



LAND APPLICATION OF BIOSOLIDS
CHERRY GROVE FARM

SP 1 (FIELDS 39-43)
SPOTSYLVANIA COUNTY, VIRGINIA
NOVEMBER 2015



November 27, 2015

Mr. Edward Stuart
Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193

Dear Mr. Stuart:

Transmitted herein for your consideration is land application site for Cherry Grove Farm (designated as SP 1, fields 39-43), located in Spotsylvania County, Virginia. This submission contains strictly site specific information. Please refer to the operations and maintenance manual submitted under separate cover for all non-site specific information.

Do not hesitate to contact me at (804) 443-2170 should you have any questions or require additional information.

Sincerely,

A handwritten signature in blue ink that reads "Carolanne M. Whiteside".

Carolanne M. Whiteside
Technical Services Coordinator

**VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION
FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS**

PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS

A. This land application agreement is made on 12-4-12 between Sam Harris referred to here as "Landowner", and Synagro, referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

Landowner:

The Landowner is the owner of record of the real property located in Spotsylvania Co, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
40-A-8			
40-A-9			
40-A-11			

Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one:

- The Landowner is the sole owner of the properties identified herein.
 The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

<u>Class B biosolids</u>	<u>Water treatment residuals</u>	<u>Food processing waste</u>	<u>Other industrial sludges</u>
X Yes <input type="checkbox"/> No			

<u>SAM HARRIS</u>	<u>Sam Harris</u>	<u>5801 Zachary Taylor Ln</u>
Landowner - Printed Name, Title	Signature	Mailing Address
		<u>Mineral Va. 231</u>

Permittee:

Synagro, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

<u>Madison Holsinger</u>	<u>Madison Holsinger</u>	<u>10647 Tidewater Trail Champlain, VA 22438</u>
Permittee - Authorized Representative	Signature	Mailing Address
Printed Name		

Permittee: Synagro County or City: Spotsylvania

Landowner: Sam Harris

Landowner Site Management Requirements:

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
 - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
 - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
 - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
 - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
 - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
 - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
 - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
 - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

 - a. Meat producing livestock shall not be grazed for 30 days,
 - b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
 - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).



Landowner's Signature

12-19-12

Date

SPI

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION
FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS

PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS

A. This land application agreement is made on 12-4-12 between W.D. Harris referred to here as "Landowner", and Synagro, referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes.

Landowner:

The Landowner is the owner of record of the real property located in Spotsylvania Co, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges. Table with 4 columns: Tax Parcel ID, Tax Parcel ID, Tax Parcel ID, Tax Parcel ID. Rows contain handwritten IDs: 40-A-11, 54-A-2, 54-A-62, 40-A-9, 40-A-8.

Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one: [] The Landowner is the sole owner of the properties identified herein. [X] The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

- 1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
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Class B biosolids Water treatment residuals Food processing waste Other industrial sludges
[X] Yes [] No [X] Yes [] No [X] Yes [] No [X] Yes [] No

W.D. Harris Landowner -- Printed Name, Title
W.D. Harris Signature
5903 Cherry Grove Lane Mailing Address
Spotsylvania Va 23111

Permittee:

Synagro, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

Madison Holsinger Permittee -- Authorized Representative Printed Name
[Signature] Signature
10647 Tidewater Trail Champlain, VA 22438 Mailing Address

Permittee: Synagro County or City: Spotsylvania

Landowner: W. D. Harris

Landowner Site Management Requirements:

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

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6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

W.D. Harris

Landowner's Signature

12-4-12

Date

SP1

TAX ID LANDOWNER IDENTIFICATION SHEET

Landowner	Field Number	Tax ID
William D Harris or Samuel N Harris	01-39	40-A-8, 40-A-9
William D Harris or Samuel N Harris	01-40	40-A-11
William D. Harris	01-41	54-A-2
William D Harris or Samuel N Harris		40A-8
William D. Harris	01-42	54-A-2
William D Harris or Samuel N Harris		40A-8
William D. Harris	01-43	54-A-6
William D Harris or Samuel N Harris		40A-11

Field Number	Latitude (North)	Longitude (West)
01-39	38.171°	77.882°
01-40	38.177°	77.874°
01-41	38.168°	77.891°
01-42	38.165°	77.886°
01-43	38.171°	77.878°

Haul Route:

The Location maps in conjunction with the above latitude and longitude coordinates are a route planning tool meant to be a guide to indicate suggested haul routes for various preferences: to include but not limited to all federal, state, and local granted STAA access routes.

Farm Summary Report

Plan: New Plan Fall, 2015 - Winter, 2016

Farm Name: Cherry Grove Farm

Location: Spotsylvania

Specialist: Jeffery R Douthit

N-based Acres: 104.0

P-based Acres: 0.0

Tract Name: SP1

FSA Number: 0

Location: Spotsylvania

Field Name: 39

Total Acres: 5.20 Usable Acres: 5.20

FSA Number: 0

Tract: SP1

Location: Spotsylvania

Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
	[NO TEST]			

Soils:

PERCENT	SYMBOL	SOIL SERIES
57	12B	Cecil
11	13C2	Cecil Pacolet
31	28B	Margo
1	39C2	Tatum

Field Warnings:

Field Name: 40
Total Acres: 9.30 Usable Acres: 9.30
FSA Number: 0
Tract: SP1
Location: Spotsylvania
Slope Class: C Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
	[NO TEST]			

Soils:

PERCENT	SYMBOL	SOIL SERIES
30	12B	Cecil
33	13C2	Cecil Pacolet
15	27C	Louisburg
20	1B	Abell
2	4C2	Appling Wedowee

Field Warnings:

Field Name: 41
Total Acres: 21.50 Usable Acres: 21.50
FSA Number: 0
Tract: SP1
Location: Spotsylvania
Slope Class: C Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
	[NO TEST]			

Soils:

PERCENT	SYMBOL	SOIL SERIES
15	1B	Abell
30	4C2	Appling Wedowee
2	4D2	Appling Wedowee
17	10	Cartecay
27	13C2	Cecil Pacolet
9	27D	Louisburg

Field Warnings:

Environmentally Sensitive Soils due to:

Soils with potential for leaching based on soil texture or excessive drainage

Soils with percent slope in excess of 15%

Field Name: 42
Total Acres: 23.30 Usable Acres: 23.30
FSA Number: 0
Tract: SP1
Location: Spotsylvania
Slope Class: C Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
[NO TEST]				

Soils:

PERCENT	SYMBOL	SOIL SERIES
10	1B	Abell
6	4C2	Appling Wedowee
3	4D2	Appling Wedowee
18	12B	Cecil
47	13C2	Cecil Pacolet
16	27D	Louisburg

Field Warnings:

Environmentally Sensitive Soils due to:

Soils with potential for leaching based on soil texture or excessive drainage

Soils with percent slope in excess of 15%

Field Name: 43
Total Acres: 23.80 Usable Acres: 23.80
FSA Number: 0
Tract: SP1
Location: Spotsylvania
Slope Class: C Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
[NO TEST]				

Soils:

PERCENT	SYMBOL	SOIL SERIES
6	4C2	Appling Wedowee
26	12B	Cecil
5	27C	Louisburg
4	27D	Louisburg
39	13C2	Cecil Pacolet
17	1B	Abell
2	34B	Partlow
1	42B	Toddstav

Field Warnings:

ENVIRONMENTALLY SENSITIVE AREAS

Field	Reason for Sensitive Area
01-39	High Water Table (Map Unit 28B - 31%)
01-40	Leaching (Map Unit 27C - 15%)
01-41	Leaching (Map Unit 27D - 9%)
01-42	Leaching (Map Unit 27D - 16%)
01-43	Leaching (Map Units 27C, 27D - 9%) High Water Table (Map Unit 42B - 1%) Frequent Flooded Soils (Map Unit 34B - 2%)

Spotsylvania County Soils that are Environmentally Sensitive

Soil Map Unit	Series Name	Time of year		Environmental
		High Water	Flooded	
2B	Altavista	Dec – March	April – July	
5, 6, 7B	Aquults	Dec – April		
10	Cartecay	Jan – April	Dec – March	Leaching
14B, 14C	Colfax	Nov – June		
16	Dogue	Jan – March		
17C, 17D, 17E	Dystrochrepts	Nov – April		Leaching
23	Fluvaquents	Nov – Jan	Nov – Jan	
27C, 27D, 27E	Louisburg			Leaching
28B	Margo	Nov – March		
33B, 33C2	Orange	Dec – May		
34B	Partlow	Nov – May	Jan – Dec	
36A, 36B	Savannah	Dec – May		
40	Tetotum	Dec – March		
42B	Toddstav	Nov – May		
47E	Watt			Shallow

Map Legend



House/Dwelling with a well

- 200' buffer-dwelling (with conditions for reduction);
- 100' buffer-well



Rock Outcrop

- 25' buffer



Limestone Outcrop / Closed Sinkholes

- 50' buffer



Well

- 100' buffer



Lake/Pond

- 35' w/vegetative buffer; 100' without vegetative buffer



Slope which exceeds 15%



"PAS" - Publicly Accessible Site

- 200' buffer



Intermittent Stream

- 35' w/vegetative buffer; 100' without vegetative buffer



Stream/River

- 35' w/vegetative buffer; 100' without vegetative buffer



Agricultural/Drainage Ditch

- 10' buffer

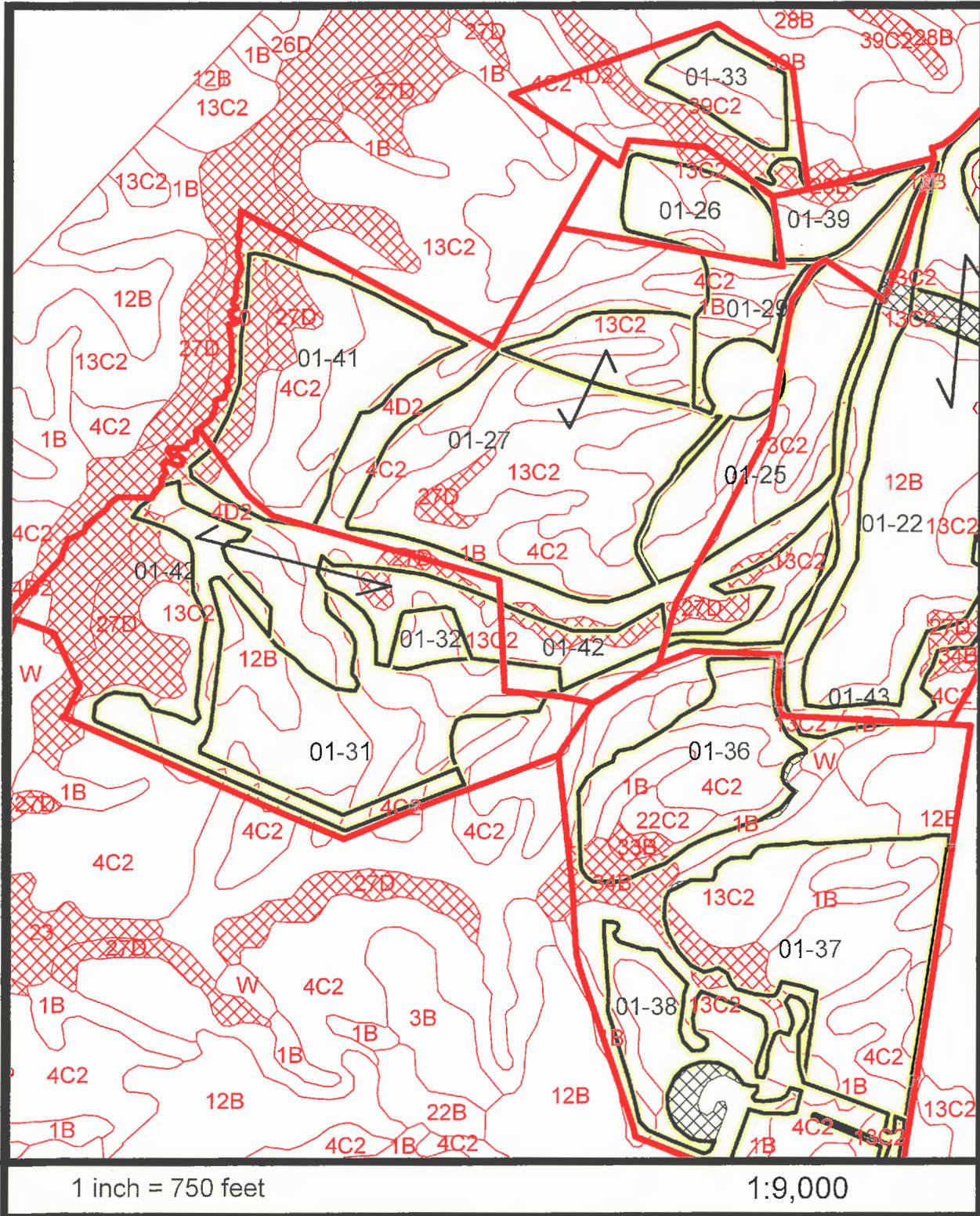


Field Boundary



Property Line

- 100' buffer unless waiver issued



SOIL MAP

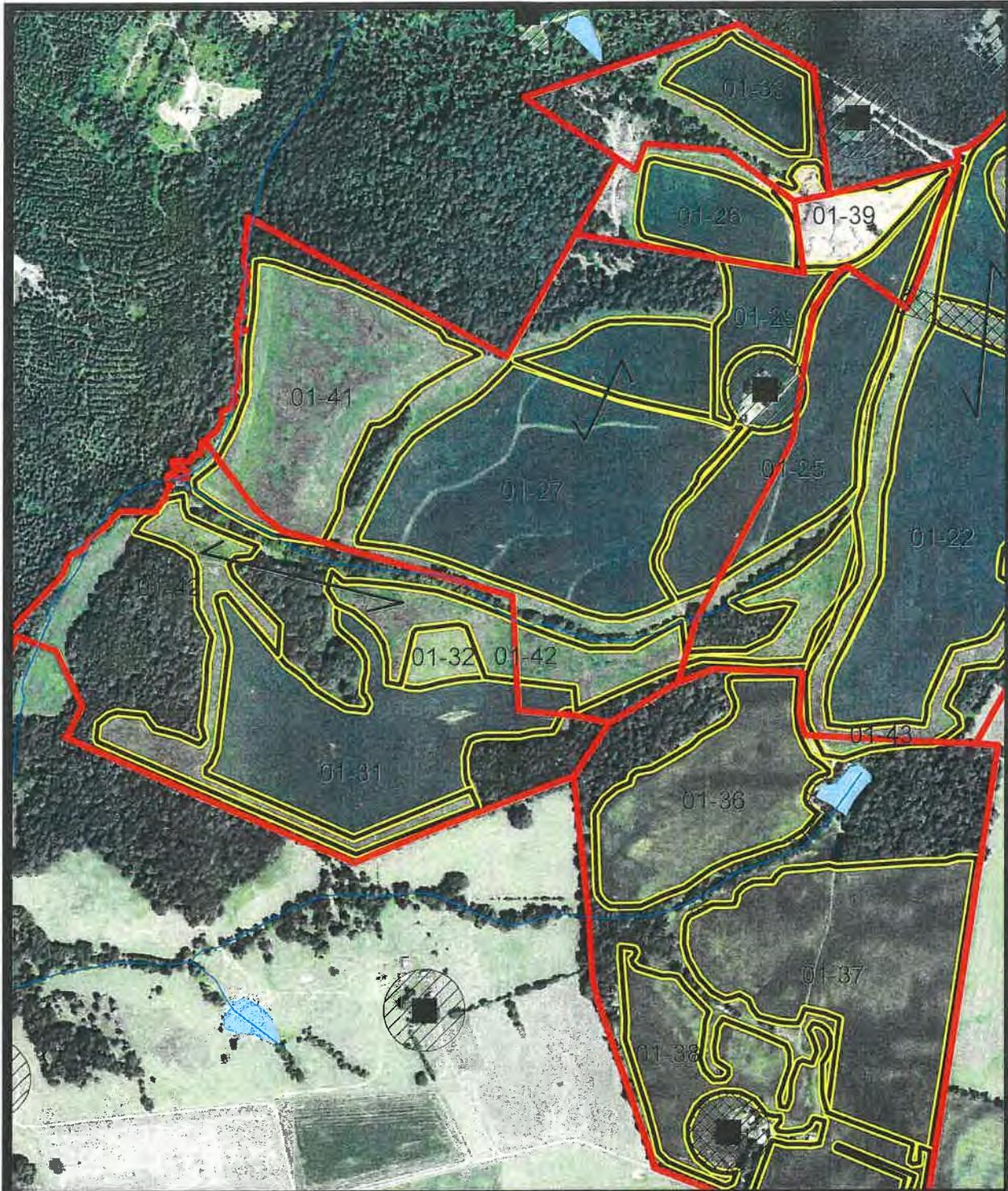
CREATED 11-20-2015

 Environmentally Sensitive Areas



AERIAL MAP

CREATED 11-25-2015

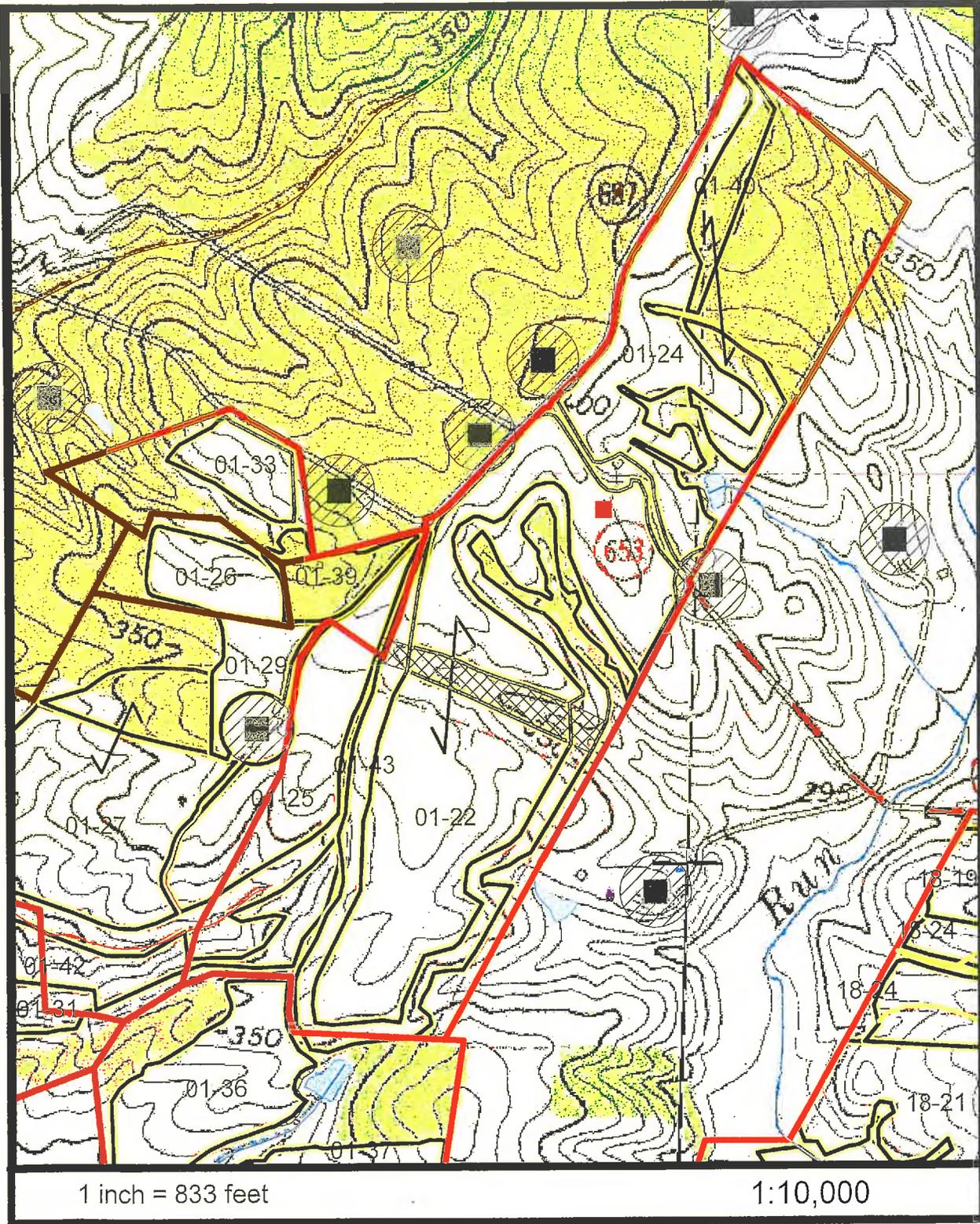


1 inch = 750 feet

1:9,000

AERIAL MAP

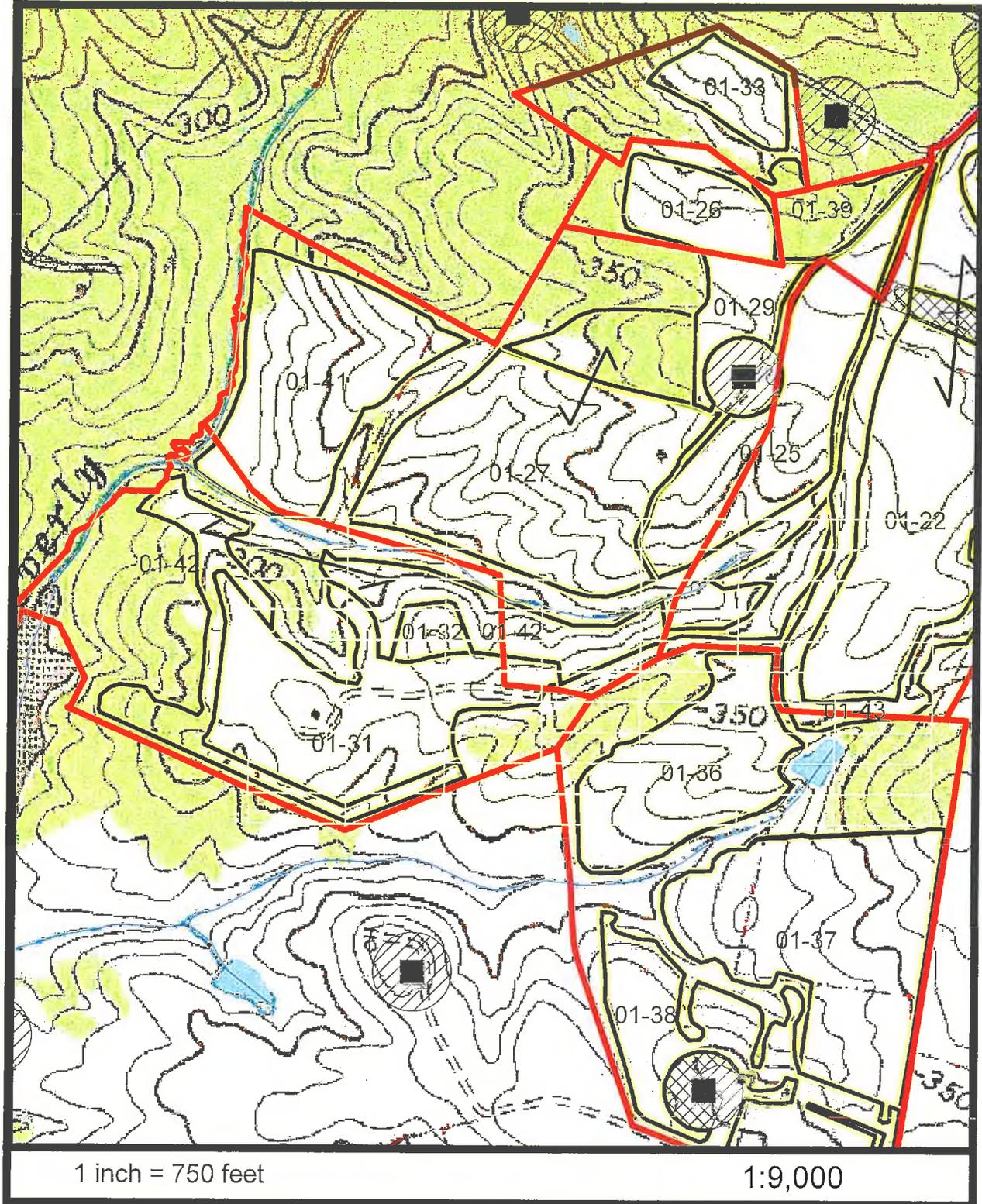
CREATED 11-20-2015



FIELD	ACRES
01-39	5.2
01-40	9.3
01-43	23.8

TOPO MAP

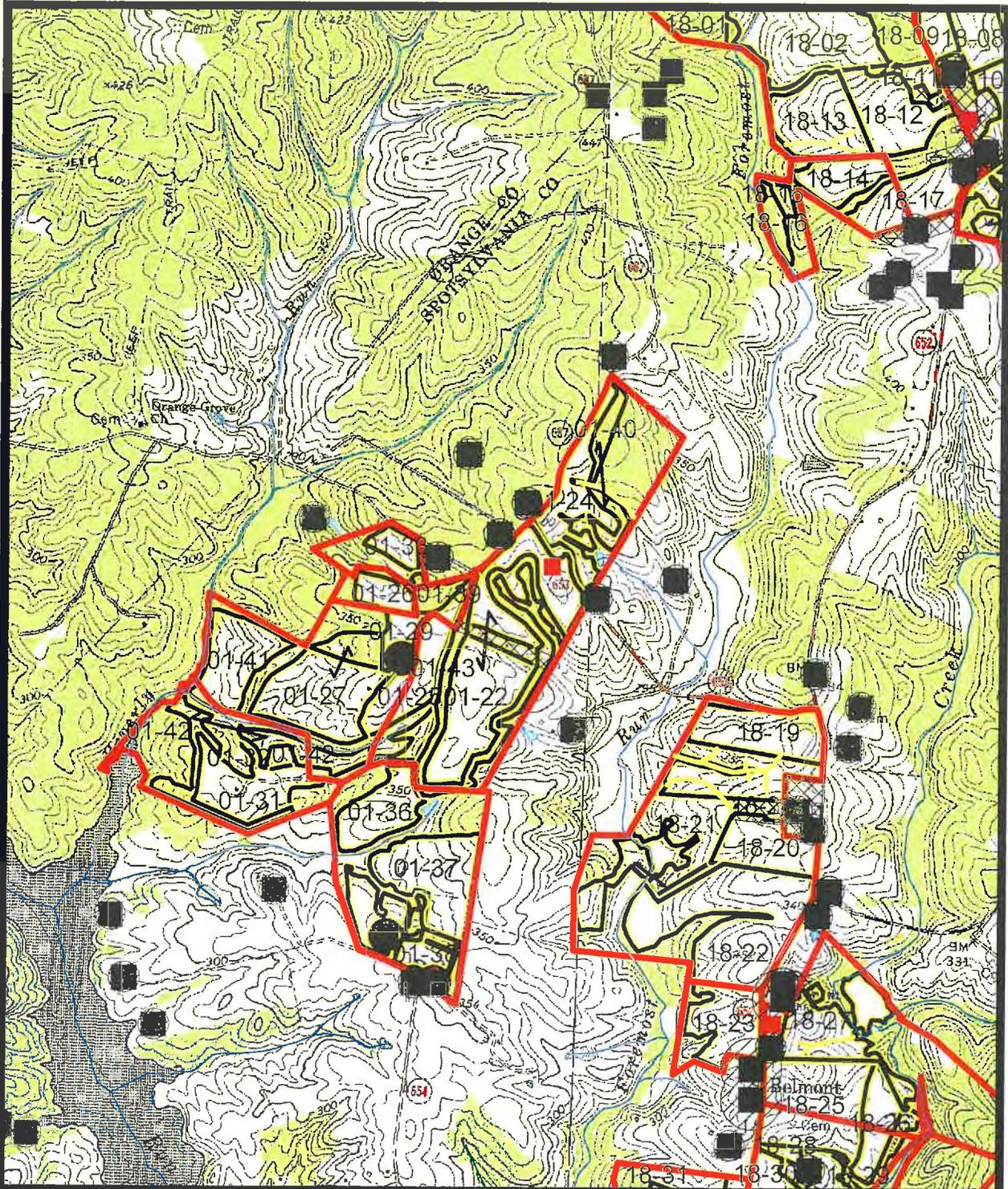
CREATED 11-25-2015



AERIAL MAP

CREATED 11-20-2015

FIELD	ACRES
01-41	21.5
01-42	23.3



1 inch = 2,000 feet

1:24,000

TOPO MAP

CREATED 11-25-2015

