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

General Information

AI Number: 66788

1. **LEGAL Name of Applicant** *(must match name on required plan)*:
   Aaron Dennis

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)*: ○ Size or number of houses ○ Animal number, resulting in change of size category ○ CAFO to MAFO, MAFO to CAFO ○ No-Land to Land, Land to No-Land ○ 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:** 21110 Tanyard Rd
   City: Preston **State:** MD **Zip Code:** 21655

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

7. **Email of Applicant:**

Farm Information

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

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

9. **Farm Address:** 23050 Hog Creek Rd
   City: Preston **County:** Caroline **Zip Code:** 21655

10. **Watershed/Hydrologic Unit Code (HUC)** (12-digit): 0 213-04-04-0475

11. **Latitude/Longitude of Production Area** (Deg/Min/Sec): 38 -47 -18 / 75-54-26

12. **Animal Information:**

A. Animal Type(s) *(from AFO size chart)*	B. Maximum Number of Animals *at any given time* *(For poultry, please indicate bird type and number per flock)*	C. Operation Size *(consult AFO size chart)*	D. Animal Confinement Type *(e.g. house, feedlot, barn, milking parlor, pen)*
chickens	75,000	md	chicken houses

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

13. ***Number of poultry houses:** 3

14. ***Combined square footage of *all* poultry houses:** 75,000

15. ***Date(s) poultry houses constructed:** 2004

16. ***Integrator** *(check one)*:

- ☐ Allen-Harim
- ☐ Amick
- ☐ Coleman
- ☐ Mountaire
- ☒ Perdue
- ☐ Tyson
- ☐ Other *(please specify)*: _____

Contact Information:
Phone No.: _____
Address: _____

Manure/Mortality Management

17. **Total Manure/Litter/Wastewater generated *annually*:** 625 *circle one:* (tons / lbs / gallons)

18. **Total Manure/Litter/Wastewater transported offsite *annually*:** varies see NMP plan *circle one:* (tons / lbs / gallons)

19. ****Total number of acres controlled by applicant available for land application of manure/litter/process wastewater:** *Owned:* 55.7 *Leased:*

***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
roofed shed	50x168 = 48,720 cuft	solid

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:	27.33 (Tract), 35.48 (MD Distr.)

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.

Signature of Applicant / duly authorized representative — **Date**: 12/11/24

Aaron Dennis — **Printed Name of Applicant / duly authorized representative**

Operator — **Title**

AFO Size Chart

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

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

COMPREHENSIVE NUTRIENT MANAGEMENT PLAN

FOR

Worm Farm

Aaron Dennis

LOCATION ADDRESS

23050 Hog Creek Road

Preston, Maryland 21655

MAILING ADDRESS

21110 Tanyard Road

Preston, Maryland 21655

PREPARED BY

Caroline Soil Conservation District

9194 Legion Road

Denton, MD 21629

Plan Date:

October 2024

COMPREHENSIVE NUTRIENT MANAGEMENT PLAN

Worm Farm

Aaron Dennis

23050 Hog Creek Road

Preston, Maryland 21655

MAILING ADDRESS

21110 Tanyard Road

Preston, Maryland 21655

PREPARED IN COOPERATION WITH THE

Maryland Department of Agriculture
Office of Resource Conservation

AND THE

Caroline Soil Conservation District

9194 Legion Road

Denton, MD 21629

Prepared by: Alison Taylor

Plan Date: October 2024

Poultry Operation (Land Plan)

Concentrated Animal Feeding Operation (CAFO) M.D.E. Agency Interest **# 66788**

SECTION 1: 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 plan has been prepared in accordance with NRCS standards and specifications for a Comprehensive Nutrient Management Plan 102.

This CNMP is valid as long as there are no major changes to the operation. A plan revision will be needed when the numbers of animals deviates by 10% from the planned amount or when the operation changes from one type of livestock to another. Annual revisions will be necessary for the nutrient management system in order to account for crop changes and soil sample result changes.

This CNMP was developed paying special attention to the USEPA's required nine minimum practices for water quality protection. This plan when implemented by Aaron Dennis 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, I 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 the implementation of this CNMP. It is my intent to implement/accomplish this CNMP in a timely manner as described in the plan.

Aaron Dennis

11/15/24
Date

Certified Comprehensive Nutrient Management Plan (CNMP) Planner

As an approved 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.

Alison Taylor

10/25/24
Date

Alison Taylor

NRCS Planner Certification # 161

Nutrient Management Certification # 2128

Caroline Soil Conservation District

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

John Shepard

10/29/24
Date

SECTION 2: Farmstead (Production Area)

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

Farm Locations

Farm Name	Owner	Tax Account ID	Farm #	Tract #	Account ID Acres	Watershed
Carr's Creek	Aaron Dennis	[redacted]	2120	13131	109.48	02-13-04-04-0475

Description of Operation / Additional Information

Aaron Dennis is currently operating this 3 house farm that is owned by Robert Worm. He raises Roasters with an approximate market weight of 9.5 pounds. He anticipates 4.5 flocks per year. There is cropland on the farm that is owned and tilled by Robert Worm. Mr. Worm confirmed that this acreage does not receive manure. The farm where the poultry houses are located is 118.5 acres, 108.3 acres of crop land tilled by Robert Worm, which is covered in his Nutrient Management Plan, the poultry headquarters is 10.2 acres. The Environmental Justice Score for this tract is 27.33%. Mr. Dennis has 55.7 acres of tillable ground that is covered is his Nutrient Managment Plan, he also has another poultry farm that has a separate AI# and CNMP. All manure is exported to A & B Transport, Preston, MD.

Sensitive Environmental Information

Name of nearest regulatory waterbody	Distance to nearest regulatory waterbody (ft.)	Distance to nearest regulatory wetland (ft.)
Berry Run	130 feet	1250 feet

Account ID	12 Digit Watershed	Watershed Name	Tier II High Quality Waters Watershed	Impairments			
				Nitrogen	Phosphorus	Bacteria (e.coli, enterocci or fecal)	Sediment
[redacted]	02-13-04-04-0475	Upper Choptank	No	No	No	Yes	No

Animal Production

Poultry

Bird Type	Average Bird Weight (lbs)	Number of Houses	Total Number of Birds (All Houses)	Number of Flocks per year
Roaster	9.5	3	75,000	4.5

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

Operators must keep records of the actual:

1. Quantity estimate of litter removed from production and/or storage facility; and
2. Date of removal of litter from production and/or storage facility.

Livestock

Animal Type	Class	Average Weight (lbs)	Total Number of Animals	Total Day Equivalents Confined per Year **	Total Day Equivalents Unconfined (on Pasture) per Year **	Collected Solid Manure (tons) **	Uncollected Solid Manure (tons) **	Volume of Collected Liquid (cubic feet) **
Beef	Calves	500	5	0	365	0	48	
Beef	Heifers	1000	12	0	365	0	197	
Beef	Cows	1500	5	0	365	0	67	

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

Operators must keep records of the actual:

1. Quantity estimate of litter removed from production and/or storage facility; and
2. Date of removal of litter from production and/or storage facility.

Manure Collection

The operator does a combination of windrowing and crusting to condition litter between flocks.

Manure Storage

All manure that is removed from the houses, between the flocks is stored in the 50 x 168' PWSS.

Current / Proposed Manure Storage Conditions

Animal Type	Storage Structure	Size of Storage Structure	Storage Capacity	Date Constructed
Poultry	Poultry Waste Storage Structure	50 x 168	48,720 cu ft	6/07/2006

IMPORTANT! Manure should not be stockpiled or staged anywhere in the production area other than permanent manure storage structure for any length of time.

Transfer Information (Farm(s) receiving exported manure)

Animal Type	Name	Address
Beef	A & B Manure Transport	Preston, Maryland 21655

Animal Mortality Disposal

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

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

Methods for managing mortality include:

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

* Incineration may only be used with proper equipment and permits must be obtained by the producer.
** Burial and Disposal pits should only be considered for catastrophic mortality if all other methods are not possible. Aaron Dennis will follow local and state guidance if it is determined that burial is an acceptable means of disposal.

Typical Mortality Management

Current Normal Mortality Disposal Method(s)

Animal Type	Disposal Method	Number of Bins/Capacity	Location of Disposal/Facility
Poultry	Composting - Bins/Channels	48' channel	Stand alone

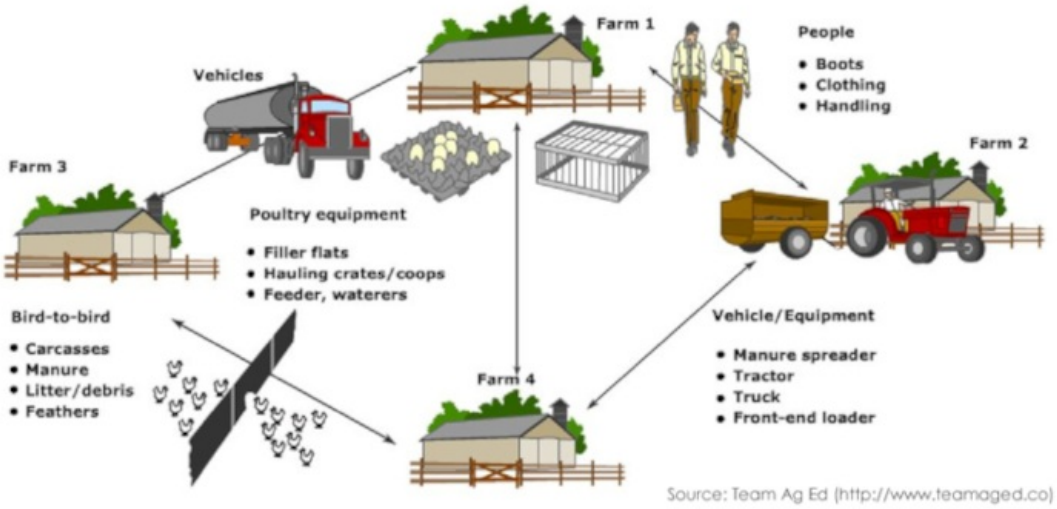
Catastrophic Mortality Management

In the event of catastrophic mortality, the operator will contact the integrator and most likely, follow an 'in house' or 'in PWSS' windrow method of composting.

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 affect 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.
    d. 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.
5. 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
6. 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, UMD 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.

Farm Contact Information

The following tables contain important contact information specific to this CNMP for Aaron Dennis.

Emergency Contact Information

Farm Name	Worm Farm
Farm Address	23050 Hog Creek Road, Preston, Maryland 21655
Mailing Address	21110 Tanyard Road, Preston, Maryland 21655
Directions to the farm	From MD 404, turn left on MD 16 Harmony Road, turn right onto Gilpin Point Road, turn left onto Ganey's Wharf Road, turn left on Hog Creek Road.

Farm Contacts

	Name	Farm Phone	Cell Phone
Farm Owner	Robert Worm		
Farm Operator	Aaron Dennis		[redacted]
Fire or Ambulance	911		

State Agency Contacts

	Phone	Emergency
Natural Resources Conservation Service	410-757-0861	410-757-0861
MDA Nutrient Management	410-841-5959	1-800-492-5590
Maryland Department of the Environment	1-800-633-6101	1-866-633-4686
USDA Veterinary Services State Veterinarian	1-866-536-7593	301-854-5699

Caroline County Agency Contacts

	Day Phone	Emergency Number
MDA Regional Nutrient Management (Region)	410-479-1202 x3	410-479-1202 x3
Health Department	410-479-8045	410-479-8045
Sherriff's Office	410-479-2515	911
University of Maryland Extension Office (Denton)	410-479-1202 x3	410-479-1202 x3

Integrator Information

Name	Address	Phone
Perdue Farms, Inc.	517 W Main St, Salisbury MD 21801	800-473-7383

CAROLINE COUNTY SERVICE CENTER
9194 LEGION RD
DENTON, MD 21629
(410) 479-1202

Conservation Plan

AARON DENNIS
21110 TANYARD RD
PRESTON, MD 21655

OBJECTIVE(S)

A new CNMP was completed for Aaron Dennis, who now opeartes the poultry houses on this farm. All of the cropland is still under the control of Robert Worm. The cropland is under Mr. Worm's NMP.

Install the conservation practices, enhancements, and activities according to the implementation requirements, designs, construction plans, or other documents that facilitate meeting the applicable NRCS technical criteria. If you do not have such information, contact your local office before starting to install your conservation practices, enhancements, and activities.

Crop

Tract: 258

Conservation Crop Rotation (328)

These fields will be farmed in a crop rotation that reduces erosion, improves soil quality, and helps to break up pest cycles. Use a crop rotation of: Vegetables followed by small grain followed by soybeans.

Field	Planned Amount	Month	Year	Applied Amount	Date
2	2.8 Ac	08	2004	2.8 Ac	08/24/2004
3	34.9 Ac	08	2004	34.9 Ac	08/24/2004
4	16.7 Ac	08	2004	16.7 Ac	08/24/2004
1	49.3 Ac	10	2005	49.3 Ac	06/23/2006
Total:	103.7 Ac	--	--	103.7 Ac	--

Cover Crop (340)

Grasses, legumes, and forbs planted for seasonal vegetative cover.

10 Field	Planned Amount	Month	Year	Applied Amount	Date
1	52.7 Ac	04	2015	--	--
2	3.1 Ac	04	2015	--	--
3	35.5 Ac	04	2015	--	--
4	17.0 Ac	04	2015	--	--
1	52.7 Ac	04	2016	--	--
2	3.1 Ac	04	2016	--	--
3	35.5 Ac	04	2016	--	--
4	17.0 Ac	04	2016	--	--
Total:	216.6 Ac	--	--	--	--

Cover Crop (340)

Establish a winter cover crop to utilize remaining nitrogen, prevent erosion, and build soil fertility. Follow current seeding rates and planting dates.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	6.5 Ac	01	2006	6.5 Ac	04/01/2006
3	34.4 Ac	01	2006	34.4 Ac	04/01/2006
Total:	40.9 Ac	--	--	40.9 Ac	--

Grade Stabilization Structure (410)

Install a structure to carry a concentrated flow of water and prevent erosion. Establish and maintain permanent vegetation around the structure. Mow the vegetation at least every two years in order to prevent woody vegetation. Follow job sheet guidelines.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	1.00 No	12	2006	--	--
Total:	1.00 No	--	--	--	--

Irrigation Water Management (449)

Control the rate, amount and timing of irrigation water to minimize soil erosion and control water loss from runoff and deep percolation. A water irrigation management plan will be developed and followed for 3 years. Funding through EQIP12 cn: 743B19120HE.

Field	Planned Amount	Month	Year	Applied Amount	Date
2	1.9 Ac	04	2008	1.9 Ac	02/26/2008
2	2.8 Ac	04	2009	1.9 Ac	04/10/2008
2	2.8 Ac	04	2010	1.9 Ac	09/14/2009
3	24.6 Ac	01	2014	7.9 Ac	08/11/2015
3	24.6 Ac	01	2015	7.9 Ac	05/06/2016
3	24.6 Ac	01	2016	7.9 Ac	01/12/2017
Total:	81.3 Ac	--	--	29.4 Ac	--

Irrigation Water Management (449)

11

Control the rate, amount and timing of irrigation water to minimize soil erosion and control water loss from runoff and deep percolation. Mr. Worm was approved for funding to replace an existing center pivot system. He will be paid incentive payments for 3 years beginning in 2008 .EQIP2007 Contract # 743B1907010. Mr. Worm will receive funding for moisture 2 probes.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	37.1 Ac	04	2008	37.1 Ac	02/26/2008
1	37.1 Ac	04	2009	37.1 Ac	04/10/2008
1	37.1 Ac	04	2011	37.1 Ac	09/14/2009
Total:	111.3 Ac	--	--	111.3 Ac	--

Irrigation Water Management (449)

Upgrade an existing irrigation system with a center pivot system. All contract paperwork will be in the contract folder in the DC's office. The DC will discuss program requirements with the recipient and obtain necessary signatures.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	1.0 Ac	06	2005	1.0 Ac	01/31/2006
3	22.9 Ac	06	2005	22.9 Ac	01/31/2006
4	16.7 Ac	06	2005	16.7 Ac	01/31/2006
Total:	40.6 Ac	--	--	40.6 Ac	--

Irrigation Water Management (449)

Irrigation water efficiency analysis will be done by University of Delaware. The system is in field 1 but wets acreage in fields 1 and 2. EQIP 743B196A575.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	42.0 Ac	05	2006	42.0 Ac	03/13/2007
2	2.7 Ac	05	2006	2.7 Ac	03/13/2007
Total:	44.7 Ac	--	--	44.7 Ac	--

Nutrient Management (590)

Apply nutrients in amounts to meet crop need and based on a realistic (5 year average) yield goal. Apply manure and commercial fertilizer according to a nutrient management plan. To obtain this plan, contact a nutrient management consultant at the Cooperative Extension Office (410-479-4030), or contact a private certified consultant.

Field	Planned Amount	Month	Year	Applied Amount	Date
2	2.8 Ac	08	2004	2.8 Ac	08/24/2004
3	34.9 Ac	08	2004	34.9 Ac	08/24/2004
4	16.7 Ac	08	2004	16.7 Ac	08/24/2004
1	49.3 Ac	10	2005	49.3 Ac	06/23/2006
Total:	103.7 Ac	--	--	103.7 Ac	--

Residue Management, No-Till/Strip Till (329A)

Manage organic residue so maximum amounts are left on the soil surface on a year-round basis. Plant crops in narrow slots or narrow tilled strips in previously untilled soil.

Field	Planned Amount	Month	Year	Applied Amount	Date
2	2.8 Ac	08	2004	2.8 Ac	08/24/2004
3	34.9 Ac	08	2004	34.9 Ac	08/24/2004
4	16.7 Ac	08	2004	16.7 Ac	08/24/2004
1	49.3 Ac	10	2005	49.3 Ac	06/23/2006
Total:	103.7 Ac	--	--	103.7 Ac	--

Sprinkler System (442)

Remove old system and install a sprinkler irrigation system to efficiently apply irrigation water without waste or erosion using low pressure drop nozzles. Enrolled into EQIP 2007. Contract #743B19070I0

Field	Planned Amount	Month	Year	Applied Amount	Date
1	37.1 Ac	04	2008	37.1 Ac	02/26/2008
2	1.9 Ac	04	2008	1.9 Ac	02/26/2008
Total:	39.0 Ac	--	--	39.0 Ac	--

Sprinkler System (442)

Upgrade an existing travelling gun system with a center pivot system for increased water efficiency. . All contract paperwork will be in the contract folder in the DC's office. The DC will discuss program requirements with the recipient and obtain necessary signatures.

Field	Planned Amount	Month	Year	Applied Amount	Date
3	40.6 Ac	06	2005	40.6 Ac	01/31/2006
Total:	40.6 Ac	--	--	40.6 Ac	--

Sprinkler System (442)

Upgrade an existing center pivot system for increased water efficiency. This system is an upgrade from a current system in Fd 3. This system will be a 3-tower system measuring 566.5 ft. It wets 24.6 acres total, 7.9 acres on farm 1410 tract 258, 3.7 acres on farm 739 tract 259, and 13 acres on farm 1883 tract 260.

Note: A 5' established grass setback is required on pond near irrigation pivot. Chemigation value is not needed on this system but a flow meter is required. The water source is the nearby pond also located in fd 3.

This pivot is funded through EQIP12 cn: 743B19120HE.

Field	Planned Amount	Month	Year	Applied Amount	Date
3	24.6 Ac	04	2013	24.6 Ac	07/31/2013
Total:	24.6 Ac	--	--	24.6 Ac	--

Farmstead

Tract: 258

Agrichemical Handling Facility (309)

A facility with an impervious surface to provide an environmentally safe area for the handling of on-farm agrichemicals.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1.00 No	05	2016	--	--
Total:	1.00 No	--	--	--	--

Animal Mortality Facility (316)

Construct a composter to provide for the normal daily accumulation of dead birds from the poultry operation. Maintain the structure according to the operation and maintenance plan and in accord with the training provided by the Extension Service. (CR-2005-1359).

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1.00 No	10	2005	1.00 No	06/07/2006
Total:	1.00 No	--	--	1.00 No	--

Comprehensive Nutrient Management Plan (102)

This is a CBWI contract item. Obtain a comprehensive nutrient management plan (CNMP) from an NRCS-approved Technical Service Provider (TSP) that describes and documents a conservation system within a conservation plan that is unique to animal feeding operations. The CNMP addresses all aspects of the Animal Feeding Operation including manure handling, nutrient management, feed management, and other conservation practices. Maryland Department of the Environment requires that a CNMP that is developed to meet EPA/MDE CAFO regulatory requirements to control soil erosion and protect water quality must be implemented as scheduled. Any CNMP components that are funded through cost-share programs must also be implemented as scheduled.

CBWI 803B191102S

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1.00 No	06	2011	1.00 No	10/01/2012
Total:	1.00 No	--	--	1.00 No	--

Comprehensive Nutrient Management Plan - Applied (103)

All planned practices contained in the written Comprehensive Nutrient Management Plan are applied according to NRCS standards and specifications.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1.00 No	01	2013	--	--
Total:	1.00 No	--	--	--	--

Grade Stabilization Structure (410)

Install a structure to carry a concentrated flow of water and prevent erosion. Establish and maintain permanent vegetation around the structure. Mow the vegetation at least every two years in order to prevent woody vegetation. Follow job sheet guidelines.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1.00 No	03	2002	1.00 No	09/16/2002
HQ	1.00 No	03	2002	1.00 No	09/16/2002
Total:	2.00 No	--	--	2.00 No	--

Heavy Use Area Protection (561)

Stabilization or protection of an intensively used area.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	--	05	2016	--	--
Total:	--	--	--	--	--

Heavy Use Area Protection (561)

Construct a Heavy Use Area (HUA) at the load-out doors of the poultry house. The Heavy Use Area will reduce erosion and improve water quality by providing a stable area for handling manure during partial or total cleanout. Follow the NRCS engineering design provided and the required Operation and Maintenance plan. Pads are planned for MACS c/s on 5 ends of every chicken house. MACS agreement #:

Pads are planned on both ends of the PWSS with a connecting pad to the DBCF and one end of a chicken house through CBWIcn: 803B19120I8. See conservation plan map for locations.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	0.3 Ac	12	2013	0.3 Ac	12/11/2013
Total:	0.3 Ac	--	--	0.3 Ac	--

Pond (378)

A water impoundment made by constructing an embankment, by excavating a dugout, or by a combination of both.

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1.00 No	01	1988	1.00 No	01/01/1990
Total:	1.00 No	--	--	1.00 No	--

Waste Storage Facility (313)

Construct a waste storage structure according to NRCS standards and specifications at the location as shown on the conservation plan map. Structure is designed to safely store manure until it is safe to apply to the land in accordance with the waste management plan. Follow proper operation and maintenance techniques as specified in the plan. (CR-2005-1359)

Field	Planned Amount	Month	Year	Applied Amount	Date
HQ	1.00 No	10	2005	1.00 No	06/07/2006
Total:	1.00 No	--	--	1.00 No	--

CERTIFICATION OF PARTICIPANTS

AARON DENNIS — DATE 11/15/24

CERTIFICATION OF:

CERTIFIED PLANNER — DATE 10/25/24

CONSERVATION DISTRICT
CAROLINE SCD — DATE 10/29/24

PUBLIC BURDEN STATEMENT

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

PRIVACY ACT

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

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USDA Office of the Assistant Secretary for Civil Rights
1400 Independence Avenue, SW.
Washington, DC 20250-9410
Or call toll free at (866) 632-9992 (voice) to obtain additional information, the appropriate office or to request documents. Individuals who are deaf, hard of hearing, or have speech disabilities may contact USDA through the Federal Relay service at (800) 877-8339 or (800) 845-6136 (in Spanish). USDA is an equal opportunity provider, employer, and lender. Persons with disabilities who require alternative means for communication of program information (e.g., Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

Conservation Plan Map

In Cooperation with the Caroline Soil Conservation District

Owner: Robert Worm
Approximate Acres: 118.5
Farm 1410 Tract 258
OPID: HOGCR_26

Poultry Operator: Aaron Dennis
Date: 10/25/24
Assisted by: Alison Taylor

Legend

- Approx. Property Boundary
- Field Boundaries
- Center Pivot Irrigation
- Center Pivot Irrigation - EQIP07
- Center Pivot Irrigation EQIP 12 743B19120HE
- DBCF (CR-2005-1359)
- Grade Stabilization Structure (CR-2002-2757R)
- HUA MACS -2012-2402
- HUA CBWI/M ACS co-cost - 803B19120I8
- PWSS (CR-2005-1359)
- Pond (CR-1987-0615)
- Surface Drainage

N

660 0 660 1,320
Feet

Date: 10/25/2024

Soils Map and Report

Caroline County, Maryland

Assisted By: Alison Taylor
CAROLINE COUNTY SERVICE CENTER

Prepared with assistance from USDA-Natural Resources Conservation Service

0 660
Feet

Soils
Soil Mapunit

N

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Caroline County, Maryland

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

Component: Hammonton (80%)

The Hammonton component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, shallow depressions, 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 moderately well 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. 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. Irrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Hurlock, drained (5%)

Generated brief soil descriptions are created for major soil components. The Hurlock, drained 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.

Component: Klej (5%)

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

Component: Rosedale (5%)

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

Map Unit: HvA--Hurlock sandy loam, 0 to 2 percent slopes

Component: Hurlock, drained (42%)

The Hurlock, drained component makes up 42 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of Loamy fluviomarine sediments 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 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 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. Irrigated land capability classification is 3w. This soil meets hydric criteria.

Component: Hurlock, undrained (38%)

The Hurlock, undrained component makes up 38 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of Loamy fluviomarine sediments 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 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 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. Below this thin organic horizon the organic matter content is about 2 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: Hammonton (5%)

Generated brief soil descriptions are created for major soil components. The Hammonton 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.

Component: Klej (5%)

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

Component: Mullica, drained (5%)

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

Map Unit: IeA--Ingleside loamy sand, 0 to 2 percent slopes

Component: Ingleside (75%)

The Ingleside component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of loamy eolian deposits and/or 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 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 1 percent. This component is in the F153DY160NJ Well Drained Coarse-Loamy Upland ecological site. Nonirrigated land capability classification is 1. Irrigated land capability classification is 1. This soil does not meet hydric criteria.

Component: Evesboro (5%)

Generated brief soil descriptions are created for major soil components. The Evesboro 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: Woodstown (5%)

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: Downer (5%)

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

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

Component: Ingleside (75%)

The Ingleside component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of loamy eolian deposits and/or 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 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 1 percent. This component is in the F153DY160NJ Well Drained Coarse-Loamy Upland ecological site. Nonirrigated land capability classification is 1. Irrigated land capability classification is 1. This soil does not meet hydric criteria.

Component: Woodstown (5%)

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: Downer (5%)

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

Component: Rosedale (5%)

Generated brief soil descriptions are created for major soil components. The Rosedale 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.

Data Source Information

Soil Survey Area: Caroline County, Maryland
Survey Area Data: Version 23, Sep 06, 2024

AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Name:	Aaron Dennis			**Agency Interest #:**	66788
Planner:	Alison Taylor			**Farm # / Tract #:**	2120 / 13131
Site Visit Date:	10/18/24			**Total Acres:**	109.48
County:	Caroline			**Production Area Acres:**	10.2

	RESOURCE CONCERN	**YES**	**NO**	**Assessment**
a.	Biosecurity measures	☐	☒	The operator is following biosecurity measures as outlined by the integrator and MDA Animal Health.
b.	Chemical handling	☐	☒	Chemicals related to poultry production are stored in the 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	☐	☒	No feedlot resource concerns have been identified. BMPs have been constructed to mitigate the potential for discharges.
e.	Floodplains	☐	☒	This is an existing operation and the production area is not located in the FEMA-100 Year Floodplain as per the on-line resources available.
f.	Gully erosion	☐	☒	No gully erosion was identified in the production area or associated water conveyances.
g.	Livestock travel lanes	☐	☒	Not Applicable.
h.	Nutrient discharge	☐	☒	There are no observable nutrient discharges occurring from the production area.
i.	Objectionable odors	☐	☒	Normal poultry or livestock odors associated with this the type of operation or facility were noted.
j.	Particulate matter emissions	☐	☒	Normal particulate emissions associated with a facility of this size.
k.	Ponding, flooding, seasonal high water table	☐	☒	No abnormal ponding, flooding or high water table issues were identified.
l.	Sediment	☐	☒	No obvious and observable sediment discharges are occurring from the production area.
m.	Streambank/shoreline erosion	☐	☒	No streambank or shoreline areas are present in the production area.
n.	Threatened/endangered species	☐	☒	No geospatial indicators have been identified on the production area.
o.	Waste storage	☐	☒	There are no resource concerns identified for waste storage. Existing waste storage facilities are adequately sized for the operation and are consistent with the waste management system plan.
p.	Waterways	☐	☒	Maryland regulated waterways have been identified on the property and are greater than 100 feet from the production facilities. This is an existing facility with all required BMPs. No further action is required.
q.	Wetlands	☐	☒	Maryland regulated wetlands have been identified on the property greater than 100 feet from the production facilities. This is an existing facility with all required BMPs. No further action is required.)

Implementation Schedule for Farmstead

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

Practice and Facility Implementation Schedule

Description	Date
All resource concerns have been addressed and no additional best management practices are recommended or required at this time.	October 2024

The schedule of conservation practices presented here has been reviewed by Aaron Dennis, who is responsible for compliance with the requirements of the agricultural farm operation.

I, Aaron Dennis, 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 scheduled above. Should I not be able to implement any of the above items according to the schedule, I will contact the Caroline Soil Conservation District and have this schedule revised.

AD

Aaron Dennis

11/15/24

Date

Implementation Schedule Comments

Maintain lanes and continue to keep HUA pads clean.

Operation and Maintenance for BMP's in Farmstead

This section addresses the operation and maintenance for the structural, non-structural, and land treatment measures for your farm. These documented measures require 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.

Waste Storage Facility (313)

- Check backfill areas around the structure (concrete, steel, timber, etc.) frequently 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.
- Check walls and floors often - minimum of 2 times a year when facility is empty - for cracks and/or separations. Make needed repairs immediately.
- 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. 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 vegetation is damaged, berms and embankments will need to be re-vegetated as soon as possible.
- Fences should be inspected and maintained in order to exclude livestock from the berms and embankments and to exclude unauthorized entry by people.
- 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.
- Check frequently for burrowing animals around buildings, structures, and in the berms and embankments. Remove them when they are found and repair any damage.
- Inspect haul roads and approaches to and from the storage facility frequently to determine the need for stone, gravel or other stabilizing material.
- Do not allow runoff from loading areas and from spills to flow into streams or road ditches.
- Examine and repair all warning and hazard signs as needed.
- Install and maintain a marking gauge post that clearly shows the design levels of one-half and full for manure storage pits, ponds, and lagoons.
- Clear blockages from roof gutters and outlets as needed.
- Notify the Soil Conservation District of any major problems or repairs needed.
- The roof must be maintained to operate as intended for the life of the practice (15 years). The function of the roof is critical because the manure storage facility is sized accordingly.

Animal Mortality Facility (316)

- Facilities for normal mortality will be operated or used on a regular basis. At each operation or use, inspect the facility to note any maintenance needs or indicators of operation problems, and promptly make repairs or adjustments to operation of the facility.
- Follow the management plan requirements for:
- The mix proportions, moisture requirements, and materials used.
- The sizing requirements.
- The timing of the disposal/utilization process including loading, unloading, and turning or aeration of the material.
- Temperature monitoring requirements, including a temperature log.
- What must be done to prevent scavenging animals and leachate problems.
- Bio-security requirements.
- If catastrophic mortality occurs, contact NRCS or the Soil Conservation District for assistance concerning proper disposal of the mortality.

Heavy Use Area Protection (561)

- Inspect the Heavy Use Area at least twice a year and after severe storm events.
- Scrape the surface as needed to remove excess manure and/or sediment.
- Repair paved areas by repairing holes and replacement of paving materials.
- Replace loose surfacing material such as gravel, cinders, sawdust, tanbark, etc. as needed when removed by livestock, equipment traffic, or scraping.
- Repair any deteriorating areas.

- Maintain all vegetation that is part of the plan by fertilizing and liming according to soil test recommendations and reseeding or replanting as necessary.
- Inspect inlets and outlets of pipes and culverts and remove any obstructions present.
- Maintain flow into filter areas by removing accumulated solids, reconstructing waterbars, etc.

SECTION 3: Land Treatment Area (Crop and/or Pasture)

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.

The following documents are located in this section:

- Conservation Plan
- Conservation Plan Map
- Soils Map
- Soils Descriptions
- RUSLE2 Soil Loss Calculations

USDA United States Department of Agriculture

Caroline County, Maryland

Farm 2119

Tract 13132

2025 Program Year

Map Created September 10, 2024

0 190 380 760 Feet

Producer Shares:

Irrigated / Nonirrigated

Common Land Unit

- Non-Cropland
- Cropland
- Tract Boundary

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

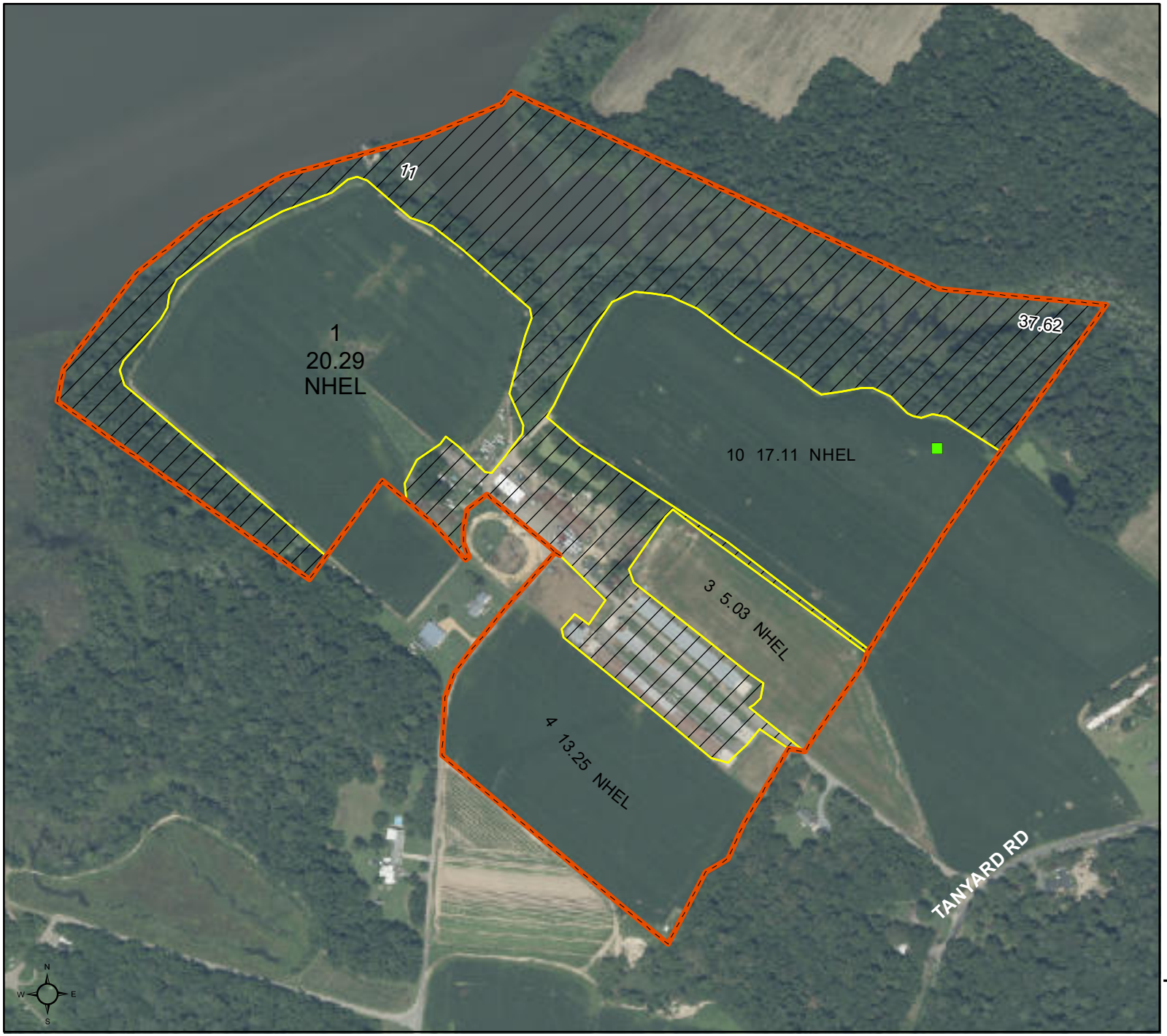
Tract Cropland Total: 3.42 acres

USDA United States Department of Agriculture

Caroline County, Maryland

Farm 2120

Tract 13131



2025 Program Year

Map Created September 10, 2024

0 210 420 840 Feet

Producer Shares:

Irrigated / Nonirrigated

Common Land Unit

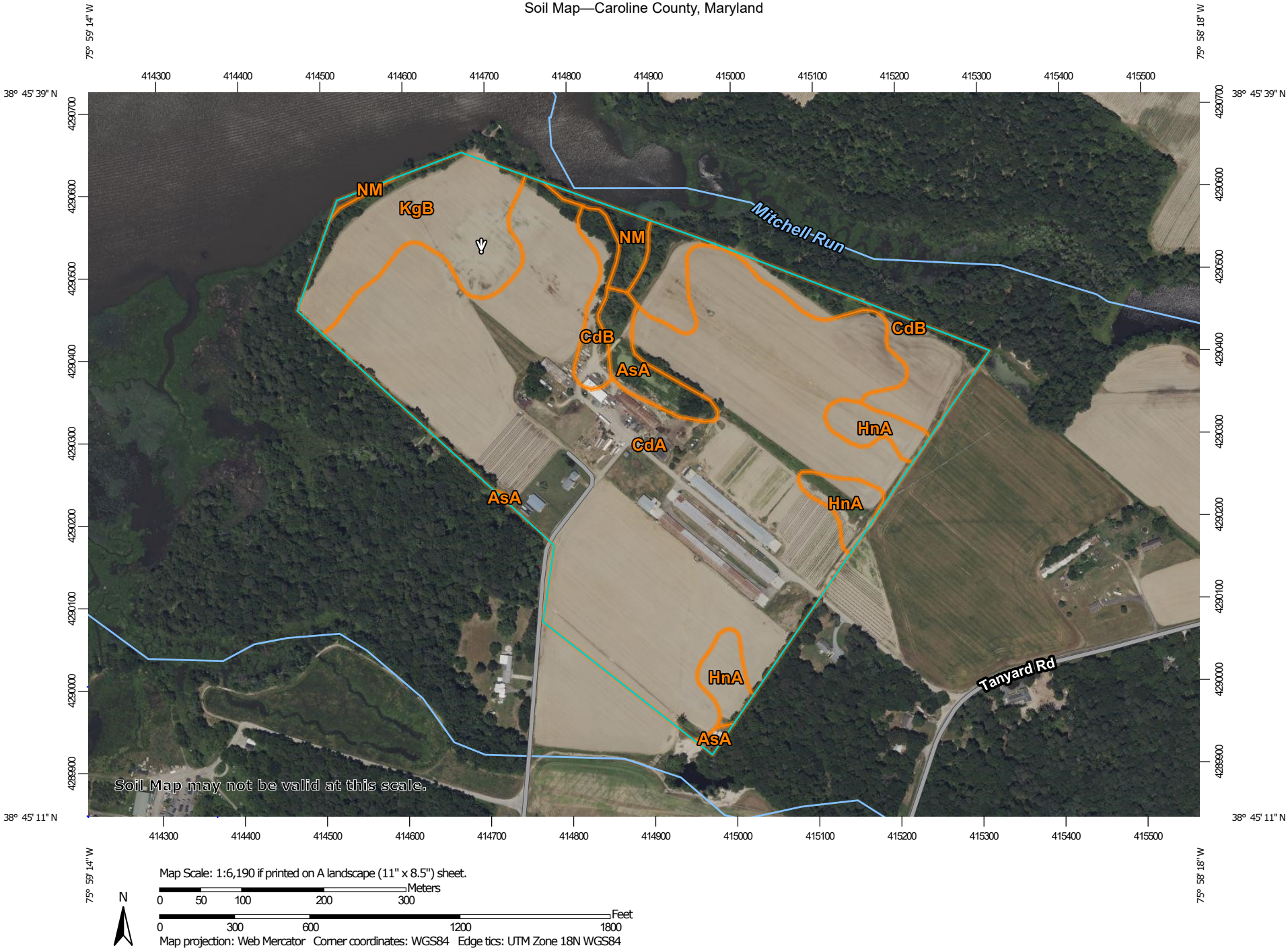
- Non-Cropland
- Cropland
- Tract Boundary

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Tract Cropland Total: 55.68 acres

Soil Map—Caroline County, Maryland



Map Scale: 1:6,190 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Caroline County, Maryland
Survey Area Data: Version 23, Sep 6, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 30, 2022—Jul 4, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AsA	Askecksy loamy sand, 0 to 2 percent slopes	2.1	2.8%
CdA	Cedartown loamy sand, 0 to 2 percent slopes	54.8	71.4%
CdB	Cedartown loamy sand, 2 to 5 percent slopes	7.2	9.4%
HnA	Hammonton sandy loam, 0 to 2 percent slopes	3.6	4.7%
KgB	Klej-Galloway complex, 0 to 5 percent slopes	7.8	10.1%
NM	Nanticoke and Mannington soils, very frequently flooded, tidal	1.2	1.6%
Totals for Area of Interest		**76.8**	**100.0%**

USDA NRCS Natural Resources Conservation Service

RUSLE2 Worksheet Erosion Calculation Record

Owner name	Tract #	Field name
Aaron Dennis	13131/ 13132	All Crop w vegetables

Location	Soil	T value, t/ac/yr	Slope length (horiz), ft	Avg. slope steepness, %
Maryland\Caroline County	CdA Cedartown loamy sand, 0 to 2 percent slopes\Cedartown loamy sand 75%	5.0	150	1.0

Alternatives:

Description	Management	Contouring	Strips / barriers	Diversion/terrace, sediment basin	Cons. plan. soil loss	Soil conditioning index (SCI)	STIR value	Wind & irrigation-induced erosion for SCI, t/ac/yr	Equiv. diesel use, gal/ac
	c.Other Local Mgt Records\Caroline CTWatermelon/CTSmGr/CTcorn/CTSmGr/NTSoy	default	(none)	(none)	0.41	-0.060	139	0	14

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.

Implementation Schedule for Land Treatment Area

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

Practice and Facility Implementation Schedule

Description	Date
All resource concerns have been addressed and no additional best management practices are recommended or required at this time.	October 2024

The schedule of conservation practices presented here has been reviewed by Aaron Dennis, who is responsible for compliance with the requirements of the agricultural farm operation.

I, Aaron Dennis, 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 scheduled above. Should I not be able to implement any of the above items according to the schedule, I will contact the Caroline Soil Conservation District and have this schedule revised.

LJC

Aaron Dennis

11/15/24

Date

SECTION 4: Nutrient Management

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

Soil Sampling and Testing

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

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

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

Manure and Wastewater Testing/Analysis

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

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

Manure should be analyzed on an annual basis from each storage structure for: % Solids or % Moisture, Total N, Organic N, NH_4 or NH_3, P_2O_5, K_2O, and pH. These analyses are part of the required Record Keeping and are stored under the Record Keeping element of this CNMP.

Description of Chemical Handling:

1. All chemicals are custom applied and no chemicals are stored at the operation.

CARR'S CREEK

2024

FERTILITY RECOMMENDATIONS

Prepared By:
McConnell Agronomics, Inc.
7735 Dyer Road
Denton, Maryland 21629
(410) 479-3664

Farm Operation:
CARR'S CREEK FARM
AARON DENNIS
21110 TANYARD RD
PRESTON MD 21655

Caroline County

(410) 714-4092

Start Date: March 1, 2024 **End Date:** March 1, 2025

Nutrient Management Consultant:

McConnell Agronomics, Inc.
Luke McConnell
7735 Dyer Road
Denton, Maryland 21629

410-479-3664 Office
410-479-0564 Fax

#0053 Nutrient Management Certification Number (Delaware)

#2078 Nutrient Management License Number (Maryland)

#1045 Nutrient Management Certification Number (Maryland)

CARR'S CREEK FARM
YIELD GOALS

Field Corn	250 bushels per acre
Full Season Soybeans	60 tons per acre
Lima Beans	2500 lbs per acre

Yield goals determined from farmer's knowledge of past production.

CARR'S CREEK FARM

CAROLINE COUNTY

Farm Name	Watershed	Acres	Tax ID No.	Location Code
Carr's Creek	02130404	109.48	[redacted]	0079
	02130404	4.0		0079

CARR'S CREEK FARM
CROP ROTATION

FARM	IRR	ACRES	2022 CROP	2023 CROP	PLANNED 2024 CROP
Carr's Creek					
H1	I	20.3	--	Field Corn	Field Corn
H2	I	17.1	--	Field Corn	Lima Beans
H3/Pasture	I	5.0	--	Field Corn	Hay
H4	I	13.3	--	Field Corn	Field Corn
		55.7			

CARR'S CREEK FARM
2024 LIME RECOMMENDATIONS

Farm	21/22 pH	Tons/Acre	Type of Lime	22/23 pH	Tons/Acre	Type of Lime
Carr's Creek						
H1	6.5	--	--	--	--	--
H2	6.1	--	--	--	--	--
H3/Pasture	6.7	--	--	--	--	--
H4	5.9	0.5	High Magnesium	--	0.5	High Magnesium*

* Where there is a lime recommendation and the field was limed within the last year additional lime may not be needed. If limed within the last year and the pH is still below 5.8 additional soil sampling may be needed. There may be a need for lime for certain vegetable crops even with 6.0 pH or higher.

** Depends on what crop is to be grown

CARR'S CREEK
2024 RECOMMENDATIONS BASED ON CROP NUTRIENT REQUIREMENTS

IRRIGATED FIELD CORN

Home

H1	0-0-150	Broadcast
H4	0-0-160	Broadcast

All Fields:

40-0-0-1.5 zinc	Planter
50-0-0-30-0.5 S* B	Early topdress or at planting
160-0-0-1.0 boron	Sidedress

OR

If able to inject through irrigation:

120-0-0-1.0 boron	Sidedress
40-0-0	Total injected through irrigation

15 lbs at tassel development
15 lbs just prior to tassel emergence
10 lbs just after pollination

* Sulfur could be applied at Planting/Early topdress or at Sidedress or split applied.

A 15 lb per acre nitrogen credit should be given in 2024 for all fields where soybeans were grown in 2023.

CARR'S CREEK
2024 RECOMMENDATIONS BASED ON CROP NUTRIENT REQUIREMENTS

FULL SEASON LIMA BEANS

Carr's Creek		
H2	30-0-100-25 sulfur	Broadcast
All Fields:		
	40-0-0	Sidedress or topdress at early bud

Additional nutrient may be required to maintain color and quality as required by the buyer and dependent on variety, crop and weather conditions.

* Sulfur could be applied at Planting/Early Topdress, Sidedress, or split applied.

**** Fordhook Lima Beans should have the full amount of nitrogen at planting and not sidedressed.**

CARR'S CREEK
2024 RECOMMENDATIONS BASED ON CROP NUTRIENT REQUIREMENTS

GRASS HAY

Carr's Creek H3/Pasture	50-30-130-25- 1.0 S B	Broadcast and Incorporated prior to planting
	50-0-50-25- 1.0 S B	Topdress at greenup
	50-0-100-15 sulfur	Topdress after first large cutting

CARR'S CREEK

POULTRY MANURE DISTRIBUTION

All manure transferred to A & B Manure Transport, Preston, MD.

UNIVERSITY OF MARYLAND EXTENSION
Solutions in your community

POULTRY LITTER QUANTITY ESTIMATE

Name: **Aaron Dennis** Tract / Farm: Date:

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

Average Bird Market Weight (lbs): **9**

A.	Years between total cleanouts: Yr. next total cleanout:	**2024**
	- Yr. last total cleanout:	**2015**
	= Years in cleanout cycle:	9
B.	Total # of birds per flock (for all houses on this cleanout cycle):	**56,800**
C.	Flocks per year	**4**
D.	Number of flocks per cleanout cycle (A x C):	36
E.	Estimated tons of cake/crust per 1000 birds per flock: *	**0.2**
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	**1.765**
G.	Tons cake/crust produced per flock (B x E/1000):	11
H.	Tons cake/crust produced per cycle (G x D)	409
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	3,609
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	3,200
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	356
L	Tons of litter + cake/crust produced per year (I/A)	401

* 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)
2016	0	356	**0**	0	4	45	45	45
2017	356	712	**33**	235	4	45	320	555
2018	202	558	**33**	184	4	45	353	537
2019	66	422	**33**	139	4	45	394	533
2020	-66	290	**33**	96	4	45	404	500
2021	-165	191	**33**	63	4	45	428	491
2022	-255	101	**33**	33	4	45	426	459
2023	-313	43	**33**	14	4	45	423	437
2024	-349	7	**100**	7	4	45	1,232	1,239
				771	36	409	4,025	4,796

*** 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.

AgroLab
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Account No. : 7

Poultry Manure Analysis Report

MCCONNELL, LUKE
MCCONNELL AGRONOMICS
7735 DYER RD
DENTON **MD** **21629**

Invoice No. : 1147790
Date Received : 01/08/2024
Date Analyzed: 01/09/2024

Lab No. : 53

Results For : A AND B MANURE
Sample ID : LINE CHURCH ROAD
MOVERS

	Analysis Dry Basis	Analysis As Is Basis	Lbs / Ton Dry Basis	Lbs / Ton As Is Basis	Lbs / Ton Available First Year
Organic N, % N	3.42	2.37	68.4	47.4	25.1
Ammonium, % N	0.178	0.1230	3.6	2.5	2.3
Nitrate, % N	0.007	0.0050	0.1	0.1	0.1
Total N, % N	3.60	2.49	72.1	50.0	27.6
Phosphorus, % P_2O_5	2.82	1.95	56.3	39.0	35.1
Potassium, % K_2O	4.48	3.10	89.6	62.1	59.0
Sulfur, % S	1.26	0.87	25.1	17.4	7.0
Calcium, % Ca	2.64	1.83	52.8	36.6	25.6
Magnesium, % Mg	0.63	0.44	12.5	8.7	6.1
Sodium, % Na	0.65	0.45	13.0	9.0	9.0
Zinc, ppm Zn	489.6	339.3	1.0	0.7	0.5
Iron, ppm Fe	1049.5	727.3	2.1	1.5	1.0
Manganese, ppm Mn	525.6	364.2	1.1	0.7	0.5
Copper, ppm Cu	741.4	513.8	1.5	0.7	1.0
Aluminum, ppm Al	2494.9	1729.0	5.0	3.5	2.4
Boron, ppm B	179.8	124.6	0.4	0.2	0.2
pH		7.6			
Moisture, %	30.70				
Dry Matter (TS), %	69.30				

Note: The available first year Ammonium-N is calculated based on maximum availability, or incorporation within 24 hours. Advise a nutrient consultant for adjustments beyond 24 hr incorporation.

Reviewed By : L.D. Severson - AgroLab/Matrix Sciences Inc 1/12/2024 **Copy :** 1 **Page 1 of 1**

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Solutions in your community

POULTRY LITTER QUANTITY ESTIMATE

Name: **Carrs creek** Tract / Farm: **Worm** Date:

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

Average Bird Market Weight (lbs): **9.5**

A.	Years between total cleanouts: Yr. next total cleanout:	**2029**
	- Yr. last total cleanout:	**2019**
	= Years in cleanout cycle:	10
B.	Total # of birds per flock (for all houses on this cleanout cycle):	**75,000**
C.	Flocks per year	**4.5**
D.	Number of flocks per cleanout cycle (A x C):	45
E.	Estimated tons of cake/crust per 1000 birds per flock: *	**0.2**
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	**1.85145**
G.	Tons cake/crust produced per flock (B x E/1000):	15
H.	Tons cake/crust produced per cycle (G x D)	675
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	6,249
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	5,574
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	557
L	Tons of litter + cake/crust produced per year (I/A)	625

* 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)
2020	0	557	**30**	167	4	60		167
2021	450	1,008	**50**	504	5	75		504
2022	579	1,136	**50**	568	4	60		568
2023	628	1,185	**50**	593	5	75		593
2024	668	1,225	**50**	613	4	60		613
2025	673	1,230	**60**	738	5	75		738
2026	567	1,124	**60**	675	4	60		675
2027	510	1,067	**60**	640	5	75		640
2028	502	1,059	**60**	636	4	60		636
2029	484	1,041	**100**	1,041	5	75		1,041
				6,174	45	675	0	6,174

*** 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.

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Account No. : 7

Poultry Manure Analysis Report

MCCONNELL, LUKE
MCCONNELL AGRONOMICS
7735 DYER RD
DENTON **MD** **21629**

Invoice No. : 1152172
Date Received : 07/08/2024
Date Analyzed: 07/09/2024

Lab No. : 1310

Results For : MCCONNELL
Sample ID : CARS CREEK WARM 1

	Analysis Dry Basis	Analysis As Is Basis	Lbs / Ton Dry Basis	Lbs / Ton As Is Basis	Lbs / Ton Available First Year
Organic N, % N	3.99	3.04	79.8	60.7	32.2
Ammonium, % N	0.351	0.2670	7.0	5.3	5.1
Nitrate, % N	< 0.001	0.0000	0.0	0.0	0.0
Total N, % N	4.34	3.30	86.8	66.1	37.3
Phosphorus, % P_2O_5	3.50	2.66	69.9	53.2	47.9
Potassium, % K_2O	5.14	3.91	102.7	78.2	74.3
Sulfur, % S	1.05	0.80	21.0	16.0	6.4
Calcium, % Ca	1.91	1.45	38.3	29.1	20.4
Magnesium, % Mg	0.91	0.69	18.2	13.9	9.7
Sodium, % Na	0.83	0.63	16.6	12.7	12.7
Zinc, ppm Zn	589.5	448.7	1.2	0.9	0.6
Iron, ppm Fe	586.9	446.7	1.2	0.9	0.6
Manganese, ppm Mn	776.2	590.8	1.6	1.2	0.8
Copper, ppm Cu	267.5	203.6	0.5	0.3	0.4
Aluminum, ppm Al	206.7	157.3	0.4	0.3	0.2
Boron, ppm B	83.7	63.7	0.2	0.1	0.1
pH		7.9			
Moisture, %	23.88				
Dry Matter (TS), %	76.12				

"<" - Not Detected / Below Detection Limit

Note: The available first year Ammonium-N is calculated based on maximum availability, or incorporation within 24 hours. Advise a nutrient consultant for adjustments beyond 24 hr incorporation.

Reviewed By : L.D. Severson - AgroLab/Matrix Sciences Inc 7/12/2024 **Copy :** 1 **Page 1 of 1**

CARR'S CREEK FARMS
2024 Cow Manure Production - Home

AVERAGE NUMBER OF CATTLE

Calves
5 Calves X 500 lbs Each =2.5 Animal Units

Heifers
12 Feeders X 1000 lbs Each = 12 Animal Units

Finishing Beef Cattle
5 Cows X 1500 lbs Each = 7.5 Animal Units

All manure stays on pastures, with no manure being collected and moved off pastures.

5 Acre Pasture

2.5 animal units x 90 lbs average per day x 365 days = 96,725 lbs manure per year

(48 tons)

12 animal units x 90 lbs average per day x 365 days = 394,200 lbs manure per year

(197 tons)

7.5 animal units x 49 lbs average per day x 365 days = 134,138 lbs manure per year

(67 tons)

CARR'S CREEK FARMS
2024 Cow Manure Production - Home

ESTIMATED AVAILABLE NUTRIENT

3,639 lbs **N** = 728 lbs per acre per year

2050 lbs **P** = 410 lbs per acre per year

2986 lbs **K** = 597 lbs per acre per year

PASTURE

- No additional nutrient needed

manure production is not possible, the daily production figures in Table 1.2-13 can be used to estimate manure production for the farm. In calculating manure production, remember to account for animal growth. For example, if you are raising hogs from weaned pigs to market weight, you would need to use an average weight of the growing animals, not the market weight, to estimate manure production. If you don't know the average weight of your animals, see Table 1 in *Agronomy Facts 54: Pennsylvania's Nutrient Management Act: Who Is Affected?* for typical average animal weights. You also need to account for changing populations of animals on the farm during the year. Examples might include buying feeders and selling steers at different times of the year, or the downtime between broiler flocks. Finally, you must account for any additions to the manure, such as bedding, wash water, and rainwater. Some of the manure production figures in Table 1.2-13 do include some of these additions. Check the "Comments" column in Table 1.2-13 for details. See the example below for estimating manure production using the figures in Table 1.2-13 and Table 1 in *Agronomy Facts 54*.

Table 1.2-13. Typical Pennsylvania average daily production and total content of manure.

Animal type	*Daily production*	*Manure % dry matter*	*Analysis units*	*N*	*P_2O_5*	*K_2O*	*Comments*
Dairy cattle							
Lactating cow, liquid	13 gal/AU/day	<10	lb/1,000 gal	28	13	25	Production does not include dilution. Analysis includes dilution to approximately 7.5% solids.
Dry cow, liquid	6 gal/AU/day	<10	lb/1,000gal	28	13	25	
Lactating cow, solid	111 lb/AU/day	12	lb/ton	10	4	8	
Dry cow, solid	51 lb/AU/day		lb/ton	9	3	7	No bedding included in production or analysis figures. Use these analyses for estimating nutrients deposited on pastures by dairy cows, dairy dry cattle, and dairy young cattle.
Heifer	60 lb/AU/day		lb/ton	10	3	7	
Calf	80 lb/AU/day		lb/ton	10	3	4	
Veal	7 gal/AU/day	2	lb/1,000 gal	19	13	25	Production does not include dilution. Analysis includes dilution.
Beef							
Cow, solid	90 lb/AU/day	12	lb/ton	11	7	10	
Cow, liquid	11 gal/AU/day		lb/1,000 gal	32	16	27	
Calf	106 lb/AU/day	12	lb/ton	11	7	10	No bedding or dilution included in production or analysis figures. Use these analyses for estimating nutrients deposited on pastures by a beef cow and calf, beef calves, and steers.
Finishing cattle, solid	49 lb/AU/day	8	lb/ton	14	5	8	
Finishing cattle, liquid	6 gal/AU/day		lb/1,000 gal	62	19	39	
Swine							
Farrow to wean (includes sows), liquid	11 gal/AU/day	2.5	lb/1,000 gal	18	18	11	
Nursery, liquid	14 gal/AU/day	1.5	lb/1,000 gal	19	8	14	Production includes a typical amount of in-barn dilution water but not rainfall for an outdoor storage, except for farrow to wean which also includes rainfall. Analysis includes dilution to approximately the % dry matter indicated.
Wean to finish, liquid	5.5 gal/AU/day	4	lb/1,000 gal	37	23	21	
Grow-finish, liquid	7 gal/AU/day	4	lb/1,000 gal	31	24	22	
Farrow to wean (includes sows), solid	47 lb/AU/day		lb/ton	19	13	15	
Nursery, solid	75 lb/AU/day		lb/ton	20	7	13	No bedding included in production or analysis figures. Use these analyses for estimating nutrients deposited on pastures by swine.
Wean to finish, solid	49 lb/AU/day		lb/ton	23	8	11	
Grow-finish, solid	49 lb/AU/day		lb/ton	23	8	11	
Sheep/Goats	40 lb/AU/day	25	lb/ton	23	8	20	No bedding included in production or analysis figures. Use these analyses for estimating nutrients deposited on pastures by sheep and goats.
Horse	55 lb/AU/day	20	lb/ton	12	5	9	No bedding included in production or analysis figures. Use these analyses for estimating nutrients deposited on pastures by horses.
Poultry							
Layer (364 days)[1]	26.5 lb/AU/d	65*	lb/ton	61	58*	33*	
Layer breeders (364 days)	24 lb/AU/d	66	lb/ton	51	70	45	
Pullet (118 days)[1]	30 lb/AU/d	63*	lb/ton	71	58	39*	
Broiler (38–46 days)[1]	28 lb/AU/d	67	lb/ton	58	43	47*	Production and analysis figures include litter.
Broiler breeders (364 days)	20 lb/AU/d	48	lb/ton	33	47	30	
Turkey tom (93–148 days)[1]	13 lb/AU/d	61	lb/ton	53	52	46	
Turkey hen (130–133 days)[1]	13 lb/AU/d	57	lb/ton	51	57	50	
Duck (dry)	110 lb/AU/day	27	lb/ton	21	26	15	No bedding included in production or analysis figures.
Duck (wet)	13 gal/AU/day	5	lb/1,000 gal	33	23	16	Production does not include dilution. Analysis includes dilution to approximately 5% solids.

Note: When possible, have manure analyzed. Actual values may vary over 100 percent from averages in the table.

1. Typical production days.

*Significant differences exist between management styles.

Carr's Creek
Home

8/24

McConnell Agronomics

CARR'S CREEK FARM SOIL ANALYSIS

HOME FARM

Date	Sample No	Soil pH	Buff pH	Org Mat	P ppm	K ppm	Ca ppm	Mg ppm	S ppm	Zn ppm	Mn ppm	B ppm	Cat Exc	H %	K %	Ca %	Mg %
3/20/2023	H1	6.5	6.9	2.0	500	106	768	175	10	19.6	34.0	0.66	6	8	5	63	24
3/20/2023	H2	6.1	6.8	2.0	504	66	777	85	11	19.5	25.0	0.65	5.5	14	3	70	13
3/20/2023	H3	6.7	6.8	1.9	456	136	1135	126	9	20.9	47.0	0.74	7.5	6	5	75	14
3/20/2023	H4	5.9	6.7	1.8	681	96	828	70	11	29.9	43.0	0.70	6	17	4	69	10

AgroLab
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Account No. : 7

Soil Analysis Report

MCCONNELL, LUKE
MCCONNELL AGRONOMICS
7735 DYER RD
DENTON MD 21629

Invoice No. : 1141030
Date Received : 03/17/2023
Date Analyzed : 03/20/2023

Results For : TANYARD FARMS
Location : HOME

Sample ID / Lab No.	Soil pH 1:1	Buffer pH	Soluble Salts 1:2 mmho/c	Organic Matter %	NH4-N ppm	Depth NH4-N Lbs N/A	NO3-N ppm	Depth Nitrate Lbs N/A	Phos Sat Ratio	Mehlich 3 Phosphorus ppm P / FIV		K ppm	Ca ppm	Mg ppm	Na ppm	SO4-S ppm	Zn ppm	Fe ppm	Mn ppm	Cu ppm	B ppm	C.E.C. meq / 100g	% Base -----Saturation--- H	K	Ca	Mg	Na
1						0 - 8 in		0 - 8 in																			
11349	6.5	6.9		2.0					131	500	547	106	768	175		10	19.60		34.0		0.66	6.0	8	5	63	24	0
2						0 - 8 in		0 - 8 in																			
11350	6.1	6.8		2.0					121	504	551	66	777	85		11	19.50		25.0		0.65	5.5	14	3	70	13	0
3						0 - 8 in		0 - 8 in																			
11351	6.7	6.8		1.9					149	456	499	136	1135	126		9	20.90		47.0		0.74	7.5	6	5	75	14	0
4						0 - 8 in		0 - 8 in																			
11352	5.9	6.7		1.8					131	681	744	96	828	70		11	29.90		43.0		0.70	6.0	17	4	69	10	0

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Bus: 302/566-6094
Email: admin@agrolab.us
admin@agrolab.us
www.agrolab.us
101 Clukey Dr.
Harrington, DE 19952

SECTION 5: Additional Documentation

This section is included if there are additional documents needed for the Comprehensive Nutrient Management Plan.

The following documents are located in this section:

- Water Conveyance Map Around Production Area
- Nutrient Land Application Form
- Weekly Storage Form
- Manure Litter Storage Form
- Manure Application Form
- Manure Litter Transfer Form
- Daily Waterline Form

Conservation Plan Map

In Cooperation with the Caroline Soil Conservation District

Owner: Robert Worm
Approximate Acres: 118.5
Farm 1410 Tract 258
OPID: HOGCR_26

Poultry Operator: Aaron Dennis
Date: 10/25/24
Assisted by: Alison Taylor

Legend

- Approx. Property Boundary
- Field Boundaries
- Center Pivot Irrigation
- Center Pivot Irrigation - EQIP07
- Center Pivot Irrigation EQIP 12 743B19120HE
- DBCF (CR-2005-1359)
- Grade Stabilization Structure (CR-2002-2757R)
- HUA MACS -2012-2402
- HUA CBWI/M ACS co-cost - 803B19120I8
- PWSS (CR-2005-1359)
- Pond (CR-1987-0615)
- Surface Drainage

N

660 0 660 1,320
Feet

MDE SELF INSPECTION AND RECORDKEEPING REQUIREMENTS FOR LAND & NO-LAND OPERATIONS

Type	Maintain Records of:	Frequency	Applicable to Liquid/Dry Manure Handling or Both
Land & No-Land	Any transfers of manure, litter, and process wastewater, will include the following information: 1.) Name and address of recipient and 2.) Date and quantity transferred. The permittee shall supply the recipient of the animal waste with the most recent annual nutrient analysis of the manure, litter, or process wastewater. If the recipient performs the analysis, the permittee shall obtain a copy and maintain it as part of the permittee's records.	Each occurrence	Both
Land	Each application event where manure, litter, or process wastewater is applied. Including 1.) Fields where animal waste is distributed, using field names consistent with those in the required plan, 2.) Application method, rate, time and date, 3.) Soil conditions, including instances of ponding or runoff, saturated soil, and frozen ground or snow covered ground and 4.) Weather conditions, including precipitation and temperature at the time of application and precipitation 24 hours prior to, and following, application.	Each land application event	Both
No-Land	Manure samples shall include the following information, 1.) Date sample taken, 2.) Test methods used to sample and analyze manure, litter, and process wastewater; and 3.) Results from manure, litter, and process wastewater sampling.	Annually	Both
Land & No-Land	Mortality disposal including date, numbers of animals, and method of disposal	As necessary	Both
Land & No-Land	Inspections conducted, including date, of the animal waste storage areas	Weekly	Both
Land	The results of manure samples and soil samples, including the following information, 1.) Date sample taken, 2.) Test methods used to sample and analyze manure, litter, process wastewater, and soil, 3.) Results from manure, litter, process wastewater, and soil sampling and 4.) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied.	Annually for manure samples, at least once every three years for soil samples	Both
Land	Manure application equipment inspections, including the following information, 1.) Date inspection conducted and 2.) Calibration date; and iii. Maintenance of equipment used for manure application.	At least annually	Both
Land & No-Land	Inspections, including date, of the storm water routing structures	Weekly	Both
Land & No-Land	Inspections, including date, for all indoor and outdoor water lines, including drinking or cooling water lines	Daily	Both
Land & No-Land	The depth of manure and process wastewater, including date of reading, as indicated by the depth marker in all liquid animal waste impoundments	Weekly	Liquid
Land & No-Land	Inspections, including date, of all wastewater operations and pumps	Weekly	Liquid
Land & No-Land	All manure, litter, and wastewater storage structures including the following information, 1.) Date inspection conducted, 2.) Volume for solids accumulation, 3.) Design treatment volume, 4.) Total design storage volume, 5.) Days of storage capacity and 6.) Structural stability inspection of all earthen embankment structures.	As necessary	Liquid
Land & No-Land	Any additional self – inspection and recordkeeping activities required by this General Permit	As necessary	Both

Self-Inspection and Recordkeeping for CAFOs/MAFOs that DO NOT Land Apply (No-Land Operations):
The permittee that transports all and/or some of its manure, litter, or process wastewater to an area that is not under the control of the owner or operator of the no-land operation shall maintain no-land operation records on-site for five years. The records shall be available for inspection by the Maryland Department of the Environment personnel upon request. The record shall also include a notation of periods when the facility is not in operation (out of production).

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Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Nutrient Land Application Log Sheet

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

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

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

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

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

Weather and Soil Condition Documentation

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

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

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Weekly Storage and Containment Structure Inspections Log Sheet

Facility Name: _____ NPDES Permit No.: _____

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

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

Storage or Containment Structure: _____

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

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

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

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

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

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Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

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**
Poultry Waste Storage Structure	50 x 168		48,720 cu ft	

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Manure Application Equipment Inspection and Calibration Record

Facility Name: _____ NPDES Permit No.: _____

Instructions:
Use this form to keep records of your manure equipment inspections. For each inspection, provide the following information in the table below:

- Inspection/Calibration Date: the date of the inspection/calibration
- Calibration Method: method used for calibration (e.g. weight-area method, load-area method…)
- Inspection/Calibration Results: provide statements such as "recalibrated equipment" or "equipment in calibration"
- Date Calibration Corrected: the date that any observed deficiencies were fixed **must be corrected within 30 days*

Inspection/Calibration Date	Calibration Method	Inspection/Calibration Results	Date Re-Calibrated or Fixed*

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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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Daily Water Line Inspection Log Sheet

Facility Name: _____ NPDES Permit No.:_____

Instructions:

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

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

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

March, 20____		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		

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

April, 20____		
Day	Initials	√ if Leak Detected

1		
2		
3		
4		
5		
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8		
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10		
11		
12		
13		
14		
15		
16		
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18		
19		
20		
21		
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23		
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25		
26		
27		
28		

29		
30		

May, 20____

Day	Initials	√ if Leak Detected
1		
2		
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4		
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10		
11		
12		
13		
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15		
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19		
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21		
22		
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24		

25		
26		
27		
28		
29		
30		
31		

June, 20____

Day	Initials	√ if Leak Detected
1		
2		
3		
4		
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6		
7		
8		
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11		
12		
13		
14		
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19		

20		
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24		
25		
26		
27		
28		
29		
30		

July, 20____

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

16		
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24		
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26		
27		
28		
29		
30		
31		

August, 20____

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

11		
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27		
28		
29		
30		
31		

September, 20____

Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		

6		
7		
8		
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11		
12		
13		
14		
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23		
24		
25		
26		
27		
28		
29		
30		

October, 20____		
Day	Initials	√ if Leak Detected
1		
2		
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4		
5		
6		
7		
8		
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23		
24		
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26		
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29		
30		
31		

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

December, 20____		
Day	Initials	√ if Leak Detected
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2		
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14		
15		
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