MARYLAND DEPARTMENT OF THE ENVIRONMENT

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

NOTICE OF INTENT

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

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

Please submit this completed NOI Form to the following address:

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

Received
AUG 18 2020
AFO Division

General Information

AI Number: 131204

1. LEGAL Name of Applicant *(must match name on required plan)*:
Rich Levels Poultry, LLC

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

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

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

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

Applicant (Owner/Operator Information)

5. **Mailing Address of Applicant:** 33960 Sassafras Caldwell Rd
City: Galena **State:** MD **Zip Code:** 21635

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

7. **Email of Applicant:** [redacted]

Farm Information

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

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

9. **Farm Address:** 34200 Sassafras Caldwell Rd
City: Galena **County:** Kent **Zip Code:** 21635

10. **Watershed/Hydrologic Unit Code (HUC)** (12-digit): 021306100358

11. **Latitude/Longitude of Production Area** (Deg/Min/Sec): 39 - 22 - 20 N / 75 - 46 - 13 W

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)*
Chicken dry	191,667	Large	House

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

13. ***Number of poultry houses:** 6

14. ***Combined square footage of *all* poultry houses:** 141,384

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

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

Contact Information:
Phone No.: 302-629-9136
Address: 29984 Pinnacle Way
Millsboro, DE. 19966

Manure/Mortality Management

17. **Total Manure/Litter/Wastewater generated *annually*:** 1240 T *circle one:* (tons) / lbs / gallons)

18. **Total Manure/Litter/Wastewater transported offsite *annually*:** 1240 T *circle one:* (tons) / lbs / gallons)

19. ****Total number of acres controlled by applicant available for land application of manure/litter/process wastewater:** *Owned:* 0 *Leased:* 0

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

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

A. Type *(e.g. shed, lagoon, pit)*	B. Capacity *(ft^3, gal)*	C. Solid/Liquid
Shed (2) (1)	40x140 28,000 ft3	solid
(2)	40x80 16,000 ft3	solid

21. **Mortality Management Method:**

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

CAFOs Only - Fees

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

Required Plan

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

Certification

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

R Allen Davis — 8/18/2020

Signature of Applicant / duly authorized representative — **Date**

R Allen Davis — 8/18/2020

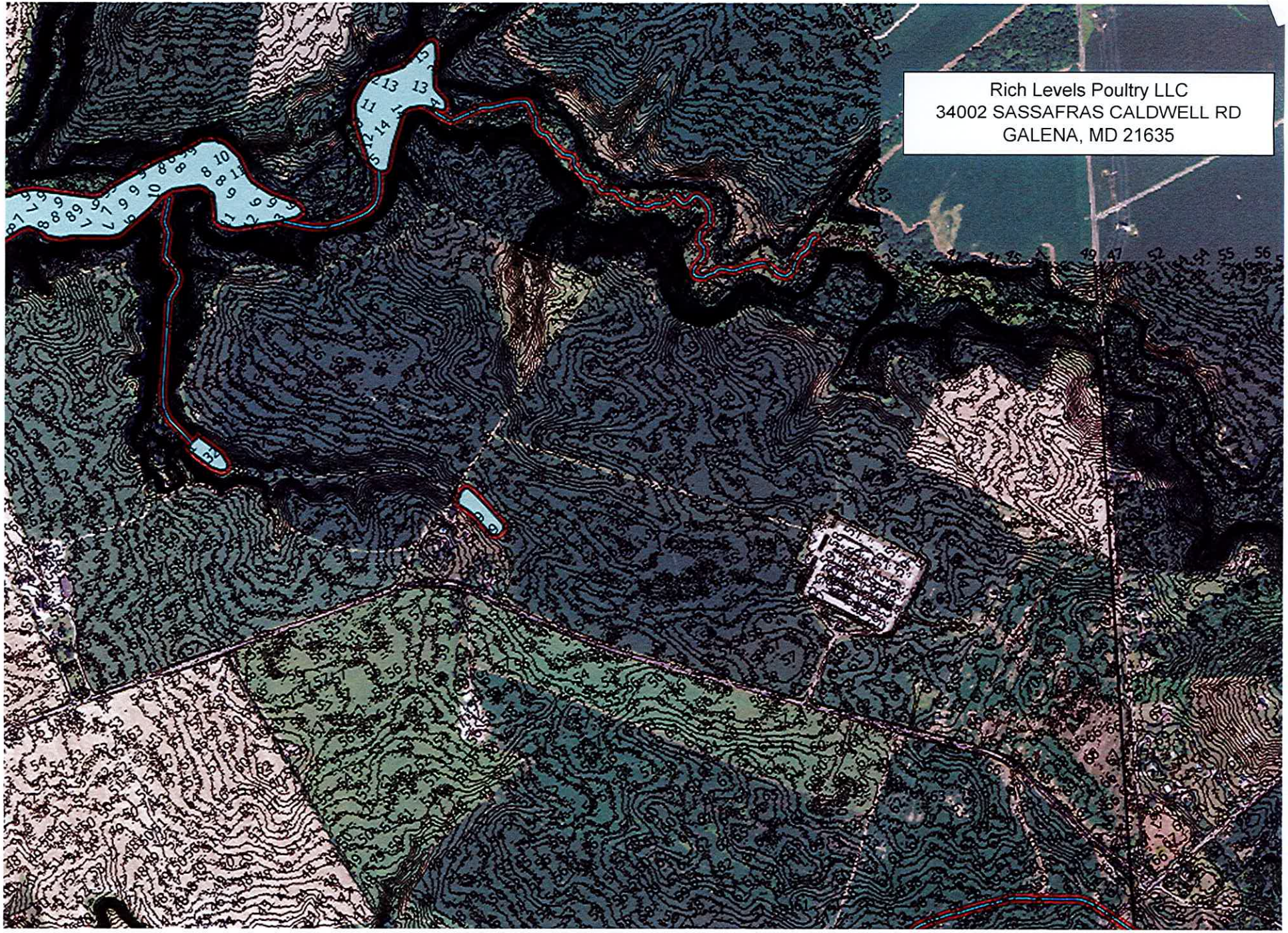
Printed Name of Applicant / duly authorized representative — **Title**

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

AI-131204


Rich Levels Poultry LLC
34002 SASSAFRAS CALDWELL RD
GALENA, MD 21635

Comprehensive Nutrient Management Plan

Rich Levels Poultry, Inc.
34200 Sassafras-Caldwell Road
Galena, MD 21635

Farm Office Location:
33960 Sassafras-Caldwell Road

Plan developed by:
Name: David Kann
Address: PO Box 1011
East Berlin, PA 17316
Phone: 717-792-1274 or Cell: 717-309-6247
E-mail: agplanner@comcast.net

Kent Soil Conservation District
122 Speer Road, Ste. 4
Chestertown, Maryland 21620
410-778-5150 x3

Plan Written/Revised: 4/15/2025 [original(s) 9/2014]

Type of Plan: ☑ Land ☐ No-Land

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

AI Number: **131204**

CNMP Purpose and Agreement

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

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

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

Owner/Operator

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

Signature: R. Allen Davis Date: 5/16/25

Name *(print)*: R. Allen Davis

Certified Comprehensive Nutrient Management Plan (CNMP) Planner

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

Signature _____ Date: 4/15/2025

Name: David D. Kann

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

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

<u>County Soil Conservation District</u> ***(if applicable)***

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

Signature:_____ Date:_____

Name: _____

!!! This plan has been written and presented in this format by the CNMP writer. It is the sole ownership of its intended farmer/grower. In no way is this plan or its layout to be shared outside of the MDE's CAFO Program without the consent of plan writer and/or the grower. This plan format is considered as "proprietary property." !!!

Plan Contents
CNMP Purpose and Special Conditions
General Operation Narrative and Introduction
Emergency Contact Phone Numbers for Persons/Agencies
Maps of the Agricultural Operation *Farmstead and Production Area Information* *Livestock/Animal Numbers, Locations & Manure Generation* *Manure and Wastewater Handling and Storage*
Water Conveyance Maps *Conservation Plan Documents* *Soil Descriptions and Soil Loss Calcs* *Soil Maps*
Implementation Schedule & Responsibility Guide
Nutrient Management Plan (NMP) *University of Maryland Crop Nutrient Recs based on Soil Fertility* *Summary of Nutrient Recommendations* *Manure Test Results*
Emergency Action Plans
Biosecurity
Chemical Handling
Animal Mortality Management

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

Purpose of the Comprehensive Nutrient Management Plan (CNMP)

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

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

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

Minimum Standards of a CNMP

The Nine Minimum Standards to Protect Water Quality:

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

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

3. Divert clean water, as appropriate, from the production area to keep it separate from process wastewater. For CAFOs, conduct daily inspections of all outdoor water lines, and those located inside buildings with grated floors, on all days the CAFO is in operation. Correct any deficiencies found as a result of the inspections as soon as possible, and maintain a log of deficiencies found and corrected. The

log must contain records of any deficiencies not corrected within 30 days and an explanation of the factors preventing immediate correction.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Operator information:
Rich Levels Poultry
Allen Davis
33960 Sassafras-Caldwell Road
Galena, MD 21635
[redacted]

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

Production Area: **39°22'18.6"N 75°46'23.5"W**

NMP – Consultant information:
Don Moore
2677 Telegraph Road
North East, MD 21901
Cert.#: 1048

Nutrient Management Plan Narrative:

Rich Levels Poultry and Rich Levels Grain is owned by the Davis Family. The broiler manure generated at the poultry operation is applied to the cropland operated by Rich Levels Grain. In addition, other organic sources are imported into the operation, to offset the cost and usage of commercial fertilizer. Layer manure is imported from Cal Maine Foods and Puglisi Egg Farm in Middletown, Delaware. Broiler litter is imported from C&S Farm, EB Workman, and Weaver Farm. The land is in a corn/small grain/ dc soybean crop rotation. Irrigation is utilized on the Home Farm and Mill Creek Farms.

In the NM recommendation section of the nutrient management plan, the abbreviations for the generated and imported organic sources are as such:

- Rich Levels Broiler (RL)
- C&S Farm (c)
- Puglisi (P)
- Cal Maine (I)
- Cal Maine (gallons-washwater)
- Weaver (w)

County Location: Kent

Property ID	Acct ID Acres	Farm Name	Plan Acres	County	Watershed
[redacted]	78.22	Rich Levels Poultry	(Headquarters only)	Kent	0059

Property ID	Acct ID Acres	Farm Name	Plan Acres	County	Watershed
[redacted]	78.22 294.93 217.75 100.1	Home	517.4	Kent	0059
[redacted]	61.15	Antone	30.0	Kent	0059
[redacted]	330.92 14.05 17.54 19.43	Asplundh	200.9	Kent	0059
[redacted]	276.5	Austin	78.5	Kent	0059
[redacted]	119.98	Addie Walters	85.2	Kent	0059
[redacted]	97.5	Bregger, Cecil Co.	94.5	Cecil	0096
[redacted]	198.2	Bregger, Kent Co.	116.5	Kent	0059
[redacted]	533.2	Britland	338.2	QA	0045
[redacted]	164.14	Byerly	113.0	Cecil	0096
[redacted]	275	Church	254.7	Cecil	1098
[redacted]	178 175.5	Crawford	253.7	Cecil	0096
[redacted]	27.1	Davis	94.1	Kent	0059
[redacted]	552.5	Essex Lodge	398.3	Cecil	1098
[redacted]	256.47	Fusco	94.0	Kent	0059
[redacted]	181.32	Redgrave	137.4	Kent	0058
[redacted]	25.02 161.18	Foxhole	96.0	Kent	0059
[redacted]	124.9	Jeffries	87.0	Cecil	0096
[redacted]	142	Maloney	135.2	Kent	0058
[redacted]	175.39 322.74 11.0 192.42	Middlesex	539.9	Cecil	0096
[redacted]	228.6	Mill Creek	193.1	Kent	0059
[redacted]	75.6	Neff	62	Kent	0058

[redacted]	27.1	Phillips	27	Cecil	0096
[redacted]	60.16	Redding	57.9	Kent	0059
[redacted]	331.2	Sigman	223.9	Cecil	0097
[redacted]	159.94	Ware	99.0	Cecil	0096
TOTAL ACRES UNDER PLAN			***4,322.5***		

NUTRIENT APPLICATION SETBACKS FROM SURFACE WATER:

A minimum of a 10' vegetative setback must be in place next to surface water. The chart below indicates if surface water is present that requires a setback on any farm/operation and identifies the fields that are required to have a nutrient application setback. **An application of crop nutrients using a broadcast method either with or without incorporation requires a 35' setback. A directed spray application or the injection of crop nutrients only requires a 10'setback.**

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

Farm Contacts

Farm Name	Rich Levels Poultry, Inc.
Mailing Address	33960 Sassafras-Caldwell Road, Galena, MD 21635
Farm Address	34200 Sassafras-Caldwell Road, Galena, MD 21635
Farm Phone	[redacted]
Directions to Farm	FROM GALENA, GO EAST ON RT 290 (SASSAFRAS ROAD). CONNECT W/ RT 299 AND HEAD INTO SASSAFRAS, AND MAKE A RIGHT ONTO SASSAFRAS-CALDWELL ROAD. HEAD TOWARDS CALDWELL CORNER. FARM IS ON THE LEFT, BEFORE ENTERING INTO DELAWARE.

	Name	Daytime Phone	Cell Phone	email
Farm Owner	Davis	[redacted]		
Farm Operator	Davis	[redacted]	[redacted]	
Fire or Ambulance	**911**	**911**	**911**	**911**

Agency Contacts

Contact Agency	Person / Office	Day Phone	Emergency Number
Health Department	**County Office**	**410-778-1350**	
Before you DIG, call Maryland's Miss Utility		**1-800-441-8355**	
Maryland Department of the Environment	**Office:** **MDE** **Animal Feeding Operation Division** **1800 Washington Blvd.** **Suite 605** **Baltimore, MD 21230**	**410-537-3000**	**1-800-633-6101**
USDA Veterinary Services **State Veterinarian**	**Dr. Jennifar Trout**	**1-866-536-7593** **410-841-5810**	**410-841-5971** **after hours**

Sheriff's Office	**Sheriff Dennis Hickman** **Kent County** **104 Vickers Dr # B, Chestertown, MD 21620**	**410-778-2279**	
NRCS	**County Office** 122 Speer Road, Suite 4 Chestertown, MD 21620	**410-778-5150 x3**	
U of MD Extension	**County Office**	**410-778-1661**	
MDA Nutrient Management	**Headquarters**	**410-841-5959**	**1-800-492-5590**
MDA Nutrient Management	**Regional office** **50 Harry S Truman Pkwy** **Annapolis, MD 21401**	**410-991-3114**	
AET Consulting, Inc.	**David Kann**	**717-792-1274**	

Production Facility Site Sketch/Data

FARMSTEAD (Production Area)

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

Site	MDE AI#	Site Name	Address
Poultry Houses	131204	Rich Levels Poultry	34200 Sassafras Caldwell Road Galena, MD 21635

Rich Levels Poultry

	Animal 1
Location (Structure(s)):	34200 Sassafras-Caldwell Road, Galena, MD
Animal Type	Broilers
Number of Animals (In Structure):	120,000 Broilers 6 flocks per year.
Number of Structures (Per Animal Type)	6 houses total (approximate sizes listed below) House 1 – 564' x 40' House 2 – 564' x 40' House 3 – 564' x 40' House 4 – 564' x 40' House 5 – 564' x 40' House 6 – 564' x 40'
Time In Location:	Year Round Each
Number of Herds/Flocks (Per Year):	5 flocks/year 120,000 birds per flock
Storage Structure Receiving Manure:	2 storages - 40' x 80' Roofed Dry-stack Manure Storages and a 40' x 120' Designed for cake-outs and/or emergency partial cleanout
Total Solid Manure Collected and Removed from Poultry Production Areas	852 tons generated annually Removed: 598 tons of cakeout/crust + 50% of in-house litter

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

Description of nearby Water Bodies

The farmstead and production area sits within the Middle Chester River Watershed. **The associated waterbody is UNT of Chester River.** All production areas, manure storage, manure cleanup - heavy use areas, and mortality management is at a minimum of 1000' from any Public Drainage Ditches (PDAs) and/or Streams, Creeks, or Rivers. **The farm operation is NOT in a Tier II Watershed**.

Farm Name	Name of nearest Waterbody	Distance to Waterbody	Watershed Name	12-digit Watershed number	Water Quality Status TMDL impairments (N, P, Bacteria, Sediment)
Rich Levels Poultry	*UNT of Sassafras River*	*1000 ft*	*Sassafras River*	[redacted]	*Nitrogen Phosphorus Sediment*

Sensitive Environmental Areas

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

No sensitive areas were being impacted or diminished by farming activities at the time of the site visits. All required setbacks are outlined in this plan. The nearest body of water is >1000 feet from the production facility. The production areas are outside of the 100 year floodplain.

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

Manure Management and Storage Facilities

Storage ID	Size/Volume of Storage Unit	Type of Liner	Condition and Thickness of Liner	Transfer ID	Meets 313[1] (Y / N / ?)	Length (days)
1	40’ x 80’	Earthen Floor	Good		Y	365
2	40’ x 120’	Earthen Floor	Good		Y	365

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

Photo of Channel Composter

Air Quality

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

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

Practice and Facility Management Plan for the Rich levels Poultry Farm

Planned Practices	Amount	Year the practice was Installed
Waste Storage Facility **Maintain a poultry manure stack facility to store solid waste on a temporary basis. The facility will provide ample storage during the summer and winter months when crop fields are not open.** • **See the approved engineering plan for construction specifications and maintenance.** • **[1] Manure will be collected from the buildings.** • **[2] Refer to the Nutrient Management Plan for guidance on times of removal and recommended rates.**	1 no. (40'x80') 1no. (40'x120')	1996 2006
Animal Mortality Facility **Maintain a dead bird composting facility for the economical and environmentally safe disposal of dead poultry. The structure shall be built according to NRCS standards and specifications and maintained as described in the Operation and Maintenance plan.**	1 no. (bins) 1 no. (channel)	1996 2006

Heavy Use Areas **The stabilization of areas frequently and intensively used by people, animals or vehicles by constructing a concrete apron on all poultry houses (front & back), and/or by installing needed structures.**	.1 ac (house1) .1 ac (house1) .1 ac (house2) .1 ac (house2) .1 ac (house3) .1 ac (house3) .1 ac (house4) .1 ac (house4) .1 ac (house5) .1 ac (house5) .1 ac (house6) .1 ac (house6)	2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010
Heavy Use Areas **The stabilization of areas in front of manure shed which is frequently and intensively used by people, animals or vehicles by establishing by surfacing with suitable materials, and/or by installing needed structures.**	0.1 ac 0.1 ac	2010 2010
Filter Strip **A strip or area of herbaceous vegetation situated between cropland, grazing land, or disturbed land (including forestland), and environmentally sensitive areas.**	0.9 ac	2006

Production Area Management Guidelines – Poultry Operations

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

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

Manure Storage Area

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

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

Composters

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

The following are potential problems you may see:

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

Concrete Pads

Concrete pads at the ends of poultry houses and manure sheds can reduce erosion and protect surface and ground water from contamination.

Concrete pads should be properly installed, maintained, and kept clean of manure.

The following are potential problems you may see:

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

Proper and maintained Vegetation Around Production Area and Between Houses

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

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

Windbreak/Shelterbelt

Windbreaks, or vegetative environmental buffers, are planted around poultry houses to provide shelter from winter winds; reduce particulates, ammonia, and other odors from tunnel fans; create visual screens; and provide shade to reduce extreme summer heat.

<u>The following are potential problems you may see:</u>

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

Other Concerns

<u>Other issues that may result in environmental concerns include, but are not limited to:</u>

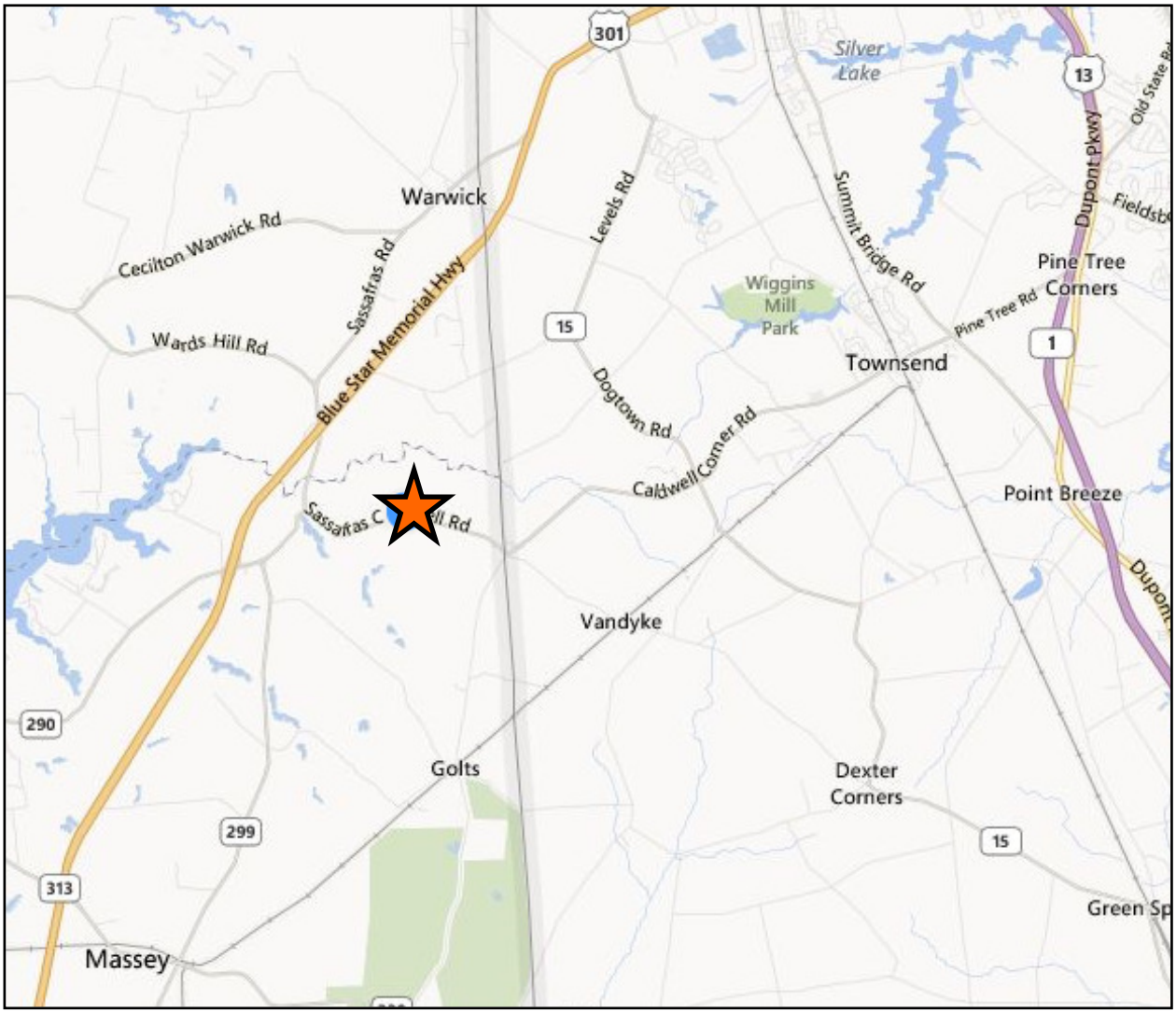
- Manure scattered around the production area on roads, along the edge of concrete pads or building foundations.
- Manure runoff visible.
- Roof runoff that is creating erosion or drainage problems.
- Lack of good vegetative cover for filtering storm runoff between waste storage structures, composters,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

CONSERVATION ELEMENT
FARMSTEAD (PRODUCTION AREA) & CROPLAND RECEIVING MANURE:

1. WATER CONVEYANCE MAP
2. PLAN MAPS
3. CONSERVATION PLANS (tract receiving their own generated organic source) includes soils descriptions AND SOIL LOSS CALCS
4. OPERATION & MAINTENANCE FOR ENGINEERING PRACTICES

Maps of the Agricultural Operation

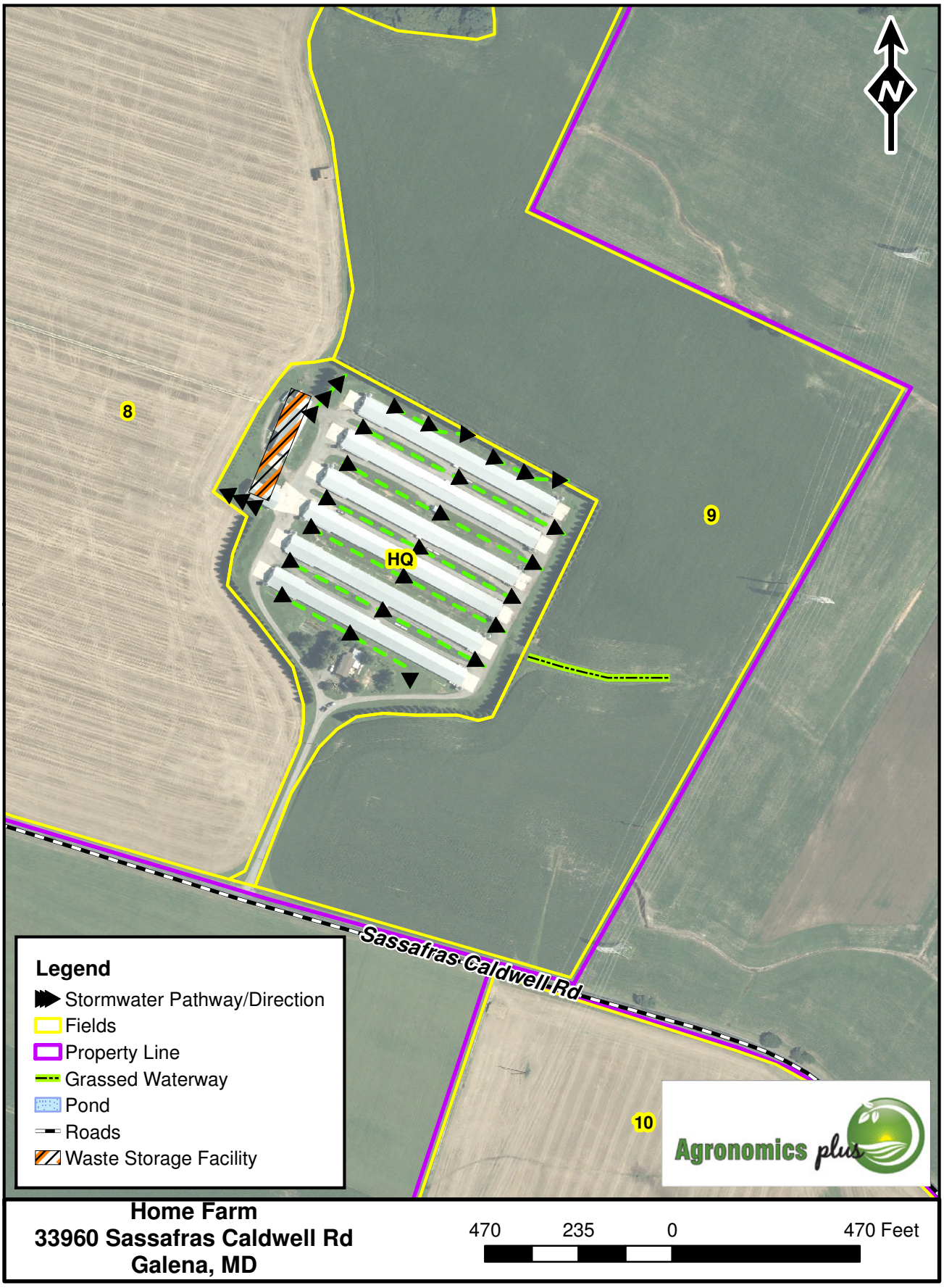
LOCATION MAP



Stormwater Surface Flow Map

Owner: Allen Davis/Olin Davis Farms LLC
Acct Id.: [redacted]
County: Kent

Operator: Rich Levels Grain
Acres: 78.22
Date: 04/15/2025



Home Farm
33960 Sassafras Caldwell Rd
Galena, MD

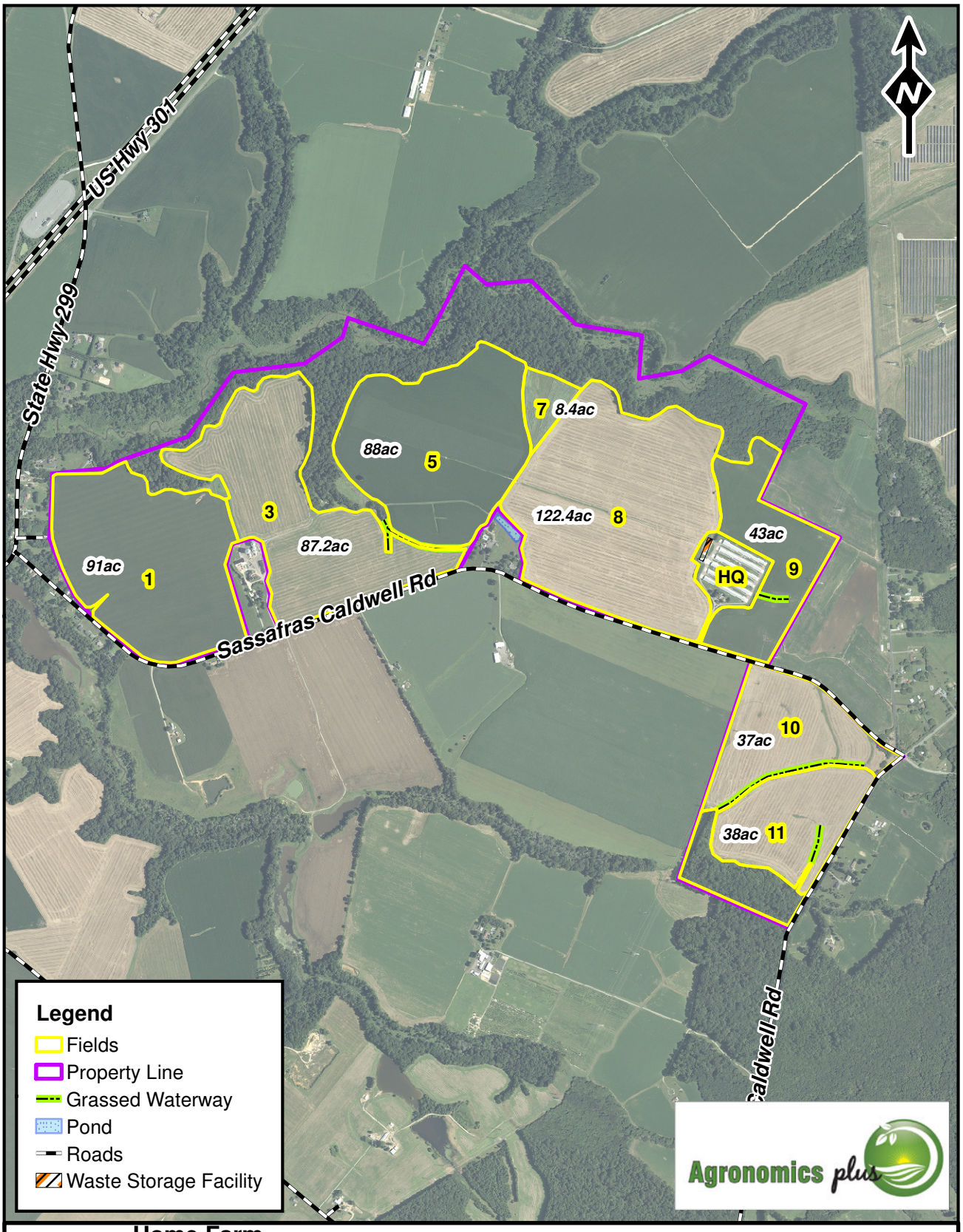
470 235 0 470 Feet

CONSERVATION PLAN MAP

Owner: Allen Davis/Olin Davis Farms LLC *Operator: Rich Levels Grain*

Acct Id.: [redacted] *Acres: 644*

County: Kent *Date: 04/15/2025*



Home Farm
33960 Sassafras Caldwell Rd
Galena, MD

2,100 1,050 0 2,100 Feet

USDA-NRCS - KENT COUNTY SERVICE CENTER
122 SPEER RD
CHESTERTOWN, MD 21620-1037
(410) 778-5353

David Kann
Conservation Planner
Agronomics plus
717-792-1274

Conservation Plan

Rich Level Grain
33960 Sassafras-Caldwell Road
Galena, MD 21635

NARRATIVE / OBJECTIVES

Maryland regulations for agriculture require that Best Management Practices (BMPs) be implemented to prevent accelerated erosion and sedimentation to waters of this State. Agricultural plowing or tilling activities or Animal Heavy Use Areas (AHUAs), require additional planning and required BMPs.

The following practices and management will improve or enhance soil conditions and eliminate or reduce soil erosion while at the same time improving water quality on the farm.

All lands receiving fertilizer and/or manure will need to have a Nutrient Management Plan.

The landowner has the responsibility for obtaining the proper permits before any excavation begins.

Cropland

Home Farm

Conservation Crop Rotation (328)

Plant crops as listed: Rotation of CORN and WHEAT dc/SOYBEANS. Generally high residue no-tilled crops such as corn, grain, or hay crops may be added to the rotation without increasing soil loss. Crops with low residues and with tillage generally cannot be added to the rotation without the additional use of conservation practices or by adding additional years of high residue no-till crops or hay to the rotation. Lime and fertilizer will be applied based on soil tests and the University of Maryland recommendations. When soil tests are high in P and/or K, recommendations may indicate that no nutrient applications are needed.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	91 ac	6	2023	91 ac	6/1/2023
3	87.2 ac	6	2023	87.2 ac	6/1/2023
5	88 ac	6	2023	88 ac	6/1/2023
8	122.4 ac	6	2023	122.4 ac	6/1/2023
9	43 ac	6	2023	43 ac	6/1/2023
10	37 ac	6	2023	37 ac	6/1/2023
11	38 ac	6	2023	38 ac	6/1/2023
Total:	506.6 ac			506.6 ac	

Grassed Waterway (412)

Maintain a grassed waterway where shown on the plan map to prevent erosion caused by concentrated water flows. Construct and seed according to NRCS design. Avoid spraying herbicides and do not plow or disk through the waterway. Regularly remove debris and accumulated sediment. Mow as needed to maintain grass height at 4 to 6 inches to promote a thick sod. Inspect after each major storm and repair any damaged areas immediately. Tillage and row direction should be perpendicular to the waterway to allow runoff to drain into the waterway and prevent gullies along the edges. Provide stabilized machinery crossings, where needed, to prevent rutting of the waterway.

Field	Planned Amount	Month	Year	Applied Amount	Date
2	0.1 ac	6	2023	0.1 ac	6/1/2023
5	0.3 ac	6	2023	0.3 ac	6/1/2023
9	0.2 ac	6	2023	0.2 ac	6/1/2023
10	0.7 ac	6	2023	0.7 ac	6/1/2023
11	0.1 ac	6	2023	0.1 ac	6/1/2023
Total:	1.4 ac			1.4 ac	

Irrigation Water Management (449)

Control the rate, amount, and timing of irrigation water to minimize soil erosion and control water loss from excessive runoff and deep percolation.

All nutrients will be applied based on a nutrient management plan developed for the fields indicated on the conservation plan map and will specifically address the management of the sensitive areas indicated on the conservation plan map.

Field	Planned Amount	Month	Year	Applied Amount	Date
5	88 ac	6	2023	88 ac	6/1/2023
8	122.4 ac	6	2023	122.4 ac	6/1/2023
Total:	210.4 ac			210.4 ac	

Nutrient Management (590)

Manage the amount, form, placement and timing of plant nutrient application to protect surface & groundwater from runoff and/or leaching of nutrients. The land application of animal manures and agricultural process wastewater must follow the standards outlined by the Maryland Department of Agriculture.

- Minimize agricultural nonpoint source pollution of surface and groundwater resources
- Properly utilize manure or organic by-products as a plant nutrient source
- Protect air quality by reducing odors, nitrogen emissions (including ammonia), and the formation of atmospheric particulates
- Maintain or improve the physical, chemical, and biological condition of the soil

All nutrients will be applied based on a nutrient management plan developed for the fields indicated on the conservation plan map and will specifically address the management of the sensitive areas indicated on the conservation plan map. Nutrients from all sources will be included. The plan will address field by field application rates and application timing requirements. Soil tests must be completed at least once every three years and records of soil test results and nutrient application timing and rates must be maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	91 ac	2	2025	91 ac	2/15/2025
3	87.2 ac	2	2025	87.2 ac	2/15/2025
5	88 ac	2	2025	88 ac	2/15/2025
8	122.4 ac	2	2025	122.4 ac	2/15/2025
9	43 ac	2	2025	43 ac	2/15/2025
10	37 ac	2	2025	37 ac	2/15/2025
11	38 ac	2	2025	38 ac	2/15/2025
Total:	506.6 ac			506.6 ac	

Residue and Tillage Management, Mulch Till (345)

Establish the following crops: A rotation of Corn and Small Grain. 40% RESIDUE AMOUNTS AFTER CORN PLANTING. Small grain crops following corn, 50% RESIDUE. Occasionally, due to equipment tracking and manure application; light discing may occur to remove these issues in the field; otherwise all small grain and soybeans are no-tilled. All corn crops and management follow a turbo-till establishment.

Mulch tillage and No-till helps to reduce soil erosion and energy use, improve soil quality, and increase plant-available moisture. Manage the amount, orientation, and distribution of the crop and plant residue by limiting the amount of tillage occurring in the field. Soil loss predictions and Soil Conditioning Index results, as calculated by RUSLE2, are attached. Contact the NRCS or Soil Conservation District office if changes in crops, tillage, or residue levels are desired. For Operation and Maintenance, evaluate crop residue remaining after planting to ensure that appropriate residue levels are maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	91 ac	6	2023	91 ac	6/1/2023
3	87.2 ac	6	2023	87.2 ac	6/1/2023
5	88 ac	6	2023	88 ac	6/1/2023
8	122.4 ac	6	2023	122.4 ac	6/1/2023
9	43 ac	6	2023	43 ac	6/1/2023
10	37 ac	6	2023	37 ac	6/1/2023
11	38 ac	6	2023	38 ac	6/1/2023
Total:	506.6 ac			506.6 ac	

CERTIFICATION OF PARTICIPANTS

The estimated soil loss rate for cropland in this conservation plan meets the tolerable (T) rate of soil loss over the planned crop rotation. Potential and existing gullies have been or will be treated through this plan. The customer agrees to maintain the cropping system as described in the Conservation Crop Rotation narrative and/or job sheet included in this plan.

The attached RUSLE 2 Plan View report shows the estimated soil loss based on the planned cropping system. Flexibility within the system is permitted provided erosion is not increased. The narrative and job sheet describe changes to the system that would likely increase or decrease soil erosion. If the customer makes changes to the system that might increase soil erosion, they are responsible for acquiring a new soil loss calculation and ensuring that the soil loss rate of the new cropping system does not exceed T.

The customer is responsible for obtaining all necessary permits, rights, or notifications, and for complying with all state, federal, and local laws and regulations pertaining to the application of the planned conservation practices identified in this plan.

Name (print): R. Allen Davis

Representative of Rich Levels Grain — DATE: 5/6/25

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if Applicable)

NRCS Representative — DATE

CONSERVATION PLANNER

David D. Kann — DATE

CERTIFICATION OF PARTICIPANTS

The estimated soil loss rate for cropland in this conservation plan meets the tolerable (T) rate of soil loss over the planned crop rotation. Potential and existing gullies have been or will be treated through this plan. The customer agrees to maintain the cropping system as described in the Conservation Crop Rotation narrative and/or job sheet included in this plan.

The attached RUSLE 2 Plan View report shows the estimated soil loss based on the planned cropping system. Flexibility within the system is permitted provided erosion is not increased. The narrative and job sheet describe changes to the system that would likely increase or decrease soil erosion. If the customer makes changes to the system that might increase soil erosion, they are responsible for acquiring a new soil loss calculation and ensuring that the soil loss rate of the new cropping system does not exceed T.

The customer is responsible for obtaining all necessary permits, rights, or notifications, and for complying with all state, federal, and local laws and regulations pertaining to the application of the planned conservation practices identified in this plan.

Name (print):_____

_____ _____
Representative of Rich Levels Grain DATE

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if Applicable)

_____ _____
NRCS Representative DATE

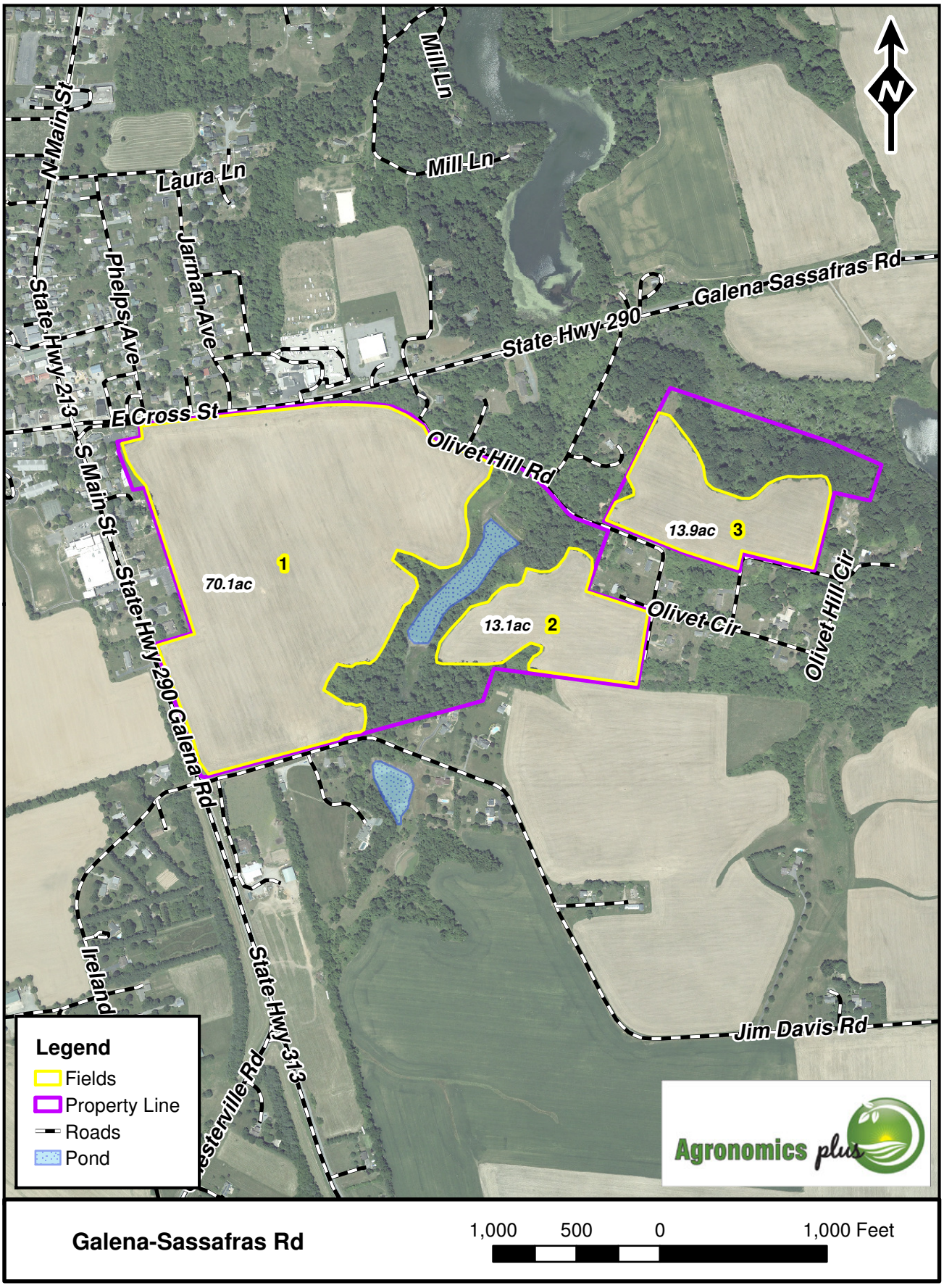
CONSERVATION PLANNER

David D. Kann 4/16/2025
David D. Kann DATE

CONSERVATION PLAN MAP

Owner: SIVAD LLC
Acct Id.: [redacted]
County: Kent

Operator: Rich Levels Grain
Acres: 131.6
Date: 04/15/2025



USDA-NRCS - KENT COUNTY SERVICE CENTER
122 SPEER RD
CHESTERTOWN, MD 21620-1037
(410) 778-5353

David Kann
Conservation Planner
Agronomics plus
717-792-1274

Conservation Plan

Rich Level Grain
33960 Sassafras-Caldwell Road
Galena, MD 21635

NARRATIVE / OBJECTIVES

Maryland regulations for agriculture require that Best Management Practices (BMPs) be implemented to prevent accelerated erosion and sedimentation to waters of this State. Agricultural plowing or tilling activities or Animal Heavy Use Areas (AHUAs), require additional planning and required BMPs.

The following practices and management will improve or enhance soil conditions and eliminate or reduce soil erosion while at the same time improving water quality on the farm.

All lands receiving fertilizer and/or manure will need to have a Nutrient Management Plan.

The landowner has the responsibility for obtaining the proper permits before any excavation begins.

Cropland

Davis Farm

Conservation Crop Rotation (328)

Plant crops as listed: Rotation of CORN and WHEAT dc/SOYBEANS. Generally high residue no-tilled crops such as corn, grain, or hay crops may be added to the rotation without increasing soil loss. Crops with low residues and with tillage generally cannot be added to the rotation without the additional use of conservation practices or by adding additional years of high residue no-till crops or hay to the rotation. Lime and fertilizer will be applied based on soil tests and the University of Maryland recommendations. When soil tests are high in P and/or K, recommendations may indicate that no nutrient applications are needed.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	70.1 ac	6	2023	70.1 ac	6/1/2023
2	13.1 ac	6	2023	13.1 ac	6/1/2023
3	13.9 ac	6	2023	13.9 ac	6/1/2023
Total:	97.1 ac			97.1 ac	

Nutrient Management (590)

Manage the amount, form, placement and timing of plant nutrient application to protect surface & groundwater from runoff and/or leaching of nutrients. The land application of animal manures and agricultural process wastewater must follow the standards outlined by the Maryland Department of Agriculture.

- Minimize agricultural nonpoint source pollution of surface and groundwater resources
- Properly utilize manure or organic by-products as a plant nutrient source
- Protect air quality by reducing odors, nitrogen emissions (including ammonia), and the formation of atmospheric particulates
- Maintain or improve the physical, chemical, and biological condition of the soil

All nutrients will be applied based on a nutrient management plan developed for the fields indicated on the conservation plan map and will specifically address the management of the sensitive areas indicated on the conservation plan map. Nutrients from all sources will be included. The plan will address field by field application rates and application timing requirements. Soil tests must be completed at least once every three years and records of soil test results and nutrient application timing and rates must be maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	70.1 ac	2	2025	70.1 ac	2/15/2025
2	13.1 ac	2	2025	13.1 ac	2/15/2025
3	13.9 ac	2	2025	13.9 ac	2/15/2025
Total:	97.1 ac			97.1 ac	

Residue and Tillage Management, Mulch Till (345)

Establish the following crops: A rotation of Corn and Small Grain. 40% RESIDUE AMOUNTS AFTER CORN PLANTING. Small grain crops following corn, 50% residue. Occasionally, due to equipment tracking and manure application; light discing may occur to remove these issues in the field; otherwise all small grain and soybeans are no-tilled. All corn crops and management follow a turbo-till establishment.

Mulch tillage and No-till helps to reduce soil erosion and energy use, improve soil quality, and increase plant-available moisture. Manage the amount, orientation, and distribution of the crop and plant residue by limiting the amount of tillage occurring in the field. Soil loss predictions and Soil Conditioning Index results, as calculated by RUSLE2, are attached. Contact the NRCS or Soil Conservation District office if changes in crops, tillage, or residue levels are desired. For Operation and Maintenance, evaluate crop residue remaining after planting to ensure that appropriate residue levels are maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	70.1 ac	6	2023	70.1 ac	6/1/2023
2	13.1 ac	6	2023	13.1 ac	6/1/2023
3	13.9 ac	6	2023	13.9 ac	6/1/2023
Total:	97.1 ac			97.1 ac	

CERTIFICATION OF PARTICIPANTS

The estimated soil loss rate for cropland in this conservation plan meets the tolerable (T) rate of soil loss over the planned crop rotation. Potential and existing gullies have been or will be treated through this plan. The customer agrees to maintain the cropping system as described in the Conservation Crop Rotation narrative and/or job sheet included in this plan.

The attached RUSLE 2 Plan View report shows the estimated soil loss based on the planned cropping system. Flexibility within the system is permitted provided erosion is not increased. The narrative and job sheet describe changes to the system that would likely increase or decrease soil erosion. If the customer makes changes to the system that might increase soil erosion, they are responsible for acquiring a new soil loss calculation and ensuring that the soil loss rate of the new cropping system does not exceed T.

The customer is responsible for obtaining all necessary permits, rights, or notifications, and for complying with all state, federal, and local laws and regulations pertaining to the application of the planned conservation practices identified in this plan.

Name (print): R. Allen Davis

Representative of Rich Levels Grain — DATE: 5/6/25

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if Applicable)

NRCS Representative — DATE

CONSERVATION PLANNER

David D. Kann — DATE

CERTIFICATION OF PARTICIPANTS

The estimated soil loss rate for cropland in this conservation plan meets the tolerable (T) rate of soil loss over the planned crop rotation. Potential and existing gullies have been or will be treated through this plan. The customer agrees to maintain the cropping system as described in the Conservation Crop Rotation narrative and/or job sheet included in this plan.

The attached RUSLE 2 Plan View report shows the estimated soil loss based on the planned cropping system. Flexibility within the system is permitted provided erosion is not increased. The narrative and job sheet describe changes to the system that would likely increase or decrease soil erosion. If the customer makes changes to the system that might increase soil erosion, they are responsible for acquiring a new soil loss calculation and ensuring that the soil loss rate of the new cropping system does not exceed T.

The customer is responsible for obtaining all necessary permits, rights, or notifications, and for complying with all state, federal, and local laws and regulations pertaining to the application of the planned conservation practices identified in this plan.

Name (print):_____

_____ _____
Representative of Rich Levels Grain DATE

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if Applicable)

_____ _____
NRCS Representative DATE

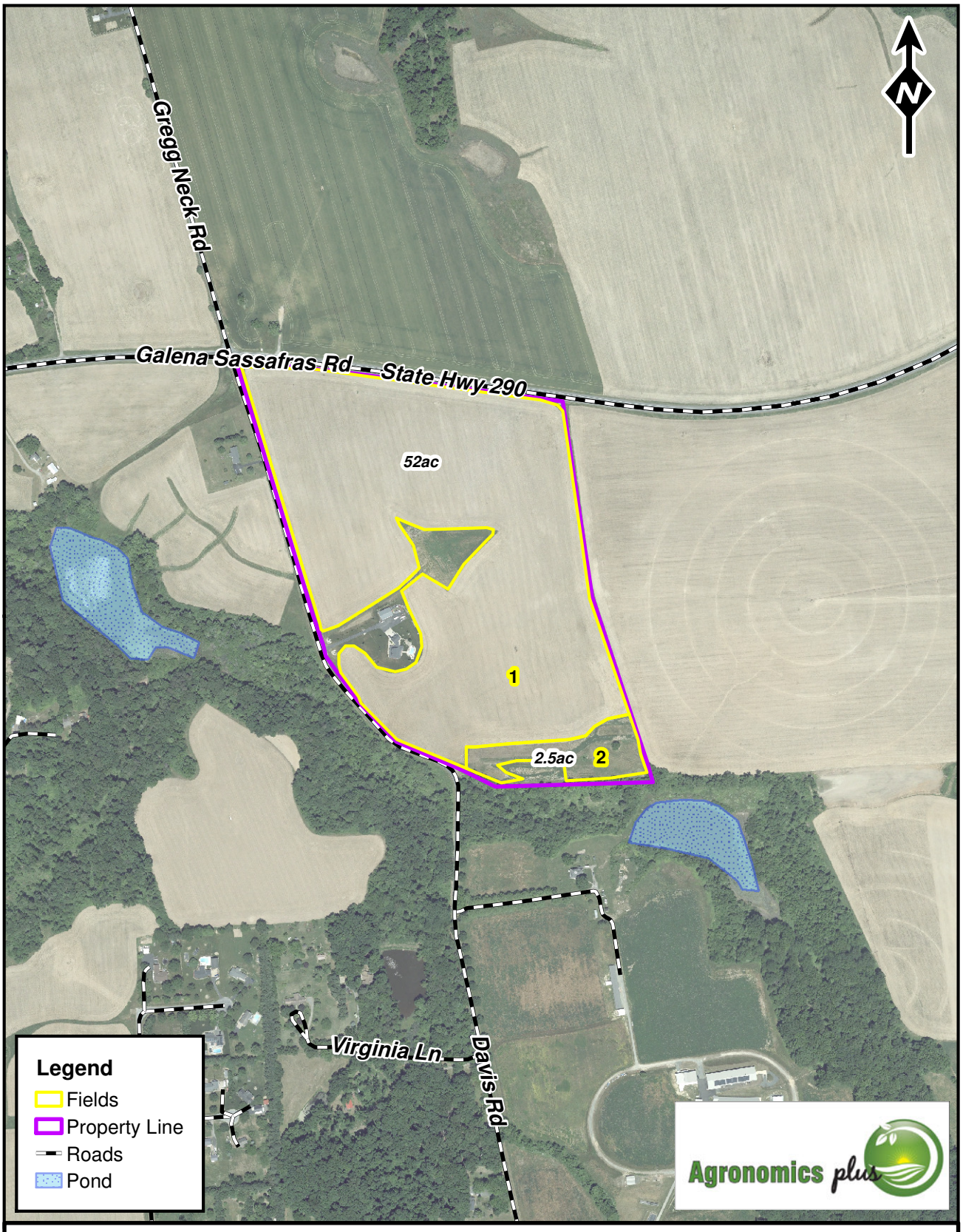
CONSERVATION PLANNER

David D. Kann 4/16/2025
David D. Kann DATE

CONSERVATION PLAN MAP

Owner: Stephen & Sharon Redding
Acct Id.: [redacted]
County: Kent

Operator: Rich Levels Grain
Acres: 60.16
Date: 04/15/2025



13251 Davis Road,
Galena, MD

940 470 0 940 Feet

USDA-NRCS - KENT COUNTY SERVICE CENTER
122 SPEER RD
CHESTERTOWN, MD 21620-1037
(410) 778-5353

David Kann
Conservation Planner
Agronomics plus
717-792-1274

Conservation Plan

Rich Level Grain
33960 Sassafras-Caldwell Road
Galena, MD 21635

NARRATIVE / OBJECTIVES

Maryland regulations for agriculture require that Best Management Practices (BMPs) be implemented to prevent accelerated erosion and sedimentation to waters of this State. Agricultural plowing or tilling activities or Animal Heavy Use Areas (AHUAs), require additional planning and required BMPs.

The following practices and management will improve or enhance soil conditions and eliminate or reduce soil erosion while at the same time improving water quality on the farm.

All lands receiving fertilizer and/or manure will need to have a Nutrient Management Plan.

The landowner has the responsibility for obtaining the proper permits before any excavation begins.

Cropland

Redding Farm

Conservation Crop Rotation (328)

Plant crops as listed: Rotation of CORN and WHEAT dc/SOYBEANS. Generally high residue no-tilled crops such as corn, grain, or hay crops may be added to the rotation without increasing soil loss. Crops with low residues and with tillage generally cannot be added to the rotation without the additional use of conservation practices or by adding additional years of high residue no-till crops or hay to the rotation. Lime and fertilizer will be applied based on soil tests and the University of Maryland recommendations. When soil tests are high in P and/or K, recommendations may indicate that no nutrient applications are needed.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	52 ac	6	2023	52 ac	6/1/2023
Total:	52 ac			52 ac	

Nutrient Management (590)

Manage the amount, form, placement and timing of plant nutrient application to protect surface & groundwater from runoff and/or leaching of nutrients. The land application of animal manures and agricultural process wastewater must follow the standards outlined by the Maryland Department of Agriculture.

- Minimize agricultural nonpoint source pollution of surface and groundwater resources
- Properly utilize manure or organic by-products as a plant nutrient source
- Protect air quality by reducing odors, nitrogen emissions (including ammonia), and the formation of atmospheric particulates
- Maintain or improve the physical, chemical, and biological condition of the soil

All nutrients will be applied based on a nutrient management plan developed for the fields indicated on the conservation plan map and will specifically address the management of the sensitive areas indicated on the conservation plan map. Nutrients from all sources will be included. The plan will address field by field application rates and application timing requirements. Soil tests must be completed at least once every three years and records of soil test results and nutrient application timing and rates must be maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	52 ac	4	2025	52 ac	4/15/2025
Total:	52 ac			52 ac	

Residue and Tillage Management, Mulch Till (345)

Establish the following crops: A rotation of Corn and Small Grain. 40% RESIDUE AMOUNTS AFTER CORN PLANTING. Small grain crops following corn, 50% residue. Occasionally, due to equipment tracking and manure application; light discing may occur to remove these issues in the field; otherwise all small grain and soybeans are no-tilled. All corn crops and management follow a turbo-till establishment.

Mulch tillage and No-till helps to reduce soil erosion and energy use, improve soil quality, and increase plant-available moisture. Manage the amount, orientation, and distribution of the crop and plant residue by limiting the amount of tillage occurring in the field. Soil loss predictions and Soil Conditioning Index results, as calculated by RUSLE2, are attached. Contact the NRCS or Soil Conservation District office if changes in crops, tillage, or residue levels are desired. For Operation and Maintenance, evaluate crop residue remaining after planting to ensure that appropriate residue levels are maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	52 ac	6	2023	52 ac	6/1/2023
Total:	52 ac			52 ac	

CERTIFICATION OF PARTICIPANTS

The estimated soil loss rate for cropland in this conservation plan meets the tolerable (T) rate of soil loss over the planned crop rotation. Potential and existing gullies have been or will be treated through this plan. The customer agrees to maintain the cropping system as described in the Conservation Crop Rotation narrative and/or job sheet included in this plan.

The attached RUSLE 2 Plan View report shows the estimated soil loss based on the planned cropping system. Flexibility within the system is permitted provided erosion is not increased. The narrative and job sheet describe changes to the system that would likely increase or decrease soil erosion. If the customer makes changes to the system that might increase soil erosion, they are responsible for acquiring a new soil loss calculation and ensuring that the soil loss rate of the new cropping system does not exceed T.

The customer is responsible for obtaining all necessary permits, rights, or notifications, and for complying with all state, federal, and local laws and regulations pertaining to the application of the planned conservation practices identified in this plan.

Name (print): R. Allen Davis

Representative of Rich Levels Grain — DATE: 5/6/25

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if Applicable)

NRCS Representative — DATE

CONSERVATION PLANNER

David D. Kann — DATE

CERTIFICATION OF PARTICIPANTS

The estimated soil loss rate for cropland in this conservation plan meets the tolerable (T) rate of soil loss over the planned crop rotation. Potential and existing gullies have been or will be treated through this plan. The customer agrees to maintain the cropping system as described in the Conservation Crop Rotation narrative and/or job sheet included in this plan.

The attached RUSLE 2 Plan View report shows the estimated soil loss based on the planned cropping system. Flexibility within the system is permitted provided erosion is not increased. The narrative and job sheet describe changes to the system that would likely increase or decrease soil erosion. If the customer makes changes to the system that might increase soil erosion, they are responsible for acquiring a new soil loss calculation and ensuring that the soil loss rate of the new cropping system does not exceed T.

The customer is responsible for obtaining all necessary permits, rights, or notifications, and for complying with all state, federal, and local laws and regulations pertaining to the application of the planned conservation practices identified in this plan.

Name (print):_____

_____ _____
Representative of Rich Levels Grain DATE

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if Applicable)

_____ _____
NRCS Representative DATE

CONSERVATION PLANNER

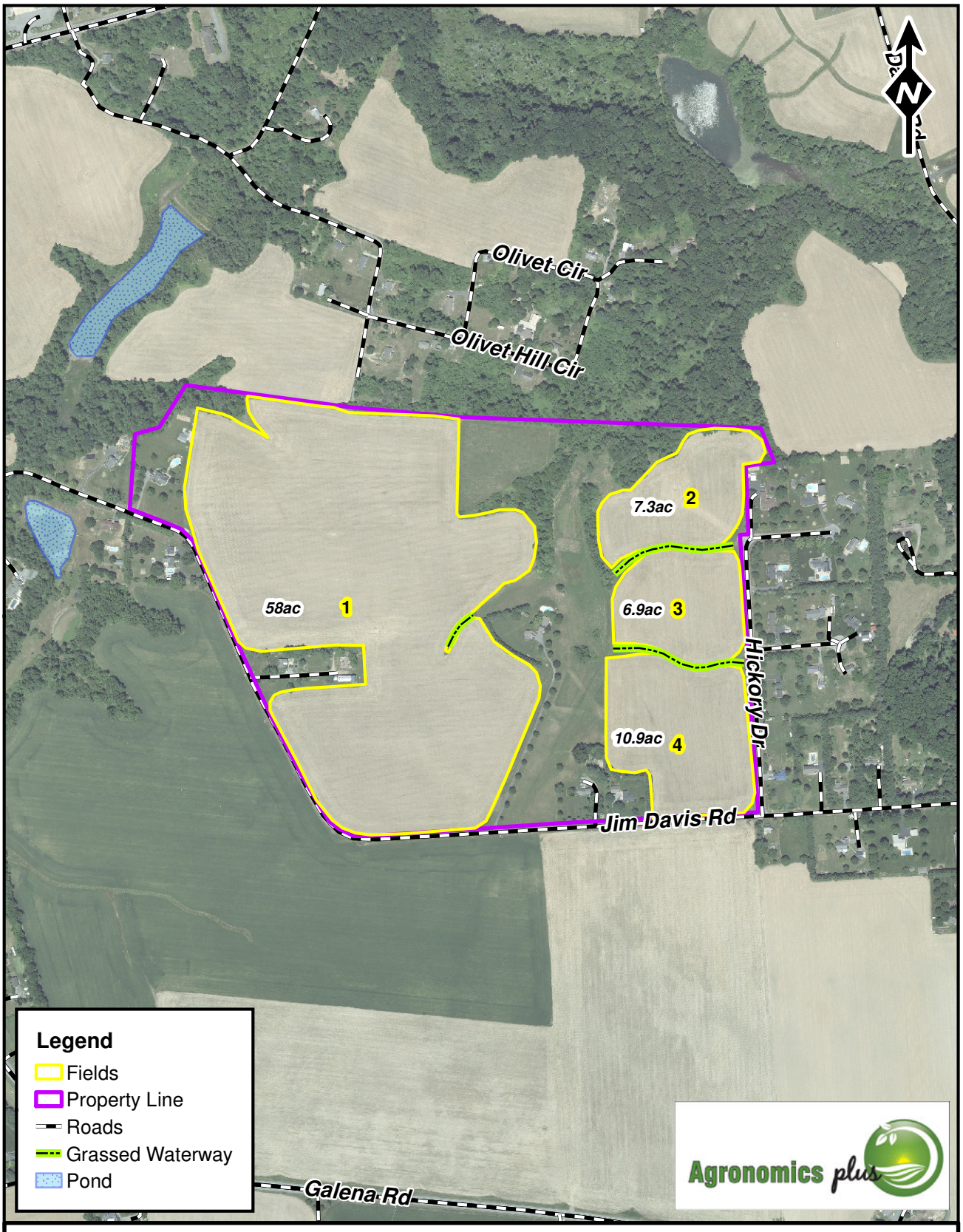
David D. Kann 4/16/2025
David D. Kann DATE

CONSERVATION PLAN MAP

Owner: Walters/Wallace | *Operator: Rich Levels Grain*

Acct Id.: [redacted] | *Acres: 114.5*

County: Kent | *Date: 04/15/2025*



31544 Jim Davis Road, Galena, MD

940 470 0 940 Feet

USDA-NRCS - KENT COUNTY SERVICE CENTER
122 SPEER RD
CHESTERTOWN, MD 21620-1037
(410) 778-5353

David Kann
Conservation Planner
Agronomics plus
717-792-1274

Conservation Plan

Rich Level Grain
33960 Sassafras-Caldwell Road
Galena, MD 21635

NARRATIVE / OBJECTIVES

Maryland regulations for agriculture require that Best Management Practices (BMPs) be implemented to prevent accelerated erosion and sedimentation to waters of this State. Agricultural plowing or tilling activities or Animal Heavy Use Areas (AHUAs), require additional planning and required BMPs.

The following practices and management will improve or enhance soil conditions and eliminate or reduce soil erosion while at the same time improving water quality on the farm.

All lands receiving fertilizer and/or manure will need to have a Nutrient Management Plan.

The landowner has the responsibility for obtaining the proper permits before any excavation begins.

Cropland

Walters Farm

Conservation Crop Rotation (328)

Plant crops as listed: Rotation of CORN and WHEAT dc/SOYBEANS. Generally high residue no-tilled crops such as corn, grain, or hay crops may be added to the rotation without increasing soil loss. Crops with low residues and with tillage generally cannot be added to the rotation without the additional use of conservation practices or by adding additional years of high residue no-till crops or hay to the rotation. Lime and fertilizer will be applied based on soil tests and the University of Maryland recommendations. When soil tests are high in P and/or K, recommendations may indicate that no nutrient applications are needed.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	58 ac	6	2023	58 ac	6/1/2023
2	7.3 ac	6	2023	7.3 ac	6/1/2023
3	6.9 ac	6	2023	6.9 ac	6/1/2023
4	10.9 ac	6	2023	10.9 ac	6/1/2023
Total:	83.1 ac			83.1 ac	

Grassed Waterway (412)

Maintain a grassed waterway where shown on the plan map to prevent erosion caused by concentrated water flows. Construct and seed according to NRCS design. Avoid spraying herbicides and do not plow or disk through the waterway. Regularly remove debris and accumulated sediment. Mow as needed to maintain grass height at 4 to 6 inches to promote a thick sod. Inspect after each major storm and repair any damaged areas immediately. Tillage and row direction should be perpendicular to the waterway to allow runoff to drain into the waterway and prevent gullies along the edges. Provide stabilized machinery crossings, where needed, to prevent rutting of the waterway.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	0.1 ac	6	2023	0.1 ac	6/1/2023
2	0.4 ac	6	2023	0.4 ac	6/1/2023
3	0.4 ac	6	2023	0.4 ac	6/1/2023
Total:	0.9 ac			0.9 ac	

Nutrient Management (590)

Manage the amount, form, placement and timing of plant nutrient application to protect surface & groundwater from runoff and/or leaching of nutrients. The land application of animal manures and agricultural process wastewater must follow the standards outlined by the Maryland Department of Agriculture.

- Minimize agricultural nonpoint source pollution of surface and groundwater resources
- Properly utilize manure or organic by-products as a plant nutrient source
- Protect air quality by reducing odors, nitrogen emissions (including ammonia), and the formation of atmospheric particulates
- Maintain or improve the physical, chemical, and biological condition of the soil

All nutrients will be applied based on a nutrient management plan developed for the fields indicated on the conservation plan map and will specifically address the management of the sensitive areas indicated on the conservation plan map. Nutrients from all sources will be included. The plan will address field by field application rates and application timing requirements. Soil tests must be completed at least once every three years and records of soil test results and nutrient application timing and rates must be maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	58 ac	2	2025	58 ac	2/15/2025
2	7.3 ac	2	2025	7.3 ac	2/15/2025
3	6.9 ac	2	2025	6.9 ac	2/15/2025
4	10.9 ac	2	2025	10.9 ac	2/15/2025
Total:	83.1 ac			83.1 ac	

Residue and Tillage Management, Mulch Till (345)

Establish the following crops: A rotation of Corn and Small Grain. 40% RESIDUE AMOUNTS AFTER CORN PLANTING. Small grain crops following corn, 50% RESIDUE. Occasionally, due to equipment tracking and manure application; light discing may occur to remove these issues in the field; otherwise all small grain and soybeans are no-tilled. All corn crops and management follow a turbo-till establishment.

Mulch tillage and No-till helps to reduce soil erosion and energy use, improve soil quality, and increase plant-available moisture. Manage the amount, orientation, and distribution of the crop and plant residue by limiting the amount of tillage occurring in the field. Soil loss predictions and Soil Conditioning Index results, as calculated by RUSLE2, are attached. Contact the NRCS or Soil Conservation District office if changes in crops, tillage, or residue levels are desired. For Operation and Maintenance, evaluate crop residue remaining after planting to ensure that appropriate residue levels are maintained.

Field	Planned Amount	Month	Year	Applied Amount	Date
1	58 ac	6	2023	58 ac	6/1/2023
2	7.3 ac	6	2023	7.3 ac	6/1/2023
3	6.9 ac	6	2023	6.9 ac	6/1/2023
4	10.9 ac	6	2023	10.9 ac	6/1/2023
Total:	83.1 ac			83.1 ac	

CERTIFICATION OF PARTICIPANTS

The estimated soil loss rate for cropland in this conservation plan meets the tolerable (T) rate of soil loss over the planned crop rotation. Potential and existing gullies have been or will be treated through this plan. The customer agrees to maintain the cropping system as described in the Conservation Crop Rotation narrative and/or job sheet included in this plan.

The attached RUSLE 2 Plan View report shows the estimated soil loss based on the planned cropping system. Flexibility within the system is permitted provided erosion is not increased. The narrative and job sheet describe changes to the system that would likely increase or decrease soil erosion. If the customer makes changes to the system that might increase soil erosion, they are responsible for acquiring a new soil loss calculation and ensuring that the soil loss rate of the new cropping system does not exceed T.

The customer is responsible for obtaining all necessary permits, rights, or notifications, and for complying with all state, federal, and local laws and regulations pertaining to the application of the planned conservation practices identified in this plan.

Name (print): R. Allen Davis

Representative of Rich Levels Grain — DATE: 5/6/25

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if Applicable)

NRCS Representative — DATE

CONSERVATION PLANNER

David D. Kann — DATE

CERTIFICATION OF PARTICIPANTS

The estimated soil loss rate for cropland in this conservation plan meets the tolerable (T) rate of soil loss over the planned crop rotation. Potential and existing gullies have been or will be treated through this plan. The customer agrees to maintain the cropping system as described in the Conservation Crop Rotation narrative and/or job sheet included in this plan.

The attached RUSLE 2 Plan View report shows the estimated soil loss based on the planned cropping system. Flexibility within the system is permitted provided erosion is not increased. The narrative and job sheet describe changes to the system that would likely increase or decrease soil erosion. If the customer makes changes to the system that might increase soil erosion, they are responsible for acquiring a new soil loss calculation and ensuring that the soil loss rate of the new cropping system does not exceed T.

The customer is responsible for obtaining all necessary permits, rights, or notifications, and for complying with all state, federal, and local laws and regulations pertaining to the application of the planned conservation practices identified in this plan.

Name (print):_____

_____ _____
Representative of Rich Levels Grain DATE

CERTIFICATION OF:

DESIGNATED CONSERVATIONIST (if Applicable)

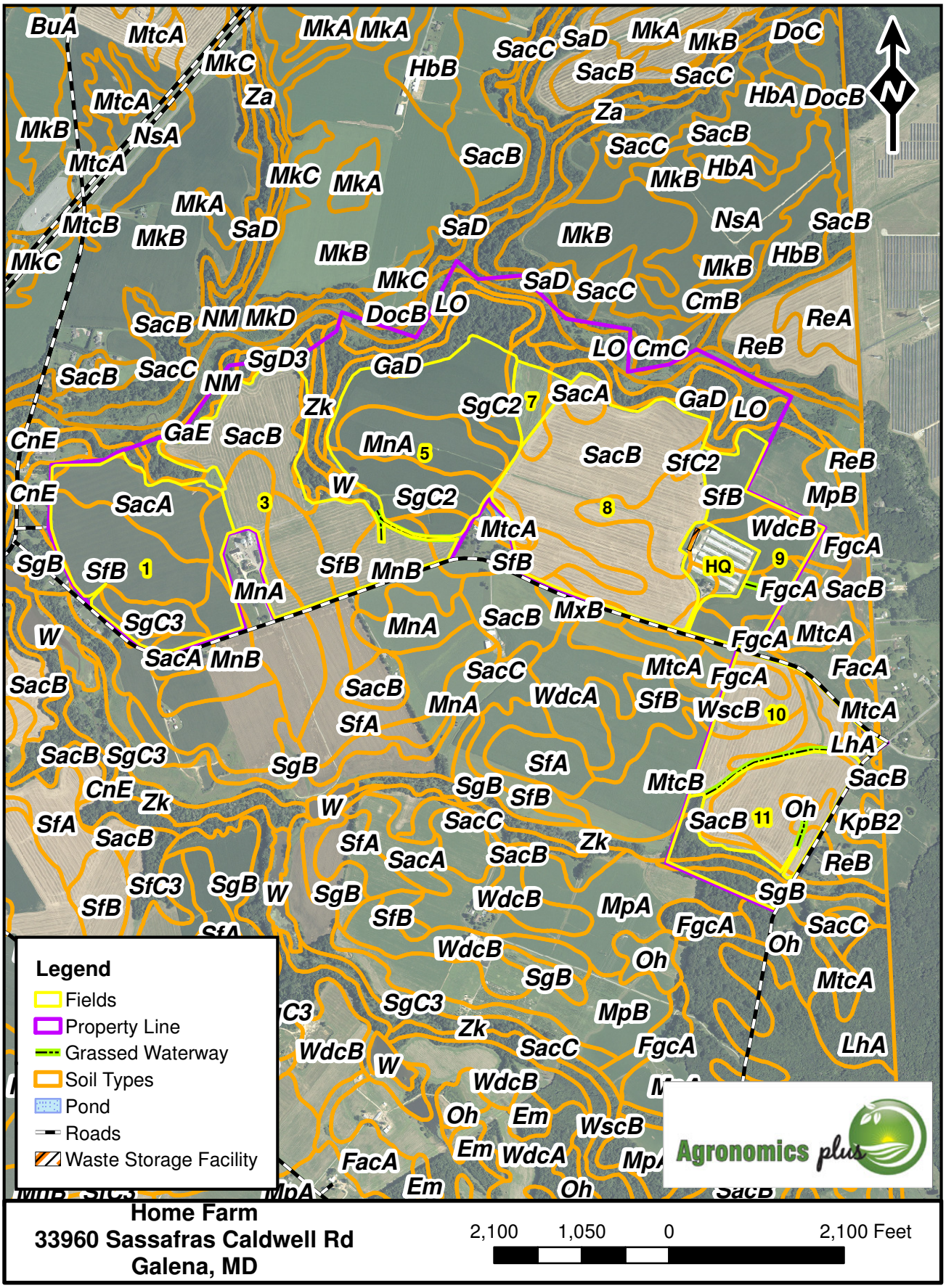
_____ _____
NRCS Representative DATE

CONSERVATION PLANNER

David D. Kann 4/16/2025
David D. Kann DATE

SOIL MAP

Owner: Allen Davis/Olin Davis Farms LLC *Operator: Rich Levels Grain*
Acct Id.: [redacted] *Acres: 644*
County: Kent *Date: 04/15/2025*



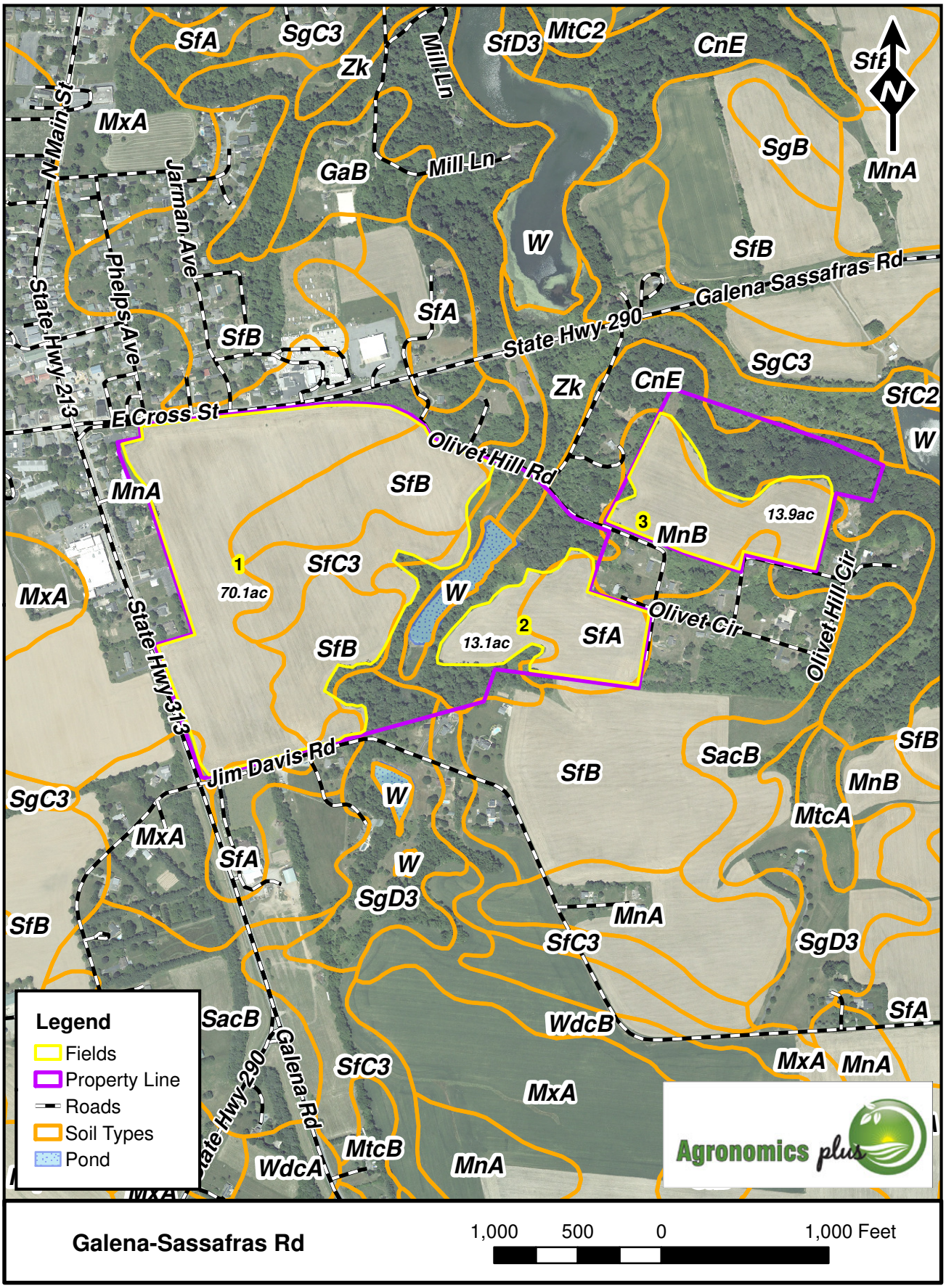
Home Farm
33960 Sassafras Caldwell Rd
Galena, MD

2,100 1,050 0 2,100 Feet

SOIL MAP

Owner: SIVAD LLC
Acct Id.: [redacted]
County: Kent

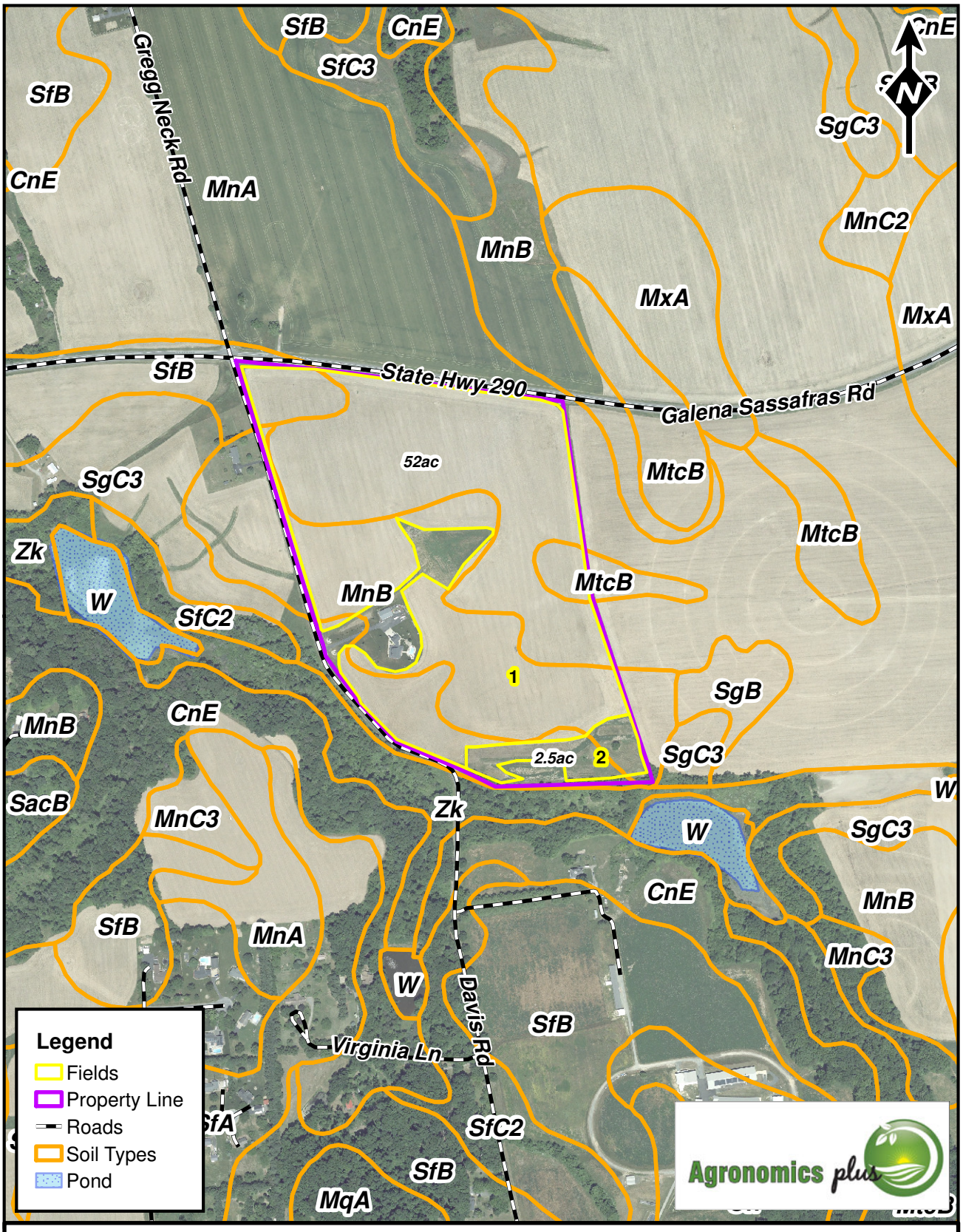
Operator: Rich Levels Grain
Acres: 131.6
Date: 04/15/2025



SOIL MAP

Owner: Stephen & Sharon Redding
Acct Id.: [redacted]
County: Kent

Operator: Rich Levels Grain
Acres: 60.16
Date: 04/15/2025

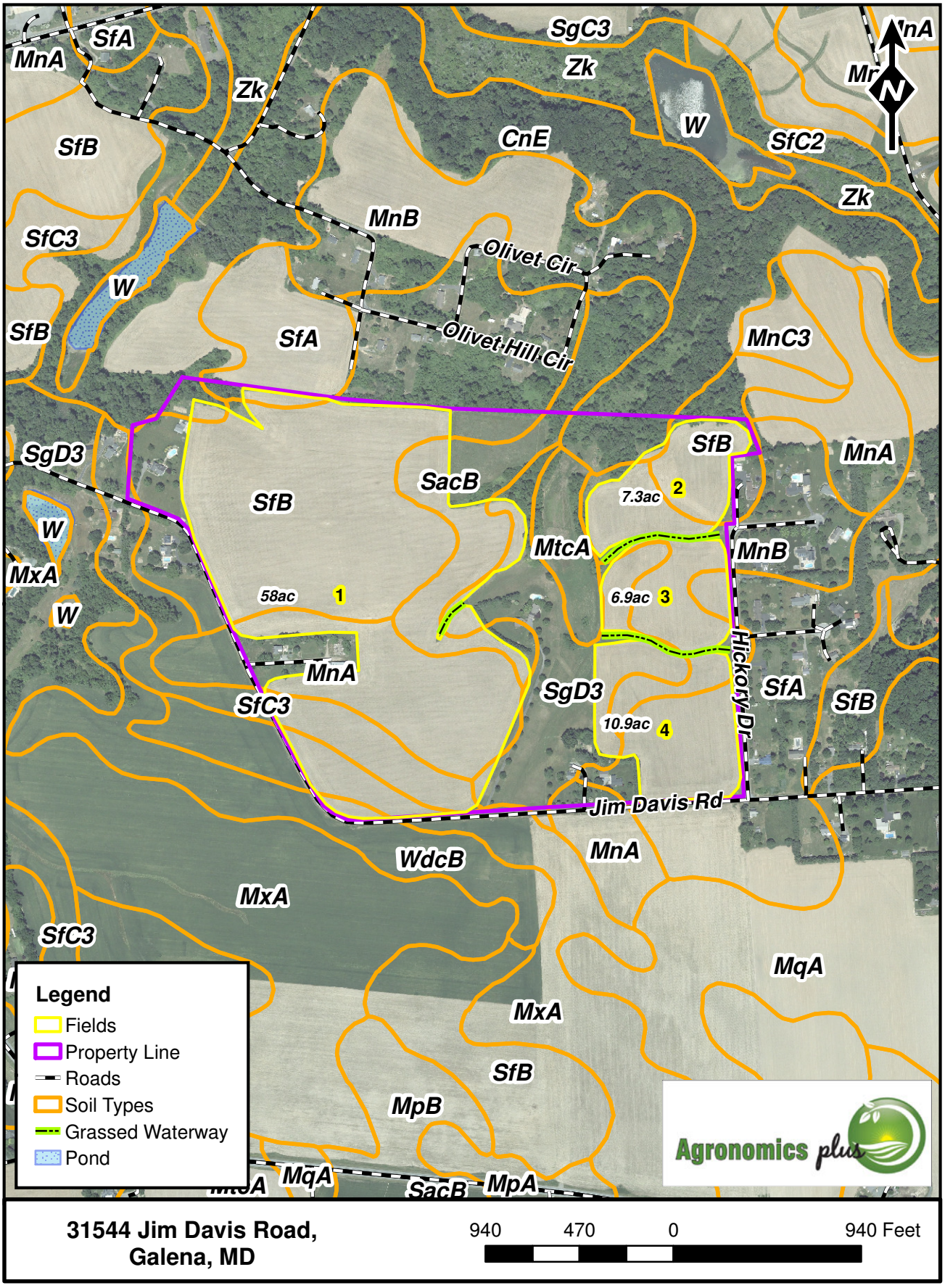


13251 Davis Road,
Galena, MD

SOIL MAP

Owner: Walters/Wallace
Acct Id.: [redacted]
County: Kent

Operator: Rich Levels Grain
Acres: 114.5
Date: 04/15/2025



31544 Jim Davis Road,
Galena, MD

940 470 0 940 Feet

Soils Information

Soils Data & Descriptions

See Soils Info Section (on the following pages)

RUSLE2 Calculations

Kent County, Maryland

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

Component: Fallsington, undrained (48%)

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

Component: Fallsington, drained (25%)

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

Component: Marshyhope (8%)

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

Component: Woodstown (7%)

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

Component: Hammonton (5%)

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

Component: Othello (5%)

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

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

Component: Fallsington, undrained (38%)

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

Component: Fallsington, drained (37%)

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

Component: Hammonton (7%)

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

Component: Woodstown (7%)

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

Component: Othello (6%)

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

Component: Marshyhope (5%)

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

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

Component: Galestown (80%)

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

Component: Ingleside (5%)

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

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

Component: Fort Mott (5%)

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

Map Unit: GaE—Galestown loamy sand, 15 to 40 percent slopes

Component: Galestown (95%)

The Galestown component makes up 95 percent of the map unit. Slopes are 15 to 25 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a

depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F153DY170NJ Sandy, Excessively Drained Upland ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Component: Unnamed soils (5%)

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

Map Unit: LhA—Lenni silt loam, 0 to 2 percent slopes

Component: Lenni, drained (50%)

The Lenni, drained component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats. The parent material consists of clayey fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is 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 6 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Component: Lenni, undrained (30%)

The Lenni, undrained component makes up 30 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats. The parent material consists of clayey fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is 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 94 percent. Below this thin organic horizon the organic matter content is about 6 percent. This component is in the F149AY090NJ Coastal Plain Hardwood Swamp ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Keyport (5%)

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

Component: Mattapex (5%)

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

Component: Crosiadore (5%)

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

Component: Corsica (5%)

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

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

Component: Longmarsh (43%)

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

Component: Indiantown (37%)

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

Component: Zekiah (10%)

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

Component: Klej (5%)

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

Component: Manahawkin (5%)

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

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

Component: Matapeake (80%)

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

Component: Nassawango (10%)

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

Component: Butlertown (5%)

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

Component: Mattapex (5%)

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

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

Component: Matapeake (80%)

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

Component: Nassawango (10%)

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

Component: Butlertown (5%)

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

Component: Mattapex (5%)

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

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

Component: Mattapex (100%)

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

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

Component: Mattapex (80%)

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

Component: Nassawango (10%)

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

Component: Crosiadore (5%)

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

Component: Othello, drained (5%)

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

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

Component: Mattapex (80%)

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

Component: Nassawango (10%)

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

Component: Othello, drained (5%)

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

Component: Crosiadore (5%)

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

Map Unit: MxB—Mattapex-Matapeake-Butlertown silt loams, 2 to 5 percent slopes

Component: Mattapex (40%)

The Mattapex component makes up 40 percent of the map unit. Slopes are 2 to 5 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 27 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Matapeake (35%)

The Matapeake component makes up 35 percent of the map unit. Slopes are 2 to 5 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F153CY030MD Well Drained Loess Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Butlertown (20%)

The Butlertown component makes up 20 percent of the map unit. Slopes are 2 to 5 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 36 inches during February, March. Organic matter content in the surface horizon is about 3 percent. This component is in the F153CY020MD Moist Loess Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: OTHELLO (5%)

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

Map Unit: NM—Nanticoke and Mannington soils, very frequently flooded

Component: Nanticoke, very frequently flooded (50%)

The Nanticoke, very frequently flooded component makes up 50 percent of the map unit. Slopes are 0 to 1 percent. This component is on fresh water tidal marshes on coastal plains. The parent material consists of silty estuarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is very frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 12 percent. This component is in the R149AY050NJ Tidal Freshwater Marsh ecological site. Nonirrigated land capability classification is 8. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Mannington, very frequently flooded (40%)

The Mannington, very frequently flooded component makes up 40 percent of the map unit. Slopes are 0 to 1 percent. This component is on fresh water tidal marshes on coastal plains. The parent material consists of silty estuarine deposits over herbaceous organic material and/or fine-silty estuarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is very frequently flooded. It is not ponded. A seasonal zone of water

saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 11 percent. This component is in the R149AY050NJ Tidal Freshwater Marsh ecological site. Nonirrigated land capability classification is 8. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Mispillion, very frequently flooded (5%)

Generated brief soil descriptions are created for major soil components. The Mispillion, very frequently flooded soil is a minor component.

Component: Manahawkin, frequently flooded (5%)

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

Map Unit: ReB—Reybold silt loam, 2 to 5 percent slopes

Component: Reybold (75%)

The Reybold component makes up 75 percent of the map unit. Slopes are 2 to 5 percent. This component is on interfluves. The parent material consists of high silt loamy eolian deposits over fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Sassafras (10%)

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

Component: Queponco (5%)

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

Component: Unicorn (5%)

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

Component: Matapeake (5%)

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

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

Component: Sassafras (80%)

The Sassafras component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 1. Irrigated land capability classification is 1 This soil does not meet hydric criteria.

Component: Ingleside (10%)

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

Component: Woodstown (5%)

Generated brief soil descriptions are created for major soil components. The Woodstown 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: SacB—Sassafras sandy loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain

Component: Sassafras (80%)

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

Component: Ingleside (10%)

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

Component: Downer (5%)

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

Component: Woodstown (5%)

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

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

Component: Sassafras (80%)

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

Component: Ingleside (10%)

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

Component: Downer (5%)

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

Component: Woodstown (5%)

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

Map Unit: SfA—Sassafras loam, 0 to 2 percent slopes

Component: Sassafras (80%)

The Sassafras component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is

well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 1. Irrigated land capability classification is 1 This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Ingleside (10%)

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

Component: Downer (5%)

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

Component: Woodstown (5%)

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

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

Component: Sassafras (80%)

The Sassafras component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Woodstown (10%)

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

Component: Unicorn (10%)

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

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

Component: Sassafras (100%)

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

Map Unit: SgB—Sassafras gravelly loam, 0 to 5 percent slopes

Component: Sassafras (100%)

The Sassafras component makes up 100 percent of the map unit. Slopes are 0 to 5 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

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

Component: Sassafras (100%)

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

Map Unit: SgC3—Sassafras gravelly loam, 5 to 10 percent slopes, severely eroded

Component: Sassafras (100%)

The Sassafras component makes up 100 percent of the map unit. Slopes are 5 to 10 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: SgD3—Sassafras gravelly loam, 10 to 15 percent slopes, severely eroded

Component: Sassafras (80%)

The Sassafras component makes up 80 percent of the map unit. Slopes are 10 to 15 percent. This component is on hillslopes, uplands. The parent material consists of loamy fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F149AY170MD Well Drained Fine-Loamy Upland ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Hambrook (15%)

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

Component: Woodstown (5%)

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

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

Component: Woodstown (80%)

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

Component: Fallsington (6%)

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

Component: Hammonton (6%)

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

Component: Mattapex (4%)

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

Component: Hambrook (4%)

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

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

Component: Woodstown (80%)

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

Component: Hammonton (6%)

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

Component: Fallsington, occasionally ponded (6%)

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

Component: Mattapex (4%)

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

Component: Hambrook (4%)

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

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

Component: Woodstown (80%)

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

Component: Fallsington (6%)

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

Component: Hammonton (6%)

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

Component: Hambrook (4%)

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

Component: Mattapex (4%)

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

Map Unit: Zk—Zekiah silt loam, 0 to 2 percent slopes, frequently flooded

Component: Zekiah, frequently flooded (80%)

The Zekiah, frequently flooded component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on coastal plains. The parent material consists of loamy alluvium over fluvial coarse-loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. This component is in the R149AY060DE Wet Alluvial Floodplain ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Longmarsh, frequently flooded (10%)

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

Component: Hurlock, undrained (5%)

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

Component: Hammonton (5%)

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

RUSLE2 Erosion Calculation Record

File: plans\Rich Levels Grain set1
Access Group: R2_NRCS_Fld_Office

Inputs:

Owner name	*Location*	*Info*
Rich Levels Grain	**USA\Maryland\Kent County**	

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

Field name	*Soil*	*Slope T Value*	*Slope length, ft*	*Slope steepness, %*
Redding 1	soils\SSURGO\Kent County, Maryland\MnB Matapeake silt loam, 2 to 5 percent slopes\Matapeake Silt loam 80%	3.0	150	4.0
Davis Home Farm 1	soils\SSURGO\Kent County, Maryland\SfB Sassafras loam, 2 to 5 percent slopes\Sassafras Loam 80%	3.0	150	3.0
Davis Home Farm 3	soils\SSURGO\Kent County, Maryland\SfB Sassafras loam, 2 to 5 percent slopes\Sassafras Loam 80%	3.0	150	3.0
Davis Home Farm 5	soils\SSURGO\Kent County, Maryland\SgC2 Sassafras gravelly loam, 5 to 10 percent slopes, moderately eroded\Sassafras Gravelly loam 100%	5.0	150	5.0
Davis Home Farm 8	soils\SSURGO\Kent County, Maryland\SacB Sassafras sandy loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain\Sassafras Sandy loam 80%	3.0	150	3.0
Davis Home Farm 9	soils\SSURGO\Kent County, Maryland\SfB Sassafras loam, 2 to 5 percent slopes\Sassafras Loam 80%	3.0	150	2.0
Davis Home Farm 10	soils\SSURGO\Kent County, Maryland\MtcB Mattapex silt loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain\Mattapex Silt loam 80%	4.0	140	2.0
Davis Home Farm 11	soils\SSURGO\Kent County, Maryland\SacB Sassafras sandy loam, 2 to 5 percent slopes, Mid-Atlantic Coastal Plain\Sassafras Sandy loam 80%	3.0	160	2.0

Results:

Field name	*Description*	*Contouring system*	*Support practices*	*Terrace/diversion system*	*Cons. plan. soil loss, t/ac/yr*	*Sed. delivery, t/ac/yr*	*Soil conditioning index (SCI)*	*STIR value*	*Fuel cost*

Redding 1	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	1.0	1.0	0.98	17	33.81
Davis Home Farm 1	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.58	0.58	1.0	17	33.81
Davis Home Farm 3	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.58	0.58	1.0	17	33.81
Davis Home Farm 5	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	1.1	1.1	0.97	17	33.81
Davis Home Farm 8	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.36	0.36	1.0	17	33.21
Davis Home Farm 9	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.42	0.42	1.0	17	33.81
Davis Home Farm 10	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.60	0.60	1.0	17	33.81
Davis Home Farm 11	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.26	0.26	1.0	17	33.21

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.

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

RUSLE2 Erosion Calculation Record

File: plans\Rich Levels Grain set2
Access Group: R2_NRCS_Fld_Office

Inputs:

Owner name	*Location*	*Info*
Rich Levels Grain	**USA\Maryland\Kent County**	

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

Field name	*Soil*	*Slope T Value*	*Slope length, ft*	*Slope steepness, %*
Davis Farm 1	soils\SSURGO\Kent County, Maryland\SfB Sassafras loam, 2 to 5 percent slopes\Sassafras Loam 80%	3.0	200	3.0
Davis Farm 2	soils\SSURGO\Kent County, Maryland\SfA Sassafras loam, 0 to 2 percent slopes\Sassafras Loam 80%	3.0	200	3.0
Davis Farm 3	soils\SSURGO\Kent County, Maryland\MnB Matapeake silt loam, 2 to 5 percent slopes\Matapeake Silt loam 80%	3.0	250	4.0
Walters1	soils\SSURGO\Kent County, Maryland\SfB Sassafras loam, 2 to 5 percent slopes\Sassafras Loam 80%	3.0	200	3.0
Walters2 & 3	soils\SSURGO\Kent County, Maryland\MnB Matapeake silt loam, 2 to 5 percent slopes\Matapeake Silt loam 80%	3.0	180	3.0
Walters4	soils\SSURGO\Kent County, Maryland\SfA Sassafras loam, 0 to 2 percent slopes\Sassafras Loam 80%	3.0	200	2.0

Results:

Field name	*Description*	*Contouring system*	*Support practices*	*Terrace/diversion system*	*Cons. plan. soil loss, t/ac/yr*	*Sed. delivery, t/ac/yr*	*Soil conditioning index (SCI)*	*STIR value*	*Fuel cost*
Davis Farm 1	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.59	0.59	1.0	17	33.81

Davis Farm 2	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.59	0.59	1.0	17	33.81
Davis Farm 3	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	1.1	1.1	0.98	17	33.81
Walters1	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.59	0.59	1.0	17	33.81
Walters2 & 3	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.83	0.83	1.00	17	33.81
Walters4	Rich Levels Grain_corngrain,mt; wheat,nt, dcsoybeans,nr,nt z59	contour-systems\a. rows up-and-down hill	-- none --	-- none --	0.43	0.43	1.0	17	33.81

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 the Farm Operation

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

IMPORTANT! ***The table below is your Conservation Practice and Facility Implementation Schedule.*** *The practices listed in this schedule must be implemented no later than the indicated dates.*

Practice and Facility Implementation Schedule

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

Item Number	Best Management Practice	Reason for Need	BMP Location	Approximate Amount	Implementation Month/Year
None					

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

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

Schedule of Implementation Agreement

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

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

Signature: D Allen Davis Date: 5/7/25

Name (*print*): D Allen Davis

Operation and Maintenance

Access Road - 560

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

Amendments for Treatment of Ag Waste

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

Animal Mortality Facility

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

Critical Area Planting (CAP) and Filter Strips

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

Heavy Use Area (HUA or Poultry Pads)

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

Underground Outlet

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

Waste Storage Facility - 313

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

Nutrient Management

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

Soil Sampling and Testing

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

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

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

Manure and Wastewater Testing/Analysis

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

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

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

The Nutrient Management Plan, looks at all generated nutrients on the farm. A Summary of Recommendations reflects the nutrient applications to cropland and pasture.

Manure Allocation Balance

Type of Manure	Utilized in the NM Plan	Amount of Manure Produced and Captured (annually)	Excess/Deficit (-)
Broiler	*852 tons*	*852 tons*	*0*

NUTRIENT MANAGEMENT PLAN

Nutrient Management

Nutrients (Manure, Wastewater, and Commercial Fertilizers)

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

Purpose and Intent of Nutrient Management

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

Nitrogen and Phosphorus Transport and Water Quality Impairment

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

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

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

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

Nutrient Management Plan

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

Plan Maintenance, Updates or Revisions

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

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

Nutrient Management Plan Annual Implementation Report

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

Minimum Setback Distances from Sensitive Areas

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

Maryland
Nutrient Management Plan

Prepared for:

Rich Levels Grain
33960 Sassafras-Caldwell Road
Galena, Maryland 21635

Date
February 12, 2025

Prepared by:

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

Plan Type: Updated NMP - Grain

Plan Period: 2025 Growing Season

AET
Agricultural Consulting

MARYLAND NUTRIENT MANAGEMENT PLAN

TABLE OF CONTENTS

(Use "N/A" where component is not applicable to the operation.)

Field or Management Unit Specific Information

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

Additional Plan Content for Container or Out-of-Ground Production N/A

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

2 Map(s) of the Agricultural Operation

1. Location & boundaries of ag operation with field or management unit boundaries _____
2. Parcel identifier, field identifier, and acreage of fields or management units _____

2 Summary of Nutrient Recommendations

1. Miscellaneous notes in regards to nutrient application _____
2. Nutrient Recommendations _____
   (A snapshot which includes parcel ID, field or management unit identifier, crop/plant yield/production goal, acreage/growing area, recommended nutrient rates necessary to meet expected crop yields (amount and type of all nutrient sources per acre or management unit), method and time frame for nutrient application and incorporation, and liming recommendations)

+ = Items which MUST be submitted to the MDA Nutrient Management Regional Office if receiving MACS cost share.

Certification and Review

Planner Declaration

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

Name of planner: Don Moore, CCA
AET Consulting, Inc.

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

Planner Signature: _____

Date: 5-8-25

Operation Record Keeping Requirements and Acknowledgement of Responsibility

1. All nutrient management plans and updates for the last 3 years.
2. A record of crops and actual yields for the last 5 years.
3. Analysis of nutrients (all forms) applied to plants and/or crop acreage.
4. Soil analysis results for the entire agricultural operation.
5. Record of timing, location, and amounts of all nutrient applications.
6. Receipts related to the purchase of nutrients.
7. Documentation to justify any changes from the Nutrient Management Plan as written.
8. **If operator is an applicator of nutrients to 10 acres or more; operator must hold a current Maryland Nutrient Applicator's Voucher.**
9. Operator is required to have a copy of a current state chemist label of any imported or exported organic fertilizer material that contains primary nutrients such as food processing waste, spent mushroom substrate, composted waste products, or other waste streams containing nutrients.

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

Farm Owner/Operator: _____

Date: 5/12/2025

Plan Identification

Operator information:

Rich Levels Grain
33960 Sassafras-Caldwell Rd
Galena, MD 21635
[redacted]

Consultant information:

Don Moore, CCA
2677 Telegraph Rd.
North East, MD 21901
410-620-0275
Certification # MD-1048
License # MD-2175

Nutrient Management Plan Narrative:

This plan was written for the 2025 growing season. Manure is imported based on cost and availability. Layer manure is imported from ISE America in Warwick, Maryland and Puglisi Egg Farm in Middletown, Delaware. Broiler manure is imported from Rich Levels Poultry in Galena, MD, C and S farm, EB Workman, and from Weaver Farm. Commercial fertilizer supplements the manure in order to meet the nutrient needs of the crops. The crops grown are used for grain. The land is in a corn/small grain/soybean rotation. There is irrigation used on the Home Farm and Mill Creek Farm.

Date Nutrient Management Plan Developed:

February 12, 2025

This NMP is required to be updated prior to Fall 2025 nutrient applications.

Crops:	2025	Acres
C	Corn	2224.50
B/SB	Barley/Soybean	487.70
W/SB	Wheat/Soybean	1610.30
Total		**4,322.50 Acres**

Property ID	Acct ID Acres	Farm	Plan Acres	County	Watershed
1501018337	61.15	Antone	30.0	Kent	0059
		Asplundh	200.9		
1501019872	276.5	Austin	78.5	Kent	0059
1501019198	119.98	Addie Walters	85.2	Kent	0059
0801005561	97.5	Bregger, Cecil	94.5	Cecil	0096
1501025104	198.2	Bregger, Kent	116.5	Kent	0059
1802014122	533.2	Britland	338.2	Queen Anne's	0045
0801005677	164.14	Byerly	113.0	Cecil	0096
0801021729	275	Church	254.7	Cecil	1098
0801006932 0801006983	178 175.5	Crawford	253.7	Cecil	0096
0801062352	27.1	Davis	94.1	Cecil	0096

0801009079	552.5	Essex Lodge	398.3	Cecil	1098
1501005545	256.47	Fusco	94.0	Kent	0059
1501005987	181.32	Redgrave	137.4	Kent	0058
1501025244 1501003747	25.02 161.18	Foxhole	96.0	Kent	0059
0801007475	124.9	Jeffries	87.0	Cecil	0096
1501011286	142	Maloney	135.2	Kent	0058
0801019775 0801019759 0801019740 0801019767	175.39 322.74 11.0 192.42	Middlesex	539.9	Cecil	0096
0501006371	228.6	Mill Creek	193.1	Kent	0059
1501002732	75.6	Neff	62.0	Kent	0058
0801062352	27.1	Phillips	27.0	Cecil	0096
1501024213	60.16	Redding	53.0	Kent	0059
1501004379 1501004387 1501004395	294.93 217.75 100.1	Home	517.4	Kent	0059
0801007386	331.2	Sigman	223.9	Cecil	0097
0801025783	159.94	Ware	99.0	Cecil	0096

Plan Maintenance

This nutrient management plan was written for the 2025-growing season and will need updated for the 2026-growing season. In addition, if any of the following events occur, the plan will need to be updated before the 2025-growing season.

1. A change in the planned crop or a change in acreage of 10 percent or greater, or 30 acres, whichever is less.
   Modification of the sidedress application of nitrogen based on PSNT results.
3. Adjustments to the nutrients applied or manure application additions.
4. A change in animal units of 10 percent or greater or changes in housing of animals.
5. New manure or soil analysis (minimum of once every 2 years).
6. New soil analysis taken.

Soil samples should be collected at least every other year to maximize utilization of soil nutrients

Crop rotation is important to prevent soil borne diseases and to use soil nutrients efficiently.

Split applications of nitrogen on environmentally sensitive sites reduce potential for runoff and leaching. Utilization of a Pre-Sidedress Nitrogen Test (PSNT) or tissue test can help determine additional N requirements during the growing season. **Fall Soil Nitrate Test (FSNT) is now required prior to fall application (September 10 through December 15) of nitrogen on wheat or barley to be harvested for grain to determine crop need.**

Each year all application equipment including the planter should be calibrated to ensure the correct rate of nutrients are applied. Application of nutrients should be timed as close as possible to crop growth or uptake and placed near the root zone for efficient crop use. Application to ground that is frozen 2 inches or greater and/or snow covered 1 inch or greater is prohibited. Application to saturated ground must be avoided. Winter applications are defined as occuring from December 16- March 1 and setbacks of 100 feet from surface waters must be maintained. Emergency winter applications may be made if the operation has inadequate storage, a non-stackable manure(greater than 75% moisture), and no other reasonable option to manage it. All applications shall be made in accordance with MDA's restrictions. The operator must obtain permission from MDA's regional office before winter application occurs. All applications of organic/manure materials should be incorporated within 48 hours unless applied to a hay crop or HEL designated ground or the ground is under long-term no-till practices.

Storage of manure and other organic waste products should be in an appropriate roofed structure or covered with an impermeable cover. If no structure is available, manure and other organic waste products must be in a 6-foot conical pile, and staged temporarily in a way that will prevent nutrient runoff. Any material that is temporarily stockpiled must be land applied the following spring, by June 30th.
When choosing a site to temporarily store manure and other organic waste products, wetlands and low lying areas should be avoided, as should any site that would allow runoff from storage to enter into any ditch, stream, or other surface water body. Locations for temporary field stockpiling should not be moved place to place. Locations should stay the same.

When choosing an area to temporarily field stockpile, these requirements must be met:

- At least 100 feet from wells, springs, and wetlands *(unless well is down gradient from stockpile, then at least 300 feet from the well)*
- 100 feet from surface waters OR 35 feet when there is 35 feet of vegetative buffer
- At least 200 feet from any residence *(outside of operators property)*
- Away from any areas that are subject to flooding or ponding
- No farther than 150 feet from the top of the slope when area is on more than a 3% grade slope, with no diversion

When the temporary field stockpiled material is applied, the ground shall be thoroughly scraped or cleaned to remove any residual material. Furthermore, the temporary stockpile area must be returned to its original condition. In order to facilitate nutrient uptake, the area may require reseeding with a grass or a crop.

Manure and other organic waste products should not be spread within the following buffer areas:

- 100 feet from wells or springs
- 100 feet from surface waters (unless injected or incorporated) OR 35 feet when there is 35 feet of vegetative buffer
- 35 feet on all sacrifice lots with less than 75% grass or grass legume mix from all streams, water bodies, and areas of water flow
- 50 feet from sinkholes
- 50 feet from limestone rock outcroppings
- 25 feet from other rock outcroppings
- 10 feet from agricultural drainage ditches (5 feet if injected or incorporated within 24 hours)
- **100 feet from occupied dwellings (unless waived in writing by the occupant)**
- **10 feet on all pasture and hay fields for both mechanical and self-applied nutrients from all streams, water bodies, and areas of water flow**

NUTRIENT APPLICATION SETBACKS FROM SURFACE WATER:

Setbacks for Nutrient Application are required in the development of nutrient management plans. Application and livestock setback regulations are contained under the Nutrient Application Requirements, Maryland Department of Agriculture 2012, COMAR 15.20.07.02, Maryland Nutrient Management Manual, 1-D1.

A minimum of a 10' vegetative setback must be in place next to surface water. The chart below indicates if surface water is present that requires a setback on any farm/operation and identifies the fields that are required to have a nutrient application setback. **An application of crop nutrients using a broadcast method either with or without incorporation requires a 35'setback. A directed spray application or the injection of crop nutrients only requires a 10'setback.** Excepting perennial forage crops grown for hay and pasture, vegetation in the 10' setback area may not include plants that would be considered part of the crop grown in the field (i.e. row crops). Pastures and hayfields are subject to a 10' and/or a 35' nutrient application setback depending on application methods. Nutrients may not be applied within the 10' setback.

Livestock on pasture are required to meet the minimum 10' setback by means of fencing unless a Best Management Practice (BMP) is approved by MDA or a Soil Conservation and Water Quality Plan is developed and implemented that prescribes an alternative to fencing animals 10' from surface water. Alternative BMP's may include stream crossings, watering facilities, pasture management, or other practices that are equally protective of water quality. Sacrifice lots for livestock require a 35' setback from surface water.

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

			Nutrient Application Setback Requirements Indicate with "Yes" in appropriate column(s))		
Farm Name(s)	**Is Surface Water Present on the farm that requires a setback (Yes or No)**	**Field(s) requiring a Nutrient Application Setback***	**Livestock on Pasture ≥ 10 ft.**	**Directed Application ** ≥ 10 ft.**	**Broadcast Application or Sacrifice Lots *** ≥ 35 ft.**
Antone	No				
Asplundh	No				
Austin	No				
Addie Walters	No				
Bregger, Cecil	No				
Bregger, Kent	No				
Britland	No				
Byerly	No				
Church	Yes	1, 2, 3			Yes
Crawford	No				
Davis	No				
Essex Lodge	No				
Fusco	No				
Redgrave	No				
Foxhole	No				
Jeffries	No				
Maloney	No				
Middlesex	Yes	2			Yes
Mill Creek	No				
Neff	No				
Phillips	No				
Redding	No				
Home	Yes	6			Yes
Sigman	No				
Ware	No				

*** If a field contains multiple sources of surface water (i.e. a pond and a stream), list each separately or identify on the map.**

** **Directed Application** = Directed Spray Application (Vertical Fan or Drop Nozzle), Air Flow Application, Knifed/Injected application of Nutrients, Planter Applied nutrients

*** **Broadcast Application or Sacrifice Lots** = Spinner Spreaders (Manure or Fertilizer), High Volume Horizontal Nozzles, Manure Spreaders (Box type with beaters, Splasher plates for liquid, Side Discharge V-Type)

Manure Management

Animal Type	Number of Animals	Total Generated/ Imported	Total Collected	Total Used		Total Exported
				Rate/Ac	Field	
Broiler(C)	NA	1,005T	NA	3T	**Redgrave**-all, MX5A, MX5B,MX5C,MX5D, MX5E,MX5F,MX5G, MX5H	NA
Broiler(RL)	NA	460T	NA	3T	RI8A,RL8B,RL8C,RL8D,RL9A,RL9B	NA
Broiler(w)	NA	1,160T	NA	3T	**Mill Creek**-all, RL1, RL2,CH5,CH6,CH7,CH8	NA
Broiler(wo)	NA	90T	NA	3T	**Antone**- all	NA
Layer(P)	NA	920T	NA	3T	**Austin**-all, CH3,CH4,EL11, EL12,EL13,EL14, **Jeffries**-all	NA
Layer(ISE)	NA	2,005T	NA	3T	**Addie Walters**-all, CH1,CH2,CRAW3, CRAW6, **Davis**-all, MX1A,MX1B,MX1C, MX1D,MX1E, **Neff**- all, **Phillips**, **Redding**- all, RL8A,RL8B	NA
Waste Water	NA	7,020,000gal	NA	54,000gal	CRAW4, CRAW7	NA

Broiler and layer manure is imported based on cost and availability. Layer manure is imported from ISE America(I) in Warwick, Maryland, and from Puglisi Egg Farm in Middletown, Delaware. Broiler manure is imported from Rich Levels Poultry(RL) in Galena, MD, C and S farms, EB Workman, and from Weaver Farm. Manure is hauled and field stacked as close to application time as possible.

Layer manure from ISE provides 72-89-94 at 3T/ acre, and from Puglisi's provides 101-119-133 at 3T/ acre. Broiler manure applied at 3T/ acre will provide 98-176-193 from Rich Levels, 90-186-200 from EB workman, 94-170-201 from C and S farms, and 103-192-196 from Weavers. Egg wash waste water will also be imported from ISE and applied. At 54,000gal/ acre, egg wash water will provide a nutrient content of 27-0-0.

Residual nitrogen from applications made in 2023 is 7lbs from layer, 13lbs from broiler manure, and 1lb from egg wash water. Residual nitrogen from applications made in 2024 is 14lbs from layer, 25lbs from broiler, and 1lb from wash water.

Anyone importing spent mushroom substrate, food waste products, or other organic material shall make sure imported product has a current registration with the state chemist. The generator or broker is responsible for providing a current registration. If the sender does not provide a current registration, the product shall not be imported.

Best Management Practices

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

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

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

Split applications of nitrogen on environmentally sensitive sites reduce potential for runoff and leaching. Utilization of a **Pre-Side Dress Nitrogen Test (PSNT)** or **tissue test** can help determine additional N requirements during the growing season. **Fall Soil Nitrate Test (FSNT) is now required prior to fall application of nitrogen on wheat or barley to determine crop need.**

Operators are responsible for sediment and erosion control of stream crossings. Livestock must travel across a stream crossing designed to prevent erosion and sediment loss. Operators must gate a crossing area wider than 12 feet.

Soil tests were taken by AET Consulting. Copies of the tests are enclosed.

Soil testing revealed 27 field(s) with Phosphorus levels above a FIV 150.

FIELDS w/ Phosphorus FIV Levels ≥150			
FARM	FIELD	FIV LEVEL	N or P Based *
Addie Walters	AW2	183	N
Bregger, Kent	BK2	152	P
Byerly	BY1	231	P
Byerly	BY2	695	P
Byerly	BY3	509	P
Byerly	BY5	624	P
Crawford	CRAW1	226	P
Crawford	CRAW2	180	P
Crawford	CRAW3	168	N
Crawford	CRAW4	248	P
Crawford	CRAW5	205	P
Davis	DAVIS1A	181	N
Mill Creek	MC2C	196	N
Mill Creek	MC4B	160	N
Redding	RDG S	152	N
Home	RL4A	200	P
Home	RL6B	182	P
Home	RL6C	192	P
Home	RL6D	233	P
Home	RL6E	237	P
Home	RL8B	162	N

These fields will not receive any additional P nutrients prior to running the PMT.

Home	RL8C	162	N
Sigman	SIG5A	161	P
Sigman	SIG5B	155	P
Ware	WA2	273	P
Ware	WA3	374	P
Ware	WA4	297	P

Soil Summary from Spectrum Labs

Farm	Field	Acres	Last Test	Crop			OM	CEC	pH	P	P	K	% Saturation		
				2023	2024	2025				ppm	FIV	ppm	K	Mg	Ca
Antone	AT1	30.0	12/26/24	C	B/SB	C	1.6	4.1	6.3	81	95	87	4.6	16.0	79.4
Antone	AT2	\	12/26/24	C	B/SB	C	1.1	3.7	6.1	67	80	120	7.1	19.7	73.3
Asplundh	ASP1	8.9	12/23/24	W/SB	C	B/SB	1.1	4.2	6.4	7	16	69	3.5	27.2	69.3
Asplundh	ASP2	26.9	12/23/24	W/SB	C	B/SB	0.9	2.6	6.0	40	51	85	7.2	23.8	69.0
Asplundh	ASP3	16.0	12/23/24	W/SB	C	B/SB	1.0	3.5	6.2	33	44	88	5.4	27.3	67.3
Asplundh	ASP4A	32.3	12/23/24	W/SB	C	B/SB	1.1	5.7	6.5	13	23	61	2.3	25.7	50.1
Asplundh	ASP4B	22.2	12/23/24	W/SB	C	B/SB	1.2	5.8	6.5	26	37	62	2.3	24.9	50.9
Asplundh	ASP5A	31.3	12/23/24	W/SB	C	B/SB	1.4	3.1	6.4	73	86	78	5.5	23.1	71.5
Asplundh	ASP5B	41.8	12/23/24	W/SB	C	B/SB	1.0	3.1	6.3	76	90	91	6.4	24.2	69.4
Asplundh	ASP6A	5.9	12/23/24	W/SB	C	B/SB	1.3	3.1	6.4	46	58	73	5.0	17.1	77.8
Asplundh	ASP6B	15.6	12/23/24	W/SB	C	B/SB	1.2	3.5	6.3	46	58	76	4.7	18.9	76.4
Austin	AUS1,1A	24.4	12/26/24	SB	C	C	1.8	3.7	5.6	93	108	93	12.8	20.8	66.4
Austin	AUS2A-2C	18.5	12/26/24	SB	C	C	1.3	2.9	5.9	74	87	74	8.2	20.7	71.1
Austin	AUS3,3A	15.5	12/26/24	SB	C	C	1.7	3.1	5.6	111	127	111	7.1	16.5	76.4
Austin	AUS4	4.2	12/26/24	SB	C	C	1.1	2.9	5.9	70	83	70	7.0	23.7	69.3
Austin	AUS5	15.9	12/26/24	SB	C	C	1.8	3.0	5.7	68	81	68	6.7	22.3	71.0
Addie Walters	AW1	20.4	12/4/24	C	B/SB	C	1.8	4.8	6.4	92	107	158	7.1	18.8	74.1
Addie Walters	**AW2**	**22.9**	**12/4/24**	**C**	**B/SB**	**C**	**1.3**	**6.0**	**6.4**	**164**	**183**	**154**	**5.5**	**15.9**	**78.5**
Addie Walters	AW3	23.9	12/4/24	C	B/SB	C	1.9	4.2	6.0	56	68	115	5.8	22.0	72.2
Addie Walters	AW4	18.0	12/4/24	C	B/SB	C	1.8	4.5	6.0	67	80	154	7.4	20.3	72.3
Bregger, Cecil	BC1	28.8	12/4/24	W/SB	C	W/SB	1.7	5.1	6.1	98	113	135	5.7	18.4	75.9
Bregger, Cecil	BC2	21.5	12/4/24	W/SB	C	W/SB	1.8	4.9	6.1	69	82	87	3.8	20.4	75.8
Bregger, Cecil	BC3	25.5	12/4/24	W/SB	C	W/SB	2.3	4.0	5.9	59	72	56	3.0	23.8	73.2
Bregger, Cecil	BC4	18.7	12/4/24	W/SB	C	W/SB	1.8	7.6	6.5	92	107	62	1.8	17.1	59.2
Bregger, Kent	BK1	37.4	12/4/24	W/SB	C	W/SB	1.5	4.4	6.1	98	113	219	10.8	21.0	68.2
Bregger, Kent	**BK2**	**32.2**	**12/4/24**	**C**	**C**	**W/SB**	**2.0**	**5.7**	**6.4**	**135**	**152**	**183**	**6.9**	**17.1**	**76.0**
Bregger, Kent	BK3	46.9	12/4/24	W/SB	C	W/SB	1.8	4.2	6.4	55	67	149	7.7	18.5	73.8
Britland	BR1	28.6	12/26/24		C	W/SB	0.9	2.4	6.0	48	60	69	6.1	27.3	66.5
Britland	BR2	5.2	12/26/24		C	W/SB	1.0	2.8	5.6	59	72	94	7.3	32.3	60.3
Britland	BR3	6.1	12/26/24		C	W/SB	1.1	3.3	6.0	39	50	111	7.1	32.0	60.9
Britland	BR4N	24.1	12/26/24		C	W/SB	1.0	3.3	6.1	31	42	112	7.3	30.8	61.9
Britland	BR4S	79.1	12/26/24		C	W/SB	1.2	3.1	6.0	28	39	111	7.7	27.0	65.2
Britland	BR5N	35.6	12/26/24		C	W/SB	1.3	3.2	5.7	32	43	129	8.8	29.7	61.4
Britland	BR5S	85.1	12/26/24		C	W/SB	0.8	3.6	6.0	29	40	120	7.2	33.3	59.5
Britland	BR6	20	12/26/24		C	W/SB	1.0	5.4	6.0	15	25	96	3.8	19.0	32.8

Soil Summary from Spectrum Labs

Farm	Field	Acres	Last Test	Crop			OM	CEC	pH	P	P	K	% Saturation		
				2023	2024	2025				ppm	FIV	ppm	K	Mg	Ca
Britland	BR7	54.4	12/26/24		C	W/SB	1.2	3.3	5.9	22	32	96	6.2	33.5	60.3
Byerly	**BY1**	**31.1**	**12/4/24**	**W/SB**	**C**	**W/SB**	**2.0**	**5.7**	**6.2**	**209**	**231**	**153**	**5.8**	**16.0**	**78.2**
Byerly	**BY2**	**4.0**	**12/4/24**	**W/SB**	**C**	**W/SB**	**2.0**	**8.3**	**6.1**	**647**	**695**	**196**	**5.1**	**6.4**	**88.2**
Byerly	**BY3**	**19.2**	**12/4/24**	**W/SB**	**C**	**W/SB**	**2.0**	**7.4**	**6.3**	**472**	**509**	**170**	**4.9**	**8.8**	**86.3**
Byerly	BY4	10.3	12/4/24	W/SB	C	W/SB	1.8	4.3	6.2	66	79	84	4.2	16.5	79.3
Byerly	BY5	48.4	12/4/24	W/SB	C	W/SB	1.9	11.8	6.8	580	624	169	3.1	6.5	73.8
Church	CH1	59.5	12/4/24	C	W/SB	C	1.9	5.7	6.5	54	66	104	3.9	20.5	53.7
Church	CH2	45.0	12/4/24	C	W/SB	C	1.8	3.8	6.2	52	64	147	8.3	23.3	68.4
Church	CH3	27.5	12/4/24	C	W/SB	C	2.0	4.5	6.3	37	48	127	6.0	24.1	69.9
Church	CH4	22.7	12/4/24	C	W/SB	C	2.1	4.5	6.2	45	57	105	5.1	24.5	70.4
Church	CH5	18.5	12/4/24	C	W/SB	C	2.2	5.9	6.5	41	52	160	5.9	19.3	53.0
Church	CH6	17.2	12/4/24	C	W/SB	C	2.3	3.8	6.3	42	54	144	8.2	24.3	67.5
Church	CH7	18.0	12/4/24	C	W/SB	C	2.0	4.4	6.2	40	51	104	5.0	27.9	67.1
Church	CH8	46.3	12/4/24	C	W/SB	C	2.0	4.3	6.4	22	32	107	5.3	27.8	66.8
Crawford	**CRAW1**	**16.4**	**12/4/24**	**C**	**C**	**C**	**1.7**	**4.6**	**6.3**	**205**	**226**	**133**	**6.3**	**14.1**	**79.6**
Crawford	**CRAW2**	**8.7**	**12/4/24**	**C**	**C**	**C**	**2.0**	**4.8**	**6.0**	**161**	**180**	**148**	**6.6**	**13.2**	**80.2**
Crawford	**CRAW3**	**25.6**	**12/4/24**	**C**	**C**	**C**	**1.9**	**5.0**	**6.3**	**150**	**168**	**140**	**6.0**	**13.5**	**80.5**
Crawford	**CRAW4**	**65.0**	**12/4/24**	**C**	**C**	**C**	**1.8**	**7.0**	**6.6**	**225**	**248**	**148**	**4.5**	**10.4**	**65.1**
Crawford	**CRAW5**	**30.0**	**12/4/24**	**C**	**C**	**C**	**2.0**	**4.1**	**6.2**	**185**	**205**	**138**	**7.3**	**15.0**	**77.7**
Crawford	CRAW6	43.0	12/4/24	C	C	C	1.6	4.7	6.0	80	94	99	4.5	14.5	81.0
Crawford	CRAW7	65.0	12/4/24	C	C	C	2.4	5.1	6.4	123	139	105	4.5	16.2	79.3
Davis	**DAVIS1A**	**23.6**	**12/4/24**	**C**	**B/SB**	**C**	**4.1**	**4.7**	**6.3**	**162**	**181**	**192**	**8.7**	**20.4**	**70.9**
Davis	DAVIS1B	43.5	12/4/24	C	B/SB	C	1.8	4.3	6.3	112	128	195	9.7	17.4	72.9
Davis	DAVIS2	13.1	12/4/24	C	B/SB	C	1.8	3.3	6.0	53	65	117	7.6	18.9	73.5
Davis	DAVIS3	13.9	12/4/24	C	B/SB	C	2.0	2.9	5.9	51	63	109	8.0	20.5	71.6
Essex Lodge	EL1	63.8	12/4/24	W/SB	C	W/SB	1.8	4.4	6.3	53	65	111	5.5	25.4	69.1
Essex Lodge	EL2	36.2	12/4/24	W/SB	C	W/SB	2.0	3.8	6.1	31	42	87	4.9	24.3	70.8
Essex Lodge	EL3	6.8	12/4/24	W/SB	C	W/SB	2.5	4.3	6.2	32	43	112	5.6	31.8	62.5
Essex Lodge	EL4	18.1	12/4/24	W/SB	C	W/SB	2.5	6.3	6.6	37	48	100	3.4	24.9	51.7
Essex Lodge	EL5	34.8	12/4/24	W/SB	C	W/SB	2.4	6.7	6.6	33	44	112	3.6	23.2	53.2
Essex Lodge	EL6	34.5	12/4/24	W/SB	C	W/SB	2.1	5.1	6.4	42	54	106	4.5	26.5	69.1
Essex Lodge	EL7	9.9	12/4/24	W/SB	C	W/SB	2.1	5.0	6.3	33	44	99	4.2	24.5	71.2
Essex Lodge	EL8	6.6	12/4/24	W/SB	C	W/SB	1.9	5.0	6.2	30	41	78	3.4	23.3	73.4
Essex Lodge	EL9	70.1	12/4/24	W/SB	C	W/SB	1.8	4.2	5.9	41	52	119	6.0	24.9	69.1
Essex Lodge	EL10	27.5	12/4/24	W/SB	C	W/SB	1.7	4.2	6.2	56	68	151	7.8	24.7	67.6

Soil Summary from Spectrum Labs

Farm	Field	Acres	Last Test	Crop			OM	CEC	pH	P	P	K	% Saturation		
				2023	2024	2025				ppm	FIV	ppm	K	Mg	Ca
Essex Lodge	EL11	9.6	12/4/24	C	W/SB	C	2.0	4.6	6.3	15	25	65	3.1	33.9	63.1
Essex Lodge	EL12	39.1	12/4/24	C	W/SB	C	1.8	4.1	6.0	21	31	112	5.9	31.6	62.5
Essex Lodge	EL13	16.9	12/4/24	C	W/SB	C	2.0	4.4	6.1	17	27	74	3.6	34.8	61.6
Essex Lodge	EL14	24.4	12/4/24	C	W/SB	C	2.1	4.6	6.1	39	50	101	4.8	30.7	64.6
Fusco	E1	94.0	12/4/24	B/SB	C	B/SB	1.9	4.2	6.1	69	82	163	8.4	19.0	72.5
Fusco	E1A	\	12/4/24	B/SB	C	B/SB	1.8	4.9	6.1	86	100	184	8.1	15.5	76.4
Redgrave	F1	64.0	12/23/24	C	W/SB	C	1.8	5.2	6.7	56	68	129	5.3	18.4	58.2
Redgrave	F2	18.0	12/23/24	C	W/SB	C	0.8	3.0	6.4	37	48	113	8.1	18.5	73.4
Redgrave	F3	40.0	12/23/24	C	W/SB	C	1.1	4.4	6.5	51	63	92	4.5	17.5	56.1
Redgrave	F4	15.4	12/23/24	C	W/SB	C	1.1	3.8	6.5	58	70	73	4.2	20.6	53.4
Foxhole	FH1	15.0	12/4/24	B/SB	C	B/SB	1.8	4.2	5.9	37	48	206	10.6	22.9	66.6
Foxhole	FH2	21.0	12/4/24	B/SB	C	B/SB	1.7	4.1	6.1	36	47	145	7.7	19.2	73.1
Foxhole	FH3	11.2	12/4/24	B/SB	C	B/SB	2.0	4.9	6.2	94	109	212	9.4	21.3	69.3
Foxhole	FH4	10.0	12/4/24	B/SB	C	B/SB	2.3	3.9	5.8	44	56	177	9.8	24.0	66.2
Foxhole	FH5	15.6	12/4/24	B/SB	C	B/SB	1.8	4.0	6.1	56	68	177	9.5	23.7	66.9
Foxhole	FH7	8.7	12/4/24	B/SB	C	B/SB	1.9	5.4	6.4	66	79	188	7.5	19.5	73.0
Foxhole	FH8	5.5	12/4/24	B/SB	C	B/SB	1.9	6.7	6.5	77	91	184	5.9	18.7	53.5
Foxhole	FH9	9.0	12/4/24	B/SB	C	B/SB	2.7	5.3	6.0	100	115	223	9.1	19.9	71.0
Jeffries	JEF1	43.0	12/4/24	C	B/SB	C	1.5	3.9	5.8	31	42	101	5.5	23.5	71.0
Jeffries	JEF2	44.0	12/4/24	C	B/SB	C	1.9	5.2	6.2	115	131	134	5.5	14.6	79.9
Maloney	M1	70.2	12/23/24	W/SB	C	W/SB	1.3	3.1	6.2	42	54	123	8.6	32.0	59.4
Maloney	M2	65.0	12/23/24	W/SB	C	W/SB	1.0	3.3	6.2	43	55	118	7.7	33.9	58.4
Middlesex	MX 1A	21.1	12/4/24	SB	W/SB	C	2.2	4.5	6.2	49	61	179	8.5	25.9	65.6
Middlesex	MX 1B	53.0	12/4/24	SB	W/SB	C	2.0	4.5	6.2	39	50	197	9.3	25.7	65.0
Middlesex	MX 1C	56.2	12/4/24	SB	W/SB	C	2.1	3.8	5.9	54	66	180	10.3	25.8	63.9
Middlesex	MX 1D	26.4	12/4/24	SB	W/SB	C	1.9	4.0	6.2	94	109	195	10.4	27.4	62.3
Middlesex	MX 1E	17.0	12/4/24	SB	W/SB	C	1.6	3.9	6.1	35	46	162	8.9	26.7	64.4
Middlesex	MX 2	38.1	12/4/24	W/SB	C	W/SB	1.9	3.6	6.0	29	40	172	10.2	23.1	66.7
Middlesex	MX 3	44.7	12/4/24	W/SB	C	W/SB	1.2	3.1	5.9	50	62	147	10.1	21.5	68.4
Middlesex	MX 4	50.1	12/4/24	W/SB	C	W/SB	2.3	3.2	5.9	69	82	164	11.1	21.0	68.0
Middlesex	MX5A	9.4	12/4/24	C	W/SB	C	2.1	3.0	6.1	50	62	119	8.6	24.2	67.2
Middlesex	MX5B	12.6	12/4/24	C	W/SB	C	1.8	3.5	6.3	46	58	176	10.7	21.9	67.3
Middlesex	MX5C	22.1	12/4/24	C	W/SB	C	1.5	3.6	6.3	63	76	135	8.2	23.3	68.5
Middlesex	MX5D	34.8	12/4/24	C	W/SB	C	1.8	3.1	6.2	54	66	124	8.6	23.1	68.3
Middlesex	MX5E	29.5	12/4/24	C	W/SB	C	1.4	3.3	6.1	65	78	144	9.3	21.5	69.2

Soil Summary from Spectrum Labs

Farm	Field	Acres	Last Test	Crop			OM	CEC	pH	P	P	K	% Saturation		
				2023	2024	2025				ppm	FIV	ppm	K	Mg	Ca
Middlesex	MX5F	13.5	12/4/24	C	W/SB	C	1.1	2.5	6.0	55	67	120	10.2	22.6	67.2
Middlesex	MX5G	38.6	12/4/24	C	W/SB	C	1.0	2.8	6.4	71	84	179	13.6	20.5	65.9
Middlesex	MX5H	36.1	12/4/24	C	W/SB	C	1.3	3.2	6.4	74	87	119	8.1	21.0	70.9
Middlesex	MX 6	36.7	12/4/24	W/SB	C	W/SB	1.7	4.6	6.1	55	67	187	8.8	18.3	72.9
Mill Creek	MC1A	28.0	12/4/24	C	C	C	2.1	6.2	6.5	92	107	316	11.0	15.3	51.9
Mill Creek	MC1B	30.3	12/4/24	C	C	C	1.8	7.1	6.8	95	110	280	8.5	13.4	61.5
Mill Creek	MC1 DRY	23.3	12/4/24	C	C	C	1.6	5.0	6.4	108	123	292	12.5	21.2	66.3
Mill Creek	MC2A	27.6	12/4/24	C	C	C	0.7	4.9	6.2	94	109	234	10.3	19.5	70.2
Mill Creek	MC2B	31.7	12/4/24	C	C	C	1.8	6.0	6.4	111	127	209	7.5	14.2	58.4
Mill Creek	**MC2C**	**1.3**	**12/4/24**	**C**	**C**	**C**	**1.7**	**5.0**	**5.7**	**176**	**196**	**295**	**12.8**	**22.1**	**65.1**
Mill Creek	MC2 DRY	9.6	12/4/24	C	C	C	1.8	4.5	6.1	132	149	318	15.1	21.2	63.6
Mill Creek	**MC3**	**9.1**	**12/4/24**	**C**	**C**	**C**	**1.8**	**4.5**	**5.8**	**133**	**150**	**248**	**11.9**	**23.1**	**65.0**
Mill Creek	MC4A	13.5	12/4/24	C	C	C	1.9	4.4	6.1	116	132	206	10.1	19.2	70.6
Mill Creek	**MC4B**	**13.2**	**12/4/24**	**C**	**C**	**C**	**2.0**	**5.4**	**6.2**	**142**	**160**	**219**	**8.8**	**19.7**	**71.5**
Mill Creek	MC4 DRY	5.5	12/4/24	C	C	C	3.0	9.2	6.0	131	148	337	7.9	14.7	51.4
Neff	NEFF1	62.0	12/23/24	C	W/SB	C	0.7	3.7	6.4	41	52	61	3.6	21.9	74.5
Neff	NEFF2	\	12/23/24	C	W/SB	C	1.1	4.0	6.7	45	57	62	3.3	18.2	60.4
Neff	NEFF3	\	12/23/24	C	W/SB	C	1.0	3.4	6.4	86	100	124	7.8	19.3	73.0
Phillips	Phillips	27.0	12/4/24	C	B/SB	C	1.7	3.8	6.1	103	118	95	5.4	17.9	76.7
Redding	RDG N	53.0	12/4/24	C	B/SB	C	1.2	4.5	6.1	88	102	172	8.2	20.5	71.3
Redding	**RDG S**	\	**12/4/24**	**C**	**B/SB**	**C**	**1.4**	**4.8**	**6.4**	**135**	**152**	**224**	**10.1**	**18.1**	**71.8**
Home	RL1	36.7	12/26/24	C	B/SB	C	1.9	4.0	6.4	69	82	132	7.1	17.5	75.4
Home	RL2	56.6	12/26/24	C	B/SB	C	1.4	3.5	6.3	84	98	129	7.8	15.7	76.4
Home	RL3A	46.0	12/26/24	B/SB	C	B/SB	1.6	5.9	6.5	113	129	148	5.4	16.8	55.9
Home	RL3B	\	12/26/24	B/SB	C	B/SB	1.8	4.2	6.3	99	114	155	8.0	20.8	71.2
Home	**RL4A**	**50.8**	**12/26/24**	**B/SB**	**C**	**B/SB**	**2.0**	**5.2**	**6.1**	**180**	**200**	**216**	**9.0**	**18.4**	**72.7**
Home	RL4B	\	12/26/24	B/SB	C	B/SB	2.0	4.6	6.1	128	145	194	9.1	19.4	71.6
Home	RL5A	35.0	12/23/24	C	C	W/SB	1.8	6.0	6.6	121	137	209	7.5	16.1	56.4
Home	RL5B	35.0	12/23/24	C	C	C	1.0	4.9	6.5	117	133	185	8.2	15.3	54.7
Home	RL6A	7.2	12/23/24	C	C	C	1.8	6.6	6.8	124	140	158	5.2	18.9	59.3
Home	**RL6B**	**6.3**	**12/23/24**	**C**	**C**	**C**	**1.3**	**5.3**	**6.8**	**163**	**182**	**209**	**8.5**	**12.4**	**62.4**
Home	**RL6C**	**3.0**	**12/23/24**	**W/SB**	**C**	**C**	**0.8**	**3.7**	**6.5**	**173**	**192**	**116**	**6.7**	**14.5**	**56.9**
Home	**RL6D**	**3.3**	**12/23/24**	**W/SB**	**C**	**C**	**0.9**	**5.1**	**6.5**	**211**	**233**	**133**	**5.6**	**11.4**	**61.1**
Home	**RL6E**	**7.7**	**12/23/24**	**W/SB**	**C**	**C**	**1.2**	**5.5**	**6.8**	**215**	**237**	**102**	**4.0**	**14.7**	**64.6**
Home	RL8A	26.3	12/23/24	W/SB	C	C	0.6	2.6	6.4	128	145	101	8.3	14.9	76.8

Soil Summary from Spectrum Labs

Farm	Field	Acres	Last Test	Crop			OM	CEC	pH	P	P	K	% Saturation		
				2023	2024	2025				ppm	FIV	ppm	K	Mg	Ca
Home	**RL8B**	**28.9**	**12/23/24**	**W/SB**	**C**	**C**	**0.7**	**4.0**	**6.5**	**144**	**162**	**92**	**4.9**	**11.4**	**61.8**
Home	**RL8C**	**28.7**	**12/23/24**	**W/SB**	**C**	**C**	**0.7**	**4.7**	**6.7**	**144**	**162**	**109**	**5.0**	**13.3**	**63.7**
Home	RL8D	25.0	12/23/24	W/SB	C	C	1.1	4.9	6.7	102	117	98	4.3	14.7	63.0
Home	RL9A	18.5	12/23/24	C	B/SB	C	1.0	3.1	6.4	90	104	100	6.8	21.2	72.0
Home	RL9B	26.3	12/23/24	C	B/SB	C	1.3	3.4	6.4	99	114	85	5.4	23.8	70.8
Home	RL10A	31.6	12/23/24	W/SB	C	W/SB	1.0	5.5	6.7	119	135	112	4.4	17.8	59.8
Home	RL10B	6.8	12/23/24	W/SB	C	W/SB	1.4	5.7	6.7	114	130	90	3.4	17.3	61.3
Home	RL11A	21.3	12/23/24	W/SB	C	W/SB	1.1	5.4	6.8	74	87	102	4.0	19.2	60.1
Home	RL11B	16.4	12/23/24	W/SB	C	W/SB	1.0	4.7	6.7	113	129	98	4.5	15.0	62.5
Sigman	SIGPAST	7.3	12/4/24	C	C	W/SB	2.5	6.5	6.4	114	130	180	5.9	21.8	72.2
Sigman	SIG1	18.3	12/4/24	C	C	W/SB	1.5	5.5	6.2	98	113	263	10.2	18.9	70.8
Sigman	SIG2	35.3	12/4/24	C	C	W/SB	1.8	4.3	5.8	94	109	187	9.4	18.6	72.0
Sigman	SIG3	10.5	12/4/24	C	C	W/SB	1.6	7.2	6.5	47	59	173	5.2	18.3	54.6
Sigman	SIG4	35.1	12/4/24	C	C	W/SB	2.3	5.2	6.4	99	114	164	6.9	19.8	73.4
Sigman	**SIG5A**	**30.1**	**12/4/24**	**C**	**C**	**W/SB**	**2.2**	**4.9**	**6.3**	**143**	**161**	**221**	**9.8**	**17.1**	**73.1**
Sigman	**SIG5B**	**58.4**	**12/4/24**	**C**	**C**	**W/SB**	**1.5**	**5.1**	**6.2**	**138**	**155**	**243**	**10.2**	**20.1**	**69.7**
Sigman	SIG5C	28.9	12/4/24	C	C	W/SB	1.8	5.0	6.3	100	115	229	9.9	20.3	69.8
Ware	WA1	99.0	12/4/24	C	W/SB	C	1.3	3.5	5.8	110	126	177	10.8	23.9	65.3
Ware	**WA2**	****	**12/4/24**	**C**	**W/SB**	**C**	**1.7**	**7.2**	**6.6**	**249**	**273**	**186**	**5.6**	**16.5**	**58.0**
Ware	**WA3**	****	**12/4/24**	**C**	**W/SB**	**C**	**1.8**	**9.2**	**6.7**	**344**	**374**	**157**	**3.7**	**11.0**	**67.3**
Ware	**WA4**	****	**12/4/24**	**C**	**W/SB**	**C**	**1.8**	**4.8**	**5.9**	**272**	**297**	**152**	**6.8**	**17.4**	**75.9**
Ware	WA6	\	12/4/24	C	W/SB	C	1.9	4.6	6.4	114	130	148	7.0	22.6	70.4
Ware	WA7	\	12/4/24	C	W/SB	C	2.0	3.6	5.8	86	100	134	8.1	24.2	67.7
Ware	WA8	\	12/4/24	C	W/SB	C	2.0	3.5	5.9	79	93	134	8.3	22.5	69.2

Field Specific Information

Farm	Field	Acres	Crop			Yield Goal[1]	Total Nutrients Allowed (lb/ac)[2]			Residual Nitrogen (lb/ac)			Tillage
										Manure		Legume	
			2023	2024	2025		N	P_2O_5	K_2O	2023	2024	2024	
Antone	AT1	30	C	B/SB	C	210	210	48	158	13		15	MIN
Antone	AT2	\	C	B/SB	C	210	210	48	84	13		15	MIN
Asplundh	ASP1	8.9	W/SB	C	B/SB	100/50	100	265	155		25		NT
Asplundh	ASP2	26.9	W/SB	C	B/SB	100/50	100	85	155		25		NT
Asplundh	ASP3	16	W/SB	C	B/SB	100/50	100	140	155		25		NT
Asplundh	ASP4A	32.3	W/SB	C	B/SB	100/50	100	265	155		25		NT
Asplundh	ASP4B	22.2	W/SB	C	B/SB	100/50	100	140	155		25		NT
Asplundh	ASP5A	31.3	W/SB	C	B/SB	100/50	100	85	155		25		NT
Asplundh	ASP5B	41.8	W/SB	C	B/SB	100/50	100	85	155		25		NT
Asplundh	ASP6A	5.9	W/SB	C	B/SB	100/50	100	85	155		25		NT
Asplundh	ASP6B	15.6	W/SB	C	B/SB	100/50	100	85	155		25		NT
Austin	AUS1,1A	24.4	SB	C	C	210	210	0	84		14		MIN
Austin	AUS2A-2C	18.5	SB	C	C	210	210	48	158		14		MIN
Austin	AUS3,3A	15.5	SB	C	C	210	210	0	84		14		MIN
Austin	AUS4	4.2	SB	C	C	210	210	48	158		14		MIN
Austin	AUS5	15.9	SB	C	C	210	210	48	158		14		MIN
Addie Walters	AW1	20.4	C	B/SB	C	210	210	0	84	13		15	MIN
Addie Walters	AW2	22.9	C	B/SB	C	210	210	0	84	13		15	MIN
Addie Walters	AW3	23.9	C	B/SB	C	210	210	48	84	13		15	MIN
Addie Walters	AW4	18	C	B/SB	C	210	210	48	84	13		15	MIN
Bregger, Cecil	BC1	28.8	W/SB	C	W/SB	100/45	130	0	85		14		NT
Bregger, Cecil	BC2	21.5	W/SB	C	W/SB	100/45	130	85	155		14		NT
Bregger, Cecil	BC3	25.5	W/SB	C	W/SB	100/45	130	85	155		14		NT
Bregger, Cecil	BC4	18.7	W/SB	C	W/SB	100/45	130	0	155		14		NT
Bregger, Kent	BK1	37.4	W/SB	C	W/SB	100/45	130	0	0		25		NT
Bregger, Kent	BK2	32.2	C	C	W/SB	100/45	130	0	0	13	25		NT
Bregger, Kent	BK3	46.9	W/SB	C	W/SB	100/45	130	85	85		25		NT
Britland	BR1	28.6		C	W/SB	100/45	130	85	155				NT
Britland	BR2	5.2		C	W/SB	100/45	130	85	85				NT
Britland	BR3	6.1		C	W/SB	100/45	130	140	85				NT
Britland	BR4N	24.1		C	W/SB	100/45	130	140	85				NT

Field Specific Information

Farm	Field	Acres	Crop			Yield Goal[1]	Total Nutrients Allowed (lb/ac)[2]			Residual Nitrogen (lb/ac)			Tillage
										Manure		Legume	
			2023	2024	2025		N	P_2O_5	K_2O	2023	2024	2024	
Britland	BR4S	79.1		C	W/SB	100/45	130	140	85				NT
Britland	BR5N	35.6		C	W/SB	100/45	130	140	85				NT
Britland	BR5S	85.1		C	W/SB	100/45	130	140	85				NT
Britland	BR6	20		C	W/SB	100/45	130	265	85				NT
Britland	BR7	54.4		C	W/SB	100/45	130	140	85				NT
Byerly	BY1	31.1	W/SB	C	W/SB	100/45	130	0	85				NT
Byerly	BY2	4	W/SB	C	W/SB	100/45	130	0	0				NT
Byerly	BY3	19.2	W/SB	C	W/SB	100/45	130	0	85				NT
Byerly	BY4	10.3	W/SB	C	W/SB	100/45	130	85	155				NT
Byerly	BY5	48.4	W/SB	C	W/SB	100/45	130	0	85				NT
Church	CH1	59.5	C	W/SB	C	210	210	48	84	13		15	MIN
Church	CH2	45	C	W/SB	C	210	210	48	84	13		15	MIN
Church	CH3	27.5	C	W/SB	C	210	210	101	84	13		15	MIN
Church	CH4	22.7	C	W/SB	C	210	210	48	84	13		15	MIN
Church	CH5	18.5	C	W/SB	C	210	210	48	84	13		15	MIN
Church	CH6	17.2	C	W/SB	C	210	210	48	84	13		15	MIN
Church	CH7	18	C	W/SB	C	210	210	48	84	13		15	MIN
Church	CH8	46.3	C	W/SB	C	210	210	101	84	13		15	MIN
Crawford	CRAW1	16.4	C	C	C	210	210	0	84		14		NT
Crawford	CRAW2	8.7	C	C	C	210	210	0	84	7	14		NT
Crawford	CRAW3	25.6	C	C	C	210	210	0	84	7	14		MIN
Crawford	CRAW4	65	C	C	C	250	250	0	104		15		MIN
Crawford	CRAW5	30	C	C	C	200	210	0	84	7	14		NT
Crawford	CRAW6	43	C	C	C	200	210	48	84	7	14		MIN
Crawford	CRAW7	65	C	C	C	250	250	0	104	?	15		MIN
Davis	DAVIS1A	23.6	C	B/SB	C	210	210	0	0	13		15	MIN
Davis	DAVIS1B	43.5	C	B/SB	C	210	210	0	0	13		15	MIN
Davis	DAVIS2	13.1	C	B/SB	C	210	210	48	84	13		15	MIN
Davis	DAVIS3	13.9	C	B/SB	C	210	210	48	84	13		15	MIN
Essex Lodge	EL1	63.8	W/SB	C	W/SB	100/45	130	85	85		14		NT
Essex Lodge	EL2	36.2	W/SB	C	W/SB	100/45	130	140	155		14		NT

Field Specific Information

Farm	Field	Acres	Crop			Yield Goal[1]	Total Nutrients Allowed (lb/ac)[2]			Residual Nitrogen (lb/ac)			Tillage
										Manure		Legume	
			2023	2024	2025		N	P_2O_5	K_2O	2023	2024	2024	
Essex Lodge	EL3	6.8	W/SB	C	W/SB	100/45	130	140	85		14		NT
Essex Lodge	EL4	18.1	W/SB	C	W/SB	100/45	130	140	85		14		NT
Essex Lodge	EL5	34.8	W/SB	C	W/SB	100/45	130	140	85		14		NT
Essex Lodge	EL6	34.5	W/SB	C	W/SB	100/45	130	85	85		14		NT
Essex Lodge	EL7	9.9	W/SB	C	W/SB	100/45	130	140	85		14		NT
Essex Lodge	EL8	6.6	W/SB	C	W/SB	100/45	130	140	155		14		NT
Essex Lodge	EL9	70.1	W/SB	C	W/SB	100/45	130	85	85		14		NT
Essex Lodge	EL10	27.5	W/SB	C	W/SB	100/45	130	85	85		14		NT
Essex Lodge	EL11	9.6	C	W/SB	C	200	210	171	158			15	MIN
Essex Lodge	EL12	39.1	C	W/SB	C	200	210	101	84			15	MIN
Essex Lodge	EL13	16.9	C	W/SB	C	200	210	101	158			15	MIN
Essex Lodge	EL14	24.4	C	W/SB	C	200	210	101	84			15	MIN
Fusco	E1	94	B/SB	C	B/SB	100/50	100	85	85		25		NT
Fusco	E1A	\	B/SB	C	B/SB	100/50	100	85	0		25		NT
Redgrave	F1	64	C	W/SB	C	210	210	48	84	13		15	MIN
Redgrave	F2	18	C	W/SB	C	210	210	101	84	13		15	MIN
Redgrave	F3	40	C	W/SB	C	210	210	48	158	13		15	MIN
Redgrave	F4	15.4	C	W/SB	C	210	210	48	158	13		15	MIN
Foxhole	FH1	15	B/SB	C	B/SB	100/50	100	140	0		25		NT
Foxhole	FH2	21	B/SB	C	B/SB	100/50	100	140	85		25		NT
Foxhole	FH3	11.2	B/SB	C	B/SB	100/50	100	0	0		25		NT
Foxhole	FH4	10	B/SB	C	B/SB	100/50	100	85	85		25		NT
Foxhole	FH5	15.6	B/SB	C	B/SB	100/50	100	85	85		25		NT
Foxhole	FH7	8.7	B/SB	C	B/SB	100/50	100	85	0		25		NT
Foxhole	FH8	5.5	B/SB	C	B/SB	100/50	100	85	0		25		NT
Foxhole	FH9	9	B/SB	C	B/SB	100/50	100	0	0		25		NT
Jeffries	JEF1	43	C	B/SB	C	210	210	101	84	13		15	MIN
Jeffries	JEF2	44	C	B/SB	C	210	210	0	84	13		15	MIN
Maloney	M1	70.2	W/SB	C	W/SB	100/45	130	85	85		25		NT
Maloney	M2	65	W/SB	C	W/SB	100/45	130	85	85		25		NT
Middlesex	MX 1A	21.1	SB	W/SB	C	210	210	48	84			15	MIN

Field Specific Information

Farm	Field	Acres	Crop			Yield Goal[1]	Total Nutrients Allowed (lb/ac)[2]			Residual Nitrogen (lb/ac)			Tillage
										Manure		Legume	
			2023	2024	2025		N	P_2O_5	K_2O	2023	2024	2024	
Middlesex	MX 1B	53	SB	W/SB	C	210	210	101	0			15	MIN
Middlesex	MX 1C	56.2	SB	W/SB	C	210	210	48	84			15	MIN
Middlesex	MX 1D	26.4	SB	W/SB	C	210	210	0	0			15	MIN
Middlesex	MX 1E	17	SB	W/SB	C	210	210	101	84			15	MIN
Middlesex	MX 2	38.1	W/SB	C	W/SB	100/45	130	140	85				NT
Middlesex	MX 3	44.7	W/SB	C	W/SB	100/45	130	85	85				NT
Middlesex	MX 4	50.1	W/SB	C	W/SB	100/45	130	85	85				NT
Middlesex	MX5A	9.4	C	W/SB	C	210	210	48	84	13		15	MIN
Middlesex	MX5B	12.6	C	W/SB	C	210	210	48	84	13		15	MIN
Middlesex	MX5C	22.1	C	W/SB	C	210	210	48	84	13		15	MIN
Middlesex	MX5D	34.8	C	W/SB	C	210	210	48	84	13		15	MIN
Middlesex	MX5E	29.5	C	W/SB	C	210	210	48	84	13		15	MIN
Middlesex	MX5F	13.5	C	W/SB	C	210	210	48	84	13		15	MIN
Middlesex	MX5G	38.6	C	W/SB	C	210	210	48	84	13		15	MIN
Middlesex	MX5H	36.1	C	W/SB	C	210	210	48	84	13		15	MIN
Middlesex	MX 6	36.7	W/SB	C	W/SB	100/45	130	85	0				NT
Mill Creek	MC1A	28	C	C	C	250	250	0	0	13	25		MIN
Mill Creek	MC1B	30.3	C	C	C	250	250	0	0	13	25		MIN
Mill Creek	MC1 DRY	23.3	C	C	C	210	210	0	0	13	25		MIN
Mill Creek	MC2A	27.6	C	C	C	250	250	0	0	13	25		MIN
Mill Creek	MC2B	31.7	C	C	C	250	250	0	0	13	25		MIN
Mill Creek	MC2C	1.3	C	C	C	250	250	0	0	13	25		MIN
Mill Creek	MC2 DRY	9.6	C	C	C	210	210	0	0	13	25		MIN
Mill Creek	MC3	9.1	C	C	C	250	250	0	0	13	25		MIN
Mill Creek	MC4A	13.5	C	C	C	250	250	0	0	13	25		MIN
Mill Creek	MC4B	13.2	C	C	C	250	250	0	0	13	25		MIN
Mill Creek	MC4 DRY	5.5	C	C	C	210	210	0	0	13	25		MIN
Neff	NEFF1	62	C	W/SB	C	210	210	48	158	13		15	MIN
Neff	NEFF2	\	C	W/SB	C	210	210	48	158	13		15	MIN
Neff	NEFF3	\	C	W/SB	C	210	210	48	84	13		15	MIN
Phillips	Phillips	27	C	B/SB	C	210	210	0	84	13		15	MIN

Field Specific Information

Farm	Field	Acres	Crop			Yield Goal[1]	Total Nutrients Allowed (lb/ac)[2]			Residual Nitrogen (lb/ac)			Tillage
										Manure		Legume	
			2023	2024	2025		N	P_2O_5	K_2O	2023	2024	2024	
Redding	RDG N	53	C	B/SB	C	210	210	0	84			15	MIN
Redding	RDG S	\	C	B/SB	C	210	210	0	0			15	MIN
Home	RL1	36.7	C	B/SB	C	210	210	48	84	13		15	MIN
Home	RL2	56.6	C	B/SB	C	210	210	48	84	13		15	MIN
Home	RL3A	46	B/SB	C	B/SB	100/50	100	0	85		14		NT
Home	RL3B	\	B/SB	C	B/SB	100/50	100	0	85		14		NT
Home	RL4A	50.8	B/SB	C	B/SB	100/50	100	0	0		14		NT
Home	RL4B	\	B/SB	C	B/SB	100/50	100	0	0		14		NT
Home	RL5A	35	C	C	W/SB	100/50	130	0	0		14		NT
Home	RL5B	35	C	C	C	250	250	0	0		14		NT
Home	RL6A	7.2	C	C	C	210	210	0	84		14		NT
Home	RL6B	6.3	C	C	C	210	210	0	0		14		NT
Home	RL6C	3	W/SB	C	C	210	210	0	84		14		NT
Home	RL6D	3.3	W/SB	C	C	210	210	0	84		14		NT
Home	RL6E	7.7	W/SB	C	C	210	210	0	84		14		NT
Home	RL8A	26.3	W/SB	C	C	250	250	0	104		14		MIN
Home	RL8B	28.9	W/SB	C	C	250	250	0	198		14		MIN
Home	RL8C	28.7	W/SB	C	C	250	250	0	104		14		MIN
Home	RL8D	25	W/SB	C	C	250	250	0	104		14		MIN
Home	RL9A	18.5	C	B/SB	C	210	210	0	84			15	MIN
Home	RL9B	26.3	C	B/SB	C	210	210	0	158			15	MIN
Home	RL10A	31.6	W/SB	C	W/SB	100/40	130	0	85		14		NT
Home	RL10B	6.8	W/SB	C	W/SB	100/40	130	0	155		14		NT
Home	RL11A	21.3	W/SB	C	W/SB	100/40	130	85	85		14		NT
Home	RL11B	16.4	W/SB	C	W/SB	100/40	130	0	85		14		NT
Sigman	SIGPAST	7.3	C	C	W/SB	100/40	130	0	85	7	25		NT
Sigman	SIG1	18.3	C	C	W/SB	100/40	130	0	0		25		NT
Sigman	SIG2	35.3	C	C	W/SB	100/40	130	0	0		25		NT
Sigman	SIG3	10.5	C	C	W/SB	100/40	130	85	85		25		NT
Sigman	SIG4	35.1	C	C	W/SB	100/40	130	0	85		25		NT
Sigman	SIG5A	30.1	C	C	W/SB	100/40	130	0	0		25		NT

Field Specific Information

Farm	Field	Acres	Crop			Yield Goal[1]	Total Nutrients Allowed (lb/ac)[2]			Residual Nitrogen (lb/ac)			Tillage
										Manure		Legume	
			2023	2024	2025		N	P_2O_5	K_2O	2023	2024	2024	
Sigman	SIG5B	58.4	C	C	W/SB	100/40	130	0	0		25		NT
Sigman	SIG5C	28.9	C	C	W/SB	100/40	130	0	0		25		NT
Ware	WA1	99	C	W/SB	C	210	210	0	84			15	NT
Ware	WA2	\	C	W/SB	C	210	210	0	0			15	NT
Ware	WA3	\	C	W/SB	C	210	210	0	84			15	NT
Ware	WA4	\	C	W/SB	C	210	210	0	84			15	NT
Ware	WA6	\	C	W/SB	C	210	210	0	84			15	NT
Ware	WA7	\	C	W/SB	C	210	210	48	84			15	NT
Ware	WA8	\	C	W/SB	C	210	210	48	84			15	NT

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

Summary of Nutrient Recommendations

Farm	Field	Acres	Crop	Yield Goal[1]	Actual Nutrient Recommendations						
					Lime	Manure[2]	Nitrogen[3] Credit	Starter[4]	Additional Commercial Fertilizers		
			2025	(Bu/A)	(ton/ac)	(ton/ac)		(lb/ac)	N	P_2O_5	K_2O
Antone	AT1	30	C	210		3T Broiler(wo)	118	31-14-0	66	0	0
Antone	AT2	\	C	210		3T Broiler(wo)	118	31-14-0	66	0	0
Asplundh	ASP1	8.9	B/SB	100/50			25		100	0	0
Asplundh	ASP2	26.9	B/SB	100/50			25		100	0	0
Asplundh	ASP3	16	B/SB	100/50			25		100	0	0
Asplundh	ASP4A	32.3	B/SB	100/50			25		100	0	0
Asplundh	ASP4B	22.2	B/SB	100/50			25		100	0	0
Asplundh	ASP5A	31.3	B/SB	100/50			25		100	0	0
Asplundh	ASP5B	41.8	B/SB	100/50			25		100	0	0
Asplundh	ASP6A	5.9	B/SB	100/50			25		100	0	0
Asplundh	ASP6B	15.6	B/SB	100/50			25		100	0	0
Austin	AUS1,1A	24.4	C	210	1T Cal	3T Layer(P)	115	31-14-0	64	0	0
Austin	AUS2A-2C	18.5	C	210	1T Cal	3T Layer(P)	115	31-14-0	64	0	0
Austin	AUS3,3A	15.5	C	210	1T Cal	3T Layer(P)	115	31-14-0	64	0	0
Austin	AUS4	4.2	C	210	1T Cal	3T Layer(P)	115	31-14-0	64	0	0
Austin	AUS5	15.9	C	210	1T Cal	3T Layer(P)	115	31-14-0	64	0	0
Addie Walters	AW1	20.4	C	210		3T Layer(I)	100	31-14-0	64	0	0
Addie Walters	AW2	22.9	C	210		3T Layer(I)	100	31-14-0	64	0	0
Addie Walters	AW3	23.9	C	210		3T Layer(I)	100	31-14-0	64	0	0
Addie Walters	AW4	18	C	210		3T Layer(I)	100	31-14-0	64	0	0
Bregger, Cecil	BC1	28.8	W/SB	100/45			14		100	0	100
Bregger, Cecil	BC2	21.5	W/SB	100/45			14		100	0	100
Bregger, Cecil	BC3	25.5	W/SB	100/45	1T Cal		14		100	0	100
Bregger, Cecil	BC4	18.7	W/SB	100/45			14		100	0	100
Bregger, Kent	BK1	37.4	W/SB	100/45			25		100	0	0
Bregger, Kent	BK2	32.2	W/SB	100/45			38		100	0	0
Bregger, Kent	BK3	46.9	W/SB	100/45			25		100	0	0
Britland	BR1	28.6	W/SB	100/45					100	50	120
Britland	BR2	5.2	W/SB	100/45					100	50	120
Britland	BR3	6.1	W/SB	100/45					100	50	120
Britland	BR4N	24.1	W/SB	100/45					100	50	120
Britland	BR4S	79.1	W/SB	100/45					100	50	120

Summary of Nutrient Recommendations

Britland	BR5N	35.6	W/SB	100/45	1T Cal				100	50	120
Britland	BR5S	85.1	W/SB	100/45					100	50	120
Britland	BR6	20	W/SB	100/45					100	50	120
Britland	BR7	54.4	W/SB	100/45	1T Cal				100	50	120
Byerly	BY1	31.1	W/SB	100/45					100	0	60
Byerly	BY2	4	W/SB	100/45					100	0	60
Byerly	BY3	19.2	W/SB	100/45					100	0	60
Byerly	BY4	10.3	W/SB	100/45					100	0	60
Byerly	BY5	48.4	W/SB	100/45					100	0	60
Church	CH1	59.5	C	210		3T Layer(I)	100	31-14-0	79	0	0
Church	CH2	45	C	210		3T Layer(I)	100	31-14-0	79	0	0
Church	CH3	27.5	C	210		3T Layer(P)	129	31-14-0	50	0	0
Church	CH4	22.7	C	210		3T Layer(P)	129	31-14-0	50	0	0
Church	CH5	18.5	C	210		3T Broiler(w)	131	31-14-0	48	0	0
Church	CH6	17.2	C	210		3T Broiler(w)	131	31-14-0	48	0	0
Church	CH7	18	C	210		3T Broiler(w)	131	31-14-0	48	0	0
Church	CH8	46.3	C	210		3T Broiler(w)	131	31-14-0	48	0	0
Crawford	CRAW1	16.4	C	210			14	30-0-0	166	0	0
Crawford	CRAW2	8.7	C	210			21	30-0-0	159	0	0
Crawford	CRAW3	25.6	C	210		3T Layer(I)	93	30-0-0	101	0	0
Crawford	CRAW4	65	C	250		54,000gal	42	30-0-0	192	0	0
Crawford	CRAW5	30	C	200			22	30-0-0	173	0	0
Crawford	CRAW6	43	C	200		3T Layer(I)	94	30-0-0	101	0	0
Crawford	CRAW7	65	C	250		54,000gal	43	30-0-0	191	0	0
Davis	DAVIS1A	23.6	C	210		3T Layer(I)	100	30-0-0	75	0	0
Davis	DAVIS1B	43.5	C	210		3T Layer(I)	100	31-14-0	75	0	0
Davis	DAVIS2	13.1	C	210		3T Layer(I)	100	31-14-0	75	0	0
Davis	DAVIS3	13.9	C	210	1T Cal	3T Layer(I)	100	31-14-0	75	0	0
Essex Lodge	EL1	63.8	W/SB	100/45			14		100	0	60
Essex Lodge	EL2	36.2	W/SB	100/45			14		100	0	60
Essex Lodge	EL3	6.8	W/SB	100/45			14		100	0	60
Essex Lodge	EL4	18.1	W/SB	100/45			14		100	0	60
Essex Lodge	EL5	34.8	W/SB	100/45			14		100	0	60
Essex Lodge	EL6	34.5	W/SB	100/45			14		100	0	60
Essex Lodge	EL7	9.9	W/SB	100/45			14		100	0	60
Essex Lodge	EL8	6.6	W/SB	100/45			14		100	0	60
Essex Lodge	EL9	70.1	W/SB	100/45	1T Cal		14		100	0	60

Summary of Nutrient Recommendations

Essex Lodge	EL10	27.5	W/SB	100/45			14		100	0	60
Essex Lodge	EL11	9.6	C	200		3T Layer(P)	116	31-14-0	63	0	0
Essex Lodge	EL12	39.1	C	200		3T Layer(P)	116	31-14-0	63	0	0
Essex Lodge	EL13	16.9	C	200		3T Layer(P)	116	31-14-0	63	0	0
Essex Lodge	EL14	24.4	C	200		3T Layer(P)	116	31-14-0	63	0	0
Fusco	E1	94	B/SB	100/50			25		100	0	0
Fusco	E1A	\	B/SB	100/50			25		100	0	0
Redgrave	F1	64	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Redgrave	F2	18	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Redgrave	F3	40	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Redgrave	F4	15.4	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Foxhole	FH1	15	B/SB	100/50	1T Cal		25		100	0	0
Foxhole	FH2	21	B/SB	100/50			25		100	0	0
Foxhole	FH3	11.2	B/SB	100/50			25		100	0	0
Foxhole	FH4	10	B/SB	100/50	1T Cal		25		100	0	0
Foxhole	FH5	15.6	B/SB	100/50			25		100	0	0
Foxhole	FH7	8.7	B/SB	100/50			25		100	0	0
Foxhole	FH8	5.5	B/SB	100/50			25		100	0	0
Foxhole	FH9	9	B/SB	100/50			25		100	0	0
Jeffries	JEF1	43	C	210	1T Cal	3T Layer(P)	129	31-14-0	45	0	0
Jeffries	JEF2	44	C	210		3T Layer(P)	129	31-14-0	45	0	0
Maloney	M1	70.2	W/SB	100/45			25		100	0	0
Maloney	M2	65	W/SB	100/45			25		100	0	0
Middlesex	MX 1A	21.1	C	210		3T Layer(I)	87	31-14-0	92	0	0
Middlesex	MX 1B	53	C	210		3T Layer(I)	87	31-14-0	92	0	0
Middlesex	MX 1C	56.2	C	210	1T Cal	3T Layer(I)	87	31-14-0	92	0	0
Middlesex	MX 1D	26.4	C	210		3T Layer(I)	87	31-14-0	92	0	0
Middlesex	MX 1E	17	C	210		3T Layer(I)	87	31-14-0	92	0	0
Middlesex	MX 2	38.1	W/SB	100/45					100	0	0
Middlesex	MX 3	44.7	W/SB	100/45	1T Cal				100	0	0
Middlesex	MX 4	50.1	W/SB	100/45	1T Cal				100	0	0
Middlesex	MX5A	9.4	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Middlesex	MX5B	12.6	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Middlesex	MX5C	22.1	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Middlesex	MX5D	34.8	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Middlesex	MX5E	29.5	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Middlesex	MX5F	13.5	C	210		3T Broiler(c)	122	31-14-0	57	0	0

Summary of Nutrient Recommendations

Middlesex	MX5G	38.6	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Middlesex	MX5H	36.1	C	210		3T Broiler(c)	122	31-14-0	57	0	0
Middlesex	MX 6	36.7	W/SB	100/45					100	0	0
Mill Creek	MC1A	28	C	250		3T Broiler(w)	141	30-0-0	79	0	0
Mill Creek	MC1B	30.3	C	250		3T Broiler(w)	141	30-0-0	79	0	0
Mill Creek	MC1 DRY	23.3	C	210		3T Broiler(w)	141	30-0-0	39	0	0
Mill Creek	MC2A	27.6	C	250		3T Broiler(w)	141	30-0-0	79	0	0
Mill Creek	MC2B	31.7	C	250		3T Broiler(w)	141	30-0-0	79	0	0
Mill Creek	MC2C	1.3	C	250	1T Cal	3T Broiler(w)	141	30-0-0	79	0	0
Mill Creek	MC2 DRY	9.6	C	210		3T Broiler(w)	141	30-0-0	39	0	0
Mill Creek	MC3	9.1	C	250		3T Broiler(w)	141	30-0-0	79	0	0
Mill Creek	MC4A	13.5	C	250		3T Broiler(w)	141	30-0-0	79	0	0
Mill Creek	MC4B	13.2	C	250		3T Broiler(w)	141	30-0-0	79	0	0
Mill Creek	MC4 DRY	5.5	C	210		3T Broiler(w)	141	30-0-0	39	0	0
Neff	NEFF1	62	C	210		3T Layer(l)	100	31-14-0	92	0	0
Neff	NEFF2	\	C	210		3T Layer(l)	100	31-14-0	92	0	0
Neff	NEFF3	\	C	210		3T Layer(l)	100	31-14-0	92	0	0
Phillips	Phillips	27	C	210		3T Layer(l)	100	31-14-0	87	0	0
Redding	RDG N	53	C	210		3T Layer(l)	84	31-14-0	87	0	0
Redding	RDG S	\	C	210		3T Layer(l)	84	31-14-0	87	0	0
Home	RL1	36.7	C	210		3T Broiler(w)	131	31-14-0	44	0	0
Home	RL2	56.6	C	210		3T Broiler(w)	131	31-14-0	44	0	0
Home	RL3A	46	B/SB	100/50			14		100	0	0
Home	RL3B	\	B/SB	100/50			14		100	0	0
Home	RL4A	50.8	B/SB	100/50			14		100	0	0
Home	RL4B	\	B/SB	100/50			14		100	0	0
Home	RL5A	35	W/SB	100/50			14		100	0	0
Home	RL5B	35	C	250			14	30-0-0	206	0	0
Home	RL6A	7.2	C	210			14	30-0-0	166	0	0
Home	RL6B	6.3	C	210			14	30-0-0	166	0	0
Home	RL6C	3	C	210			14	30-0-0	166	0	0
Home	RL6D	3.3	C	210			14	30-0-0	166	0	0
Home	RL6E	7.7	C	210			14	30-0-0	166	0	0

Summary of Nutrient Recommendations

Home	RL8A	26.3	C	250		3T Broiler(RL)	112	30-0-0	134	0	0
Home	RL8B	28.9	C	250		3T Broiler(RL)	112	30-0-0	134	0	0
Home	RL8C	28.7	C	250		3T Broiler(RL)	112	30-0-0	103	0	0
Home	RL8D	25	C	250		3T Broiler(RL)	112	30-0-0	103	0	0
Home	RL9A	18.5	C	210		3T Broiler(RL)	113	31-14-0	62	0	0
Home	RL9B	26.3	C	210		3T Broiler(RL)	113	31-14-0	62	0	0
Home	RL10A	31.6	W/SB	100/40			14		100	0	0
Home	RL10B	6.8	W/SB	100/40			14		100	0	0
Home	RL11A	21.3	W/SB	100/40			14		100	0	0
Home	RL11B	16.4	W/SB	100/40			14		100	0	0
Sigman	SIGPAST	7.3	W/SB	100/40			32		100	0	0
Sigman	SIG1	18.3	W/SB	100/40			32		100	0	0
Sigman	SIG2	35.3	W/SB	100/40	1T Cal		32		100	0	0
Sigman	SIG3	10.5	W/SB	100/40			25		100	0	0
Sigman	SIG4	35.1	W/SB	100/40			25		100	0	0
Sigman	SIG5A	30.1	W/SB	100/40			25		100	0	0
Sigman	SIG5B	58.4	W/SB	100/40			25		100	0	0
Sigman	SIG5C	28.9	W/SB	100/40			25		100	0	0
Ware	WA1	99	C	210	1T Cal		15	30-0-0	165	0	60
Ware	WA2	\	C	210			15	30-0-0	165	0	60
Ware	WA3	\	C	210			15	30-0-0	165	0	60
Ware	WA4	\	C	210	1T Cal		15	30-0-0	165	0	60
Ware	WA6	\	C	210			15	30-0-0	165	0	60
Ware	WA7	\	C	210	1T Cal		15	30-0-0	165	0	60
Ware	WA8	\	C	210	1T Cal		15	30-0-0	165	0	60

1. Yield goal based on past history.
2. Layer manure from ISE provides 72-89-94 at 3T/ acre, and from Puglisi's provides 101-119-133 at 3T/ acre. Broiler manure applied at 3T/ acre will provide 98-176-193 from Rich Levels, 90-186-200 from EB workman, 94-170-201 from C and S farms, and 103-192-196 from Weavers. Waste water from ISE at 54,000gal/acre will provide 27-0-0.
3. Nitrogen credit includes current and past manure applications as well as previous legume crop.
4. Starter- either 31-14-0, or 30-0-0 will be applied with the planter in April-May.
5. Additional Fertilizer-

Corn- Split apply indicated nitrogen with herbicides and at sidedress.

Soybeans- Broadcast recommended fertilizer where indicated prior to planting.

Wheat/ Barley- In early spring, apply recommended amount of nitrogen where indicated.

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

UNIVERSITY OF MARYLAND EXTENSION
Solutions in your community

POULTRY LITTER QUANTITY ESTIMATE

Name: **Rich Levels** Tract / Farm: Date: **2/17/2025**

Houses included: **6** **Bird type:** **Broiler**

Average Bird Market Weight (lbs): **7**

A.	Years between total cleanouts: Yr. next total cleanout:	**2025**
	- Yr. last total cleanout:	**2024**
	= Years in cleanout cycle:	1
B.	Total # of birds per flock (for all houses on this cleanout cycle):	**120,000**
C.	Flocks per year	**5**
D.	Number of flocks per cleanout cycle (A x C):	5
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: *	**1.4192**
G.	Tons cake/crust produced per flock (B x E/1000):	24
H.	Tons cake/crust produced per cycle (G x D)	120
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	852
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	732
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	732
L	Tons of litter + cake/crust produced per year (I/A)	852

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

Quantity of Poultry Litter, Cake/Crust Available per Year

Year	M Tons of litter remaining in the house from last year (N-P) + (R-S) (previous year)	N Total tons of litter present in the house this year (K) + (M, this year)	O % of partial or total litter to be removed this year in excess of cakeout/crustout (enter % of N removed)	P Tons of litter removed this year (N x O)/100	Q Flocks this Year	R *** Tons Cake/Crust Produced this Year (Q x G)	S Tons Cake/Crust removed this Year	T Tons litter + cake/crust removed this year (P + S)
2025	0	732	**75**	549	5	120	75	624
							75	
				549	5	120	150	699

*** 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.

UM Phosphorus Management Tool (PMT) Report

Farmer Name | **Year**

	Rich Levels		
	6 (prim)	7 (prim)	8 (prim)
Account ID	[redacted]		
County	Kent	Kent	Kent
Tract or Farm ID	0	0	0
Field ID	RL8A	RL8B	RL8D
MUSYM	SaA	SaA	SaA
Area | Crop	0.0 Acres	0.0 Acres	0.0 Acres
Organics			
R Factor	185	185	185
Adj. K Factor | LS Factor	0.30 | 0.16	0.30 | 0.16	0.30 | 0.16
C | P Factors	0.06 | 1.00	0.06 | 1.00	0.06 | 1.00
RUSLE A	0.53	0.53	0.53
		Transport Risk Factors	
SED Value	2	2	2
Soil Permeability Class	Moderate	Moderate	Moderate
Field slope | Concave? | SR Factor	5.00 | No | 5.6	5.00 | No | 5.6	5.00 | No | 5.6
Soil Drainage Class	well	well	well
HSG | Artificial Drainage? | SD Factor	B | No | 0.0	B | No | 0.0	B | No | 0.0
		Management Factors	
Distance to Water (DF)	200-349 ft | 0.6	200-349 ft | 0.6	100-199 ft | 0.8
Buffer Width & Type (BF)	> 50' veg. | 0.8	> 50' veg. | 0.8	> 50' veg. | 0.8
Soil Test P Fertility Index Value	161	175	183
Degree of P Saturation (DPS M3)	44.4 (est.)	46.8 (est.)	48.2 (est.)
Fert. P appl. rates, lb/A | FP * PSC	| 20 | - | - | 12	| 20 | - | - | 12	| 20 | - | - | 12
Org. P appl. rates, lb/A | OP * PSC	|170 | - | - | 102	|170 | - | - | 102	|170 | - | - | 102
Runoff Fert. P appl. methods | AMr(f)	| M1 | - | - | 0.20	| M1 | - | - | 0.20	| M1 | - | - | 0.20
Runoff Org. P appl. methods | AMr(o)	| M3 | - | - | 0.60	| M3 | - | - | 0.60	| M3 | - | - | 0.60
Subsurface Fert. P appl. methods | AMsub(f)	| M1 | - | - | 0.32	| M1 | - | - | 0.32	| M1 | - | - | 0.32
Subsurface Org. P appl. methods | AMsub(o)	| M3 | - | - | 0.64	| M3 | - | - | 0.64	| M3 | - | - | 0.64
P particulate | P runoff | P subsurface	15 | 41 | 0 |	17 | 42 | 0 |	23 | 57 | 0 |
P Loss Rating Score	56 (M)	59 (M)	81 (M)

UM Phosphorus Management Tool (PMT) Report

Farmer Name	Rich Levels			Year	
	1 (prim)	2 (prim)	3 (prim)	4 (prim)	5 (prim)
Account ID	[redacted]				
County	Cecil	Kent	Kent	Kent	Kent
Tract or Farm ID	0	0	0	0	0
Field ID	Craw1	MC2B	MC2C	MC4A	RL6B
MUSYM	WdA	MxA	MxA	MtA	SaA
Area | Crop	0.0 Acres	0.0 Acres	0.0 Acres	0.0 Acres	0.0 Acres
Organics					
R Factor	180	185	185	185	185
Adj. K Factor | LS Factor	0.17 | 0.16	0.40 | 0.16	0.40 | 0.16	0.40 | 0.16	0.30 | 0.16
C | P Factors	0.06 | 1.00	0.06 | 1.00	0.06 | 1.00	0.06 | 1.00	0.06 | 1.00
RUSLE A	0.29	0.71	0.71	0.71	0.53
		Transport Risk Factors			
SED Value	2	2	2	2	2
Soil Permeability Class	Moderate	Moderately Slow	Moderately Slow	Slow	Moderate
Field slope | Concave? | SR Factor	5.00 | No | 5.6	0.00 | No | 1.6	5.00 | No | 5.6	5.00 | No | 6.3	0.00 | No | 1.6
Soil Drainage Class	moderately well	moderately well	moderately well	moderately well	well
HSG | Artificial Drainage? | SD Factor	C | No | 0.0	C | No | 0.0	C | No | 0.0	C | No | 0.0	B | No | 0.0
		Management Factors			
Distance to Water (DF)	< 100 ft | 1.0	100-199 ft | 0.8	100-199 ft | 0.8	100-199 ft | 0.8	100-199 ft | 0.8
Buffer Width & Type (BF)	> 50' veg. | 0.8	> 50' veg. | 0.8	> 50' veg. | 0.8	> 50' veg. | 0.8	> 50' veg. | 0.8
Soil Test P Fertility Index Value	204	150	170	175	184
Degree of P Saturation (DPS M3)	51.8 (est.)	42.4 (est.)	45.9 (est.)	46.8 (est.)	48.4 (est.)
Fert. P appl. rates, lb/A | FP * PSC	| 20 | - | - | 12	| 20 | - | - | 12	| 20 | - | - | 12	| 20 | - | - | 12	| 20 | - | - | 12
Org. P appl. rates, lb/A | OP * PSC	|106 | - | - | 64	|170 | - | - | 102	|170 | - | - | 102	|170 | - | - | 102	|170 | - | - | 102
Runoff Fert. P appl. methods | AMr(f)	| M1 | - | - | 0.20	| M1 | - | - | 0.20	| M1 | - | - | 0.20	| M1 | - | - | 0.20	| M1 | - | - | 0.20
Runoff Org. P appl. methods | AMr(o)	| M3 | - | - | 0.60	| M3 | - | - | 0.60	| M3 | - | - | 0.60	| M3 | - | - | 0.60	| M3 | - | - | 0.60
Subsurface Fert. P appl. methods | AMsub(f)	| M1 | - | - | 0.32	| M1 | - | - | 0.32	| M1 | - | - | 0.32	| M1 | - | - | 0.32	| M1 | - | - | 0.32
Subsurface Org. P appl. methods | AMsub(o)	| M3 | - | - | 0.64	| M3 | - | - | 0.64	| M3 | - | - | 0.64	| M3 | - | - | 0.64	| M3 | - | - | 0.64
P particulate | P runoff | P subsurface	33 | 65 | 0 |	19 | 15 | 0 |	22 | 56 | 0 |	22 | 63 | 0 |	24 | 16 | 0 |
P Loss Rating Score	97 (M)	34 (L)	77 (M)	86 (M)	40 (L)

AET

AET Consulting Inc

AET CONSULTING INC
2677 TELEGRAPH RD
NORTH EAST, MD 21901-1207

Prepared For
RICH LEVELS POULTRY

Sample Information			
Lab Number	FF68501	Sampled	01-30-2025
Sample	BROILER	Tested	02-06-2025
Manure Type	Poultry, Solid with litter		

Certificate of Analysis
Manure

Analysis	Result	Unit	*Nutrients lbs/Ton*	*Available 1st Yr* [3] *lbs/Ton*		
Moisture	32.86	%				
Nitrogen, Total	3.15	%	63.0	40 [4]		
Nitrogen, Ammonium	.27	%	5.4	5.4 [4]		
Nitrogen, Organic	2.88	%	57.6	34.6 [4]		
Phosphorus [P2O5], Total	2.93	%	58.6	58.6 [4]		
Potassium [K2O]	3.22	%	64.4	64.4 [4]		

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

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0207-7622-0006

AET

AET Consulting Inc

AET CONSULTING INC
2677 TELEGRAPH RD
NORTH EAST, MD 21901-1207

Prepared For
RICK WEAVER

Sample Information			
Lab Number	FF68502	Sampled	01-30-2025
Sample	BROILER	Tested	02-06-2025
Manure Type	Poultry, Solid with litter		

Certificate of Analysis
Manure

Analysis	Result	Unit	*Nutrients lbs/Ton*	*Available 1st Yr* [3] *lbs/Ton*		
Moisture	32.66	%				
Nitrogen, Total	3.33	%	66.6	42.2 [4]		
Nitrogen, Ammonium	.28	%	5.6	5.6 [4]		
Nitrogen, Organic	3.05	%	61.0	36.6 [4]		
Phosphorus [P2O5], Total	3.2	%	64.0	64.0 [4]		
Potassium [K2O]	3.26	%	65.2	65.2 [4]		

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

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0307-7622-0012

AET

AET Consulting Inc

AET CONSULTING INC
2677 TELEGRAPH RD
NORTH EAST, MD 21901-1207

Prepared For
PUGLISI

Sample Information			
Lab Number	FF68500	Sampled	01-30-2025
Sample	LAYER	Tested	02-06-2025
Manure Type	Poultry, Solid without litter		

Certificate of Analysis
Manure

Analysis	Result	Unit	*Nutrients lbs/Ton*	*Available 1st Yr* [3] *lbs/Ton*		
Moisture	42.59	%				
Nitrogen, Total	2.74	%	54.8	35.4 [4]		
Nitrogen, Ammonium	.32	%	6.4	6.4 [4]		
Nitrogen, Organic	2.42	%	48.4	29.0 [4]		
Phosphorus [P2O5], Total	1.99	%	39.8	39.8 [4]		
Potassium [K2O]	2.22	%	44.4	44.4 [4]		

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

AET Consulting Inc

AET CONSULTING INC
2677 TELEGRAPH RD
NORTH EAST, MD 21901-1207

Prepared For
EB WORKMAN

Sample Information			
Lab Number	FF68497	Sampled	01-30-2025
Sample	BROILER	Tested	02-06-2025
Manure Type	Poultry, Solid with litter		

Certificate of Analysis
Manure

Analysis	Result	Unit	*Nutrients lbs/Ton*	*Available 1st Yr* [3] *lbs/Ton*		
Moisture	35.64	%				
Nitrogen, Total	2.9	%	58.0	36.6 [4]		
Nitrogen, Ammonium	.23	%	4.6	4.6 [4]		
Nitrogen, Organic	2.67	%	53.4	32.0 [4]		
Phosphorus [P2O5], Total	3.1	%	62.0	62.0 [4]		
Potassium [K2O]	3.34	%	66.8	66.8 [4]		

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

AET

AET Consulting Inc

AET CONSULTING INC
2677 TELEGRAPH RD
NORTH EAST, MD 21901-1207

Prepared For
ISE

Sample Information			
Lab Number	FF68320	Sampled	01-03-2025
Sample	LAYER	Tested	01-09-2025
Manure Type	Poultry, Solid without litter		

Certificate of Analysis
Manure

Analysis	Result	Unit	*Nutrients lbs/Ton*	*Available 1st Yr* [3] *lbs/Ton*		
Moisture	21.6	%				
Nitrogen, Total	1.97	%	39.4	24.8 [4]		
Nitrogen, Ammonium	.15	%	3.0	3.0 [4]		
Nitrogen, Organic	1.82	%	36.4	21.8 [4]		
Phosphorus [P2O5], Total	1.49	%	29.8	29.8 [4]		
Potassium [K2O]	1.56	%	31.2	31.2 [4]		

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

AET

AET Consulting Inc

AET CONSULTING INC
2677 TELEGRAPH RD
NORTH EAST, MD 21901-1207

Prepared For
C AND S FARMS

Sample Information			
Lab Number	FF68498	Sampled	01-30-2025
Sample	BROILER	Tested	02-06-2025
Manure Type	Poultry, Solid with litter		

Certificate of Analysis
Manure

Analysis	Result	Unit	*Nutrients lbs/Ton*	*Available 1st Yr* [3] *lbs/Ton*		
Moisture	35.46	%				
Nitrogen, Total	3.03	%	60.6	38.4 [4]		
Nitrogen, Ammonium	.26	%	5.2	5.2 [4]		
Nitrogen, Organic	2.77	%	55.4	33.2 [4]		
Phosphorus [P2O5], Total	2.84	%	56.8	56.8 [4]		
Potassium [K2O]	3.35	%	67.0	67.0 [4]		

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

AET

AET Consulting Inc

AET CONSULTING INC
2677 TELEGRAPH RD
NORTH EAST, MD 21901-1207

Prepared For
ISE

Sample Information			
Lab Number	FF63763	Sampled	08-06-2023
Sample	CRAW IRRIG WTR	Tested	08-10-2023
Manure Type			

Certificate of Analysis
Manure

Analysis	Result	Unit	*Nutrients lbs/Ton*	*Available 1st Yr [3] lbs/Ton*		
Moisture	99.87	%				
Nitrogen, Total	.01	%	0.2	- [1]		
Nitrogen, Ammonium	< 0.01	%	0	0 [1]		
Nitrogen, Organic	.01	%	0.2	- [1]		
Phosphorus [P2O5], Total	< 0.01	%	0	0 [1]		
Potassium [K2O]	< 0.01	%	0	0 [1]		

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

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0192-8802-0013

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 12-19-2024 Tested 12-26-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
AT1	F47867	6.3	7.2	1.6	81 G	87 M	90 M	872 G	4.1	4.6	16.0	79.4							
AT2	F47868	6.1	7.2	1.1	67 G	120 G	98 M	714 G	3.7	7.1	19.7	73.3							
AUS 1-1A	F47869	5.6	7.0	1.8	93 G	217 H	104 M	648 G	3.7	12.8	20.8	66.4							
AUS 2A-C	F47870	5.9	7.2	1.3	74 G	111 M	82 M	552 G	2.9	8.2	20.7	71.1							
AUS 3-3A	F47871	5.6	7.1	1.7	111 H	101 M	69 M	625 G	3.1	7.1	16.5	76.4							
AUS 4	F47872	5.9	7.3	1.1	70 G	93 M	92 M	527 G	2.9	7.0	23.7	69.3							
AUS 5	F47873	5.7	7.0	1.8	68 G	94 M	92 M	573 G	3.0	6.7	22.3	71.0							
BR1	F47874	6.0	7.2	0.9	48 M	69 M	90 M	429 M	2.4	6.1	27.3	66.5							
BR2	F47875	5.6	7.1	1.0	59 M	94 M	122 M	445 M	2.8	7.3	32.3	60.3							
BR3	F47876	6.0	7.2	1.1	39 M	111 M	146 G	543 G	3.3	7.1	32.0	60.9							
BR4N	F47877	6.1	7.2	1.0	31 L	112 M	138 G	542 G	3.3	7.3	30.8	61.9							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV
AT1	F47867	95
AT2	F47868	80
AUS 1-1A	F47869	107
AUS 2A-C	F47870	87
AUS 3-3A	F47871	126
AUS 4	F47872	83
AUS 5	F47873	81
BR1	F47874	60
BR2	F47875	71
BR3	F47876	50
BR4N	F47877	42

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0195-9522-0004

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 12-19-2024 Tested 12-26-2024

Sample Number	Lab Number	pH		Organic Matter	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	%	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
BR4S	F47878	6.0	7.2	1.2	28 L	111 M	114 M	538 G	3.1	7.7	27.0	65.2							
BR5N	F47879	5.7	7.1	1.3	32 M	129 G	128 M	517 G	3.2	8.8	29.7	61.4							
BR5S	F47880	6.0	7.3	0.8	29 L	120 G	164 G	573 G	3.6	7.2	33.3	59.5							
BR6	F47882	6.0	6.8	1.0	15 L	96 M	140 G	473 M	5.4	3.8	19.0	32.8							
BR7	F47883	5.9	7.0	1.2	22 L	96 M	153 G	538 G	3.3	6.2	33.5	60.3							
RL1	F47884	6.4	7.1	1.9	69 G	132 G	95 M	803 G	4.0	7.1	17.5	75.4							
RL2	F47885	6.3	7.0	1.4	84 G	129 G	76 M	722 G	3.5	7.8	15.7	76.4							
RL3A	F47886	6.5	7.2	1.6	113 H	148 G	136 G	883 G	5.9	5.4	16.8	55.9							
RL3B	F47887	6.3	7.1	1.8	99 H	155 G	119 M	795 G	4.2	8.0	20.8	71.2							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV
BR4S	F47878	39
BR5N	F47879	43
BR5S	F47880	40
BR6	F47882	25
BR7	F47883	32
RL1	F47884	82
RL2	F47885	98
RL3A	F47886	128
RL3B	F47887	114

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0195-9522-0004

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 12-19-2024 Tested 12-26-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
RL4A	F47888	6.1	7.0	2.0	180 V	216 H	130 M	1006 G	5.2	9.0	18.4	72.7							
RL4B	F47889	6.1	7.1	2.0	128 H	194 G	122 M	881 G	4.6	9.1	19.4	71.6							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS
RL4A	F47888	199	40
RL4B	F47889	144	

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0195-9522-0004

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
AW1	F24554	6.4	7.1	1.8	92 H	158 G	123 M	946 G	4.8	7.1	18.8	74.1							
AW2	F24555	6.4	7.2	1.3	164 V	154 G	130 M	1252 H	6.0	5.5	15.9	78.5							
AW3	F24556	6.0	7.2	1.9	56 M	115 M	127 M	816 G	4.2	5.8	22.0	72.2							
AW4	F24557	6.0	7.0	1.8	67 G	154 G	124 M	863 G	4.5	7.4	20.3	72.3							
BC1	F24558	6.1	7.1	1.7	98 H	135 G	127 M	1024 G	5.1	5.7	18.4	75.9							
BC2	F24559	6.1	7.0	1.8	69 G	87 M	136 G	989 G	4.9	3.8	20.4	75.8							
BC3	F24560	5.9	7.1	2.3	59 M	56 L	129 M	775 G	4.0	3.0	23.8	73.2							
BC4	F24562	6.5	7.1	1.8	92 H	62 L	178 G	1202 G	7.6	1.8	17.1	59.2							
BK1	F24563	6.1	7.0	1.5	98 H	219 H	125 M	794 G	4.4	10.8	21.0	68.2							
BK2	F24564	6.4	7.2	2.0	135 H	183 G	132 M	1150 H	5.7	6.9	17.1	76.0							
BK3	F24565	6.4	7.2	1.8	55 M	149 G	106 M	825 G	4.2	7.7	18.5	73.8							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS
AW1	F24554	106	
AW2	F24555	182	46
AW3	F24556	68	
AW4	F24557	80	
BC1	F24558	113	
BC2	F24559	82	
BC3	F24560	71	
BC4	F24562	106	
BK1	F24563	113	
BK2	F24564	152	39
BK3	F24565	67	

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0728-3522-0012

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
BY1	F24566	6.2	7.2	2.0	209 V	153 G	124 M	1187 H	5.7	5.8	16.0	78.2							
BY2	F24567	6.1	7.1	2.0	647 V	196 G	72 M	1962 V	8.3	5.1	6.4	88.6							
BY3	F24568	6.3	7.2	2.0	472 V	170 G	89 M	1713 H	7.4	4.9	8.8	86.3							
BY4	F24569	6.2	7.0	1.8	66 G	84 M	96 M	905 G	4.3	4.2	16.5	79.3							
BY5	F24570	6.8	7.3	1.9	580 V	169 G	104 M	2321 H	11.8	3.1	6.5	73.8							
CH1	F24571	6.5	7.1	1.9	54 M	104 M	159 G	816 G	5.7	3.9	20.5	53.7							
CH2	F24572	6.2	7.2	1.8	52 M	147 G	121 M	695 G	3.8	8.3	23.3	68.4							
CH3	F24573	6.3	7.0	2.0	37 M	124 G	147 G	833 G	4.5	6.0	24.1	69.9							
CH4	F24574	6.2	7.2	2.1	45 M	105 M	149 G	838 G	4.5	5.1	24.5	70.4							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS
BY1	F24566	230	49
BY2	F24567	692	151
BY3	F24568	507	111
BY4	F24569	79	
BY5	F24570	621	148
CH1	F24571	66	
CH2	F24572	64	
CH3	F24573	48	
CH4	F24574	57	

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0728-3522-0012

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic Matter	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	%	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
CH5	F24575	6.5	7.3	2.2	41 M	160 G	155 G	832 G	5.9	5.9	19.3	53.0							
CH6	F24576	6.3	7.2	2.3	62 G	144 G	126 M	685 G	3.8	8.2	24.3	67.5							
CH7	F24577	6.2	7.1	2.0	40 M	104 M	169 G	795 G	4.4	5.0	27.9	67.1							
CH8	F24578	6.4	7.2	2.0	22 L	107 M	164 G	770 G	4.3	5.3	27.8	66.8							
CRAW1	F24579	6.3	7.1	1.7	205 V	133 G	88 M	971 G	4.6	6.3	14.1	79.6							
CRAW2	F24580	6.0	7.5	2.0	161 V	148 G	87 M	1036 G	4.8	6.6	13.2	80.2							
CRAW3	F24581	6.3	7.2	1.9	150 H	140 G	93 M	1084 H	5.0	6.0	13.5	80.5							
CRAW4	F24582	6.6	7.2	1.8	225 V	148 G	100 M	1223 G	7.0	4.5	10.4	65.1							
CRAW5	F24583	6.2	7.1	2.0	185 V	138 G	84 M	849 G	4.1	7.3	15.0	77.7							
CRAW6	F24584	6.0	7.0	1.6	80 G	99 M	93 M	1019 G	4.7	4.5	14.5	81.0							
CRAW7	F24585	6.4	7.2	2.4	123 H	105 M	112 M	1072 H	5.1	4.5	16.2	79.3							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS
CH5	F24575	52	
CH6	F24576	75	
CH7	F24577	51	
CH8	F24578	32	
CRAW1	F24579	226	50
CRAW2	F24580	179	32
CRAW3	F24581	167	36
CRAW4	F24582	247	60
CRAW5	F24583	204	46
CRAW6	F24584	94	
CRAW7	F24585	139	

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic Matter	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	%	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
DAVIS 1A	F24586	6.3	7.2	4.1	162 V	192 G	132 G	896 G	4.7	8.7	20.4	70.9							
DAVIS 1B	F24587	6.3	7.2	1.8	112 H	195 G	103 M	844 G	4.3	9.7	17.4	72.9							
DAVIS 2	F24588	6.0	7.2	1.8	53 M	117 M	86 M	654 G	3.3	7.6	18.9	73.5							
DAVIS 3	F24589	5.9	7.1	2.0	51 M	109 M	82 M	561 G	2.9	8.0	20.5	71.6							
E 1	F24590	6.1	7.2	1.9	69 G	163 G	108 M	804 G	4.2	8.4	19.0	72.5							
E 1A	F24591	6.1	7.0	1.8	86 G	184 G	103 M	992 G	4.9	8.1	15.5	76.4							
EL1	F24592	6.3	7.1	1.8	53 M	111 M	151 G	804 G	4.4	5.5	25.4	69.1							
EL2	F24593	6.1	7.0	2.0	31 M	87 M	126 M	719 G	3.8	4.9	24.3	70.8							
EL3	F24594	6.2	7.1	2.5	32 M	112 M	186 G	714 G	4.3	5.6	31.8	62.5							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS
DAVIS 1A	F24586	180	41
DAVIS 1B	F24587	127	
DAVIS 2	F24588	65	
DAVIS 3	F24589	63	
E 1	F24590	82	
E 1A	F24591	100	
EL1	F24592	65	
EL2	F24593	42	
EL3	F24594	43	

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0728-3522-0012

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
EL4	F24595	6.6	7.2	2.5	37 M	100 M	215 G	871 G	6.3	3.4	24.9	51.7							
EL5	F24596	6.6	7.3	2.4	33 M	112 M	211 G	948 G	6.7	3.6	23.2	53.2							
EL6	F24597	6.4	7.1	2.1	42 M	106 M	184 G	939 G	5.1	4.5	26.5	69.1							
EL7	F24598	6.3	7.2	2.1	33 M	99 M	168 G	953 G	5.0	4.2	24.5	71.2							
EL8	F24599	6.2	7.1	1.9	30 M	78 M	159 G	981 G	5.0	3.4	23.3	73.4							
EL9	F24600	5.9	7.1	1.8	41 M	119 G	144 G	781 G	4.2	6.0	24.9	69.1							
EL10	F24602	6.2	7.0	1.7	56 M	151 G	141 G	756 G	4.2	7.8	24.7	67.6							
EL11	F24603	6.3	7.1	2.0	15 L	65 M	211 G	769 G	4.6	3.1	33.9	63.1							
EL12	F24604	6.0	7.0	1.8	21 L	112 M	176 G	682 G	4.1	5.9	31.6	62.5							
EL13	F24605	6.1	7.1	2.0	17 L	74 M	211 G	731 G	4.4	3.6	34.8	61.6							
EL14	F24606	6.1	7.2	2.1	39 M	101 M	191 G	786 G	4.6	4.8	30.7	64.6							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV
EL4	F24595	48
EL5	F24596	44
EL6	F24597	53
EL7	F24598	44
EL8	F24599	41
EL9	F24600	52
EL10	F24602	68
EL11	F24603	25
EL12	F24604	31
EL13	F24605	27
EL14	F24606	50

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0728-3522-0012

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
FH1	F24607	5.9	7.1	1.8	37 M	206 G	131 G	746 G	4.2	10.6	22.9	66.6							
FH2	F24608	6.1	7.2	1.7	36 M	145 G	106 M	791 G	4.1	7.7	19.2	73.1							
FH3	F24609	6.2	7.1	2.0	94 H	212 H	142 G	902 G	4.9	9.4	21.3	69.3							
FH4	F24610	5.8	7.2	2.3	44 M	177 G	128 M	689 G	3.9	9.8	24.0	66.2							
FH5	F24611	6.1	7.2	1.8	56 M	177 G	130 M	719 G	4.0	9.5	23.7	66.9							
FH7	F24612	6.4	7.2	1.9	66 G	188 G	143 G	1046 G	5.4	7.5	19.5	73.0							
FH8	F24613	6.5	7.2	1.9	77 G	184 G	171 G	958 G	6.7	5.9	18.7	53.5							
FH9	F24614	6.0	7.1	2.7	100 H	223 H	143 G	998 G	5.3	9.1	19.9	71.0							
JEF1	F24615	5.8	7.1	1.5	31 M	101 M	126 M	744 G	3.9	5.5	23.5	71.0							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV
FH1	F24607	48
FH2	F24608	47
FH3	F24609	108
FH4	F24610	56
FH5	F24611	68
FH7	F24612	79
FH8	F24613	90
FH9	F24614	115
JEF1	F24615	42

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0728-3522-0012

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
JEF2	F24616	6.2	7.2	1.9	115 H	134 G	104 M	1114 H	5.2	5.5	14.6	79.9							
MC1A	F24617	6.5	7.2	2.1	92 H	316 V	129 M	857 G	6.2	11.0	15.3	51.9							
MC1B	F24618	6.8	7.4	1.8	95 H	280 V	130 M	1169 G	7.1	8.5	13.4	61.5							
MC DRY	F24619	6.4	7.2	1.6	108 H	292 V	145 G	888 G	5.0	12.5	21.2	66.3							
MC2A	F24620	6.2	7.2	0.7	94 H	234 H	130 M	914 G	4.9	10.3	19.5	70.2							
MC2B	F24621	6.4	6.9	1.8	111 H	209 G	116 M	935 G	6.0	7.5	14.2	58.4							
MC2C	F24622	5.7	7.1	1.7	176 V	295 V	150 G	864 G	5.0	12.8	22.1	65.1							
MC 2DRY	F24623	6.1	7.0	1.8	132 H	318 V	131 G	767 G	4.5	15.1	21.2	63.6							
MC3	F24624	5.8	7.1	1.8	133 H	248 V	141 G	777 G	4.5	11.9	23.1	65.0							
MC4A	F24625	6.1	7.2	1.9	116 H	206 G	115 M	826 G	4.4	10.1	19.2	70.6							
MC4B	F24626	6.2	7.2	2.0	142 H	219 H	144 G	1021 G	5.4	8.8	19.7	71.5							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS
JEF2	F24616	131	
MC1A	F24617	106	
MC1B	F24618	109	
MC DRY	F24619	123	
MC2A	F24620	108	
MC2B	F24621	126	
MC2C	F24622	195	41
MC 2DRY	F24623	148	
MC3	F24624	150	
MC4A	F24625	132	
MC4B	F24626	159	38

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0728-3522-0012

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
MC 4 DRY	F24627	6.0	6.8	3.0	131 H	337 V	185 G	1263 G	9.2	7.9	14.7	51.4							
MX1A	F24628	6.2	7.2	2.2	49 M	179 G	160 G	792 G	4.5	8.5	25.9	65.6							
MX1B	F24629	6.2	7.1	2.0	39 M	197 G	159 G	787 G	4.5	9.3	25.7	65.0							
MX1C	F24630	5.9	7.2	2.1	54 M	180 G	132 G	640 G	3.8	10.3	25.8	63.9							
MX1D	F24631	6.2	7.2	1.9	94 G	195 G	151 G	672 G	4.0	10.4	27.4	62.3							
MX1E	F24632	6.1	7.0	1.6	35 M	162 G	143 G	675 G	3.9	8.9	26.7	64.4							
MX2	F24633	6.0	7.1	1.9	29 L	172 G	115 M	649 G	3.6	10.2	23.1	66.7							
MX3	F24634	5.9	7.1	1.2	50 M	147 G	92 M	573 G	3.1	10.1	21.5	68.4							
MX4	F24635	5.9	7.1	2.3	69 G	164 G	91 M	577 G	3.2	11.1	21.0	68.0							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV
MC 4 DRY	F24627	147
MX1A	F24628	61
MX1B	F24629	50
MX1C	F24630	66
MX1D	F24631	108
MX1E	F24632	46
MX2	F24633	40
MX3	F24634	62
MX4	F24635	82

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic Matter	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	%	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
MX5A	F24636	6.1	7.2	2.1	50 M	119 G	98 M	533 G	3.0	8.6	24.2	67.2							
MX5B	F24637	6.3	7.1	1.8	46 M	176 G	106 M	636 G	3.5	10.7	21.9	67.3							
MX5C	F24638	6.3	7.2	1.5	63 G	135 G	113 M	649 G	3.6	8.2	23.3	68.5							
MX5D	F24639	6.2	7.1	1.8	54 M	124 G	98 M	567 G	3.1	8.6	23.1	68.3							
MX5E	F24640	6.1	7.2	1.4	65 G	144 G	98 M	615 G	3.3	9.3	21.5	69.2							
MX5F	F24642	6.0	7.1	1.1	55 M	120 G	78 M	453 M	2.5	10.2	22.6	67.2							
MX5G	F24643	6.4	7.2	1.0	71 G	179 G	79 M	498 M	2.8	13.6	20.5	65.9							
MX5H	F24644	6.4	7.3	1.3	74 G	119 G	91 M	600 G	3.2	8.1	21.0	70.9							
MX6	F24645	6.1	7.2	1.7	55 M	187 G	114 M	889 G	4.6	8.8	18.3	72.9							
PHILLIPS	F24646	6.1	7.2	1.7	103 H	96 M	94 M	787 G	3.8	5.4	17.9	76.7							
RDNG N	F24647	6.1	7.1	1.2	88 G	172 G	126 M	859 G	4.5	8.2	20.5	71.3							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV
MX5A	F24636	62
MX5B	F24637	58
MX5C	F24638	76
MX5D	F24639	66
MX5E	F24640	78
MX5F	F24642	67
MX5G	F24643	84
MX5H	F24644	87
MX6	F24645	67
PHILLIPS	F24646	118
RDNG N	F24647	102

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0728-3522-0012

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic Matter	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	%	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
RDNG S	F24648	6.4	7.3	1.4	135 H	224 H	118 M	917 G	4.8	10.1	18.1	71.8							
SIG 1	F24649	6.2	7.2	1.5	98 H	263 V	143 G	1046 G	5.5	10.2	18.9	70.8							
SIG 2	F24650	5.8	7.2	1.8	94 H	187 G	109 M	824 G	4.3	9.4	18.6	72.0							
SIG 3	F24651	6.5	7.2	1.6	47 M	173 G	179 G	1041 G	7.2	5.2	18.3	54.6							
SIG 4	F24652	6.4	7.2	2.3	99 H	164 G	139 G	1008 G	5.2	6.9	19.8	73.4							
SIG 5A	F24653	6.3	7.1	2.2	143 H	221 H	114 M	952 G	4.9	9.8	17.1	73.1							
SIG 5B	F24654	6.2	7.1	1.5	138 H	243 V	140 G	949 G	5.1	10.2	20.1	69.7							
SIG 5C	F24655	6.3	7.2	1.8	100 H	229 H	138 G	926 G	5.0	9.9	20.3	69.8							
SIG PAST	F24656	6.4	7.2	2.5	114 H	180 G	195 G	1261 G	6.5	5.9	21.8	72.2							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS
RDNG S	F24648	152	37
SIG 1	F24649	113	
SIG 2	F24650	108	
SIG 3	F24651	59	
SIG 4	F24652	114	
SIG 5A	F24653	160	38
SIG 5B	F24654	155	38
SIG 5C	F24655	115	
SIG PAST	F24656	129	

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0728-3522-0012

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS GRAIN	Sampled 11-26-2024 Tested 12-04-2024

Sample Number	Lab Number	pH		Organic Matter	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	%	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
WA1	F24657	5.8	7.1	1.3	110 H	177 G	115 M	615 G	3.5	10.8	23.9	65.3							
WA2	F24658	6.6	7.3	1.7	249 V	186 G	162 G	1114 G	7.2	5.6	16.5	58.0							
WA3	F24659	6.7	7.2	1.8	344 V	157 G	137 M	1646 G	9.2	3.7	11.0	67.3							
WA4	F24660	5.9	7.1	1.8	272 V	152 G	115 M	981 G	4.8	6.8	17.4	75.9							
WA6	F24661	6.4	7.2	1.9	114 H	148 G	141 G	859 G	4.6	7.0	22.6	70.4							
WA7	F24662	5.8	7.0	2.0	86 G	134 G	118 M	644 G	3.6	8.1	24.2	67.7							
WA8	F24663	5.9	7.0	2.0	79 G	134 G	107 M	643 G	3.5	8.3	22.5	69.2							

* ***Results:*** *P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm*
Ratings: *L=Low M=Medium G=Good H=High V=Very High*

Sample Number	Lab Number	P-FIV	DPS
WA1	F24657	125	
WA2	F24658	272	62
WA3	F24659	372	95
WA4	F24660	296	69
WA6	F24661	129	
WA7	F24662	100	
WA8	F24663	93	

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0728-3522-0012

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS	Sampled 12-17-2024 Tested 12-23-2024

Sample Number	Lab Number	pH		Organic Matter	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	%	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
ASP1	F45627	6.4	7.2	1.1	7 L	69 M	157 G	783 G	4.2	3.5	27.2	69.3							
ASP2	F45628	6.0	7.0	0.9	40 M	85 M	83 M	471 M	2.6	7.2	23.8	69.0							
ASP3	F45629	6.2	7.2	1.0	33 M	88 M	130 M	628 G	3.5	5.4	27.3	67.3							
ASP4A	F45630	6.5	7.3	1.1	13 L	61 L	198 G	755 G	5.7	2.3	25.7	50.1							
ASP4B	F45631	6.5	7.3	1.2	26 L	62 M	195 G	781 G	5.8	2.3	24.9	50.9							
ASP5A	F45632	6.4	7.1	1.4	73 G	78 M	97 M	587 G	3.1	5.5	23.1	71.5							
ASP5B	F45633	6.3	7.2	1.0	76 G	91 M	101 M	566 G	3.1	6.4	24.2	69.4							
ASP6A	F45634	6.4	7.0	1.3	46 M	73 M	73 M	649 G	3.1	5.0	17.1	77.8							
ASP6B	F45635	6.3	7.1	1.2	46 M	76 M	89 M	703 G	3.5	4.7	18.9	76.4							
F1	F45636	6.7	7.4	1.8	56 M	129 G	132 M	815 G	5.2	5.3	18.4	58.2							
F2	F45637	6.4	7.2	0.8	37 M	113 M	76 M	589 G	3.0	8.1	18.5	73.4							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV
ASP1	F45627	17
ASP2	F45628	51
ASP3	F45629	44
ASP4A	F45630	23
ASP4B	F45631	37
ASP5A	F45632	86
ASP5B	F45633	89
ASP6A	F45634	58
ASP6B	F45635	58
F1	F45636	68
F2	F45637	48

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0419-8522-0006

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS	Sampled 12-17-2024 Tested 12-23-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
F3	F45638	6.5	7.2	1.1	51 M	92 M	105 M	657 G	4.4	4.5	17.5	56.1							
F4	F45639	6.5	7.3	1.1	58 M	73 M	106 M	538 G	3.8	4.2	20.6	53.4							
M1	F45640	6.2	7.3	1.3	42 M	123 G	135 G	490 M	3.1	8.6	32.0	59.4							
M1A	F45642	6.2	7.2	1.0	43 M	118 M	153 G	515 G	3.3	7.7	33.9	58.4							
NEFF1	F45643	6.4	7.3	0.7	41 M	61 M	109 M	726 G	3.7	3.6	21.9	74.5							
NEFF2	F45644	6.7	7.3	1.1	45 M	62 M	100 M	649 G	4.0	3.3	18.2	60.4							
NEFF3	F45645	6.4	7.3	1.0	86 G	124 G	90 M	667 G	3.4	7.8	19.3	73.0							
RL5A	F45646	6.6	7.4	1.8	121 H	209 G	131 M	897 G	6.0	7.5	16.1	56.4							
RL5B	F45647	6.5	7.4	1.0	117 H	185 G	101 M	708 G	4.9	8.2	15.3	54.7							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV
F3	F45638	63
F4	F45639	70
M1	F45640	53
M1A	F45642	55
NEFF1	F45643	52
NEFF2	F45644	57
NEFF3	F45645	100
RL5A	F45646	137
RL5B	F45647	133

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0419-8522-0006

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS	Sampled 12-17-2024 Tested 12-23-2024

Sample Number	Lab Number	pH		Organic Matter	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	%	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
RL6A	F45648	6.8	7.4	1.8	124 H	158 G	170 G	1043 G	6.6	5.2	18.9	59.3							
RL6B	F45649	6.8	7.4	1.3	163 V	209 H	89 M	877 G	5.3	8.5	12.4	62.4							
RL6C	F45650	6.5	7.5	0.8	173 V	116 M	74 M	568 G	3.7	6.7	14.5	56.9							
RL6D	F45651	6.5	7.3	0.9	211 V	133 G	79 M	828 G	5.1	5.6	11.4	61.1							
RL6E	F45652	6.8	7.3	1.2	215 V	102 M	110 M	944 G	5.5	4.0	14.7	64.6							
RL8A	F45653	6.4	7.3	0.6	128 H	101 M	53 L	536 G	2.6	8.3	14.9	76.8							
RL8B	F45654	6.5	7.3	0.7	144 H	92 M	62 M	660 G	4.0	4.9	11.4	61.8							
RL8C	F45655	6.7	7.3	0.7	144 H	109 M	86 M	804 G	4.7	5.0	13.3	63.7							
RL8D	F45656	6.7	7.4	1.1	102 H	98 M	98 M	822 G	4.9	4.3	14.7	63.0							
RL9A	F45657	6.4	7.3	1.0	90 G	100 M	91 M	604 G	3.1	6.8	21.2	72.0							
RL9B	F45658	6.4	7.3	1.3	99 H	85 M	110 M	639 G	3.4	5.4	23.8	70.8							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS
RL6A	F45648	140	
RL6B	F45649	181	38
RL6C	F45650	192	42
RL6D	F45651	232	49
RL6E	F45652	236	43
RL8A	F45653	144	
RL8B	F45654	161	35
RL8C	F45655	161	34
RL8D	F45656	117	
RL9A	F45657	104	
RL9B	F45658	114	

Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0419-8522-0006

Soil Analysis Report

AET Consulting Inc

Report To	Prepared For	
AET CONSULTING INC 2677 TELEGRAPH RD NORTH EAST, MD 21901-1207	RICH LEVELS	Sampled 12-17-2024 Tested 12-23-2024

Sample Number	Lab Number	pH		Organic	Analysis Result* and Rating				CEC	Base Saturation			Mehlich-3 PPM and Rating						
		Soil pH	Buffer pH	Matter %	Phosphorus P	Potassium K	Magnesium Mg	Calcium Ca		K %	Mg %	Ca %	Sulfur S	Boron B	Zinc Zn	Iron Fe	Copper Cu	Mang. Mn	Alum. Al
RL10A	F45659	6.7	7.4	1.0	119 H	112 M	134 M	878 G	5.5	4.4	17.8	59.8							
RL10B	F45660	6.7	7.5	1.4	114 H	90 M	135 M	938 G	5.7	3.4	17.3	61.3							
RL11A	F45661	6.8	7.3	1.1	74 G	102 M	142 G	870 G	5.4	4.0	19.2	60.1							
RL11B	F45662	6.7	7.4	1.0	113 H	98 M	96 M	784 G	4.7	4.5	15.0	62.5							
RL 7	F45663	6.6	7.4	0.7	263 V	194 G	88 M	723 G	4.7	8.9	13.7	57.5							

* ***Results: P, K, Mg and Ca are extracted by Mehlich-3 (ICP) and are reported in ppm***
Ratings: L=Low M=Medium G=Good H=High V=Very High

Sample Number	Lab Number	P-FIV	DPS
RL10A	F45659	135	
RL10B	F45660	129	
RL11A	F45661	87	
RL11B	F45662	128	
RL 7	F45663	287	63

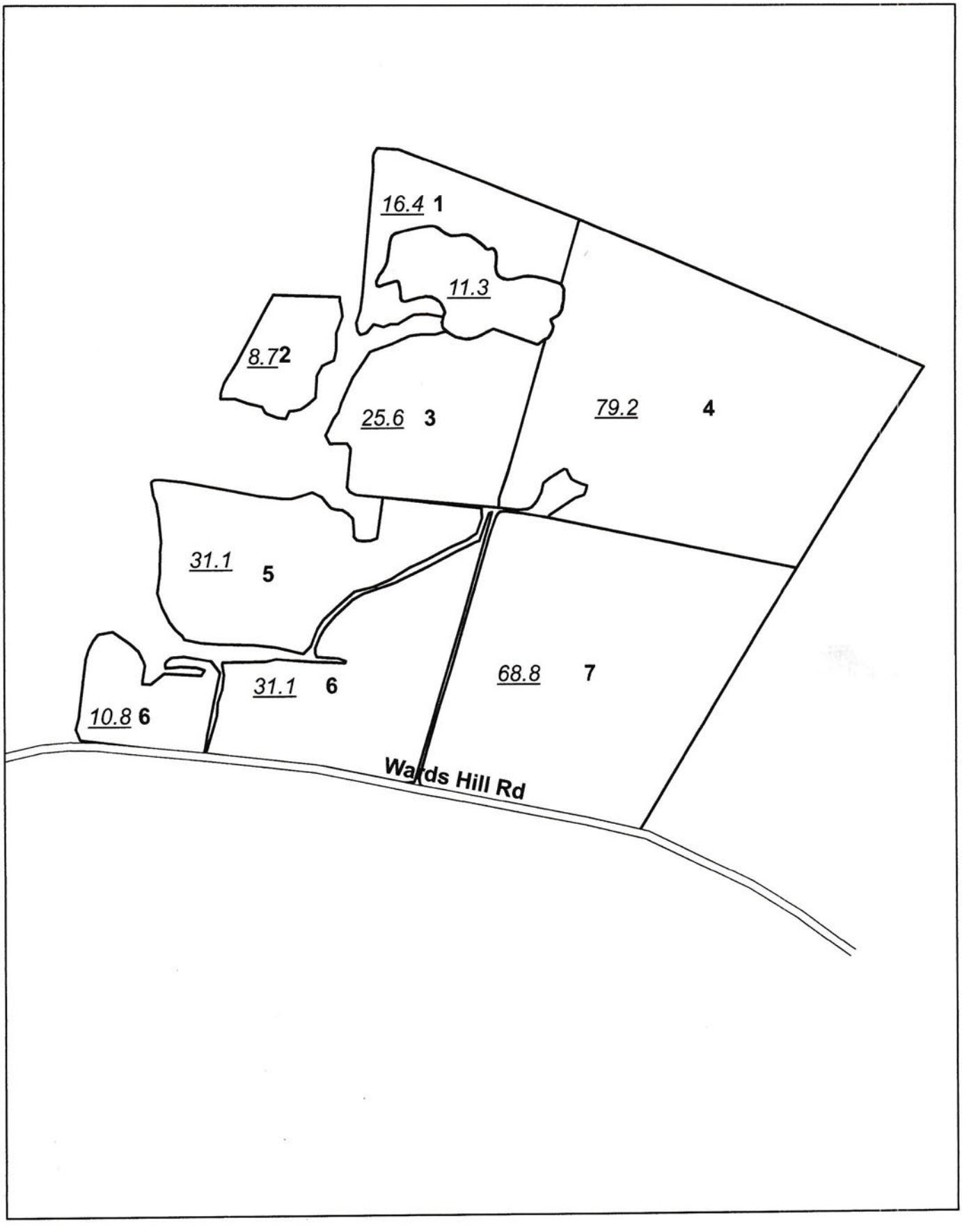
Analyzed by Spectrum Analytic Inc.
www.spectrumanalytic.com

HID:0323-0419-8522-0006

Rich Levels

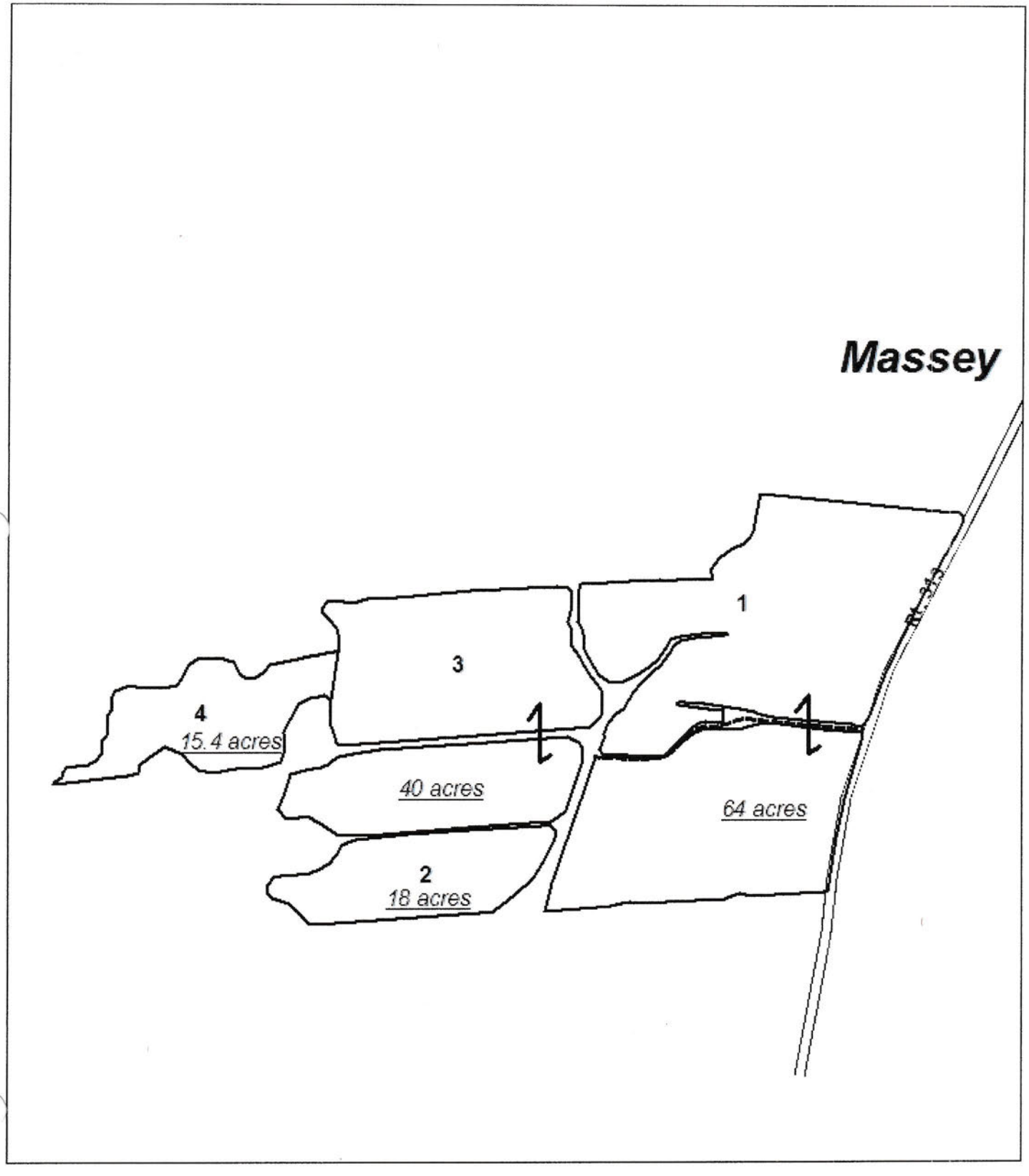
Crawford Farm

agricultural, environmental & technical consulting



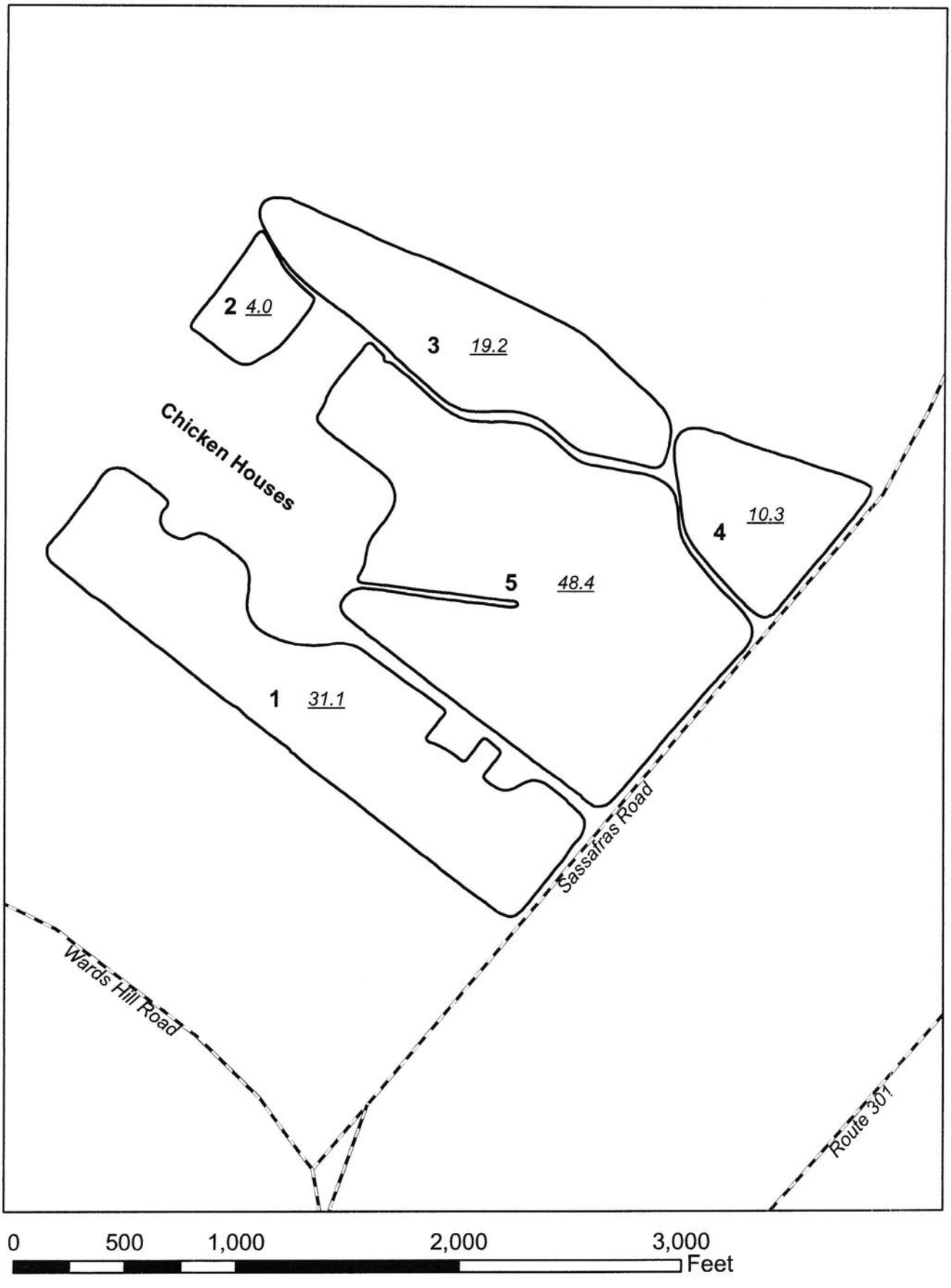
Rich Levels
Red Grave Farm

agricultural, environmental & technical consulting



Rich Levels
Byerly Farm

agricultural, environmental & technical consulting

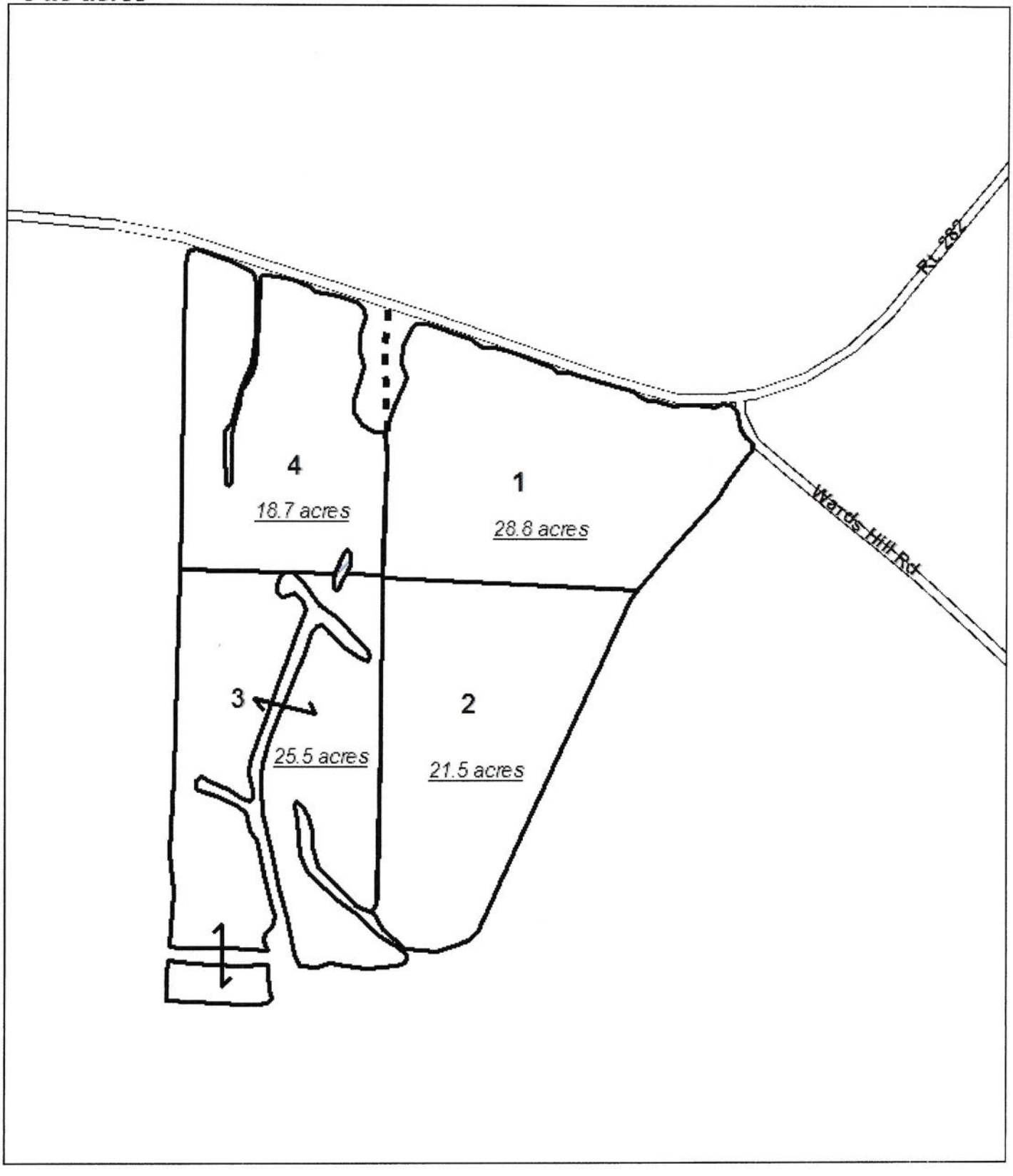


Rich Levels

Breggers - Cecil

~94.5 acres

agricultural, environmental & technical consulting

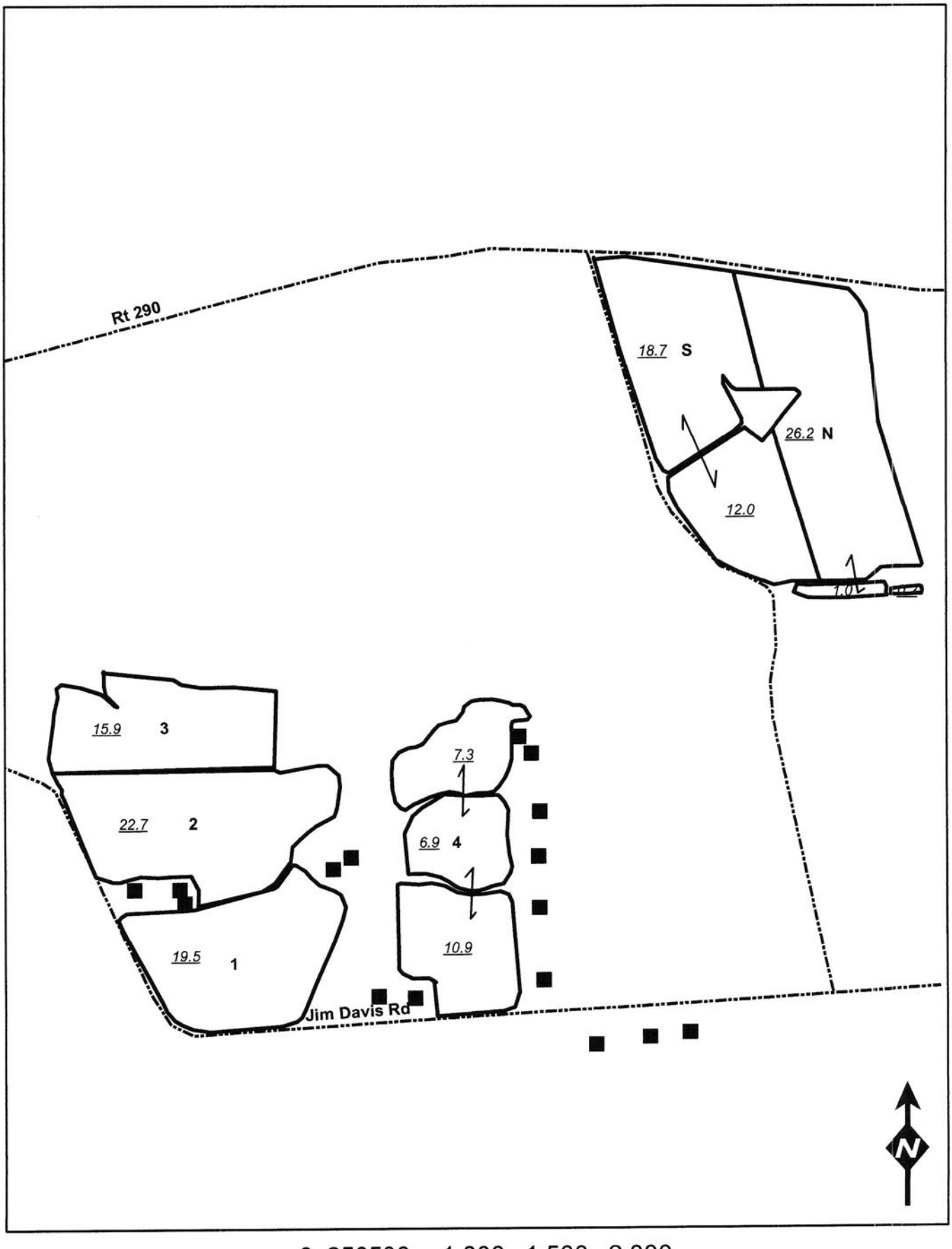


0 305 610 1,220 1,830 2,440 Feet

Rich Levels

Addie Walters and Redding Farm

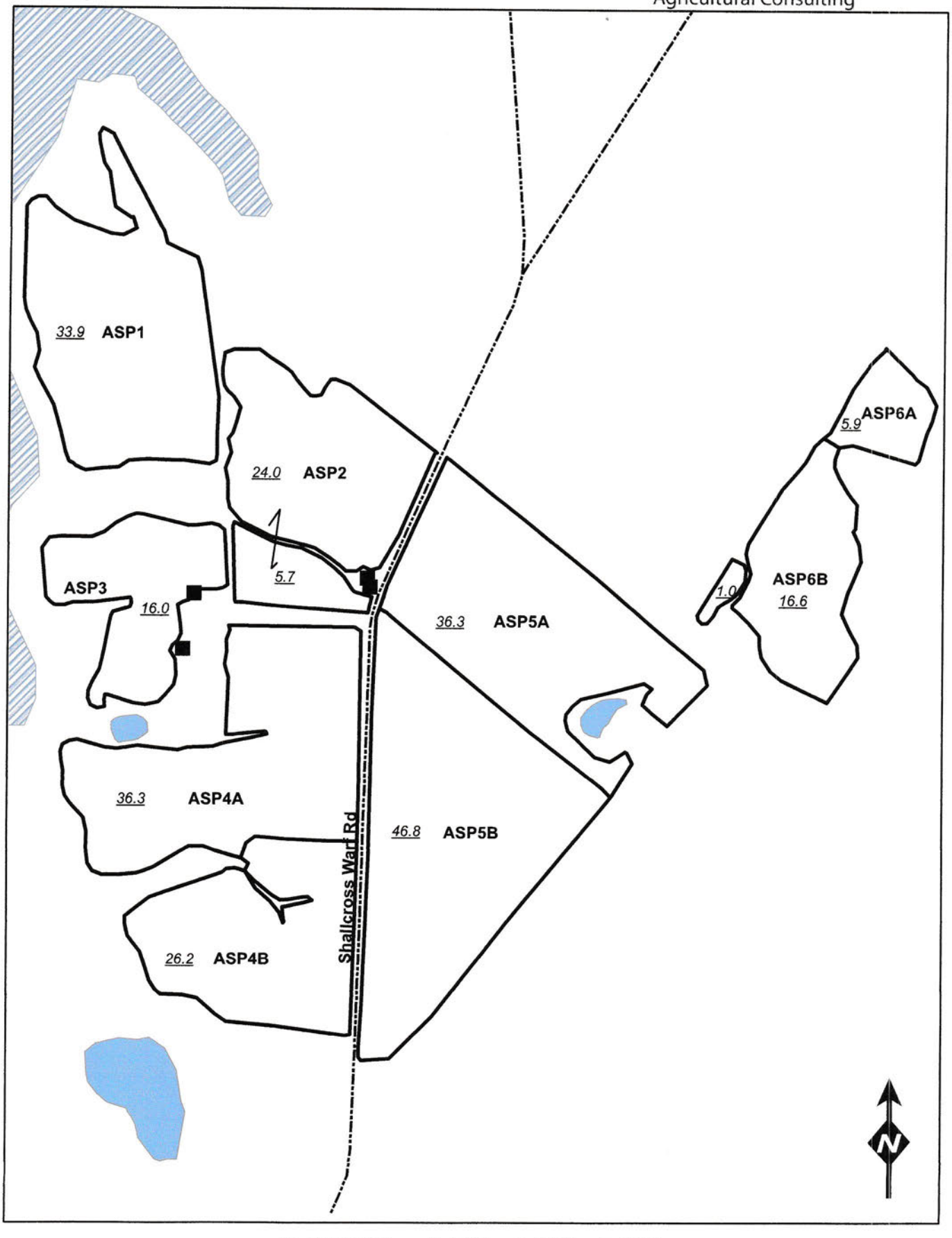
AET
Agricultural Consulting



0 250500 1,000 1,500 2,000
Feet

Rich Levels
Asplundh

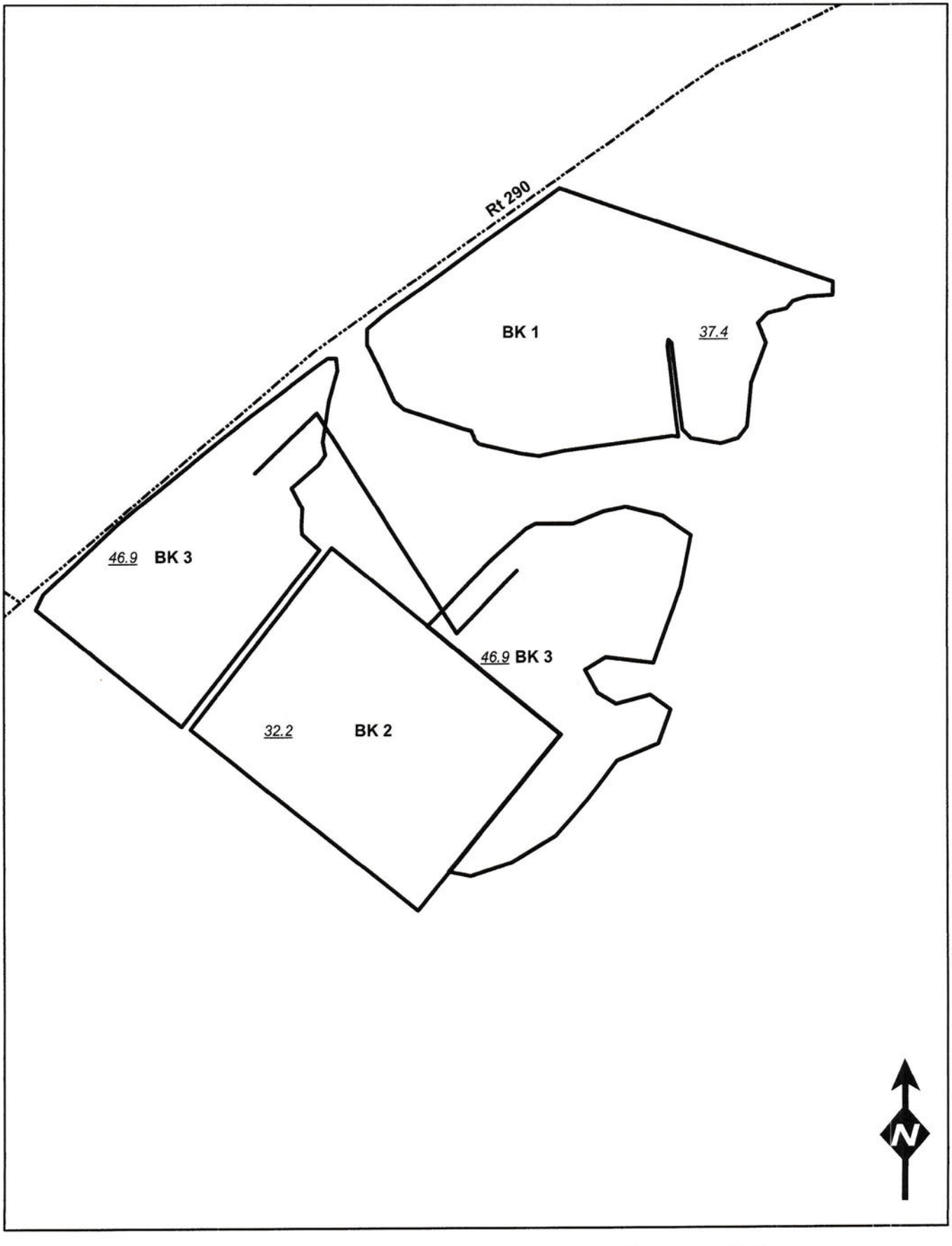
AET
Agricultural Consulting



0 250500 1,000 1,500 2,000 Feet

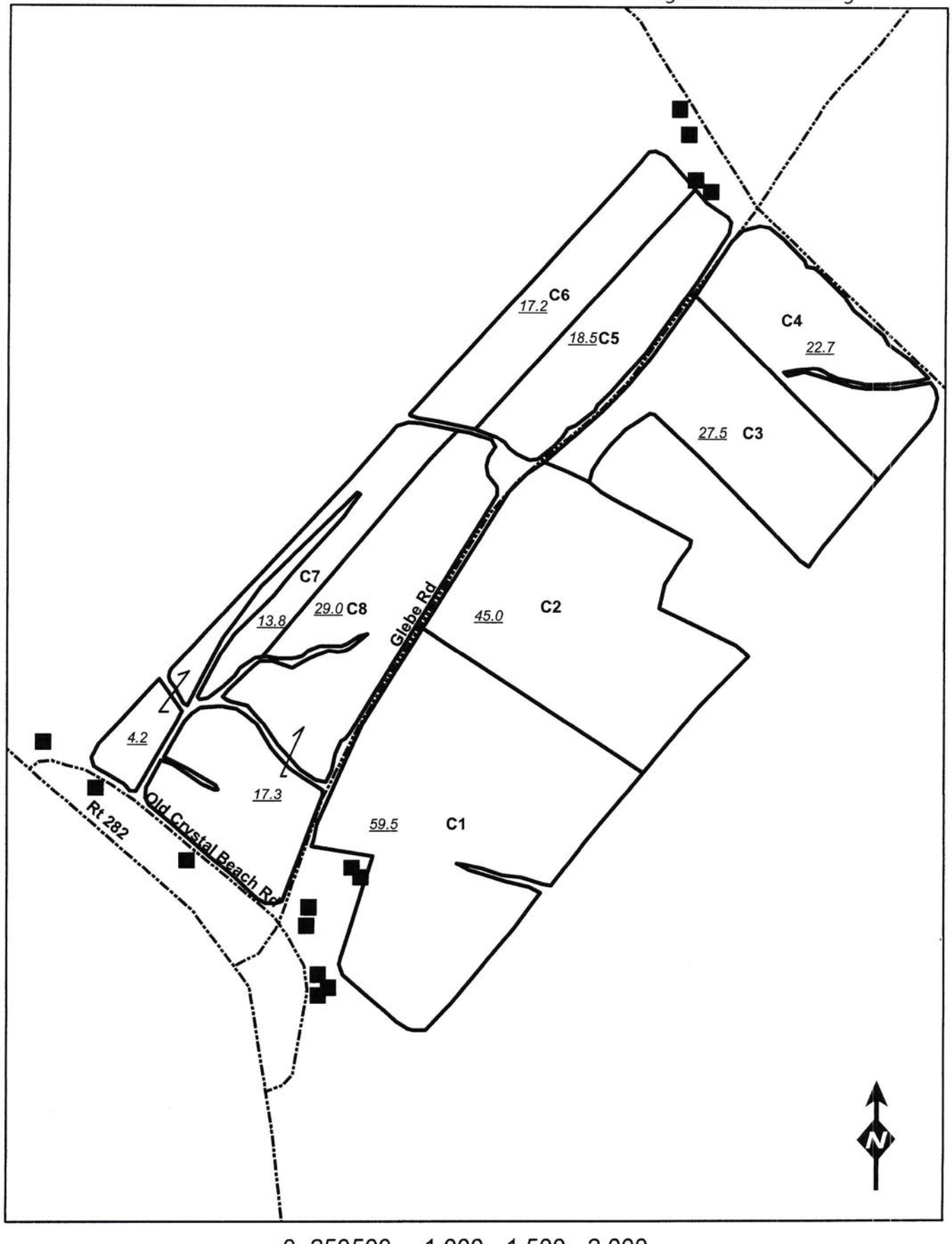
Rich Levels
Breggers- Kent

AET
Agricultural Consulting



Rich Levels
Church Farm

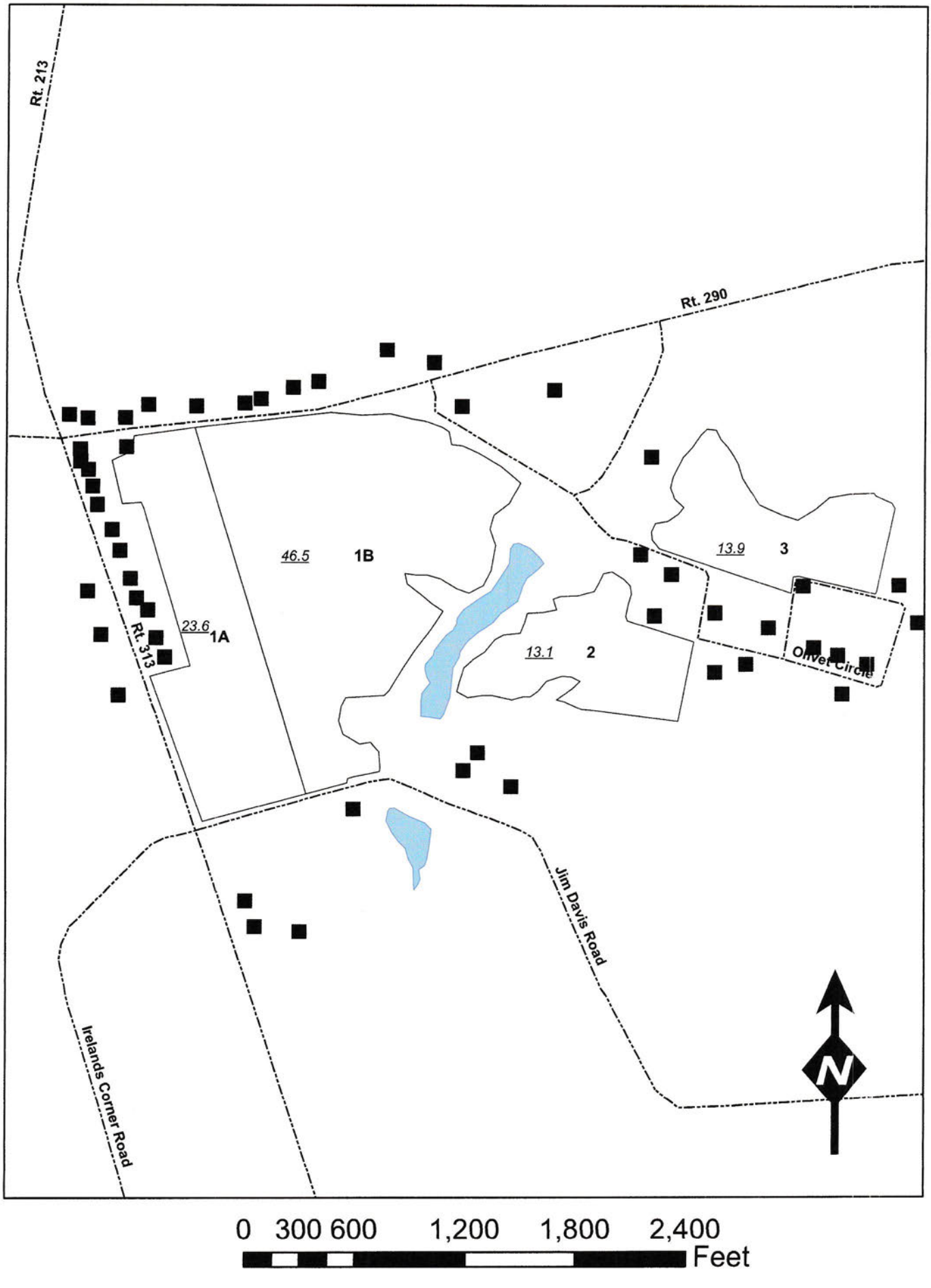
AET
Agricultural Consulting



0 250500 1,000 1,500 2,000
Feet

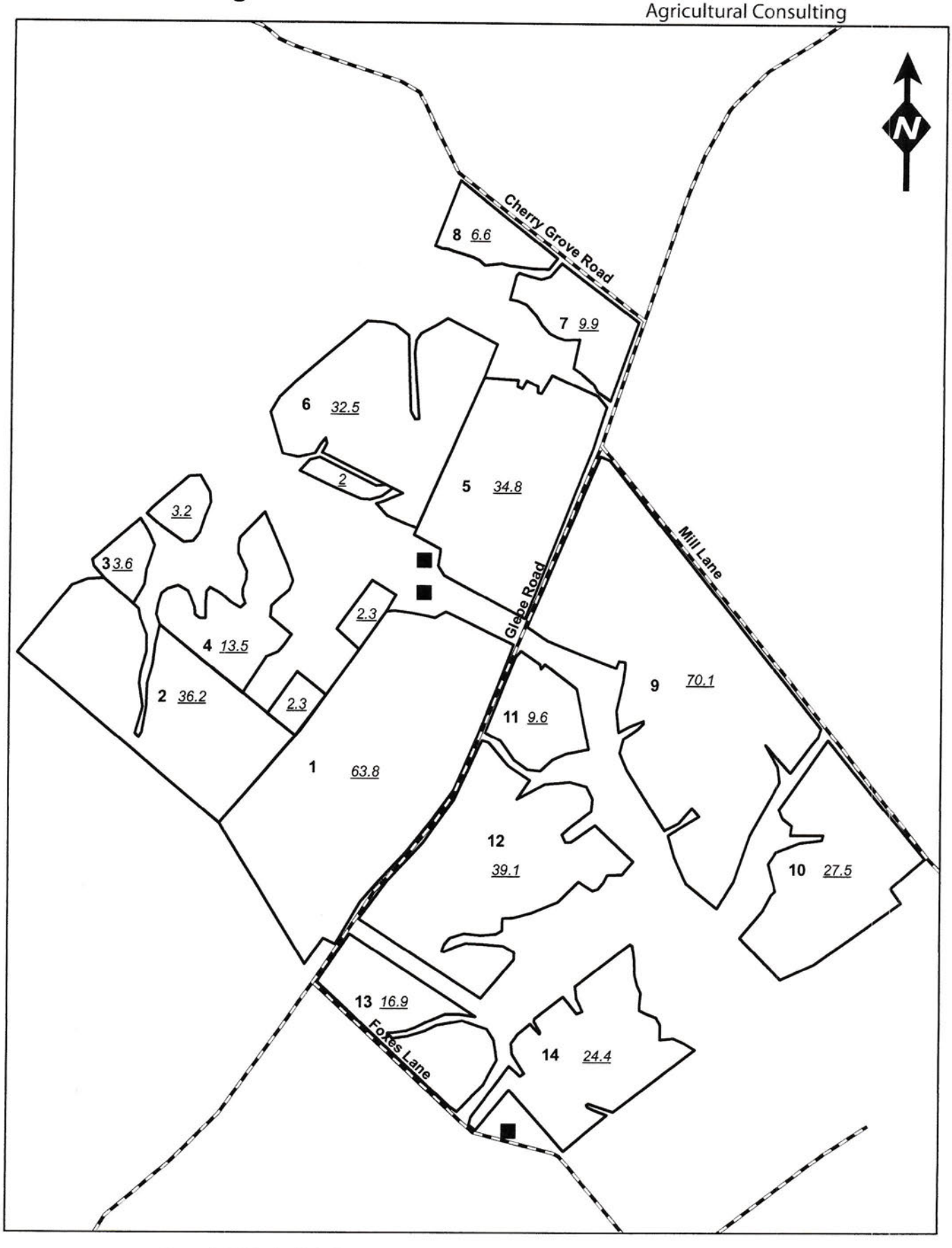
Rich Levels
Davis Farm

AET
Agricultural Consulting

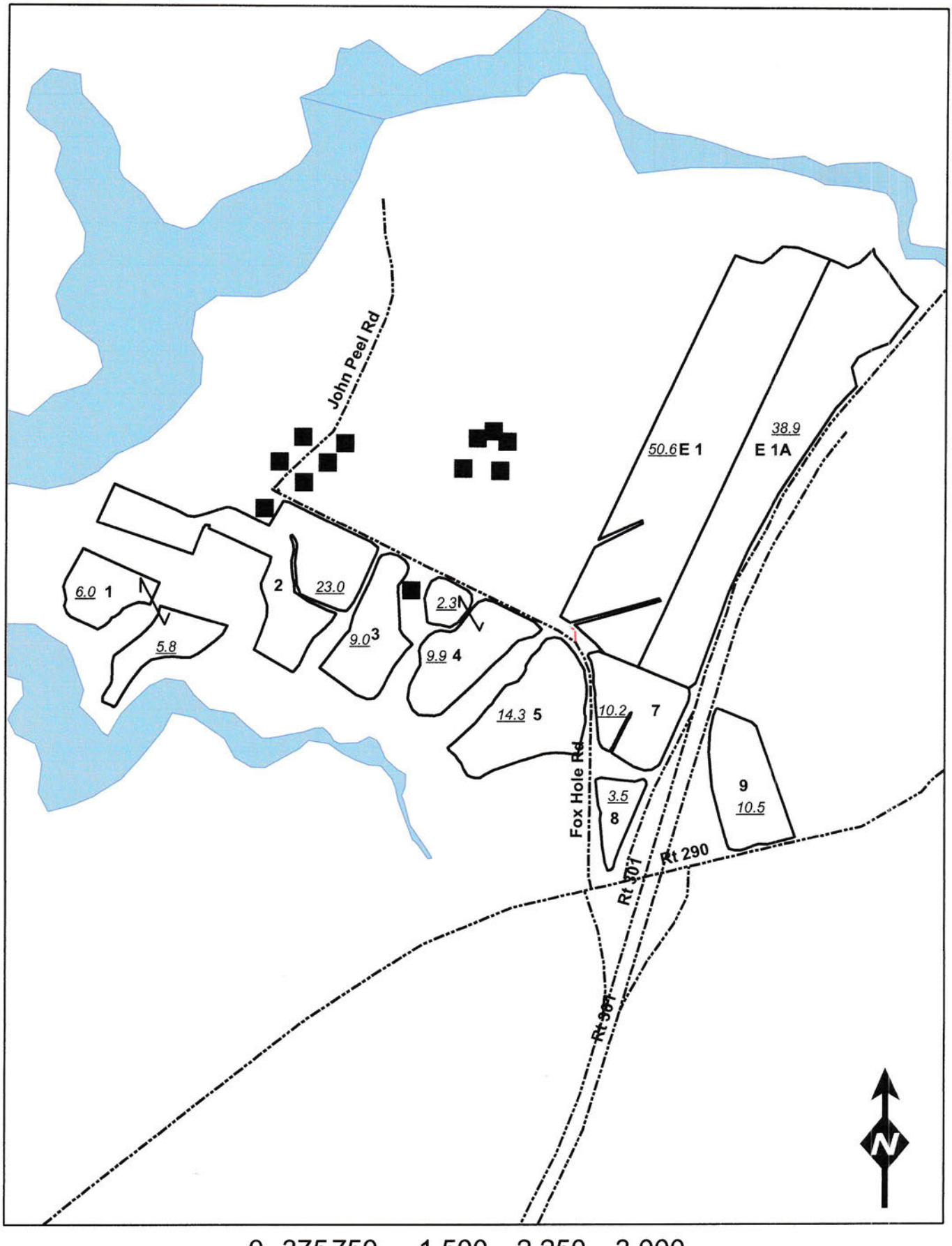


Rich Levels
Essex Lodge

AET
Agricultural Consulting

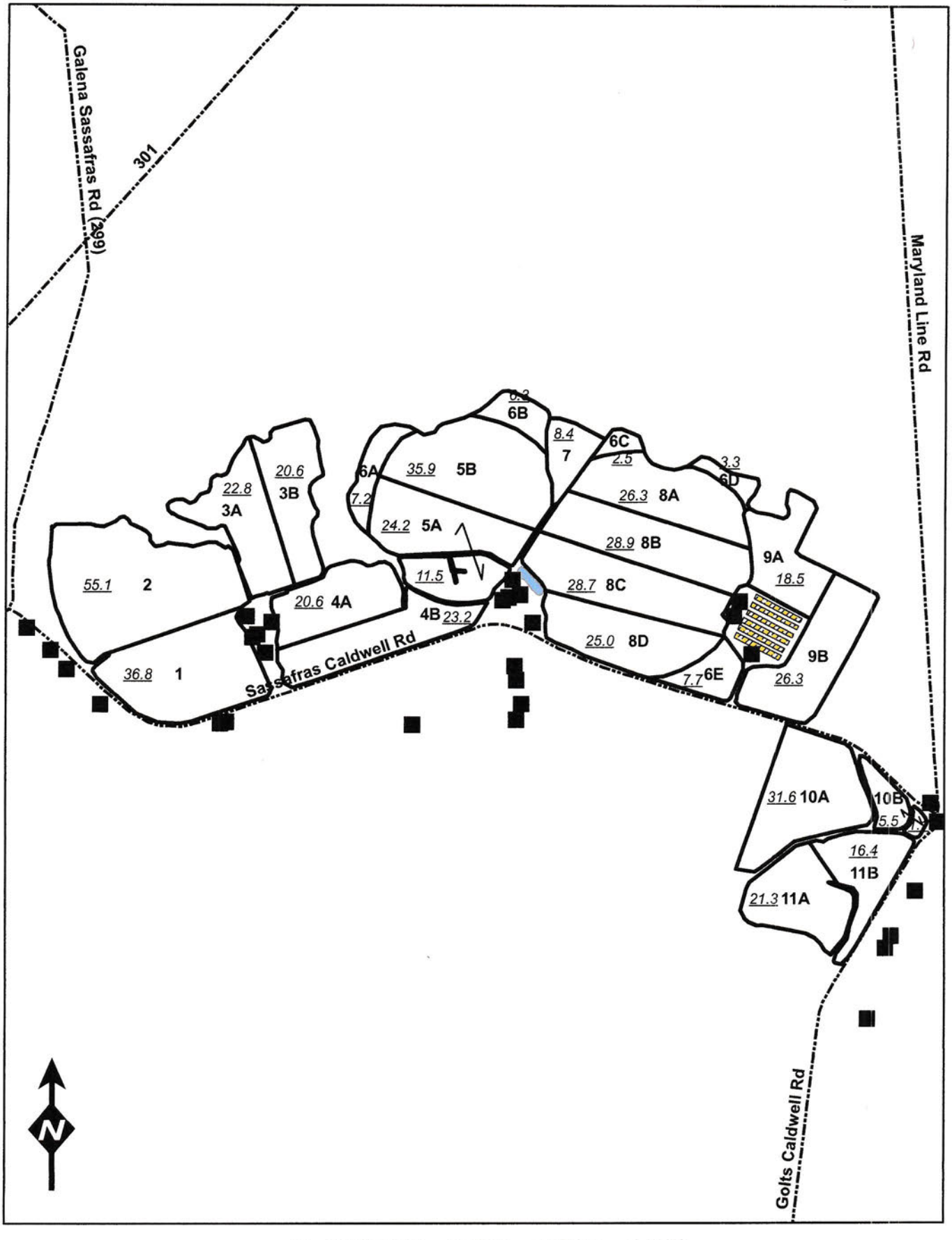


Rich Levels
Fox Hole and Fusco

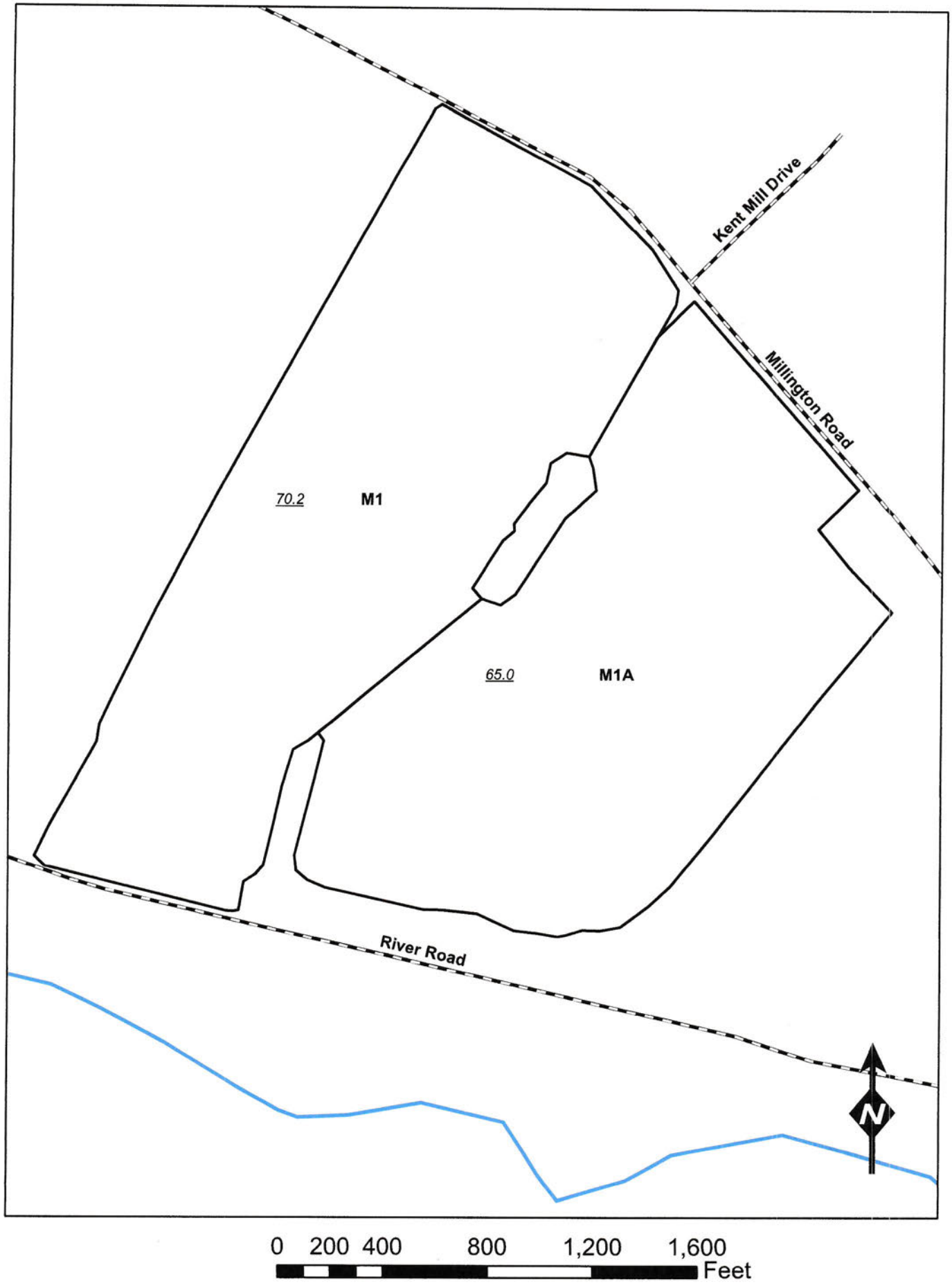


Rich Levels
Home Farm

AET
Agricultural Consulting

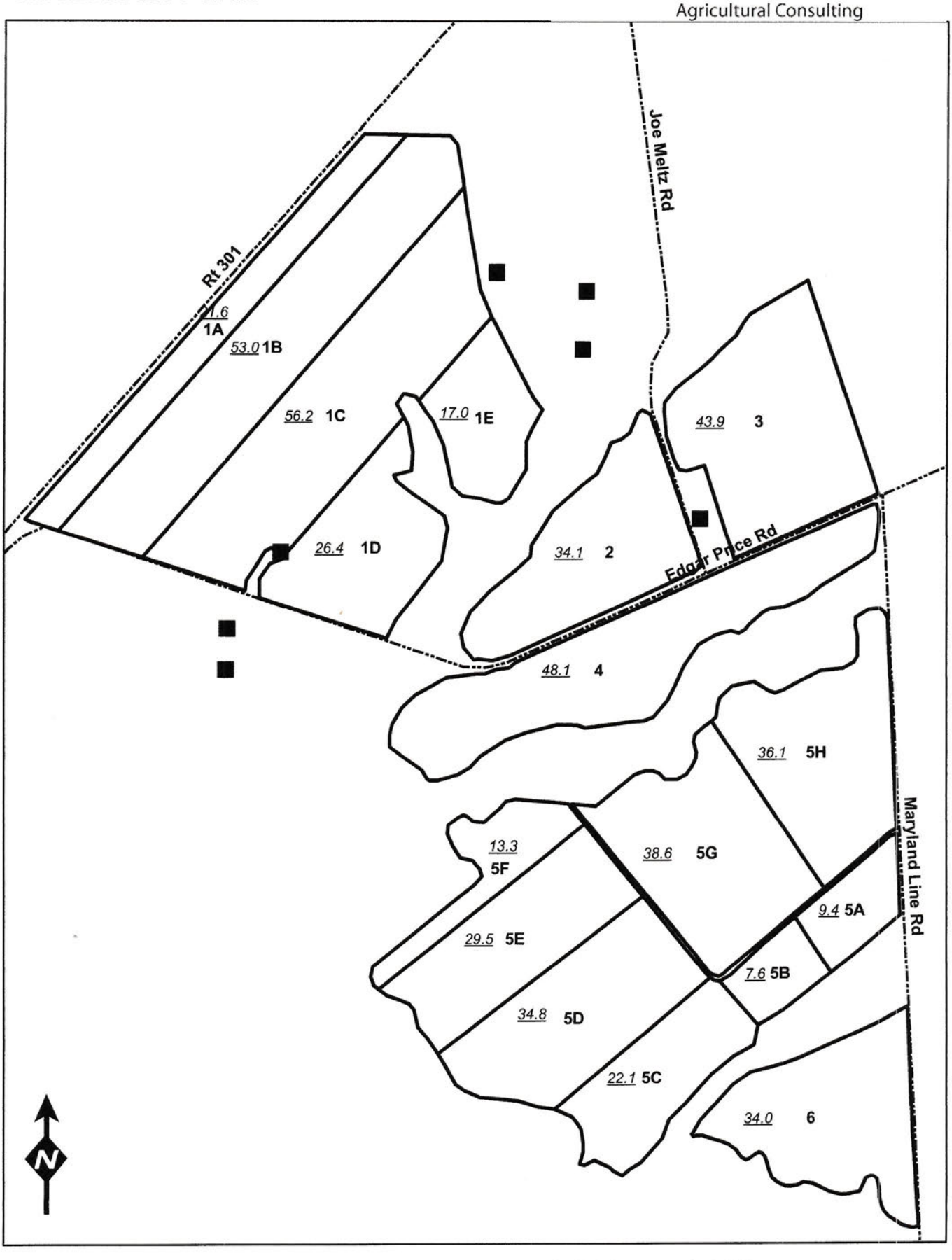


Rich Levels
Maloney

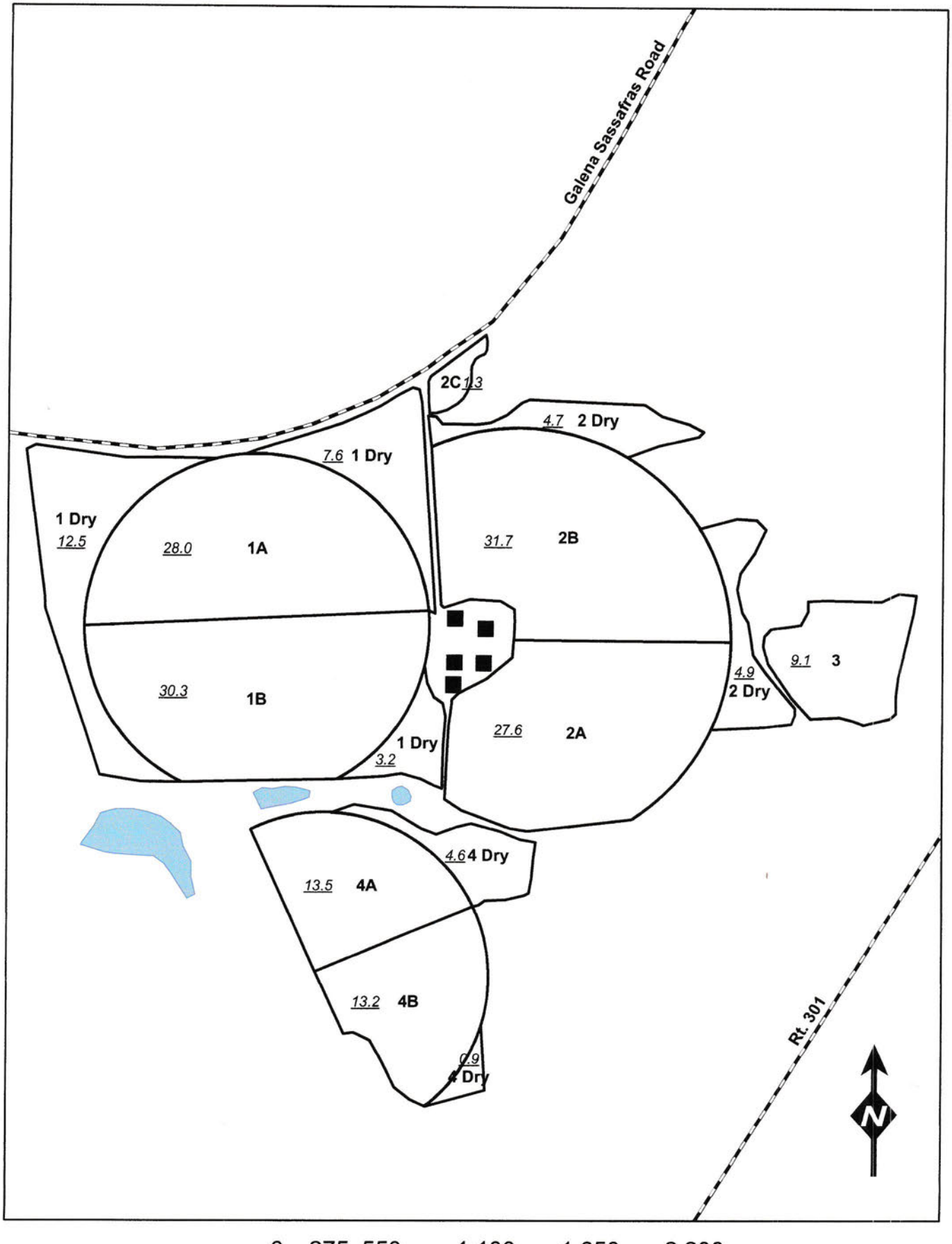


Rich Levels
Middlesex Farm

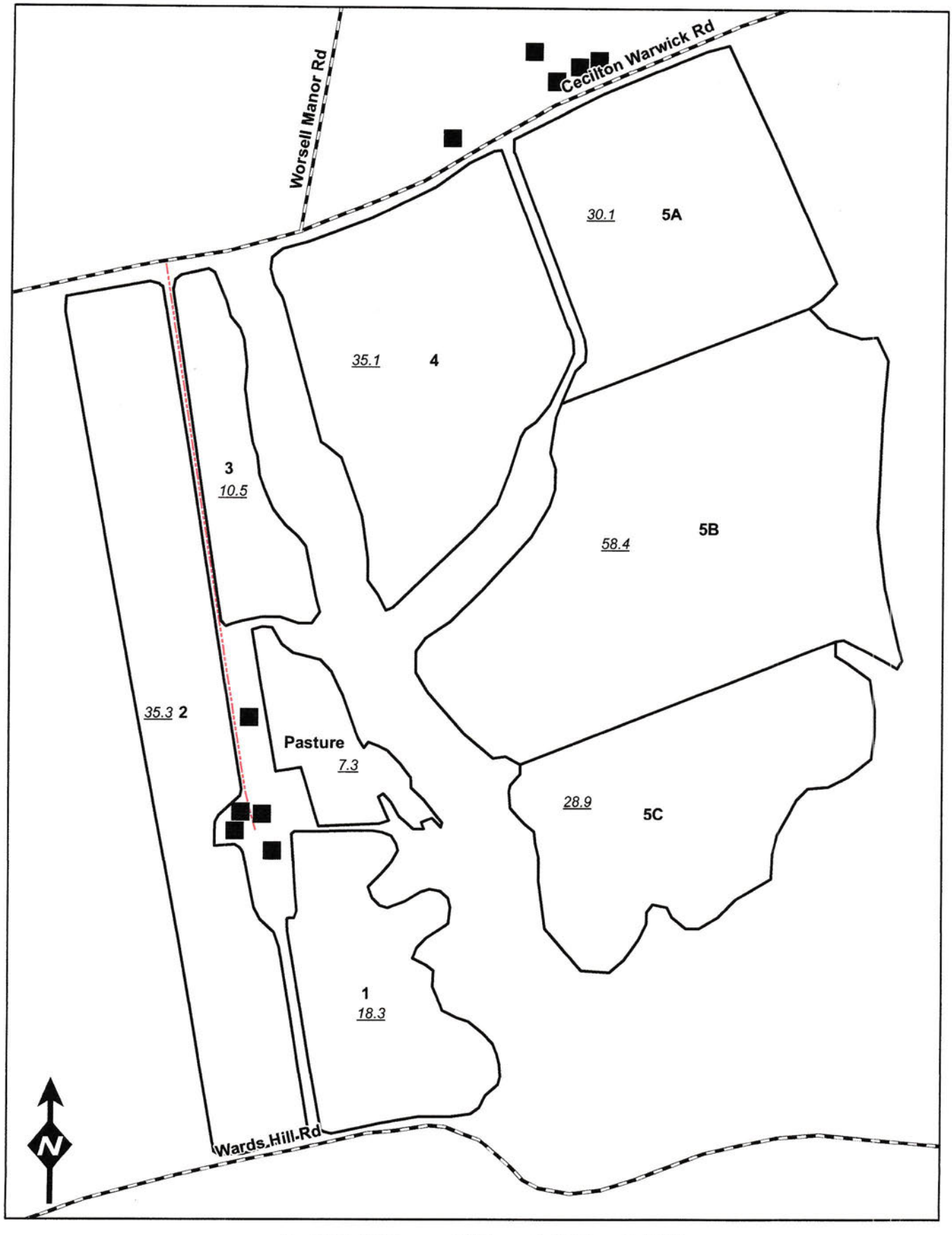
AET
Agricultural Consulting



Rich Levels
Mill Creek

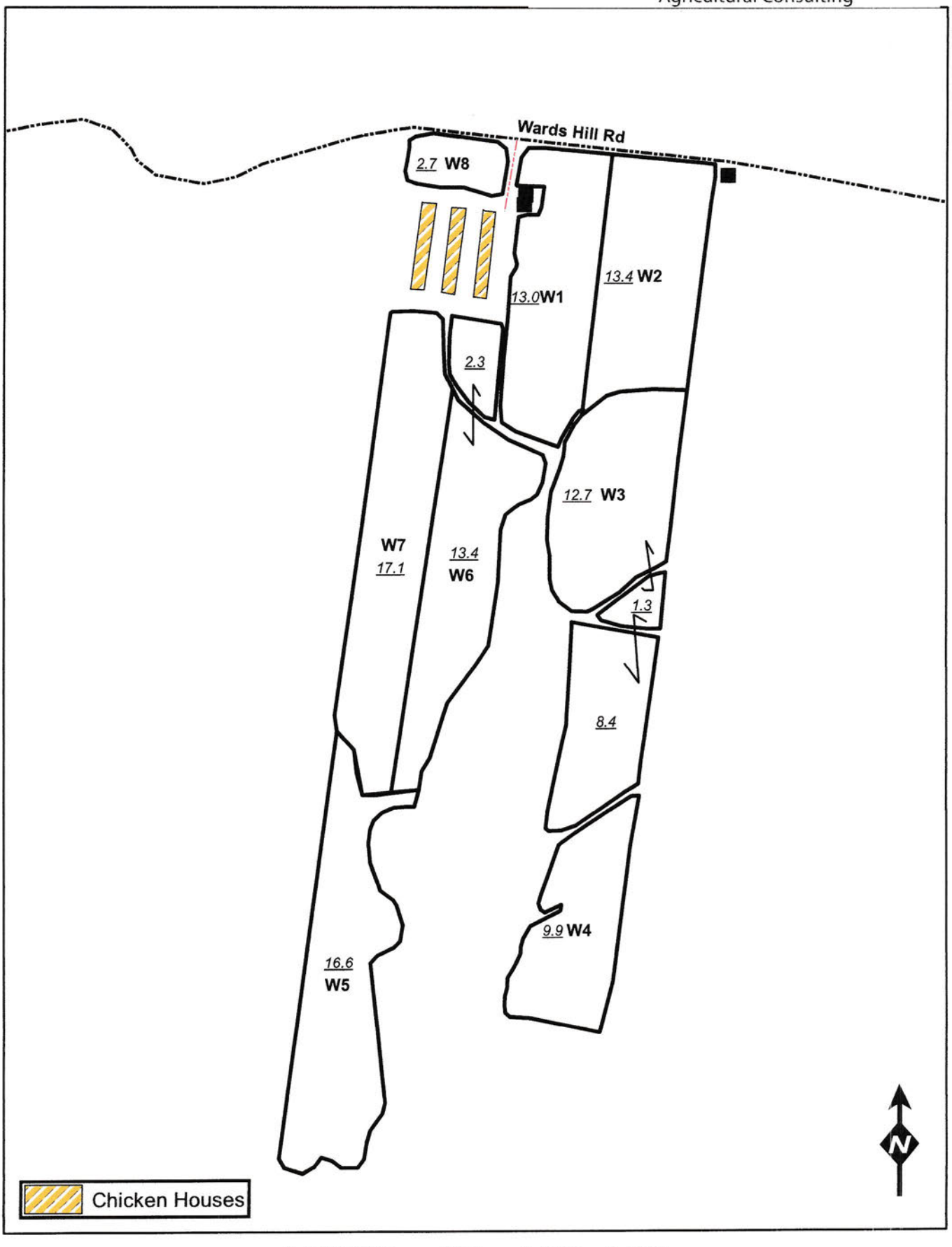


Rich Levels
Sigman Farm



Rich Levels
Ware Farm

AET
Agricultural Consulting



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

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

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

Action Plan

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

Spills from containment areas or structure failures:

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

Spills during pumping operations:

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

Spills during transportation on public roadways:

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

Spill area clean up:

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

In Case of an Emergency Land Application Manure/Waste Discharge

CNMP EMERGENCY RESPONSE (CONT.)

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

Provide the following information:

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

Threatening Natural Occurrences

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

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

Personal injury

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

Catastrophic deaths – Disease Related

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

Catastrophic deaths – Disaster Related

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

Manure Removal

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

Fire

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

In Case of an Emergency Land Application Manure/Waste Discharge

Assess the extent of the spill and note any obvious damages

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

Provide the following information when reporting an emergency

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

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

Documentation

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

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

In Case of an Emergency Land Application Manure/Waste Discharge

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

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

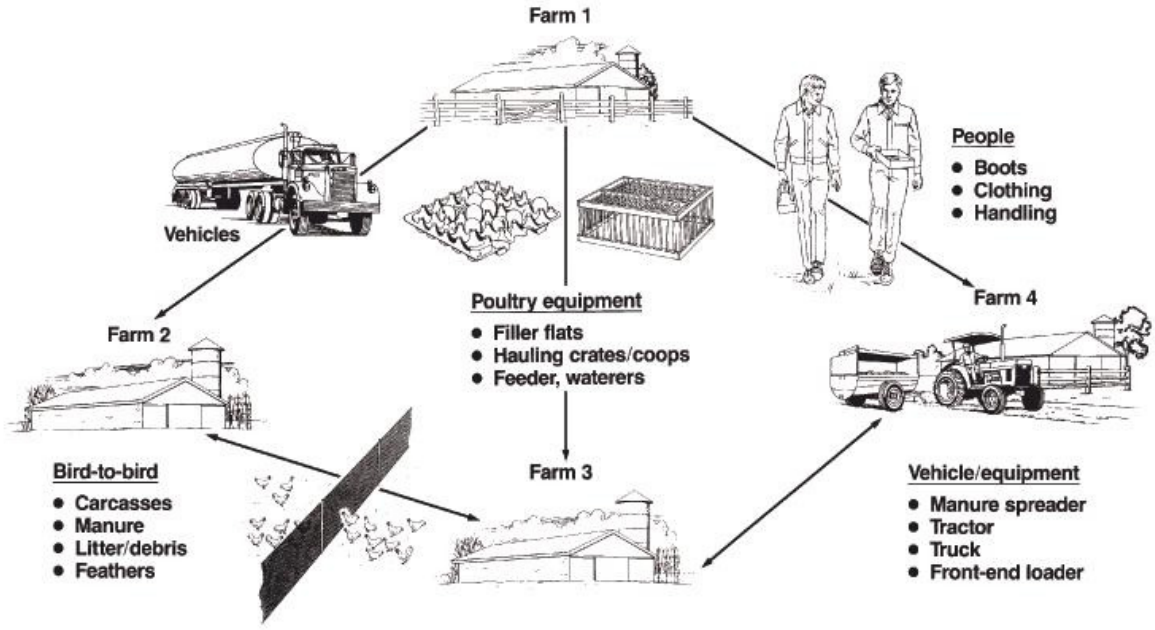
Follow the above guidelines for:

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

Biosecurity

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

How Diseases Spread (Example – Poultry Operation)



Steps to Take to Avoid Disease Spread

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

1. Permit only essential workers and vehicles on the premises.
2. Give Germs the Boot
    a. Keep a pair of shoes or boots to wear only around your animals.
    b. Clean and disinfect your shoes often.
    c. Always ask visitors and employees to clean their boots and shoes.

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

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

c. Have tracking records on animals.

5. Give Germs Space – Newly acquired animals should be isolated for at least two weeks to ensure you don't introduce disease to your main herd or flock. As an added protection, isolate and quarantine new animals for 30 days before putting them with your other animals. Keep show animals segregated for at least two weeks after they've been to a fair or exhibit.
6. Look for Signs
    a. Unusual animal health symptoms or behavior
    b. Sudden, unexplained death loss in the herd or flock
    c. Severe illness affecting a high percentage of animals
    d. Blisters around an animal's mouth, nose, teats or hooves
    e. Staggering, falling or central nervous system disorders that prevent animals from rising or walking normally.
    f. Large number of dead insects, rodents or wildlife

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

In Case of a Chemical Handling Emergency

Chemical Handling

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

USE PESTICIDES SAFELY

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

DISPOSAL OF PESTICIDE CONTAINERS

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

Containers of Liquid Formulations

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

Containers of Dry Formulations

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

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

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

EMERGENCY CONTACTS:

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

1. Maryland Poison Control Center 1-800-222-1222
2. Maryland Department of Agriculture (Pesticide Section), 410-841-2721
3. Delaware Department of Agriculture (Pesticide Section), 302-698-4570
4. CHEMTREC Emergency Hotline, 1-800-424-9300
5. Local Police/Fire 911
6. National Pesticide Information Center (NPIC), 1-800-858-7387, Monday - Friday, 6:30 a.m. to 4:30 p.m. Pacific Time

EMERGENCY SPILLS:

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

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

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

Animal Mortality Disposal

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

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

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

Mortality Management Methods

Mortality must be managed for at least three reasons:

1. Hygiene
2. Environmental protection
3. Aesthetics

Acceptable ways for managing mortality include:

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

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

Typical Mortality Management *(planned practice)*

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

Composting

Composting is the controlled aerobic biological decomposition of organic matter into a stable, humus-like product, called compost. Decomposition is enhanced and accelerated by mixing organic waste with other ingredients in a manner that optimizes microbial growth. Composting mortality can be likened to aboveground burial in a biomass filter where most of the pathogens are killed by high temperatures.

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

A balance source of energy (carbon) and nutrients (primarily nitrogen), typically with a carbon-to-nitrogen (C:N) ratio of 15:1 to 35:1.
Sufficient moisture, typically 40% to 60%.

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

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

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

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

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

Good carcass compost should heat up to the 140° range within a few days. Failure of the compost material to heat up properly normally results from two causes. First, the nitrogen source is inadequate (example wet or leached litter). A pound of commercial fertilizer spread over a carcass layer will usually solve this problem. Secondly, the compost fails when too much water has been added and the compost pile becomes anaerobic. An anaerobic compost bin is characterized by temperatures less than 120°, offensive odors, and black oozing compound flowing from the bottom of the compost bin. In this case a drier bulking / carbon amendment should be added to dry the mix. Then, the material should be remixed and composted.

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

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

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

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

Please Note: If the method of disposing of dead animals changes, the producer should notify the plan writer and the local USDA-NRCS offices.

Vector Control and Abatement

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

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

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

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

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

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

- Mow vegetation around facility.

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

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

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

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

Air Quality

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

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

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

A. Growing and Storage Facilities

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

Locate animal by-product management facilities and utilization areas as far as practical from neighboring residences, recreational areas, or other conflicting land uses. Avoid sites where radical shifts in air movement occur between day and night, such as those near large bodies of water or steep topography. A component's location in relation to surrounding topography may also strongly influence the transfer of odor because of daily changes in temperature and resulting airflow. To provide optimum conditions, prevailing winds should carry odors away from nearby residences.

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

B. Mitigation of Odor

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

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

C. To reduce Odor Problems during Spreading

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

D. Safety

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

E. Structure Maintenance*

1. Check backfill areas around structure (concrete, steel, timber, etc) often for excessive settlement. Determine if the settlement is caused by backfill consolidation, piping, or failure of the structure walls or floor. Necessary repairs must be made. Refer to safety items Part A above.
2. Check walls and floors often - minimum of 2 times a year when facility is empty - for cracks and/or separations. Make needed repairs immediately. Refer to safety items Part A above.

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

F. <u>Miscellaneous</u>

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

Other Utilization Activities

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

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

REQUIRED RECORD KEEPING

& Nutrient Management Requirements

(SEE THE TEMPLATES

WHICH FOLLOW)

Record Keeping

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

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

Records may be kept in a number of ways:

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

Land Application Record Keeping.

Record Keeping (Maintain for 5 years)

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

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

Operation and Maintenance

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

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

Summary:

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

Documentation of Records

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

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

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

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

Note: Y = Yes

Maryland Department of Agriculture Nutrient Management Requirements

Plan Implementation Records

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

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

Nutrient Management Plan Annual Implementation Report

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

Nutrient Applicator Voucher

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

Manure Analysis Sampling Procedures

Solid Manure (Dairy, Beef, Swine, Poultry)

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

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

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

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

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

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

Sample Identification and Delivery

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

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

Nutrient Application Equipment Calibration:

Commercial Fertilizer Application Equipment Calibration:

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

Manure Spreader Calibration

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

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

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

Load-Area Method

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

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

The application rate is calculated using the following formula:

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

Plastic Sheet Method

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

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

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

Irrigation System Calibration:

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

Gallons applied per inch of liquid manure applied.

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

Daily Water Line Inspection Log Sheet

Facility Name: _____ NPDES Permit No.:_____

Instructions:

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

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

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

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

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

April, 20____		
Day	Initials	√ if Leak Detected

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

29		
30		

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

25		
26		
27		
28		
29		
30		
31		

June, 20____		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		

20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

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

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

August, 20____		
Day	Initials	√ if Leak Detected
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

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

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

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

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

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

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

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

Manure, Litter, and Wastewater Storage Structures Documentation

Facility Name: _____ NPDES Permit No.: _____

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

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

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

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)

Nutrient Land Application Log Sheet

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

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

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

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

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

Weather and Soil Condition Documentation

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

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

Maryland
Department of
the Environment

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

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

Weekly Storage and Containment Structure Inspections Log Sheet

Facility Name: _____ NPDES Permit No.: _____

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

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

Storage or Containment Structure: _____

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

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

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

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

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

Weekly Wastewater Facilities Inspections Log Sheet

Facility Name: _____ NPDES Permit No.: _____

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

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

List the items that need to be inspected below:

_____ _____
_____ _____
_____ _____
_____ _____

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

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

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

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

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

Record Keeping - Monthly Animal & Mortality Count

Animal/Type: **Year:**

Production Phase:

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

APPENDIX

AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Name:	Rich Levels Poultry – Allen Davis	**Agency Interest #:**	131204
Planner:	David D. Kann	**Farm # / Tract #:**	
Site Visit Date:	11/14/2024	**Total Acres:**	78.2
County:	Kent	**Production Area Acres:**	10 acres

	RESOURCE CONCERN	YES	NO	ASSESSMENT
a.	Biosecurity measures	☐	☒	All precautionary measures are in place and being followed. Visitor restrictions.
b.	Chemical handling	☐	☒	All chemicals are stored in an appropriate designated storage area or in this case applied by outside professionals.
c.	Cultural resources	☐	☒	The production area is established and there are no proposed ground disturbance activities scheduled for the area.
d.	Feedlot area	☐	☒	N/A
e.	Floodplains	☐	☒	This is an existing operation and the production area is not located in the FEMA-100 year floodplain as per online mapping resources.
f.	Gully erosion	☐	☒	No gully erosion was identified in the production area or associated water conveyances.
g.	Livestock travel lanes	☐	☒	N/A
h.	Nutrient discharge	☐	☒	There are no observable nutrient discharges occurring, at the time of the site evaluation, from the production areas.
i.	Objectionable odors	☐	☒	No unusual or excessive odors were observed during the site visit.
j.	Particulate matter emissions	☐	☒	Through ventilation fans, typical levels. Grass filters in place to harbor and treat emissions.
k.	Ponding, flooding, seasonal high water table	☐	☒	No issues were identified during the site visit.
l.	Sediment	☐	☒	No obvious and observable sediment discharges are occurring from the production areas.
m.	Streambank/shoreline erosion	☐	☒	None present.
n.	Threatened/endangered species	☐	☒	No geospatial indicators have been identified on the production area.
o.	Waste storage	☐	☒	There is no resource concerns identified with the waste storage. Roofed manure sheds (2) (80’ x 40’ & 120’ x 40’) being managed appropriately.
p.	Waterways	☐	☒	In good vigorous sod. All water conveyances are being managed appropriately.
q.	Wetlands	☐	☒	Production area and manageable prior converted cropland are either 100 feet from wetlands or skirted with vegetation and the required setbacks are in place to protect these resources.

Online References

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

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

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

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

Crop Fertilizer Recommendations

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

Nutrient Management Information Sheets

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

Manure Nutrient Availability

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

Calibrating Manure Spreaders

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

Phosphorus Assessment

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

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

Mid-Atlantic Nutrient Management Handbook

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

Maryland Pesticide Regulation

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

Maryland Practice Standards eFOTG Section IV — Practice Standards and Specifications

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