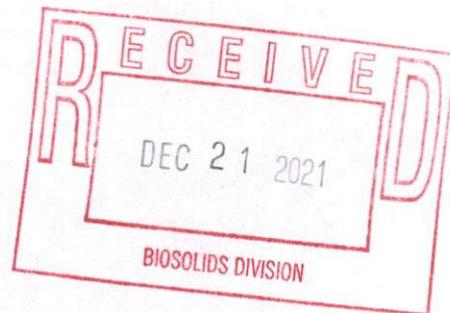


Land Application of Biosolids

*Edward Koubek Property
CR 149
Caroline County, MD
December 16, 2021*



435 Williams Court, Suite 100
Baltimore, MD 21220
www.synagro.com



DECEMBER 16, 2021

Mr. John Sullivan, Manager
Biosolids Division
Maryland Department of the Environment
1800 Washington Blvd., Suite 610
Baltimore, Maryland 21230

RE: New Permit Request
CR 149: Edward Koubek Property

Dear Mr. Sullivan,

Synagro is interested in obtaining sewage sludge utilization permit for the Edward Koubek Property, CR 149, located in Caroline County, Maryland. In order to process this request, six copies of the site-specific information have been included for your consideration. Please note that Elizabeth Koubek is listed as a property owner on the tax map backup document. Edward Koubek is in the process of obtaining sole ownership of the above referenced property. It is anticipated that Mr. Koubek will be the sole landowner by the time of SSU Permit issuance.

I am requesting rates for corn, and soybean based on the enclosed nutrient management recommendations. Methods of application may include surface application, surface application with direct incorporation and/or injection. Please allow for application during adverse weather conditions.

Should you have any questions regarding this application, please contact me at 410-215-4159.

Sincerely,

A handwritten signature in dark ink, appearing to read "D. Rohe".

Daniel Rohe

Technical Services Specialist



MARYLAND DEPARTMENT OF THE ENVIRONMENT
Land and Materials Administration • Resource Management Program
1800 Washington Boulevard • Suite 610 • Baltimore, Maryland 21230-1419
410-537-3314 • 800-633-6101 x3314 • <http://www.mde.maryland.gov>

Received

DEC 21 2021

Biosolids Division

Sewage Sludge Utilization Permit Application

Authority: Title 9, Environment Article, Annotated Code of Maryland, and Code of Maryland Regulations (COMAR) 26.04.06

For questions regarding this application form, please contact the Department at 410-537-3314

Application for: New Permit Renewal Permit Modification/Material Alteration or Extension

Existing Permit No.: _____ Issued Date: ___/___/___ Expiration Date: ___/___/___

Applicant's Legal Name: Synagro Central LLC

Applicant's Status: Individual Corporation Government Other: _____

Corporation or Government Federal Tax Identification No.: 76-0612568

Maryland State Department of Assessments and Taxation (SDAT) ID No.: Z11164118

Please note that a business/entity must be registered to do business in Maryland before a permit can be issued. The business or entity's information provided in this application must match the information in the SDAT register.

Proof of workers' compensation coverage is required under § 1-202 of the Environment Article. Please provide one of the following: (1) A copy of a Certificate of Compliance issued by the Maryland Workers' Compensation Commission; or (2) Workers' Compensation Insurance Policy/Binder Number: WC9-243-961-01

Applicant's Mailing Address: 435 Williams Court, Suite 100 City: Baltimore State: MD Zip Code: 21220

Applicant's Telephone No.: (443) 489 - 9000 Facsimile No.: (443) 489 - 9044

Emergency Contact Name & Title: Peter Price, Technical Services Manager Telephone No.: (610) 368 - 5497

Facility/Site Name: CR 149 Edward Kurbek Property
(Where Sewage Sludge Will Be Utilized)

Facility/Site Address: Harper Rd City: Federalsburg State: MD Zip Code: 21632

County: Caroline Maryland Grid Coordinates: _____

County Zoning Map No.: 62 Lot/Parcel No.: 10 Deed/Liber/Folio No.: 00914/00462

Latitude/Longitude (Deg/Min/Sec): 38 - 41 - 28, 75 - 43 - 22 Site Acreage: 60.0

Wastewater Treatment Plant (WWTP) Information (Source of Sewage Sludge)
(If additional space is required, please use a separate sheet)

Name Of WWTP: Annapolis(2); Back River(1); Ballenger Creek(2); Bowie(2); Broadneck(2); Broadwater(2); Cox Creek(2); Damascus(2); Dorsey Run(2); Frederick City(1); Freedom District(2); Havre de Grace(1); Kent Island(1); Little Patuxent(1); Little Patuxent(2); Leonardtown(1); Marley Taylor(1); Maryland City(2); Maryland Correctional Institute(2); Mattawoman(2); Mt. Airy(2); Mt. St. Marys(2); Ocean City(2); Parkway(2); Patuxent(2); Piscataway(2); Rock Hall(1); Seneca(2); Sod Run Cake & Liquid(1); Taneytown(1); Thurmont(1); Valley Forge(2); Wicomico Shores(1)

(1) Digested (2) Lime Stabilized (3) Pellet

Total % Solids of Sewage Sludge: 1-50 %

Sewage Sludge Type:

Anaerobic Digestion Aerobic Digestion Lime Stabilized Unstabilized Other: _____

Description of Project or Reason for Permit Modification/Alteration or Material Extension:

Land application of biosolids at agricultural rates

Performance Bond or Other Financial Security:

Except for a municipal landfill operating under a separate financial security or a government agency, an applicant for a Sewage Sludge Utilization Permit is required to file with the Department a bond on a form prescribed by the Department or other financial security as approved by the Department. The bond or other financial security shall be payable to the Department and the obligation of the bond or other financial security shall be conditioned upon the fulfillment of any requirement related to the Sewage Sludge Utilization Permit.

Required Number of Permit Application Packages:

Please submit six (6) copies of the complete permit application package for an application for a new permit or a major modification to an existing permit. For the renewal of an existing permit or a minor permit modification, please submit four (4) copies of the complete permit application package. Please be advised that the Department defines a complete application package as being this application form, payment in full of all required fees, and the submittal of the required number of copies of the information specified in COMAR 26.04.06 for the type of permit applied for.

SEWAGE SLUDGE UTILIZATION PERMITS & FEES

(Please submit a separate application for each type of permit applied for)

- Application to agricultural land \$175.00
- Application to marginal land \$350.00
- Transportation (out-of-State, to another WWTP, or to a municipal landfill) \$45.00
- Disposal at a municipal landfill \$350.00
- Energy Generation or Incineration* \$750.00
- Research project \$25.00
- Innovative project \$750.00
- Treatment Facility** \$350.00
- Composting Facility** \$350.00
- Marketing (distribution in Maryland of out-of-State Class A sewage sludge) \$750.00
- Storage (to construct and operate a structure for permanent storage)*** \$350.00
- Distribution Facility*** \$750.00

Notes: * May require an Air Quality Permit.
 ** Subject to the requirements of §10-202 of the Environment Article.
 *** Subject to the requirements of §1-601 and §10-202 of the Environment Article.

- Minor Permit Modification: \$40.00
- Major Permit Modification \$130.00
- Material Alteration or Extension \$130.00
- Variance \$500.00

✦ IMPORTANT ✦ IMPORTANT ✦ IMPORTANT ✦

Please submit a COPY of this form and a check for the total amount due made payable to the "CLEAN WATER FUND" to:

Maryland Department of the Environment
 P.O. Box 1417
 Baltimore, Maryland 21230-1417



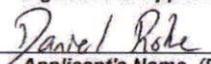
Please submit the ORIGINAL application to:

Maryland Department of the Environment
 1800 Washington Boulevard, Suite 610
 Baltimore, Maryland 21230-1719

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. Except for a separate authorization by the property owner for a land application site, I hereby authorize the representatives of the Department to have access to the site of the proposed activity for inspection and to records relating to this application at any reasonable time. I acknowledge that depending on the type of activity applied for, other permits or approvals may be required.



 Signature of Applicant



 Applicant's Name (Print)

Received
 DEC 21 2021
 Biosolids Division

12/16/21

 Date

TSS

 Title

Privacy Act Notice: This Notice is provided pursuant to the Federal Privacy Act of 1974, 5 U.S.C. §552.a. Disclosure of your Social Security Number or Federal Employer Identification Number on this application is mandatory pursuant to the provisions of §1-203 (2003), Environment Article, Annotated Code of Maryland, which requires the Department to verify that an applicant for a permit has paid all undisputed taxes and unemployment insurance. The Department is also mandated by §10-119.3, Family Law Article, Annotated Code of Maryland, to require each applicant for a license to disclose the Social Security Number of the applicant and record the applicant's Social Security Number on the application. Pursuant to §10-119.3(a)(2), the definition of "license" means any license, certificate, registration, permit, or other authorization that: (i) is issued by a licensing authority; (ii) is subject to suspension, revocation, forfeiture, or termination by a licensing authority; and (iii) is necessary for an individual to practice or engage in a particular business, occupation, or profession. Social Security or Federal Employer Identification Numbers will not be used for any purposes other than those described in this Notice.

This Notice is provided pursuant to § 10-624 of the State Government Article of the Maryland Code. The personal information requested on this form is intended to be used in processing your application. Failure to provide the information requested may result in your application not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment ("MDE") is a public agency and subject to the Maryland Public Information Act (Md. Code Ann., State Gov't §§ 10-601, 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 protected by federal or State law.

Land Management Administration • Waste Diversion and Utilization Program

Owner's Consent Form
Sewage Sludge Land Application

Property Name: CR 149 Edward Koubek Property
Property Address: Harper Rd.
Federalsburg, MD 21632
Owner's Name(s): Edward Koubek
Owner's Address: 1915 Baltimore Annapolis Blvd.
Annapolis, MD 21409
Permittee: Synagro Central, LLC

I (we) owner(s) of this property do hereby authorize the land application of sewage sludge from Annapolis (2); Back River (1); Ballenger Creek (2); Bowie (2); Broadneck (2); Broadwater (2); Cox Creek (2); Damascus (2); Dorsey Run (2); Frederick City (1); Freedom District (2); Havre de Grace (1); Kent Island (1); Leonardtown (1); Little Patuxent (1); Little Patuxent (2); Marlay-Taylor (1); Maryland City (2); Maryland Correctional Institute (2); Mattawoman (2); Mt. Airy (2); Mt. St Mary's (2); Ocean City (2); Parkway (2); Patuxent (2); Piscataway (2); Rock Hall (1); Seneca (2); Sod Run Cake & Liquid (1); Taneytown (1); Thurmont (1); Valley Forge (2); Wicomico Shores (1)

(1 = DIGEST; 2 = LIMESTABILIZED; 3 = PELLETS)

Wastewater Treatment Plant(s) on this property and agree to comply with the following conditions:

1. The soil pH on all soils upon which sewage sludge is applied will be adjusted to a minimum of 6.0 at the time of sewage sludge land application and will be maintained at a minimum of 6.0 for the life of the Sewage Sludge Utilization (SSU) Permit.
2. Animals will not be allowed to graze on fields where sewage sludge has been land applied for at least 30 days after the land application of sewage sludge.
3. Public access to any site where sewage sludge has been land applied will be controlled for a minimum of 12 months following the land application of sewage sludge.
4. Crops which may be eaten raw by humans will not be grown for a period of 3 years following the land application of sewage sludge.
5. Sewage sludge should not be applied to land where tobacco will be grown. This is because tobacco is a leafy crop, which is grown under acidic soil conditions. Under these conditions heavy metals (cadmium in particular) migrate more readily from the root zone in the soil to the tobacco leaf. Since smokers already intake cadmium from tobacco smoke, the use of sewage sludge containing heavy metals to grow tobacco may increase

the levels of cadmium which may accumulate in the body to levels which are harmful to human health.

6. Personnel from the Maryland Department of the Environment and other governmental agencies shall be allowed access to any property where sewage sludge is to be land applied for preliminary inspections and throughout the life of the SSU Permit, and to take photos or collect samples.
7. In the event that any interest in property upon which sewage sludge has been land applied is transferred within 38 months of the last date of sewage sludge land application, the transferee shall be provided with a copy of this consent prior to transfer of any interest in the property.

I am aware that there is a possibility of **herbicide carryover** with certain classes of herbicides on soils with a pH exceeding 6.8 to 7.0. Herbicide carryover can occur on any soil type in Maryland, and involves delayed or prolonged effects of herbicides after initial application, including possible damage to the next crop planted in the rotation. In the event that the use of limed sewage sludge were to raise the pH of my soil above the recommended range, the Maryland Department of the Environment recommends that I check with the applicator, local Extension Office, or fertilizer dealer for a list of herbicides which may be safely used on these amended soils.

I (we) furthermore agree to abide by the provisions of the SSU Permit issued for this property.

* <u>EDWARD KOUBEK</u>	* <u>4/28/21</u>
Name (PRINT)	Date
* <u>Edward Koubek</u>	* <u>4/28/21</u>
Signature	Date
_____	_____
Name (PRINT)	Date
_____	_____
Signature	Date

SYNAGRO

LANDOWNER VERIFICATION STATEMENT

I, Edward Koubek, hereby certify that I am the legal and
rightful owner of the property listed as follows:

County Tax Map: Caroline

Parcel Number: 10

Map Number: 62

Liber/Folio: 00914/00462

This property was (circle one) purchased / inherited / _____ on

_____.

* 11/28/21
Date

* Edward Koubek
Landowner

Date

Landowner

12/16/21
Date

[Signature]
Synagro Representative

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Suite 610 • Baltimore, Maryland 21230-1719
410-537-3314 • 800-633-6101 x3314 • <http://www.mde.maryland.gov>

Land and Materials Administration • Resource Management Program

State Sewage Sludge Task Force (State Biosolids Advisory Committee)

Members

Maryland Department of the Environment
University of Maryland Cooperative Extension Service
Maryland Department of Agriculture
U.S. Department of Agriculture
Natural Resources Conservation Service
Public/Private Generators
Public/Private Applicators

Non-Members

Maryland Farm Bureau
Local Governments

Coastal Plain Soil pH Management Advisory

The following is an advisory of the State Biosolids Advisory Committee (SBAC) to farmers utilizing sewage sludge, which may contain significant amounts of lime. As you know, the application of lime on agricultural land is widely practiced to maintain the optimum pH of soil so as to increase crop productivity. On some soils, higher than optimum pH may also increase the possibility for lime induced manganese (Mn) deficiency in sensitive crops (soybeans, wheat, and oats). This possibility for Mn deficiency in the State of Maryland is primarily in Coastal Plain soils.

Some sewage sludge applied to agricultural land contains significant amounts of lime which may raise soil pH. To prevent lime induced Mn deficiency from possibly reducing yields of sensitive crops following the application of limed sewage sludge, the SBAC recommends that the soil pH not exceed a level of 6.5 for those soils with a high potential for lime induced Mn deficiency (see the attached list). If limed sewage sludge is applied to soils having a moderate or low potential for Mn deficiency (also shown on the attached list), the SBAC recommends that the soil pH not exceed the range of 6.8 to 7.0.

Sewage sludge which is not lime stabilized or lime amended will not raise the pH of soil and will not cause lime induced Mn deficiency. You may request that an applicator apply only a non-limed sewage sludge to your property or apply the limed sewage sludge at application rates calculated not to exceed a certain soil pH. The applicator should be able to give you an estimate of the resultant soil pH following the application of limed sewage sludge at various application rates. Be aware that Sewage Sludge Utilization Permits are issued for a 5 year term; however, you may elect not to accept repeated applications of sewage sludge for any reason, including soil pH management decisions.

A crop Mn deficiency in plant tissues can only be verified by laboratory analysis. The farm owner and/or operator, therefore, is being asked to notify the sewage sludge applicator as soon as possible of a suspected Mn deficiency (for instance, yellowing between the veins of younger leaves on soybeans) following the application of a limed sewage sludge. The sewage sludge applicator agrees to conduct plant tissue analysis upon such notification, and to take whatever other steps are necessary and prudent to correct a Mn deficiency which has been caused by the application of a lime amended sewage sludge. These corrective measures may include foliar application of Mn and/or the application of sulfur to reduce the soil pH. This agreement is to remain in effect for a period of 5 years after the application of a limed sewage sludge to any field. To avoid creating a Mn deficiency, the farmer should consult with the sewage sludge applicator prior to the application of additional lime to any sewage sludge amended fields. Application of additional lime without first consulting with the sewage sludge applicator may release the sewage sludge applicator from further obligation.

It is recommended that the property owner notify new farm operators of this advisory if the operator or owner changes within 5 years after the application of lime amended sewage sludge on their property.

CR 149 Edward Kaubek Property
Property Name

Harper Rd, Federalsburg, MD 21632
Property Address

Signature * Edward Kaubek
Property Owner

Synagro Central, LLC
Sludge Applicator

Signature * Edward Kaubek
Farm Operator

* 11/28/21
Date

Questions or for additional information, please call the Department at (410) 537-3314

MARYLAND DEPARTMENT OF THE ENVIRONMENT
 1800 Washington Boulevard • Suite 610 • Baltimore, Maryland 21230-1719
 410-537-3314 • 800-633-6101 x3314 • <http://www.mde.maryland.gov>

Land and Materials Administration • Resource Management Program

**Site Information Form
 Sewage Sludge Agricultural Land Application**

Site Owner's Name(s): Edward Kumbek
 Site Name (where applicable): CR 149 Edward Kumbek Property
 Site Address: Harper Rd City: Federalburg County: Caroline
 Deed/Liber/Folio No.: 00914/00462 County Zoning Map No.: 62 Lot/Parcel No.: 10
 Total # of Fields: 1 Total Acres (included in this project): 60.0
 Applicant/Permittee (Authorized Agent): Synagra Central, LLC
 Site Operator's Name: Edward Kumbek
 Site Operator's Address: 1915 Baltimore Annapolis Blvd City: Annapolis County: AA
 Site Operator's Daytime Phone No: 410-757-9117

Table Instructions

1. Complete the table for all fields where sewage sludge is to be land applied.
2. Use the "Attachment" form if more space is needed, label it: page __ of __ with the appropriate page number and number of pages, as provided on the upper right hand corner of the Attachment.
3. **Field ID**- The Identification used for each field to be permitted.
4. **Irrigated**- If the field has irrigation please indicate the date irrigation was installed.
5. **Historical Crop Yields** - List the crop yields for the past consecutive ten years.
6. **Expected Crop Yield** - In accordance with the requirements in COMAR 15.20.08 or any data acceptable by the Department such as expected crop yields based on field-specific and dominant soil map unit-based yields of the United States Department of Agriculture – Natural Resource Conservation Service (USDA-NRCS) such as Web Soil Survey.
7. **Other**- Please write in any crop to be grown on any permitted field not listed in the table.

Crop Yields Per Field								
Field #:	Irrigated: <u>no</u>							
Historical Crop Yields: Please list the harvested crop yields for the past consecutive ten years.								
Year	* Corn	* Soybean	Wheat	Grass Hay	Alfalfa	Barley	Other:	Other:
2021	175							
2020		65						
2019	165							
2018		70						
2017	150							
Expected Crop Yield:	174	68						
Comments (if necessary, attach another page): <u>yields via farmer's statement</u>								

Has sewage sludge been land applied to these fields in the past? Yes No

If yes, please list Sewage Sludge Utilization Permit #s/Sewage Sludge Applicators:

_____ Bio - Gro

Has tobacco been grown on these fields in the past? Yes No

Will there be tobacco grown on these fields in the future? Yes No

Is this site approved for septage disposal? Yes No

Is there an approved Soil Conservation and Water Quality Plan for the farm on file with the local Natural Resources Conservation Service District? Yes No

What is the crop rotation on these fields? Corn - Soybean

Please list specific soil conservation measures used on the site, such as, but not limited to, contour tillage and strip cropping, grassed waterways and buffers, and minimum tillage? cover crop, minimum tillage

I am aware that there is a possibility of herbicide carryover with certain classes of herbicides on soils with a pH exceeding 6.8 to 7.0. Herbicide carryover can occur on any soil type in Maryland, and involves delayed or prolonged effects of herbicides after initial application, including possible damage to the next crop planted in the rotation. In the event that the use of limed sewage sludge were to raise the pH of my soil above the recommended range, the Maryland Department of the Environment recommends that I check with the applicator, local Extension Office, or fertilizer dealer for a list of herbicides which may be safely used on these amended soils.

CERTIFICATION

I, the operator/farmer, as an authorized representative of the site owner named on this form, do solemnly affirm under the penalties of perjury, that the contents of this document are true to the best of my knowledge, information, and belief. Information in this form is subject to audit by the Maryland Department of the Environment (the "Department"). I hereby authorize the representatives of the Department, upon request, to have access to any records supporting the information provided in this form.

I furthermore agree to abide by the provisions of the Sewage Sludge Utilization (SSU) Permit issued for this site.

* EDWARD KUBEK * Edward Kowchik * 11/28/21
Operator/Farmer (PRINT) Signature Date

I, the Applicant, do solemnly affirm under the penalties of perjury, that the information provided in this document was supplied solely by the operator/farmer without any influence or coercion from me or any other representative of the applicant/permittee. I hereby affirm that any misrepresentation of any information included in this form could lead to the termination of the SSU permit.

Daniel Rohe [Signature] 12/16/21
Applicant (PRINT) Signature Date

FIELD DATA SHEET CR 149

FIELD	TOTAL ACRES	SURFACE	SURFACE WITH INCORPORATION	PREDOMINANT SOILS	SOIL pH	C.E.C
1	60.0	60.0	60.0	RoA, HbA, HbB	5.9	3.3
TOTAL	60.0	60.0	60.0			

Table Instructions

1. Complete the table for all fields where sewage sludge is to be land applied.
2. **Field ID** - The Identification used for each field to be permitted
3. **Total Acres** -- Total acreage of each field.
4. **Surface Acres** -- Acreage available on each field for surface application.
5. **Injection Acres** -- Acreage available on each field for injection.
6. **Predominant Soils** -- Predominant soil series on each field.
7. **Soil pH** -- pH of soil tested on each field.
8. **C.E.C.** -- Cationic Exchange Capacity of soil tested on each field.

**OPERATIONAL PLAN
FOR
MARYLAND**

SYNAGRO CENTRAL, LLC

- A. TYPE OF EQUIPMENT
- B. TYPES OF SEALS ON BIOSOLIDS TRANSPORATION VEHICLES
- C. TRANSPORATION ROUTES
- D. DAYS AND HOURS OF OPERATIONS
- E. TRUCK CLEANING FACILITIES
- F. PROCEDURES FOR SPREADING AND INCORPORATION
- G. ADVERSE WEATHER CONDITIONS/WINTER OPERATING PROCEDURES
- H. SPILL CONTROL AND REPORTING
- I. RECORD KEEPING
- J. FUTURE USE OF MARGINAL LAND

A. Type of Equipment:

All truck units will be inspected, licensed and marked as required for the purpose of transporting biosolids (sewage sludge). Biosolids will be transported in trailers sufficiently tight as to prevent any leakage. Each truck will have the applicable Sewage Sludge Utilization Permit Number available in the cab.

I. Liquid Operations:

Biosolids will be transported from wastewater treatment facilities in sealed, watertight units. The transport trucks will transfer the biosolids to low compaction land-application vehicles stationed on the field receiving biosolids. The biosolids transfer will occur through a suction hose and the land-application vehicle will perform all biosolids distribution.

A summary of equipment to be employed on the project is as follows:

- a. An appropriate number of truck units depending on plant production and travel time to land application sites.
- b. One to three low compaction land-application vehicles. The number and sizing will vary depending on the configuration of the land application site, as it affects application time efficiency.

II. Cake Operations:

Biosolids will be transported from wastewater treatment facilities in dump trailers with covered tops and sealed tailgates. The trailers will be equipped with front and rear splashguards that each covers at least 25% of the trailer's open area. A minimum 2-foot of freeboard shall be maintained between the biosolids and the top of the trailer unless the top of the trailer is completely sealed.

A summary of equipment to be employed on the project is as follows:

- a. One to two front-end loaders.
- b. One to two cake spreaders typically with 10–14 wet ton capacity. The number will vary depending on the configuration of the land-application site, as it affects application time efficiency. The cake spreader boxes will either be a type which can be pulled behind a tractor or the box will be mounted on the frame of a high flotation vehicle.

B. Types of Seals on Biosolids Transport Vehicles:

All trucks are regularly inspected to ensure water tightness.

I. Liquid Operations:

Biosolids are transported in standard 6,500-gallon tanker trucks, with mechanical seals and/or wing locks on ports or openings.

II. Cake Operations:

Biosolids are transported in dump trailers with covered tops and sealed tailgates. Each trailer has a 20–24 wet ton capacity.

C. Transportation Routes:

The transport trucks will employ the most direct routes to the various land-application sites as influenced by traffic conditions and restricted bridges. See haul routes included in each permit application.

D. Days and Hours of Operations:

Normal field operations are 6:00 AM until 5:00 PM, Monday through Saturday. However, there are situations due to biosolids production, weather conditions, or unforeseen occurrences in the field where other than normal hours of operations will take place.

E. Truck Cleaning Facilities:

At each of the Wastewater Treatment Facilities, there is truck washing facilities near biosolids processing buildings.

I. Liquid Operations:

Once the biosolids leave the WWTP, they are transported in sealed units and then unloaded onto a Terra-Gator. If any biosolids remain on the coupling from the truck to the Terra-Gator, cleaning will occur at the application site.

II. Cake Operations:

Once the biosolids leave the WWTP, they are transported in dump trailers and then unloaded onto a permitted field. The biosolids are then loaded onto a cake spreader with a front-end loader. If any biosolids remain on the dump trailer, cleaning will occur at the application site.

If necessary, trucks will be cleaned on-site to prevent drag-out of dirt or biosolids onto public roads. In the event dirt or biosolids are tracked out onto a road, clean-up activities will be initiated immediately.

F. Procedures for Spreading and Incorporating:

- I. Surface, surface with incorporation and sub-surface modes of application may be employed.
- II. Biosolids may remain on the surface (surface application without incorporation) when applied to an approved crop. Surface application will not occur on slopes greater than 6% unless authorized by a permit condition.
- III. If subsurface injection and/or surface application with incorporation is employed the biosolids will be incorporated by the end of each day. When weather and/or soil conditions prevent adherence to the biosolids application procedure, biosolids will not be applied to the site.
- IV. Biosolids which are surface applied and incorporated or injected biosolids will not be applied on slopes greater than 15% without specific authorization. Biosolids which are surface applied and not incorporated will not be applied on slopes greater than 6% without specific authorization.
- V. The amount of biosolids applied will be limited to the allowable LbsN per acre as determined by the State Permit and/or Nutrient Management Plan if applicable.
- VI. The application of biosolids will be accomplished in an even, continuous manner avoiding swales, gullies, ponding water, and water channels.
- VII. Unless approved by MDE, there will be no storage or stockpiling of biosolids at the site.

- VIII. Buffer zones will be established and maintained in accordance with COMAR 26.04.06.37, with the following exception:

The property line buffer may be waived by written consent from the affected landowner.

G. Adverse Weather Conditions/Winter Operations Procedures:

When weather and/or soil conditions prevent adherence to the following required biosolids agricultural application procedures, biosolids will not be applied.

- I. Biosolids may not be applied when:
 - a. The soil is saturated;
 - b. The ground is flooded, ponded, frozen or covered with snow; or
 - c. Weather conditions prevent compliance with the requirement to incorporate the sewage sludge into the soil.

- II. When biosolids are applied to soil in late summer or fall, biosolids application shall cease and a crop shall be planted by November 15 or for applications after July 1, 2016, in counties east of the Chesapeake Bay and Susquehanna River, November 5. The crop planted shall be capable of germination and significant plant growth before onset of winter so the plant is able to use available nitrogen released by the biosolids.

- III. Sewage sludge shall not be applied to agricultural land from November 16 through February 28 unless subparagraphs a and b are met:
 - a. Field slopes are 7% Or less; and
 - b. Sewage sludge is injected into an existing vegetative cover, small grain crop, or established hay fields or pasture. Vegetative cover shall be maintained until March 1.

H. Spill Prevention and Control:

A biosolids spill is considered the loss of any "measurable quantity" of biosolids onto an area which is not part of a permitted field. This is meant to include biosolids seeping from tailgates or biosolids dripping from valves. Major spills, such as over-turned are also included in this category.

- I. Prevention:
Truck Drivers to perform the following:
 - a. Inspect trailer seals at the beginning of each day's operations for integrity of the seal and replace as necessary.
 - b. When the opportunity allows, watch trailer while loading and do not overload.
 - c. After loading ensure tanker can lock caps are in place and tanker hatches/trailer latches are closed, latched and tightened and check for leakage prior to operating the unit on public roadways. Any seepage or dripping is unacceptable.
 - d. For dewatered/cake hauling ensure that tarps are intact and properly secured.
 - e. Conduct unloading operations in the field to minimize any potential runoff or tracking. This includes: not backing into offloaded biosolids/residuals; cleaning tailgates and mud flaps after unloading; and not driving over areas of the field where biosolids/residuals have been applied.

II. Spill Response:

In the unlikely event of a spill, Synagro will take the following actions immediately. The following assumes the driver is unhurt and is able to contact the Independent Carrier's (IC's) Supervisor and Synagro's Operations Director.

- a. Stop vehicle immediately and park in a safe location
- b. If accident check that no one is hurt
- c. Call IC Supervisor and Synagro's Operations Director to report the spill and if any injuries occurred. Give location and amount of spill to individual(s) contacted and any additional equipment and personnel that are needed to recover the spilled material and clean the area.
- d. Divert traffic around the spill using reflective triangles/traffic cones and/or flares
- e. If necessary and possible halt source of biosolids/residuals being released and stop spill from entering waterways or storm drains with sand/soil or other blocking materials available on-site.
- f. Assist with traffic control and clean-up and don't leave the scene of any spill, not even a small one through final clean up.

III. Clean-up:

The entity conducting the cleanup will depend on the spill location and transporter of the biosolids/residuals. Cleanup may be conducted by the independent carrier, Synagro, local fire department or transportation department or a combination of these groups.

- a. If Driver was unable to contain the spill the Cleanup Crew will form a barrier in order to contain the spill and stop the spill from entering waterways or storm drains with sand/soil or other blocking materials (straw/hay etc.) on-site or brought to the site by the cleanup crew.
- b. As applicable cooperate with law enforcement and/or fire department personnel responding to the spill. Inform them of the non-hazardous nature of the spilled material and actions to be carried out according to this plan.
- c. Depending on the type and amount of biosolids spilled, a variety of equipment may be used to remove the biosolids: front-end loader, shovels and brooms and vacuum equipment of a liquid biosolids applicator.
- d. Load spilled biosolids back into the hauler's truck (if not disabled) or into another available truck (if hauler's truck is disabled). If the trailer is disabled, transfer to new trailer. Use of any damaged or leaking unit will be repaired before resuming its use.
- e. Any biosolids removed from the spill site will be spread on an approved application site, returned to the WWTP, or disposed of in an approved landfill.
- f. Final clean-up is by means of shovels and brooms. Use absorbents such as straw as necessary. At no time should any biosolids be hosed down into any storm drains. Do not wash off tools or trucks at the spill location. In the event a spill occurs on private property, final clean-up should be completed immediately to the satisfaction of the owner.

IV. Reporting:

In the event of a spill, the project manager or his field representative shall immediately notify the Synagro office at (443)489-9000. Individuals to be notified are as follows, in descending order of priority:

	<u>Mobile Phone</u>	<u>Home</u>
Rick Hushon Director of Operations PA & Western MD	610-368-9629	717-456-7353
Allen Guilliams Director of Operations VA	540-420-3156	804-466-2009
Michael Oliver Jr. Director of Operations Central MD	410-218-3160	410-218-3160

After notification of a spill to Synagro's management, the Technical Services Manager shall notify the Maryland Department of the Environment at 410-537-3315 (during work hours) or 866-633-4686 (during non-work hours). A written report detailing how the spill occurred and all actions taken shall also be submitted to MDE within 72 hours.

I. Record Keeping:

Daily truck reports as well as an applicator report are kept on-site by the manager or operator. In addition, the site manager keeps a copy of the Sewage Sludge Utilization Permit with him/her at the job site. All other reports and records are kept at the Synagro Office in Baltimore, Maryland and are available for regular inspection.

Each month a report on biosolids applied to each field is sent to the Maryland Department of the Environment. This monitoring report details quantities of nutrients and other regulated constituents applied based on recent biosolids analyses.

J. Future Use of Marginal Land:

Depending upon location and zoning classification, reclaimed marginal lands can have a wide variety of future uses. Some sites remain as open space providing homes for wildlife, others may be used for large-scale development.

BIOSOLIDS SOURCES

WASTEWATER TREATMENT PLANT	STABILIZATION PROCESS
ANNAPOLIS	LIME STABILIZED
BACK RIVER	ANAEROBIC DIGESTION
BALLENGER CREEK	LIME STABILIZED
BOWIE	LIME STABILIZED
BROADNECK	LIME STABILIZED
BROADWATER	LIME STABILIZED
COX CREEK	LIME STABILIZED
DAMASCUS	LIME STABILIZED
DORSEY RUN	LIME STABILIZED
FREDERICK CITY	ANAEROBIC DIGESTION
FREEDOM DISTRICT	LIME STABILIZED
HAVRE DE GRACE	AEROBIC DIGESTION
KENT ISLAND	AEROBIC DIGESTION
LEONDARDTOWN	AEROBIC DIGESTION
LITTLE PATUXENT	LIME STABILIZED, ANAEROBIC DIGESTION
MARLAY-TAYLOR	ANAEROBIC DIGESTION
MARYLAND CITY	LIME STABILIZED
MD CORRECTIONAL INST.	LIME STABILIZED
MATTAWOMAN	LIME STABILIZED
MOUNT AIRY	LIME STABILIZED
MOUNT ST. MARYS	AEROBIC DIGESTION
OCEAN CITY	LIME STABILIZED
PARKWAY	LIME STABILIZED
PATUXENT	LIME STABILIZED
PISCATAWAY	LIME STABILIZED
ROCK HALL	AEROBIC DIGESTION
SENECA	LIME STABILIZED
SOD RUN CAKE	ANAEROBIC DIGESTION
SOD RUN LIQUID	ANAEROBIC DIGESTION
TANEYTOWN	AEROBIC DIGESTION
THURMONT	ANAEROBIC DIGESTION
VALLEY FORGE, PA	LIME STABILIZED
WICOMICO SHORES	AEROBIC DIGESTION

HAUL ROUTES FOR CAROLINE COUNTY

ANNAPOLIS

Edgewood Rd to Right on Forrest Drive to Rte 665 West to Rte 50 East

BACK RIVER

Eastern Avenue to I695 South to Rte 97 South to Rte 50 East OR Eastern Avenue to I95 North to Rte 301 South to Rte 50 East

BALLENGER CREEK:

Marcie's Choice Lane to Rte 85 North to Rte 270 South to I495/95 East to Rte 50 East OR
Marcie's Choice Lane to Rte 85 North to Rte 70 East to Rte 695 East to Rte 97 South to Rte 50 East

BOWIE

Route 450 East to Rte 50 East

BROADNECK

Log Inn Rd to Left on Access Rd to Rte 50 East

BROADWATER

Deep Cove Rd to left on Rte 468 to left on Rte 214 West to Rte 2 North to Rte 665 West to Rte 50 East

CEDARVILLE LAGOON

Bevard Rd to right on Cedarville Rd to left on MD 381 to right on US 301 to right on US 50 East

COX CREEK

Fort Smallwood Rd to Rte 695 West to Rte 97 South to Rte 50 East OR Ft Smallwood Rd to left on Solley Rd (648) to left on Rte 2 South to Rte 50 East

DAMASCUS

Log House Rd to right on Watkins Rd to right on Davis Mill Rd to Rte 27 South to Ridge Rd to I270 South to I495/95 South to Rte 50 East

DORSEY RUN

Toulson Rd to right on Brock Bridge Rd to right on Guilford Rd to left on Dorsey Run Rd to right on MD 32 E to I-97 S to US-50 E

FREDERICK CITY

Gas House Pike Rd to left on McKaig Rd to Rte 26 West to Rte 270 South to I495/95 South to Rte 50 East OR
Gas House Pike Rd to left on McKaig Rd to Rte 26 West to Rte 70 East to Rte 695 South to Rte 97 South to Rte 50 East

FREEDOM DISTRICT

Raincliffe Rd to Rte 32 South to 70 East to Rte 695 East to Rte 97 South to Rte 50 East

HAVRE DE GRACE

Old Post Rd/Revolution St to Rte 40 East to Rte 213 South to Rte 313 South to Rte 301 South

KENT ISLAND

Bateau Rd to Right on Love Point Rd to Rte 50 East

LEONDARDTOWN

Van Wert Lane to right on Fenwick St to right on Port Lookout Rd to left on St. Andrews Church Rd to Patuxent Beach Rd to right on Solomons Island Rd to MD 2 N to right on MD 665 W to US 301 N to US 50 E

HAUL ROUTES FOR CAROLINE COUNTY

LITTLE PATUXENT

Greenwood Place to left on Larkin Rd to left on Corridor Rd to Rte 1 South to I 95 South to Rte 50 East **OR**
Greenwood Place to left on Larkin Rd to left on Corridor Rd to Rte 1 North to Rte 32 West to Rte 97
South to Rte 50 East **OR** Greenwood Place to left on Larkin Rd to left on Corridor Rd to Rte 1 North to Rte 32
West to I 95 South to Rte 50 East

MARLAY-TAYLOR

Pine Hill Run Rd to left on Forest Park Rd/Shaw Rd to right on Three Notch Rd (Rte 235 North) to Rte 5/301 North
to Rte 50 East

MARYLAND CITY

Brockbridge Rd to right on Rte 198 to Rte 32 East to Rte 97 South to Rte 50 East

MARYLAND CORRECTIONAL INSITUTE

Roxbury Rd to right on Rte 65 to Rte 70 East to Rte 29 South to Rt 100 East to 97 South to Rte 50 East

MATTAWOMAN

Route 225 East to Route 301 North to 50 Rte 50 East

MOUNT AIRY

Ridge Rd to right on I-70 E to US 29 S to MD 100 E to I-97 S to US 50 E

MOUNT ST. MARYS

College Ln to right on US 15 N to U-Turn to US 15 S to US 40 E to I-70 E to US 29 S to MD 100 E to I-97 S to US
50 E

OCEAN CITY

Rte 90 West to Rte 50 West

PARKWAY

Canadian Way to right on Rte 197 to Rte 50 East

PATUXENT

Rte 424 East to Rte 3 North to Rte 97 South to Rte 50 East **OR** Rte 424 East to Rte 50 East

PISCATAWAY

Farmington Rd to Rte 210 North To Rte 95 East to Rte 50 East

ROCK HALL

Rte 20 North to Rte 213 South to Rte 301 South

SENECA

Riffleford Rd to right on Rte 118 to Rte 270 South to Rte 495 East to Rte 50 East **OR** Riffleford Rd to right on Rte
118 to Rte 270 North to Rte 70 East to Rte 695 South to Rte 97 South to Rte 50 East

SOD RUN

Chelsea Rd to left on Rte 7 to Right on Rte 40 South to Right on Rte 213 to Rte 301 South **OR**
Chelsea Rd to left on Michaelsville Rd to right on Rte 159 to left on Rte 7 to Rte 40 South to right on Rte 543 to Rte
95 South to Rte 695 South to Rte 97 South to Rte 50 East

TANEYTOWN

Whippoorwill Dr to Rte 140 East to Rte 795 South to Rte 695 towards Towson to I95 North to Rte 301 South **OR**
Whippoorwill Dr to Rte 140 East to Rte 795 South to Rte 695 South to Rte 97 South to Rte 50 East to Rte 301 North

HAUL ROUTES FOR CAROLINE COUNTY

THURMONT

Moser Rd to Rte 15 South to Rte 70 East to Rte 695 South to Rte 97 South to Rte 50 East

VALLEY FORGE

Right on Pawlings Rd to left on Ferry Lane to Left on Rte 23 to right on Rte 252 to Rte 202 South to Rte 95 South to Rte 695 South to Rte 97 South to Rte 50 East **OR** Right on Pawlings Rd to left on Ferry Lane to Left on Rte 23 to right on Rte 252 to Rte 202 South to Rte 95 South to Rte 301 South **OR** Right on Pawlings Rd to left on Ferry Lane to Left on Rte 23 to right on Rte 252 to Rte 202 South to Rte 95 South to Rte 301 South to Rte 50 East

WICOMICO SHORES

Lake Dr to right on Golf Course to left on Chief Rd to left on Aviation Yacht Club Rd to left on MD 234 W to right on Trinity Church Rd to Olivers Shop Rd to left on MD 5 N to right on Mattawoman Beantown Rd to right on US 301 N to MD 5 N to right on I-495/I-95 N to right on US 50 E

ONCE IN CAROLINE COUNTY TO SITE CR 149

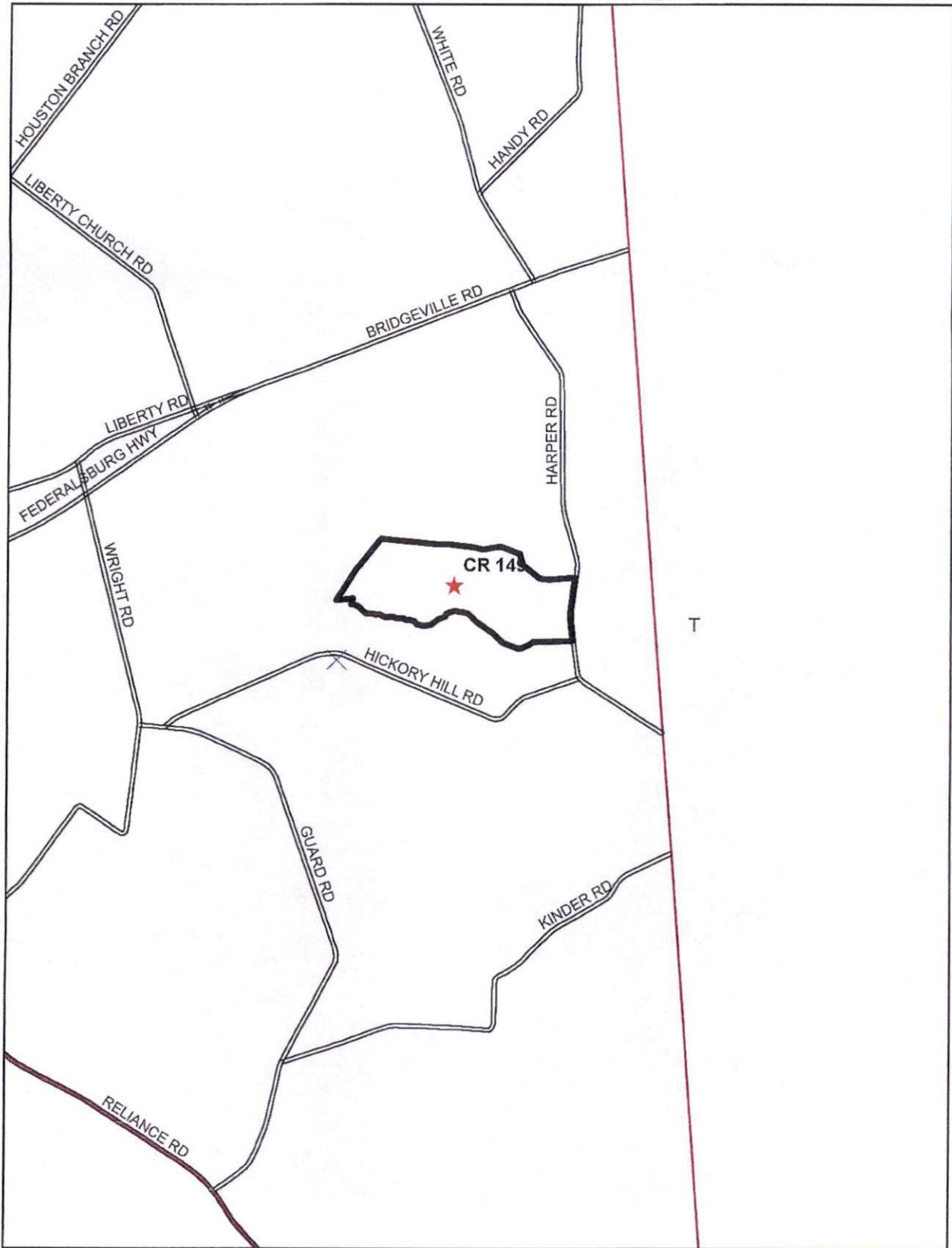
Rte 50 East to left on MD 404 E to right on MD 313 S to MD 318 E to left on Harper Rd to destination on right

Rte 50 West to right on MD 404 E to right on MD 313 S to MD 318 E to left on Harper Rd to destination on right

Rte 301 South to left on MD 544 E to right on MD 313 S to MD 318 E to left on Harper Rd to destination on right

Rte 301 N to US 50 E

SYNAGRO



0 700 1,400 2,800 Feet

CR 149
Edward Koubek Property
Location Map

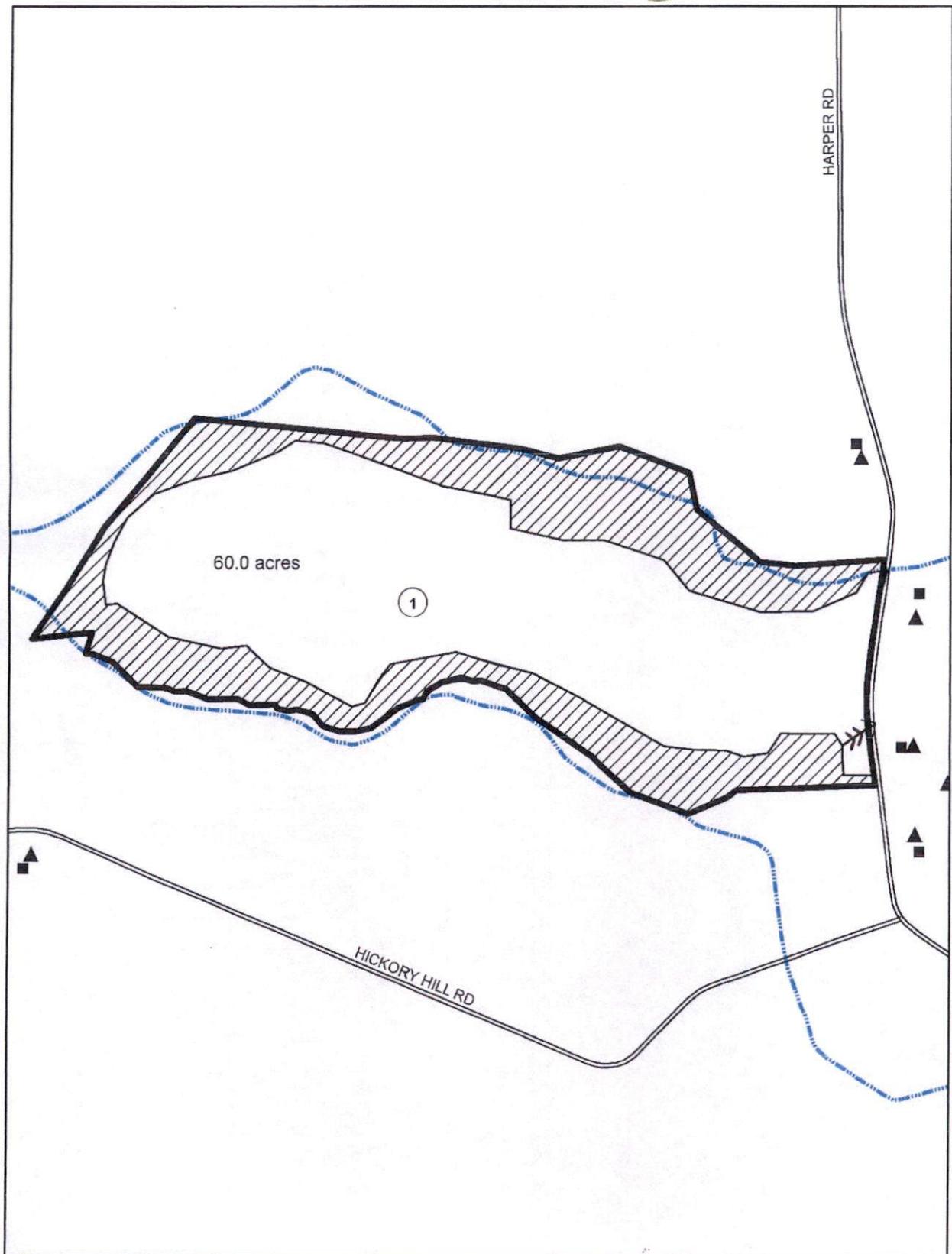


Map Legend & Buffers

■	House	➤➤➤➤➤	Drainage Ditch
▲	Well	— · · · —	Stream or River
●	Barn	×××××	Tree Line
◆	Pivot Irrigation	E E E E E	Electric Lines
^	Bedrock Outcrop	>15>15>15	Slope >15 % or Higher
—	Field Boundary	++ ++ ++	Railroad Tracks
—	Property Boundary		Pond or Surface Water
==	Public Road		Woods
----	Farm or Private Road		Not Permitted

TYPE	SURFACE APPLICATION	SURFACE W/INCORPORATION OR INJECTION APPLICATION
OCCUPIED OFF-SITE DWELLING	200 FT	100 FT
OCCUPIED ON-SITE DWELLING	200 FT	100 FT
POTABLE WELLS	100 FT	100 FT
NON-POTABLE WELLS	25 FT	25 FT
PUBLIC ROADS	25 FT	15 FT
PROPERTY LINES	50 FT	25 FT
BEDROCK	20 IN	20 IN
BEDROCK OUTCROPS	50 FT	25 FT
STREAMS/SURFACE WATER BODIES	100 FT	35 FT
FIELD DRAINAGE DITCHES	10 FT	10 FT
WATER TABLE	20 IN	20 IN
TIDAL WATERS OR WETLANDS (Measure from Mean High Water Line)	100 FT	100 FT
INCORPORATED MUNICIPALITY BOUNDARY LINES	1,000 FT	400 FT

SYNAGRO

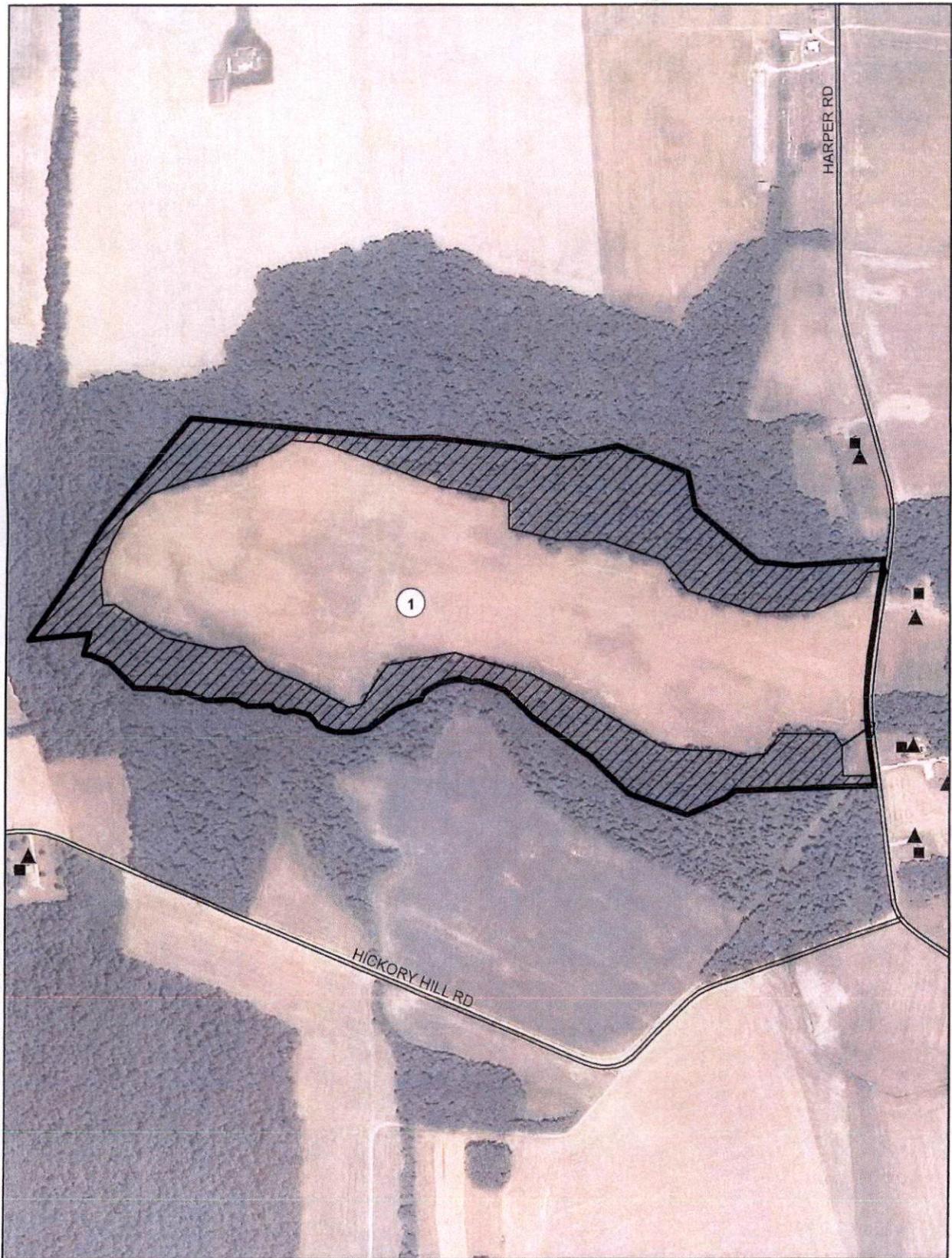


0 212.5 425 850 Feet

CR 149
Edward Koubek Property
Site Map



SYNAGRO

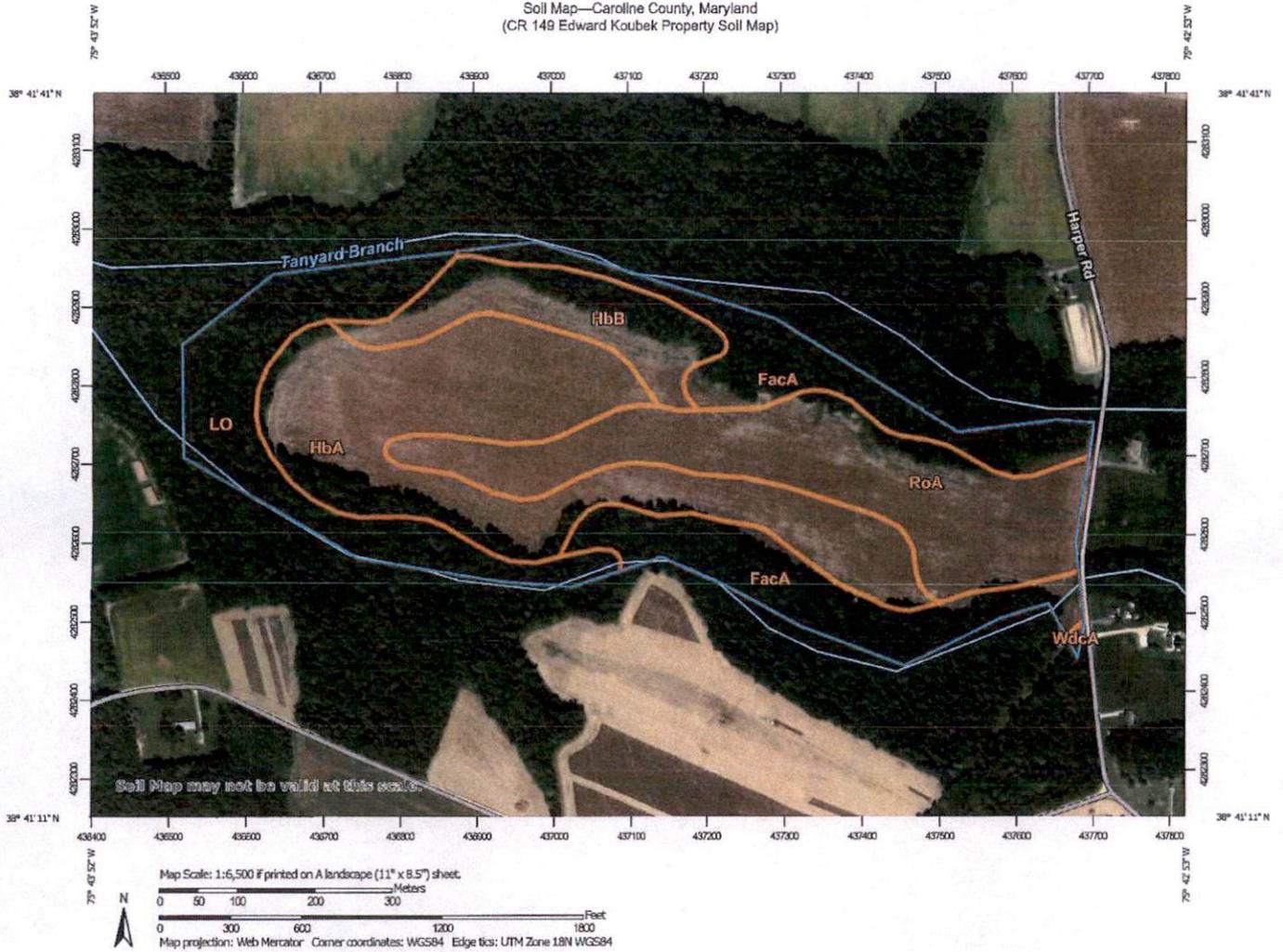


0 212.5 425 850 Feet

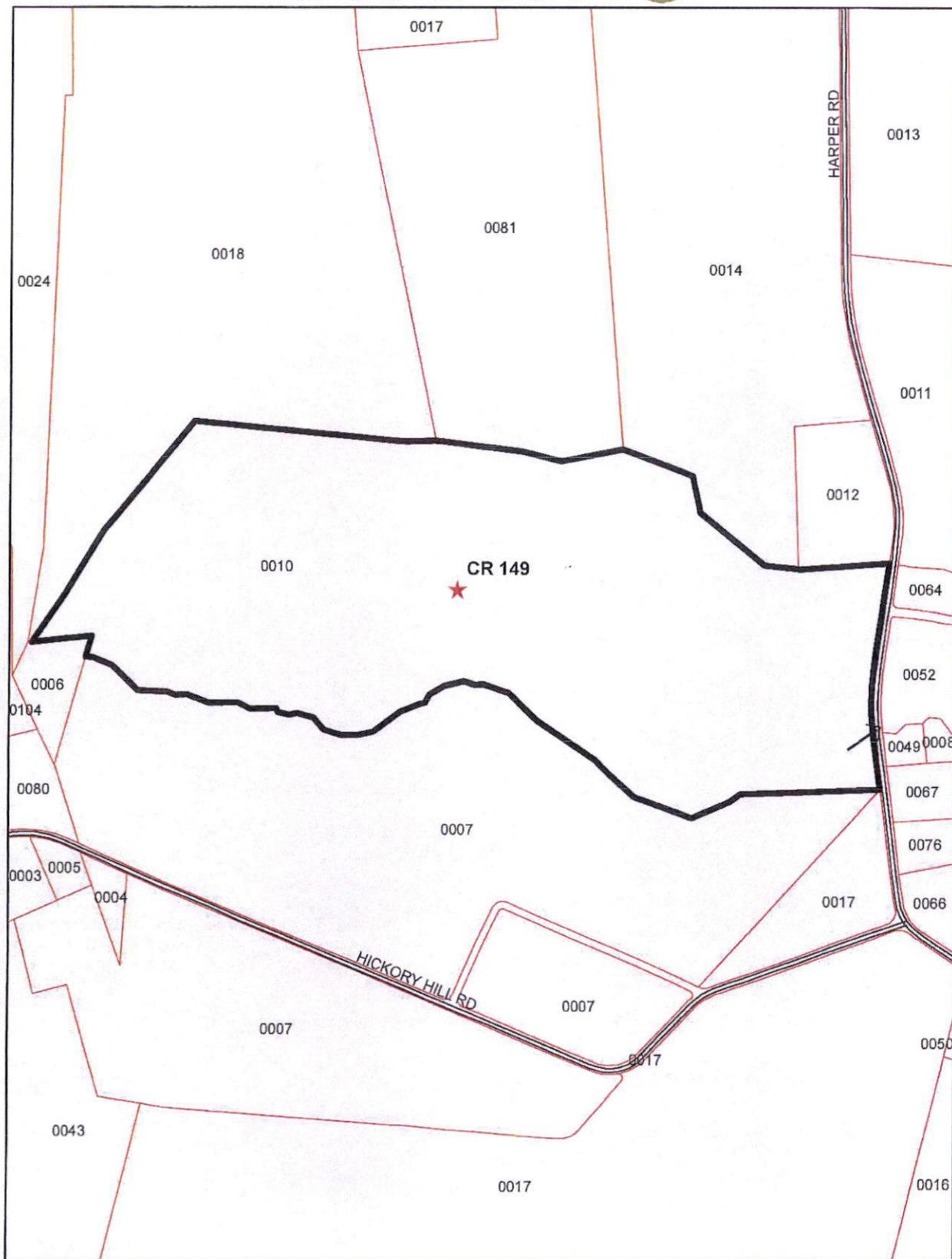
CR 149
Edward Koubek Property
Aerial Map



Soil Map—Caroline County, Maryland
(CR 149 Edward Koubek Property Soil Map)



SYNAGRO



0 212.5 425 850 Feet

CR 149
Edward Koubek Property
Tax Map

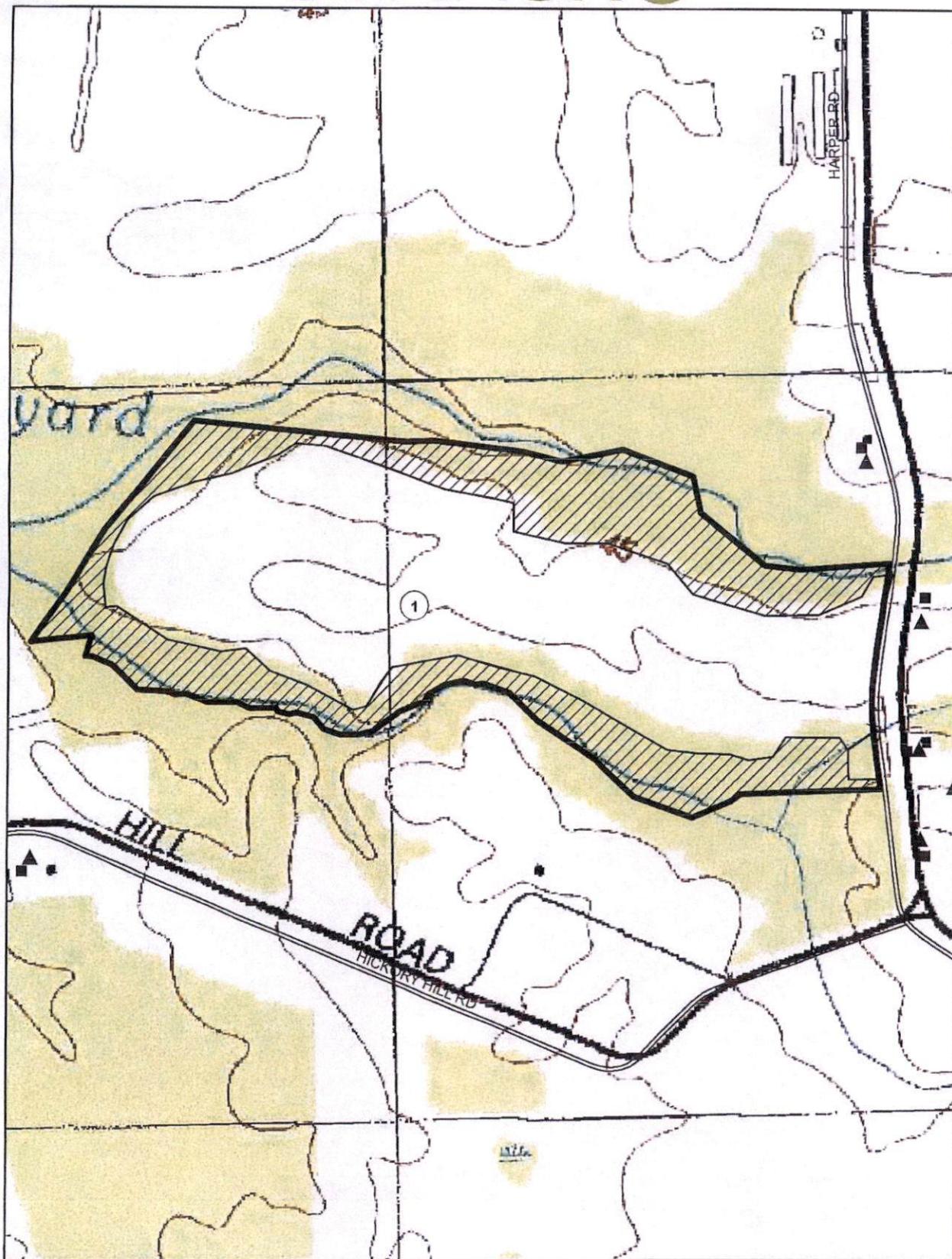


Search Result for CAROLINE COUNTY

View Map	View GroundRent Redemption	View GroundRent Registration
Special Tax Recapture: AGRICULTURAL TRANSFER TAX		
Account Identifier:		District - 05 Account Number - 006538
Owner Information		
Owner Name:	KOUBEK EDWARD & ELIZABETH A KOUBEK	Use: AGRICULTURAL Principal Residence: NO
Mailing Address:	1915 OLD ANNAPOLIS BLVD ANNAPOLIS MD 21409-6204	Deed Reference: /00914/ 00462
Location & Structure Information		
Premises Address:	HARPER RD 0-0000	Legal Description: 98.49 AC NE/S HARPER RD E OF FEDERALSBURG
Map:	Grid:	Parcel:
0062	0020	0010
Neighborhood:	Subdivision:	Section:
5010001.06	0000	
Block:	Lot:	Assessment Year:
		2021
Plat No:	Plat Ref: 0019/ 1169	
Town: None		
Primary Structure Built	Above Grade Living Area	Finished Basement Area
		Property Land Area 98.4900 AC
County Use		
Stories	Basement	Type
		Exterior
		Quality
		Full/Half Bath
		Garage
		Last Notice of Major Improvements
Value Information		
	Base Value	Value
		As of
		01/01/2021
		Phase-in Assessments
		As of
		07/01/2021
		As of
		07/01/2022
Land:	22,100	22,100
Improvements	0	0
Total:	22,100	22,100
Preferential Land:	22,100	22,100
		22,100
		22,100
Transfer Information		
Seller: KOUBEK, EDWARD &	Date: 06/25/2010	Price: \$0
Type: NON-ARMS LENGTH OTHER	Deed1: FDM /00914/ 00462	Deed2:
Seller: FRAMPTON, MARGARET H. & JOSEPH H.	Date: 04/05/1995	Price: \$102,420
Type: ARMS LENGTH IMPROVED	Deed1: FDM /00280/ 00303	Deed2:
Seller: FRAMPTON, J JEROME	Date: 01/19/1995	Price: \$0
Type: NON-ARMS LENGTH OTHER	Deed1: FDM /00277/ 00400	Deed2:
Exemption Information		
Partial Exempt Assessments:	Class	
County:	000	07/01/2021
State:	000	07/01/2022
Municipal:	000	0.00
		0.00
		0.00 0.00
		0.00 0.00
Special Tax Recapture: AGRICULTURAL TRANSFER TAX		
Homestead Application Information		
Homestead Application Status: No Application		
Homeowners' Tax Credit Application Information		
Homeowners' Tax Credit Application Status: No Application		Date:

1. This screen allows you to search the Real Property database and display property records.
2. Click **here** for a glossary of terms.
3. Deleted accounts can only be selected by Property Account Identifier.

SYNAGRO



0 212.5 425 850 Feet

CR 149
Edward Koubek Property
Topographic Map





7621 Whitepine Road, Richmond, VA 23237
 Main 804-743-9401 • Fax 804-271-6446

www.waypointanalytical.com **TEXTURE ANALYSIS**

Client : Synagro Central, LLC 435 Williams Ct Suite 100 Baltimore, MD 21220	Grower : Koubek Farm : CR 149	Report No : 21-302-0683 Cust No : 25002 Date Printed : 11/02/2021 Page : 1 of 1 Date Received : 10/29/2021
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<u>Lab No</u>	<u>Field ID</u>	<u>Sample Identification</u>	<u>Percent Sand</u>	<u>Percent Silt</u>	<u>Percent Clay</u>	<u>Textural Classification</u>
15154		1	86.6	8.6	4.7	Loamy Sand

25002
 Synagro Central, LLC
 435 Williams Ct
 Suite 100
 Baltimore, MD 21220

Project Koubek

Information :

Report Date : 11/11/2021
 Received : 11/02/2021

Pauric Mc Groary

Report Number : 21-306-0001

REPORT OF ANALYSIS

Pauric Mc Groary Ph.D., CPA
 Agronomist

Lab No : 55393

Matrix: **Solids**

Sample ID : 1

Sampled:

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Copper	6.53	mg/Kg	0.500	1	11/11/21 06:09	JADS	6010D
Zinc	20.5	mg/Kg	1.25	1	11/11/21 06:09	JADS	6010D
Nickel	3.72	mg/Kg	0.250	1	11/11/21 06:09	JADS	6010D
Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Cadmium	<0.100	mg/Kg	0.100	1	11/11/21 06:09	JADS	6010D
Lead	9.17	mg/Kg	0.300	1	11/11/21 06:09	JADS	6010D

**Qualifiers/
 Definitions**

DF
 MQL

Dilution Factor
 Method Quantitation Limit

L

Limit Exceeded

NUTRIENT MANAGEMENT PLAN

12/16/21

CR 149

**Edward Koubek
1915 Annapolis Blvd.
Annapolis, MD 9117**

This plan applies to the Koubek property (), consisting of 60.0 permitted acres, located in Caroline County, Watershed Code*0076. Please see below for specific account information. The nutrient management recommendations provided herein conform to the Maryland nutrient management and sewage sludge management regulations. This plan provides supplemental information for the use of organic residuals.

Please note that there is no livestock on this farm and therefore no manure information is included in this plan.

Please see attached sheets for PMT restrictions
Please note that this site has not received biosolids in the last 10 years.
Maintain 200 foot buffer from streams.

A Phosphorus Management Tool Report is attached for field 1.

The yield goals found in this Nutrient Management Plan were obtained via farmer's statement.

Prepared by: 

Nutrient Management Consultant
Certificate Number: 4373
Daniel Rohe
License Number: 2018

Account ID Number	Total Acres
06-05-006538	98.5

* Watershed Code is taken from United States Geological Survey Maps

Nutrient Management Plan Maintenance

This nutrient management plan is valid for a period of one year from the date prepared or for a period of one year from the date approved by the Maryland Department of the Environment if applicable.

The following changes in the farm operation requires the plan to be updated or modified:

- change in crop rotation
- introduction of a new crop not addressed in this plan
- soil test results indicate a change in nutrient recommendations
- in acreage managed of 10 percent or greater or 30 acres, whichever is less
- in animal units of 10 percent or greater if resultant manure production will require significant management adjustments

NOTES:

- To satisfy TOTAL recommendation for many crops, it may be necessary to adjust SUGGESTED TIMING AND METHODS of application, (i.e. broadcast, topdress, sidedress, row, etc.) to be compatible with available equipment and materials.
- These recommendations assume that the highest level of N management will be utilized and that N losses due to leaching, volatilization and denitrification are minimized due to best management practices.
- For conventional tillage, ag-lime recommendations are based upon the amount of oxides required for the surface 8" of soil. Lime should be thoroughly mixed with the soil by plowing and disking. If recommended amount of oxides exceeds 1.5 tons of lime per acre (assuming 50% total oxides), 1/2 should be plowed down and the remainder applied after plowing and disking in thoroughly.
- If topdressing ag-lime without tillage, reduce the total amount of oxides recommended by 50 percent. When topdressing ag-lime, and soil mixing is not possible, do not apply more than 1500 lbs per acre of oxides in any one application. The balance can be applied the next year. It would be best to do a soil test before making the second application.
- Split-application of nitrogen is required for optimal production and nitrogen use efficiency of small grain crops and canola and for the protection of ground water resources.
- Magnesium will be recommended when the soil test indicates a low or very low level. Use dolomitic lime as a liming material when magnesium is recommended AND when lime is needed to correct soil acidity. The magnesium recommendation is expressed as elemental Mg when lime is not required.
- When applying liquid wastes, application rate should not exceed the soil's infiltration rate.
- For small grains like wheat, barley, rye and oats and small grains double-cropped with soybeans, TOTAL N recommendation allows up to 30 lbs N per acre at planting if allowed by the Fall Soil Nitrate Test, and 1 lbs of N per bushel of yield goal in the spring, split applied. In Spring application, topdress half at green-up, but not prior to February 15th, and the other half at Feekes 5-6.
- When surface applying the following nitrogen fertilizers, adjust rates as follows: if UAN is surface broadcast, increase rate by 15-20%; if UAN is dribbled or streamed, increase rate by 5-10%; if granulated urea is broadcast, increase rate by 25%.
- Organic P values in the Phosphorus Management Tool are based on the sources planned to be applied on this site with the highest Organic P value for the given N based application rate for each field. No P is allowed to be applied to the fields other than what is justified by the PMT. If a source with a higher Organic P value is desired to be applied, the PMT will be updated accordingly.
- The nutrient application rate is phosphorus-based for those fields that have a Phosphorus Site Index report attached. Otherwise, the application rate is nitrogen-based.
- Nutrient application is prohibited when the soil is saturated, ground is covered with snow greater than one inch, or when the ground is hard-frozen greater than two inches.
- A minimum 10-ft. setback is required for all nutrient applications adjacent to surface waters and streams. A 35-ft. setback is required when using broadcast fertilizer. No crops may be grown in the 10-ft. setback except pasture and hay. The remaining 25-ft. setback may have crops but may only be fertilized using a direct application method.
- Natural perennial or intermittent streams require a setback. Channelized perennial streams require a setback if it lies within a floodplain soil map unit, within a hydric soil map unit, or within a "B" slope or greater. Channelized intermittent waterways, and ephemeral waterways do not require a setback.

ADDITIONAL NOTES:

- Proper timing of nutrient applications is important. Apply nutrient sources as close to planting or nutrient demand as possible so that nutrients are absorbed by plants quickly and not allowed to runoff into surface water or leach into ground water.
- Nutrient application made during the spring - summer time, March 1 through September 9, is permitted for an existing crop or a crop to be planted during this time period.
- Fall application, September 10 through December 15 of organic nutrient source is permitted for pasture land, hay-land or other acreage under vegetative cover. Application to fallow cropland shall plant a cover crop as soon as possible after application but no later than November 15.
- If application is phosphorus-based, fall-application of organic nutrients for a fall seeded crop shall be based on the phosphorus recommendations for that crop. For crops to be planted the following spring, (before June 1), may not exceed the one year crop removal rate of phosphorus for the spring planted crop. Application shall follow the provisions of the Phosphorus Site Index, and shall not exceed plant available nitrogen of 50 lbs. per acre.
- If application is nitrogen-based, fall-application of organic nutrient for a fall-seeded crop shall be based on nitrogen recommendations as outlined in Section I-B of the Maryland Nutrient Management Manual. If application is for a crop to be planted the following spring (before June 1), then nitrogen may not exceed 50% of the plant available nitrogen recommendations for that crop and 50 lbs of nitrogen per acre.
- For small grains, fall nitrogen rate of up to 30 lbs. plant available nitrogen per acre depends upon residual soil nitrate concentration. Nitrogen may not be applied in fall if soil nitrate test is greater than 10ppm for wheat or greater than 15ppm for barley.
- Winter application, December 16 through February 28, for a crop to be planted the following spring is prohibited except under special circumstances, limited storage, non-stackable products (<40% solids content), and there is no other reasonable option to manage.
- No winter applications are allowed except for livestock operations with less than 50 animal units and municipal wastewater treatment plants with a design flow capacity of less than 0.5 million gallons per day. This exception expires after the winter application that ends on February 28, 2020, at which time all winter applications must be stopped.
- The prohibition against making a winter application of an organic nutrient source does not apply to potash, liming materials, and manure deposited directly by livestock; or for certain vegetable crops, small fruit crops, small grain crops, and cool season sod listed in Section I-B of the Maryland Nutrient Management Manual.
- If a winter exception is allowed then winter restrictions apply. Winter rates shall be minimized and in no case exceed the one-year phosphorus removal rate for the next harvested crop. Applications shall be made on existing vegetative cover, small grain crops, or established hay fields and pastures and cover shall be maintained as such until March 1st.
- Applications required in emergency situations shall be managed in consultation with the Maryland Department of Agriculture. Operators shall contact the MDA regional nutrient management representative for guidance.
- Organic nutrient sources shall be injected or incorporated as soon as possible, but no later than 48 hours after application, except those farm operations that choose to manage their farms to obtain benefits of no-till farming will not be required to incorporate.
- Sites with a LOW PMT loss rating are approved for nitrogen-based nutrient applications as long as the Phosphorus application does not exceed the limit justified by the PMT.
- Sites with a MEDIUM PMT loss rating are approved for nitrogen-based nutrient applications for 1 out of the next 3 years, and are restricted to phosphorus removal rates for 2 out of the next 3 years.
- Sites with a HIGH PMT loss rating are restricted to annual crop phosphorus removal rates, and practical management practices for removing P loss by surface runoff, subsurface flow, or erosion shall be implemented.
- Sites with a VERY HIGH PMT loss rating shall have no phosphorus applied to this site, and practical management practices for removing P loss by surface runoff, subsurface flow, or erosion shall be implemented.

APPLICATION RATES IN DT/ACRE FOR

SITE: CR 149

DATE: 12/16/2021

PLANT AVAILABLE NITROGEN (PAN) PER DRY TON OF BIOSOLIDS

FIELD	CROP	LBS N REQUIRED BY CROP	AN	BN	MDC	PA	BW	CC	BR	BC		BO	DA	DR		FRC		K	LT	LP-LS	LP-DIG	MT			MA	OC-LS	PWY
			21.52	27.57	29.5	22.3	26.3	26.5	35.4	20.3		27.6	31.1	15.2		39.7		36.5	35.3	TBD	49.6	35.2				20.1	16.6
1	Com	174	8.1	6.3	5.9	7.8	8.6	6.6	4.9	8.6		6.3	5.8	11.4		4.4		4.6	4.9	#####	3.5	5.0			8.7	10.5	6.2
	Soybeans	50	2.3	1.8	1.7	2.2	2.5	1.9	1.4	2.5		1.8	1.6	3.3		1.3		1.3	1.4	#####	1.0	1.4			2.5	3.0	1.8
	Com		#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####		#####		#####	#####	#####	#####	#####			#####	#####	#####
	Soybeans		#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####		#####		#####	#####	#####	#####	#####	#####			#####	#####
	Com		#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####		#####		#####	#####	#####	#####	#####			#####	#####	#####
	Soybeans		#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####		#####		#####	#####	#####	#####	#####	#####			#####	#####
	Com		#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####		#####		#####	#####	#####	#####	#####			#####	#####	#####
	Soybeans		#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####		#####		#####	#####	#####	#####	#####	#####			#####	#####

Sur = Surface Applied Liquid
Inc = Incorporation

No surface application rates on corn & soybeans

APPLICATION RATES IN DT/ACRE FOR

SITE: CR 149
 DATE: 12/16/21

PLANT AVAILABLE NITROGEN (PAN) PER DRY TON OF BIOSOLIDS

FIELD	CROP	LBS N REQUIRED BY CROP	HDG	MSM	FTC		PI	RH	SE	SRL-Sur	SRL-Inc	SRC			VF		WS	MCI	FD	MTA				
			26.0	48.1	37.3		23.1	2.3	38.9	49.0	78.4	29.7					27.3		31.2	24.2	31.8	35.1		
1	Corn	174	6.7	3.6	4.7		7.5	76.7	4.5		2.4	5.9			6.4		5.6	7.2	5.5	5.0				
	Soybeans	50	1.9	1.0	1.3		2.2	22.0	1.3		0.7	1.7			1.8		1.6	2.1	1.6	1.4				
	Corn		#####	#####	#####		#####	#####	#####		#####	#####			#####		#####	#####	#####	#####				
	Soybeans		#####	#####	#####		#####	#####	#####		#####	#####			#####		#####	#####	#####	#####				
	Corn		#####	#####	#####		#####	#####	#####		#####	#####			#####		#####	#####	#####	#####				
	Soybeans		#####	#####	#####		#####	#####	#####		#####	#####			#####		#####	#####	#####	#####				
	Corn		#####	#####	#####		#####	#####	#####		#####	#####			#####		#####	#####	#####	#####				
	Soybeans		#####	#####	#####		#####	#####	#####		#####	#####			#####		#####	#####	#####	#####				

Sur = Surface Applied Liquid
 Inc = Incorporation

No surface application rates on corn & soybeans

WWTP	Symbol	PAN *	P2O5 **	K2O	Include?
Annapolis Cake	AN	21.52	76.94	2.99	X
Broadneck Cake	BN	27.57	85.19	4.75	X
MD City Cake	MDC	29.48	61.83	9.92	X
Patuxent Cake	PA	22.34	65.04	7.01	X
Broadwater	BW	20.30	36.09	2.85	X
Cox Creek	CC	26.48	59.08	8.29	X
Back River	BR	35.40	99.39	4.05	X
Ballenger Creek	BC	20.28	44.61	4.02	X
Bowie	BO	27.55	75.90	6.05	X
Damascus LS	DA	31.07	98.93	9.95	X
Dorsey Run	DR	15.23	40.51	1.32	X
Fort Meade	FM-Sur				
Fort Meade	FM-Inc				
Frederick City	FRC	39.69	146.56	3.89	X
Kent Island WWTP's	KI	38.50	115.87	10.22	X
Leondartown	LT	35.32	68.70	10.02	X
Little Patuxent LS	LP-LS	TBD	TBD	TBD	X
Little Patuxent DIG	LP-DIG	49.60	129.16	5.43	X
Marlay Taylor	MT	35.15	115.15	4.29	X
Marlboro Meadows	MM-Sur				
Marlboro Meadows	MM-Inc				
Mattawoman	MA	20.08	70.07	3.63	X
Ocean City - Lime Stabilized	OC-LS	16.61	41.65	4.53	X
Parkway	PWY	28.08	60.00	2.16	X
Havre de Grace	HdG	25.98	96.18	6.96	X
Mount St. Mary's University	MSM	48.12	106.03	12.19	X
Taneytown Cake	TTC	37.27	135.57	9.12	X
Piney Orchard	POR				
Piscataway	PI	23.05	57.32	0.65	X
Rock Hall Cake	RH	2.27	8.56	0.02	X
Seneca Creek LS	SE	38.93	108.55	7.81	X
Sod Run Liquid	SRL-Sur	49.04	200.95	10.72	X
Sod Run Liquid	SRL-Inc	73.40	200.95	10.72	X
Sod Run Cake	SRC	29.66	90.68	3.02	X
Thurmont Liquid	TH-Sur		0.00	0.00	
Thurmont Liquid	TH-Inc		0.00	0.00	
Thurmont Cake	THC		0.00	0.00	
Valley Forge, PA	VF	27.26	35.57	3.20	X
Viasic	VL-Sur				
Viasic	VL-Inc				
Wicomico Shores	WS	31.24	91.60	4.80	X
MCI	MCI	24.18	67.98	5.14	X
Freedom District	FD	31.77	107.96	5.36	X
Mt. Airy	MTA	35.10	86.23	9.65	X
Cedarville Lagoon	CDL				

* Values from MDE PAN Table 10/7/2021

** Values from SYN 10/20 - 9/21 Data or MDE PAN Table 10/7/2021

Report Number: 21-302-0683

Account Number: 25002



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 Baltimore MD 21220

"Every acre...Every year."™

Grower: Koubek

Farm: CR 149

SOIL ANALYSIS REPORT

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

Date Received: 10/29/2021

Date Of Analysis: 11/01/2021

Date Of Report: 11/02/2021

MD = Maryland Fertility Index Value

Sample ID Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	M3 ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
1	15154	1.0 L		65	176 VH MD = 194			32 VL MD = 19	68 H MD = 55	394 M MD = 23	16 L	5.9	6.87	0.6	3.3

Sample ID Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts
	K %	Mg %	Ca %	Na %	H %	NO ₃ N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate
1	2.5	17.2	59.7	2.1	18.2		8 VL	6.8 H	8 L	168 VH	3.4 VH	0.4 L	

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

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

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

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: *Pauric Mc Groary*

Pauric Mc Groary Ph.D., CPAg

CR 149

**lbs P2O5 TOTAL
Removed per lbs P2O5**

Crop Year	Crop	Yield	yield unit	Removed
Spring Yr 1	Corn	174	0.4	69.6
Fall Yr 1	Wheat	0	0.56	0
Spring Yr 2	Soybeans	50	1	50
Fall Yr 2	Fallow	0	0	0
Spring Yr 3	Corn	174	0.4	69.6
Fall Yr 3	Wheat	0	0.56	0
VALUE USED IN PMT CALCULATION =				189.2

UM Phosphorus Management Tool (PMT) Report

Farmer Name	Edward Koubek			Year	2021
	1 (prim)				
Account ID	0605006538				
County	Caroline				
Tract or Farm ID	CR 149				
Field ID	1				
MUSYM	RoA				
Area Crop	0.0 Acres				
Organics					
R Factor	190				
Adj. K Factor LS Factor	0.14 0.08				
C P Factors	0.14 1.00				
RUSLE A	0.30				
Transport Risk Factors					
SED Value	2				
Soil Permeability Class	Moderate				
Field slope Concave? SR Factor	1.00 No 5.6				
Soil Drainage Class	well				
HSG Artificial Drainage? SD Factor	A No 0.0				
Management Factors					
Distance to Water (DF)	200-349 ft 0.6				
Buffer Width & Type (BF)	> 50' veg. 0.8				
Soil Test P Fertility Index Value	194				
Degree of P Saturation (DPS M3)	50.0 (est.)				
Fert. P appl. rates, lb/A FP * PSC	- - - 0				
Org. P appl. rates, lb/A OP * PSC	190 - - 38				
Runoff Fert. P appl. methods AMr(f)	- - - 0.00				
Runoff Org. P appl. methods AMr(o)	M2 - - 0.40				
Subsurface Fert. P appl. methods AMsub(f)	- - - 0.00				
Subsurface Org. P appl. methods AMsub(o)	M1 - - 0.32				
P particulate P runoff P subsurface	19 31 0				
P Loss Rating Score	50 (L)				

PMT 3 YEAR CROP REMOVAL

SITE: CR 149

DATE: 12/16/21

PMT - 3 YEAR CROP REMOVAL RATES (DT/ACRE)

	AN	BN	MDC	PA	BW	CC	BR	BC	#	BO	DA	DR	#	#	FRC	#	KI	LT	LP-LS	LP-DIG	MT	#	#	MA	OC-LS	PWY	
	76.94	85.19	61.83	65.04	36.09	59.08	99.39	44.61	#	75.90	98.93	40.51	#	#	146.56	#	115.87	68.70	TBD	129.16	115.15	#	#	70.07	41.65	60.00	
P2O5 DT/AC	2.5	2.2	3.1	2.9	5.2	3.2	1.9	4.2	#	2.5	1.9	4.7	#	#	1.3	#	1.6	2.8	#####	1.5	1.6	#	#	2.7	4.5	3.2	
lbs N/Ac	52.9	61.2	90.2	65.0	106.4	84.8	67.4	86.0	#	68.7	59.4	71.1	#	#	51.2	#	62.9	97.3	#####	72.7	57.8	#	#	54.2	75.5	88.5	
FIELD #	** HIGHEST PAN RATE (DT/ACRE)																										
1	8.1	6.3	5.9	7.8	8.6	6.6	4.9	8.6	#	6.3	5.6	11.4	#	#	4.4	#	4.5	4.9	#####	3.5	5.0	#	#	8.7	10.5	6.2	
0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####
0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####
0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####
0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####
0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####
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0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####
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0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####
0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####
0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####
0	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#	#	#####	#	#####	#####	#####	#####	#####	#####	#	#	#####	#####	#####

** INDIVIDUAL FIELD PAN RATES HIGHLIGHTED IN PINK ARE LIMITED BY 3 YR CROP REMOVAL RATE LISTED ABOVE FOR EACH SPECIFIC BIOSOLIDS SOURCE

PMT 3 YEAR CROP REMOVAL
 SITE: CR 149
 DATE: 12/16/21

		PMT - 3 YEAR CROP REMOVAL RATES (DT/ACRE)																						
	HdG	MSM	TTC		PI	RH	SE	SRL-Sur	SRL-Inc	SRC				VF		WS	MCI	FD	MTA					
	96.18	106.03	135.57	#	57.32	8.56	108.55	200.95	200.95	90.68	##	##	##	35.57	#	91.60	67.98	107.96	86.23	#	#	0.00	##	##
P205 DT/AC	2.0	1.8	1.4	#	3.3	22.1	1.7	0.9	0.9	2.1	##	##	##	5.3	#	2.1	2.8	1.8	2.2	#	#	#####	##	##
lbs N/AC	51.1	85.9	52.0	#	76.1	50.2	67.9	46.2	69.1	61.9	##	##	##	145.0	#	64.5	67.3	55.7	77.0	#	#	#DIV/0!	##	##
FIELD #																								
	1	6.7	3.6	4.7		7.5	76.7	4.5	0.0	2.4	5.9	0.0		6.4		5.6	7.2	5.5	5.0					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					
	0	#####	#####	#####		#####	#####	#####	0.0	#####	#####	0.0		#####		#####	#####	#####	#####					

** INDIVIDUAL FIELD PAN RATES HIGHLIGHTED IN PINK ARE LIMITED BY 3 YR CROP REMOVAL RATE LISTED ABOVE FOR EACH SPECIFIC BIOSOLIDS SOURCE

NUTRIENT APPLICATION SETBACKS FROM SURFACE WATER:

(5-19-15)

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.

Farm Name(s)	Is Surface Water Present on the farm that requires a setback (Yes or No)	Field(s) requiring a Nutrient Application Setback*	Nutrient Application Setback Required (Indicate with "Yes" in appropriate column(s).)		
			Livestock on Pasture ≥ 10 ft.	Directed Application** ≥ 10 ft.	Broadcast Application or Sacrifice Lots*** ≥ 35 ft.
CR 149 Koubek	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)