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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
JUN - 2
AFO DIVISION

General Information

AI Number: 134866

1. LEGAL Name of Applicant *(must match name on required plan)*:
CAL-MAINE FOODS, INC

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:** 795 Woods Mill Rd
   City: Worcester **State:** MD **Zip Code:** 21812

6. **Telephone Number(s) of Applicant:** ~~(Home)~~ Office
   (Cell)
   (Cell)

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)*: CAL MAINE milrington Layers

9. **Farm Address:** 33205 Walnut Tree Rd
   City: Millington **County:** Kent **Zip Code:** 21651

10. **Watershed/Hydrologic Unit Code (HUC)** (12-digit): 02 130 5700 427

11. **Latitude/Longitude of Production Area** (Deg/Min/Sec): 39 - 17 - 6.5 / 75 - 48 - 32.6

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)*
Laying Hens / dry	676,512	large	Houses

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

13. ***Number of poultry houses:** 4 (3 additional building pads remain)

14. ***Combined square footage of *all* poultry houses:** 81,000

15. ***Date(s) poultry houses constructed:** 2011 to 2013

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

   Contact Information:
   Phone No.: _____
   Address: _____

Manure/Mortality Management

17. Total Manure/Litter/Wastewater generated *annually*: 13,327 *circle one:* (tons) / lbs (gallons)
1,099,000 Egg wash water

18. Total Manure/Litter/Wastewater transported offsite *annually*: 13,327 *circle one:* (tons) / lbs (gallons)
1,099,000 Egg wash water

19. **Total number of acres controlled by applicant available for land application of manure/litter/process wastewater: *Owned:* 257 *Leased:* 257

***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
Shed (4)	270,400 ft3	solid
Lagoon	593,609	liquid

21. Mortality Management Method:

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

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. Provide the EJ Score resulting from the use of a Maryland EJ tool for the census tract where an applicant is seeking a permit. The EJ Score can be generated using MDE's EJ Screening Tool at: https://mdewin64.mde.state.md.us/EJ/.

22. EJ Score:	67.12

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.

John F Svrnak

Signature of Applicant / duly authorized representative

5/21/25

Date

Robert F Svrnak

Printed Name of Applicant / duly authorized representative

operations mgr.

Title

AFO Size Chart

Animal Type	Circumstances under which Animal Feeding Operations Require Permit Coverage		
	CAFO or MAFO Registration Required Large	CAFO/MAFO Registration Required under Certain Circumstances Medium	Registration Needed Only if Designated 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 ft²	37,500—124,999 animals *and* less than total house size of 100,000 ft²	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

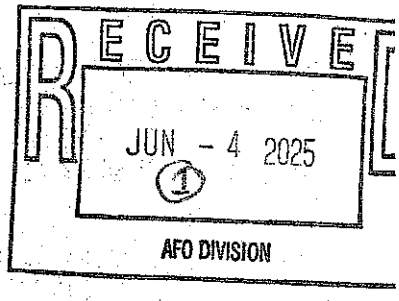
web.

USDA

Comprehensive Nutrient Management Plan

Cal-Maine Foods, Inc.
1052 Highland Colony Pkwy, Ste 200
Ridgeland, MS 39157

Farm Office Location:
1526 Cecilton Warwick Road
Warwick, MD 21912



Plan developed by:
Name: David Kann
Address: PO Box 1011
East Berlin, PA 17316
Phone:
E-mail:

Cecil
Soil Conservation District
105 Chesapeake Blvd
Elkton, Maryland 21921
410-398-4411 x3

Plan Written/Revised: 12/13/2024 [original(s) 1/23/2021; 12/2013]

Type of Plan: ☑ Land ☒ No-Land

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

AI Number: 22189 (Warwick); 134866 (Millington Layer); 130331 (Millington Pullet)

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: 12/13-24

Name *(print)*: William J. Stevens

Cal-Maine Operations Manager Signature: _____ Date: 12/13/24

Name *(print)*: John F Swack

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: 12/13/2024

Name: David D. Kann

Title: Engineering Technician / Environmental Planner
Company: AET Consulting, Inc.

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
Biosecurity
Chemical Handling
Animal Mortality Management
Biosecurity
Poultry Facility Operation & Management
Maps of the Agricultural Operation *Farmstead and Production Area Information* *Manure Generation Calcs* *Manure and Wastewater Handling and Storage* *Soil Descriptions and Soil Loss Calcs*
Implementation Schedule & Responsibility Guide
Nutrient Management Plan (NMP) *University of Maryland Crop Nutrient Recs based on Soil Fertility* *Summary of Nutrient Recommendations* *Manure/Litter Test Results*
Emergency Action Plans

Techniques in collecting a Manure Analysis & Application Equipment Calibration Procedures
Maryland Department of Agriculture Nutrient Management Requirements
Required Record Keeping (template forms)
Appendix: Additional Supporting Information • Resource Concerns Identification Worksheets

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, will be updated before the expiration date. 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:

Rob Dvorak
1526 Cecilton Warwick Road
Warwick, MD 21912

410-755-6300

Production Area 1: 39°24'25.9"N 75°48'19.4"W
Production Area 2: 39°23'58.9"N 75°48'07.2"W
Production Area 3: 39°23'41.1"N 75°49'11.0"W
Production Area 4: 39°17'02.9"N 75°48'32.0"W
Production Area 5: 39°16'44.2"N 75°47'36.1"W

CNMP - Consultant information:

David D. Kann
PO Box 1011
East Berlin, PA 17316
(717) 792-1274
CCP #: 259
License Number: 2175

NMP – Consultant information:

Don Moore
2677 telegraph Road
North East, MD 21901
410-620-0275
Cert.#: 1048

Nutrient Management Plan Narrative:

Cal-Maine Foods purchased ISE America in 2024. The farm operation continues to be an integrated egg laying and production operation. The operation has nearly 2.5 million layers in the state of Maryland plus additional pullets, for future replacement flocks, as well as their own feed mill and shell egg processing plants.

The facilities are world-class, matching the state of the art for the industry. All hens are in environmentally controlled houses, directly set up for "in line" processing, from the laying house to the MOBA or Diamond egg grading equipment.

At each of the processing locations, eggs are reviewed by Cal-Maine personnel and by the automatic machines equipped with crack, dirt, and blood detectors.

Every egg is washed, sanitized, weighed, processed and packed within hours from the time of lay. And every facility is state of the art and monitored by full time USDA resident inspectors.

Founded in 1957 and headquartered in Ridgeland, Mississippi; Cal-Maine Foods, Inc. is the largest producer and distributor of fresh shell eggs in North America.

County Location: Cecil and Kent
CODE: 0096
CODE: 0097
CODE: 0058

Property ID	Acct ID Acres	Farm	Plan Acres	County	Watershed	MDE AI Number
	187.5	Warwick North (Layer)	0	Cecil	0097	22189

	164.1	Warwick South (Layer)	0	Cecil	0096	22189
[redacted]	159.9	Warwick Pullet	0	Cecil	0096	22189
	175.5 178	Crawford	125.0	Cecil	0096	
	425.0	Millington (Layer)	0	Kent	0058	134866
	76.3	Millington Pullet	0	Kent	0058	130331
	76.3	Walnut Tree Road	117.7	Kent	0058	

TOTAL ACRES UNDER PLAN ***242.7***

Farm Name	CAL-MAINE FOODS, INC.
Mailing Address	1052 HIGHLAND COLONY PKWY, SUITE 200 RIDGELAND, MS 39157
Farm Address	1526 Cecilton Warwick Road, Warwick, MD 21912
Farm Phone	
Directions to Farm	**South on RT 213 (North Bohemia Ave). Turn left in Cecilton onto RT 282 (Cecilton Warwick Road), head east 2 mile. Entrance on right.**

Farm Contacts

	Name	Daytime Phone	Farm Phone	email
Farm Owner	Cal-Maine Foods, Inc.			
Area Manager	Judd Stevens			
Farm Operator	Rob Dvorak			
Fire or Ambulance	**911**	**911**	**911**	**911**

Agency Contacts

Contact Agency	Person / Office	Day Phone	Emergency Number
Health Department	County Office	410-996-5550	
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. Jennifar Trout	1-866-536-7593 410-841-5810	410-841-5971 after hours

Sheriff's Office	Sheriff Scott Adams Cecil County, Elkton, MD	410-996-5500	
NRCS	County Office 105 Chesapeake Blvd, Elkton, MD 21921	410-398-4411 x3	
U of MD Extension	County Office	410-996-5280	
MDA Nutrient Management	Headquarters	410-841-5959	1-800-492-5590
MDA Nutrient Management	Regional office 50 Harry S Truman Pkwy Annapolis, MD 21401	410-991-3114	
AET Consulting, Inc.	David Kann	717-792-1274	

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 from containment areas or structure failures:

1. Stop all other activities to address the problem;
2. Call for assistance, if needed;
3. Construct sand bag or earthen dike to contain or divert spills away from surface inlets, roadways, and surface water features. Add absorbent material such as pads, sawdust, straw or dry soil as needed for containment.
4. Remove spill from diked area with appropriate equipment such as: vacuum tank, front-end loader and spreader, or other method as directed by local or state authorities.
5. Complete the clean-up and repair the necessary components.
6. Initiate additional containment measures, corrective measures, or property restoration measures as directed by emergency agency officials.

Spills during pumping operations:

1. Shut off all pumping equipment.
2. Build a sand bag or earthen dike.
3. Remove spill from diked area with appropriate equipment such as: vacuum tank, front-end loader and spreader, or other method as directed by local or state authorities.
4. If the spill was due to a structural failure, contact the local NRCS office immediately for repair recommendations.

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.

In Case of an Emergency Land Application Manure/Waste Discharge

CNMP EMERGENCY RESPONSE (CONT.)

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)

In Case of an Emergency Land Application Manure/Waste Discharge

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 an Emergency Land Application Manure/Waste Discharge

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

1. Stop all other activities to deal with the emergency.
2. Stop manure pumps and irrigation equipment. Close valves. Separate pipes to create air gap if necessary to stop manure flow.
3. Assess the extent of the emergency and determine how much help is needed.
4. Call for help if needed.
5. If spilled on the road, call the sheriff's office for traffic control and clean the spill immediately from the road and roadside if needed.
6. Contain the spill or runoff from entering the stream or waterway using straw bales, saw dust, or soil material.
7. Prevent further runoff by incorporating the waste.
8. Initiate additional containment measures, corrective measures, or property restoration measures as directed by emergency agency officials.

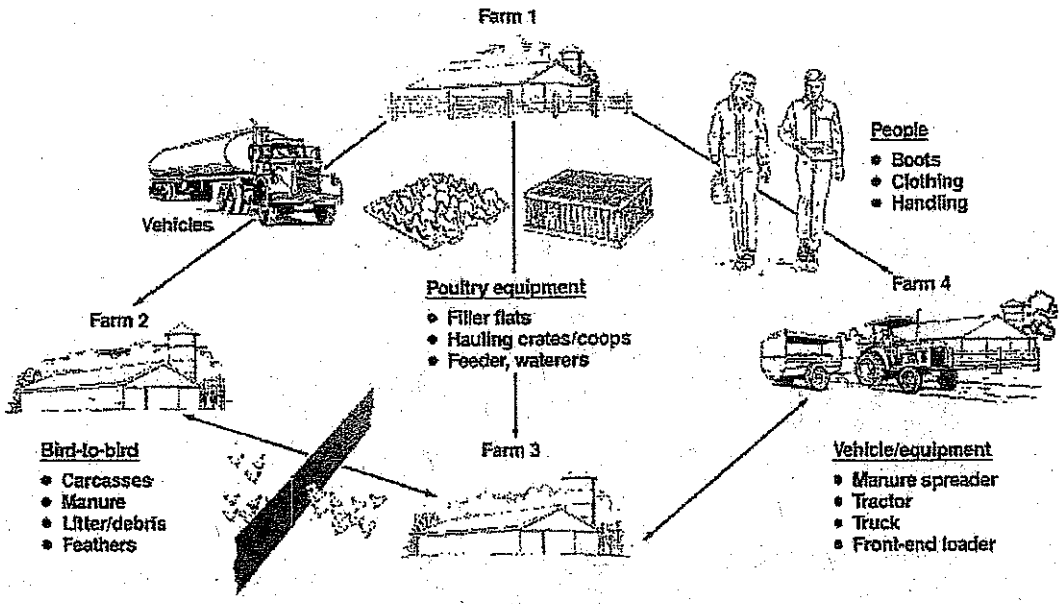
Follow the above guidelines for:

- **Assessing the extent of the spill and noting obvious damages**
- **Provide information when reporting the emergency**
- **Documentation of your farm operation records**

Biosecurity

Biosecurity means doing everything possible to protect the health of livestock by preventing the transmission of disease. An outbreak of animal disease could not only harm your livestock, it could effect other nearby animals and quickly spread through your area. The economic consequences of a disease outbreak could be devastating. Taking common sense precautions to prevent disease from coming onto your farm is the best investment you can make.

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
    a. Keep a pair of shoes or boots to wear only around your animals.
    b. Clean and disinfect your shoes often.
    c. Always ask visitors and employees to clean their boots and shoes.

3. Don't Haul Home Disease
    a. Always clean and disinfect vehicles used for moving animals.
    b. Limit traffic of incoming people, products and vehicles that could bring in a disease.
    c. Clean and disinfect all equipment that comes in contact with your animals.

4. Keep Your Farm Secure
    a. Restrict access to your property and animals.
    b. Keep doors and gates locked.

c. 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. As an added protection, isolate and quarantine new animals for 30 days before putting them with your other animals. Keep show animals segregated for at least two weeks after they've been to a fair or exhibit.

6. Look for Signs
   a. Unusual animal health symptoms or behavior
   b. Sudden, unexplained death loss in the herd or flock
   c. Severe illness affecting a high percentage of animals
   d. Blisters around an animal's mouth, nose, teats or hooves
   e. Staggering, falling or central nervous system disorders that prevent animals from rising or walking normally.
   f. 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.

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.**

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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

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.

The purpose of this CNMP is to present options to manage normal, day-to-day mortalities and even catastrophic mortalities should this occur. Planning for a catastrophic mortality event should include the study of appropriate regulations, locating a site for disposal, and having insurance to cover the cost involved.

Mortality Management Methods

Mortality must be managed for at least three reasons:

1. Hygiene
2. Environmental protection
3. Aesthetics

Acceptable ways for managing mortality include:

1. Rendering
2. Composting
3. Incineration
4. Sanitary landfills
5. Burial
6. Disposal pits

Of these methods, only the rendering and composting methods recycle the nutrients. The other methods, in essence, waste the nutrients.

This farm operation will use composting for normal mortality and composting for catastrophic mortality. See below:

Composting – Poultry

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%.

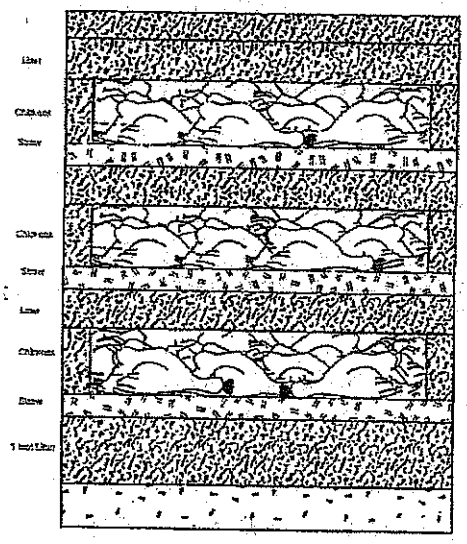
Sufficient oxygen for an aerobic environment.
A pH in the range of 6 to 8.

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).

Recipe for composting broiler mortality

INGREDIENT	VOLUME	WEIGHTS
Straw	1.0	0.10
Carcasses	1.0	1.0
Litter	1.5	1.2
Water	0.5	0.75

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.

After this first stage process, the material should be turned into a second bin and allowed to go through a second heat process. For larger birds, especially turkeys, a third turning may be necessary for complete degradation of the birds. Typically, the process can be considered "done" within 21-28 days from the time the compost is filled for broilers. For turkeys, the process usually requires about 60 days. After the heat process, curing period of one to three months is usually required before the material is stable. Compost may be land applied after the secondary or tertiary composting. If any animal parts are still in the mix, the material must be incorporated. If immediate application is not possible the material should be stored using the same requirements as that of stored litter in the Stacking Shed O&M statement.

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.

Operation and Maintenance

This section addresses the operation and maintenance of the manure management system, conservation practices, soil testing, manure/compost testing, and equipment calibration.

Operation and maintenance of structural, non-structural, and land treatment measures requires effort and expenditures throughout the life of the practice to maintain safe conditions and assure proper functioning. Operation includes the administration, management, and performance of non-maintenance actions needed to keep a completed practice safe and functioning as planned. Maintenance includes work to prevent deterioration of practices, repairing damage, or replacement of the practice if one or more components fail. Listed below is the operation and maintenance for the structural, non-structural, and land treatment measures for your farm system.

Item Specific Operation and Maintenance

Any specific items will be addressed in the Waste Management and O&M Plan for the Waste Storage Facility.

Vector Control and Abatement

Management and sanitation are the real keys to preventing or eliminating any vectors' problems. If these weaknesses are not addressed, the problems will recur. Pesticides are the final tools in controlling the problem.

Most problems with insects (such as flies), rodents (such as rats and mice) and scavenging animals, (such as dogs, cats, foxes, possums, raccoons, etc.) can be minimized by keeping the facility and surroundings clean and properly maintained. This includes:

- Removing all excess building materials.
- Removal of any excess feed from the houses or around bins.
- Keeping grass and weeds mowed
- Keeping all buildings free of trash and debris.
- The proper use and servicing of bait stations.
- Proper and timely disposal of dead animals.
- Keeping all manure cleaned up caused by spillage from around the houses. Keep all temporary stored manure covered and dry.
- Any spillage of feed should be cleaned as soon as possible and all feed will be kept dry. Covers on feed storage bins should be used. Drainage away from all feed storage containers should be provided to reduce moisture accumulation.

Actions to be taken for the abatement of an <u>insect problem</u>:

- Mow vegetation around facility.
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Check for leaks from waterers, etc. and repair as needed.
- Remove any garbage or trash from the facility.
- Remove and dispose of all dead animals immediately and appropriately.
- Use approved baits, poisons, etc. as appropriate.

Actions to be taken for the abatement of a <u>rodent problem</u>:

- Mow vegetation around facility.
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Remove all excess building materials.

- Remove any garbage or trash from the facility.
- Check for damage or leaks from waterers, etc. and repair as needed.
- Remove and dispose of all dead animals immediately and appropriately.
- Use approved baits, poisons, etc. as appropriate.

Actions to be taken for the abatement of scavenging animal problems:

- Remove and dispose of all dead animals immediately and appropriately.
- Mow vegetation around facility
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Remove all excess building materials.
- Remove any garbage or trash from the facility.
- Check for digging activities that could damage or weaken buildings and repair as needed.
- Contact the proper officials for additional control measures.

For more details on specifics (rats, filth flies, etc.) information may be obtained from the Maryland Agricultural Extension Offices or the NRCS office.

Air Quality

NRCS does not have specific technical criteria for these considerations that are required for CNMPs. However, the following items may be considered when addressing Air Quality, most Air Quality issues are associated with odor.

Air quality in and around structures, waste storage areas, and treatment sites may be impaired by excessive dust, gaseous emissions such as ammonia, and odors. Poor air quality may impact the health of workers, animals, and persons living in the surrounding areas. Ammonia emissions from animal operations may be deposited to surface waters, increasing the nutrient load to these regions. Proper sitting of structures and waste storage facilities can enhance dispersion and dilution of odorous gases. Enclosing waste storage or treatment facilities can reduce gaseous emissions from AFO in areas with residential development in the region.

For an odor to be detected downwind, odorous compounds must be (a) formed, (b) released to the atmosphere, and (c) transported to the receptor site. These three steps provide the basis for most odor control. If any one of the steps is inhibited, the odor will diminish.

A. Growing and Storage Facilities

Odor problems can be prevented or reduced through adequate drainage, runoff management, proper care to keep animals and animal facilities clean and dry, and appropriate animal by-product removal, handling, and transport.

Locate animal by-product management facilities and utilization areas as far as practical from neighboring residences, recreational areas, or other conflicting land uses. Avoid sites where radical shifts in air movement occur between day and night, such as those near large bodies of water or steep topography. A component's location in relation to surrounding topography may also strongly influence

the transfer of odor because of daily changes in temperature and resulting airflow. To provide optimum conditions, prevailing winds should carry odors away from nearby residences.

Providing conditions or design features that alter the microclimate around specific components can further mitigate odor. An abundance of sunlight and good ventilation helps keep livestock and poultry areas dry and relatively odor free. Southern exposure with adequate slope to provide drainage for runoff is a preferred condition. Keeping animal by-products aerated and at appropriate moisture and temperature levels slows the development of anaerobic conditions and reduces odor.

B. Mitigation of Odor

Odor-causing substances from animal by-products are frequently attracted to dust particles in the air. Collecting or limiting the transport of dust aids in reducing odor. Vegetation is very effective in trapping dust particles. For example, pine trees planted downwind trap odor-laden dust particles and can provide a visual barrier to the animal operation. In addition, vegetation, landform, and structures can channel wind to carry odors away from nearby residences.

Chemical additives for the control or reduction of odors may be added to the bedding in the house or during removal.

C. To reduce Odor Problems during Spreading

1. Avoid spreading when wind will blow towards populated areas.
2. Avoid spreading just before weekends and holidays when people are more likely to be outdoors.
3. Spread in the morning when the air is warming and rising, rather than in the afternoon.
4. Animal waste applied to the soil surface should be incorporated within 24 hours of application to reduce odor, minimize surface runoff and maximize nutrient availability to the subsequent crop. Optimum incorporation time is 12 hours.
5. Injection of animal wastes beneath the soil surface is the preferred method of application.

D. Safety

1. Fencing should be provided to prevent livestock and people from entering the agriculture waste facility.
2. All waste storage structures must be posted with a ~caution~ sign Example- **DANGER - KEEP OUT.** If you do not have a sign, one can be provided.
3. Manure produces gases - caution should be taken so as not to be overcome by such gases *(Gas masks are not adequate protection).

E. Structure Maintenance*

1. 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. Refer to safety items Part A above.
2. Check walls and floors often - minimum of 2 times a year when facility is empty - for cracks and/or separations. Make needed repairs immediately. Refer to safety items Part A above.
3. 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. Leakage may be detected by the color and smell of the out-flowing liquid, by lush dark-green growth of vegetation around the

outlet, by the growth of algae in the surface ditch, or by the vegetation being killed by the out-flowing liquid. If leakage is detected, repairs should be planned and made to prevent the possible contamination of groundwater. Refer to safety items Part A above, when planning and making repairs.

4. To prevent erosion, a good vegetative cover should be established and maintained on berms and embankments. Plantings should be clipped 3 times a year to kill noxious weeds and encourage vigorous growth. If the vegetative is damaged, berms and embankments will need to be re-vegetated as soon as possible.
5. Fences should be inspected and maintained in order to exclude livestock from the berms and embankments and to exclude unauthorized entry by people.
6. Check the channels and berms of the clean water diversions around the barnyard, buildings and storage structure frequently. Channels must be protected from erosion and berms must be maintained at the proper height to ensure adequate capacity. These channels and berms should not be used as haul roads unless they are designed and constructed for this purpose.
7. Check frequently for burrowing animals around buildings, structures, and in the berms and embankments. Remove them when they are found and repair any damage.
8. Inspect haul roads and approaches to and from the storage facility frequently to determine the need for stone, gravel or other stabilizing material.
9. Do not allow runoff from loading areas and from spills to flow into streams or road ditches.
10. Examine and repair all warning and hazard signs as needed.
11. Install and maintain a marking gauge post, which clearly shows the design levels of one-half and full for manure storage pits, ponds, and lagoons.
12. Clear blockages from roof gutters and outlets as needed.
13. Landowner should notify the Soil Conservation District of any major problems or repairs needed.
14. Roof of feed area must be maintained and operate as intended for the life of the practice (15 years). The function of the roof is critical since the manure storage facility is sized accordingly.

F. Miscellaneous

1. A Soil Conservation District representative will make an annual inspection.
2. Owner/operator fully understands that cost-share agencies can ask for a refund of money received, if an operation and maintenance plan is not followed by the owner/operator.

Maps of the Agricultural Operation

Maryland Sites (1-5)

1. Warwick North & office: 1526 Cecilton-Warwick Road, Warwick, MD

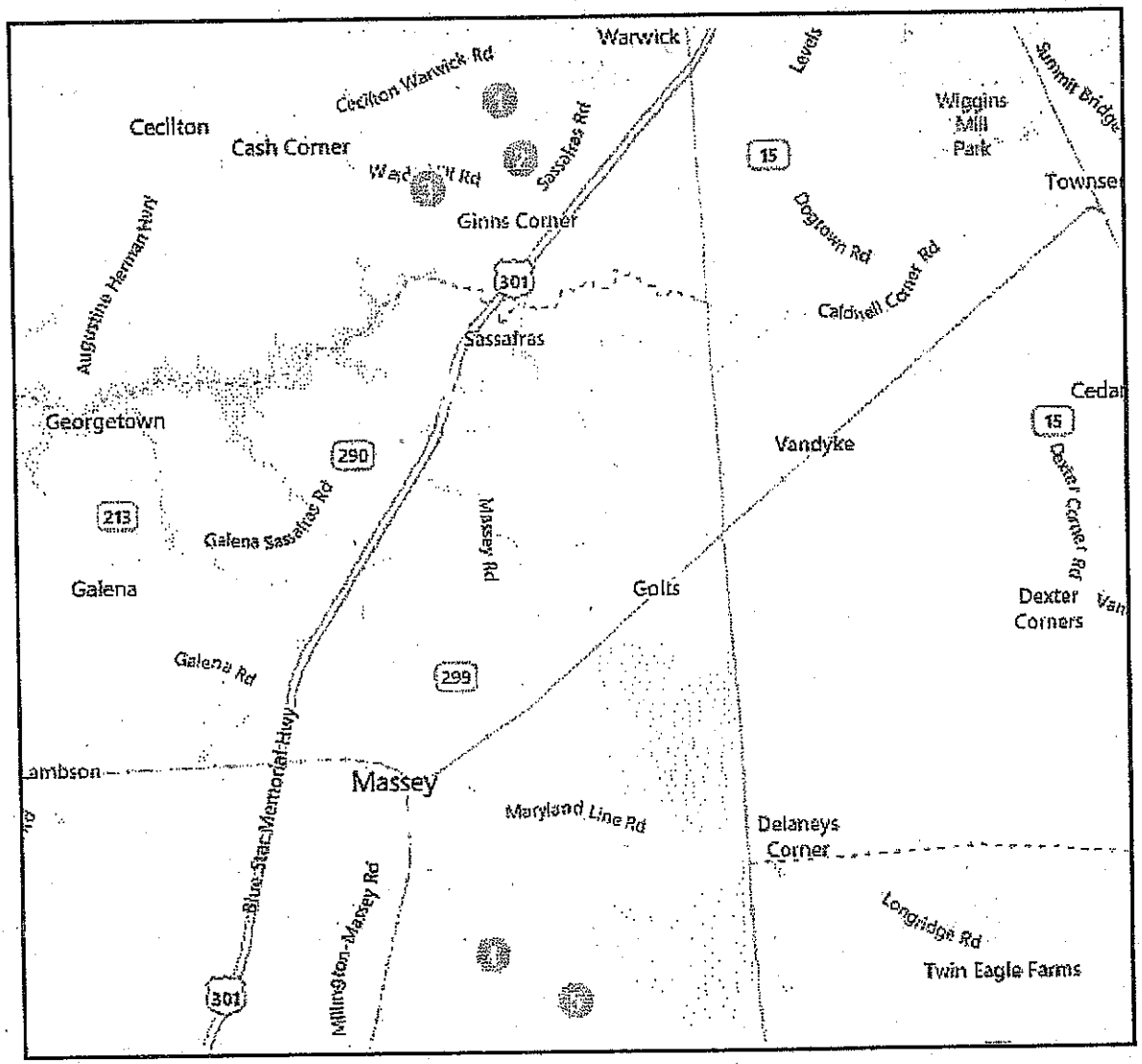
2. Warwick South: 605 Sassafras –Warwick Road, Warwick, MD

3. Warwick Pullet: Wards Hill Road, Warwick, MD

4. Millington Layer: 33179 Walnut Tree Rd, Millington, MD

5. Millington Pullet: 10782 Big Stone Road, Millington, MD

LOCATION MAP



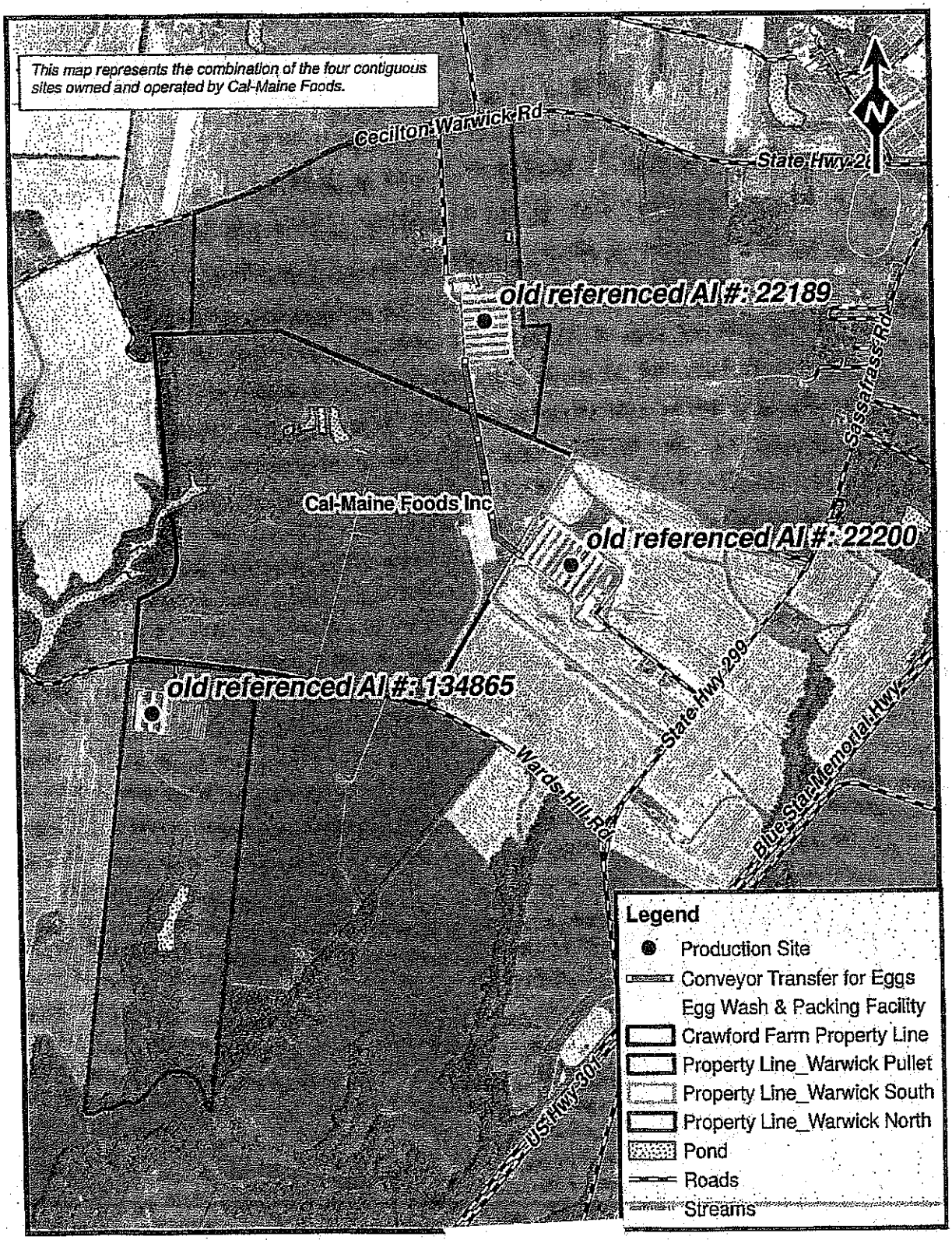
Production Facility Site Sketch/Data

FARMSTEAD (Production Areas)

This element addresses the components and activities, existing and planned, associated with the production facility, feedlot, manure and wastewater storage and treatment structures and areas, and any area used to facilitate transfer of manure and wastewater.

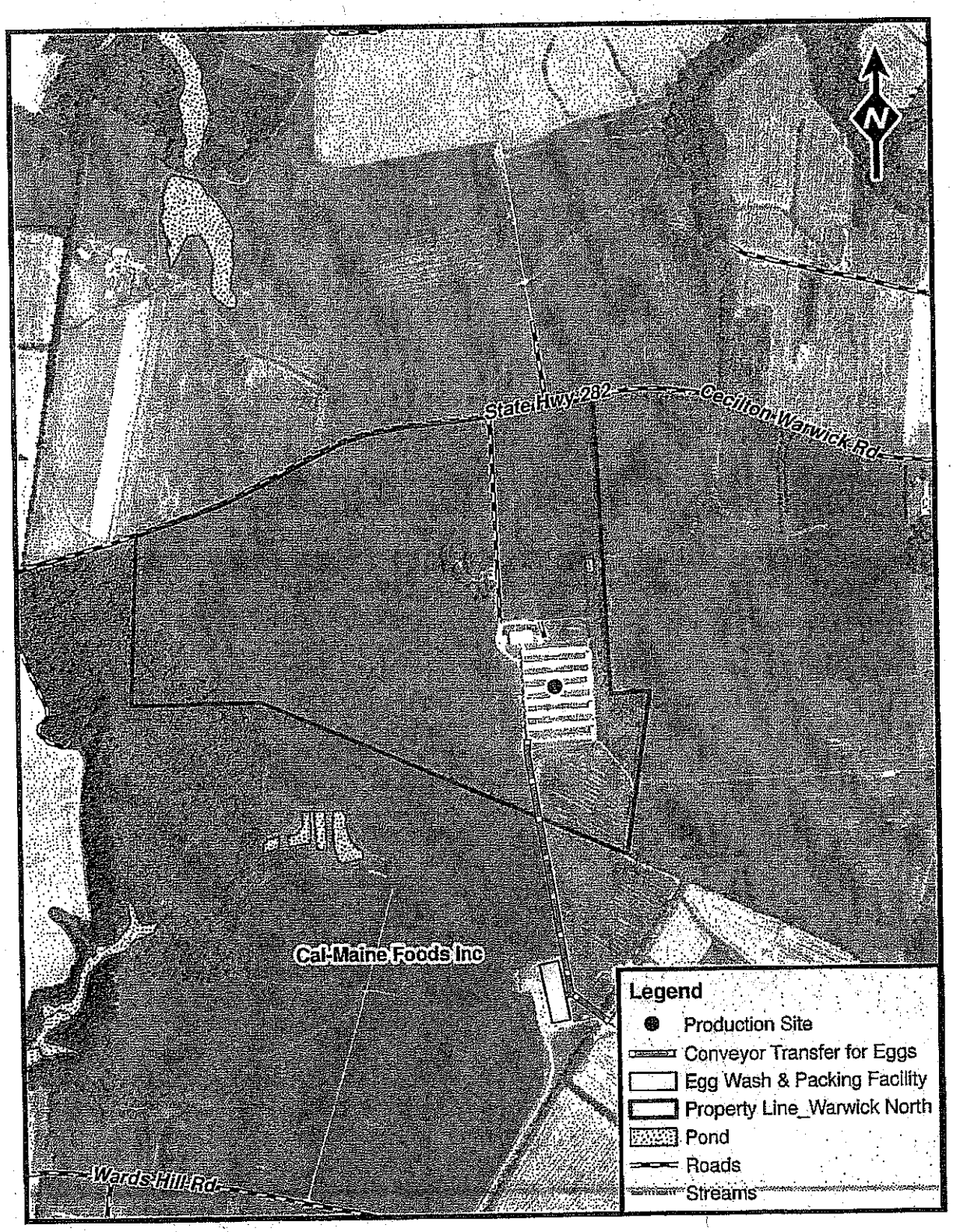
Cal-Maine Foods Inc

AI Number: 22189



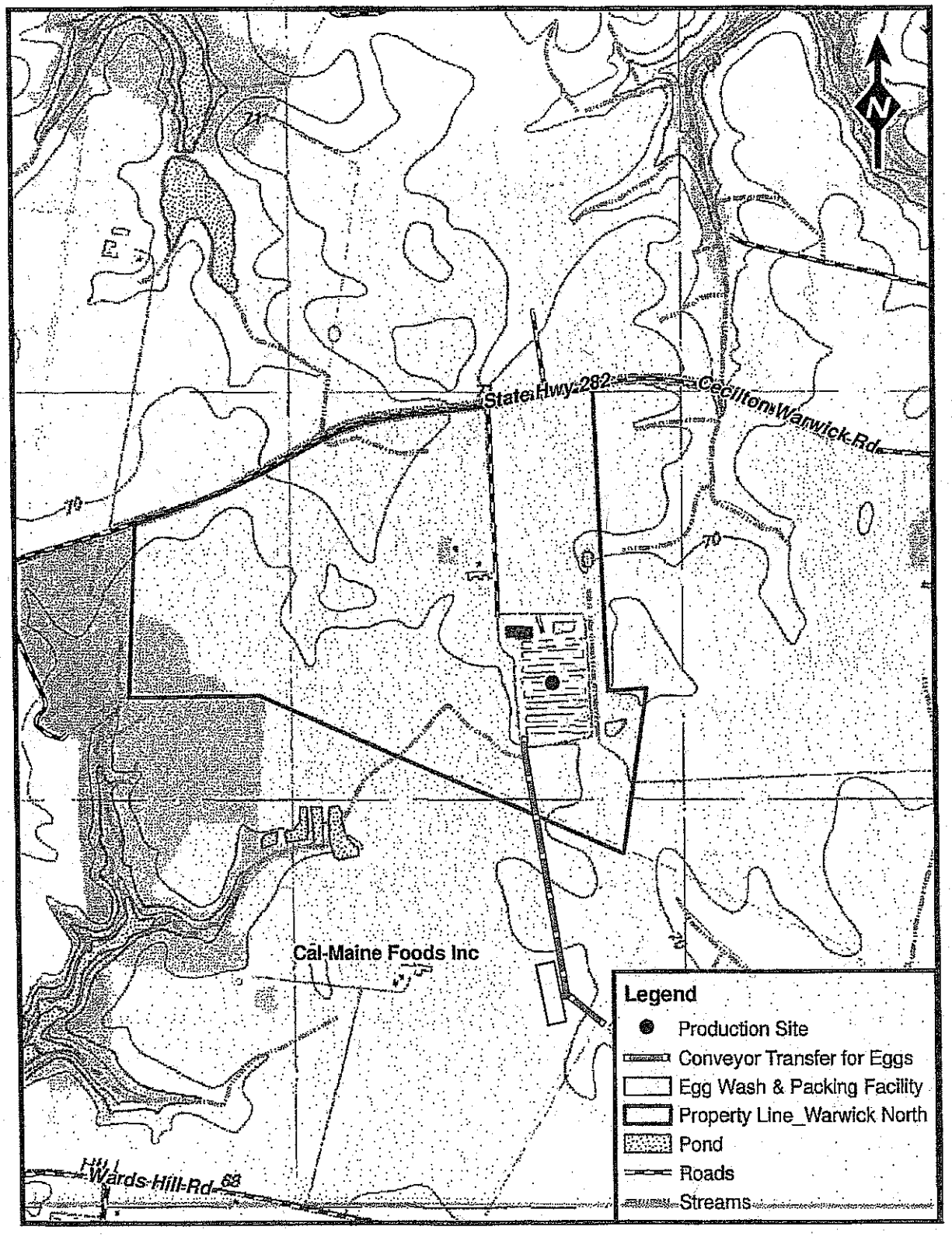
Cal-Maine Foods Inc

Warwick North - AI Number: 22189



Cal-Maine Foods Inc

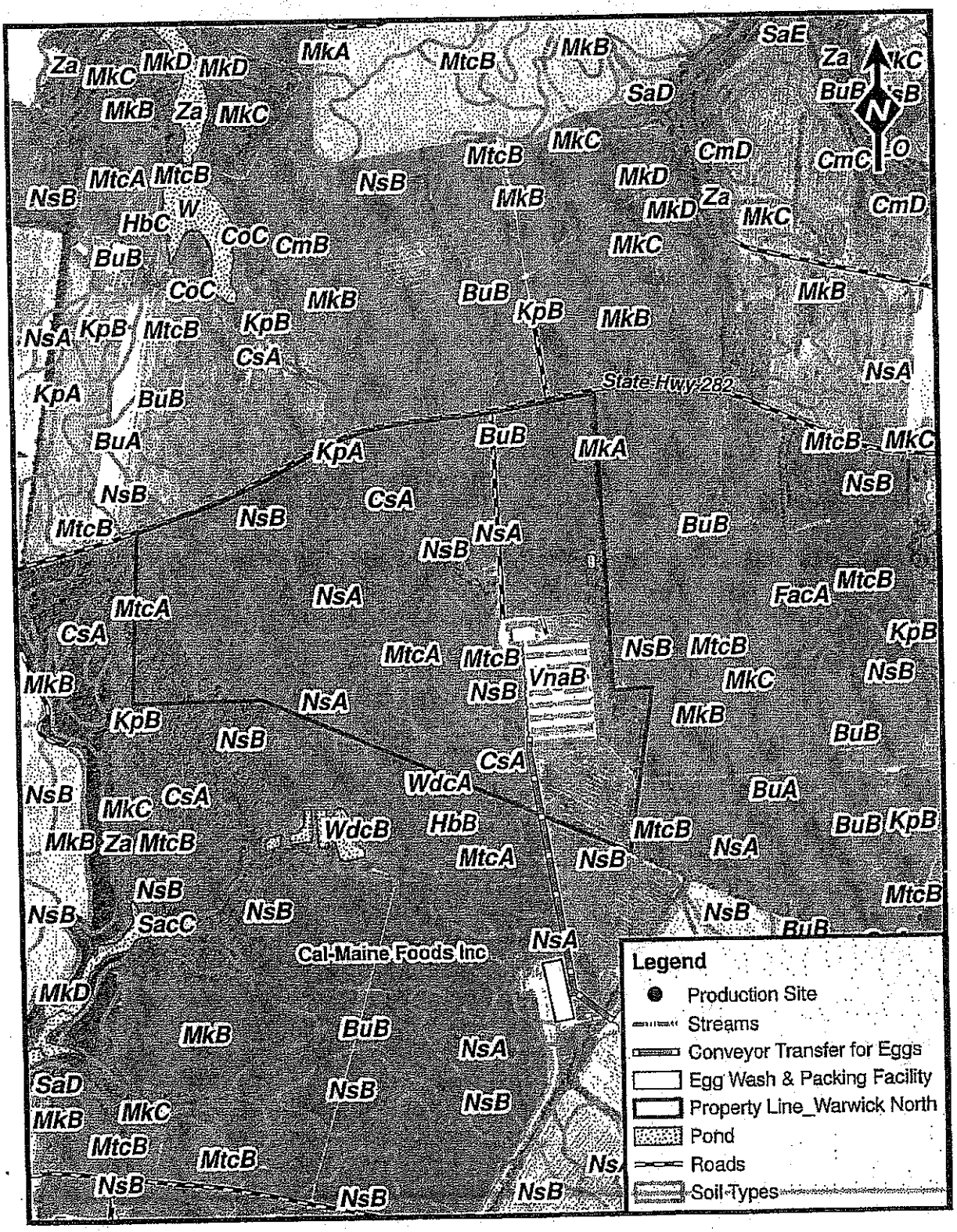
Warwick North - AI Number: 22189



0 320 640 1,280 1,920
Feet

Cal-Maine Foods Inc

Warwick North - AI Number: 22189



Site	MDE AI#	Site Name	Address
1	22189	Warwick North	1526 Cecilton-Warwick Road Warwick, MD 21912

Warwick North

	Site 1
Animal Type	Layers
Number of Animals (Capacity of each Structure):	House 1: 100,200 House 2: 100,200 House 3: 100,200 House 4: 100,200 House 5: 100,200 House 6: 100,200 House 7: 100,200 *House 8: 100,200 (proposed)*
Number of Structures (Per Animal Type)	Total of 7 (each house measures 52'x 530') *Proposed 8 house 52' x 412, w/ the remainder 52'x110'x 10' for manure storage*
Time In Location:	Year round
Litter/Manure Amount Generated/Collected	15,792 ton
Manure Uncollected (pasture accesses)	0

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

UNIVERSITY OF MARYLAND EXTENSION

POULTRY LITTER QUANTITY ESTIMATE

Name: **Warwick North** Tract / Farm: Date: **1/1/2025**

Houses included: **8** **Bird type:** **Layer**

Average Bird Market Weight (lbs): **3.45**

A.	Years between total cleanouts: Yr. next total cleanout:	2025
	- Yr. last total cleanout:	2024
	= Years in cleanout cycle:	1
B.	Total # of birds per flock (for all houses on this cleanout cycle):	801,600
C.	Flocks per year	1
D.	Number of flocks per cleanout cycle (A x C):	1
E.	Estimated tons of cake/crust per 1000 birds per flock: *	0
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	19.7
G.	Tons cake/crust produced per flock (B x E/1000):	0
H.	Tons cake/crust produced per cycle (G x D)	0
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	15,792
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	15,792
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	15,792
L.	Tons of litter + cake/crust produced per year (I/A)	15,792

* 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	15,792	100	15,792	0	0		15,792
				15,792	0	0	0	15,792

*** 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.

Description of nearby Water Bodies

The farmstead and production area sits within the Sassafras River Watershed. **The associated waterbody is Duffy Creek.** All production areas, manure storage, manure cleanup - heavy use areas, and mortality management is at a minimum of 500' from any Public Drainage Ditches (PDAs) and/or Streams, Creeks, or Rivers. **The farm operation is NOT in a Tier II 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)
Warwick North	*Duffy Creek*	*>500 ft*	*Sassafras River*	021306100357	*Nitrogen Phosphorus 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 >100 feet from the production facility. The production areas are outside of the 100 year floodplain.

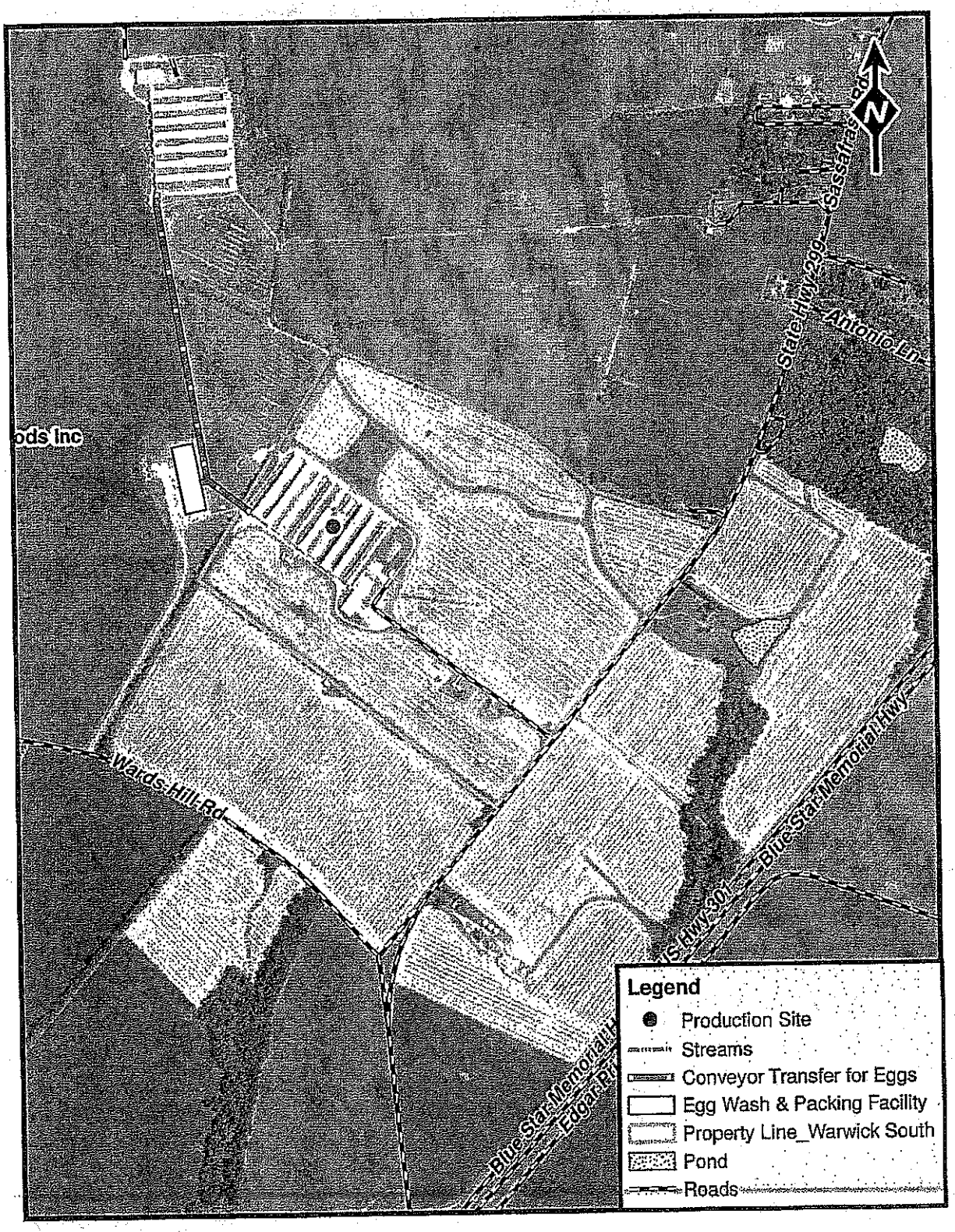
Environmental Justice (EJ) Score

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 42.45 percentile.**

The Resource Concern Identification Worksheet is in the Appendix of this document.

Cal-Maine Foods Inc

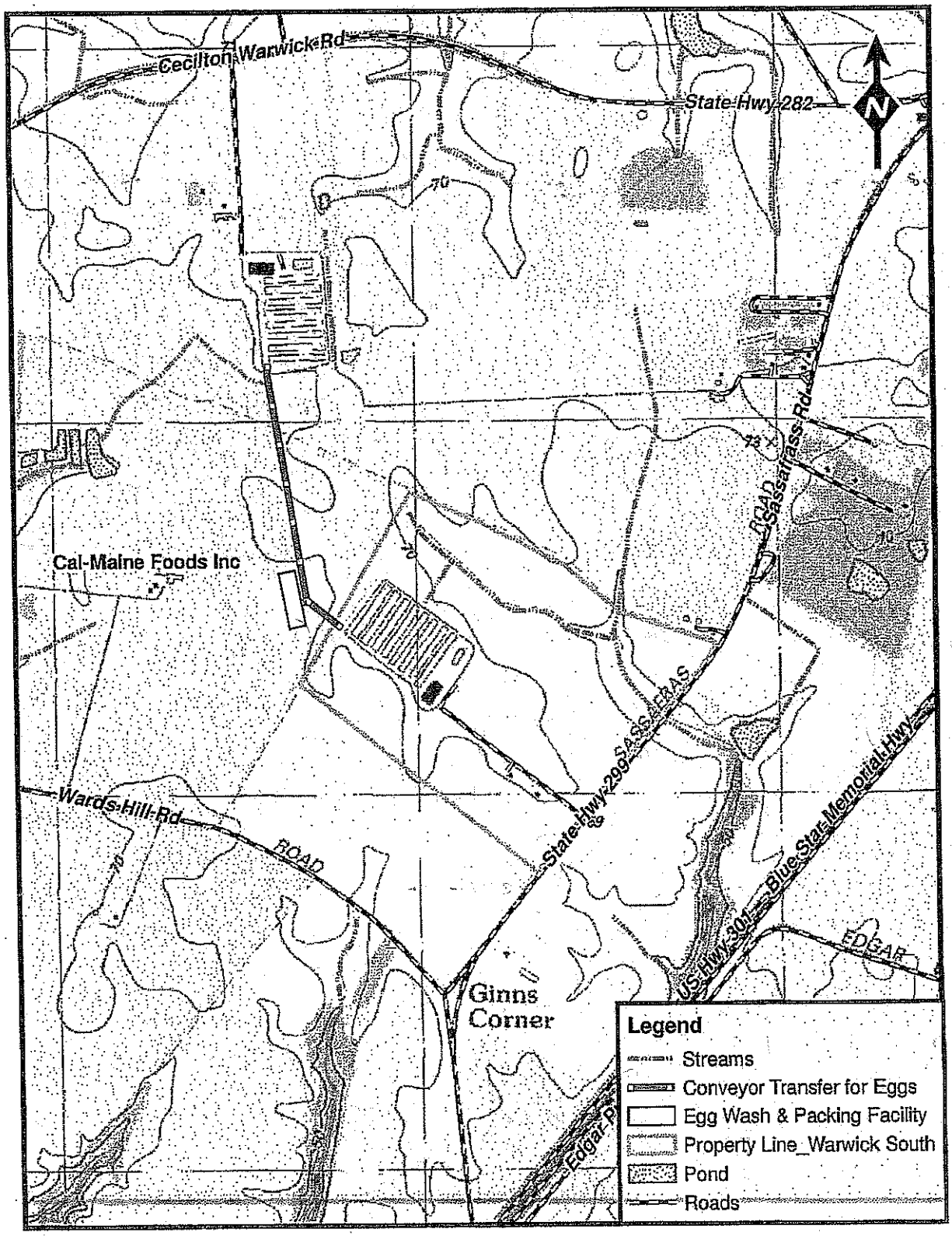
Warwick South - AI Number: 22189



0 280 560 1,120 1,680
Feet

Cal-Maine Foods Inc

Warwick South - AI Number: 22189



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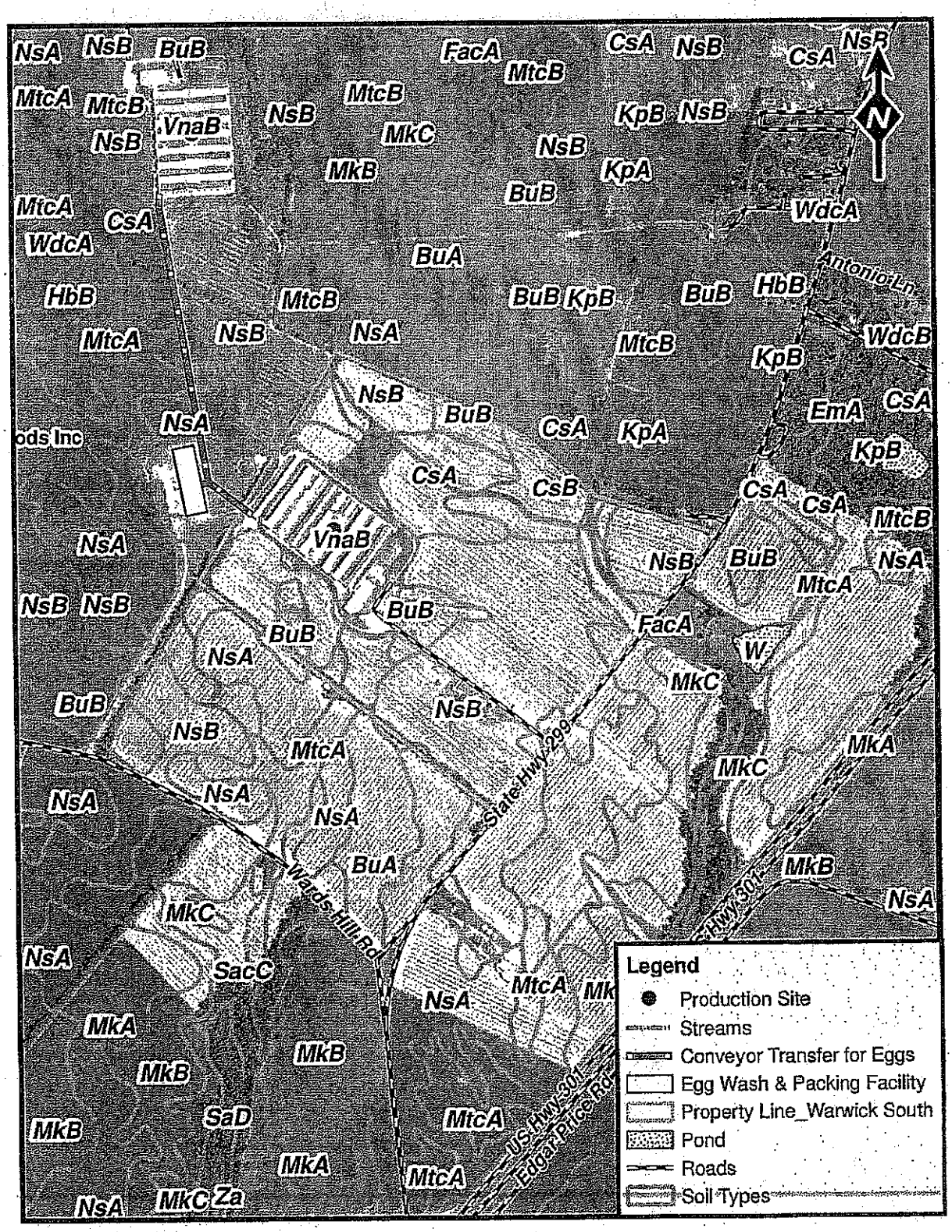
Feet

Cal-Maine Foods Inc

Warwick South - AI Number: 22189



0 280 560 1,120 1,680 Feet

Site	MDE AI#	Site Name	Address
2	22189	Warwick South	605 Sassafras-Warwick Road Warwick, MD 21912

Warwick South

	Site 2
Animal Type	Layers
Number of Animals (Capacity of each Structure):	854,010 (approx. 94890 per house)
Number of Structures (Per Animal Type)	Total of 8 House 4, 7, 8, and 9 (56' x 412') House 2 and 3 (54' x 375') House 1 and 5 (56' x 412') proposed — remainder 56 x 110 x 10 for manure storage
Time In Location:	Year round
Litter/Manure Amount Generated/Collected	16,824 ton
Manure Uncollected (pasture accesses)	0

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

UNIVERSITY OF MARYLAND EXTENSION

POULTRY LITTER QUANTITY ESTIMATE

Name: **Warwick South** Tract / Farm: Date: **1/1/2025**

Houses included: **8** **Bird type:** **Layer**

Average Bird Market Weight (lbs): **3.45**

A.	Years between total cleanouts: Yr. next total cleanout:	2025
	- Yr. last total cleanout:	2024
	= Years in cleanout cycle:	1
B.	Total # of birds per flock (for all houses on this cleanout cycle):	854,010
C.	Flocks per year	1
D.	Number of flocks per cleanout cycle (A x C):	1
E.	Estimated tons of cake/crust per 1000 birds per flock: *	0
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	19.7
G.	Tons cake/crust produced per flock (B x E/1000):	0
H.	Tons cake/crust produced per cycle (G x D)	0
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	16,824
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	16,824
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	16,824
L	Tons of litter + cake/crust produced per year (I/A)	16,824

* 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	16,824	100	16,824	0	0		16,824
				16,824	0	0	0	16,824

*** 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.

Description of nearby Water Bodies

The farmstead and production area sits within the Sassafras River Watershed. **The associated waterbody is a UNT of the Sassafras River.** All production areas, manure storage, manure cleanup - heavy use areas, and mortality management is at a minimum of 500' from any Public Drainage Ditches (PDAs) and/or Streams, Creeks, or Rivers. **The farm operation is NOT in a Tier II 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)
Warwick South	*UNT Sassafras River*	*>500 ft*	*Sassafras River*	021306100358	*Nitrogen Phosphorus 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 >100 feet from the production facility. The production areas are outside of the 100 year floodplain.

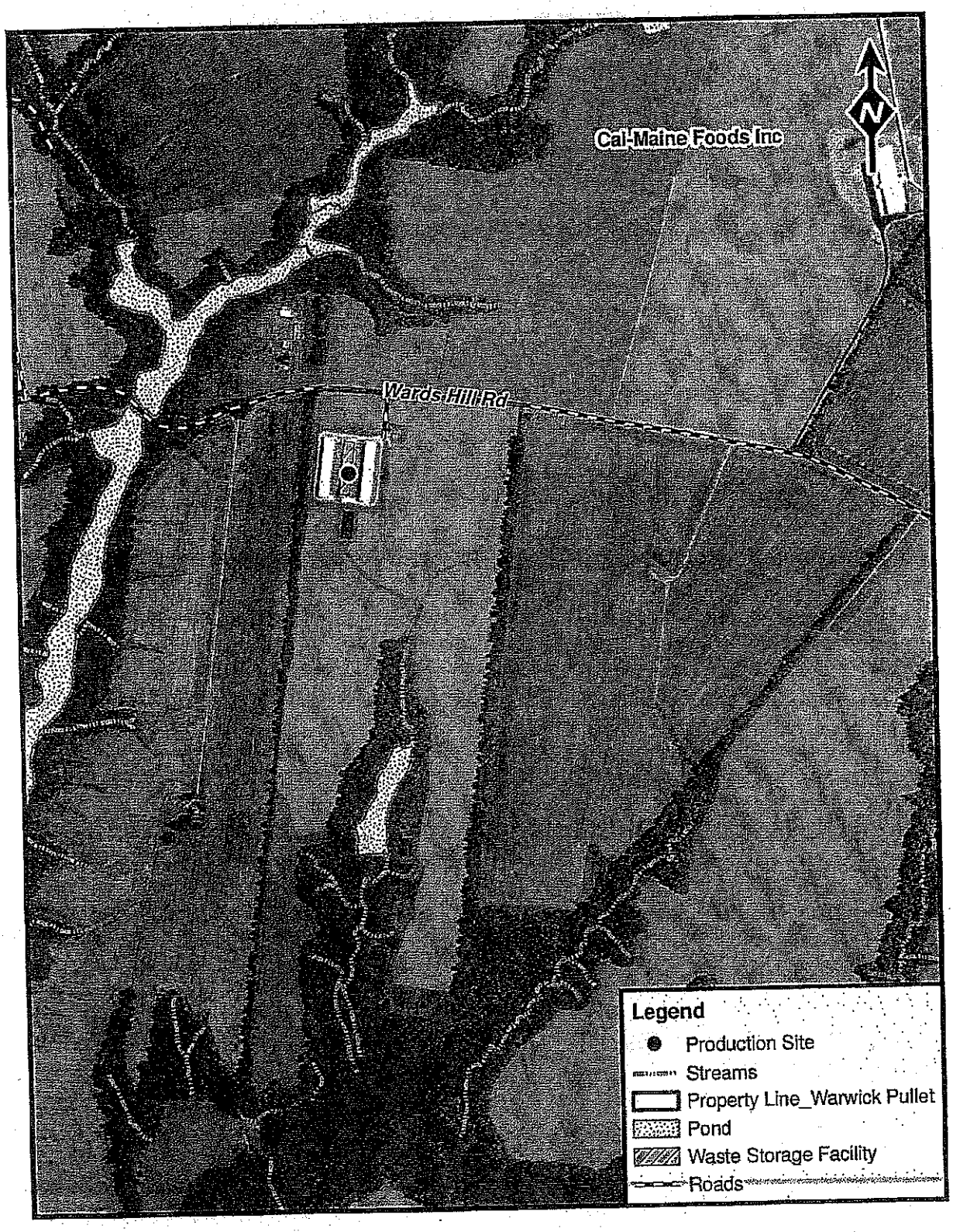
Environmental Justice (EJ) Score

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 42.45 percentile.**

The Resource Concern Identification Worksheet is in the Appendix of this document.

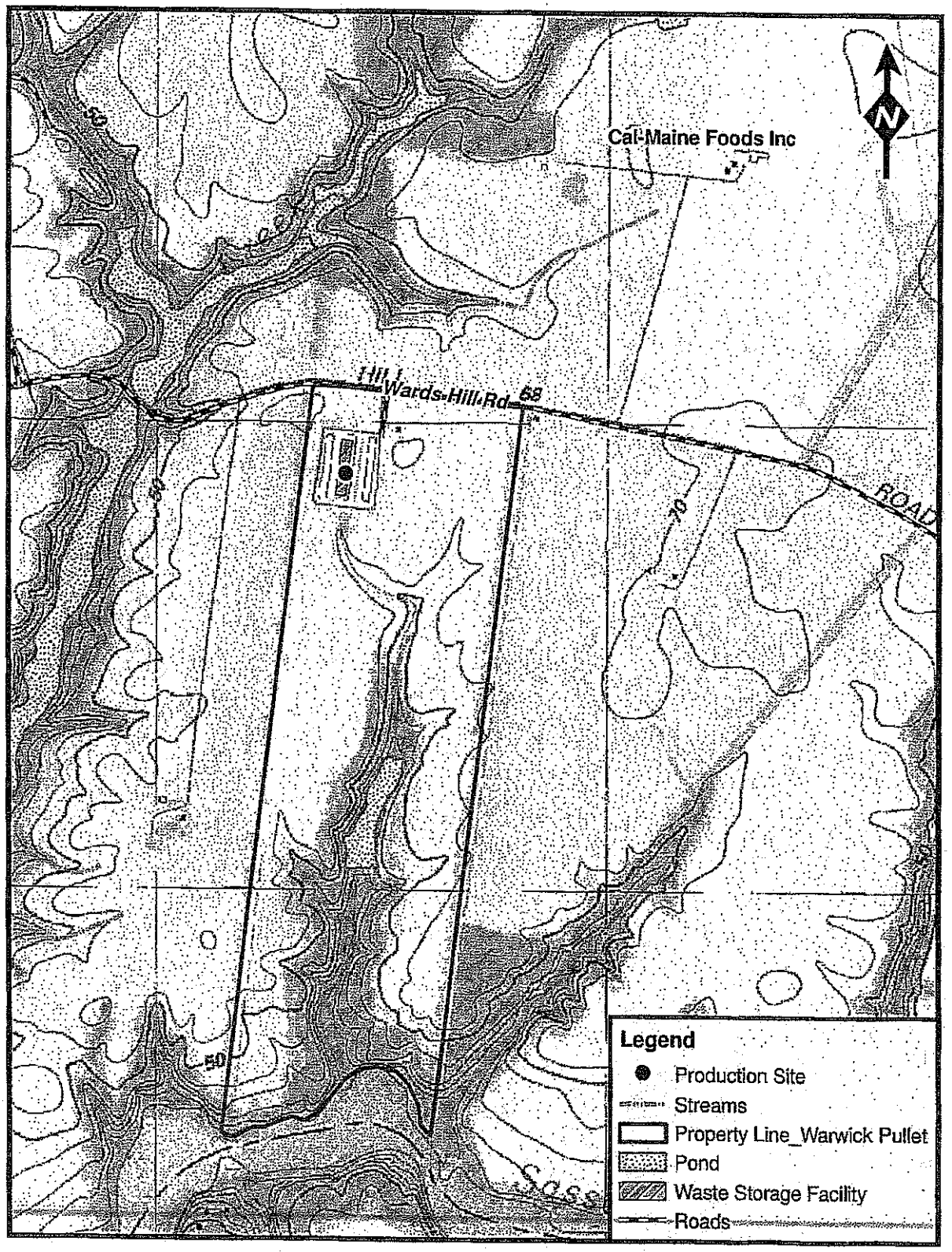
Cal-Maine Foods Inc

Warwick Pullet - AI Number: 22189



Cal-Maine Foods Inc

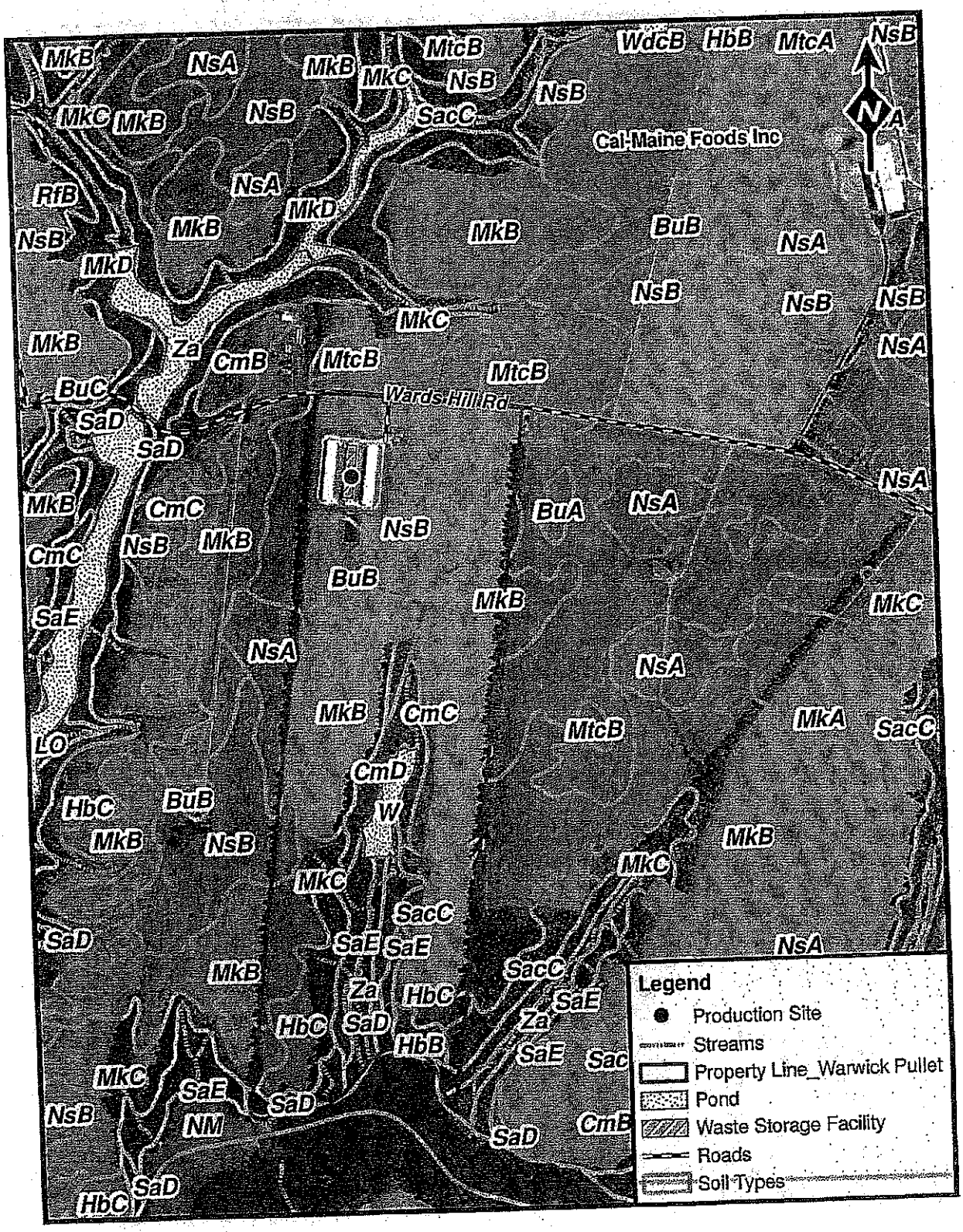
Warwick Pullet - AI Number: 22189



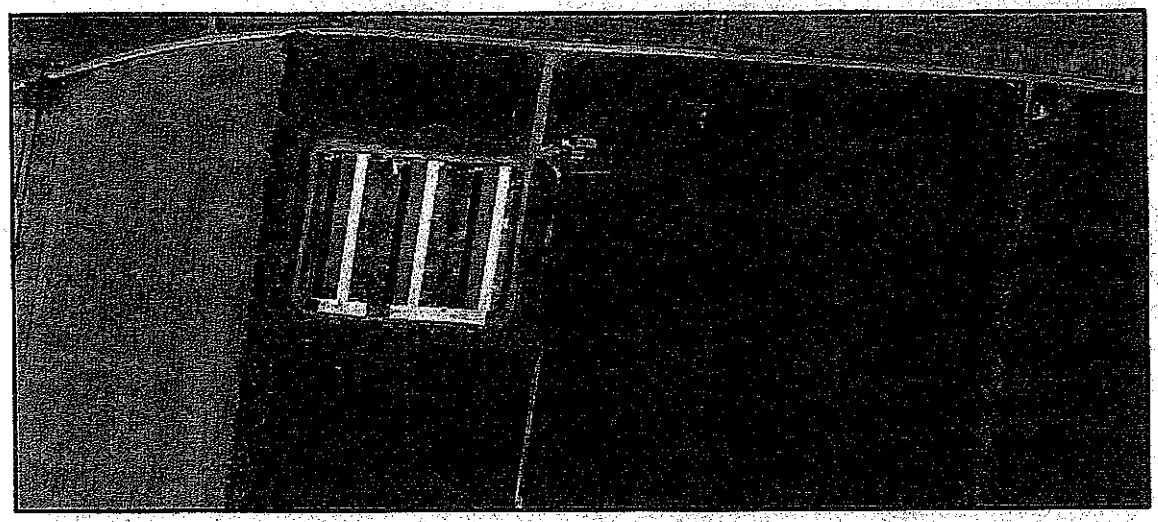
0 280 560 1,120 1,680
Feet

Cal-Maine Foods Inc

Warwick Pullet - AI Number: 22189



Site	MDE AI#	Site Name	Address
3	22189	Warwick Pullet	Wards Hill Road Warwick, MD 21912



Warwick Pullet

	Site 3
Animal Type	Pullet
Number of Animals (Capacity of each Structure):	348,228
Number of Structures (Per Animal Type)	Total of 2 House 1 and 2 (55' x 446')
Time In Location:	Year round
Litter/Manure Amount Generated/Collected	4,666 ton
Manure Uncollected (pasture accesses)	0

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

UNIVERSITY OF MARYLAND EXTENSION

POULTRY LITTER QUANTITY ESTIMATE

Name: **Warwick Pullet** Tract / Farm: Date: **1/1/2025**

Houses Included: **2** **Bird type:** **Pullet**

Average Bird Market Weight (lbs): **2.85**

A.	Years between total cleanouts: Yr. next total cleanout:	2025
	- Yr. last total cleanout:	2024
	= Years in cleanout cycle:	1
B.	Total # of birds per flock (for all houses on this cleanout cycle):	348,228
C.	Flocks per year	2.5
D.	Number of flocks per cleanout cycle (A x C):	2
E.	Estimated tons of cake/crust per 1000 birds per flock: *	0
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	6.7
G.	Tons cake/crust produced per flock (B x E/1000):	0
H.	Tons cake/crust produced per cycle (G x D)	0
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	4,666
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	4,666
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	4,666
L	Tons of litter + cake/crust produced per year (I/A)	4,666

* 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	4,666	100	4,666	0	0		4,666
				4,666	0	0	0	4,666

*** 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.

Description of nearby Water Bodies

The farmstead and production area sits within the Sassafras River Watershed. **The associated waterbody is a UNT of the Sassafras River.** All production areas, manure storage, manure cleanup - heavy use areas, and mortality management is 200' from any Public Drainage Ditches (PDAs) and/or Streams, Creeks, or Rivers. **The farm operation is NOT in a Tier II 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)
Warwick Pullet	*UNT Sassafras River*	*200 ft*	*Sassafras River*	*021306100357*	*Nitrogen Phosphorus 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 >100 feet from the production facility. The production areas are outside of the 100 year floodplain.

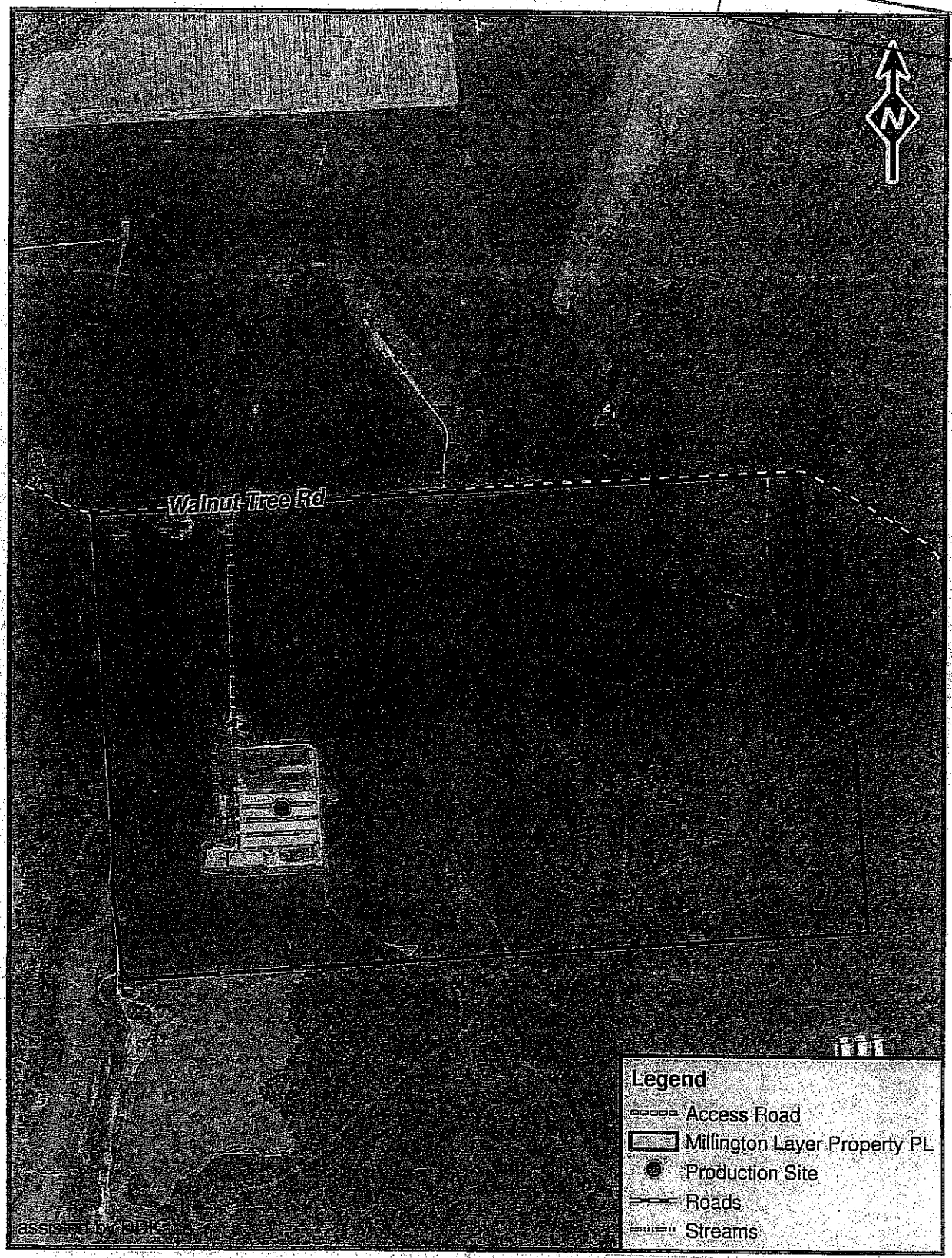
Environmental Justice (EJ) Score

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 42.45 percentile.**

The Resource Concern Identification Worksheet is in the Appendix of this document.

Cal-Maine Foods Inc

Millington Layer (AI Number: 134866) - Aerial Map



Account ID #s: 1

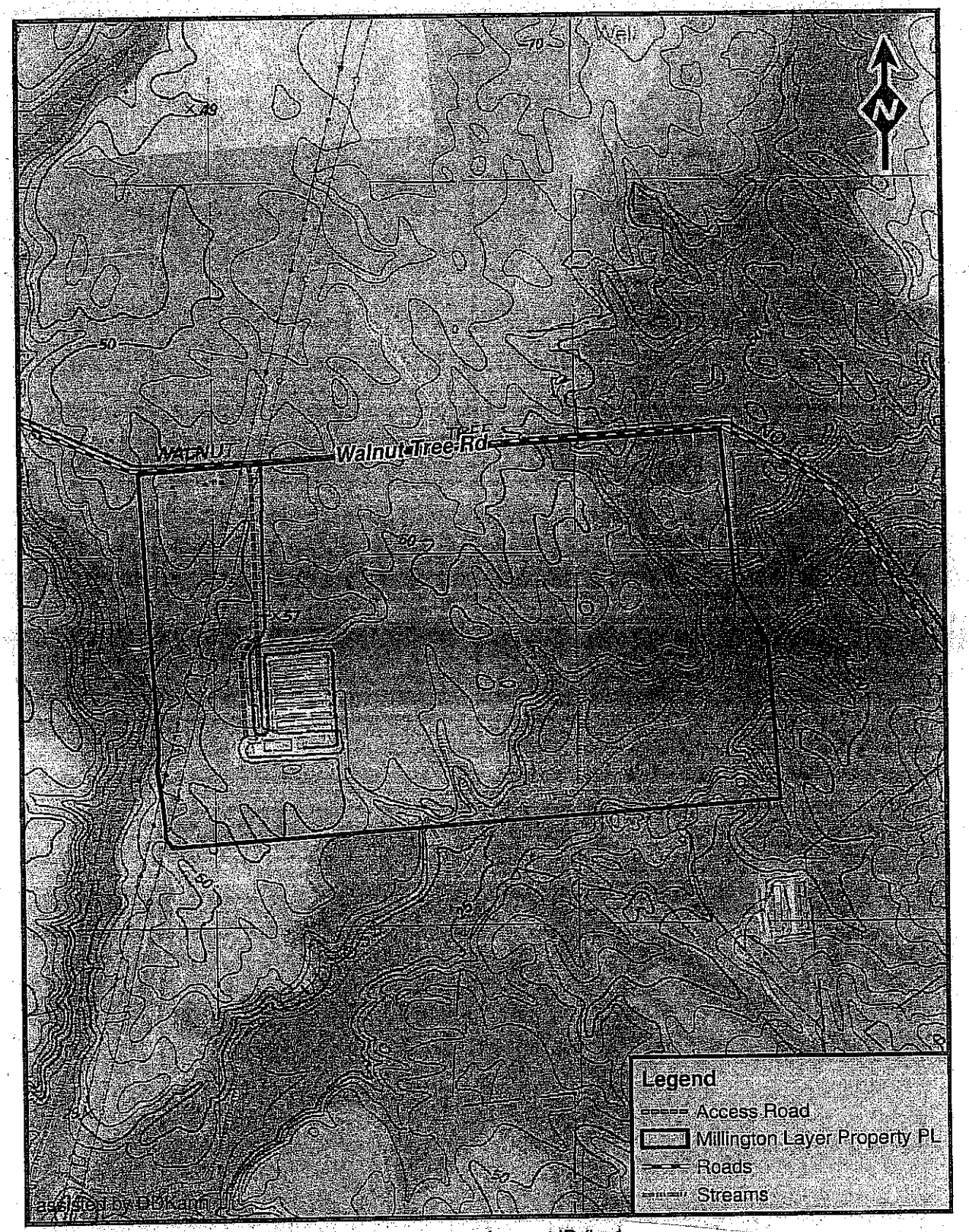
0 290 580 1,160 1,740
Feet

(spray field)
(spray field)

52

Cal-Maine Foods Inc

Millington Layer (AI Number: 134866) - Topo Map



Account ID #s: 1

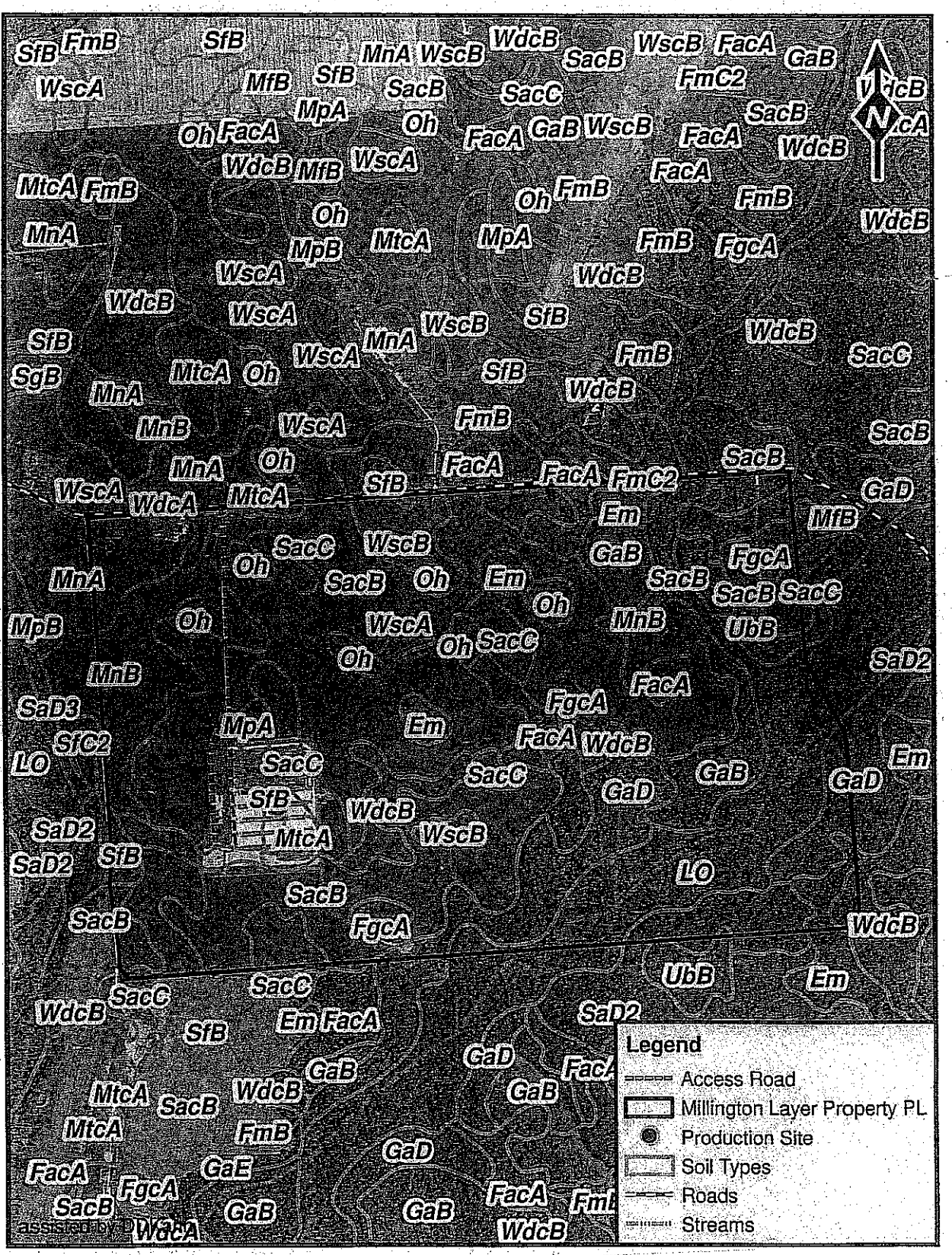
0 350 700 1,400 2,100 Feet

(spray field)
(spray field)

53

Cal-Maine Foods Inc

Millington Layer (AI Number: 134866) - Soil Map



Account ID #s:

0 290 580 1,160 1,740 Feet

(spray field)
(spray field)

54

Site	MDE AI#	Site Name	Address
4	134866	Millington Layer	33179 Walnut Tree Road Millington, MD 21651

Millington Layer

	Site 4
Animal Type	Layers
Number of Animals (Capacity of each Structure):	676,512
Number of Structures (Per Animal Type)	Total of 4 House 1, 2, 3, 4 (54' x 375')
Time In Location:	Year round
Litter/Manure Amount Generated/Collected	13,327 ton
Manure Uncollected (pasture accesses)	0

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

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UNIVERSITY OF MARYLAND EXTENSION

POULTRY LITTER QUANTITY ESTIMATE

Name: Millington Layer Tract / Farm: Date: 1/1/2025

Houses included: 4 Bird type: Layer

Average Bird Market Weight (lbs): 3.45

A.	Years between total cleanouts: Yr. next total cleanout:	2025
	- Yr. last total cleanout:	2024
	= Years in cleanout cycle:	1
B.	Total # of birds per flock (for all houses on this cleanout cycle):	676,512
C.	Flocks per year	1
D.	Number of flocks per cleanout cycle (A x C):	1
E.	Estimated tons of cake/crust per 1000 birds per flock: *	0
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	19.7
G.	Tons cake/crust produced per flock (B x E/1000):	0
H.	Tons cake/crust produced per cycle (G x D)	0
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	13,327
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	13,327
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	13,327
L.	Tons of litter + cake/crust produced per year (I/A)	13,327

* 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	13,327	100	13,327	0	0		13,327
				13,327	0	0	0	13,327

*** 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.

Description of nearby Water Bodies

The farmstead and production area sits within the Upper Chester River Watershed. All production areas, manure storage, manure cleanup - heavy use areas, and mortality management is at a minimum of 500' from any Public Drainage Ditches (PDAs) and/or Streams, Creeks, or Rivers. **The farm operation is NOT in a Tier II 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)
Millington Layer	*Cyprus Branch*	*>500 ft*	*Upper Chester River*	*021305100427*	*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 >100 feet from the production facility. The production areas are outside of the 100 year floodplain.

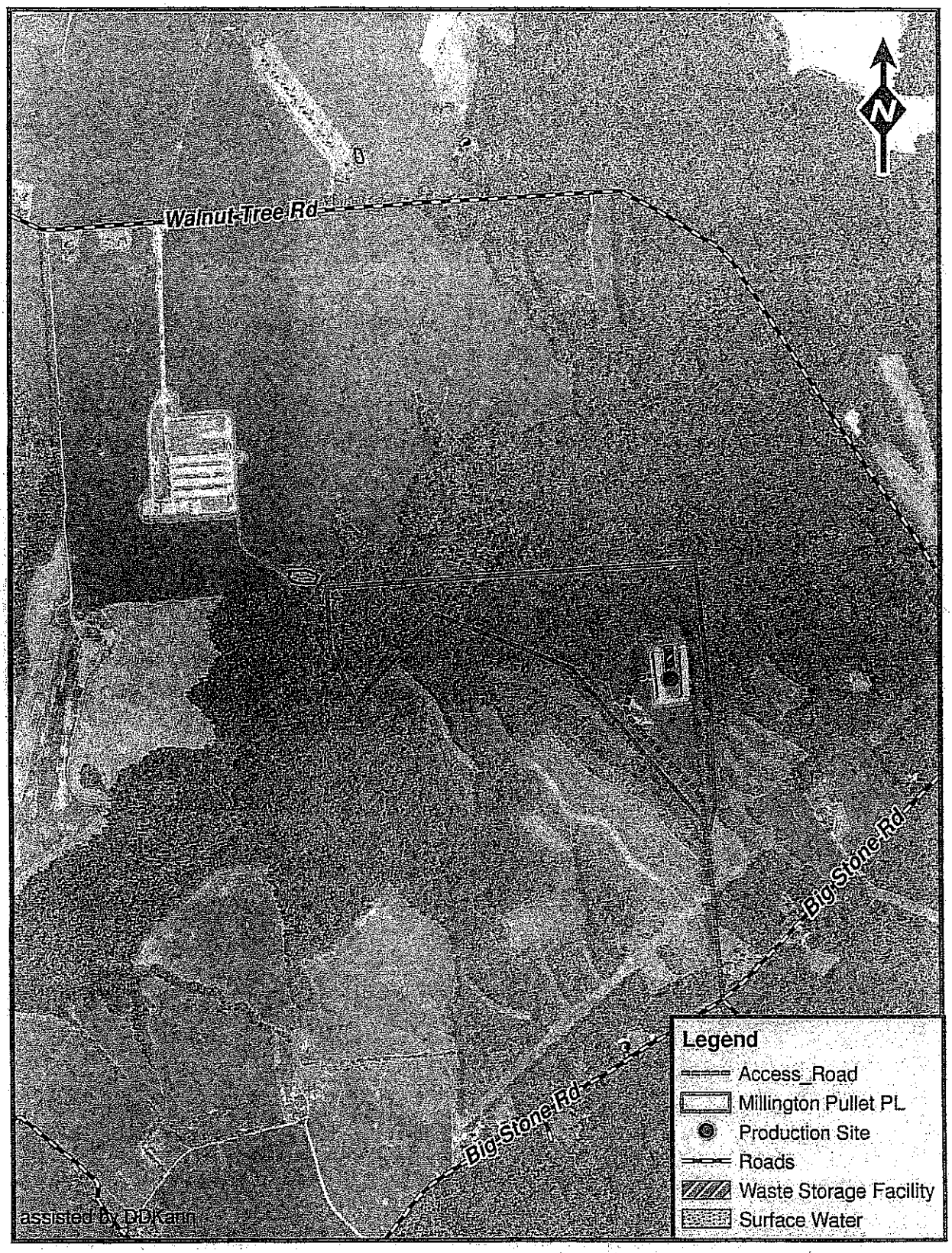
Environmental Justice (EJ) Score

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 67.12 percentile.**

The Resource Concern Identification Worksheet is in the Appendix of this document.

Cal-Maine Foods Inc

Millington Pullet (AI Number: 130331)



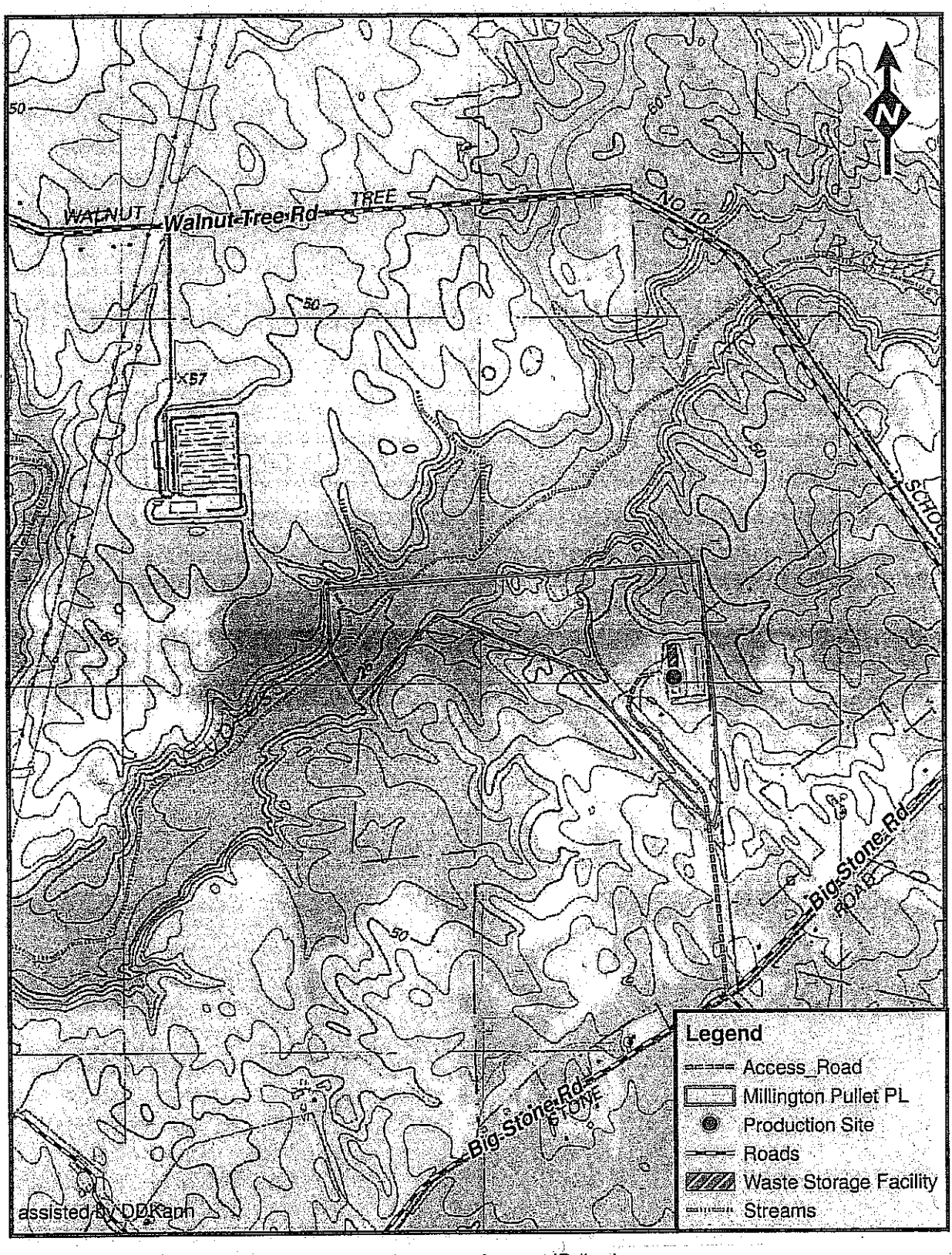
Account ID #s: 1

0 360 720 1,440 2,160
Feet

58

Cal-Maine Foods Inc

Millington Pullet (AI Number: 130331)



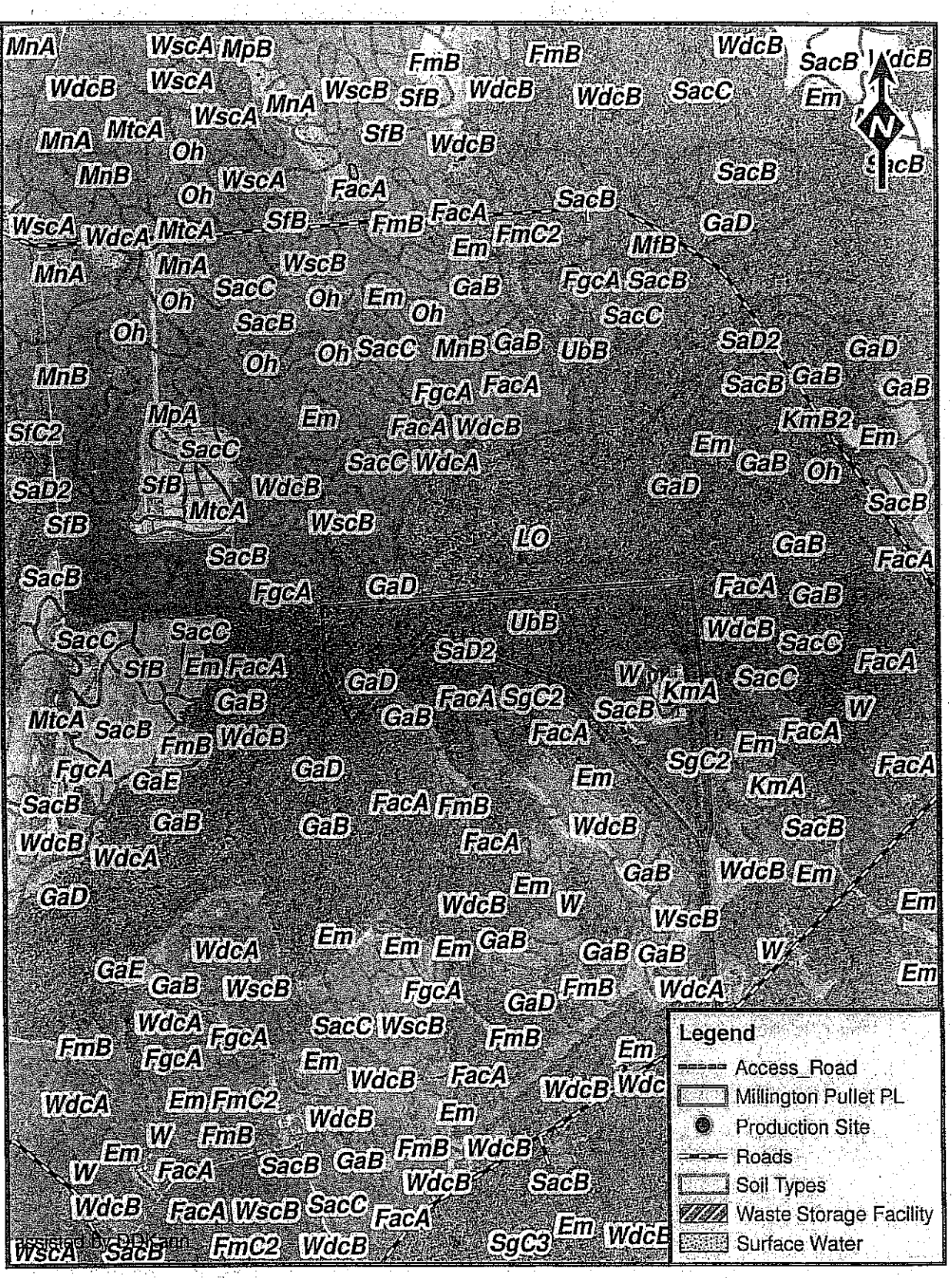
Account ID #s: 1

0 360 720 1,440 2,160
Feet

59

Cal-Maine Foods Inc

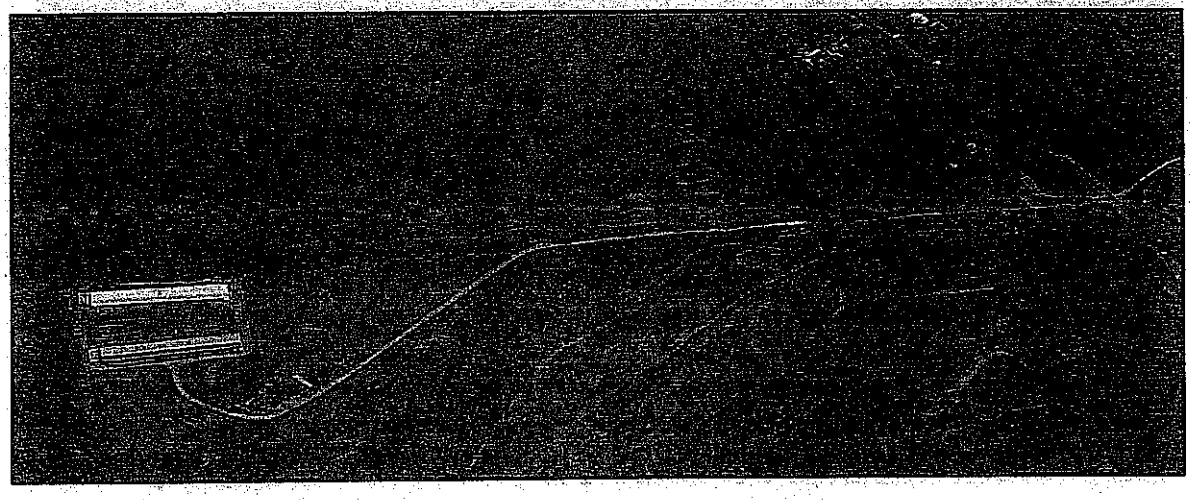
Millington Pullet (AI Number: 130331)



Account ID #s:

60

Site	MDE AI#	Site Name	Address
5	130331	Millington Pullet	10782 Big Stone Road Millington, MD 21651



Millington Pullet

	Site 5
Animal Type	Pullet
Number of Animals (Capacity of each Structure):	352,512
Number of Structures (Per Animal Type)	Total of 2 House 1 and 2 (52' x 412')
Time In Location:	Year round
Litter/Manure Amount Generated/Collected	4,724 ton
Manure Uncollected (pasture accesses)	0

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UNIVERSITY OF MARYLAND EXTENSION

POULTRY LITTER QUANTITY ESTIMATE

Name: Millington Pulle Tract / Farm: Date: 1/1/2025

Houses included: 2 **Bird type:** Pullet

Average Bird Market Weight (lbs): 2.85

A.	Years between total cleanouts: Yr. next total cleanout:	2025
	- Yr. last total cleanout:	2024
	= Years in cleanout cycle:	1
B.	Total # of birds per flock (for all houses on this cleanout cycle):	352,512
C.	Flocks per year	2.5
D.	Number of flocks per cleanout cycle (A x C):	2
E.	Estimated tons of cake/crust per 1000 birds per flock: *	0
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	6.7
G.	Tons cake/crust produced per flock (B x E/1000):	0
H.	Tons cake/crust produced per cycle (G x D)	0
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	4,724
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	4,724
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	4,724
L	Tons of litter + cake/crust produced per year (I/A)	4,724

* 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	4,724	100	4,724	0	0		4,724
				4,724	0	0	0	4,724

*** 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.

Description of nearby Water Bodies

The farmstead and production area sits within the Upper Chester River Watershed. **The associated waterbody is Cyprus Branch.** All production areas, manure storage, manure cleanup - heavy use areas, and mortality management is at a minimum of 200' from any Public Drainage Ditches (PDAs) and/or Streams, Creeks, or Rivers. **The farm operation is NOT in a Tier II 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)
Millington Pullet	*Cyprus Branch*	*200 ft*	*Upper Chester River*	021305100427	*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 >100 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 67.12 percentile.**

The Resource Concern Identification Worksheet is in the Appendix of this document.

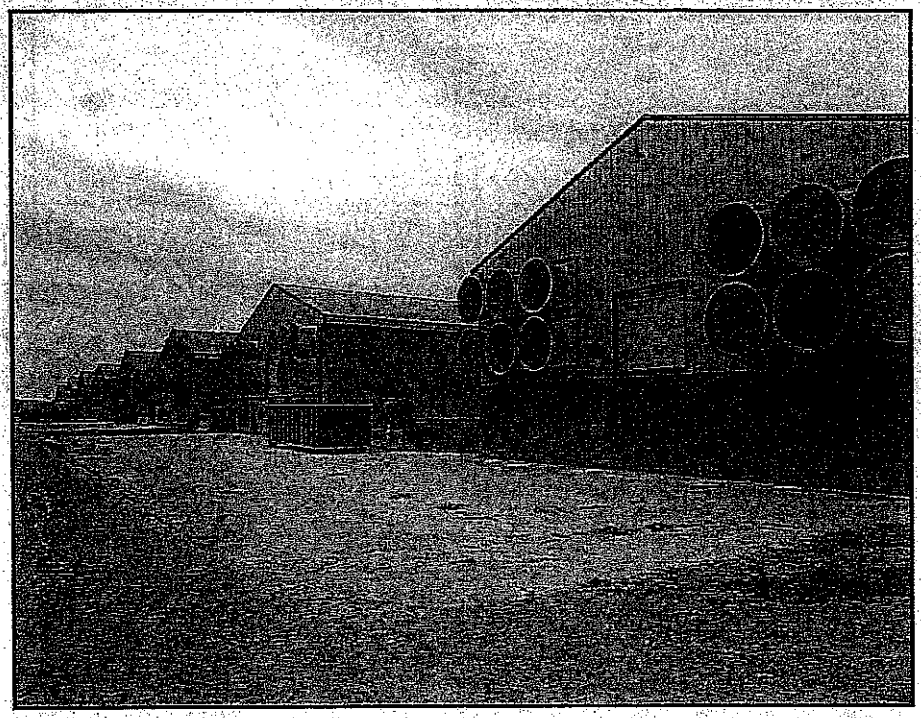
Concentrated Livestock Areas

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.

Stormwater Management



Poultry pads constructed on each house at Layer Farm(s).

Stormwater comes off the poultry house roofs and is sloped away from the buildings. In the operation, ALL of the stormwater pathways are in vigorous sod and are in good condition.

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Stormwater runs away from buildings and directed into these vegetative swales.

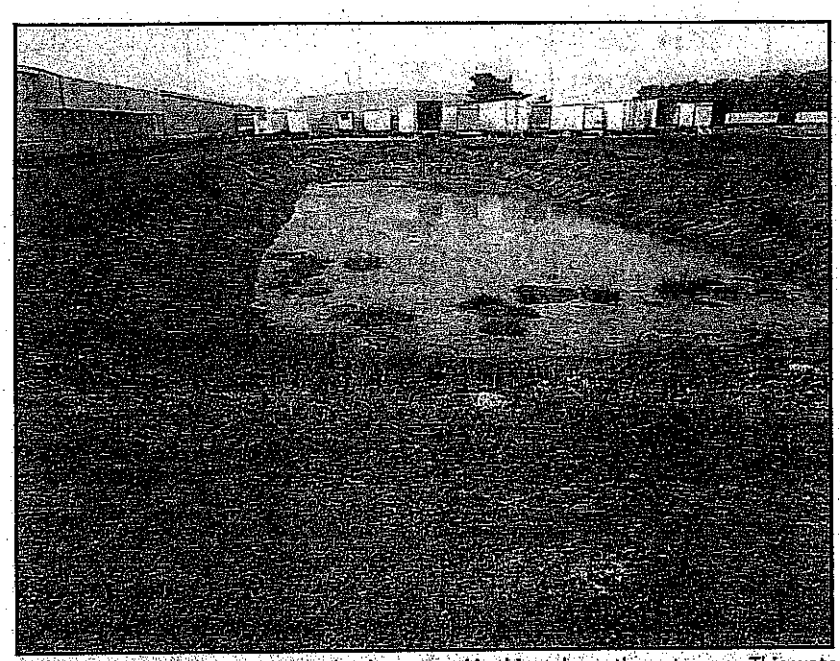
Manure Management and Storage Facilities

Storage ID	Size/Volume of Storage Unit	Type and Style Liner	Condition and Thickness of Liner	Meets 313[1] (Y / N / ?)	Length (days)
Egg Wash Circular Tank	12' deep x 120' (930,000 gal)	Egg wash water - Concrete	Good	Y	180
Warwick North (all 7 houses) *Plus the proposed #8 house storage*	Under floor basement Storage 530' x 50' x 8' (7x) *The end of building #8 52'x110'x10' = 57,200 cuft*	Manure - Concrete	Good	?	300
Warwick North (not being used)	200' x 80' x 8'	Water impoundment - Earth	Good	?	250
Warwick South (not being used)	200' x 80' x 8'	Water impoundment - Earth	Good	?	250

Warwick South House #6 footprint -hoop house structure	52' x 320' x avg 21' peaked (top arch height is 31') 8000 tons	Hoop House Structure	Good	?	200
Warwick South (houses 4, 7, 8. 9)	110' x 54' x 10' (each house)	Manure - Concrete	Good	Y	120
Warwick South (House 1 & 5 house ends)	110'x54'x10' (2x)	Manure - Concrete	Good	Y	140
Warwick South (houses 2, 3)	130' x 52' x 10' (2x)	Manure - Concrete	Good	Y	120
Warwick Pullet *(Middle Building located between House #1 & #2)*	52' x 400' x 5' deep	Manure - Concrete	Good	Y	120
Millington Layer	135' x 80' x 8'	Water impoundment - Earth	Good	?	250
Millington Layer (houses 1, 2, 3, 4)	130' x 52' x 10' (4x)	Manure - Concrete	Good	Y	120
Millington Pullet	120' x 60' x 10' deep	Manure - Concrete	Good	Y	120

potential

[1] *Was the manure storage system designed and constructed in accordance with NRCS standards in place at time of construction?* ☐ *Yes* ☐ *No* ☒ *Unknown)*



Egg wash, at the Millington Layer site, is captured in this style earthen storage. This water is later spray irrigated on grass areas or cropland.

Mortality Management

The state required mortality management, where the management of dead carcasses are properly composted before being introduced into the waste stream, is generally not practiced on these production sites. Dead birds are placed directly into the manure piles contained within the manure storage(s). The dead birds have typically been added into the manure stream and due to the high temperatures within the manure piles, the carcass is consumed/composted by the manure.

The management practice of Bird mortality placement into the manure piles will be halted 30 days before a scheduled manure removal export from the facility. This is to ensure all carcasses have been properly composted before manure piles are removed from the storage containment facility.

Stacking Areas

No outside stacking areas exist. No long-term manure stacking is conducted. All manure stays in manure storage or under production floor until arrangements for truck export is obtained.

Resource Concerns: N/A

Wells

Well ID	Depth			Condition	

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	Well	Water	Type of Construction		Test Results (Nitrate/Bacteria)
Warwick North	> 100 ft	Good	Traditional	Good	
Warwick North	> 200 ft	Good	Traditional	Good	
Warwick North	>100 ft	Good	Traditional	Good	
Warwick North	> 100 ft	Good	Traditional	Good	
Warwick South	> 100 ft	Good	Traditional	Good	
Warwick South	> 100 ft	Good	Traditional	Good	
Warwick South	> 100 ft	Good	Traditional	Good	
Warwick Pullet	> 200 ft	Good	Traditional	Good	
Millington Layer	> 200 ft	Good	Traditional	Good	
Millington Layer	> 100 ft	Good	Traditional	Good	
Millington Layer	> 100 ft	Good	Traditional	Good	
Millington Pullet	> 100 ft	Good	Traditional	Good	

Document any observed risks such as proximity to contamination sources, surface runoff near well, well condition or unused wells that are not properly abandoned.

Surface Water Runoff

Clean water, from storm events and dirty water from residues from house fans and HUAs are being serviced by the same ditches and vegetation.

The areas that surface water flows through, is handled in thick vegetation. Ditches prevent water from entering buildings and directs storm flows out of the Headquarters and away from production.

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:** normal levels for a layer house ventilation system
- **Gaseous Emissions:** No
- **Odor:** Normal.
- **Other Potential Resource Concerns:** No other problems are apparent.

Waste Handling and Transfer Systems

Belt-style Houses: Manure from cage areas is belted away from the production area. The series of belts carry manure to a roofed stack area. This roofed structure, is constructed at the end of the production building.

Non-Belt Houses: Manure drops from the cage area and ends up in the pit/basement style storage. The manure management practice, for the non-belt style houses, is to push manure out the back end of each house, onto a concrete pad. Manure may be stockpiled on pad longer time frame than desired.

Practice and Facility Management Plan (Best Management Practice implementation)

Practice	Location	Amount	Year the construction of the practice was completed

Waste Storage Facility Maintain a poultry manure stack facility to store solid waste on a temporary basis. The facility will provide ample storage during times 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.	**Warwick North** All 7 houses	7 no. (basement storage dimensions 530'x50')	1991
	Warwick South	(storage dimensions)	
	House #2	1 no. (130'x52')	2013
	House #3	1 no. (130'x52')	2012
	House #4	1 no. (110'x54')	2024
	House #7	1 no. (110'x54')	2023
	House #8	1 no. (110'x54')	2023
	House #9	1 no. (110'x54')	2023
	Millington Layer	(storage dimensions)	
	House #1	1 no. (130'x52')	2012
	House #2	1 no. (130'x52')	2013
	House #3	1 no. (130'x52')	2011
	House #4	1 no. (130'x52')	2013
		(storage dimensions)	
	Warwick Pullet	1 no. (400'x52')	2017
	Millington Pullet	1 no. (120'x60')	2015
Waste Storage Facility (Egg Wash Water) Maintain a circular concrete storage facility to temporarily store liquid waste. Operation and Maintenance: Each time the facility is emptied, a check of the inside walls shall be made. Take the necessary steps to eliminate the introduction of burrowing animals, vermin, and woody vegetation from jeopardizing the integrity of the tank.	Crawford Farm between Warwick North & Warwick South	1 no. (12' x 120')	2022

Waste Storage Facility (Retention Pond - Egg Wash Water) Maintain a liquid earthen storage facility to temporarily store liquid waste. Operation and Maintenance: The outside of aboveground facilities shall be periodically checked for earthen bank deterioration or damage. Each time the facilities are emptied, a check of the inside walls shall be made. Take the necessary steps to eliminate the introduction of burrowing animals, vermin, and woody vegetation from jeopardizing the integrity of the earthen banks.	Warwick North Warwick South Millington Layer	1 no. (200'x80') 1 no. (200'x80'') 1 no. (135'x80')	1990 1990 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 52'x40' (or an approved substitute) concrete pads at each end of the poultry houses at the farm.	Warwick North 1&2 3&4 5&6 7&8 Warwick South 1&2 3 4 5 6 7 8&9 Warwick Pullet 1 2 3 Millington Layer 1 2 3 4 5 6 7 Millington Pullet 1	 .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac .1 ac	 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998 1998
Sediment Basin (Retention Pond) Build an earthen containment to store runoff, from the production site, on a temporary basis. Operation & Maintenance: Inspect structure following significant rainfall events. Repair damaged areas as soon as practical.	Warwick South Warwick Pullet Millington Layer Warwick North	2 cells 200'x100' 1 no. 1 no. 1 no.	2012 1971 2015 2013

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.	Warwick North	5 ac	2012
Access Road Build a designated route to be used by equipment necessary for the management of manure at the operation. Use suitable materials for handling traffic loads and keep free of potholes and standing water. Seek engineering assistance from NRCS when needing 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. Additional underground outlets will be needed to divert stream under the access.	Warwick North Warwick South Warwick Pullet Millington Layer Millington Pullet	2000 ft 2700 ft 1100 ft 2000 ft 600 ft	2000 2000 2000 2000 2000

Operation and Maintenance

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 or Poultry Pads)

- ~ 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.

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.

Access Road - 560

- ~ Inspect culverts, roadside ditches, water bars and outlets after each major runoff event and restore flow capacity as needed;
- ~ Maintain grass areas in adequate cover. Reseed and mow as needed;
- ~ Fill low areas in travel treads and regrade, as needed, to maintain road cross section;
- ~ Inspect roads with water bars periodically to insure proper cross section is available and outlets are stable.

Production Area Management Guidelines – Poultry Operations

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.

Land Treatment Practices

This element addresses evaluation and implementation of appropriate conservation practices on sites proposed for land application of manure and organic by-products from an Animal Feeding Operation. On fields where manure and organic by-products are applied as beneficial nutrients, it is essential that runoff and soil erosion be minimized to allow for plant uptake of these nutrients.

This element addresses evaluation and implementation of appropriate conservation practices on sites proposed for land application of manure and organic by-products from an Animal Feeding Operation. On fields where manure and organic by-products are applied as beneficial nutrients, it is essential that runoff and soil erosion be minimized to allow for plant uptake of these nutrients.

Land Treatment Practices and Expected Results:

A. Applied Land Treatment Practices

Necessary conservation practices have been or will be established and maintained on cropland where animal by-products are applied before the first application. All fields need a field border, residue management, as well as vegetative field strips established when next to a ditch, stream, or wetlands.

Practice	Location and Amount	Year the construction of the practice was completed
Diversion **Construct a channel across the slope with an embankment on the lower side to divert water from its natural flow.**	Warwick Pullet *(below Headquarters)* 250 ft	1990

Grass Waterway **Shape a natural or constructed channel and establish adapted vegetation for the stable conveyance of runoff water. An engineering plan with construction specifications will be provided for the installation of the grassed waterway. Operation & Maintenance: Mow or harvest the waterway vegetation at least once annually. Visually inspect waterway after large storms and repair damage as soon as practical.**	Warwick North *(below Headquarters)* 1.2 ac Warwick Pullet *(below Headquarters)* 1.5 ac Millington Layer *(below Headquarters)* 0.8 ac	1990 1990 1990
Water & Sediment Control Basin **To reduce water course and gully erosion, trap sediment, manage on-site and downstream runoff, and to improve downstream water quality, install a combination embankment and sediment trap with either an infiltration outlet or an underground outlet. Installation will be according to NRCS design and specifications to be provided by SCD staff.**	Warwick North *(below Headquarters)* 1 no.	2013
Underground Outlet **A conduit installed beneath the surface of the ground to collect surface water and convey it to a suitable outlet.**	Warwick North *(below Headquarters)* 500 ft	2013

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Field Summary:

NO CROP FIELDS MANAGED BY THIS FARM OPERATION; but utilized for egg wash

Soils Information

Table 1: Soils Data & Descriptions

See Soils Info Section (on the following pages)

RUSLE2 Calculations

CONSERVATION PLAN MAP

Owner: Cal-Maine Foods

Operator: Rich Levels Grain

Acres: 183

County: Cecil

Date: 10/01/2024

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SOIL MAP

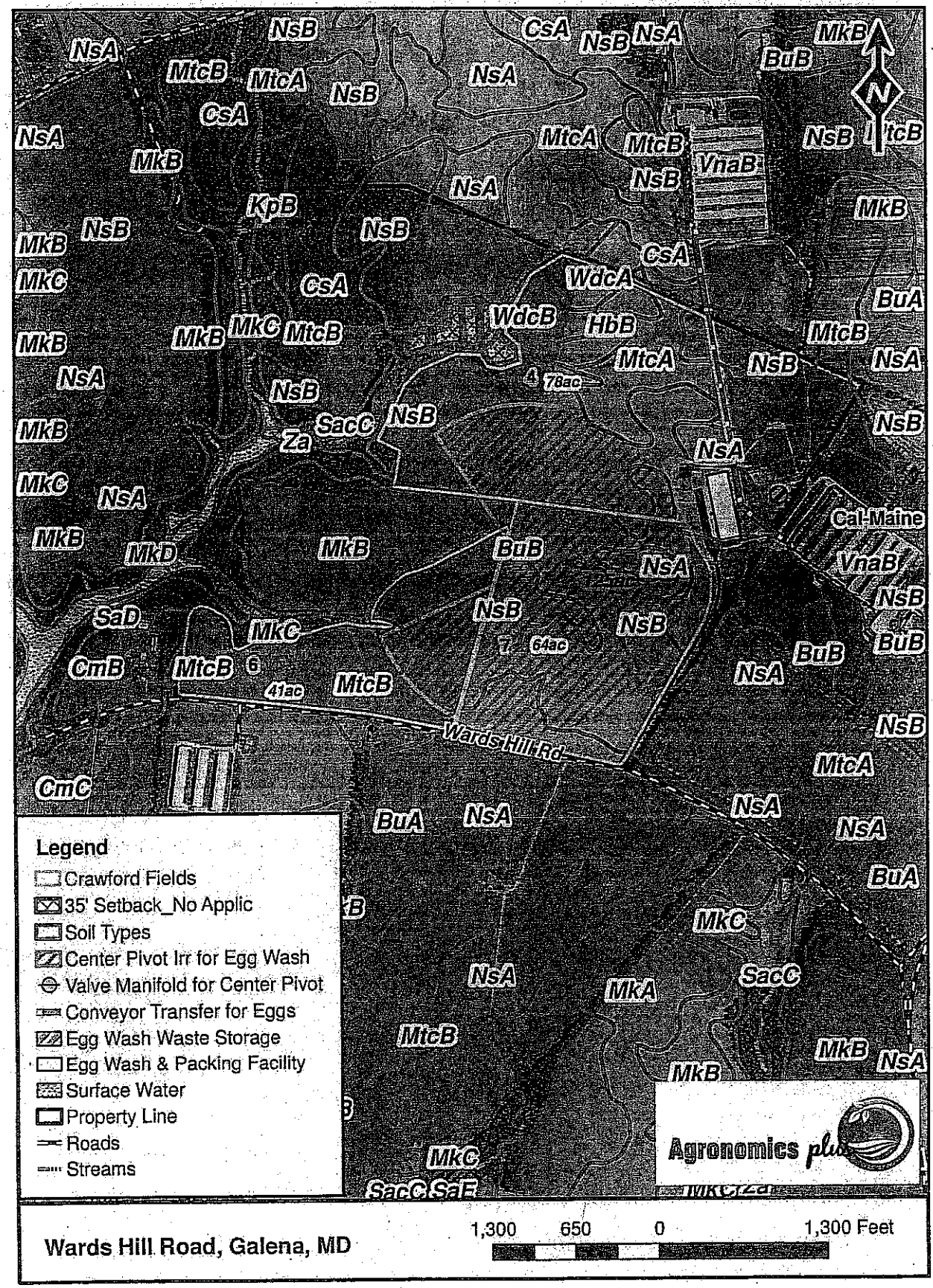
Owner: Cal-Maine Foods

Operator: Rich Levels Grain

Acres: 183

County: Cecil

Date: 10/01/2024



Wards Hill Road, Galena, MD

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NRCS Natural Resources Conservation Service
CECIL COUNTY SERVICE CENTER
105 CHESAPEAKE BLVD
ELKTON, MD 21912
(410) 398-4411

David D. Kann
Conservation Planner
Agronomics plus
717-792-1274

Conservation Plan

CAL-MAINE FOODS
1052 HIGHLAND COLONY PKWY
SUITE 200
RIDGELAND, MS 39157

RICH LEVELS
ALLEN DAVIS
33960 SASSAFRAS-CALDWELL ROAD
GALENA, MD 21635

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 only portions of this farm receiving egg wash is the irrgation center pivot footprint (125 ac).

Cropland

Crawford Farm

Conservation Crop Rotation (328)

Plant crops as listed: Rotation of CORN followed by Soybeans or followed with Wheat 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. Crops with low residues and with tillage generally cannot be added to the rotation without the additional use of conservation practices or by adding additional years of high residue no-till crops or hay to the rotation. Lime and fertilizer will be applied based on soil tests and current PSU Agronomy Guide recommendations. When soil tests are high in P and/or K, recommendations may indicate that no nutrient applications are needed.

	Planned			Applied	
Field	Amount	Month	Year	Amount	Date
4	78 ac	10	2023	78 ac	10/31/2023
6	41 ac	10	2023	41 ac	10/31/2023
7	64 ac	10	2023	64 ac	10/31/2023
Total:	183 ac			183 ac	

Nutrient Management Plan (590)

Manage the amount, form, placement and timing of plant nutrient application to protect surface & groundwater from runoff and/or leaching of nutrients. The land application of animal manures and agricultural process wastewater must follow the standards outlined by the Department of Agriculture. The standard requires the development and implementation of a plan to manage nutrients for water quality protection.

Soil tests must be completed at least once every three years and records of soil test results and nutrient application timing and rates must be maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
4	78 ac	10	2023	78 ac	10/31/2023
6	41 ac	10	2023	41 ac	10/31/2023
7	64 ac	10	2023	64 ac	10/31/2023
Total:	183 ac			152 ac	

Residue and Tillage Management, No-Till (329)

Establish the following crops using No-till equipment and practices: A rotation of Corn, Soybeans, and/or Small Grain with dc Soybeans. These crops will be planted directly into prior crop residues when conditions allow. CORN no-tilled following dc Soybeans will have a 40% residue level. Soybeans will have a 40-50% residue levels behind corn. Small grain crops following corn, 30-40% residue; dc Soybean crops will be no-tilled.

Use no-till planting methods to plant crops into surface residues to reduce sheet and rill erosion and improve soil quality. For further information including tillage and tools, use of manures and remaining residue amounts is found on the attached Job Sheet for No-Till Residue Management. Soil loss predictions and Soil Conditioning Index results, as calculated by RUSLE2, are attached. Contact the Conservation Planner if changes in crops, tillage, or residue levels are desired. For Operation and Maintenance, evaluate crop residue remaining after planting to ensure that appropriate residue levels are maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
4	78 ac	10	2023	78 ac	10/31/2023
6	41 ac	10	2023	41 ac	10/31/2023
7	64 ac	10	2023	64 ac	10/31/2023
Total:	183 ac			183 ac	

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CERTIFICATION OF PARTICIPANTS

(Producer name) DATE

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if applicable)

NRCS Representative DATE

CONSERVATION PLANNER

David D. Kann 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

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CERTIFICATION OF PARTICIPANTS

(Producer name) DATE 12-13-24

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DESIGNATED CONSERVATIONIST (if applicable)

NRCS Representative DATE

CONSERVATION PLANNER

David D. Kann DATE 12/13/24

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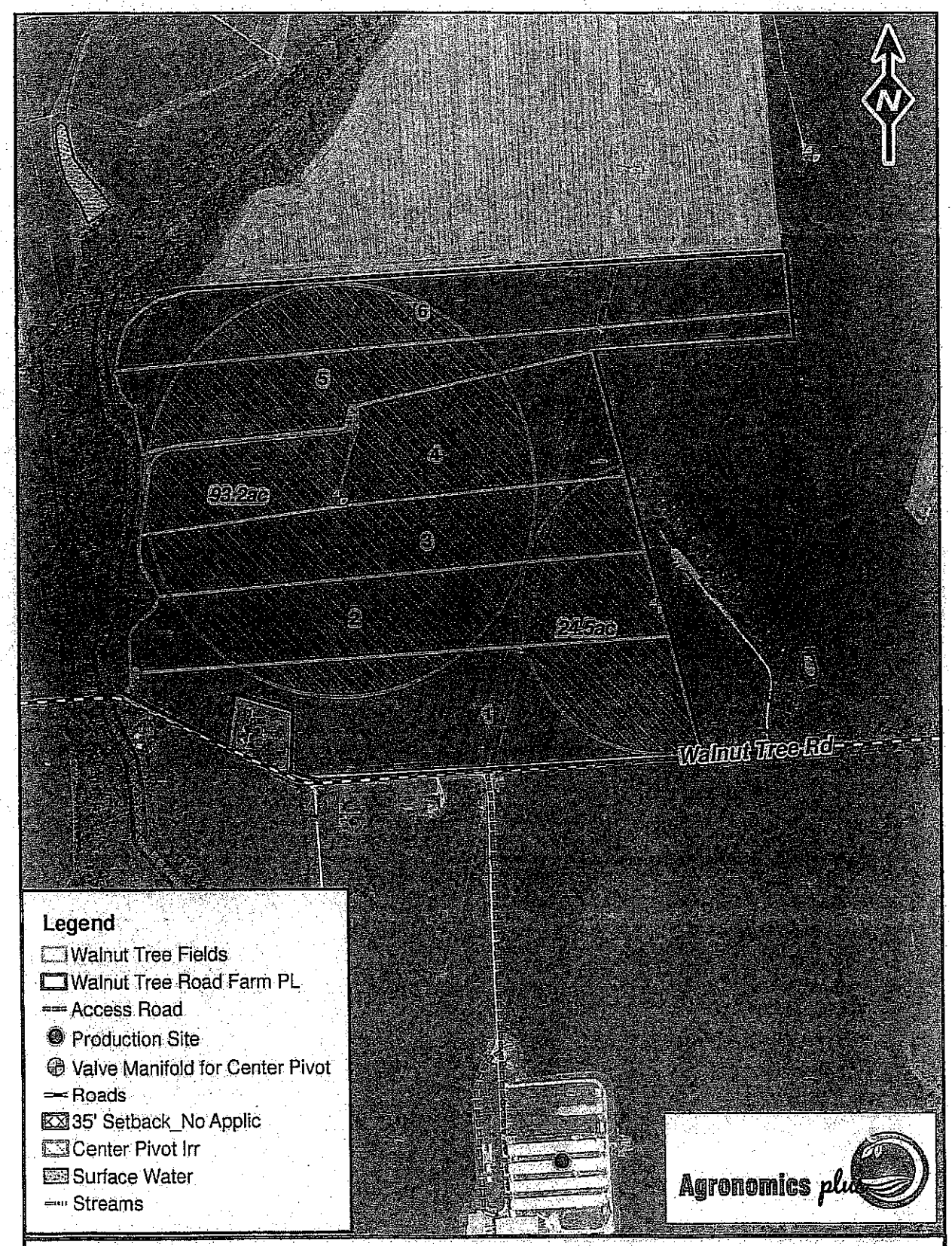
CONSERVATION PLAN MAP

Owner: Massey Properties *Operator: Rob Dvorak*

County: Kent *Date: 12/1/2024*



Walnut Tree Road, Massey, MD

1,000 500 0 1,000 Feet

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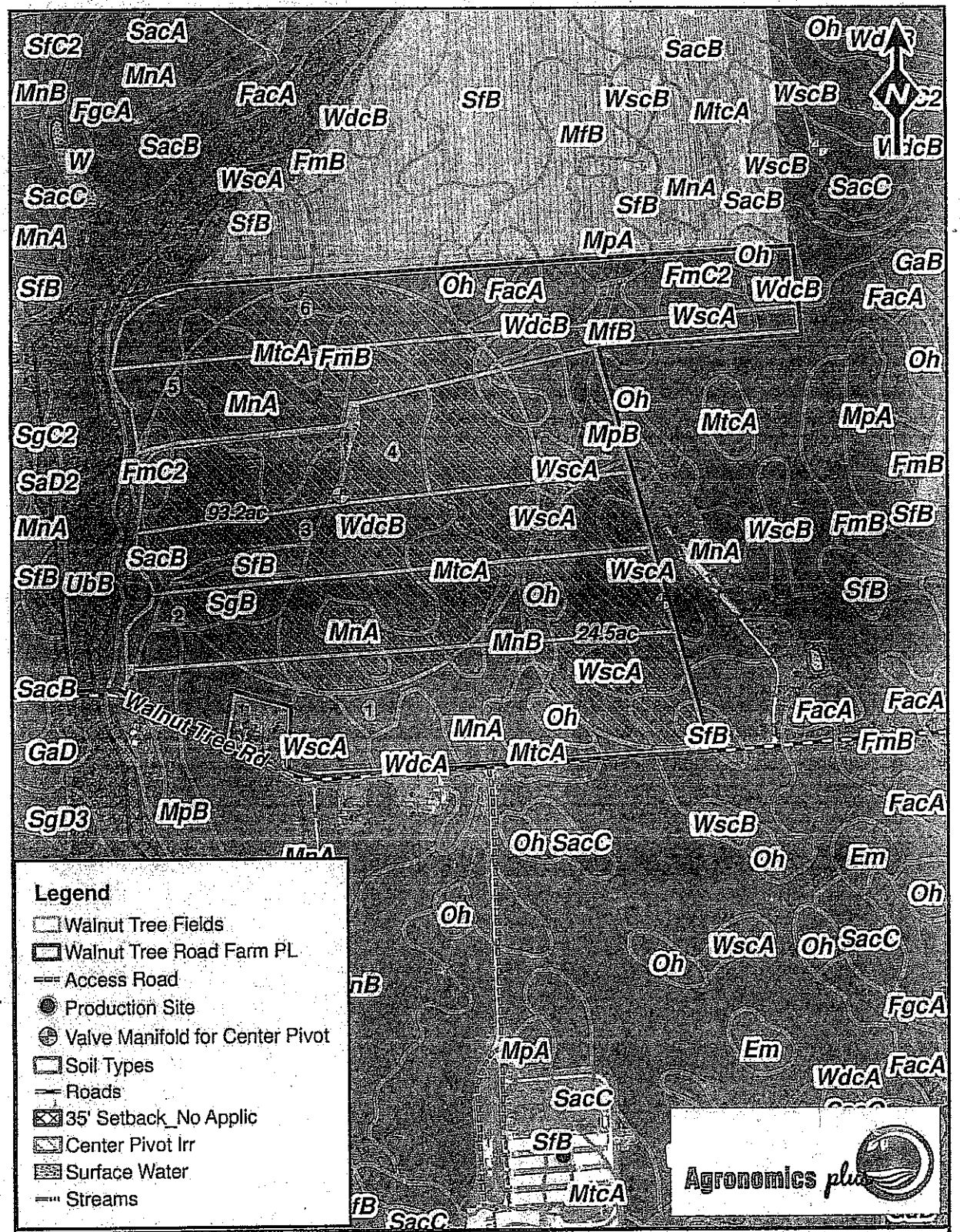
SOIL MAP

Owner: Massey Properties *Operator: Rob Dvorak*

County: Kent *Date: 12/1/2024*



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NRCS Natural Resources Conservation Service
USDA-NRCS - KENT COUNTY SERVICE CENTER
122 SPEER ROAD
CHESTERTOWN, MD 21620-1037
(410) 778-5353

David D. Kann
Conservation Planner
Agronomics plus
717-792-1274

Conservation Plan

MASSEY PROPERTIES LLC -
CAL-MAINE FOODS, INC
12872 TURNERS POINT ROAD
KENNEDYVILLE, MD 21645

ROB DVORAK

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 only portions of this farm receiving egg wash is the irrgation center pivot footprint (117.7 ac).

Cropland

Walnut Tree Road Farm

Conservation Crop Rotation (328)

Plant crops as listed: Rotation of CORN followed by Soybeans or followed with Wheat 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. Crops with low residues and with tillage generally cannot be added to the rotation without the additional use of conservation practices or by adding additional years of high residue no-till crops or hay to the rotation. Lime and fertilizer will be applied based on soil tests and current PSU Agronomy Guide recommendations. When soil tests are high in P and/or K, recommendations may indicate that no nutrient applications are needed.

Field	Planned Amount	Month	Year	Applied Amount	Date
1,2,3,4,5,6	181 ac	10	2024	181 ac	10/31/2024
Total:	181 ac			181 ac	

Nutrient Management Plan (590)

Manage the amount, form, placement and timing of plant nutrient application to protect surface & groundwater from runoff and/or leaching of nutrients. The land application of animal manures and agricultural process wastewater must follow the standards outlined by the Department of Agriculture. The standard requires the development and implementation of a plan to manage nutrients for water quality protection.

Soil tests must be completed at least once every three years and records of soil test results and nutrient application timing and rates must be maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1,2,3,4,5,6	181 ac	3	2025	181 ac	3/31/2025
Total:	181 ac			181 ac	

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Residue and Tillage Management, Mulch Till (345)

Establish the following crops: A rotation of Corn, Soybeans, and Small Grain. 30% RESIDUE AMOUNTS AFTER CORN PLANTING. Small grain crops following soybeans, 30% residue. Soybeans are no-tilled. Occasionally, due to equipment tracking and solid manure application; light verticle tillage may occur in order to properly establish the fall small grain. Corn stubble/residue is verticle tilled, ahead of proceeding crop, to cut up heavy residue.

Mulch tillage helps to reduce soil erosion and energy use, improve soil quality, and increase plant-available moisture. Manage the amount, orientation, and distribution of the crop and plant residue by limiting the amount of tillage occurring in the field. Soil loss predictions and Soil Conditioning Index results, as calculated by RUSLE2, are attached. Contact the NRCS or Soil Conservation District office if changes in crops, tillage, or residue levels are desired. For Operation and Maintenance, evaluate crop residue remaining after planting to ensure that appropriate residue levels are maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1,2,3,4,5,6	181 ac	10	2024	181 ac	10/31/2024
Total:	181 ac			181 ac	

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CERTIFICATION OF PARTICIPANTS

John F. Dorrance IV 4/11/25
(Producer name) DATE

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if applicable)

NRCS Representative DATE

CONSERVATION PLANNER

David D. Kann 3/31/2025
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.

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Cal-Maine Foods, Inc.

Soil Types
Cecil County, Maryland

Map Unit: BuA—Butlertown silt loam, 0 to 2 percent slopes

Component: Butlertown (70%)

The Butlertown component makes up 70 percent of the map unit. Slopes are 0 to 2 percent. This component is on Coastal Plain uplands. The parent material consists of silty eolian deposits over sandy or loamy fluviomarine deposits. Depth to a root restrictive layer, fragipan, is 24 to 39 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 26 inches (depth from the mineral surface is 24 inches) during February, March. Organic matter content in the surface horizon is about 60 percent. Below this thin organic horizon the organic matter content is about 5 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Mattapex (20%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Hambrook (5%)

Generated brief soil descriptions are created for major soil components. The Hambrook soil is a minor component.

Component: Othello (5%)

Generated brief soil descriptions are created for major soil components. The Othello soil is a minor component.

Map Unit: BuB—Butlertown silt loam, 2 to 5 percent slopes

Component: Butlertown (65%)

The Butlertown component makes up 65 percent of the map unit. Slopes are 2 to 5 percent. The parent material consists of silty eolian deposits over sandy or loamy fluviomarine deposits. Depth to a root restrictive layer, fragipan, is 24 to 39 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 26 inches (depth from the mineral surface is 24 inches) during February, March. Organic matter content in the surface horizon is about 60 percent. Below this thin organic horizon the organic matter content is about 5 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Mattapex (20%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Hambrook (10%)

Generated brief soil descriptions are created for major soil components. The Hambrook soil is a minor component.

Component: Othello (5%)

Generated brief soil descriptions are created for major soil components. The Othello soil is a minor component.

Map Unit: CmC—Collington loam, 5 to 10 percent slopes

Component: Collington (70%)

The Collington component makes up 70 percent of the map unit. Slopes are 5 to 10 percent. This component is on hillslopes, Coastal Plain uplands. The parent material consists of glauconite bearing loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Sassafras (15%)

Generated brief soil descriptions are created for major soil components. The Sassafras soil is a minor component.

Component: Wist (10%)

Generated brief soil descriptions are created for major soil components. The Wist soil is a minor component.

Component: Mattapex (5%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Map Unit: CsA—Crosiadore silt loam, 0 to 2 percent slopes

Component: Crosiadore (75%)

The Crosiadore component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, lowlands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available

water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 14 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Component: Mattapex (10%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Othello (5%)

Generated brief soil descriptions are created for major soil components. The Othello soil is a minor component.

Component: Kentuck (5%)

Generated brief soil descriptions are created for major soil components. The Kentuck soil is a minor component.

Component: Elkton (5%)

Generated brief soil descriptions are created for major soil components. The Elkton soil is a minor component.

Map Unit: CsB—Crosiadore silt loam, 2 to 5 percent slopes

Component: Crosiadore (75%)

The Crosiadore component makes up 75 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats, lowlands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 14 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Component: Mattapex (10%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Othello (5%)

Generated brief soil descriptions are created for major soil components. The Othello soil is a minor component.

Component: Elkton (5%)

Generated brief soil descriptions are created for major soil components. The Elkton soil is a minor component.

Component: Kentuck (5%)

Generated brief soil descriptions are created for major soil components. The Kentuck soil is a minor component.

Map Unit: FacA—Fallsington sandy loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Component: Fallsington, undrained (48%)

The Fallsington, undrained component makes up 48 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 5 inches (depth from the mineral surface is 3 inches) during January, February, March, April. Organic matter content in the surface horizon is about 68 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Fallsington, drained (25%)

The Fallsington, drained component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is rarely ponded. A seasonal zone of water saturation is at 14 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Marshyhope (8%)

Generated brief soil descriptions are created for major soil components. The Marshyhope soil is a minor component.

Component: Woodstown (7%)

Generated brief soil descriptions are created for major soil components. The Woodstown soil is a minor component.

Component: Hammonton (5%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Othello (5%)

Generated brief soil descriptions are created for major soil components. The Othello soil is a minor component.

Map Unit: HbB—Hambrook sandy loam, 2 to 5 percent slopes

Component: Hambrook (80%)

The Hambrook component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats, uplands. The parent material consists of loamy fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 45 inches during January. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Cedartown (5%)

Generated brief soil descriptions are created for major soil components. The Cedartown soil is a minor component.

Component: Hammonton (5%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Sassafras (5%)

Generated brief soil descriptions are created for major soil components. The Sassafras soil is a minor component.

Component: Woodstown (5%)

Generated brief soil descriptions are created for major soil components. The Woodstown soil is a minor component.

Map Unit: KpA—Keyport silt loam, 0 to 2 percent slopes

Component: Keyport (80%)

The Keyport component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of silty and clayey eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY120MD Moist Clayey Upland ecological site. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Mattapex (10%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Crosiadore (5%)

Generated brief soil descriptions are created for major soil components. The Crosiadore soil is a minor component.

Component: Lenni, drained (5%)

Generated brief soil descriptions are created for major soil components. The Lenni, drained soil is a minor component.

Map Unit: MkA—Matapeake silt loam, 0 to 2 percent slopes

Component: Matapeake (80%)

The Matapeake component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F153CY030MD Well Drained Loess Upland ecological site. Nonirrigated land capability classification is 1. Irrigated land capability classification is 1. This soil does not meet hydric criteria.

Component: Nassawango (10%)

Generated brief soil descriptions are created for major soil components. The Nassawango soil is a minor component.

Component: Butlertown (5%)

Generated brief soil descriptions are created for major soil components. The Butlertown soil is a minor component.

Component: Mattapex (5%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Map Unit: MkB—Matapeake silt loam, 2 to 5 percent slopes

Component: Matapeake (80%)

The Matapeake component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of

60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F153CY030MD Well Drained Loess Upland ecological site. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Nassawango (10%)

Generated brief soil descriptions are created for major soil components. The Nassawango soil is a minor component.

Component: Mattapex (5%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Butlertown (5%)

Generated brief soil descriptions are created for major soil components. The Butlertown soil is a minor component.

Map Unit: MkC—Matapeake silt loam, 5 to 10 percent slopes

Component: Matapeake (80%)

The Matapeake component makes up 80 percent of the map unit. Slopes are 5 to 10 percent. This component is on hillock low hills, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F153CY030MD Well Drained Loess Upland ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Nassawango (10%)

Generated brief soil descriptions are created for major soil components. The Nassawango soil is a minor component.

Component: Mattapex (5%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Greenwich (5%)

Generated brief soil descriptions are created for major soil components. The Greenwich soil is a minor component.

Map Unit: MtcA—Mattapex silt loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Component: Mattapex (80%)

The Mattapex component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, coastal plains. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Nassawango (10%)

Generated brief soil descriptions are created for major soil components. The Nassawango soil is a minor component.

Component: Othello, drained (5%)

Generated brief soil descriptions are created for major soil components. The Othello, drained soil is a minor component.

Component: Crosiadore (5%)

Generated brief soil descriptions are created for major soil components. The Crosiadore soil is a minor component.

Map Unit: MtcB—Mattapex silt loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain

Component: Mattapex (80%)

The Mattapex component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Nassawango (10%)

Generated brief soil descriptions are created for major soil components. The Nassawango soil is a minor component.

Component: Crosiadore (5%)

Generated brief soil descriptions are created for major soil components. The Crosiadore soil is a minor component.

Component: Othello, drained (5%)

Generated brief soil descriptions are created for major soil components. The Othello, drained soil is a minor component.

Map Unit: NsA—Nassawango silt loam, 0 to 2 percent slopes

Component: Nassawango (80%)

The Nassawango component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 45 inches during January. Organic matter content in the surface horizon is about 1 percent. This component is in the F153CY030MD Well Drained Loess Upland ecological site. Nonirrigated land capability classification is 1. Irrigated land capability classification is 1. This soil does not meet hydric criteria.

Component: Matapeake (5%)

Generated brief soil descriptions are created for major soil components. The Matapeake soil is a minor component.

Component: Mattapex (5%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Crosiadore (5%)

Generated brief soil descriptions are created for major soil components. The Crosiadore soil is a minor component.

Component: Othello, drained (5%)

Generated brief soil descriptions are created for major soil components. The Othello, drained soil is a minor component.

Map Unit: NsB—Nassawango silt loam, 2 to 5 percent slopes

Component: Nassawango (80%)

The Nassawango component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not

ponded. A seasonal zone of water saturation is at 45 inches during January. Organic matter content in the surface horizon is about 1 percent. This component is in the F153CY030MD Well Drained Loess Upland ecological site. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Mattapex (5%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Crosiadore (5%)

Generated brief soil descriptions are created for major soil components. The Crosiadore soil is a minor component.

Component: Matapeake (5%)

Generated brief soil descriptions are created for major soil components. The Matapeake soil is a minor component.

Component: Othello, drained (5%)

Generated brief soil descriptions are created for major soil components. The Othello, drained soil is a minor component.

Map Unit: SacC—Sassafras sandy loam, 5 to 10 percent slopes, Mid-Atlantic Coastal Plain

Component: Sassafras (80%)

The Sassafras component makes up 80 percent of the map unit. Slopes are 5 to 10 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Ingleside (10%)

Generated brief soil descriptions are created for major soil components. The Ingleside soil is a minor component.

Component: Downer (5%)

Generated brief soil descriptions are created for major soil components. The Downer soil is a minor component.

Component: Woodstown (5%)

Generated brief soil descriptions are created for major soil components. The Woodstown soil is a minor component.

Map Unit: VnaB—Urban land-Nassawango complex, 0 to 5 percent slopes

Component: Urban land (55%)

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Nassawango (35%)

The Nassawango component makes up 35 percent of the map unit. Slopes are 0 to 5 percent. This component is on flats, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 45 inches during January. Organic matter content in the surface horizon is about 1 percent. This component is in the F153CY030MD Well Drained Loess Upland ecological site. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Udorthents, loamy (10%)

Generated brief soil descriptions are created for major soil components. The Udorthents, loamy soil is a minor component.

Map Unit: WdcA—Woodstown sandy loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Component: Woodstown (80%)

The Woodstown component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY130NJ Moist Loamy Upland ecological site. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Fallsington (6%)

Generated brief soil descriptions are created for major soil components. The Fallsington soil is a minor component.

Component: Hammonton (6%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Mattapex (4%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Hambrook (4%)

Generated brief soil descriptions are created for major soil components. The Hambrook soil is a minor component.

Map Unit: WdcB—Woodstown sandy loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain

Component: Woodstown (80%)

The Woodstown component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats, coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY130NJ Moist Loamy Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Hammonton (6%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Fallsington, occasionally ponded (6%)

Generated brief soil descriptions are created for major soil components. The Fallsington, occasionally ponded soil is a minor component.

Component: Hambrook (4%)

Generated brief soil descriptions are created for major soil components. The Hambrook soil is a minor component.

Component: Mattapex (4%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Map Unit: Za—Zekiah sandy loam, frequently flooded

Component: Zekiah (75%)

The Zekiah component makes up 75 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains, coastal plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted

depth) is high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 5 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. This component is in the R149AY060DE Wet Alluvial Floodplain ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Longmarsh (10%)

Generated brief soil descriptions are created for major soil components. The Longmarsh soil is a minor component.

Component: Askecksy, undrained (5%)

Generated brief soil descriptions are created for major soil components. The Askecksy, undrained soil is a minor component.

Component: Hammonton (5%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Fallsington, undrained (5%)

Generated brief soil descriptions are created for major soil components. The Fallsington, undrained soil is a minor component.

Kent County, Maryland

Map Unit: Em—Elkton silt loam, 0 to 2 percent slopes

Component: Elkton, undrained (40%)

The Elkton, undrained component makes up 40 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, lowlands. The parent material consists of silty eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 5 inches (depth from the mineral surface is 2 inches) during January, February, March, April. Organic matter content in the surface horizon is about 57 percent. Below this thin organic horizon the organic matter content is about 5 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria.

Component: Elkton, drained (35%)

The Elkton, drained component makes up 35 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, lowlands. The parent material consists of silty eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is rarely ponded. A seasonal zone of water saturation is at 14 inches during January, February, March, April. Organic matter content in the surface horizon is about 3 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Component: Crosiadore (10%)

Generated brief soil descriptions are created for major soil components. The Crosiadore soil is a minor component.

Component: Kentuck, undrained (5%)

Generated brief soil descriptions are created for major soil components. The Kentuck, undrained soil is a minor component.

Component: Keyport (5%)

Generated brief soil descriptions are created for major soil components. The Keyport soil is a minor component.

Component: Mattapex (5%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Map Unit: FacA—Fallsington sandy loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Component: Fallsington, undrained (48%)

The Fallsington, undrained component makes up 48 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 5 inches (depth from the mineral surface is 3 inches) during January, February, March, April. Organic matter content in the surface horizon is about 68 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Fallsington, drained (25%)

The Fallsington, drained component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is rarely ponded. A seasonal zone of water saturation is at 14 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Marshyhope (8%)

Generated brief soil descriptions are created for major soil components. The Marshyhope soil is a minor component.

Component: Woodstown (7%)

Generated brief soil descriptions are created for major soil components. The Woodstown soil is a minor component.

Component: Othello (5%)

Generated brief soil descriptions are created for major soil components. The Othello soil is a minor component.

Component: Hammonton (5%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Map Unit: FgcA—Fallsington loams, 0 to 2 percent slopes, Mid-Altlantic Coastal Plain

Component: Fallsington, undrained (38%)

The Fallsington, undrained component makes up 38 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 5 inches (depth from the mineral surface is 3 inches) during January, February, March, April. Organic matter content in the surface horizon is about 68 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Fallsington, drained (37%)

The Fallsington, drained component makes up 37 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is rarely ponded. A seasonal zone of water saturation is at 14 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Woodstown (7%)

Generated brief soil descriptions are created for major soil components. The Woodstown soil is a minor component.

Component: Hammonton (7%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Othello (6%)

Generated brief soil descriptions are created for major soil components. The Othello soil is a minor component.

Component: Marshyhope (5%)

Generated brief soil descriptions are created for major soil components. The Marshyhope soil is a minor component.

Map Unit: FmB—Fort Mott loamy sand, 0 to 5 percent slopes

Component: Fort Mott (100%)

The Fort Mott component makes up 100 percent of the map unit. Slopes are 0 to 5 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F153DY160NJ Well Drained Coarse-Loamy Upland ecological site. Nonirrigated land capability classification is 2s. Irrigated land capability classification is 2s. This soil does not meet hydric criteria.

Map Unit: GaB—Galestown loamy sand, 0 to 5 percent slopes

Component: Galestown (80%)

The Galestown component makes up 80 percent of the map unit. Slopes are 0 to 5 percent. This component is on fluviomarine terraces, flats, uplands. The parent material consists of sandy eolian deposits and/or sandy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F153DY170NJ Sandy, Excessively Drained Upland ecological site. Nonirrigated land capability classification is 3s. Irrigated land capability classification is 2s. This soil does not meet hydric criteria.

Component: Cedartown (5%)

Generated brief soil descriptions are created for major soil components. The Cedartown soil is a minor component.

Component: Fort Mott (5%)

Generated brief soil descriptions are created for major soil components. The Fort Mott soil is a minor component.

Component: Runclint (5%)

Generated brief soil descriptions are created for major soil components. The Runclint soil is a minor component.

Component: Ingleside (5%)

Generated brief soil descriptions are created for major soil components. The Ingleside soil is a minor component.

Map Unit: GaD—Galestown loamy sand, 5 to 15 percent slopes

Component: Galestown (80%)

The Galestown component makes up 80 percent of the map unit. Slopes are 5 to 15 percent. This component is on fluviomarine terraces, flats, uplands. The parent material consists of sandy eolian deposits and/or sandy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F153DY170NJ Sandy, Excessively Drained Upland ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Fort Mott (5%)

Generated brief soil descriptions are created for major soil components. The Fort Mott soil is a minor component.

Component: Runclint (5%)

Generated brief soil descriptions are created for major soil components. The Runclint soil is a minor component.

Component: Cedartown (5%)

Generated brief soil descriptions are created for major soil components. The Cedartown soil is a minor component.

Component: Ingleside (5%)

Generated brief soil descriptions are created for major soil components. The Ingleside soil is a minor component.

Map Unit: KmA—Keyport fine sandy loam, 0 to 2 percent slopes

Component: Keyport (85%)

The Keyport component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of silty and clayey fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in

the surface horizon is about 2 percent. This component is in the F149AY120MD Moist Clayey Upland ecological site. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Rosedale (5%)

Generated brief soil descriptions are created for major soil components. The Rosedale soil is a minor component.

Component: Lenni (5%)

Generated brief soil descriptions are created for major soil components. The Lenni soil is a minor component.

Component: Pepperbox (5%)

Generated brief soil descriptions are created for major soil components. The Pepperbox soil is a minor component.

Map Unit: LO—Longmarsh and Indiantown soils, frequently flooded

Component: Longmarsh (43%)

The Longmarsh component makes up 43 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains, coastal plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 5 inches (depth from the mineral surface is 3 inches) during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 68 percent. Below this thin organic horizon the organic matter content is about 13 percent. This component is in the R149AY060DE Wet Alluvial Floodplain ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria.

Component: Indiantown (37%)

The Indiantown component makes up 37 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains, coastal plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 5 inches (depth from the mineral surface is 3 inches) during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 68 percent. Below this thin organic horizon the organic matter content is about 12 percent. This component is in the R149AY060DE Wet

Alluvial Floodplain ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria.

Component: Zekiah (10%)

Generated brief soil descriptions are created for major soil components. The Zekiah soil is a minor component.

Component: Klej (5%)

Generated brief soil descriptions are created for major soil components. The Klej soil is a minor component.

Component: Manahawkin (5%)

Generated brief soil descriptions are created for major soil components. The Manahawkin soil is a minor component.

Map Unit: MnA—Matapeake silt loam, 0 to 2 percent slopes

Component: Matapeake (80%)

The Matapeake component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F153CY030MD Well Drained Loess Upland ecological site. Nonirrigated land capability classification is 1. Irrigated land capability classification is 1. This soil does not meet hydric criteria.

Component: Nassawango (10%)

Generated brief soil descriptions are created for major soil components. The Nassawango soil is a minor component.

Component: Mattapex (5%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Butlertown (5%)

Generated brief soil descriptions are created for major soil components. The Butlertown soil is a minor component.

Map Unit: MnB—Matapeake silt loam, 2 to 5 percent slopes

Component: Matapeake (80%)

The Matapeake component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F153CY030MD Well Drained Loess Upland ecological site. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Nassawango (10%)

Generated brief soil descriptions are created for major soil components. The Nassawango soil is a minor component.

Component: Butlertown (5%)

Generated brief soil descriptions are created for major soil components. The Butlertown soil is a minor component.

Component: Mattapex (5%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Map Unit: MpA—Mattapex fine sandy loam, 0 to 2 percent slopes

Component: Mattapex (80%)

The Mattapex component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Nassawango (10%)

Generated brief soil descriptions are created for major soil components. The Nassawango soil is a minor component.

Component: Othello, drained (5%)

Generated brief soil descriptions are created for major soil components. The Othello, drained soil is a minor component.

Component: Crosiadore (5%)

Generated brief soil descriptions are created for major soil components. The Crosiadore soil is a minor component.

Map Unit: MpB—Mattapex fine sandy loam, 2 to 5 percent slopes

Component: Mattapex (100%)

The Mattapex component makes up 100 percent of the map unit. Slopes are 2 to 5 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 27 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: MtcA—Mattapex silt loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Component: Mattapex (80%)

The Mattapex component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, coastal plains. The parent material consists of silty eolian deposits over fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Nassawango (10%)

Generated brief soil descriptions are created for major soil components. The Nassawango soil is a minor component.

Component: Othello, drained (5%)

Generated brief soil descriptions are created for major soil components. The Othello, drained soil is a minor component.

Component: Crosiadore (5%)

Generated brief soil descriptions are created for major soil components. The Crosiadore soil is a minor component.

Map Unit: Oh—Othello silt loams, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Component: Othello, drained (48%)

The Othello, drained component makes up 48 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, coastal plains. The parent material consists of silty eolian deposits over fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is rarely ponded. A seasonal zone of water saturation is at 14 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Othello, undrained (28%)

The Othello, undrained component makes up 28 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of silty eolian deposits over fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 5 inches (depth from the mineral surface is 3 inches) during January, February, March, April. Organic matter content in the surface horizon is about 68 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Crosiadore (7%)

Generated brief soil descriptions are created for major soil components. The Crosiadore soil is a minor component.

Component: Mattapex (7%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Kentuck, undrained (5%)

Generated brief soil descriptions are created for major soil components. The Kentuck, undrained soil is a minor component.

Component: Fallsington, undrained (5%)

Generated brief soil descriptions are created for major soil components. The Fallsington, undrained soil is a minor component.

Map Unit: SacB—Sassafras sandy loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain

Component: Sassafras (80%)

The Sassafras component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Ingleside (10%)

Generated brief soil descriptions are created for major soil components. The Ingleside soil is a minor component.

Component: Downer (5%)

Generated brief soil descriptions are created for major soil components. The Downer soil is a minor component.

Component: Woodstown (5%)

Generated brief soil descriptions are created for major soil components. The Woodstown soil is a minor component.

Map Unit: SacC—Sassafras sandy loam, 5 to 10 percent slopes, Mid-Atlantic Coastal Plain

Component: Sassafras (80%)

The Sassafras component makes up 80 percent of the map unit. Slopes are 5 to 10 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Ingleside (10%)

Generated brief soil descriptions are created for major soil components. The Ingleside soil is a minor component.

Component: Downer (5%)

Generated brief soil descriptions are created for major soil components. The Downer soil is a minor component.

Component: Woodstown (5%)

Generated brief soil descriptions are created for major soil components. The Woodstown soil is a minor component.

Map Unit: SaD2—Sassafras sandy loam, 10 to 15 percent slopes, moderately eroded

Component: Sassafras (100%)

The Sassafras component makes up 100 percent of the map unit. Slopes are 10 to 15 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: SaD3—Sassafras sandy loam, 10 to 15 percent slopes, severely eroded

Component: Sassafras (100%)

The Sassafras component makes up 100 percent of the map unit. Slopes are 10 to 15 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: SfB—Sassafras loam, 2 to 5 percent slopes

Component: Sassafras (80%)

The Sassafras component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches

(or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Unicorn (10%)

Generated brief soil descriptions are created for major soil components. The Unicorn soil is a minor component.

Component: Woodstown (10%)

Generated brief soil descriptions are created for major soil components. The Woodstown soil is a minor component.

Map Unit: SfC2—Sassafras loam, 5 to 10 percent slopes, moderately eroded

Component: Sassafras (100%)

The Sassafras component makes up 100 percent of the map unit. Slopes are 5 to 10 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: SgC2—Sassafras gravelly loam, 5 to 10 percent slopes, moderately eroded

Component: Sassafras (100%)

The Sassafras component makes up 100 percent of the map unit. Slopes are 5 to 10 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: UbB—Udorthents, borrow area, 0 to 5 percent slopes

Component: Udorthents, borrow area (75%)

The Udorthents, borrow area component makes up 75 percent of the map unit. Slopes are 0 to 5 percent. This component is on borrow pits, flats, uplands. The parent material consists of fluviomarine

sediments fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Udorthents, loamy (10%)

Generated brief soil descriptions are created for major soil components. The Udorthents, loamy soil is a minor component.

Component: Klej (5%)

Generated brief soil descriptions are created for major soil components. The Klej soil is a minor component.

Component: Water (5%)

Generated brief soil descriptions are created for major soil components. The Water soil is a minor component.

Component: Askecksy, drained (5%)

Generated brief soil descriptions are created for major soil components. The Askecksy, drained soil is a minor component.

Map Unit: WdcA—Woodstown sandy loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Component: Woodstown (80%)

The Woodstown component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY130NJ Moist Loamy Upland ecological site. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Fallsington (6%)

Generated brief soil descriptions are created for major soil components. The Fallsington soil is a minor component.

Component: Hammonton (6%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Mattapex (4%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Hambrook (4%)

Generated brief soil descriptions are created for major soil components. The Hambrook soil is a minor component.

Map Unit: WdcB—Woodstown sandy loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain

Component: Woodstown (80%)

The Woodstown component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats, coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY130NJ Moist Loamy Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Fallsington, occasionally ponded (6%)

Generated brief soil descriptions are created for major soil components. The Fallsington, occasionally ponded soil is a minor component.

Component: Hammonton (6%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Mattapex (4%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Component: Hambrook (4%)

Generated brief soil descriptions are created for major soil components. The Hambrook soil is a minor component.

Map Unit: WscA—Woodstown loam, 0 to 2 percent slopes, Mid-Atlantic Coastal Plain

Component: Woodstown (80%)

The Woodstown component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY130NJ Moist Loamy Upland ecological site. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Hammonton (6%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Fallsington (6%)

Generated brief soil descriptions are created for major soil components. The Fallsington soil is a minor component.

Component: Hambrook (4%)

Generated brief soil descriptions are created for major soil components. The Hambrook soil is a minor component.

Component: Mattapex (4%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

Map Unit: WscB—Woodstown loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain

Component: Woodstown (80%)

The Woodstown component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats, coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY130NJ Moist Loamy Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Fallsington (6%)

Generated brief soil descriptions are created for major soil components. The Fallsington soil is a minor component.

Component: Hammonton (6%)

Generated brief soil descriptions are created for major soil components. The Hammonton soil is a minor component.

Component: Hambrook (4%)

Generated brief soil descriptions are created for major soil components. The Hambrook soil is a minor component.

Component: Mattapex (4%)

Generated brief soil descriptions are created for major soil components. The Mattapex soil is a minor component.

USDA NRCS

Rusle Program Version:
Rusle Science Version:
Data Base:

RUSLE2 Erosion Calculation Record

File: plans\Cal-Maine Foods_Crawford Farm
Access Group: R2_NRCS_Fld_Office

Inputs:

Owner name	Location	Info
Cal-Maine Foods	USA\Maryland\Cecil County	

R Factor	Annual precip	10-yr 24-hr rainfall	In Req area?
170	43	5.1	No

Field name	Soil	Slope T Value	Slope length, ft	Slope steepness, %
4	soils\SSURGO\Cecil County, Maryland\BuB Butlertown silt loam, 2 to 5 percent slopes\Butlertown Silt loam 65%	3.0	250	2.0

Results:

Field name	Description	Contouring system	Support practices	Terrace/diversion system	Cons. plan. soil loss, t/ac/yr	Sed. delivery, t/ac/yr	Soil conditioning index (SCI)	STIR value	Fuel cost
4	Cal Maine Foods_Crawford corn gr; nt - soyb, nr; nt, z65	contour-systems\b. absolute row grade 0.75 percent	-- none --	-- none --	0.32	0.32	0.68	3.5	0

The SCI is the **Soil Conditioning Index** rating. If the calculated index is a negative value, soil organic matter levels are predicted to decline under that production system. If the index is a positive value, soil organic matter levels are predicted to increase under that system.

The STIR value is the **Soil Tillage Intensity Rating**. It utilizes the speed, depth, surface disturbance percent and tillage type parameters to calculate a tillage intensity rating for the system used in growing a crop or a rotation. STIR ratings tend to show the differences in the degree of soil disturbance between systems. The kind, severity and number of ground disturbing passes are evaluated for the entire cropping rotation as shown in the management description.

USDA NRCS Natural Resources Conservation Service

Rusle Program Version:
Rusle Science Version:
Data Base:

RUSLE2 Erosion Calculation Record

File: plans\Cal-Maine Foods_flds 6 and 7 Crawford Farm
Access Group: R2_NRCS_Fld_Office

Inputs:

Owner name	*Location*	*Info*
Cal-Maine Foods	USA\Maryland\Cecil County	

R Factor	*Annual precip*	*10-yr 24-hr rainfall*	*In Req area?*
170	43	5.1	No

Field name	*Soil*	*Slope T Value*	*Slope length, ft*	*Slope steepness, %*
6	soils\SSURGO\Cecil County, Maryland\NsB Nassawango silt loam, 2 to 5 percent slopes\Nassawango Silt loam 80%	4.0	200	3.0
7	soils\SSURGO\Cecil County, Maryland\NsB Nassawango silt loam, 2 to 5 percent slopes\Nassawango Silt loam 80%	4.0	250	2.0

Results:

Field name	*Description*	*Contouring system*	*Support practices*	*Terrace/diversion system*	*Cons. plan. soil loss, t/ac/yr*	*Sed. delivery, t/ac/yr*	*Soil conditioning index (SCI)*	*STIR value*	*Fuel cost*
6	Cal Maine Foods_Crawford corn gr; nt - soyb, nr; nt, z65	contour-systems\b. absolute row grade 0.75 percent	-- none --	-- none --	0.47	0.47	0.66	3.5	0
7	Cal Maine Foods_Crawford corn gr; nt - soyb, nr; nt, z65	contour-systems\b. absolute row grade 0.75 percent	-- none --	-- none --	0.38	0.38	0.67	3.5	0

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The **SCI** is the **Soil Conditioning Index** rating. If the calculated index is a negative value, soil organic matter levels are predicted to decline under that production system. If the index is a positive value, soil organic matter levels are predicted to increase under that system.

The **STIR** value is the **Soil Tillage Intensity Rating**. It utilizes the speed, depth, surface disturbance percent and tillage type parameters to calculate a tillage intensity rating for the system used in growing a crop or a rotation. STIR ratings tend to show the differences in the degree of soil disturbance between systems. The kind, severity and number of ground disturbing passes are evaluated for the entire cropping rotation as shown in the management description.

USDA NRCS Natural Resources Conservation Service

Rusle Program Version: 2.7.1.13 (Jun 7 2022)
Rusle Science Version:
Data Base:

RUSLE2 Erosion Calculation Record

File: plans\Dvorak_Cal Maine
Access Group: R2_NRCS_Fld_Office

Inputs:

Owner name	Location	Info
Massey/Millington	USA\Maryland\Kent County	Walnut Tree Road Farm

R Factor	Annual precip	10-yr 24-hr rainfall	In Req area?
180	43	5.2	No

Field name	Soil	Slope T Value	Slope length, ft	Slope steepness, %
1 - 6	soils\SSURGO\Kent County, Maryland\SacB Sassafras sandy loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain\Sassafras Sandy loam 80%	3.0	200	2.0

Results:

Field name	Description	Contouring system	Support practices	Terrace/diversion system	Cons. plan. soil loss, t/ac/yr	Sed. delivery, t/ac/yr	Soil conditioning index (SCI)	STIR value	Fuel cost
1 - 6	Dvorak_corngrain,mt; soybeans, wheat,nt, dcsoybeans,nr,nt z59	contour-systems\b. absolute row grade 1 percent	-- none --	-- none --	0.39	0.39	0.77	21	0

The **SCI** is the **Soil Conditioning Index** rating. If the calculated index is a negative value, soil organic matter levels are predicted to decline under that production system. If the index is a positive value, soil organic matter levels are predicted to increase under that system.

The **STIR** value is the **Soil Tillage Intensity Rating**. It utilizes the speed, depth, surface disturbance percent and tillage type parameters to calculate a tillage intensity rating for the system used in growing a crop or a rotation. STIR ratings tend to show the differences in the degree of soil disturbance between systems. The kind, severity and number of ground disturbing passes are evaluated for the entire cropping rotation as shown in the management description.

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USDA NRCS Natural Resources Conservation Service

RUSLE2 Management Description Record

File: managements\temp\Dvorak_corngrain,mt; soybeans, wheat,nt, dcsoybeans,nr,nt z59

Date	Operation	Vegetation	Yield (harv. units)	Type of cover material	Cover matl add/remove, lb/ac	Cover from addition, %	Standing res. added by op. desc., lb/ac
4/25/1	Seedbed conditioner, coulter caddy, coil tine har, rlng bskt						
4/25/1	Planter, double disk opnr w/fluted coulter	Corn, grain	210				
4/25/1	Sprayer, pre-emergence						
10/14/1	Harvest, killing crop 50pct standing stubble				5700	88	5700
5/14/2	Seedbed conditioner, coulter caddy, coil tine har, ring bskt						
5/16/2	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	60.0				
10/14/2	Harvest, killing crop 30pct standing stubble				1400	56	600
10/16/2	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	90.0				
6/29/3	Harvest, killing crop 50pct standing stubble				4200	92	4200
6/30/3	Planter, double disk opnr w/fluted coulter	Soybean, mw 7in rows	40.0				
6/30/3	Sprayer, pre-emergence						
10/1/3	Harvest, killing crop 30pct standing stubble				2400	75	1000

Long-term natural rough.: 6.0 mm
Normally used as a rotation?: Yes
Duration: 3 yr

Info:

Action Items & Implementation Schedule

Schedule of Operations

This section describes the practice or action necessary for implementing this comprehensive plan. This element addresses the components and activities associated with the livestock production facility.

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.

IMPORTANT! ***The table below is your Conservation Practice and Facility Implementation Schedule.*** *All practices have been installed and are being managed appropriately.*

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.

☑ **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)***

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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: William Stevens Date: 12-13-2024

Name (*print*): William S Stevens

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NUTRIENT MANAGEMENT PLAN

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Nutrient Management
Nutrients (Manure, Wastewater, and Commercial Fertilizers)

This element addresses the Nutrient Management component of the CNMP. The nutrient management plan is developed by a certified nutrient management consultant, certified by the Maryland Department of Agriculture (MDA). The nutrient management plan is a planning tool to increase the efficiency of all nutrients including manure, wastewater and commercial fertilizer used for crop production, while reducing environmental risk and ultimately increasing profit.

Purpose and Intent of Nutrient Management

The goal of the Nutrient Management Plan (NMP) is to develop a nutrient budget for nitrogen, phosphorus, and potassium that includes all nutrient sources. From this nutrient budget, projections will be made concerning the sustainability of the plan for the entire crop sequence. In most cases, the nutrient budget is accurate for the first year only. If nutrients from sources not included in this plan and are used in the first year, the nutrient budget will be revised to account for those inputs. In subsequent years considered in this plan, a nutrient budget will be developed using current soil analysis data; current manure analysis data; the actual crops to be used and their projected yields and nutrient needs and will account for nutrients from all sources. Guidance in developing a nutrient budget may be obtained from your NRCS Field Office or your University of Maryland Cooperative Extension Service Agent. Land application procedures must be planned and implemented in a way that minimizes potential adverse impacts to the environment and public health.

Nitrogen and Phosphorus Transport and Water Quality Impairment

The potential for plant nutrients to migrate to surface and groundwater is largely depending upon soil and site conditions. Any combination of soil/site conditions that leads to rapid runoff of rapid movement of rainfall through the soil will lead to water quality risks from almost any land use practice. Excessive Nitrogen and Phosphorus concentrations in surface waters generally affect water quality by supplying nutrients to phytoplankton, which are small aquatic plants that grow suspended in water and include various types of algae. The same forms of these nutrients, which are available to crops, are also available to phytoplankton. Taste and odor problems often occur in drinking water because of excessive algae blooms in surface water.

Most annual cropping systems show a direct and marked yield response to fertilizer N applied to non-legume crops. While leaching losses are the major environmental threat from N, runoff losses are also possible. The potential for each system to contribute N to surface waters will be directly dependant upon its erosion potential coupled with fertilizer application practices. Nitrogen is lost to surface waters primarily from recently applied inorganic fertilizers. The major water quality concerns associated with

land application of organic wastes is the direct runoff of the organic material into surface waters and then migration to groundwater.

Phosphorus is the second major element utilized by actively growing plants but differs from Nitrogen. P is very immobile in soil and seldom migrates downward because it is strongly absorbed by the soil particle. The risk of groundwater contamination by P from crop production systems is limited, however the solid forms pf P that accumulates in surface soil are subject to loss via erosion. Runoff losses to surface waters are the major water quality risk from P. Where erosion risk increases, such as for annual crops with conventional tillage, the total P loss increases greatly as the P is moved in solid form with the eroding soil.

Nutrient Management Plan

The Nutrient Management Plan describes a nutrient budget for nitrogen, phosphorous and potassium that considers all potential sources of nutrients including (but not limited to) animal manure, organic by-products, wastewater, commercial fertilizer, crop residues, legume credit and irrigation water. The NMP is developed by an MDA certified nutrient management consultant who has the education and experience to formulate field-specific nutrient recommendations based on field histories, soil and manure test data, realistic yield expectations, crop nutrient requirements, preferred nutrient sources and timing and method of nutrient application.

Plan Maintenance, Updates or Revisions

According to MDA, NMP's must be updated before they expire or at least once every 3 years. The NMP should be updated each year to account for any factors such as: changes in crop rotation, legume and/or manure Nitrogen credits and changes in the amount of manure generated. Changes in your agricultural operation may require you to modify or update your plan sooner. Your Nutrient Management Plan should be updated if any of the following situations occur:

1. A change to the planned crop or cropping rotation or introduction of new crop not currently addressed in this nutrient management plan, unless the new crop will have fertility management similar to that originally planned.
2. A change of nutrient source or soil test results that indicate a change in nutrient recommendations.
3. A change in acreage managed of 10 percent or greater, or 30 acres, whichever is less.
4. A change in animal units of 10 percent or greater if resultant manure production will require significant management adjustments.

Nutrient Management Plan Annual Implementation Report

The Maryland Department of Agriculture requires that all farm operators submit an Annual Nutrient Application Annual report on all farm(s) under the Nutrient Management Plan. For information

regarding the Annual Report submittal requirements and time-frame contact your Regional Nutrient Management office or Maryland's Nutrient Management Program at 410-841-5959.

Minimum Setback Distances from Sensitive Areas

Type of Sensitive - Setback Area	Setbacks based on Methods of Applications		Notes
	Surface Application	Surface Incorporation w/in 24 Hours	
Residence/Business/Property Lines	100 ft (or alternative w/ the consent of adjacent property owner)	100 ft (or alternative w/ the consent of adjacent property owner)	
Sinkholes	100 ft	100 ft	
Perennial/Intermittent Streams & Ditches; Pond or Lake	100 ft, or use a minimum 35 ft vegetated buffer strip adjacent to stream	100 ft, or use a minimum 35 ft vegetated buffer strip adjacent to stream	
Grassed Waterway	35 ft	35 ft	
Private Well and Springs	100 ft	100 ft	
Public Well	200 ft	200 ft	
Public Surface Drinking Water Intake	200 ft	200 ft	
Field application of animal waste shall not take place on frozen ground or snow covered ground without written permission from the Department; which may be granted if an imminent storage failure or other dire emergency exists.			
An Animal Feeding Operation (AFO) will maintain a setback of 100' or a 35' vegetated filter strip between stored manure (which includes crust-outs and poultry litter) and waters of the state, including field ditches.			

No specific criteria, see NMP for application rates and details.

Maryland
Nutrient Management Plan

Prepared for:

Cal-Maine Foods

PO Box 267
Galena, MD 21635

March 31, 2025

Prepared by:

Don Moore
MD Certification Number-1048
MD License Number-2175

agricultural, environmental & technical consulting

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MARYLAND NUTRIENT MANAGEMENT PLAN

TABLE OF CONTENTS

Nutrient Management Plan Components and Recommendations
(Use "N/A" where component is not applicable to the operation.)

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Field or Management Unit Specific Information

1. Source and type of info. used to determine crop yield _____
2. Method of tillage (moldboard, chisel, no-till, etc.) _____
3. Recommendations for calibrating application equipment _____
4. Soil analysis for fields or mgmt. units _____
5. Phosphorus risk assessment:
   a) type of assessment and results _____
   b) recommendation for BMPs to lower risk _____
6. Residual nitrogen (legumes, past applications of past manure/biosolids/etc.) & PSNT Info. _____
7. ID, field or mgmt unit identifier and acreage/growing area _____
8. Crop Rotation(s), expected crop yield, and primary nutrient requirements _____

Additional Plan Content for Container or Out-of-Ground Production

1. List of plants to be grown, est. greatest # of plants, and total growing area _____
2. Summary of production and respective container sizes _____
3. Month or time frame of peak production _____
4. Description of substrate, irrigation, and nutrient application method _____
5. Environmental Risk Assessment _____
6. Program and recommendations for monitoring runoff _____
7. Methods for sampling and testing runoff _____
8. Required best management practices and/or specific recommendations _____

Map(s) of the Agricultural Operation

1. Location and boundaries of ag. operation w/field or mgmt unit boundaries _____
2. Parcel identifier, field identifier, and acreage of fields or mgmt units _____

Summary of Nutrient Recommendations

1. Miscellaneous notes in regards to nutrient application _____
2. Nutrient Recommendations _____

(A snapshot which includes parcel ID, field or mgmt unit identifier, crop/plant yield/production goal, acreage/growing area, recommended nutrient rates necessary to meet expected crop yields (amount and type of all nutrient sources per acre or mgmt unit), method and time frame for nutrient application and incorporation, and liming recommendations)

01/01

= Items which MUST be submitted to the MDA Nutrient Management Regional Office

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Certification and Review

Planner

I certify that this plan has been written according to the Maryland Nutrient Management Certification Regulations and that I am a certified planner in the State of Maryland.

Name of planner: Don Moore
AET Consulting, Inc.

Certification Number: MD-1048
License Number: MD-2175

Planner Signature: _____

Date: 4-7-25

Certification of Plan Review

This is to certify that this plan has been reviewed and has been found to be accurate and true according to my knowledge. It is mutually understood that this plan, when implemented, will serve as a guide for applications of fertilizers according to soil test results included in this plan. It is also understood that implementation of this plan will help to protect surface and groundwater resources.

Farm Owner/Operator: _____

Date: 4-21-25

Farm Operations Manager _____

Date: 4/9/25

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Plan Identification
For a No Land Plan

Operator information:
Cal-Maine Foods
PO Box 267
Galena, MD 21635
410-755-6773

Consultant information:
Don Moore
2677 Telegraph Rd
North East, MD 21901
410-620-0275
MD Certification Number: 1048
License Number: 2175

Property ID	Farm Name	AI Number	Acres	County	Watershed	Bird Numbers
0801017152	Warwick North	22189	187.5	Cecil	0097	801,600
0801005677	Warwick South	22189	164.1	Cecil	0096	854,010
0801025783	Warwick Pullet	22189	159.9	Cecil	0096	348,228
1501000144	Millington Pullet	134865	76.3	Kent	0058	352,512
1501016814	Millington Layer	134866	425.0	Kent	0058	676,512
0801006983	Crawford	22189	175.5	Cecil	0096	

This Nutrient Management Plan was written as an export plan for the animal manure. All the layer and pullet manure produced is removed from the farms and exported to various farming operations. Earthen lagoons are located on the layer farms to hold egg wash water. This water from Crawford farm processing facility and the Redbird facility is relocated and spray irrigated on cropland operated by adjacent farmer. Discharge permits are maintained for these farms. This plan was developed in January and will cover a one year time period.
Although Cal- Maine Foods does not operate the crop fields receiving the wash water, we are including them in this plan because they are receiving waste water from the egg wash operation.

Plan Maintenance

This plan was written for a one year time period. After this time the plan will need to be updated. In addition, if any of the following events occur the plan will need to be updated before the plan expiration date.

1. Changes in animal unit numbers or changes in housing of animals on the farm.
2. Changes in manure storage.
3. Change in manure receivers.

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Record keeping is very important for compliance to the Maryland Nutrient Management laws. A simple record sheet is included to keep track of amounts and recipients of manure produced on this farm. The operator is encouraged to use this sheet and keep it with this plan for easy reference.

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2024/2025 Manure Receivers			
Farmer	**Address**	**Type Received**	**Amount (Tons)**
Tommy Leager	1010 Dell Fox Road Sudlersville, MD 21668	Warwick north layers	320
Edwin Coblentz	1489 Parkers Chapel Rd Marydel, MD 19964	Warwick Layers	40
Dempsey Farms	1708 Fast Landing Rd Dover, DE 19901	Warwick Layers	1040
Steve Boone	742 Clanahan Shop Rd Church Hill, MD 21623	Warwick Layer	320
Josh Leager	830 Dell Fox Road Sudlersville, MD 21668	Warwick north layers	760
D&S Farms	230 Buck Road Pittsgrove, NJ 06318	Warwick layers Warwick pullets	1400
Rich Levels Grain	33960 Sassafras Caldwell Road Galena, MD 21635	Warwick layers	3440
Jon Quinn	445 Church Road Warwick, MD 21912	Warwick layers Warwick pullets	1484
Steve Issacson	787 Crystal Beach Road Cecilton, MD 21913	Warwick south layers	400
John Clough	330 Hall Road Sudlersville, MD 21668	Warwick layers	6080
Mark Lockwood	1200 Everett Road Marydel, MD 21649	Warwick layers	40
Albert Shauber	23629 Lands End Road Chestertown, MD 21620	Warwick layers	220
Lee Bergen	24582 Smithville Road Worton, MD 21618	Warwick layers	20
Dvoraks Farm LLC	172 Bethel Springs Dr North East, MD 21901	Millington layers Warwick Layers	1463 653
D.R. McDonald & Sons	12872 Turner Creek Road Kennedyville, MD 21645	Millington layers	3581
Harwood Grains	12812 Bloomfield Drive Kennedyville, MD 21645	Millington layers Millington pullets	2301 274
Danny McHenry	11653 Augustine Herman Hwy Kennedyville, MD 21645	Millington layers Millington pullets	1032 22
4M's Farm	12797 Augustine Herman Hwy Kennedyville, MD 21645	Millington layers Millington pullets	2334 513
D.R. McDonald & Sons	12872 Turner Creek Road Kennedyville, MD 21645	Millington pullets	448

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Manure Management

Animal Type	Number of Animals	Total Generated	Total Collected	Total Used		Total Exported
				Rate/Ac	Field	
Wash water *Crawford*	NA	3,039,763gal	1,228,669gal	10,000gal	Crawford: 4,6,7	NA
Wash water *Walnut Tree*	NA	3,039,763gal	556,200gal	8,000gal	Walnut Tree: 1,2,3,4,5,6	NA

Above ground lagoon

Currently there is an above ground storage tank and an earthen lagoon functioning in this operation. Samples are taken from each, and the results are included in this plan. The results of the Crawford sample indicated an available nitrogen value of 1.6lbs/ 1,000 gallons. The phosphorus results averaged to .40 lbs of P2O5 per 1,000 gallons. The potassium results averaged .3 lbs of K2O per 1,000 gallons. The results of the Walnut Tree sample indicated .77lbs/1,000 gallons of available nitrogen, .43lbs of P2O5 per 1,000 gallons, and .19lbs of K2O per 1,000gallons.

Old company 6 is Warwick North

Old company 15 is Warwick South

The old Company 6 and Company 15 lagoons do not directly receive processing waste water any longer. A new egg production facility has been built, along with a new above ground tank on the Crawford farm next to the fields receiving the water. Starting in 2021 an overhead irrigation pivot is utilized to apply the water.

When wash water is applied on the Crawford farm at 10,000gal/ acre it will provide a nutrient content of 16-4-3. When wash water is applied on the Walnut Tree farm at 8,000gal/ acre it will provide a nutrient content of 6-3-1. Water is diluted with fresh water when irrigating. Multiple applications are made during the growing season, a spring, fall, and a summer application.

Best Management Practices

Best management practices could be added to the farming operation. **Manure application equipment should always be calibrated** at the onset of application to better gage the application rate per acre. Manure should be sampled at the time manure is being removed at least every 2 years until a base line of nutrient content is established.

Immediate incorporation would make the most efficient use of nitrogen. Immediate incorporation would also reduce odor and fly problems.

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UM Phosphorus Management Tool (PMT) Report			
Farmer Name	Judd Stevens Cal-Maine Foods, Inc.	Year	2024
	1 (prim)		
Account ID	0801006983		
County	Cecil		
Tract or Farm ID	Crawford		
Field ID	4		
MUSYM	BuB		
Area | Crop	47.0 Acres		
Organics			
R Factor Adj. K Factor | LS Factor C | P Factors			
RUSLE A	0.32		
Transport Risk Factors			
SED Value	2		
Soil Permeability Class	Very Slow		
Field slope | Concave? | SR Factor	2.00 | No | 7.0		
Soil Drainage Class	moderately well		
HSG | Artificial Drainage? | SD Factor	D | No | 0.0		
Management Factors			
Distance to Water (DF)	100-199 ft | 0.8		
Buffer Width & Type (BF)	< 35' veg. | 1.0		
Soil Test P Fertility Index Value	215		
Degree of P Saturation (DPS M3)	53.6 (est.)		
Fert. P appl. rates, lb/A | FP * PSC	| - | - | - | 0		
Org. P appl. rates, lb/A | OP * PSC	| 3 | - | - | 2		
Runoff Fert. P appl. methods | AMr(f)	| - | - | - | 0.00		
Runoff Org. P appl. methods | AMr(o)	| M3 | - | - | 0.60		
Subsurface Fert. P appl. methods | AMsub(f)	| - | - | - | 0.00		
Subsurface Org. P appl. methods | AMsub(o)	| M3 | - | - | 0.64		
P particulate | P runoff | P subsurface	34 | 61 | 0 |		
P Loss Rating Score	95 (M)		

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Cal-Maine Foods Inc

Crawford Farm

0 295 590 1,180 1,770 Feet

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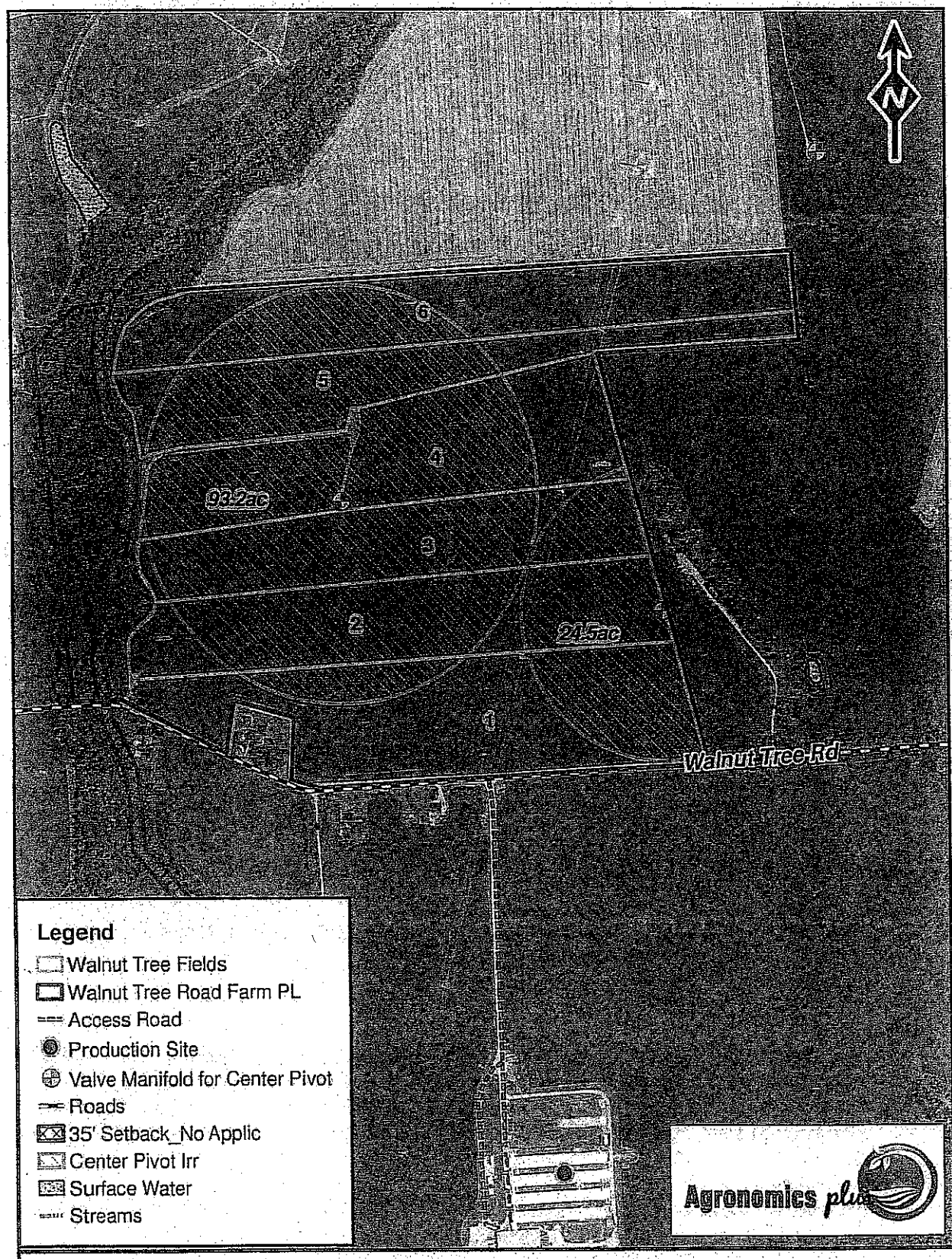
CONSERVATION PLAN MAP

Owner: Massey Properties *Operator: Rob Dvorak*

County: Kent *Date: 12/1/2024*



Walnut Tree Road, Massey, MD 1,000 500 0 1,000 Feet

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Animal Information

Animal Type	Maximum Number/Flock	Number of Flocks/Year	Finish Weight (Lb.)	Animal Units Housed Per Year	Manure Produced* (Ton/year)	AI Number
Warwick North	801,600	1	3.45 lb	2,765	15792T	22189
Warwick South	854,010	1	3.45 lb	2,946	16824T	22189
Warwick Pullet	344,228	2.5	2.85 lb	2,453	4666T	22189
Millington Layer	676,512	1	3.45 lb	2,334	13327 T	134866
Millington Pullet	352,512	2.5	2.85 lb	2,512	4724T	130331

***These totals are taken from the Poultry Litter Quantity Estimation sheet. Because of manure management, actual manure removed totals 28,646 tons per ISE records of manure exported. This number is lower than normal because farm is still rebuilding from AI Depopulation.**

Warwick North-

Houses #1 to #7 sized 52X530. Manure storage is in a pit under the birds with an area of 52X530. Manure is exported annually.
House #8 (est 52'x530') may be rebuilt on existing building pads at a future date. Manure will be exported annually.

Warwick South-

House #4, #7, #8, #9 sized 56X412. Manure is removed daily to an attached storage building sized 56X110. Manure is exported annually.
Houses #2, #3 sized 54X375. Manure is removed daily to an attached storage building sized 54X130. Manure is exported annually.
Houses 1 & 5 (est 52'x530') may be rebuilt on existing building pads at a future date. Manure will be exported annually. A hoop structure is located on this farm for manure storage. This structure is 50ftby 320ft with 24 ft center eave height

Warwick Pullet-

Houses #1, #2 sized 55X446. Manure is removed daily to a central storage building sized 52x400. Manure is removed annually and exported.
Middle House is utilized as a manure storage barn.

Millington-

Houses #1 to #4 sized 54X375. Manure is removed daily to an attached storage building sized 54X130. Manure is removed as needed and exported by Lewis McDonald.
Earthen lagoon 80X135 with a total of 593,669 gal wash water is produced at this facility.
For Houses #5-7, no future plans to rebuild are proposed on these existing building pads.

Millington Pullet-

Houses #1, #2 sized 52X412. Manure is removed from the houses daily to the detached storage building sized 60X120. Manure is removed as needed by Lewis McDonald.
Middle House is utilized as a manure storage barn.

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The processing facility for farms 6 and farm 15 is located on the Crawford farm. An above ground concrete tank stores all wash water. Layer farm #2 has an earthen lagoon for storage of wash water. All water is pumped out and transported to a neighboring farmer who applies to crop fields via overhead pivot irrigation. Care is taken to avoid ponding and rain events, etc. per the discharge permit. These farms have discharge permits with MDE and quarterly, pump out volumes are reported. Twice per year nutrient analyses of the water are taken.

Manure Management Practices:

- Mortality disposal method: _X_compost; ___ incinerate; ___ render; ___ other

- If the waste was stored following removal from the production facility, identify the storage method(s) prior to transport off the farm:
  Permanent systems: __X_waste storage structure; _X_outside, uncovered storage; ___outside, covered storage; _X__ Other–manure is stored within the house
  Temporary storage: ___ outside, uncovered storage; ___outside, covered storage.

- Is a manure storage site provided on the farm? __X__ Yes _____ No

It is recommended that the **receiving operation** has:

1. A current approved Nutrient Management Plan.
2. An approved method or structure to properly store the manure until land application can be completed.
3. A soil test phosphorus level of less than 150 FIV based on a soil test taken within the past three years.
4. Covered trucks for any over-the-road transport.

Storing manure in a permanent roofed storage structure is the best storage option. On farm storage in the production area (i.e. at the end of the poultry houses) is limited to 14 days without being covered or being stored in an approved structure. The stockpile must be separated from any channeled runoff, standing water, and other drainage systems such as roof runoff and down spouts. If stored outside less than 14 days, the stockpile must be at least 6 feet high and on an impermeable base pad constructed in accordance with NRCS conservation practice standard, Heavy Use Area Protection, Code 561.

Best Management Practices (BMPs) are a good addition to any operation. **Record Keeping** is an important and useful practice that should be considered. You are required to keep records of manure recipients but also recording actual flock numbers and actual manure tonnage produced would be beneficial information in creating an even more precise Nutrient Management Plan.

Storm Water Management is another BMP that could be used. Keeping excess moisture diverted away from the manure shed and composter helps to reduce nutrients from moving off site. This benefits water quality for you and your neighbors.

Animal Mortality Disposal

Dead animals shall be disposed of in an environmentally safe manner, according to all federal, state, and local laws and regulations. Mortality is composted within the houses. In the event of a catastrophic animal mortality, by any cause, including loss by disease, contact your contract poultry company before beginning carcass disposal.

One option for handling large animal mortality is composting. For heat, storm, power loss, and other non-pathogenic loss of animals, composting can be accomplished outside. Composting is preferred for low path avian influenza and for high pathogenic loss such as H5 or H7 Avian Influenza.

Composting material needs include:

- Mortality
- Wood shavings, straw, or sawdust (high C:N ratio) that will serve as a base for the composting pile. It will also act as an insulating blanket that surrounds the outside of the composting animal mortality, sustaining temperatures. If there is an excess of poultry litter on the farm, the outside of the windrows could be substituted with poultry litter, when covered with compost fleece.
- Material that initiates the composting process is referred to as the "feedstock". The feedstock can be corn silage, chicken litter, sawdust, shavings, wood chips, mulch, compost, etc, or a mixture of these materials. Composting conditions require 50-60% moisture content, a feedstock carbon to nitrogen ration between 20:1 and 40:1, and adequate oxygen. Test the moisture in the feedstock by grabbing a handful of the material and squeezing it into a ball. If it holds together when you release the pressure, it is good. If you can squeeze moisture from the ball, it is too wet. If it falls apart, water needs to be added. When dealing with broilers and dry chicken manure in a catastrophic event, adding water is not an option. Moisture will come from selection of feedstock and carcasses as they compost.

Outside composting:

- Choose a well-drained site, when possible. Follow the same distance required from wells, streams, and ditches as the state requires for rural septic systems. You must have an appropriate site or all-weather road to get to the approved site.
- Piles need to be structured in a pyramid fashion with rounded top to shed water. They will average 15 feet wide and not exceed 7.5 feet in height.
- When building the pile, start by placing a 5-6 inch depth base of wood chips, wood shavings or sawdust, approximately 18 feet wide and as long as needed, as a good base. The base will act as an insulating material and adsorbent.
- For composting chickens, mix the feedstock and birds together and place on top of the base to a maximum of 7 feet in height. Cover the top and sides of the pile with 5-6 inches of wood chips, wood shavings, sawdust, or clean poultry litter (not contaminated with carcasses). Then cover with compost fleece. Again the carbon material acts as an insulator and fleece helps keep the area secure. Piles must reach and sustain temperature of at least 131 degrees for three consecutive days to kill pathogenic disease organisms.
- Secure with perforated tires. Tucking the outside edge of the cloth in the ground and/or placing soil where the edges of the cloth come in contact with the ground will provide added security from the wind, protect rodents, animals, and avian wildlife from visiting the pile, and shed excess water.
- Insert compost thermometers with approximately 36 inch probes, into the pile to measure temperatures.
- Piles should be turned no sooner than 2 weeks but at least once after the composting process is initiated.

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Soil Summary from Spectrum Labs *(Crawford)* and Waypt MD *(Walnut Tree)*

Farm	Field	Acres	Last Test	Crop		OM	CEC	pH	P	P	K	% Saturation		
				2023	2024				ppm	FIV	ppm	K	Mg	Ca
Walnut Tree	1	143	10/30/23	C	C		4.9	6.7	67	75	108	6.0	22.0	64.0
Walnut Tree	2	\	10/30/23	C	C		4.7	5.8	107	119	123	7.0	15.0	58.0
Walnut Tree	3	\	10/30/23	C	C		4.6	6.5	109	121	124	7.0	18.0	65.0
Walnut Tree	4	\	10/30/23	C	C		5.3	6.6	125	138	129	6.0	20.0	66.0
Walnut Tree	5	\	10/30/23	C	C		4.5	5.9	99	110	128	7.0	14.0	60.0
Walnut Tree	6	\	10/30/23	C	C		4.6	5.8	127	140	109	6.0	12.0	62.0
Crawford	4	125	10/17/23	C	C	1.7	4.7	6.4	195	216	119	5.5	13.3	81.3
Crawford	6	\	10/17/23	C	C	1.4	4.4	6.0	68	81	76	3.7	17.2	79.0
Crawford	7	\	10/17/23	C	C	1.0	5.1	6.6	74	87	70	2.9	12.3	64.8

Field Specific Information

Farm	Field	Acres	Crop		Yield Goal[1]	Total Nutrients Allowed (lb/ac)[2]			Residual Nitrogen (lb/ac)			Tillage
									Manure		Legume	
			2023	2024		N	P_2O_5	K_2O	2022	2023	2023	
Walnut Tree	1	143	C	C	275	275	71	114		1		MIN
Walnut Tree	2	\	C	C	275	275	0	114		1		MIN
Walnut Tree	3	\	C	C	275	275	0	114		1		MIN
Walnut Tree	4	\	C	C	275	275	0	114		1		MIN
Walnut Tree	5	\	C	C	275	275	0	114		1		MIN
Walnut Tree	6	\	C	C	275	275	0	114		1		MIN
Crawford	4	125	C	C	275	275	0	114		3		MIN
Crawford	6	\	C	C	275	275	71	218		3		MIN
Crawford	7	\	C	C	275	275	71	218		3		MIN

1. Yield goal based onpast history provided by the operator.
2. Recs are the max nutrient tolerances (withstanding certain exceptions) handed down by the Univ of MD based on your soil test results for the prescribed crop.

Summary of Nutrient Recommendations

Farm	Field	Acres	Crop	Yield Goal[1]	Actual Nutrient Recommendations						
					Lime	Manure[2]	Nitrogen[3] Credit	Starter[4]	Additional Commercial Fertilizers		
			2024	(Bu/A)	(ton/ac)	(ton/ac)		(lb/ac)	N	P_2O_5	K_2O
Walnut Tree	1	143	C	275		8,000 gal	6		269	50	120
Walnut Tree	2	\	C	275		8,000 gal	6		269	0	120
Walnut Tree	3	\	C	275		8,000 gal	6		269	0	120
Walnut Tree	4	\	C	275		8,000 gal	6		269	0	120
Walnut Tree	5	\	C	275		8,000 gal	6		269	0	120
Walnut Tree	6	\	C	275		8,000 gal	6		269	0	120
Crawford	4	125	C	275		10,000 gal	17		258	0	100
Crawford	6	\	C	275		10,000 gal	17		258	50	120
Crawford	7	\	C	275		10,000 gal	17		25	50	120

1. Yield goal based on past history.
2. Egg wash waste water provides 5-2-1 when applied at 8,000gal, and 14-3-3 when applied at 10,000gal.
3. Nitrogen credit includes current and past manure applications as well as previous legume crop.
4. No starter applied.
5. Additional Fertilizer-

Corn- Broadcast recommended fertilizer where indicated prior to planting. Split apply indicated nitrogen with herbicides and at sidedress.

Alfalfa and other legumes – It is recognized by both the planner and the grower that nitrogen is not needed for these crops. The fertilizer blend used had the lowest possible nitrogen value while still providing other nutrients needed by the crop.

Feed Management Considerations

Feed management activities may be used to reduce the nutrient content of manure, which may result in less land being required to effectively utilize the manure. Feed management activities may be dealt with as a planning consideration and not as a requirement that addresses specific criteria; however, AFO owners/operators are encouraged to incorporate feed management as part of their nutrient management strategy. Specific information and recommendations should be obtained from Land Grant Universities such as the University of Maryland, the Agricultural Research Service, or professional societies such as the Federation of Animal Science Societies (FASS) or American Registry of Professional Animal Scientists (ARPAS), or other technically qualified entities. Specific feed management activities to address nutrient reduction in manure may include phase feeding, amino acid supplemented low crude protein diets, and the use of low phytin phosphorus grain and enzymes, such as phytase or other additives. Feed management can be an effective approach to addressing excess nutrient production and should be encouraged; however, it is also recognized that feed management may not be a viable or acceptable alternative for all AFO. A professional animal nutritionist should be consulted before making any recommendations associated with feed ration adjustment.

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Other Utilization Activities

If this element of the CNMP should be presented as a consideration for the AFO owner and/or operator in his/her decision-making process, a statement of action would be presented below in a table format.

Using environmentally safe alternatives to land application of manure and organic by-products should be an integral part of the overall CNMP. Alternative uses for animal manure are needed in areas where nutrient supply exceeds the nutrient requirements of crops, and/or where land application would cause significant environmental risk. Manure use for energy production, including burning, methane generation, and conversion to other fuels, is being investigated and even commercially tested as a viable source of energy. Methods to reduce the weight, volume, or form of manure, such as composting or pelletizing, can reduce transportation cost, and create a more valuable product. Manure can be mixed or co-composted with industrial or municipal by-products to produce value-added material for specialized uses. Transportation options are needed to move manure from areas of over supply to areas with nutrient deficiencies (i.e., manure brokering).

REQUIRED RECORD KEEPING

& Nutrient Management Requirements

(SEE THE TEMPLATES

WHICH FOLLOW)

Record Keeping

It is important that records are kept to effectively document and demonstrate implementation activities associated with CNMPs. Documentation of management and implementation activities associated with a CNMP provides valuable benchmark information for the producer that can be used to adjust his/her CNMP to better meet production objectives. It is the responsibility of AFO owners/operators to maintain records that document the implementation of CNMPs.

CNMP requires that the producer maintain these records for no less than 5 years. Maryland State regulations require that the Nutrient Management Plan records be maintained for a minimum of 5 years as well (see Maryland State Nutrient Management Requirements of this section). It is the producer's responsibility to ascertain the minimum time required for archiving the records listed below. In some cases, if certain USDA programs are in effect, the records may need to be kept as long as fifteen years. In addition, if this operation requires a CAFO permit, annual reporting may be necessary.

Records may be kept in a number of ways:

- Record Forms are available from the NRCS.
- Record forms may be obtained from University of Maryland Extension Office or from the MDA Nutrient Management Program.
- You may develop your own records system provided that all necessary information is included.

Land Application Record Keeping.

Record Keeping (Maintain for 5 years)

Maintaining records to document plan implementation. As applicable, records include:

- ☐ Soil test results and recommendations for nutrient application.
- ☐ Quantities, analyses and sources of nutrients and manure applied.
- ☐ Manure Transfer/Export Events
- ☐ Dates and methods of nutrient and manure applications.
- ☐ Crops planted, planting and harvest dates, yields, and crop residues removed.
- ☐ Results of water, plant, and organic by-product analyses.
- ☐ Dates of review and person performing the review, and recommendations that resulted from the review.

Operation and Maintenance

a. Review the Manure and Nutrient Management Plan component annually and make adjustments when needed.
b. Calibrate application equipment to ensure uniform distribution and accurate application rates (SEE SECTION 13).

c. Inspect and repair manure hauling and application equipment to minimize potential of accidental spillage.
d. Protect fertilizer storage areas from weather to minimize runoff, leakage, and lost of material.
e. Avoid unnecessary exposure to fertilizer and organic waste (bio-solids), and wear protective clothing when necessary.
f. Observe set backs required for nutrient applications (specified in this plan) adjacent to water bodies, drainageways, sink holes, and other sensitive areas.
g. Maintain records of manure and nutrient applications for 5 years (SEE SECTION 6).
h. Clean up residual materials from equipment and dispose of properly.

Summary:

The development of this Plan only applies to the fields and conditions stated in the Plan. If changes occur in your livestock operations or fields contact the NRCS/SWCD Office or your Technical Service Provider to get this Plan revised.

Documentation of Records

The Table below shows which of the CNMP records which may be required by MD NRCS. Operators should maintain these records to document plan implementation. As applicable, records include:

Item	Report Details	Frequency	Documentation	Maryland Records Kept For:	Required by MD NRCS?
Monthly Animal and Mortality Count		Monthly	Suggested format available	5 Years	Y
Calibration Record for Spreading Equipment		Annually	Suggested format available	Two Most Recent Records	Y
Soil test results		Every 3 years	Keep Soil Test Reports	5 Years	Y
Results of Pre-Side Dress Nitrogen or Pre-Plant Soil Nitrate Testing	Any alternative sampling technique used to address specific crop requirements that lead to a change in the applied amounts should be documented.	As needed	Keep Test Reports	5 Years	Not Required
Plant Tissue Testing Results	If analysis is used in allocation decisions these results should be maintained	As needed	Keep Test Reports	5 Years	Not Required
Manure Nutrient Analysis	A manure analysis should be completed annually, for each manure storage containment and prior to application. It is essential that a recent analysis be	Annual	Suggested format available or Keep Test Reports	5 Years	Y

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	used when updating the nutrient management plan.				
Events associated with manure storage and containment structures (e.g. manure transfer overflow events)	Dates of emptying, level before emptying, and level after emptying Discharge or overflow events, level before and after event	Event Driven	Suggested format available	5 Years	Y
Spill Response	Activities associated with emergency spill response plan.	Event Driven	Suggested format available	5 Years	Y
Crop records	Crops planted and planting/harvesting dates, by field.	Event Driven	Suggested format included	5 Years	Y
Nutrient Application Summary by Field	Nutrient Application records for each application event, including commercial fertilizers that are applied to supplement manure.	Event Driven	Suggested format included	5 Years	Y
Transfer of manure offsite to third parties	Records should include: a. Manure nutrient content b. Amount of manure transferred c. Date of transfer d. Recipient of manure	Event Driven	Suggested format available	5 Years	Y
Reviews by third parties	Records associated with any reviews by NRCS, third-party consultants, or representatives of regulatory agencies:	Scheduled	Suggested format available	5 Years	Not required
Maintenance Records	Records of maintenance performed associated with operation and maintenance plans.	Scheduled Maintenance and Event Driven	Suggested format available	5 Years	Y
Changes Made in CNMP	Some changes to the CNMP will not require a new plan to be created, other decisions will. Ask your local NRCS Field Office Personnel for information regarding changes to this CNMP.	Any actual operational or management variation from the original CNMP must be documented	Suggested format available	5 Years	Y

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Animal Facility Management Plan	Records associated with Animal Facility Management Plan	Duration of plan developed or when changes are made to CNMP (See NRCS Field Office)	CNMP	As long as facility is in operation	Y
Nutrient Management Plan	State of Maryland requires the NMP and implementation of NMP records be kept.	Duration of Plan Developed	NMP	5 years	Y (Also required by MDA)

Note: Y = Yes

Maryland Department of Agriculture Nutrient Management Requirements

Plan Implementation Records

MDA may periodically review the records of your agricultural operation. Regulations supporting the *Water Quality Improvement Act of 1998* outline the process for the evaluation and implementation of a nutrient management plan. Maintaining records to document plan implantation is the responsibility of the operator. Listed below are items needed for a Maryland Nutrient Management (on-farm) inspection of your nutrient management plan:

- ☐ All nutrient management plans and updates for the past 3 years.
- ☐ A record of crops and actual yields for the past 5 years.
- ☐ Analysis of nutrients (all forms) applied to plants and/or crop acreage.
- ☐ Soil/Manure analysis results for the entire agricultural operation.
- ☐ Receipts related to the purchase of nutrients.
- ☐ Documentation of when and where nutrients were applied to specific fields; in reference to amounts, farm, field and location.
- ☐ Documentation to justify any changes from the nutrient management plan as written.

Nutrient Management Plan Annual Implementation Report

The Maryland Department of Agriculture requires that all farm operators submit an Annual Nutrient Application Annual report on all farm(s) under the Nutrient Management Plan. For more information regarding the Annual Report submittal requirements and time-frame, contact Maryland's Nutrient Management Program at 410-841-5959.

Nutrient Applicator Voucher

If operator is an applicator of nutrients of 10 or more acres; the operator must possess a CURRENT Maryland Nutrient Applicator's Voucher or be a Certified Nutrient Management Consultant. For more information regarding applicator voucher requirements, contact Maryland's Nutrient Management Program at 410-841-5959.

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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.

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Nutrient Application Equipment Calibration:

Commercial Fertilizer Application Equipment Calibration:

The nitrogen applicator, the commercial broadcast spreaders, and corn planter will be set per the manufacturers recommendations then filled with a known amount and checked over known acreage. Adjustments will be made to achieve the planned rates.

Manure Spreader Calibration

There are several methods that can be used to calibrate the application rate of a manure spreader. The two best methods are the load-area method and the plastic sheet method. It is desirable to repeat the calibration procedure 2 to 3 times and average the results to establish a more accurate calibration.

Before calibrating a manure spreader, the spreader settings such as splash plates should be adjusted so that the spread is uniform. Most spreaders tend to deposit more manure near the spreader than at the edge of the spread pattern. Overlapping can make the overall application more uniform. Calibrating of application rates when overlapping requires measuring the width of two spreads and dividing by two to get the effective spread width.

Calibration should take place annually or whenever manure is being applied from a different source or consistency.

Load-Area Method

The load-area method is the most accurate and can be used for most types of manure handling. This method consists of determining the amount (volume or weight) of manure in a spreader and the total area over which it is applied. The most accurate method to determine the amount of manure in a spreader is to weigh the spreader when it is full of manure and again when it is empty (portable pad scales work well for this). The difference is the quantity of manure applied over the area covered. Spreader capacities listed by the manufacturers can be used to determine the amount of manure in the spreader. However care must be taken when using manufactures spreader capacities. Heaped loads, loading methods and manure type may vary considerably from what is listed by manufacturers of box and side delivery manure spreaders. Spreader capacities for liquid tankers are accurate provided the tanker is filled to the manufactures recommended levels, and no foam is present in the tank.

The area of spread is determined from measuring the length and width of the spread pattern. Measuring can be done with a measuring wheel, measuring tape or by pacing.

The application rate is calculated using the following formula:

$$\frac{\text{Spreader capacity (tons or gallons) X 43560 sq. ft/acre}}{\text{Distance traveled X Spreading width}} = \text{Application Rate tons or Gallons/Acre}$$

Plastic Sheet Method

The plastic sheet method can only be used with solid or semi-solid manure. This method of calibrating spreader application rates involves 1) cutting a plastic sheet to the specified dimensions (56 inches X 56

inches), 2) weighing the clean plastic sheet, 3) laying out the plastic sheet on the ground and driving the manure spreader (applying manure at a recorded speed and spreader setting) over the sheet, 4) weighing the plastic sheet with the manure on it, and 4) determine the net weight of the manure on the sheet (weight of manure and sheet - weight of the clean sheet), and 5) the net pounds of manure equals tons per acre applied.

When calibrating manure spreaders, all details regarding tractor speed and manure spreader settings and date(s) of each calibration should be recorded with manure application information, and directly on the equipment. Mark equipment to ensure a known application rate is applied each time the referenced tractor speed and spreader settings are used. Manure spreader settings can include such things as: fast and slow settings on some box spreaders, gate position on side delivery spreaders and splash plate position and fill levels on liquid tankers.

Irrigation System Calibration:

Place 3-5 buckets throughout the irrigation spray pattern and collect samples while operating the pump at a given rpm and pressure (for a traveling gun record the ground speed also). At the end of the planned sample period measure the amount of liquid collected in inches (average the samples). The following chart shows how many gallons per acre applied per inch applied.

Gallons applied per inch of liquid manure applied.

Inches Liquid Manure Applied via Irrigation	Gallons per Acre
.20	5,430
.30	8,146
.40	10,860
.50	13,577
.75	20,365
1.0	27,154
1.25	33,942
1.5	40,731

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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				

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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		
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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		

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

March, 20____		
Day	Initials	√ if Leak Detected
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6		

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27		
28		
29		
30		
31		

April, 20____		
Day	Initials	√ if Leak Detected

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25		
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27		
28		

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30		

May, 20____

Day	Initials	√ if Leak Detected
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26		
27		
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29		
30		
31		

June, 20____

Day	Initials	√ if Leak Detected
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29		
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July, 20____

Day	Initials	√ if Leak Detected
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30		
31		

August, 20____		
Day	Initials	√ if Leak Detected
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28		
29		
30		
31		

September, 20____		
Day	Initials	√ if Leak Detected
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30		

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October, 20____		
Day	Initials	√ if Leak Detected
1		
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14		
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27		
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29		
30		
31		

November, 20____		
Day	Initials	√ if Leak Detected
1		
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28		
29		
30		

December, 20____		
Day	Initials	√ if Leak Detected
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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

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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)

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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*	

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						

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	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						

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	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						

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					

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	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					

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APPENDIX

AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Name:	Cal-Maine Foods, Inc.	**Agency Interest #:**	22189
Planner:	David D. Kann	**Farm # / Tract #:**	Warwick North
Site Visit Date:	08/23/2024	**Total Acres:**	152 *Acres for egg wash spray fields (all associated cropland is leased out)
County:	Cecil	**Production Area Acres:**	16 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 for poultry and circular tank storage for egg wash are both 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.

AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Name:	Cal-Maine Foods, Inc.	**Agency Interest #:**	22189 (Orig. Ref.: 22200)
Planner:	David D. Kann	**Farm # / Tract #:**	Warwick South
Site Visit Date:	08/23/2024	**Total Acres:**	152 *Acres for egg wash spray fields (all associated cropland is leased out)
County:	Cecil	**Production Area Acres:**	18 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 for poultry and circular tank storage for egg wash are both 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.

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AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Name:	Cal-Maine Foods, Inc.	**Agency Interest #:**	22189 (Orig. Ref.#: 134865)
Planner:	David D. Kann	**Farm # / Tract #:**	Warwick Pullet
Site Visit Date:	08/23/2024	**Total Acres:**	6.5
County:	Cecil	**Production Area Acres:**	6.5 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 (center building) for poultry manure.
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.

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AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Name:	Cal-Maine Foods, Inc.	**Agency Interest #:**	134866
Planner:	David D. Kann	**Farm # / Tract #:**	Millington Layer
Site Visit Date:	08/23/2024	**Total Acres:**	117 spray field acres. The acres for egg wash spray fields is neighboring cropland.
County:	Kent	**Production Area Acres:**	16 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. Multiple roofed manure buildings
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.

AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Name:	Cal-Maine Foods, Inc.	**Agency Interest #:**	130331
Planner:	David D. Kann	**Farm # / Tract #:**	Millington Pullet
Site Visit Date:	08/23/2024	**Total Acres:**	6
County:	Kent	**Production Area Acres:**	6 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 (center building) for poultry manure.
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.

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/