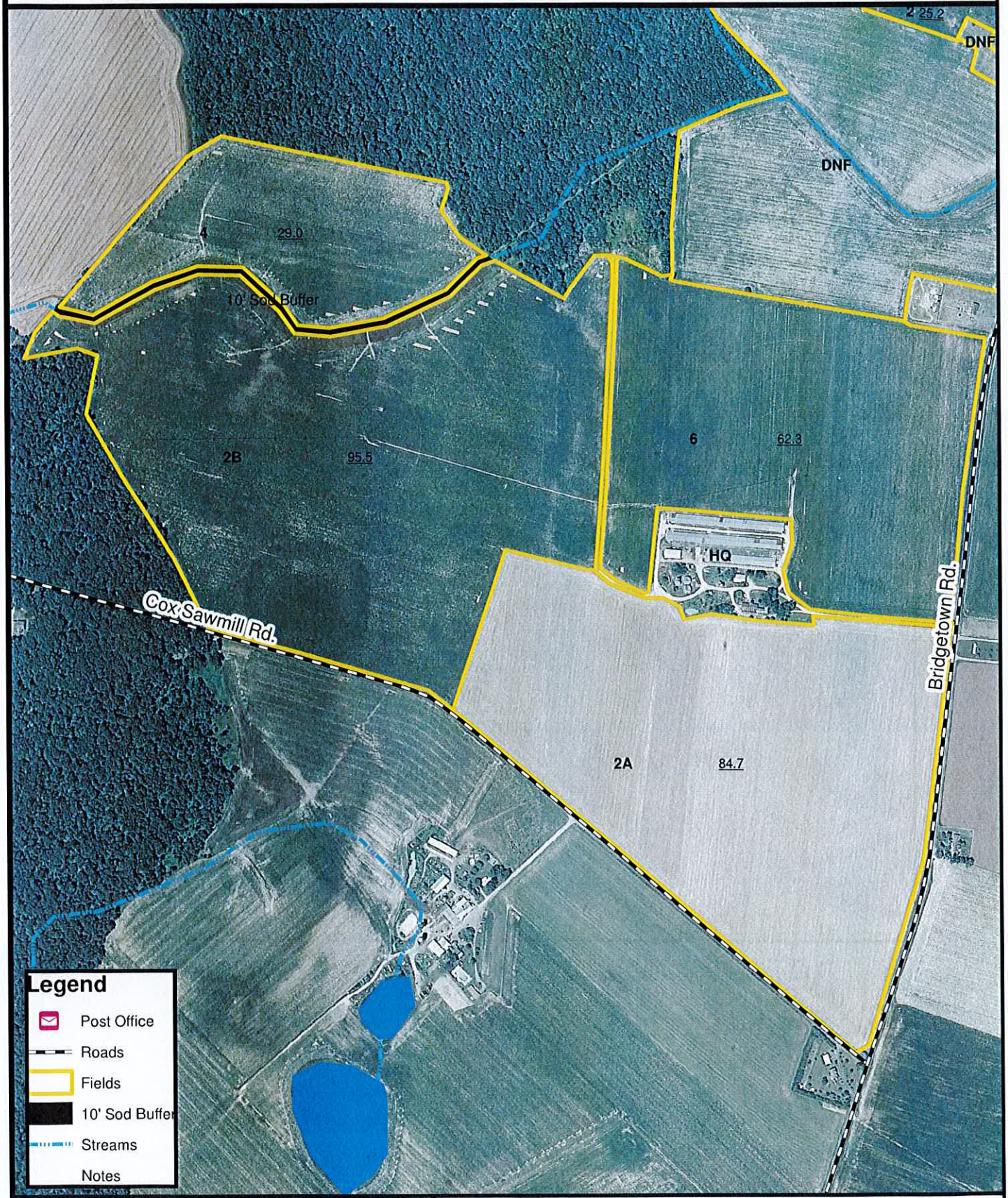


CONSERVATION PLAN – FARM MAP

Mark Eck – Owner ***Mae-Vue Farms, Mark Eck - Operator***

Approximate Acres: 370.15

Date: 06/02/2011 1 inch = 695 feet



AET

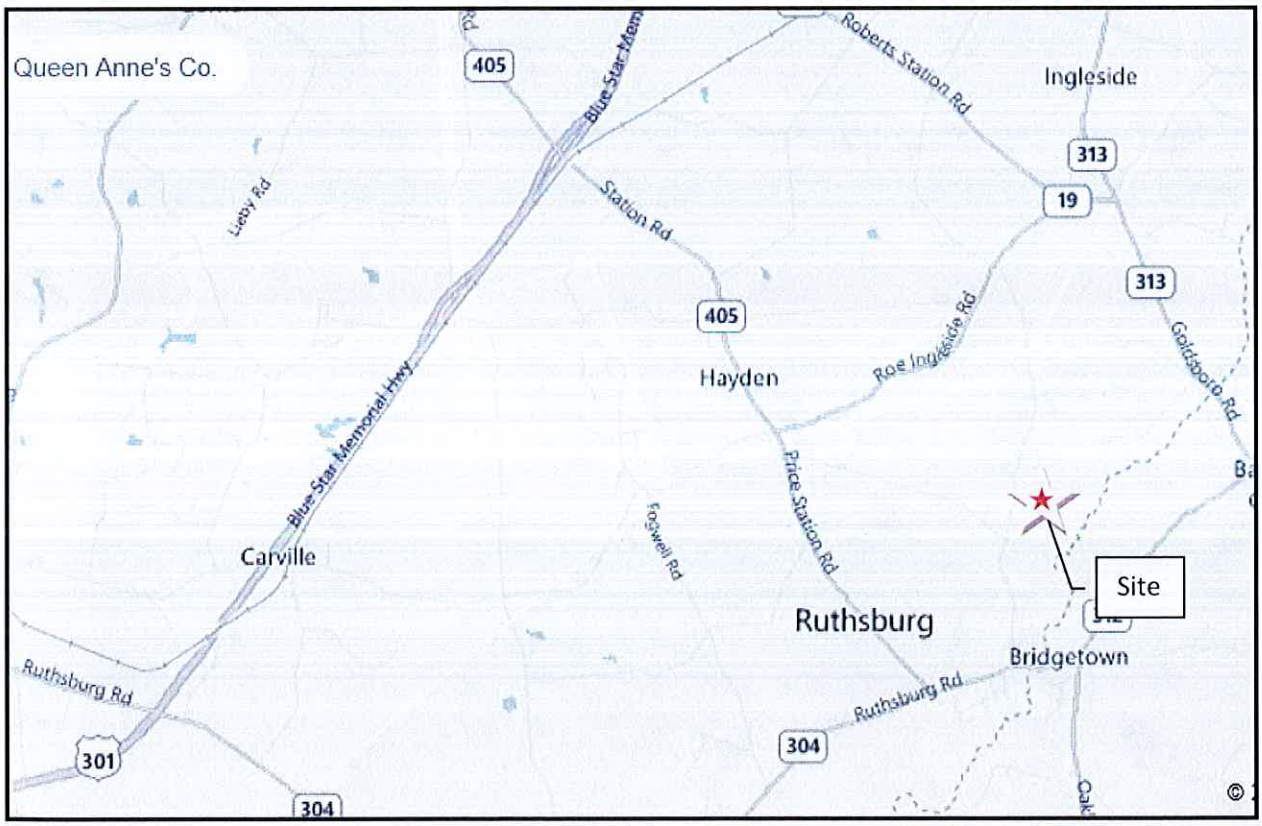
FSA Farm Number: 1863

FSA Tract Number: 7075

USGS Quadrangle(s): Price

LOCATION MAP

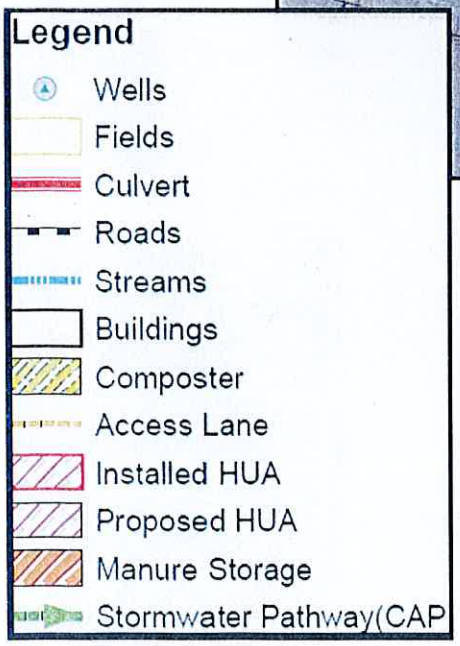
Dad's Farm
851 Bridgetown Road
Henderson, MD 21640

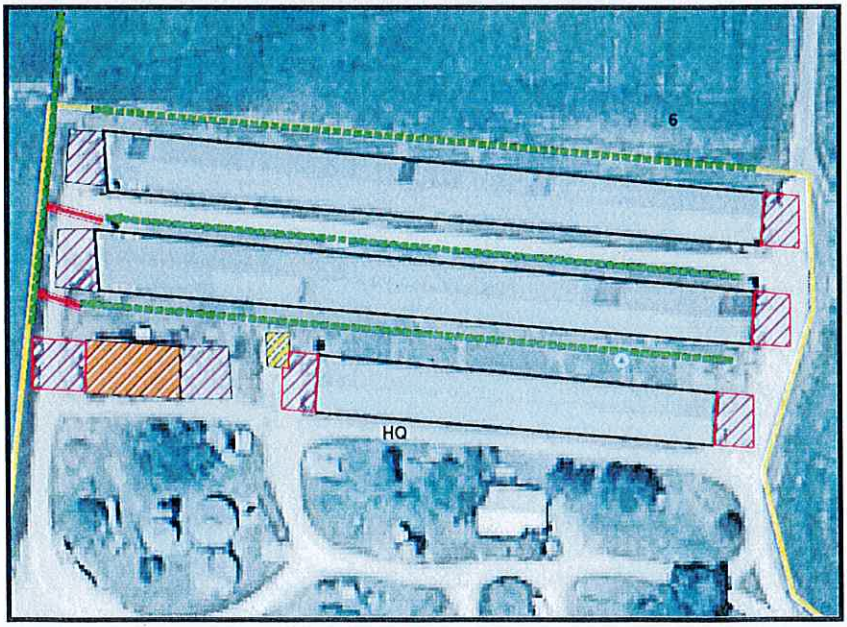


FARMSTEAD (Production Area)

This element addresses the components and activities associated with the production facility, feedlot or animal loafing facilities, manure and wastewater storage and treatment structures and areas, animal mortality facilities, feed and other raw material storage areas, and any areas used to facilitate transfer of manure and wastewater.

Production Facility Site Sketch/Data





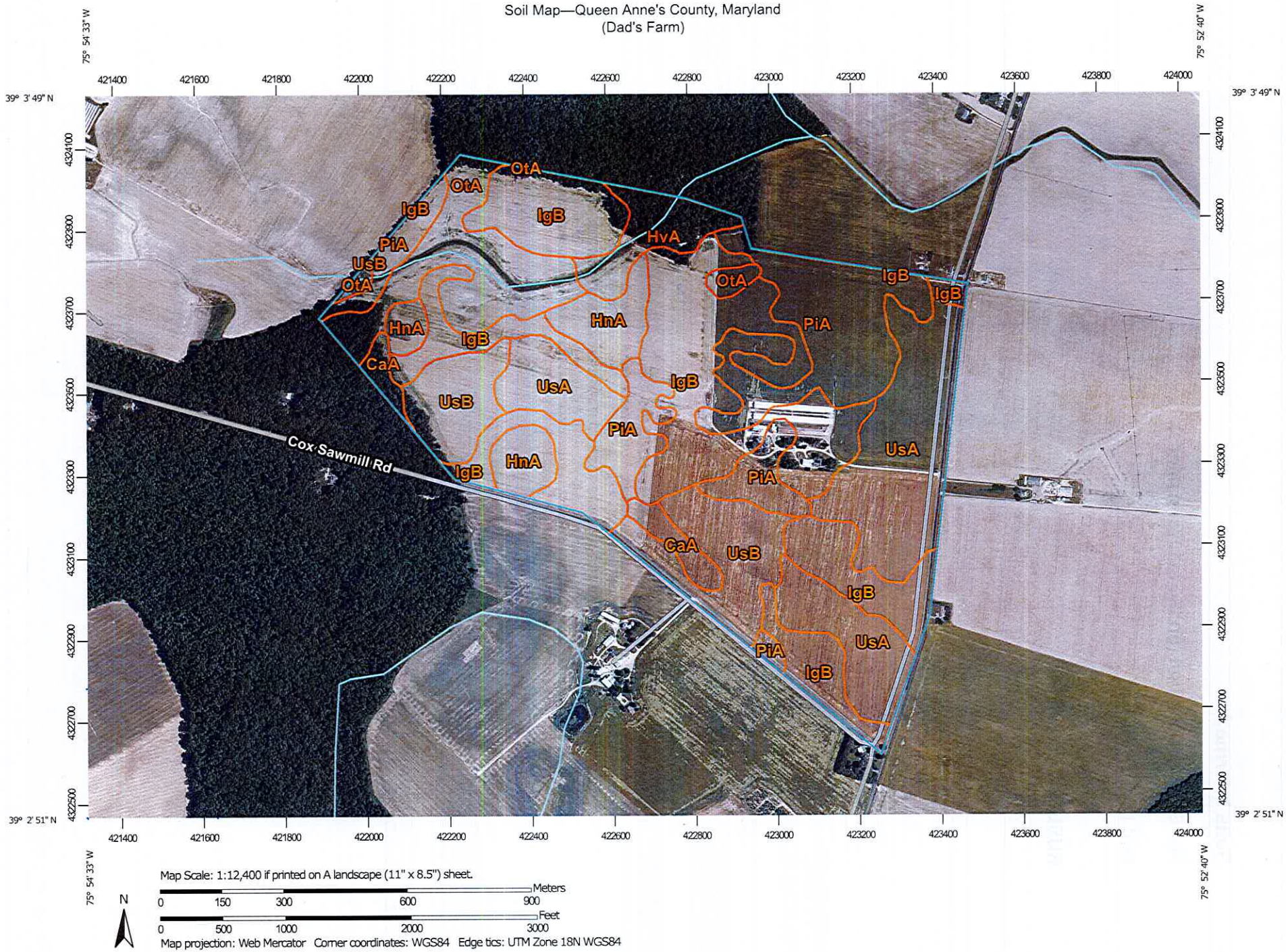
Soils Information

See Soils Info Section (on the following pages)

Soil Descriptions

RUSLE2 Calculations

Soil Map—Queen Anne's County, Maryland
(Dad's Farm)



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CaA	Carmichael loam, 0 to 2 percent slopes	6.5	2.1%
HnA	Hammonton sandy loam, 0 to 2 percent slopes	17.2	5.5%
HvA	Hurlock sandy loam, 0 to 2 percent slopes	11.2	3.6%
IgB	Ingleside sandy loam, 2 to 5 percent slopes	104.5	33.3%
OtA	Othello silt loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain	28.5	9.1%
PiA	Pineyneck silt loam, 0 to 2 percent slopes	54.4	17.3%
UsA	Unicorn-Sassafras loams, 0 to 2 percent slopes	59.7	19.0%
UsB	Unicorn-Sassafras loams, 2 to 5 percent slopes	31.8	10.1%
Totals for Area of Interest		**313.8**	**100.0%**

Map Unit Description (Brief)

Queen Anne's County, Maryland

[Only those map units that have entries for the selected non-technical description categories are included in this report]

Map Unit: Ca - Carmichael loam

Description Category: SOI

The Carmichael component(drained) makes up 35 percent of the map unit. The assigned Kw erodibility factor is .37. Soil drainage has been altered. The slowest permeability within 60 inches is slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 3w. Under natural conditions this component is a hydric soil. The hydrology of this component has been altered for agricultural use.

The Carmichael component (undrained) makes up 30 percent of the map unit. The assigned Kw erodibility factor is .37. This soil is poorly drained. The slowest permeability within 60 inches is slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 4w. This component is a hydric soil.

Map Unit: HnA - Hammonton sandy loam, 0 to 2 percent slopes

Description Category: SOI

The Hammonton component makes up 55 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .32. This soil is moderately well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 30 inches. There are no saline horizons. It is in nonirrigated land capability class 2w. This component is not a hydric soil.

Map Unit: HnB - Hammonton sandy loam, 2 to 5 percent slopes

Description Category: SOI

The Hammonton component makes up 65 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .32. This soil is moderately well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 30 inches. There are no saline horizons. It is in nonirrigated land capability class 2w. This component is not a hydric soil.

Map Unit: Hr - Hurlock sandy loam

Description Category: SOI

The Hurlock component (drained) makes up 35 percent of the map unit. Drained component is Prime farmland. The assigned Kw erodibility factor is .15. Under natural conditions this soil is poorly drained. The slowest permeability within 60 inches is moderately rapid. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 3w. The hydrology of this component has been altered for agricultural use.

The Hurlock component (undrained) makes up 30 percent of the map unit. Prime farmland if drained. The assigned Kw erodibility factor is .15. This soil is poorly drained. The slowest permeability within 60 inches is moderately rapid. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 4w. This component is a hydric soil.

Map Unit: IgA - Ingleside sandy loam, 0 to 2 percent slopes

Description Category: SOI

The Ingleside component makes up 65 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .20. This soil is well drained. The slowest permeability within 60 inches is moderately rapid. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. It is in nonirrigated land capability class 1. This component is not a hydric soil.

Map Unit Description (Brief)

Queen Anne's County, Maryland

Map Unit: IgB - Ingleside sandy loam, 2 to 5 percent slopes

Description Category: SOI

The Ingleside component makes up 60 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .20. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. It is in nonirrigated land capability class 2e. This component is not a hydric soil.

Map Unit: IgC - Ingleside sandy loam, 5 to 10 percent slopes

Description Category: SOI

The Ingleside component makes up 55 percent of the map unit. The assigned Kw erodibility factor is .20. This soil is well drained. The slowest permeability within 60 inches is moderately rapid. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. It is in nonirrigated land capability class 3e. This component is not a hydric soil.

Map Unit: Kn - Kentuck mucky silt loam

Description Category: SOI

The Kentuck component makes up 50 percent of the map unit. The assigned Kw erodibility factor is .24. This soil is very poorly drained. The slowest permeability within 60 inches is very slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 0 inches. There are no saline horizons. It is in nonirrigated land capability class 5w. This component is a hydric soil.

Map Unit: Lo - Longmarsh mucky loam, 0 to 1 percent slopes

Description Category: SOI

The Longmarsh component makes up 65 percent of the map unit. The assigned Kw erodibility factor is .15. This soil is very poorly drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 0 inches. There are no saline horizons. It is in nonirrigated land capability class 5w. This component is a hydric soil.

Map Unit: LZ - Longmarsh and Zekiah soils, 0 to 2 percent slopes

Description Category: SOI

The Longmarsh component makes up 30 percent of the map unit. The assigned Kw erodibility factor is .15. This soil is very poorly drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 0 inches. There are no saline horizons. It is in nonirrigated land capability class 5w. This component is a hydric soil.

The Zekiah component makes up 30 percent of the map unit. The assigned Kw erodibility factor is .43. This soil is poorly drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 5w. This component is a hydric soil.

Map Unit Description (Brief)

Queen Anne's County, Maryland

Map Unit: Ot - Othello silt loam

Description Category: SOI

The Othello component (drained) makes up 35 percent of the map unit. Prime farmland if drained. The assigned Kw erodibility factor is .37. This soil under natural conditions is poorly drained. The slowest permeability within 60 inches is moderately slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 3w. The hydrology of this component has been altered for agricultural use.

The Othello component (undrained) makes up 25 percent of the map unit. Prime farmland if drained. The assigned Kw erodibility factor is .37. This soil is poorly drained. The slowest permeability within 60 inches is moderately slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 4w. This component is a hydric soil.

Map Unit: PiA - Pineyneck silt loam, 0 to 2 percent slopes

Description Category: SOI

The Pineyneck component makes up 50 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .43. This soil is moderately well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This
soil is not flooded and is not ponded. The top of the seasonal high water table is at 27 inches. There are no saline horizons. It is in nonirrigated land capability class 2w. This component is not a hydric soil.

Map Unit: UsA - Unicorn-Sassafras loams, 0 to 2 percent slopes

Description Category: SOI

The Unicorn component makes up 45 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .32. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. There are no saline horizons. It is in nonirrigated land capability class 1. This component is not a hydric soil.

The Sassafras component makes up 25 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .28. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The water table is deeper than 6 feet. There are no saline horizons. It is in nonirrigated land capability class 1. This component is not a hydric soil.

Map Unit: UsB - Unicorn-Sassafras loams, 2 to 5 percent slopes

Description Category: SOI

The Unicorn component makes up 35 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .32. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 57 inches. There are no saline horizons. It is in nonirrigated land capability class 2e. This component is not a hydric soil.

The Sassafras component makes up 30 percent of the map unit. All areas are prime farmland. The assigned Kw erodibility factor is .28. This soil is well drained. The slowest permeability within 60 inches is moderate. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The water table is deeper than 6 feet. There are no saline horizons. It is in nonirrigated land capability class 2e. This component is not a hydric soil.

Map Unit Description (Brief)

Queen Anne's County, Maryland

Map Unit: Wh - Whitemarsh silt loam

Description Category: SOI

The Whitemarsh component makes up 30 percent of the map unit. The assigned Kw erodibility factor is .49. This soil is poorly drained. The slowest permeability within 60 inches is slow. Available water capacity is very high and shrink swell potential is low. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. There are no saline horizons. It is in nonirrigated land capability class 4w. This component is a hydric soil.

RUSLE2 Related Attributes

Queen Anne's County, Maryland

Map symbol and soil name	Pct. of map unit	Hydrologic group	Kf	T factor	Representative value		
					% Sand	% Silt	% Clay
Ca:							
Carmichael	35	C/D	.37	4	45.3	43.2	11.5
Carmichael	30	C/D	.37	4	45.3	43.2	11.5
HnA:							
Hammonton	55	B	.20	5	68.5	24.0	7.5
HnB:							
Hammonton	65	B	.20	5	68.5	24.0	7.5
Hr:							
Hurlock	35	B/D	.20	5	67.8	23.7	8.5
Hurlock	30	B/D	.20	5	67.8	23.7	8.5
IgA:							
Ingleside	65	B	.20	5	67.8	23.7	8.5
IgB:							
Ingleside	60	B	.20	5	67.8	23.7	8.5
IgC:							
Ingleside	55	B	.20	5	67.8	23.7	8.5
Kn:							
Kentuck	50	C/D	.37	5	13.9	70.1	16.0
Lo:							
Longmarsh	65	D	.02	5	45.3	43.2	11.5
LZ:							
Longmarsh	30	D	.02	5	45.3	43.2	11.5
Zekiah	30	D	.37	5	32.3	56.2	11.5
Ot:							
Othello	35	C/D	.49	5	11.2	67.3	21.5
Othello	25	C/D	.49	5	11.2	67.3	21.5
PiA:							
Pineyneck	50	B	.37	5	30.9	56.6	12.5
UsA:							
Unicorn	45	D	.37	5	45.6	43.4	11.0

RUSLE2 Related Attributes

Queen Anne's County, Maryland

Map symbol and soil name	Pct. of map unit	Hydrologic group	Kf	T factor	Representative value		
					% Sand	% Silt	% Clay
UsA:							
Sassafras	25	B	.37	5	47.2	45.3	7.5
UsB:							
Unicorn	35	D	.37	5	45.6	43.4	11.0
Sassafras	30	B	.37	5	47.2	45.3	7.5
Wh:							
Whitemarsh	30	C/D	.37	4	20.9	68.1	11.0
Whitemarsh	30	C/D	.37	4	20.9	68.1	11.0

USDA NRCS Natural Resources Conservation Service

Rusle Program Version:
Rusle Science Version:
Data Base:

RUSLE2 Erosion Calculation Record

File: plans\Eck
Access Group: R2_NRCS_Fld_Office

Inputs:

Owner name	*Location*	*Info*
Mark Eck	**Maryland\Queen Annes County**	**Dad's Farm (T7075)**

Field name	*Soil*	*Slope T Value*	*Slope length, ft*	*Slope steepness, %*
T7075-2A,2B,4	Queen Anne's, MD\IgB Ingleside sandy loam, 2 to 5 percent slopes\Ingleside sandy loam 60%	5.0	300	4.0
T7075-6	Queen Anne's, MD\PiA Pineyneck silt loam, 0 to 2 percent slopes\Pineyneck silt loam 50%	5.0	300	1.0

Results:

Field name	*Description*	*Management*	*Contouring system*	*Support practices*	*Terrace/diversion system*	*Cons. plan. soil loss, t/ac/yr*	*Sed. delivery*	*Fuel cost, US$/ac*
T7075-2A,2B,4	cropland	temp\Eck_C,CC,C,WdcSoybeans	default	-- none --	-- none --	0.53	0.53	23.1
T7075-6	cropland	temp\Eck_C,CC,C,WdcSoybeans	default	-- none --	-- none --	0.31	0.31	25.6