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AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §1251 et seq.; the "CWA"), the provisions of the New Hampshire Surface Water Quality Standards and Regulations (Chapter Env-Wq 1700 et seq.; Title 50, Water Management and Protection, Chapter 485A, Water), and the provisions of the Vermont Water Pollution Control Act, as amended, (10 V.S.A. Chapter 47) and Vermont Water Pollution Control Permit Regulations, as amended,

Forbes Farm Partnership, Inc.

is authorized to discharge from a Concentrated Animal Feeding Operation facility located at:

304 North Road and 35 Grange Road
Lancaster, NH 03583

and

Route 102 (Satellite Lagoon)
Guildhall, VT 05905

to receiving waters named: **Unnamed Tributary to Otter Brook, Martin Meadow Pond, Otter Brook, Israel River, Wetland to Unnamed Tributary to Connecticut River, Unnamed Tributary to Connecticut River, and Connecticut River (Upper CT Watershed, Hydrologic Basin Code NHRIV8010805-06)**

in accordance with the effluent limitations, monitoring requirements and other provisions set forth herein including, but not limited to, conditions requiring the proper operation and maintenance of the Forbes Farm facility.

This permit will become effective on the first day of the calendar month immediately following sixty days after signature. *

This permit and the authorization to discharge will expire at midnight, five (5) years from the last day of the month preceding the effective date.

This is the first permit issuance for this facility.

This permit consists of **Part I** (22 pages including effluent limitations, monitoring requirements, and nutrient management requirements), **Attachment A** (Nutrient Management Plan for the Forbes Farm Partnership, 2017), **Attachment B** (Supplemental NMP Provisions), and **Part II** (19 pages including NPDES Part II Standard Conditions for CAFO NPDES Permits).

Signed this day of

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Ken Moraff, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency (EPA)
Region I
Boston, MA

*Pursuant to 40 CFR 124.15(b)(3), if no comments requesting a change to the draft permit are received, the permit will become effective upon the date of signature.

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PART I

A. Discharge Limitations and Monitoring Requirements

1. Production Area Process Wastewater Discharges

The Production Area includes but is not limited to the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to the permittee's lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions which separate uncontaminated storm water. The Production Area also includes any area used in the storage, handling, treatment, or disposal of mortalities.

During the period beginning on the effective date of this permit and lasting through its expiration date, the following discharge from the Production Area is authorized:

a. There shall be no discharge of process wastewater pollutants into waters of the United States from the Production Area except when rainfall causes an overflow, provided that each of the following criteria are met:

(1) The permittee's Production Area, shall be designed, constructed, operated and maintained to contain all manure, litter, process wastewater, and the direct precipitation from a 25-year, 24-hour rainfall event[1] for the location of the permittee's farm;

(2) The permittee's wastewater storage retention structures shall contain the volume of:

(A) all manure, litter, process wastewater, and other wastes accumulated during the critical storage period[2];

(B) normal precipitation[3] less evaporation during the 30-day storage period;

(C) all runoff from the Production Area's drainage area from rainfall events that are less than the 25-year, 24-hour rainfall event during the storage period;

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[1] Mean precipitation event with a probable recurrence interval of once in a 25-year period, as defined by the National Weather Service in Technical Paper No. 40, "Rainfall Frequency Atlas of the United States," May 1961, or equivalent regional or State rainfall probability information developed from this source. The amount of precipitation from a storm event of this type varies by location.

[2] The critical storage period for the permittee's facility is 180 days during the winter period when the permittee is not land applying process wastewater (See also: Attachment A, Nutrient Management Plan).

[3] The volume of normal precipitation for the storage period shall reflect the maximum amount of rainfall to be expected between emptying events. For example, if a storage structure is dewatered once every 6 months, the volume of normal precipitation shall reflect the precipitation that is expected during the wetter of the two summer vs winter 6-month storage periods.

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(D) direct precipitation onto the entire production area from the 25-year, 24-hour rainfall event;

(E) runoff from the Production Area from the 25-year, 24-hour rainfall event;

(F) residual solids remaining in the process wastewater retention structure after liquid has been removed; and,

(G) sediment load in the runoff from the Production Area.

(3) The permittee shall maintain on-site, engineering design and construction plans documenting that the permittee has sufficient storage capacity to ensure compliance with the effluent limitations specified in Part I.A.1.a. (1) and (2) above;

(4) All of the permittee's open surface liquid impoundments shall have a depth marker that clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour rainfall event. **Within ninety (90) days of the effective date of this permit**, the permittee shall submit either by mail or as an attachment to its DMR the following information to EPA, NHDES, and VTDEC: (1) a photograph of each depth marker, and (2) the foot elevation of each mark;

(5) Structures shall have a spillway that is designed in accordance with NRCS Standards, and shall be located at the lowest point along the perimeter of the wastewater storage structure. Each structure will provide freeboard that is designed to maintain the structural integrity of the process wastewater retention structure (i.e., freeboard cannot be included as part of the structure's storage capacity). The minimum freeboard distance shall be 12 inches;

(6) The maximum length of time between emptying events for the Production Area process wastewater retention structure is the 30-day storage period used by the permittee to calculate the required design volume of the collection system in Part I.A.1.a.(2)(B) above; and,

(7) The permittee shall implement the following maintenance activities as part of their weekly Inspections and shall summarize findings and action taken in its Annual Report:

(A) implement controls necessary to prevent plants and burrowing animals from eroding storage structure berms, embankments, liners, and sidewalls;

(B) maintain the necessary vegetation, rock, or other materials used to prevent erosion and stabilize berms and embankments;

(C) maintain necessary structures necessary (i.e., fencing) that is used to prevent animal access to the storage areas;

(D) ensure all inlets and outlets to the storage structures are not blocked by debris or ice; and

(E) inspect the perimeter of all storage structures to ensure any runoff or process wastewater is contained and repair any deficiencies identified.

Part I. A. 1, Continued;

b. Discharge Limitations, Inspections, and Monitoring Requirements

During the period beginning on the effective date of this permit and lasting through its expiration date, the permittee is required to conduct a visual inspection at least once per week and after all one inch or greater rainfall/precipitation storm events of all Forbes Farm-owned outfalls (Outfalls **001**, **002**, **003**, **004**, **005**, **006**, **007**, and **008**). For discharge monitoring reporting purposes, a calendar week is defined as Sunday to Saturday. If a discharge is observed during the weekly visual inspection or at any other time, the discharge is required to be monitored as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at a point representative of the discharge through the outfall, prior to mixing with the receiving water (top of the overflow structure, at the spillway).

Table 1 – Outfall Sampling Locations

Outfall No.	Outfall Sampling Location (latitude/longitude)	Storage Name	Location	Receiving Water
001	44^{o}28’45.32”N / 71^{o}31’56.18”W	Heifer Manure Pit	Old Milking Facility	Unnamed Tributary to Otter Brook to Israel River
002	44^{o}28’59.69”N / 71^{o}31’38.07”W	New Milking Barn Pit	New Milking Facility	Unnamed Tributary to Otter Brook
003	44^{o}29’09.52”N / 71^{o}31’45.09”W	New Heifer Manure Pit	New Milking Facility	Unnamed Tributary to Otter Brook
004	44^{o}29’10.90”N / 71^{o}36’39.06”W	Satellite Lagoon	Vermont	Wetland to Unnamed Tributary to Connecticut River, Unnamed Tributary to CT River, and CT River
005	44^{o}28’38.64”N / 71^{o}31’45.09”W	Waste Water Pit	Old Milking Facility	Unnamed Tributary to Otter Brook
006	44^{o}28’55.37”N / 71^{o}31’46.63”W	New Milk House and Parlor Pit	New Milking Facility	Unnamed Tributary to Otter Brook
007	44^{o}28’32.78”N / 71^{o}35’49.59”W	New Stacking Structure	Nadeau	Connecticut River
008	44^{o}28’22.26”N / 71^{o}38’02.43”W	Manure Pit at Farnsworth	385 Elm Street	Connecticut River

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Table 2 – Discharge Limitations and Monitoring Requirements

Parameter			**Discharge Limitation**			**Monitoring Requirement**[2-8]	
Effluent Characteristic	**Ambient Characteristic**	**Units**	**Average Monthly**	**Weekly Average**	**Maximum Daily**	**Measurement Frequency**	**Sample Type**
—	Rainfall/Precipitation[9-14]	inches	Report the intensity, duration and amount of precipitation			Daily, when rainfall is occurring	Daily Record
Flow[15]	—	gpd	—	—	Report	1/Discharge Event[1]	Estimated
BOD_5[15]	—	mg/l	—	—	Report	1/Discharge Event[1]	Grab
TSS[15]	—	mg/l	—	—	Report	1/Discharge Event[1]	Grab
pH[15,16]	—	SU	Report Minimum and Maximum			1/Discharge Event[1]	Grab
Dissolved Oxygen[15]	—	mg/l	Report Minimum Daily			1/Discharge Event[1]	Grab
Escherichia Coliform Bacteria[15,17]	—	cfu/100 ml or MPN	—	—	Report	1/Discharge Event[1]	Grab
Total Phosphorous[15]	—	mg/l	—	—	Report	1/Discharge Event[1]	Grab
Total Nitrogen[15,18]	—	mg/l and lbs/day	—	—	Report	1/Discharge Event[1]	Grab
Ammonia Nitrogen as N[15]	—	mg/l	—	—	Report	1/Discharge Event[1]	Grab

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Part I.A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS (Continued);

Footnotes:

1. A “discharge event” is defined as the time period when an overflow or discharge from the Production Area occurs (See also: Production Area definition under Part I.A.1.).

   The permittee shall:

   (i) collect the sample **within 30 minutes** of the first knowledge of the discharge; or,

   (ii) if sampling in that period is inappropriate due to dangerous weather conditions, collect the sample as soon as possible after suitable conditions occur, and document the reason for the delay.

   (iii) take all reasonable efforts to minimize, reduce, eliminate and prevent the overflow or discharge from reaching waters of the United States.

   (iv) notify Region 1 EPA’s Office of Environmental Stewardship by calling **1-617-918-1510** as soon as possible but no later than 24 hours following the first knowledge of the discharge.

   (v) if necessary, contact local emergency agencies.

   (vi) report the results of the discharge sample to Region 1 EPA, NHDES, and VTDEC in writing **within five (5) calendar days** of occurrence. The report shall, at a minimum, contain the sample results required by this permit, describe the reason for the discharge and any necessary actions taken or proposed (including a schedule) to prevent reoccurrence of the discharge.

2. The discharge from any outfall shall be minimized and controlled by implementation of the nutrient management terms and conditions specified in Part I.A.1.a and Part 1.B.1 of this permit.

3. The discharge shall not cause a violation of the water quality standards of the receiving water.

4. If a discharge occurs, monitoring requirements specified in Part I.A.1.b. shall be reported in NetDMR by the 15th day of the following month. See Part D.

   When more than one discharge (per outfall) occurs per month:
   If more than one discharge occurs from an outfall during a month, all monitoring results shall be attached to the permittee’s monthly DMR report by the 15th day of the following month as a pdf file.

   When no discharge occurs during a month:
   If a discharge has not occurred during a month, a no discharge code (“C”) shall be entered on the permittee’s DMR report by the 15th day of the following month.

5. The discharge shall be adequately treated to ensure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible pollutants. It shall be adequately treated to ensure that the surface waters remain free from pollutants which produce odor, color, taste or turbidity in the receiving waters which is not naturally occurring and would render it unsuitable for its designated uses.

6. All samples shall be tested in accordance with the procedures in 40 C.F.R. Part 136.

7. In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O, for the analysis of pollutants or pollutant parameters limited in this permit. A method is considered "sufficiently sensitive" when either (*1*) The method's minimum level (ML) is at or below the level of the effluent limit established in this permit for the measured pollutant or pollutant parameter; or (*2*) The method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O for the measured pollutant or pollutant parameter. The ML is not the minimum level of detection, but rather the lowest level at which the test equipment produces a recognizable signal and acceptable calibration point for a pollutant or pollutant parameter, representative of the lowest concentration at which a pollutant or pollutant parameter can be measured with a known level of confidence. For the purposes of this permit, the detection limit is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions (i.e., the level above which an actual value is reported for an analyte, and the level below which an analyte is reported as non-detect).

8. If the permittee monitors any pollutant at the locations designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the permittee's discharge monitoring report.

9. The permittee shall keep an on site a rain gauge that is properly maintained and located in the Production Area. A log shall be kept of each measurable rain event and reported as: intensity, duration, and amount. Each measurable rain event shall be reported concurrently with each rainfall event. The intensity, duration, and amount shall be reported on the monthly discharge monitoring report cover letter.

   (i) Intensity - The rate precipitation (inches/hour).

   (ii) Duration - The duration of the rainfall/precipitation shall begin at the start of a rain event greater than 0.1 inches in magnitude and end when the rain event ends (hours).

   (iii) Amount – The total amount of precipitation (inches).

10. The permittee's on-site rain gauge shall be kept free of debris, inspected for damages which may impair functionality, and secured tightly to a protected area of a building/structure which is inaccessible to wildlife as well as domestic animals. The permittee shall follow the manufacturer's directions for securing to a building structure. Measurements taken from the rain gauge must be recorded to the nearest 0.1 of an inch. The rainfall record does not need to be updated on any day when there is no rainfall.

11. In the event of a discharge, the permittee shall report the following information:

    (i) Total precipitation for each day a discharge occurred;
    (ii) Date on which the discharge occurred;
    (iii) Time in which the discharge flow initiated;
    (iv) Total duration of flow over the spillway for each day;

(v) Untreated flow from the structure (gallons); and,
(vi) Treated flow from the structure (gallons)(if treated).

12. Monitoring results in Part I.A.1.b., Table 2 will be reported by the 15th day of the following month using NetDMR.

13. Wet weather is defined as a rainfall event greater than 0.1 inches in magnitude, with less than 0.1 inches precipitation during the previous 72 hours.

14. Dry weather is defined as a time period during which there is less than 0.1 inches precipitation.

15. Flow shall be estimated (or sampled) at the same time that total phosphorus and other parameters are sampled at the spillway during an overflow discharge.

16. The permittee shall report the minimum and maximum pH values in Standard Units (SU).

17. The monitoring result for *Escherichia coli* bacteria shall be expressed as a geometric mean. *Escherichia coli* shall be tested using an approved method as specified in 40 Code of Federal Regulations (CFR) Part 136, List of Approved Biological Methods for Wastewater and Sewage Sludge. The units may be expressed as MPN for samples tested using the Most Probable Number method, or CFU/100 ml when using the Membrane Filter method.

18. Total Nitrogen (TN) = Total Kjeldahl + Nitrite/Nitrate

    Calculate the pounds of TN discharge on each sample date using the following equation:

    TN (lbs/day) = TN (mg/l) x volume discharged (million gallons) on day of sample x 8.34

    Pursuant to Part II.A.4. of this permit[4], the permitting agencies may reopen and amend this permit to include an alternate TN limitation and/or monitoring requirements based on the monitoring data, the results of nutrient management activities, or a formal Wasteload Allocation promulgated under EPA, NH, and/or VT Wasteload Allocation Rule for Total Nitrogen in the Connecticut River Watershed based on the Long Island Sound Total Nitrogen Total Maximum Daily Load.

    See also: Part I.A.5.c. of this Permit, "Optimizing Nitrogen Removal" requirements.

PART I. A. Additional Discharge Limitations and Monitoring Requirements

1. If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the CWA and in accordance with 40 CFR §§122.62 and 122.63.

2. The permittee must notify EPA as soon as it knows or has reason to believe:

    a. That any activity has occurred or will occur which would result in the discharge, on a routine basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

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[4] See: Part II of this Permit, Standard Conditions for CAFO NPDES Permits, Part II.A.4. Reopener Clause, page 2 of 19.

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(1) One hundred micrograms per liter (100 µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrite; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or

(4) Any other notification level established by EPA in accordance with 40 CFR §122.44(f).

b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:

(1) Five hundred micrograms per liter (500 µg/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7).

(4) Any other notification level established by EPA in accordance with 40 C.F.R. §122.44(f).

c. That it has begun or expects to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

3. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

c. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

4. Prohibitions

a. Cows and any other animals confined at the permittee’s farm shall not be allowed to come into direct contact with waters of the United States. Fences may be used to restrict such access.

b. There shall be no discharge of rainfall runoff from manure or litter or feed storage piles, dumpsters, or other storage devices (other than as allowed at Part I.A.1.a.) into waters of the United States.

c. The discharge of process wastewater that is not authorized by this permit is prohibited.

d. Slicks, odor, or surface floating solids that would impair any existing or designated use, unless naturally occurring, is prohibited for any discharge.

e. Land application of manure, litter or process wastewater at the permittee's farm that is not authorized by this permit is prohibited. (See also: Part I.B.4.(6) of this permit for setback requirements.)

f. Leaks and spills of process wastewater from land application equipment and/or vehicles when not actively land applying is prohibited. Equipment shall be inspected at least monthly. Spills from the top of wastewater land application tanks when not actively land applying is prohibited and shall be prevented. (Verbal and written notifications are required by this permit if a leak or spill occurs. See: Part I.D.7. of this permit for reporting requirements.)

g. The permittee shall not expand its CAFO operations, either in size or numbers of animals, prior to amending or enlarging the waste handling procedures and structures to accommodate any additional wastes that will be generated by the expanded operations.

h. The permittee is prohibited from discharging process wastewater to surface waters and conduits to surface waters during dry weather conditions (See also: Part I.A.1.b.14. of this permit).

i. All contributing flows to the permittee's process wastewater retention structures shall only be composed of manure, litter, process wastewater from the proper operation and maintenance of the CAFO, and stormwater.

j. Waste shall not be applied to land when the ground is frozen, saturated with water, or during rainfall events.

k. Wastewater containment facilities, manure storage facilities or holding pens may not be located in the 100-year flood plain unless the facility is protected from inundation and damage that may occur during that flood event.

l. There shall be no water quality impairment to public and neighboring private drinking water wells due to waste handling at the permitted facility. Facility wastewater retention facilities, holding pens or waste/wastewater disposal sites shall not be located closer to public or private water wells than the distances specified by the NHDES/VTDEC state regulations and local health codes.

m. There shall be no discharge of rainwater runoff from manure, litter, feed storage piles, dumpsters, or other storage devices (other than as allowed at Part I.A.1.a.) into waters of the United States.

5. Other Permit Conditions

a. Spill Requirements

- Appropriate measures necessary to prevent spills and to cleanup spills of any toxic, hazardous, or other pollutants shall be taken. Procedures for materials handling, storage, and the clean-up of spills must be specified in the NMP and the necessary equipment to implement clean up shall be made available to facility personnel. Documentation of all spills and clean-up activities must be kept with the NMP.

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b. Liner Requirements

- All wastewater or manure storage structure liners at this facility, shall be constructed and maintained in accordance with NRCS standards. The permittee must maintain the liner to inhibit the infiltration of wastewaters. Liners shall be protected from animals by fences or other protective devices and no trees shall be allowed to grow such as to intrude or compromise the structure of the liner. Any damage to the liner must be evaluated by a Professional and/or NRCS Engineer and corrected **within thirty (30) days of the damage**.

- When constructing new wastewater or manure storage structures or modifying existing wastewater or manure storage structures, the permittee shall ensure that all wastewater or manure storage structure design and construction will, at a minimum, be in accordance with NRCS standards.

c. **Optimizing Nitrogen Removal**

The permittee shall complete an evaluation of alternative methods of operating the permittee's existing facility to optimize the removal of nitrogen, and submit a report to EPA, NHDES, and VTDEC documenting this evaluation and presenting a description of recommended operational changes **within one (1) year** of the effective date of the permit. The permittee shall implement the recommended operational changes in order to maintain the existing annual level of mass discharge loading of total nitrogen. The permittee shall also submit an annual report due by **February 15th** each year and this report shall be submitted with the January DMR (also due by February 15th) to EPA, NHDES, and VTDEC that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks tends relative to the previous year.

d. No condition of this permit shall release the permittee from any responsibility or requirements under federal, state or local statutes or regulations.

6. Facility Closure

The following conditions shall apply to the closure of lagoons, surface impoundments, manure, litter, or process wastewater storage and handling structures:

a. Closure of Lined Lagoons and Other Lined Surface Impoundments

(1) Lined lagoons and other lined surface impoundments shall be maintained at all times until closed in compliance with this section.

(2) All lagoons and other surface impoundments must be properly closed if the permittee ceases operation. In addition, any lagoon or other earthen or synthetic lined basin that is not in use for a period of twelve (12) consecutive months must be properly closed unless the CAFO is financially viable, intends to resume use of the structure at a later date, and either:

i. Maintains the structure as though it were actively in use, to prevent compromise of structural integrity; or

ii. Removes manure and wastewater to a depth of one foot or less and refills the structure with clean water to preserve the integrity of the liner. In either case, the permittee shall notify EPA, in writing, of the action taken, and shall conduct routine inspections, maintenance, and recordkeeping as though the structure were in use. Prior to restoration of use of the structure, the permittee shall notify EPA, in writing, and provide the opportunity for inspection. The permittee shall properly handle and dispose of the water used to preserve the integrity of the liner during periods of non-use.

(3) All closure of lagoons and other surface impoundments shall be consistent with Natural Resources Conservation Service (NRCS) Technical Standards. Consistent with the relative standard, the permittee shall remove all waste materials to the maximum extent practicable and reuse or dispose of them in accordance with all applicable requirements of this permit and other applicable law.

(4) Completion of closure for lagoons and other surface impoundments shall occur as promptly as practicable after the permittee ceases to operate or, if the permittee has not ceased operations, twelve (12) months from the date on which the use of the structure ceased, unless the lagoons or basins are being maintained for possible future use in accordance with the requirements above.

b. Closure Procedures for Unlined Manure, Litter, or Process Wastewater Storage and Handling Structures

(1) No other manure, litter, or process wastewater storage and handling structure shall be abandoned. Closure of all such structures shall occur as promptly as practicable after the permittee has ceased to operate, or, if the permittee has not ceased to operate, **within twelve (12) months** after the date on which the use of the structure ceased. To close a manure, litter, or process wastewater storage and handling structure, the permittee shall remove all manure, litter, or process wastewater and reuse or dispose of it in accordance with the requirements of this permit and any other applicable laws.

7. Transfer of manure, litter or process wastewater to other persons

Requirements for the transfer of manure, litter or process wastewater to other persons are listed below. In cases where CAFO-generated manure, litter, or process wastewater is sold or transferred in any way to another person or other legal entity, the permittee must comply with the following conditions:

a. Maintain records showing the date and amount of manure, litter, and/or process wastewater that leaves the permitted CAFO;

b. Record the name and address of the recipient;

c. Provide the recipient(s) with representative information on the nutrient content of the manure, litter, and/or process wastewater; and,

d. Retain records on-site for a period of five (5) years and submit to the permitting authority upon request.

8. In the event that any discharge from the CAFO causes or contributes to an exceedance of applicable water quality standards, the permittee must take the following corrective actions at a minimum:

    (1) divert the discharge flow away from surface receiving waters, and

    (2) transport the wastewater into a different waste storage facility if there is additional capacity available.

9. If the permittee monitors any pollutant at the locations designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the permittee's discharge monitoring report.

B. NUTRIENT MANAGEMENT REQUIREMENTS

1. The permittee is required to develop a Nutrient Management Plan (NMP) that meets the requirements of 40 CFR 122 and 412. The permittee's most current NMP is attached to this Draft Permit. (See Attachment A.) The intent of a NMP is to prevent the discharge of pollutants from the crop land, waste storage facilities, and the Production Area to waters of the United States. The NMP is a written document that is required to be consistent with the federal CAFO requirements found at 40 CFR §§122.42(e)(1) and (2) and the applicable 40 CFR Part 412 effluent limitations and standards. The permittee shall implement the NMP provisions of the most current NMP. (See Attachment A.) The permittee shall also implement the provision of Attachment B which establishes supplemental NMP provisions. In the event that provisions of Permit, the NMP, or Attachment B are inconsistent, the more stringent provision shall apply.

2. The permittee shall submit a revised NMP that incorporates all Supplemental NMP Provisions in Attachment B of the final permit to EPA, NHDES, and VTDEC **within ninety (90) days of the effective date of this permit**.

3. After **ninety (90) days of the effective date of this permit, the permittee shall modify the NMP, as follows:**

    a. The permittee shall modify its NMP if and as necessary to reflect the best management practices, operation and maintenance procedures, and infrastructure improvements that are implemented at the permittee's farm in order to fulfill the requirements of this permit. Changes to the permittee's NMP are subject to the procedural requirements of 40 C.F.R. §122.42(e)(6).

    b. If the permittee makes changes to its NMP, the permittee must submit to EPA, **within ten (10) days of the NMP revision**, the revised NMP along with an identification of the NMP revisions.

    c. The modified NMP shall be signed by the owner/operator or other signatory authority in accordance with the requirements identified in 40 CFR §§122.22.

4. The following permit terms and conditions are in accordance with 40 C.F.R. §§122.42(e)(1) and (2) and the applicable 40 CFR Part 412 effluent limitations and standards. These terms and conditions are enforceable requirements of this permit.

a. *Nutrient management plan requirements.* The permittee shall implement a nutrient management plan that, at a minimum, contains best management practices necessary to meet the requirements of Part I.B.4 and applicable effluent limitations and standards, including those specified in 40 CFR § 412. Further, the permittee shall:

(1) Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities;

(2) Ensure proper management of mortalities (*i.e.*, deceased animals) to ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities;

(3) Ensure that clean water is diverted, as appropriate, from the Production Area;

(4) Prevent direct contact of confined animals with waters of the United States;

(5) Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants. All wastes from dipping vats, pest and parasite control units, and other facilities utilized for the management of potentially hazardous or toxic chemicals shall be handled and disposed of in a manner sufficient to prevent pollutants from entering the manure, litter, or process wastewater retention structures or waters of the U.S. The NMP shall include references to any applicable chemical handling protocols;

(6) Identify and implement appropriate site specific conservation practices to control runoff of pollutants to waters of the United States. The permittee shall implement a minimum setback for manure application of 100 feet from surface waters and conduits to surface waters; or may substitute with a minimum *linear* 35-foot upland vegetative/forested buffer (i.e., a linear distance is required, land that is sloped shall not be included in any buffer).

The permittee shall also not apply manure in the following areas or under the following conditions:

- Near or in wetlands, riparian buffer areas, water resources, wells, drinking water supplies, high slope areas, and high erosion areas.
- Within concentrated water flow areas (vegetative or non-vegetated) such as ditches, waterways, gullies, swales, and intermittent streams.
- When the hydraulic load/irrigation water exceeds the infiltration rate of the soil.
- When crops are not being grown.
- When the ground is frozen or snow-covered.
- When measureable precipitation is occurring on the day of application;

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(7) Identify protocols for appropriate testing of manure, litter, process wastewater, and soil;

(8) Establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater; and

(9) Identify specific records that will be maintained to document the implementation and management of the minimum elements that are consistent with 40 CFR §412.37(e)(1)(i) through (e)(1)(viii).

b. *Recordkeeping requirements.*

(i) The permittee must create, maintain for five years, and make available to EPA, NHDES, and VTDEC, upon request, the following records:

(A) All applicable records required by this permit;

(B) In addition, the permittee must comply with record keeping requirements as specified in 40 CFR §412.37(b) and (c) and § 412.47(b) and (c).

(ii) A copy of the permittee's site-specific nutrient management plan must be maintained on site and made available to EPA, NHDES, and VTDEC upon request.

c. *Requirements relating to transfer of manure or process wastewater to other persons.*

Prior to transferring manure, litter or process wastewater to other persons, the permittee must provide the recipient of the manure, litter or process wastewater with the most current nutrient analysis. The analysis provided must be consistent with the requirements of 40 CFR part 412. The permittee must retain for five years records of the date, recipient name and address, and approximate amount of manure, litter or process wastewater transferred to another person.

d. *Annual reporting requirements.*

On or before **February 15th** of each year, the permittee must submit an annual report to EPA. The annual report must include, at a minimum, the following information:

(i) All monitoring and reporting under Part I.

(ii) The maximum number of cows at the Production Area during the year, including the number and type of animals, whether in open confinement or housed under roof (beef cattle, mature dairy cows, dairy heifers, veal calves, other);

(iii) Estimated amount of total manure, litter and process wastewater generated by the permittee at the Production Area during the previous 12 months (tons and/or gallons);

(iv) Estimated amount of total manure, litter and process wastewater transferred off-site to other parties by the permittee during the previous 12 months (tons and/or gallons);

(v) Total number of acres for land application covered by the nutrient management plan developed in accordance with Part I.B.1.b.(1) of this permit;

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(vi) Total number of acres under control of the permittee that were used for land application of manure, litter and process wastewater during the previous 12 months;

(vii) Summary of all manure, litter and process wastewater discharges from the Production Area that have occurred during the previous 12 months, including, for each discharge, the date of discovery, duration of discharge, and approximate volume;

(viii) A statement indicating whether the current version of the permittee's nutrient management plan was developed or approved by a certified nutrient management planner;

(ix) The actual crop(s) planted and actual yield(s) for each field during the previous twelve (12) months;

(x) Based on sampling results, the actual nitrogen and phosphorus content of the manure, litter, and process wastewater that was land applied;

(xi) The results of calculations conducted in accordance with 40 CFR §122.42(e)(5)(ii)(D) (for the Narrative Approach) and/or 40 CFR §122.42(e)(5)(i)(B) (for the Linear Approach) for manure, litter and process wastewater that was land applied; and

(xii) The amount of manure, litter, and process wastewater applied to each field during the preceding twelve (12) months.

e. *Terms of the nutrient management plan.* The permittee must comply with the terms of its site-specific nutrient management plan, including all NMP modifications required by this permit.

The terms of the nutrient management plan are the information, protocols, best management practices, and other conditions in the nutrient management plan determined by EPA to be necessary to meet the requirements of 40 CFR 412.4. The terms of the nutrient management plan, with respect to protocols for land application of manure, litter, or process wastewater required must include the fields available for land application; field-specific rates of application properly developed to ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater; and any timing limitations identified in the nutrient management plan concerning land application on the fields available for land application.

The terms must address rates of application using one of the following two approaches[5]:

(i) *Narrative rate approach.* The permittee will implement an approach that expresses rates of application as a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied, according to the following specifications:

(A) The terms include maximum amounts of nitrogen and phosphorus derived from all sources of nutrients, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to EPA, in pounds per acre, for each field, and certain factors necessary to determine such amounts. At a minimum, the factors that are terms

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[5] The permittee currently uses the Narrative Approach. If the permittee prefers to change to the Linear Approach during the life of this permit, it will need to update its NMP prior to this change and comply with the Linear approach requirements in this permit.

must include: the outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field; the crops to be planted in each field or any other uses such as pasture or fallow fields (including alternative crops identified); the realistic yield goal for each crop or use identified for each field; and the nitrogen and phosphorus recommendations from sources specified by EPA for each crop or use identified for each field. In addition, the terms include the methodology by which the nutrient management plan accounts for the following factors when calculating the amounts of manure, litter, and process wastewater to be land applied: Results of soil tests conducted in accordance with protocols identified in the nutrient management plan, credits for all nitrogen in the field that will be plant available; the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; the form and source of manure, litter, and process wastewater; the timing and method of land application; and volatilization of nitrogen and mineralization of organic nitrogen.

(B) The terms of the nutrient management plan include alternative crops identified in the permittee's nutrient management plan that are not in the planned crop rotation. Where the permittee includes alternative crops in its nutrient management plan, the crops must be listed by field, in addition to the crops identified in the planned crop rotation for that field, and the nutrient management plan must include realistic crop yield goals and the nitrogen and phosphorus recommendations from sources specified by EPA for each crop. Maximum amounts of nitrogen and phosphorus from all sources of nutrients and the amounts of manure, litter, and process wastewater to be applied must be determined in accordance with 40 CFR §122.42(e)(5)(ii)(A).

(C) When using this approach, the following projections must be included in the permittee's nutrient management plan submitted to EPA, but are not terms of the nutrient management plan's planned crop rotations for each field for the period of permit coverage; the projected amount of manure, litter, or process wastewater to be applied; projected credits for all nitrogen in the field that will be plant available; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; and the predicted form, source, and method of application of manure, litter, and process wastewater for each crop. Timing of application for each field, insofar as it concerns the calculation of rates of application, is not a term of the nutrient management plan.

(D) The permittee must calculate the maximum amounts of manure, litter, and process wastewater to be land applied **at least once each year** using the methodology required in accordance with 40 CFR §122.42(e)(5)(ii)(A) before land applying manure, litter, and process wastewater and must rely on the following data:

(1) A field-specific determination of soil levels of nitrogen and phosphorus, including, for nitrogen, a concurrent determination of nitrogen that will be plant available consistent with the methodology required by 40 CFR§122.42(e)(5)(ii)(A), and for phosphorus, the results of the most recent soil test conducted in accordance with soil testing requirements approved by the Director (the permittee shall perform soil testing at least **once every five years**); and

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(2) The results of most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application, in order to determine the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.

(E) If the permittee uses the Narrative Rate Approach to address rates of land application of manure, litter or process wastewater, the annual report shall also contain:

(1) The results of any soil testing for nitrogen and phosphorus conducted during the preceding twelve (12) months;

(2) The data used in calculations conducted in accordance with 40 CFR §122.42(e)(5)(ii)(D); and,

(3) The amount of any supplemental fertilizer applied during the preceding twelve (12) months.

(F) The permittee shall calculate a field nutrient budget **at least once each year** using the methodology required in accordance with 40 CFR §122.42(e)(5)(ii)(A). The difference between the inputs and outputs on a completed field nutrient budget worksheet shall be the maximum amount of nutrients that may be applied to satisfy crop needs on the field relative to the completed worksheet. This maximum amount of needed nutrients shall be the effluent limitation. The Permittee may not exceed this amount for the year.

The difference between the inputs and outputs are the limits, and the goal is to have:

$$Inputs - Outputs \cong 0\ after\ crop\ harvest$$

(i) *Linear approach.* An approach that expresses rates of application as pounds of nitrogen and phosphorus, according to the following specifications:

(A) The terms include maximum application rates from manure, litter, and process wastewater for each year of permit coverage, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to EPA, in pounds per acre, per year, for each field to be used for land application, and certain factors necessary to determine such rates. At a minimum, the factors that are terms must include: The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field; the crops to be planted in each field or any other uses of a field such as pasture or fallow fields; the realistic yield goal for each crop or use identified for each field; the nitrogen and phosphorus recommendations from sources specified by EPA for each crop or use identified for each field; credits for all nitrogen in the field that will be plant available; consideration of multi-year phosphorus application; and accounting for all other additions of plant available nitrogen and phosphorus to the field. In addition, the terms include the form and source of manure, litter, and process wastewater to be land-applied; the timing and method of land application; and the methodology by which the nutrient management plan accounts for the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.

(B) The maximum amount of manure, litter, and process wastewater to be land applied must be calculated at least once each year using the results of the most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application.

C. UNAUTHORIZED DISCHARGES

This permit authorizes discharges only from the outfall(s) listed in Part I.A.1, in accordance with the terms and conditions of this permit. Discharges of wastewater from any other point sources are not authorized by this permit and shall be reported to EPA, NHDES, and VTDEC in accordance with Part II, Section D.1.e of the General Requirements of this permit (twenty-four hour reporting).

D. MONITORING AND REPORTING

The monitoring program in the permit specifies sampling and analysis, which will provide information on compliance and the effectiveness of the nutrient management plan. The approved analytical procedures found in 40 CFR Part 136 are required unless other procedures are explicitly required in the permit. The permittee is obligated to monitor and report sampling results to EPA, NHDES, and VTDEC within the time specified within the permit.

Unless otherwise specified in this permit, the permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

1. Submittal of DMRs Using NetDMR

The permittee shall submit its monitoring data in discharge monitoring reports (DMRs) to EPA, NHDES, and VTDEC no later than the 15th day of the following month electronically using NetDMR. Annual reports are due no later than **February 15th** each year. When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA, NHDES, or VTDEC. NetDMR is accessed from the internet at http://cdx.epa.gov.

2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the permittee shall electronically submit all reports to EPA, NHDES, and VTDEC as NetDMR attachments rather than as hard copies.

3. Submittal of Requests and Reports to EPA

The following requests, reports, and information described in this permit shall be submitted to the EPA NPDES Applications Coordinator in the EPA Office Ecosystem Protection (OEP).

a. Transfer of Permit notice
   If a change in the ownership of the permittee's Production Area occurs, the permittee must submit a written notification to EPA. EPA will notify the current and new permittee(s) if the transfer of permit coverage is granted.
b. Request for changes in sampling location
c. Request for reduction in testing frequency
d. Annual CAFO Report
e. Updated Nutrient Management Plan
f. Soils Testing Analysis (test results can be consolidated with the permittee's updated NMP)

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These reports, information, and requests shall be submitted to EPA electronically at R1NPDES.Notices.OEP@epa.gov or by hard copy mail to the following address:

**U.S. Environmental Protection Agency
Office of Ecosystem Protection
ATTN: NPDES Applications Coordinator
5 Post Office Square - Suite 100 (OEP06-4)
Boston, MA 02109-3912**

4. Submittal of Reports in Hard Copy Form

The following notifications and reports shall be submitted as hard copy with a cover letter describing the submission. These reports shall be signed and dated originals submitted to EPA.

a. Written notifications required under Parts I. and II.

This information shall be submitted to EPA at the following address:

**U.S. Environmental Protection Agency
Office of Environmental Stewardship (OES)
Water Technical Unit
5 Post Office Square, Suite 100 (OES04-SMR)
Boston, MA 02109-3912**

5. State Reporting

Unless otherwise specified in this permit or by the State, duplicate signed copies of all reports, information, requests or notifications described in this permit, including the reports, information, requests or notifications described in Parts I.D.3 through I.D.4 also shall be submitted to the States electronically via email to the permittee’s assigned NPDES inspector at NHDES-WD (jocelyn.henry@des.nh.gov) and to VTDEC Enforcement Coordinator (wendy.houston-anderson@vermont.gov) or in hard copy to the following addresses:

**New Hampshire Department of Environmental Services (NHDES)
Water Division
Wastewater Engineering Bureau
P.O. Box 95, 29 Hazen Drive
Concord, New Hampshire 03302-0095**

and

**Vermont Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division
One National Life Drive, Main Building, 2nd Floor
Montpelier, VT 05620-3522**

6. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to EPA, NHDES, and VTDEC. This includes verbal reports and notifications which require reporting as soon as possible. (As examples, see Part II.B.4.c.(2)(unanticipated bypass), Part II.B.5.c.(3)(upset), and Part II.D.1.e.). Verbal reports and verbal notifications shall be made to:

EPA's Office of Environmental Stewardship at: **617-918-1510**
NHDES - permittee's assigned NPDES inspector at: **603-271-1494**
VTDEC - agriculture enforcement inspector at: **802-828-3475**
(See also: VTDEC's Reporting Website at: http://dec.vermont.gov/about-dec/contact-us")

In addition, the permittee shall keep a copy of all notifications submitted to EPA together with the other records required by this permit including notifications of bypass and upset. The discharge notification shall include the following information:

a. A description of the discharge and its cause, including a description of the flow path to the receiving water body or other destination, and an estimate of the flow and volume (gallons) discharged during each 24 hours after the start of a discharge event.

b. The period of non-compliance, including exact dates and times, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate and prevent recurrence of the discharge.

7. Noncompliance Notification

In the event the permittee is unable to comply with any of the conditions of this permit due, among other reasons, to:

a. breakdown or maintenance of waste storage retention structures and waste transporting equipment, including but not limited to, all pipes, transfer pumps, compressors, collection ponds or tanks for the segregation of wastes,

b. accidents caused by human error or negligence, or

c. other causes such as acts of nature,

the permittee shall notify EPA, NHDES, and VTDEC verbally **within 24 hours**, (and if feasible **as soon as** becoming aware of such condition), and shall provide the Agencies with the following information, in writing, **within five (5) calendar days**:

i. cause of non-compliance

ii. a description of the non-complying discharge including its impact upon the receiving water;

iii. when the condition was corrected or the anticipated time until the condition will be corrected, and the duration of the period of non-compliance;

iv. steps taken by the permittee to reduce and eliminate the non-complying discharge; and

v. steps taken by the permittee to prevent recurrence of the condition of non-compliance.

E. REAPPLICATION

If the permittee desires to continue to discharge after the expiration of this permit, the permittee shall submit the necessary permit reapplication forms, including its most recent NMP, **at least 180 days before this permit expires**.

F. STATE PERMIT CONDITIONS

1. This NPDES discharge permit is issued by EPA under federal and state law. Upon final issuance by EPA, the New Hampshire Department of Environmental Services (NHDES) and the Vermont Agency of Natural Resources Department of Environmental Conservation (VTDEC) may adopt this permit, including all terms and conditions, as a state permit pursuant to NH's RSA 485-A:13 and VT's 10 V.S.A. Chapter 47 regulations.

2. EPA shall have the right to enforce the terms and conditions of this permit, pursuant to federal law. The State permitting agencies (NHDES and VTDEC) shall have the right to enforce the terms and conditions of this permit, pursuant to state law, if the permit is adopted. Any modification, suspension, or revocation of this permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of the permit as issued by the other agencies.

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OF MIDDLEBURY

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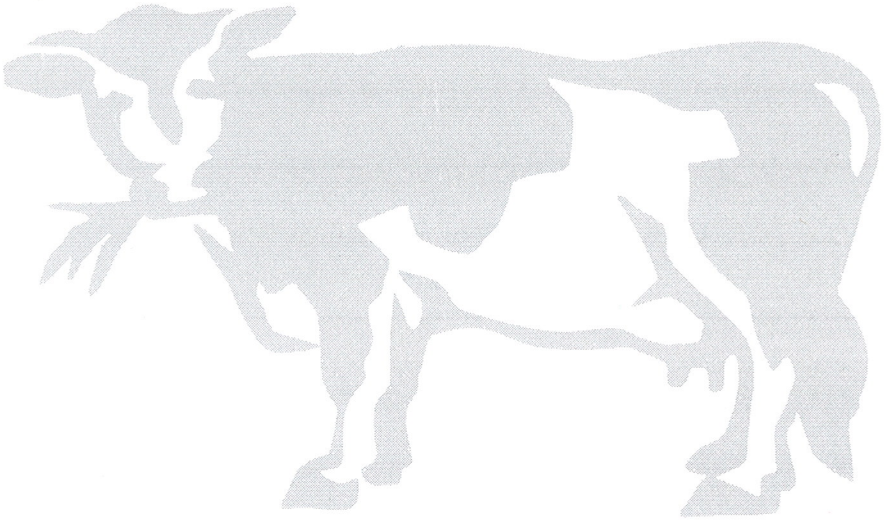
P.O. Box 187 . Middlebury, Vermont 05753 . 802-388-7000
Email: bourbush@together.net

2017 Nutrient Management Plan



Forbes Farm Partnership
Lancaster, NH

A Vermont Corporation . Established 1982

Nutrient Management Plan

1. Farm Description
2. Maps
    a. Production Area Orthographic
    b. Production Area Topographic
    c. Farm Orthographic with Buffers
    d. Farm Topographic Map
    e. Farm Soil Type Map
3. Farm Summary
    a. Farm Information
    b. Animal Numbers
    c. BMP Structures
    d. Manure Volume Summary
4. Field Information
    a. Field Name, NRCS Field ID's
    b. Sum of Acres Owned and Rented
    c. Crop Rotation
    d. Crop Acres Summary
5. Soil Test Information
    a. Interpretations with UVM Rec.
6. Nutrient Management Plan
    a. Field Specific Nutrient Management Plan with Vermont Phosphorus Index
7. Test Results
    a. Soil test field Summary
    b. Manure Test Results
    c. Soil Test Results
8. Supporting Documents
    a. Field Assessments
    b. Rusle II with Annual Loss
    c. Manure Volume Calculations
    d. Operation and Maintenances Worksheets
        i. NRCS standard
            1. 313
            2. 316
            3. 317
            4. 362
            5. 590

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Nutrient Management Plan

Signature Page

Owner Operator: Forbes Farm Partnership

Address: Lancaster, NH

Approved NMP Planner

As an Approved NRCS Technical Service Provider (TSP) and certified Nutrient Management (NMP) Planner, I certify that I have reviewed this NMP for technical adequacy and that the elements of the NMP are technically compatible and reasonable and meet the standards of Vermont Conservation Practice Standard 590 – Nutrient Management.

Signature: Jonathan [illegible] Date: 10/14/17

Owner or Operator

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

Signature:____________________ Date:__________

Nutrient Management Plan - NMP

Farm Name: Forbes Farm Partnership
Owner Name: Alan and Scott Forbes
Mailing Address: 304 North Rd
Lancaster, NH 03584

Phone: (603) 788 - 4802

Farm Location

The Old Milking Facility is located at 304 North Road (44.478419,-71.533305) in the town of Lancaster, New Hampshire on the East side of North Road about 2.1 miles south of the intersection of Main Street and Middle Street. The Old Milking Facility covers a foot print of about 12.3ac. The New Milking Facility is located at 35 Grange Road (44.481782,-71.528285) in the town of Lancaster, New Hampshire on the north side of Grange Road about .3 miles east of the intersection of N Road and Grange Road. The New Milking Facility covers a foot print of about 17.7ac. The land is to the north, south, west and east of the farm steads. The land is made up of many different tracts of land.

Watershed Location

HU 010801010903 – Mink Brook – Connecticut River
HU 010801030203 – Comerford Station Dam – Connecticut River
HU 010801030403 – Baker Brook – Ammonoosuc River
HU 010801030101 – Forest Lake – Bog Brook
HU 010801030102 – Johns River
HU 010801030201 – Miles Stream – Connecticut River
HU 010801010806 – Israel River
HU 010801010804 – Garland Brook
HU 010801010805 – Otter Brook
HU 010801010902 – Dean Brook – Connecticut River

These are watersheds with drainage into the Connecticut River. Primary watershed concerns are nitrogen, toxic metals and aquatic species. Sediment and Pathogens are a secondary concern.

NMP Planner: Jonathan Chamberlin
Bourdeau Brothers of Middlebury
Box 187 Seymour Street
Middlebury, VT 05753
(802) 388-7000

Resource Contact: Lancaster Service Center
Natural Resource Conservation Service
4 Mayberry Ln
Lancaster, NH 03584
(603) 788-4651

10/12/2017

Farm Description and Business Objectives

The Forbes family owns a modern dairy facility with freestall housing for milking cows, dry cows, heifers, and calves. The Forbes family members and hired workers currently maintain a milking herd of 1,300 Holsteins with 1,330 replacements, 170 calves and 70 Beef animals raised on the farm.

Manure from all livestock is stored in an earthen pit designed and installed according to NRCS standards. Manure is transferred as liquid slurry or semi solid into a storage structure by push off or sucker tank and then loaded out into a spreader for field application to cropland. Heifer and calf manure is treated as a semi solid. The Semi solid manure is spread daily or stacked until field application.

The farm owners are not currently planning for an expansion of the dairy herd size. Building and land improvements will be within the scope of normal operating repairs and maintenance. The family intends to continue operating the dairy farm business to provide income for themselves and provide jobs at the farm.

Livestock

Animal Information (Total Producing Manure)

	Current Number	Planned Number	Body Weight	Units	Animal Units	Milk Production	Total Number
Milking Cows	1,100	0	1,400	pounds	1540	22,000	1,100
Dry Cows	200	0	1,400	pounds	280		200
Bulls	0	0	1,300	pounds	0		0
Bred Heifers	600	0	1,000	pounds	600		600
Open Heifers	730	0	500	pounds	365		730
Calves	170	0	200	pounds	34		170
Beef-Yearling HF	70	0	800	pounds	56		70
Total Number	2,870	0			2875		
		Animal Units/Acre		1.03			

Farm Specific Narrative Descriptions:

Tillage – They use primary tillage (chisel plow) then a secondary tillage to prepare there soils for sowing seed.

Residue Cover – Perennial and corn fields with cover crop have surface cover greater than 20%. Corn fields have a surface cover of 5% to 20%.

Yield Goals – They are based on the fields primary soil types USDA fact sheet yield.

Spreader Calibration – At the start of every season then pick fields that have small acreage and count loads and use that data to dial in the rates for the rest of the season.

Animal Mortalities – They composted on the mortality compost pad until they are decomposed enough for field application.

Clean Water Diversion from Production area – they maintain a system of clean water diversions that keep clean water clean and waste contained for field application.

Field Buffers – they are vegetative and no manure is applied in them.

Waste Sampling – they annually sample each structure that is land applied on the farm. Sample are sent to accredited lab that report nutrient content in the form of pounds per thousand gallons for liquids and pounds per ton for semi solids. The 2017 NMP used Book value for manure because there was only one year of samples available. The Book value has higher values than any individual sample result.

Soil Sampling – they sample every three years each field on the farm. Samples are sent to accredited lab that report nutrient content in the form of ppm (Mod. Morgan Extraction) for P,K,Ca,Al,Mg,Na, and Zn. CEC is in meq/100g. The ten soil sample that are missing use the farms average. The 2018 NMP will have field specific soil samples.

Nutrient Application Methodology – the NMP uses a linear approach for application rates. They used Vermont P-Index to measure phosphorus risk. The NMP uses only p based manure application rates. Nitrogen application rates don't exceed crop removal rates.

Farm Maps

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Forbes Family Farm

Production Area Map

Legend

□ Farmstead Layout

0 150 300 600 Feet

N

BOURDEAU BROS. INC.
"WE CARE" for your Land and Animals

Prepare By: Jonathan

Date: 10/6/2017

1 inch = 250 feet

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Forbes Family Farm

Production Area Map

Legend

🟥 Farmstead Layout

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Production Area Map

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Forbes Family Farm

Production Area Map

Legend

▭ Farmstead Layout

0 150 300 600 Feet

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Date: 10/6/2017

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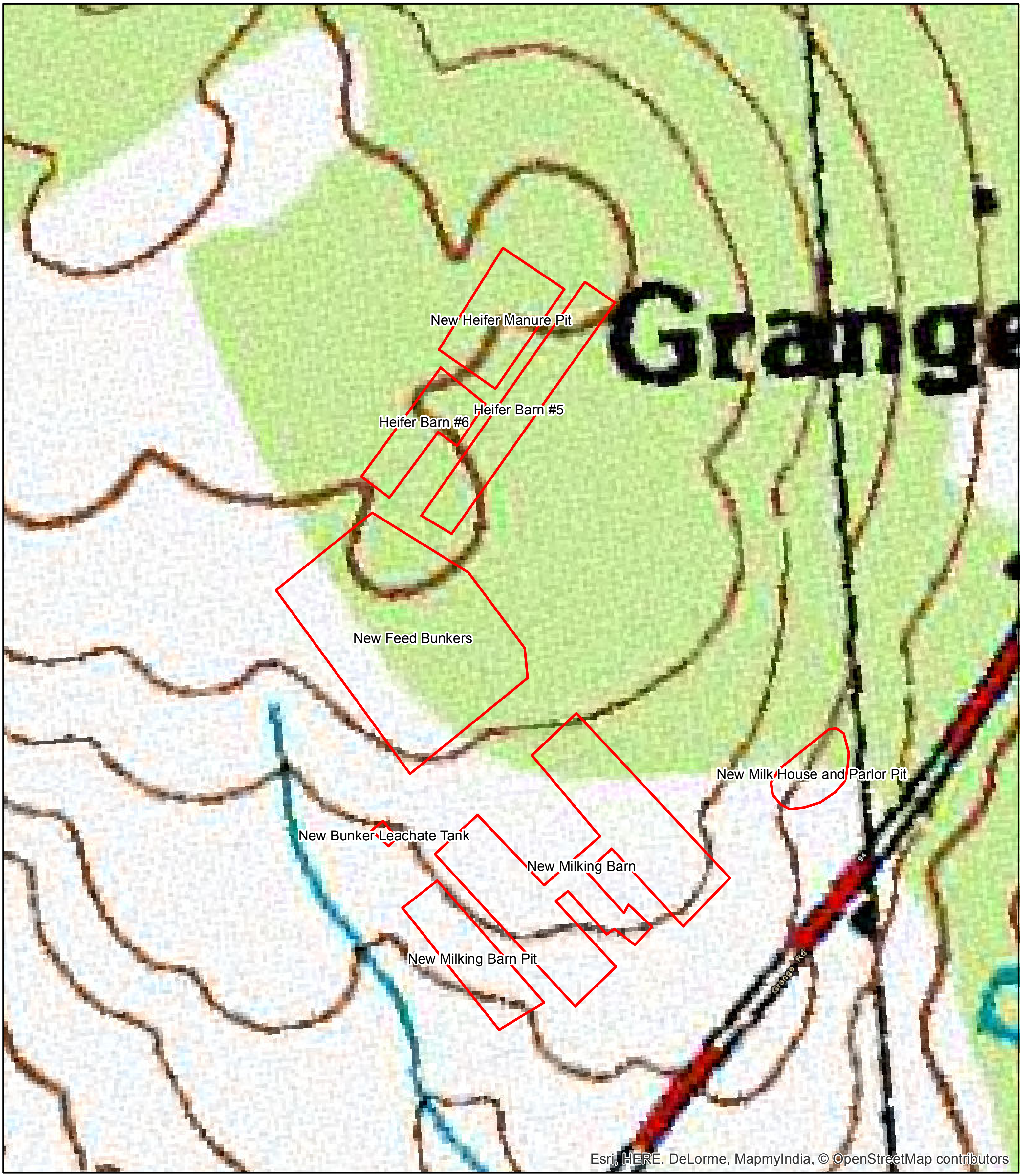

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Forbes Family Farm

Production Area Map

Legend

🟥 Farmstead Layout

0 150 300 600 Feet

N

BOURDEAU BROS. INC.

"WE CARE" for your Land and Animals

Prepare By: Jonathan

Date: 10/6/2017

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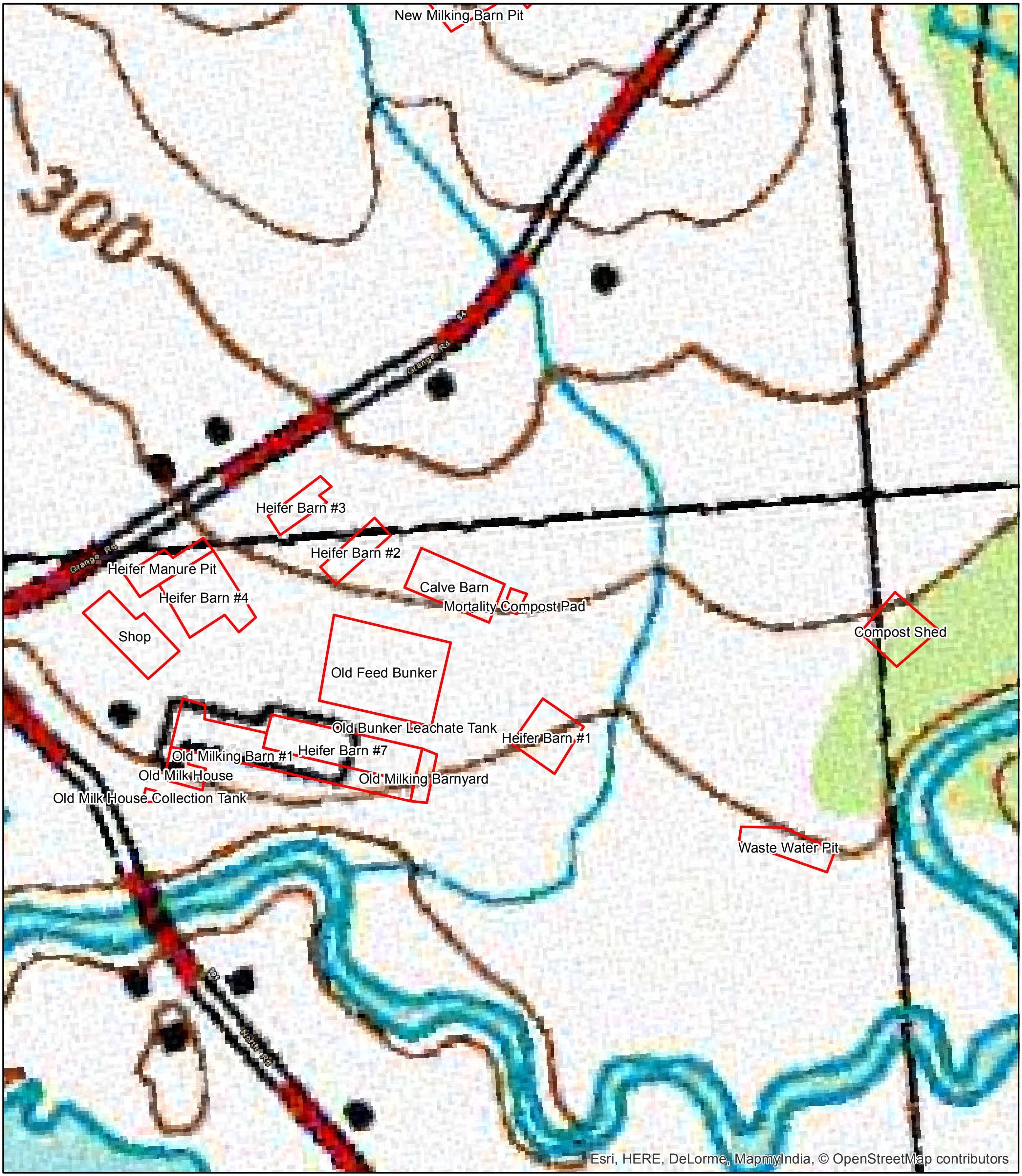

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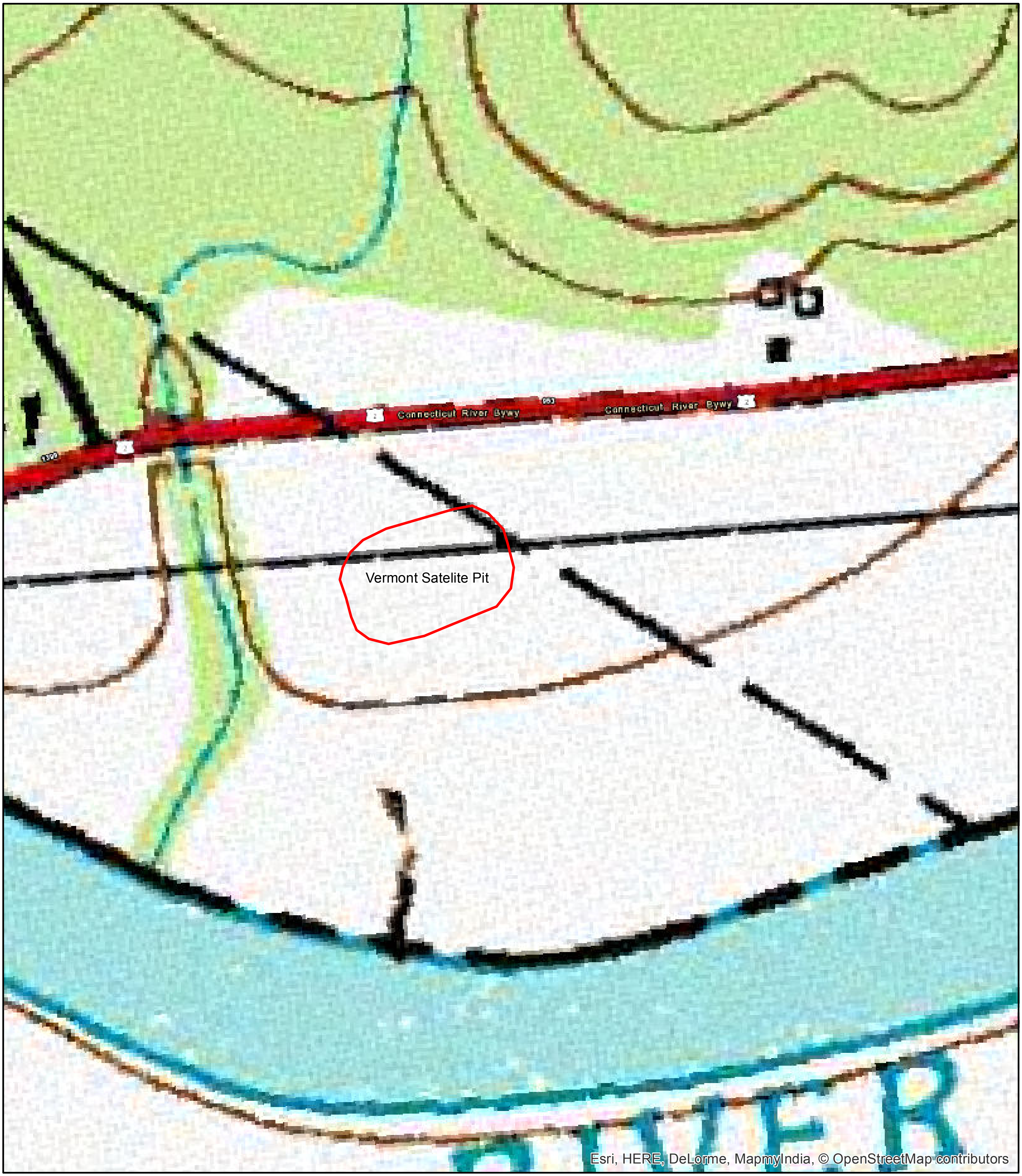

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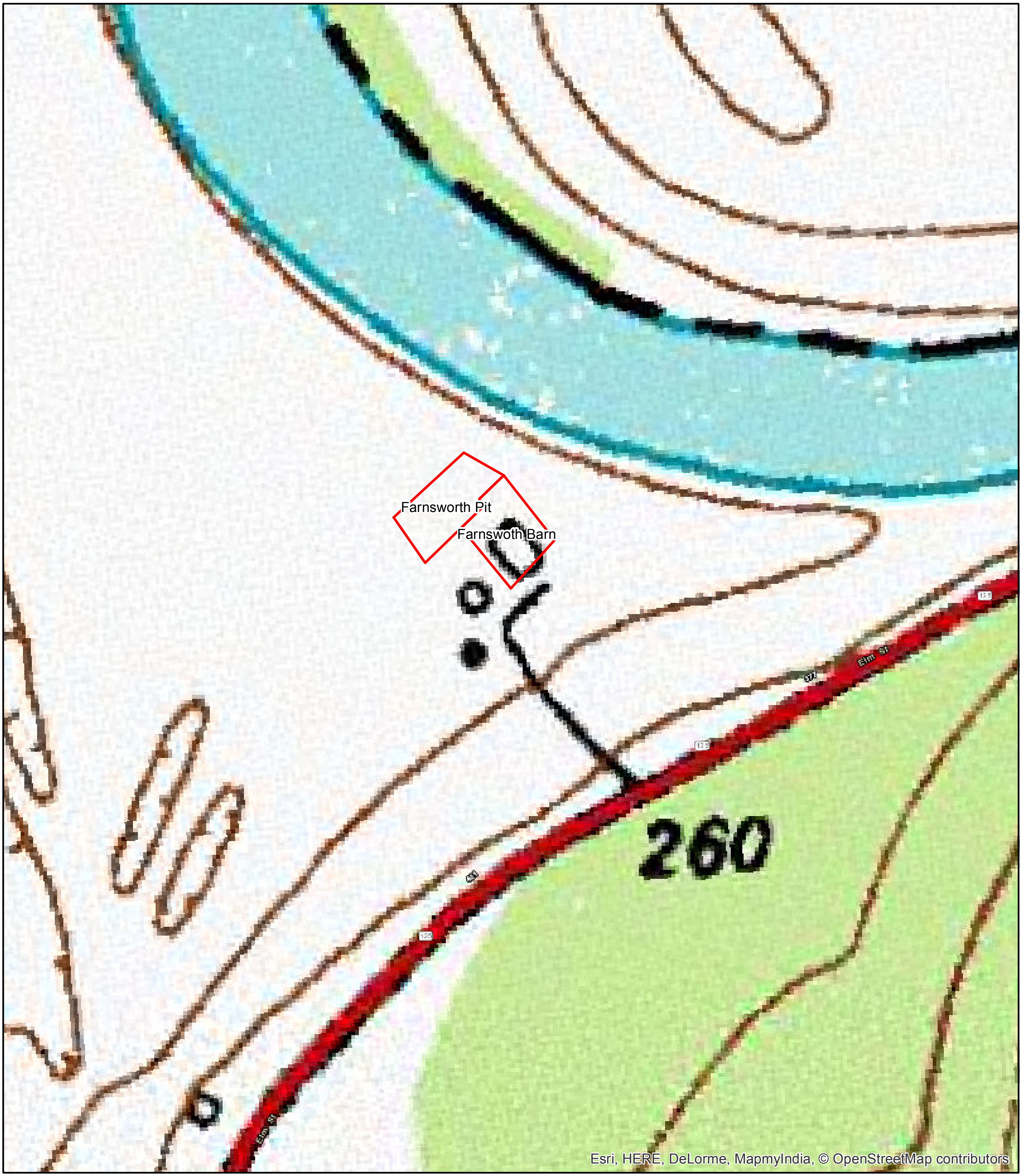

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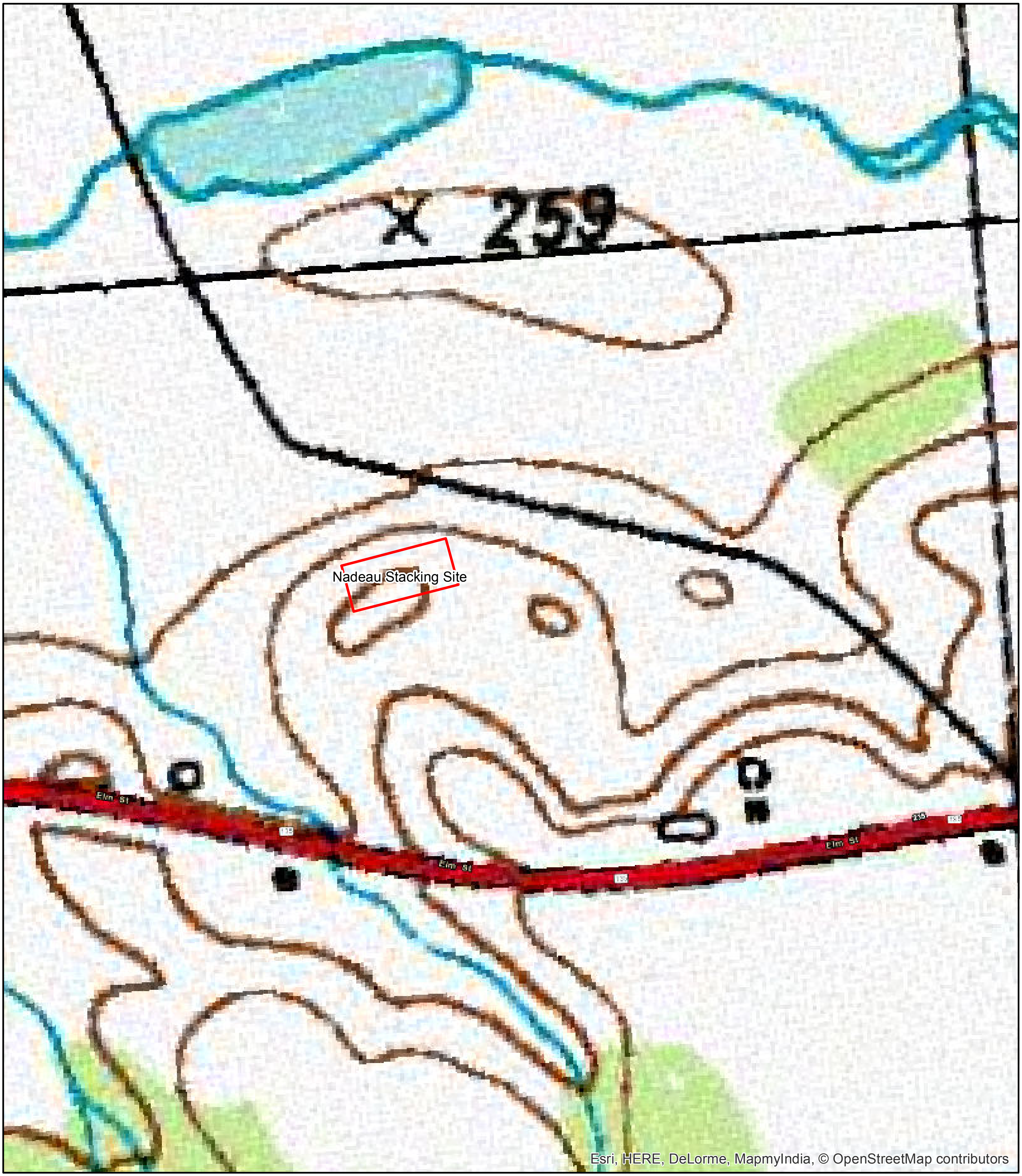

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Buffer Map

Legend

▨	35_Foot_Buffer_CAFO
☐	2016 Fields Forbes

0 550 1,100 2,200 Feet

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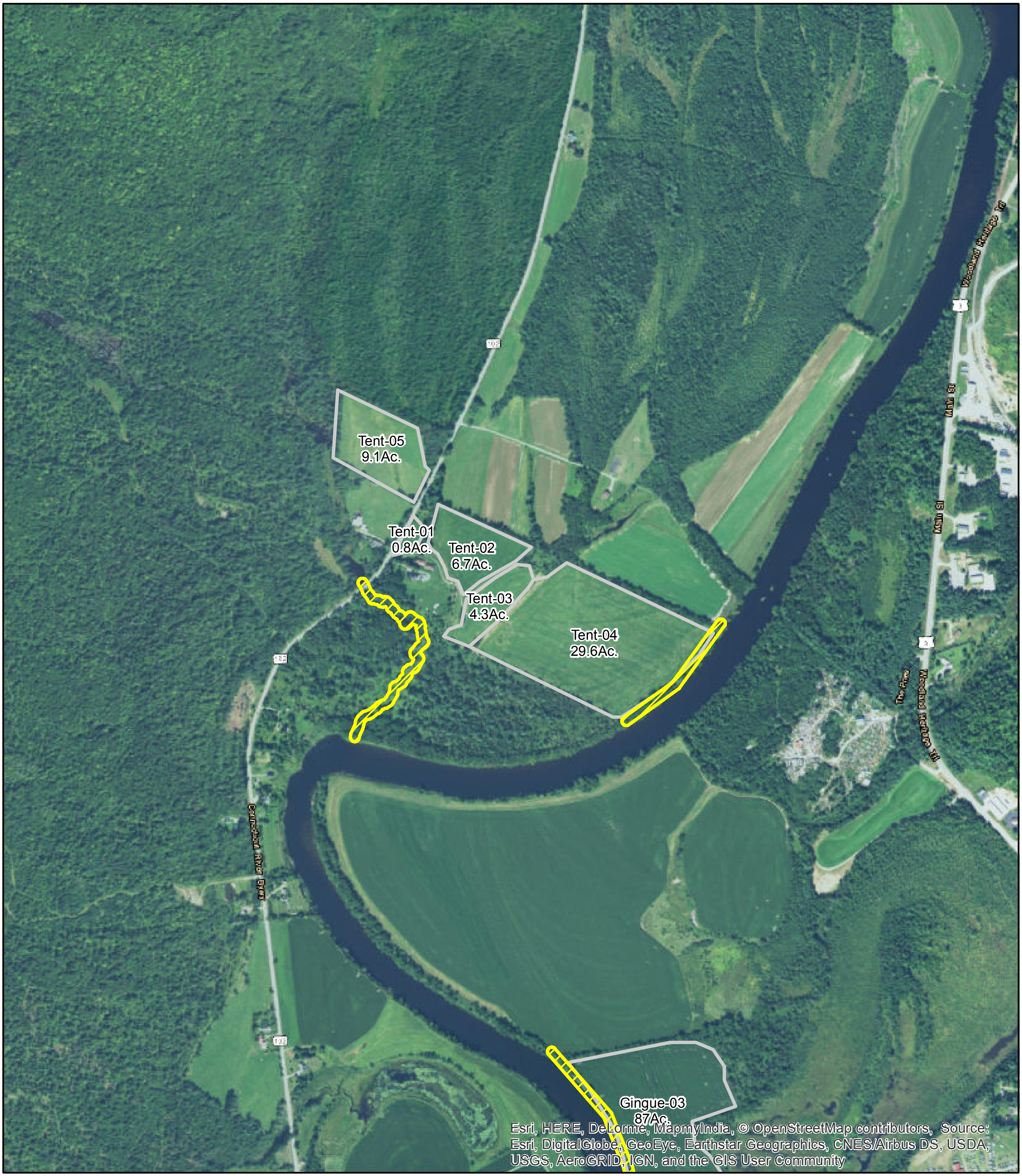

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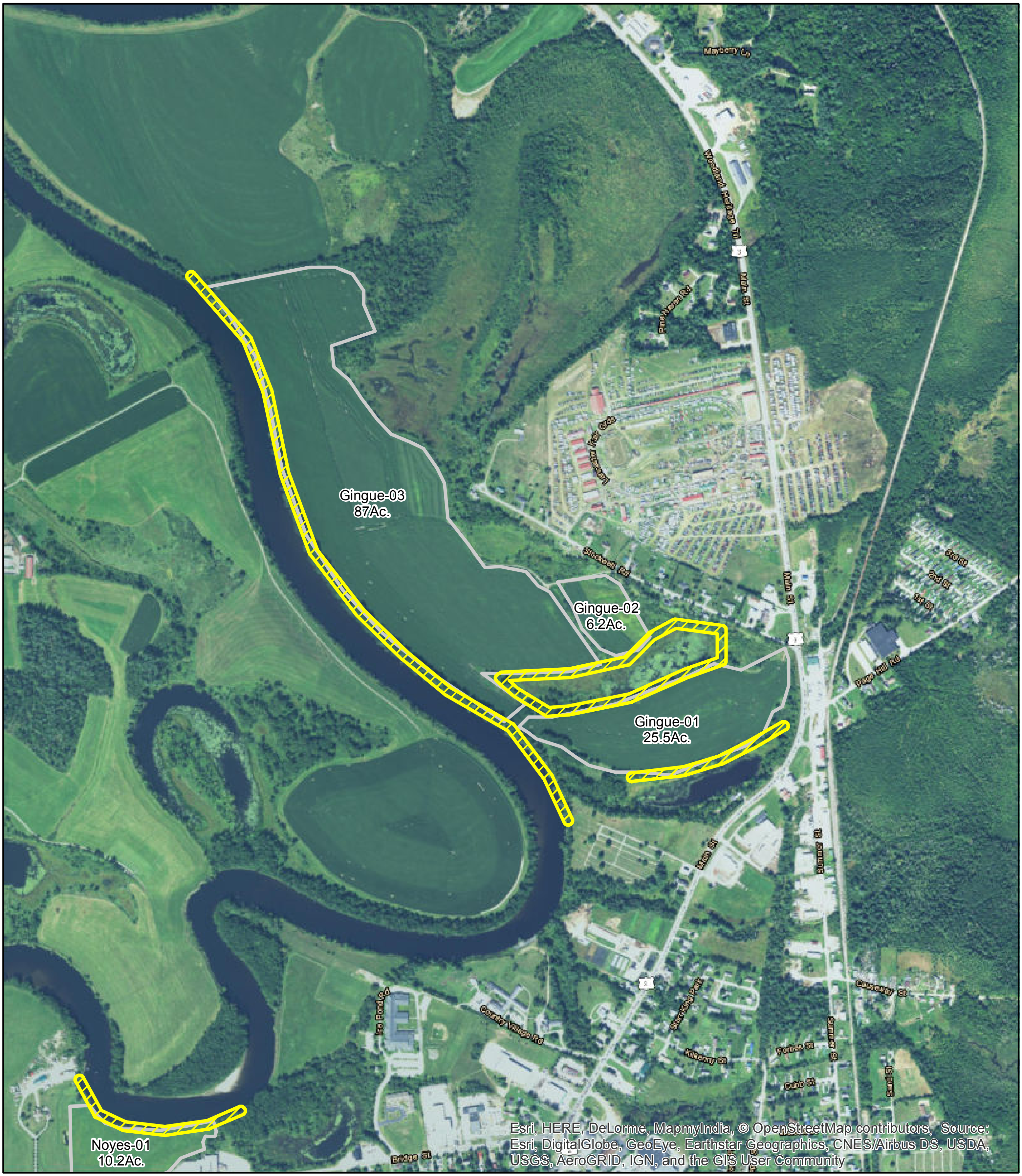

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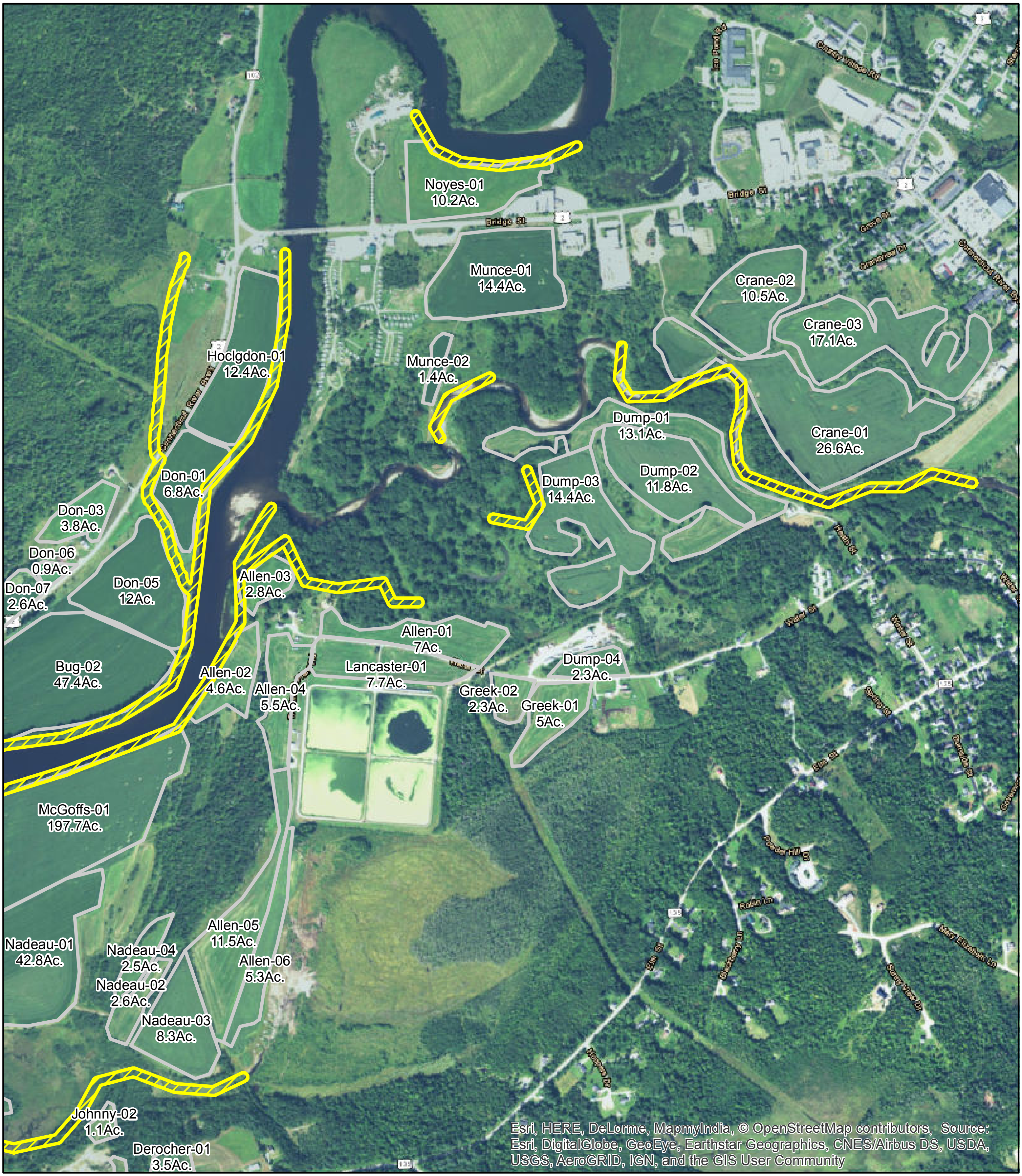

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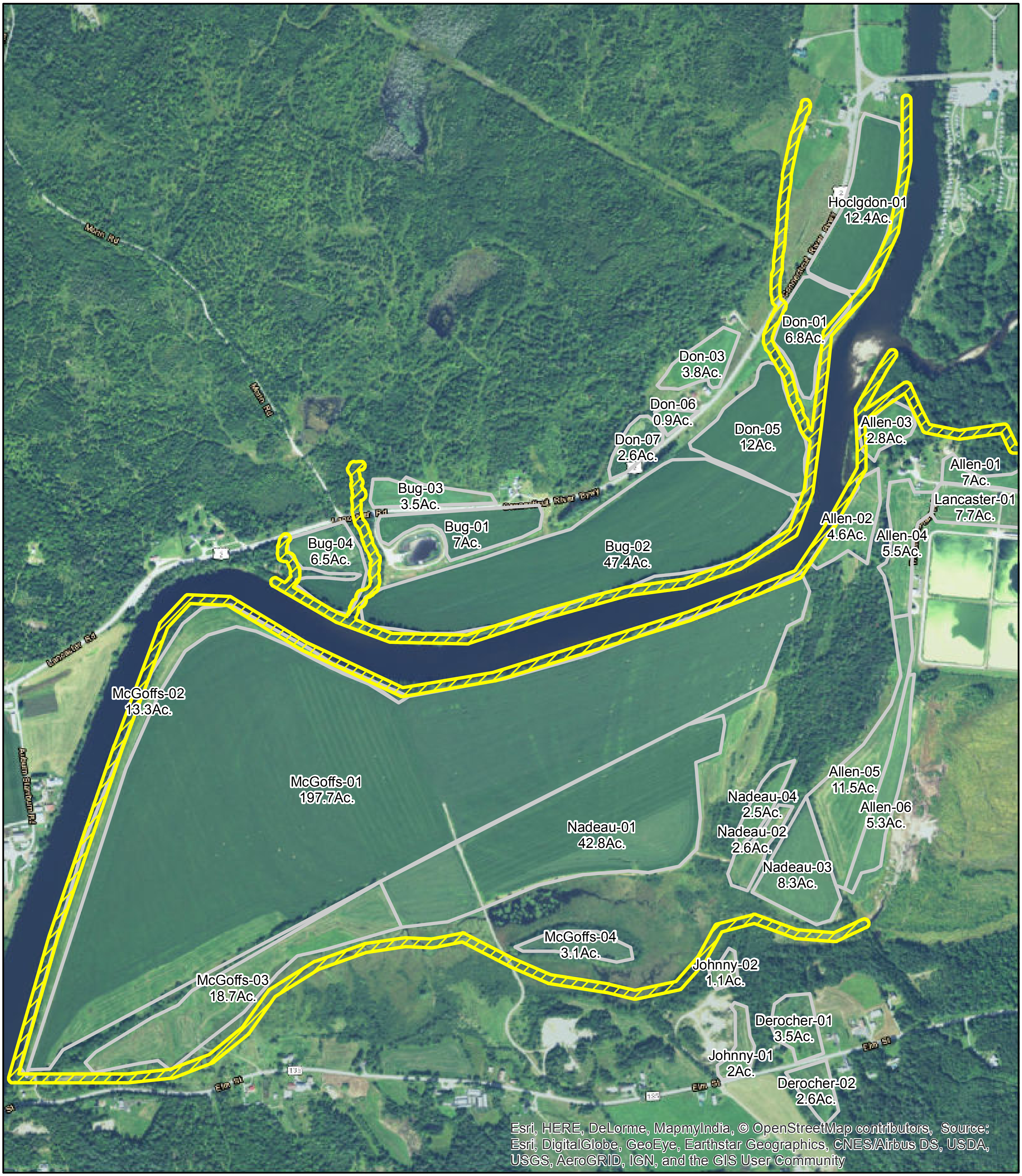

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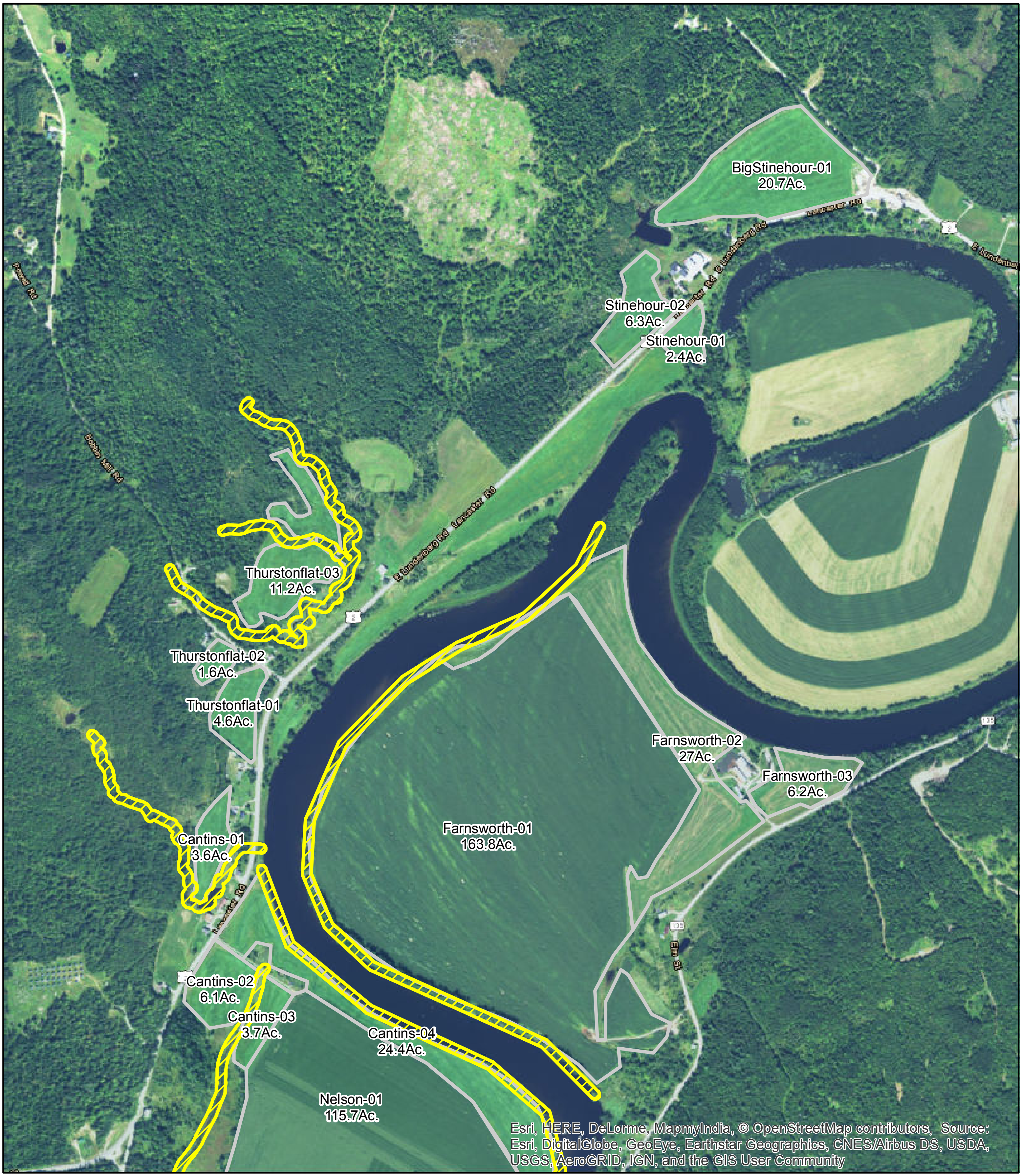

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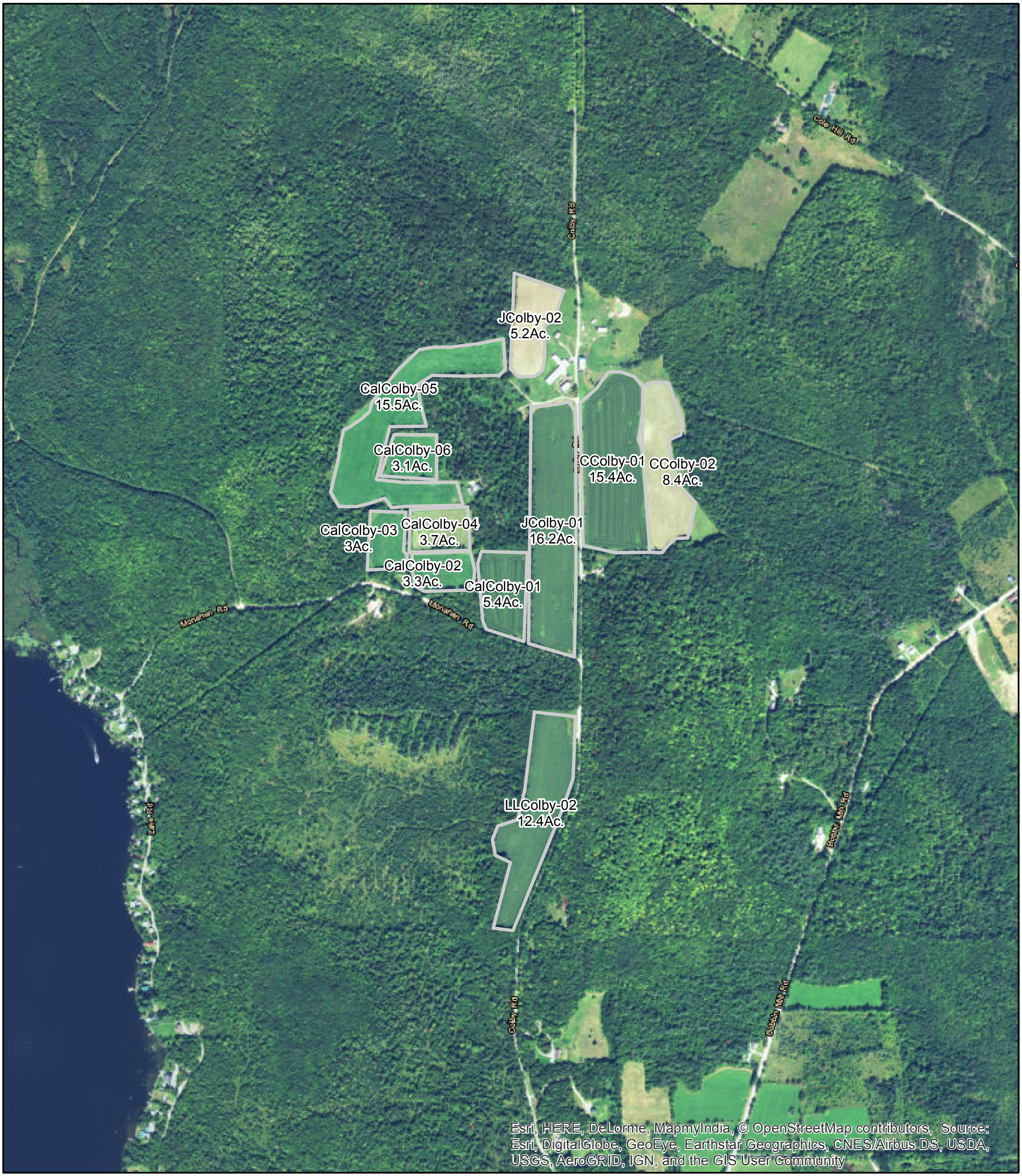

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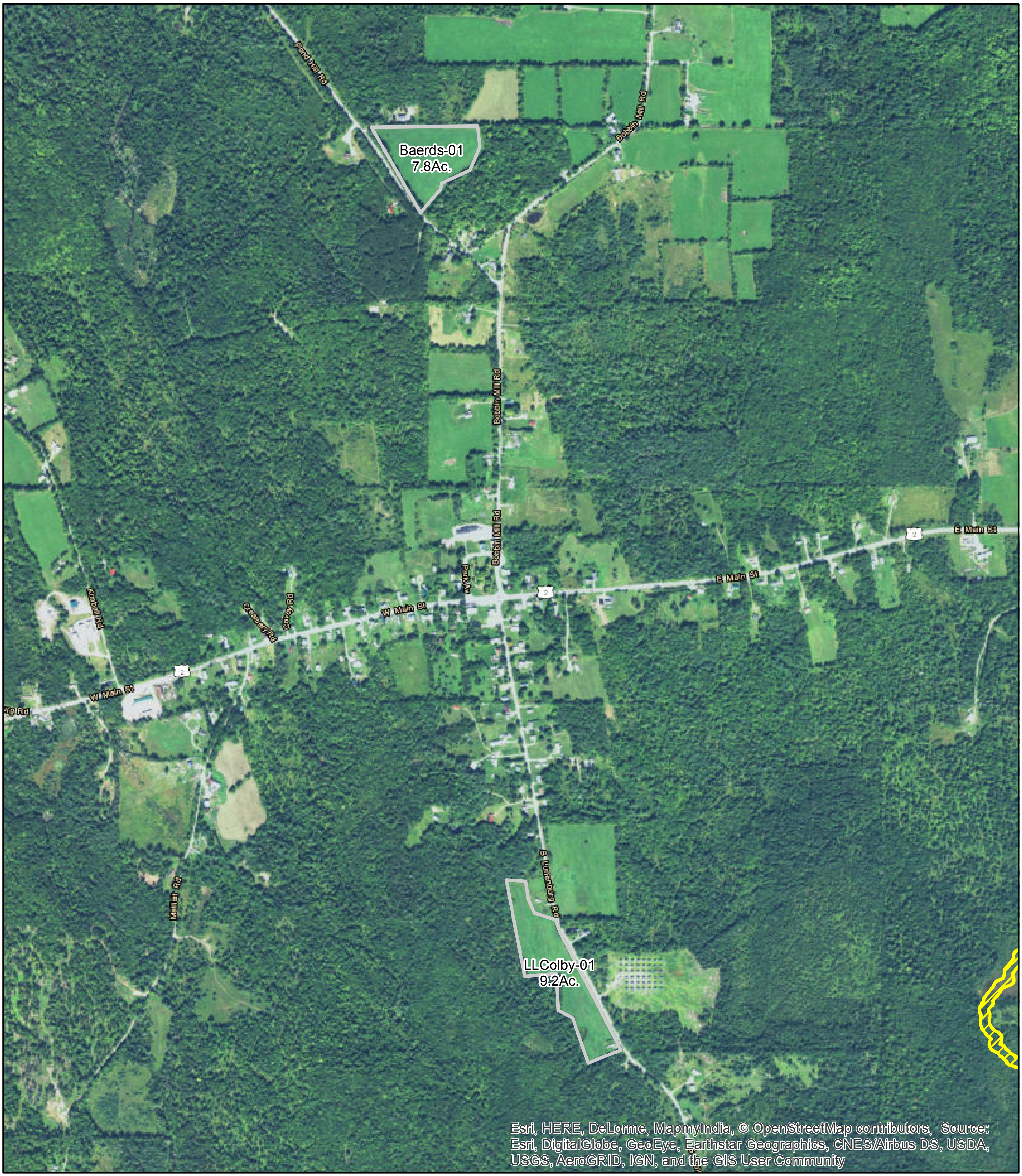

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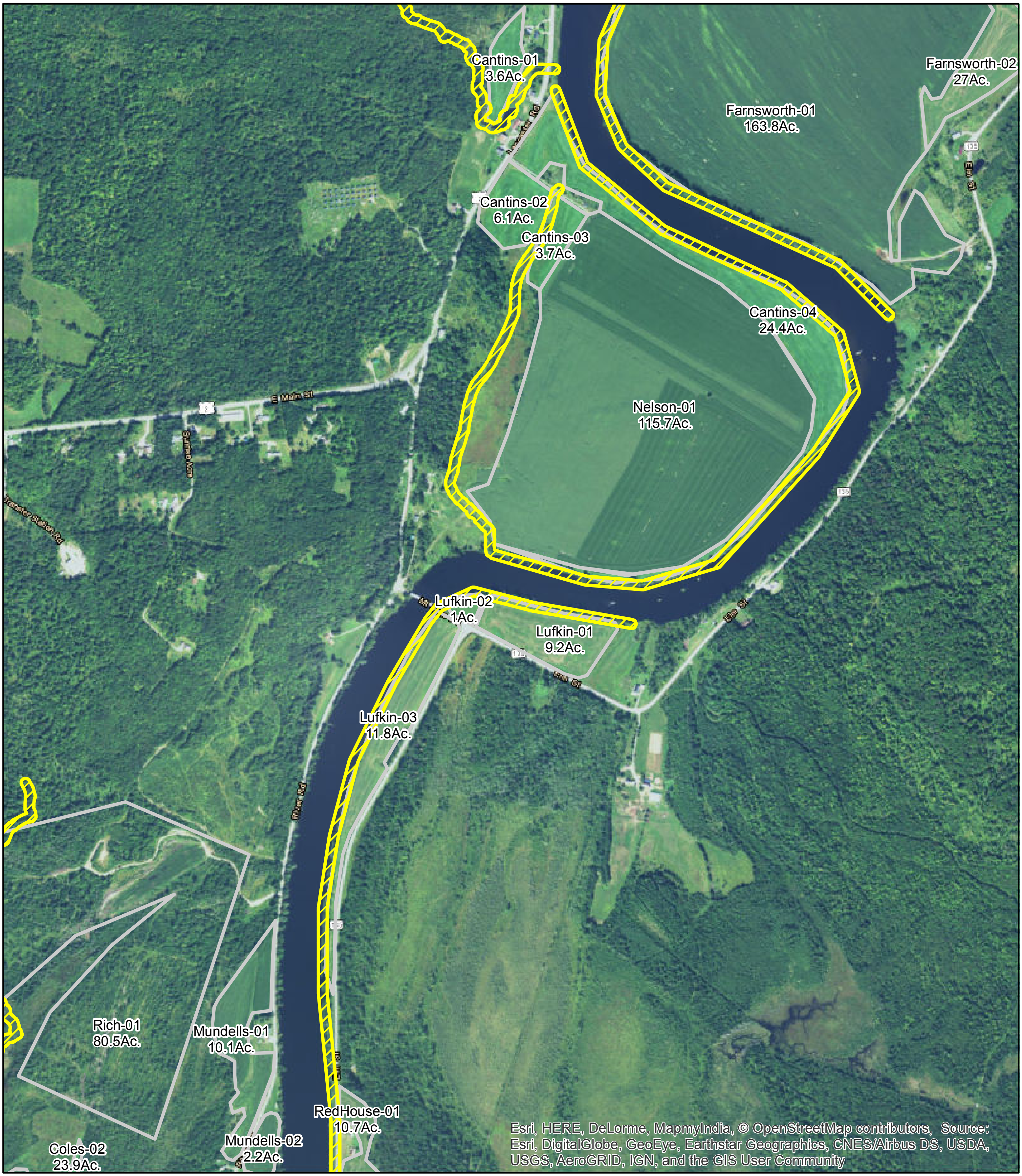

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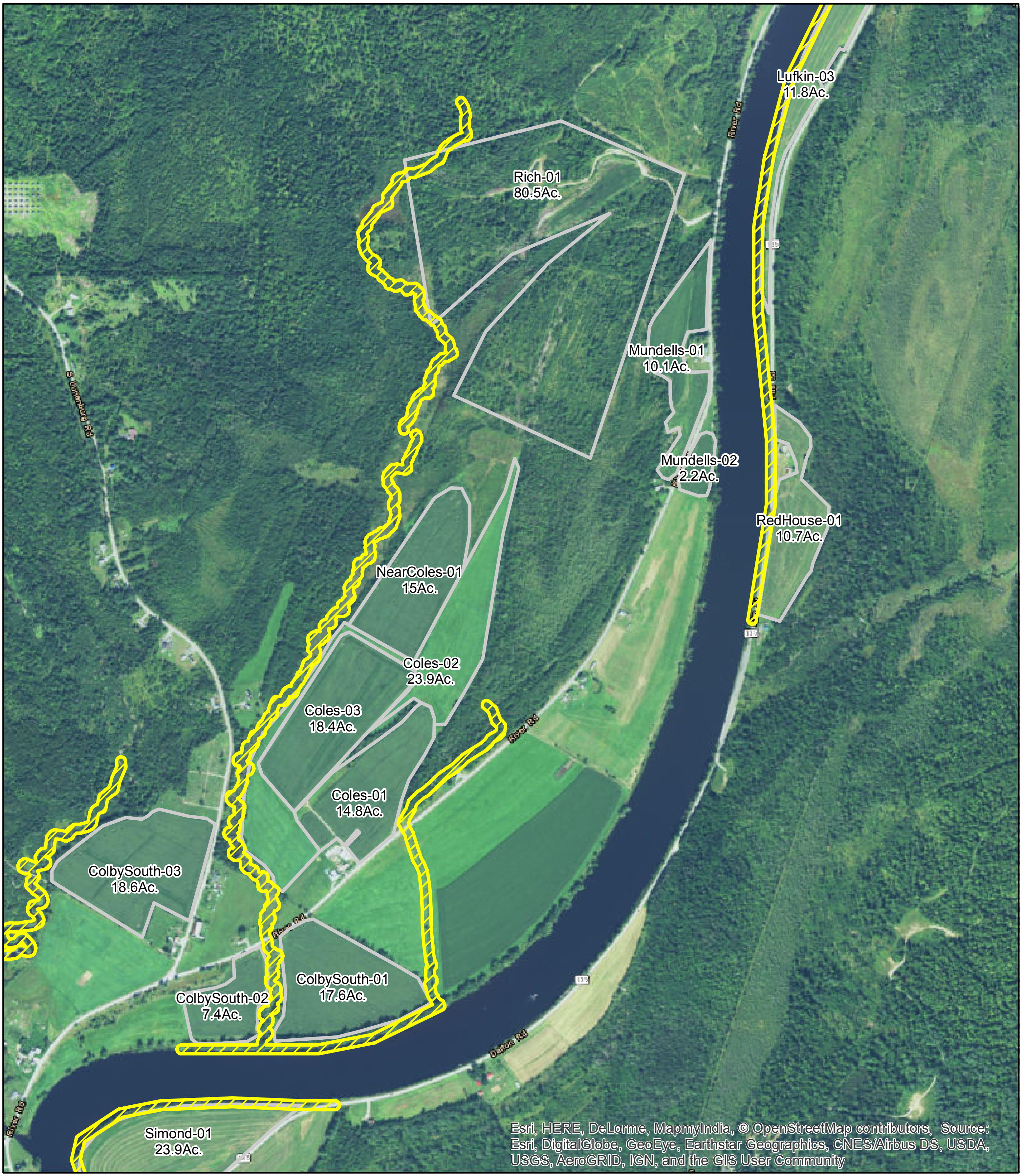

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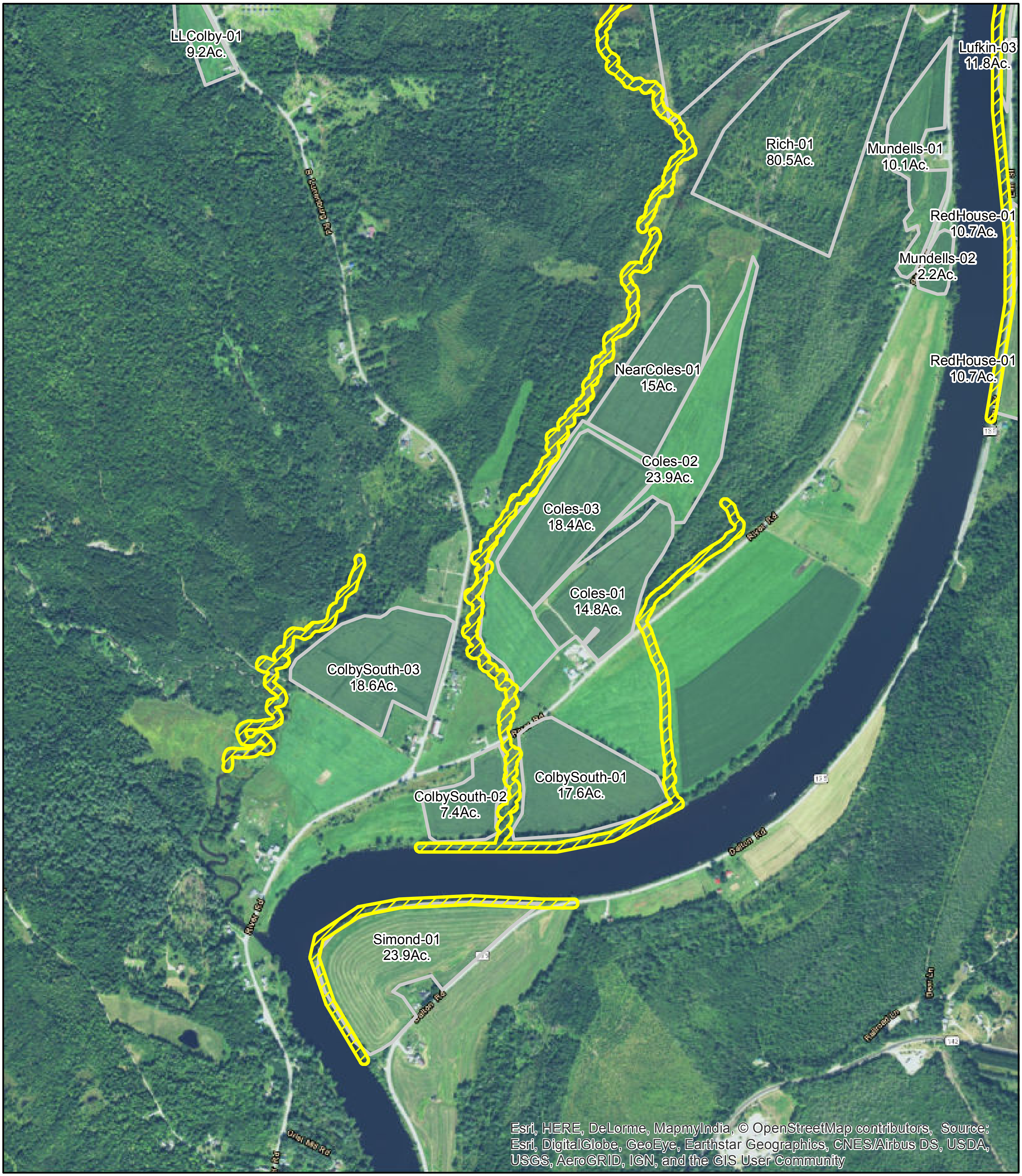

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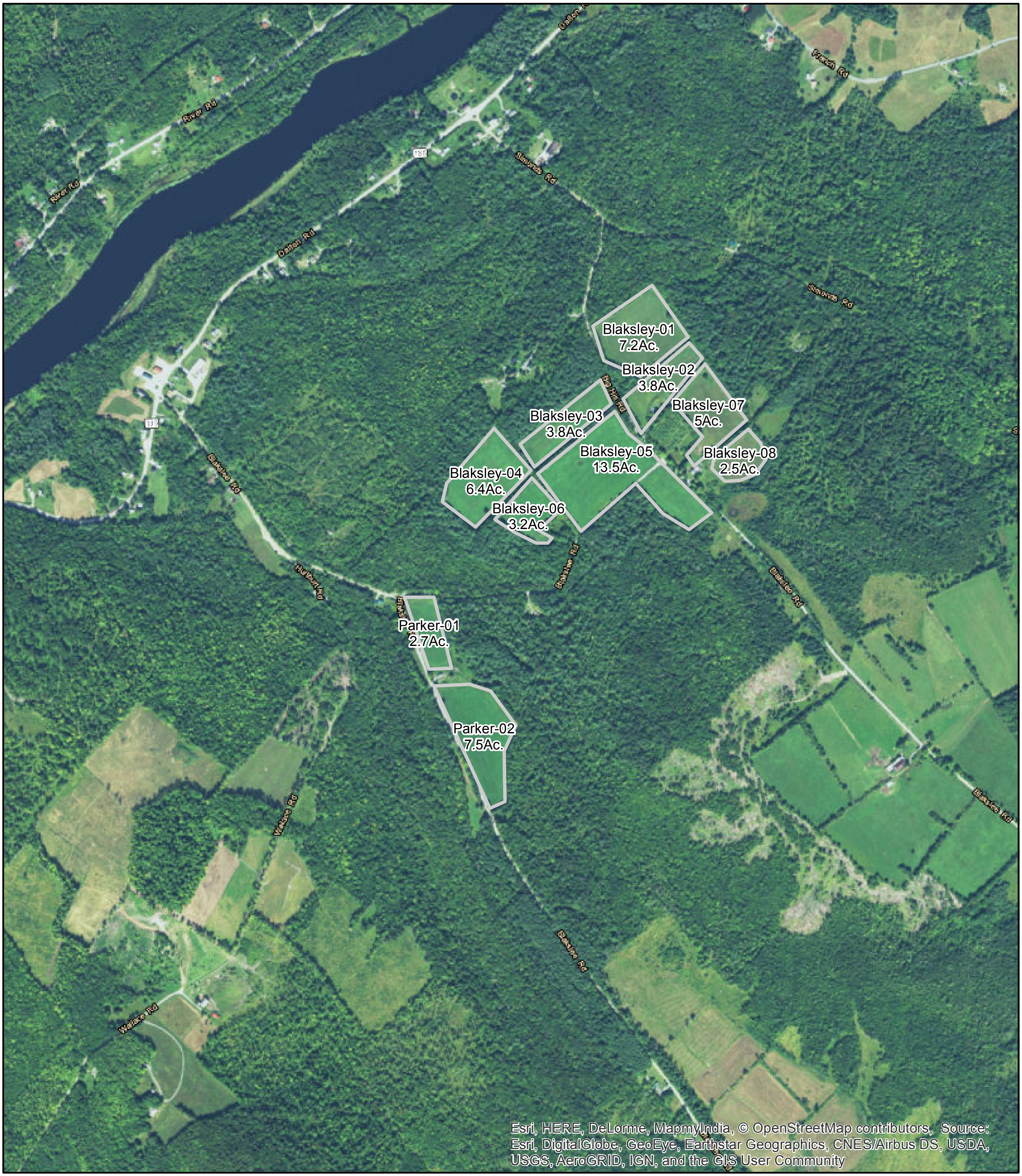

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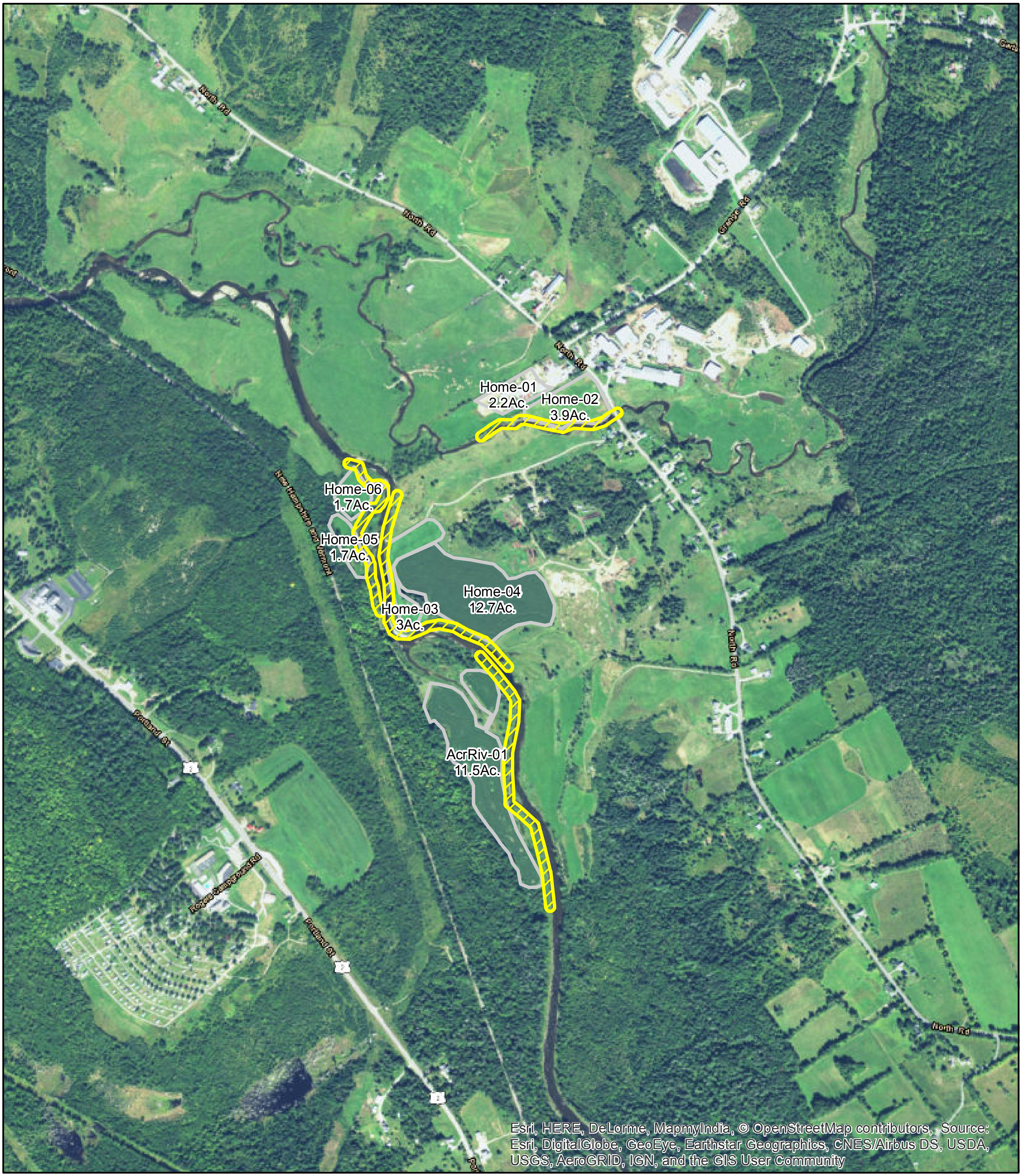

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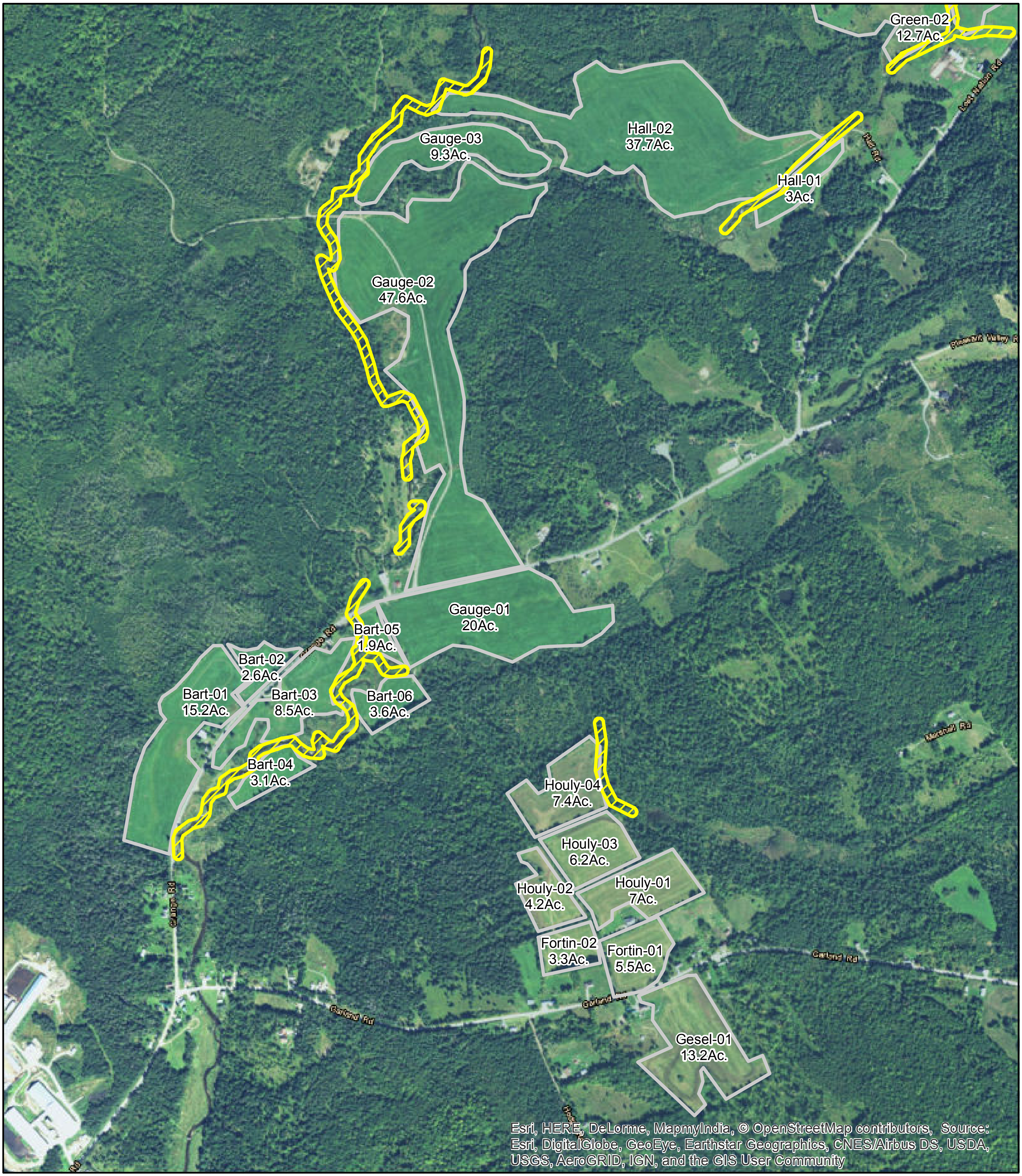

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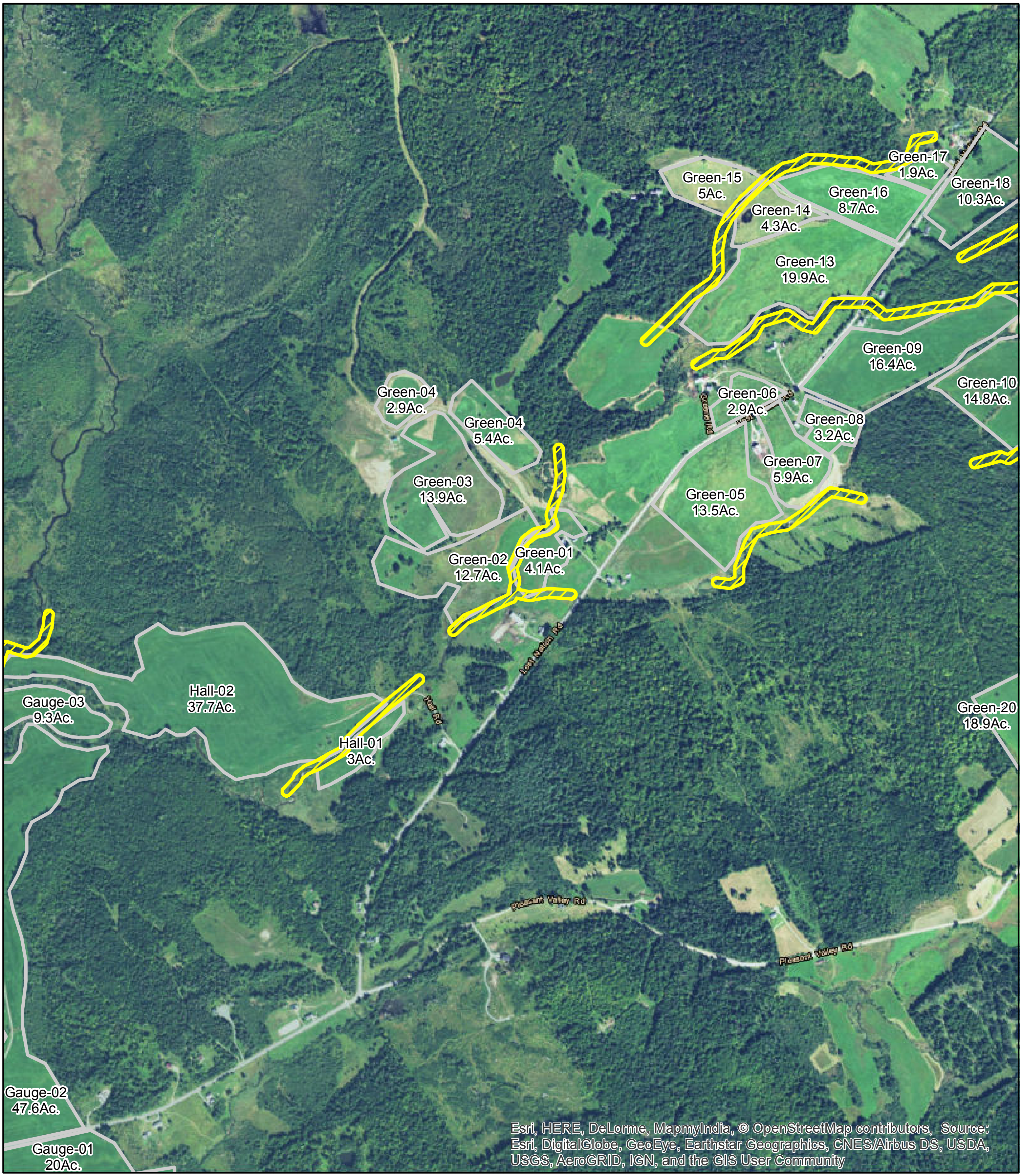

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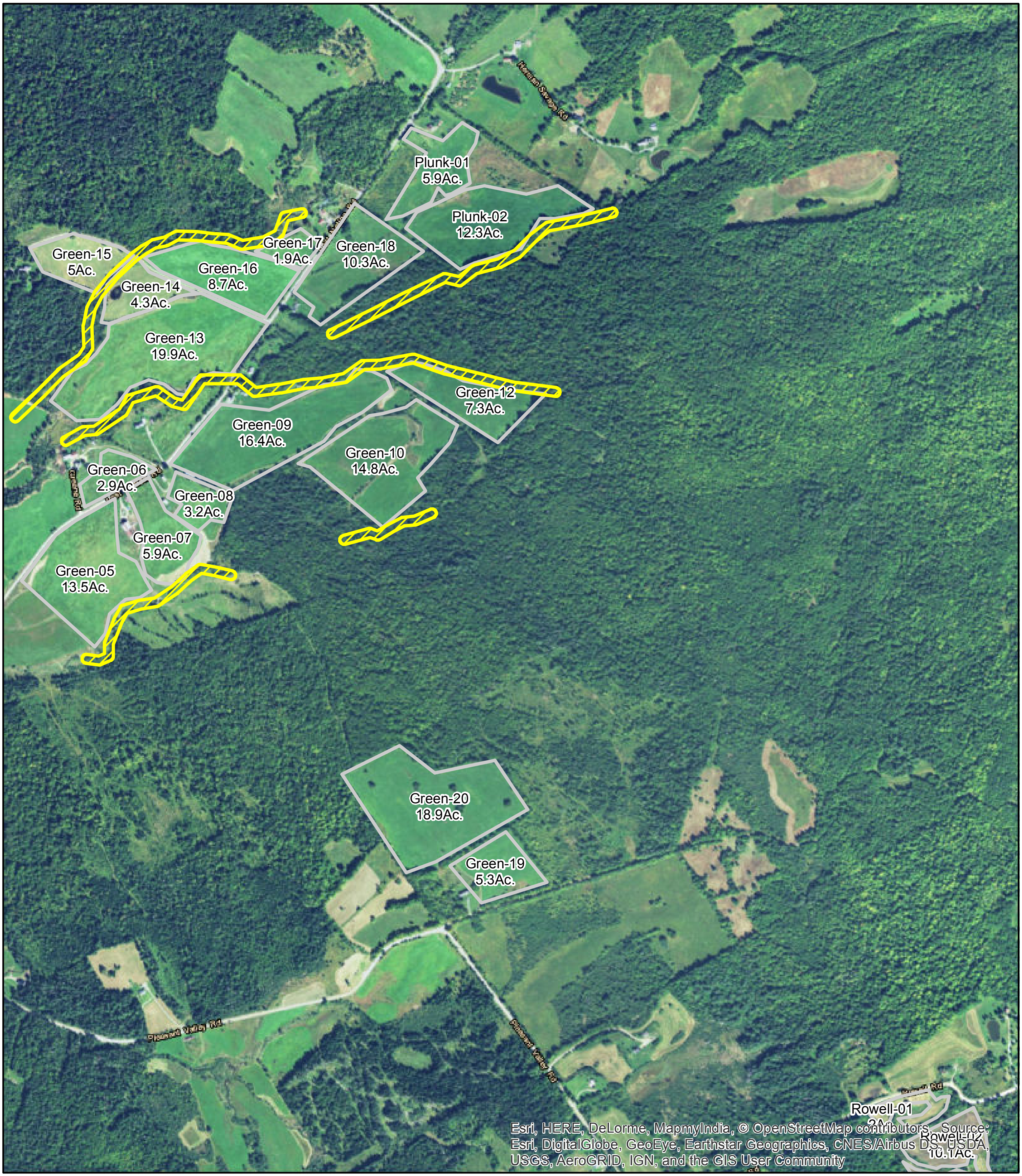

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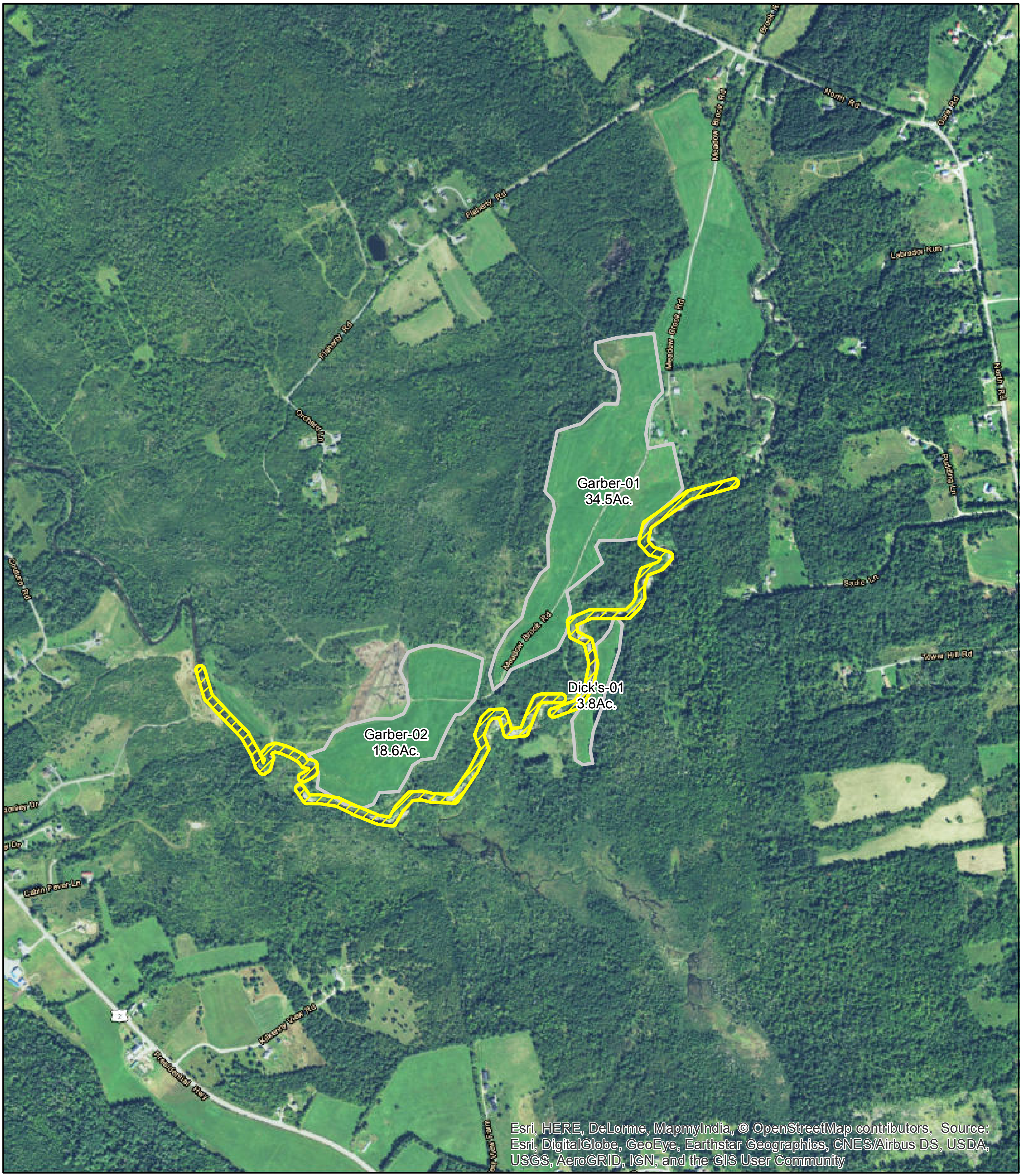

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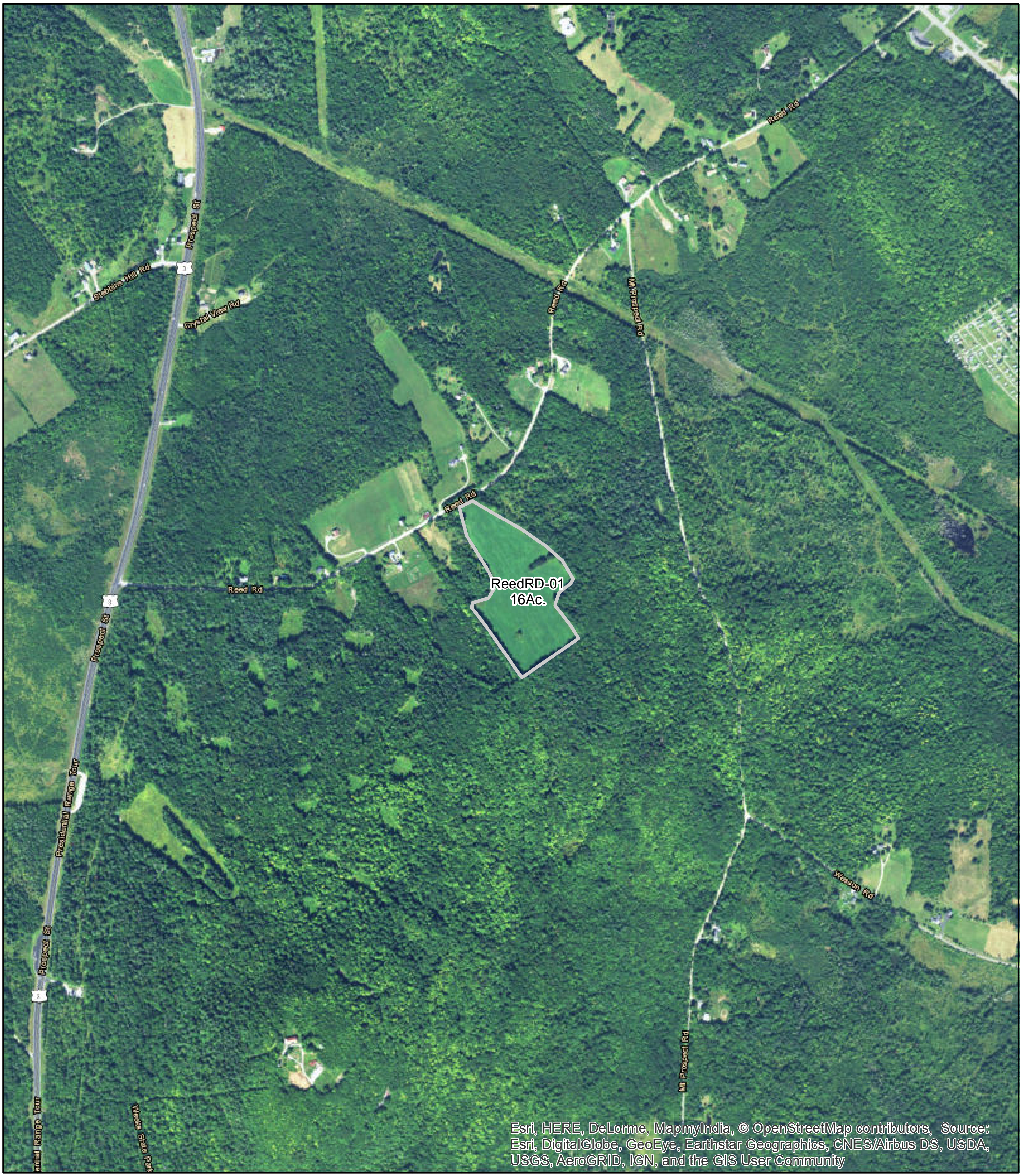

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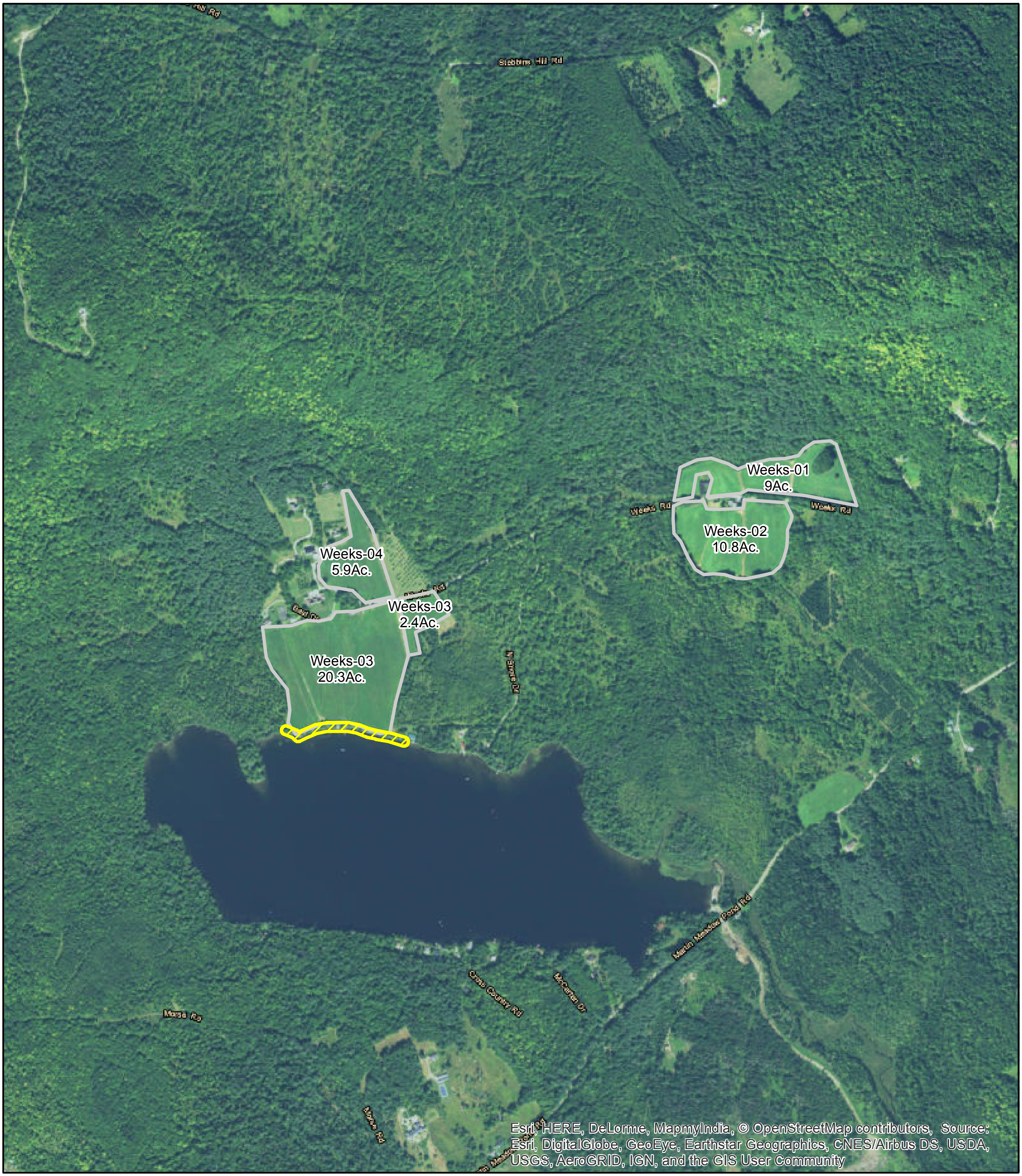

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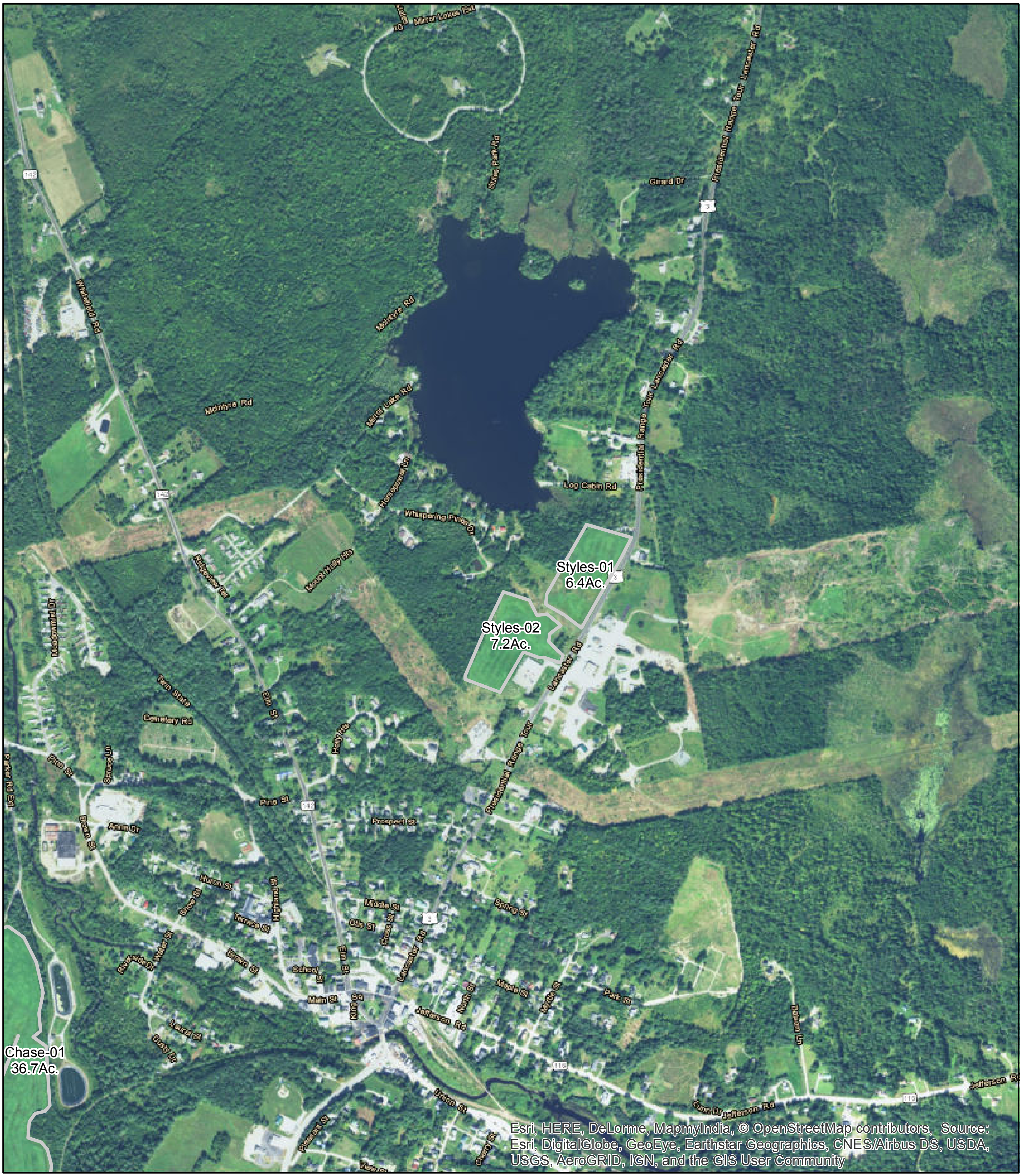

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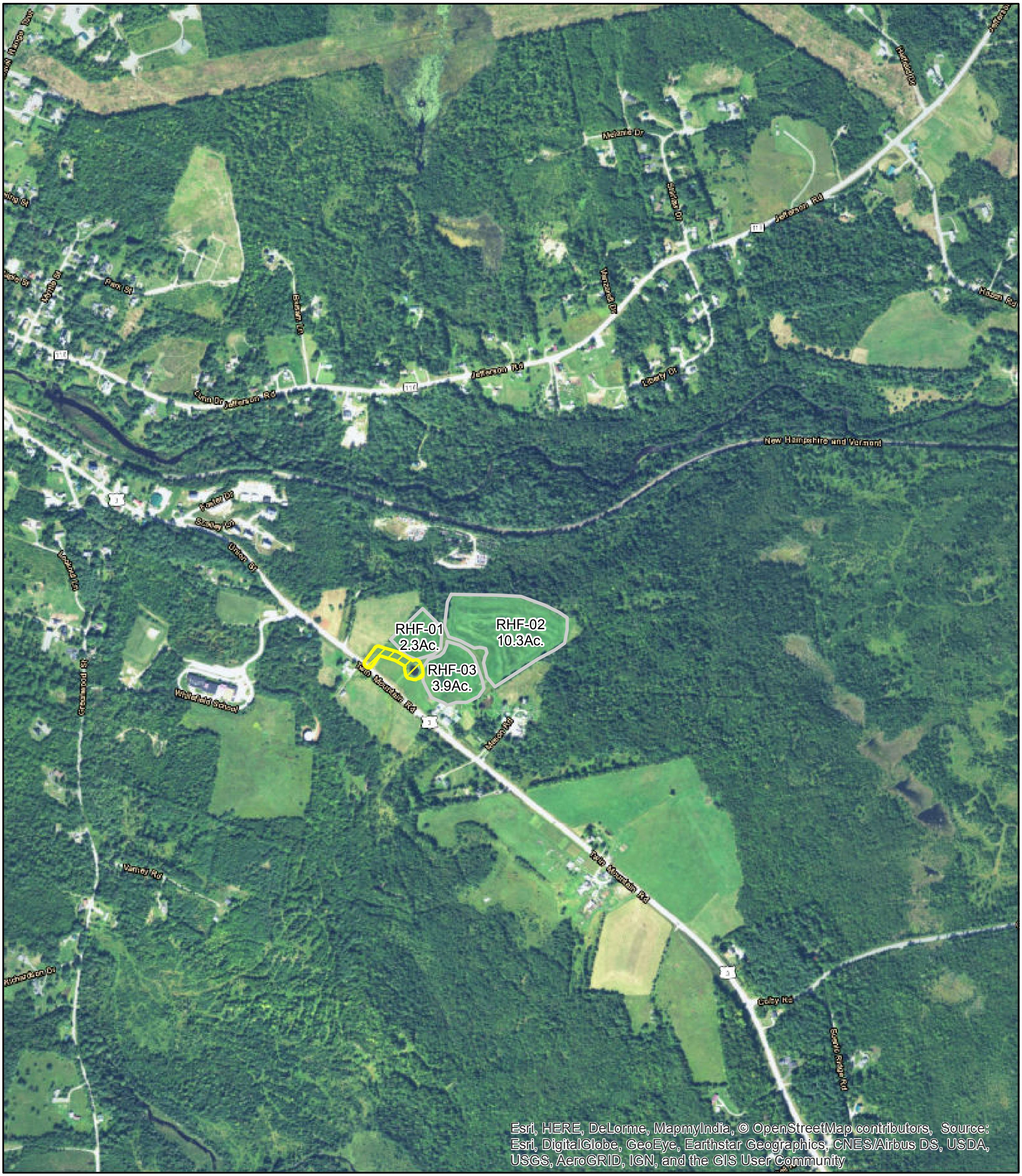

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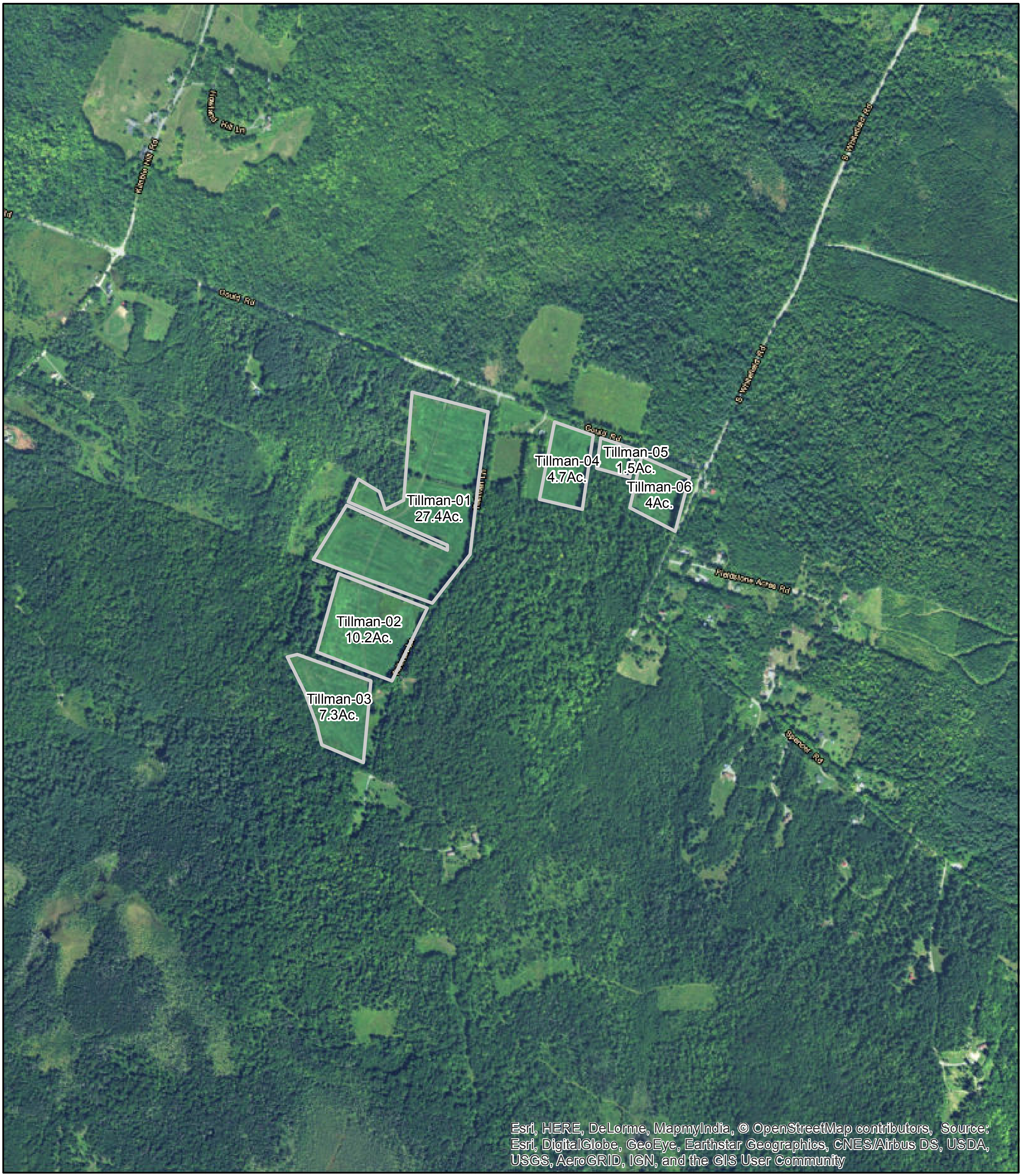

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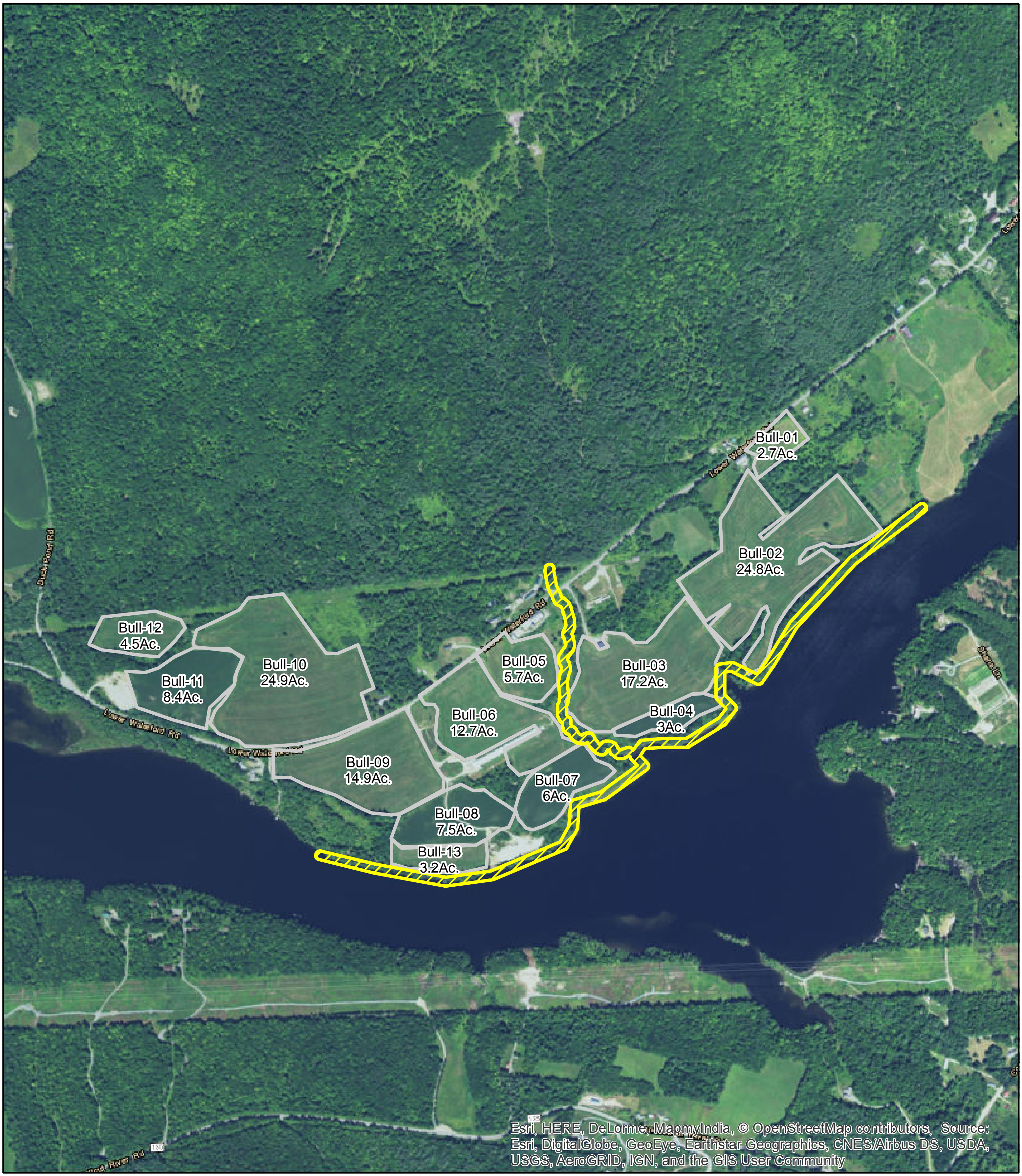

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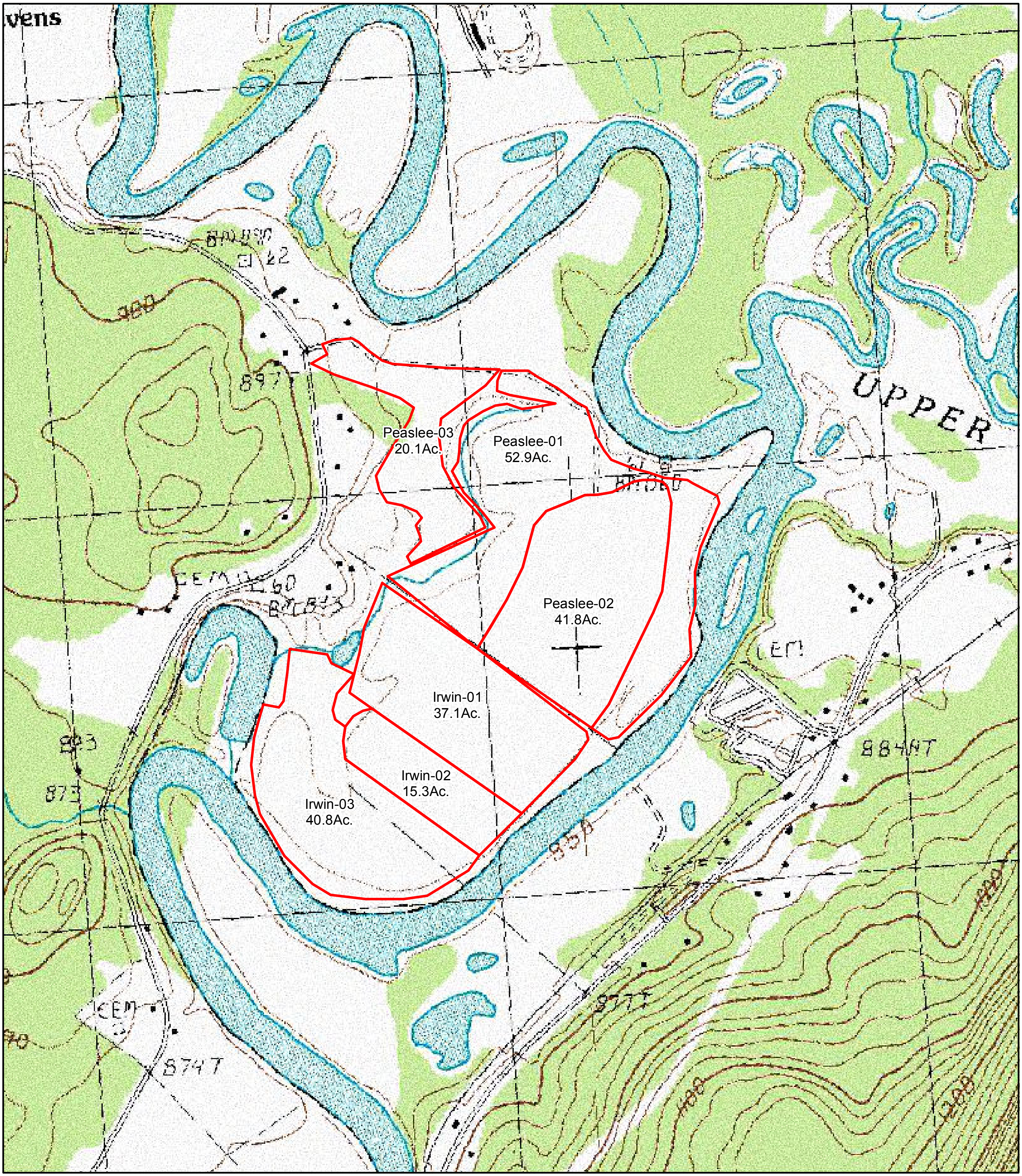

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Topographic Map

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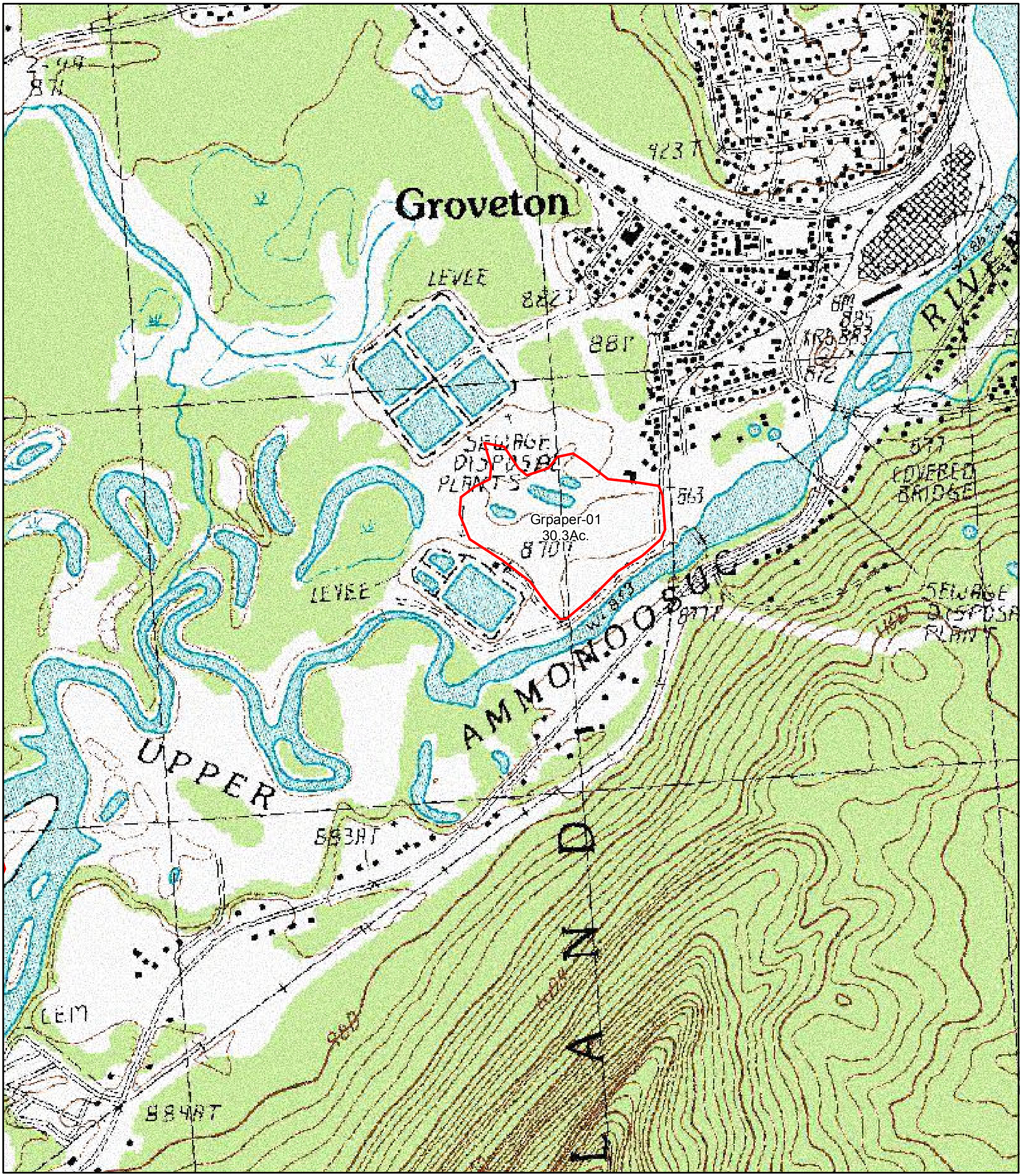

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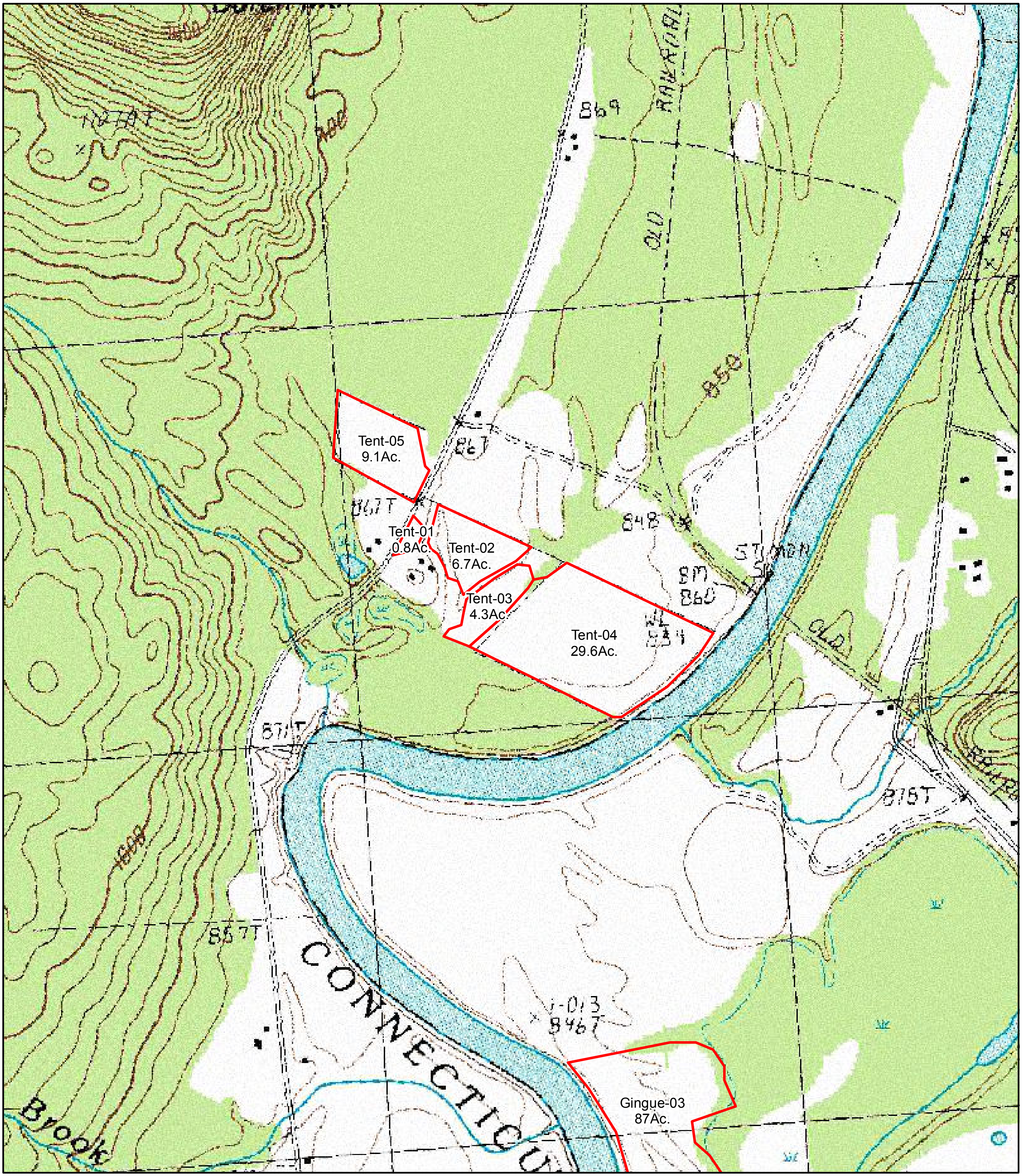
"WE CARE" for your Land and Animals

Prepare By: Jonathan

Date: 10/5/2017

1 inch = 1,000 feet



Forbes Family Farm

Topographic Map

0 550 1,100 2,200 Feet

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Legend

🟥 2016 Fields Forbes

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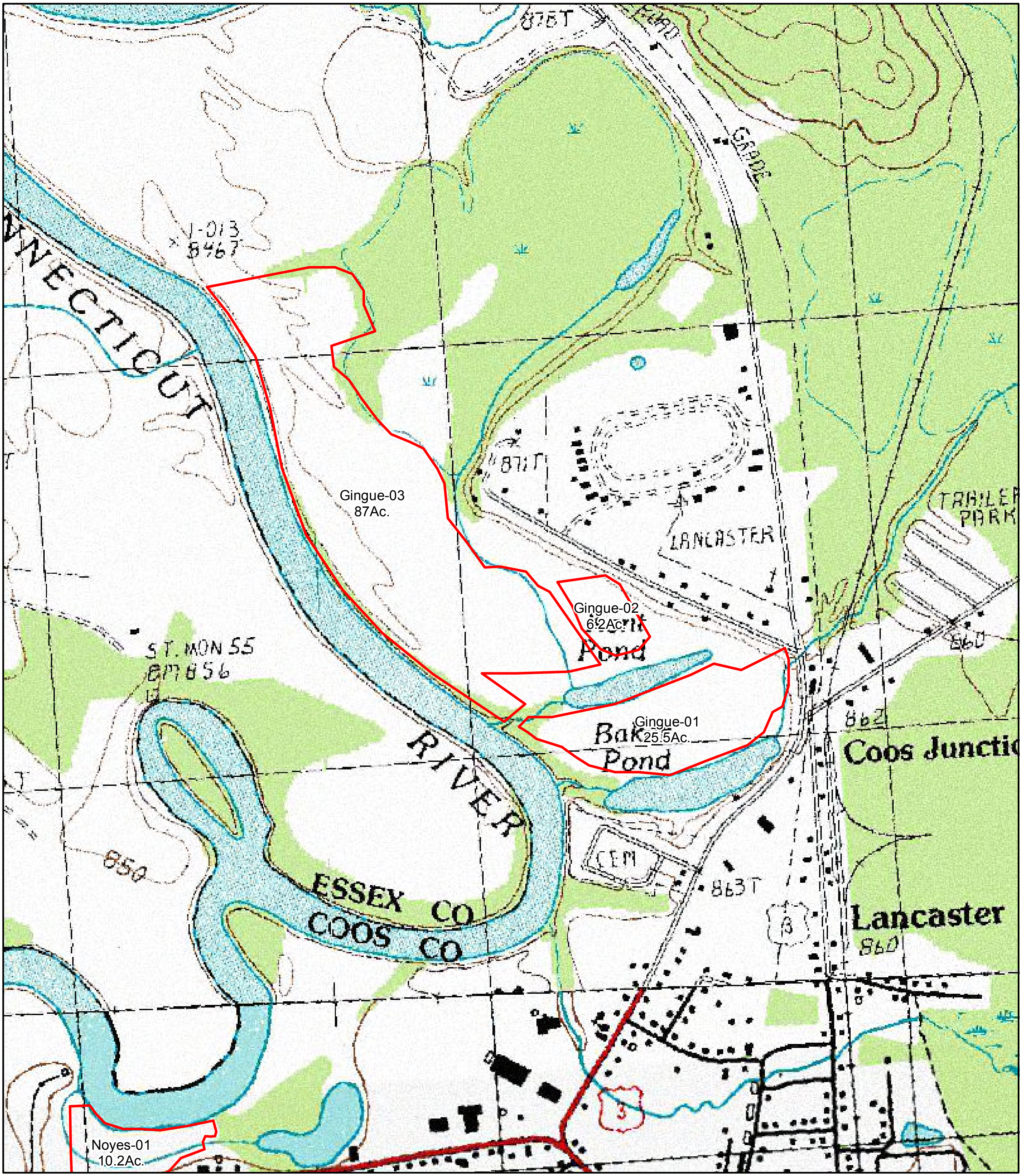

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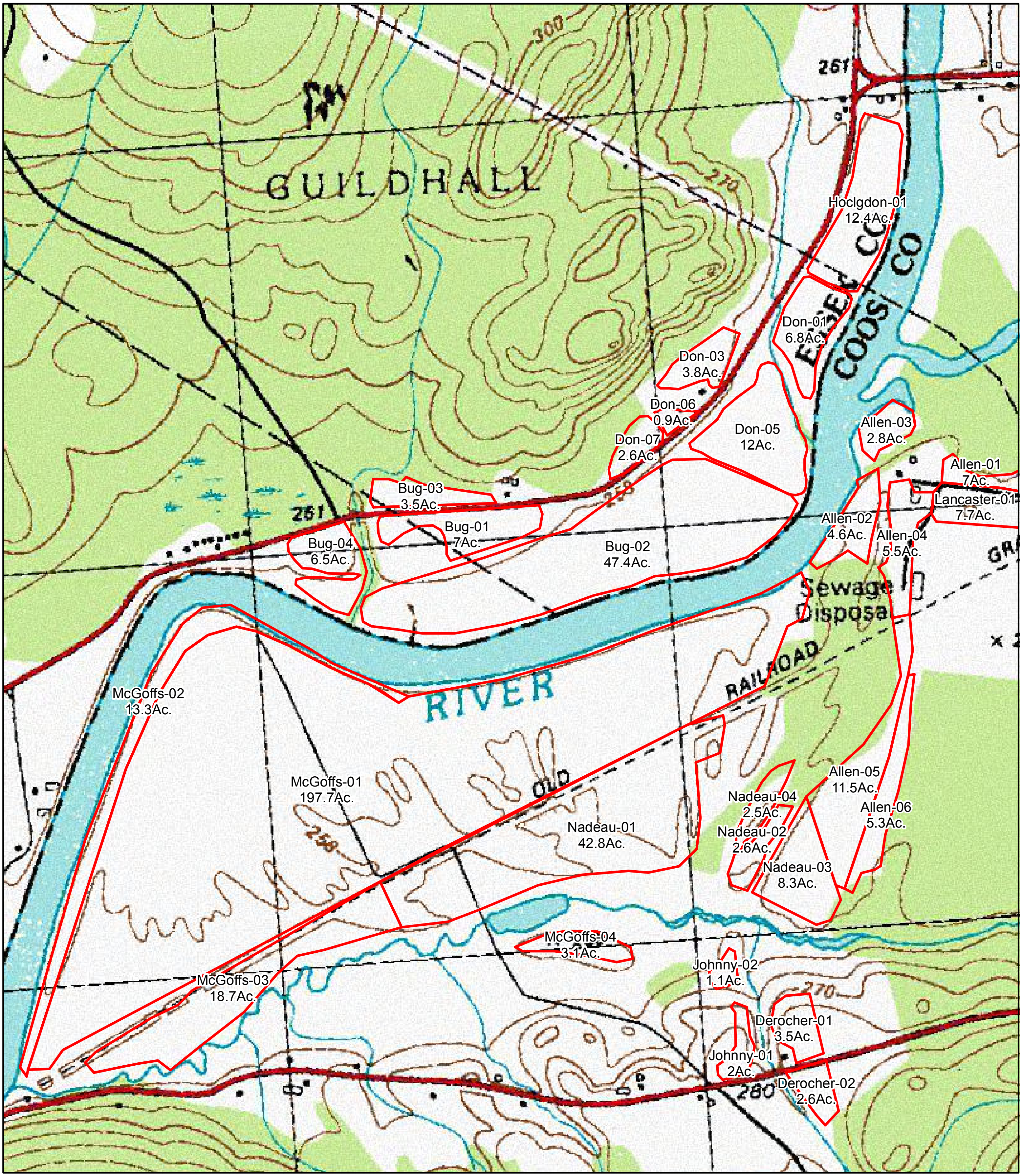

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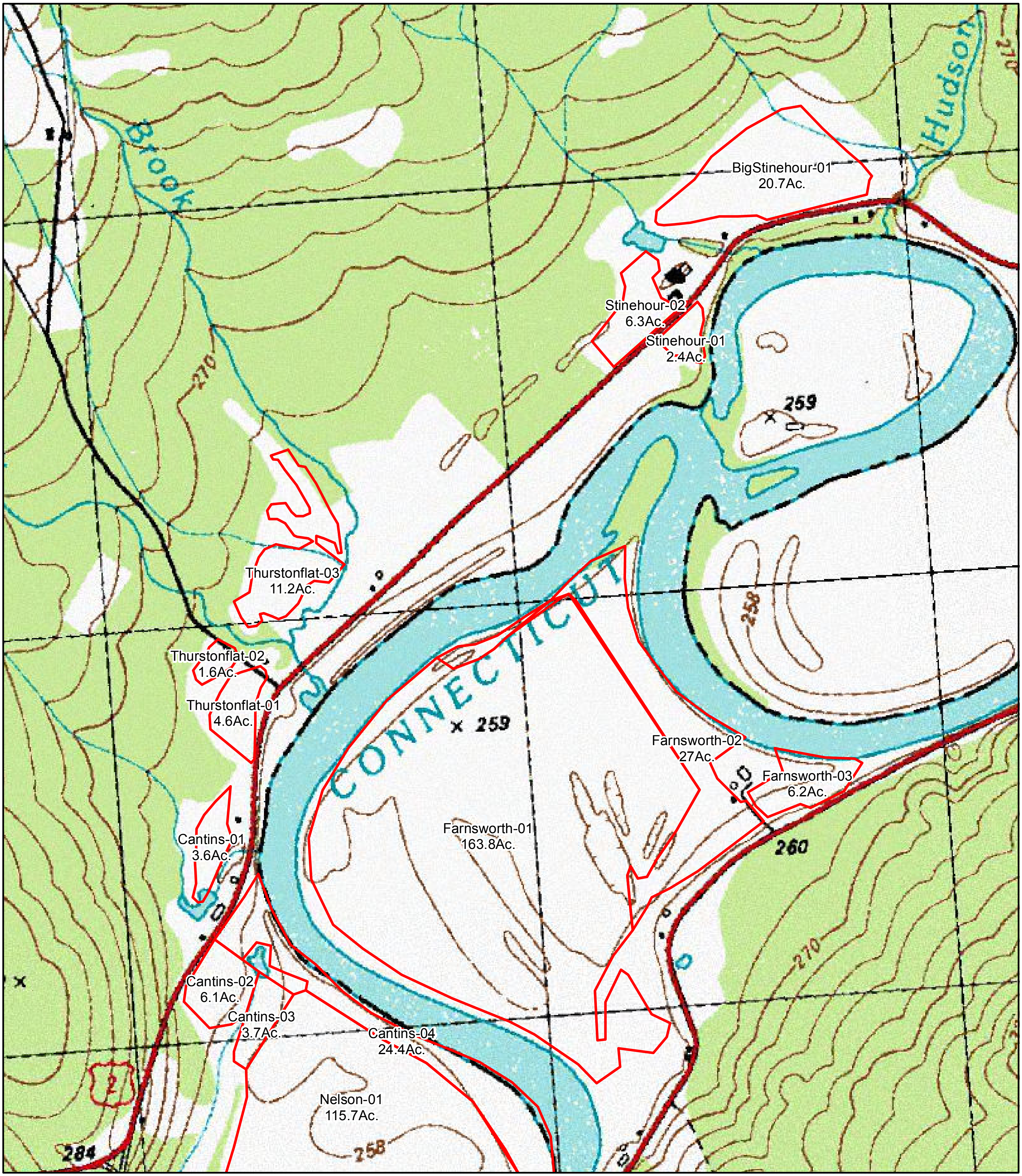

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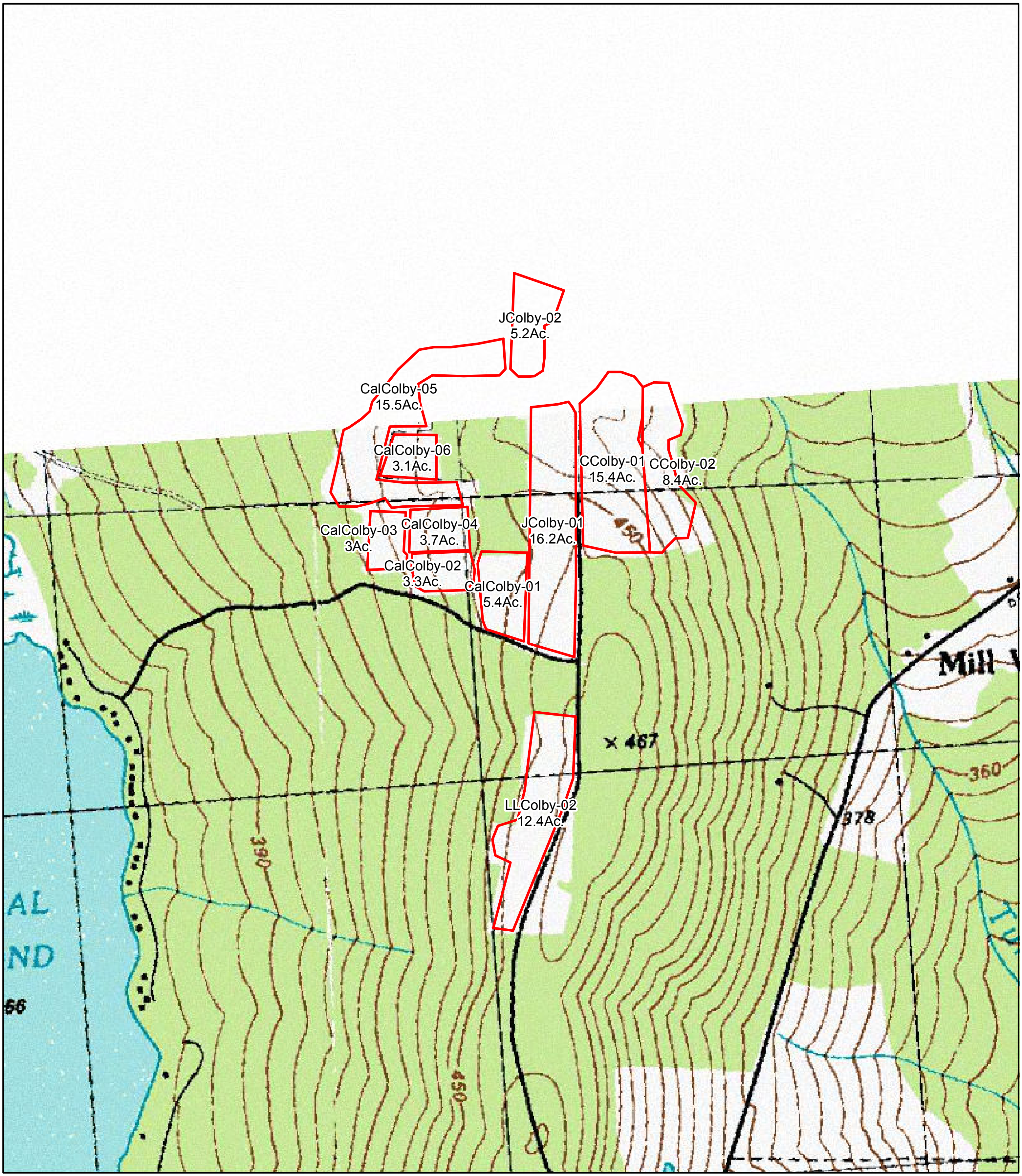

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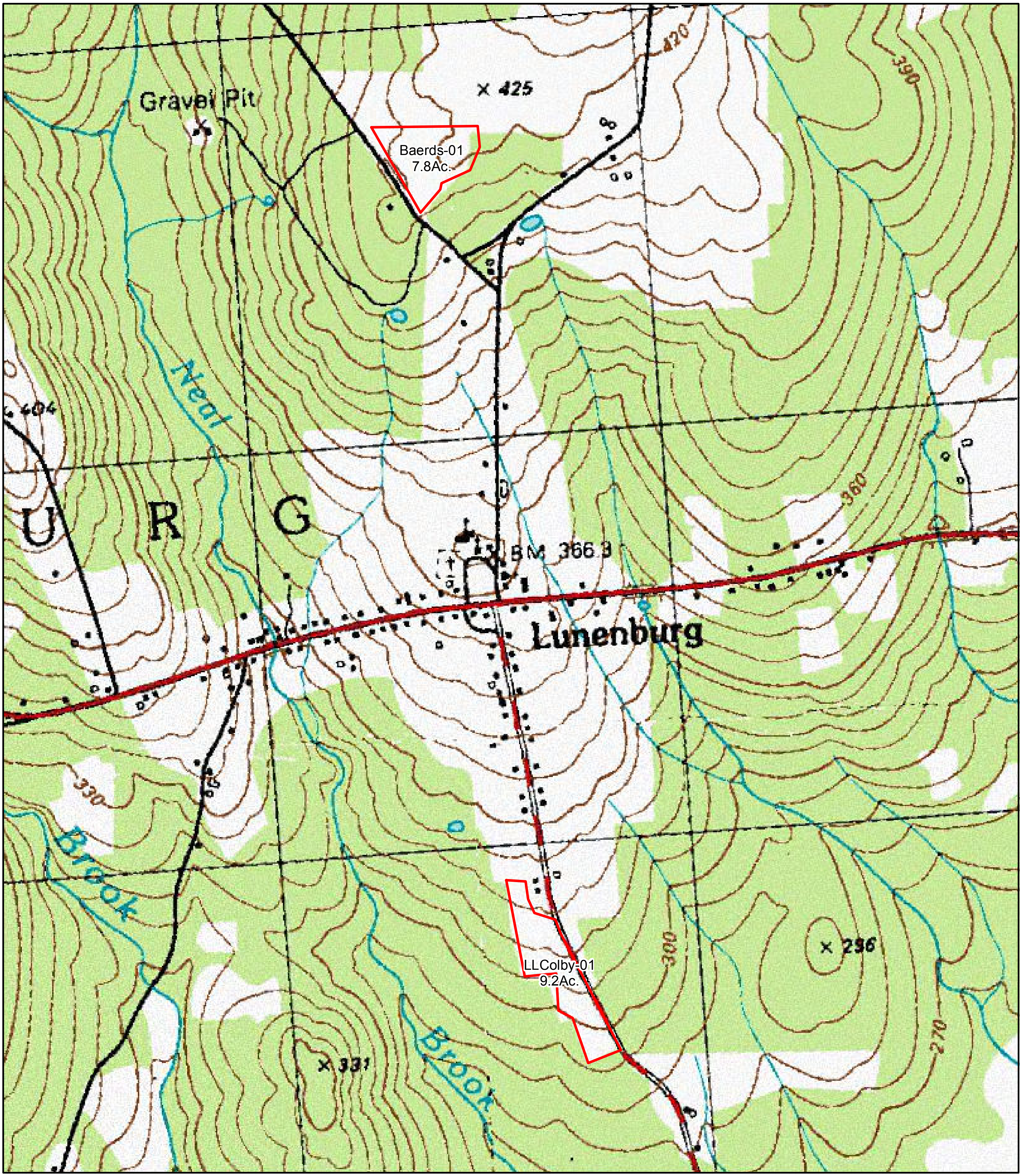

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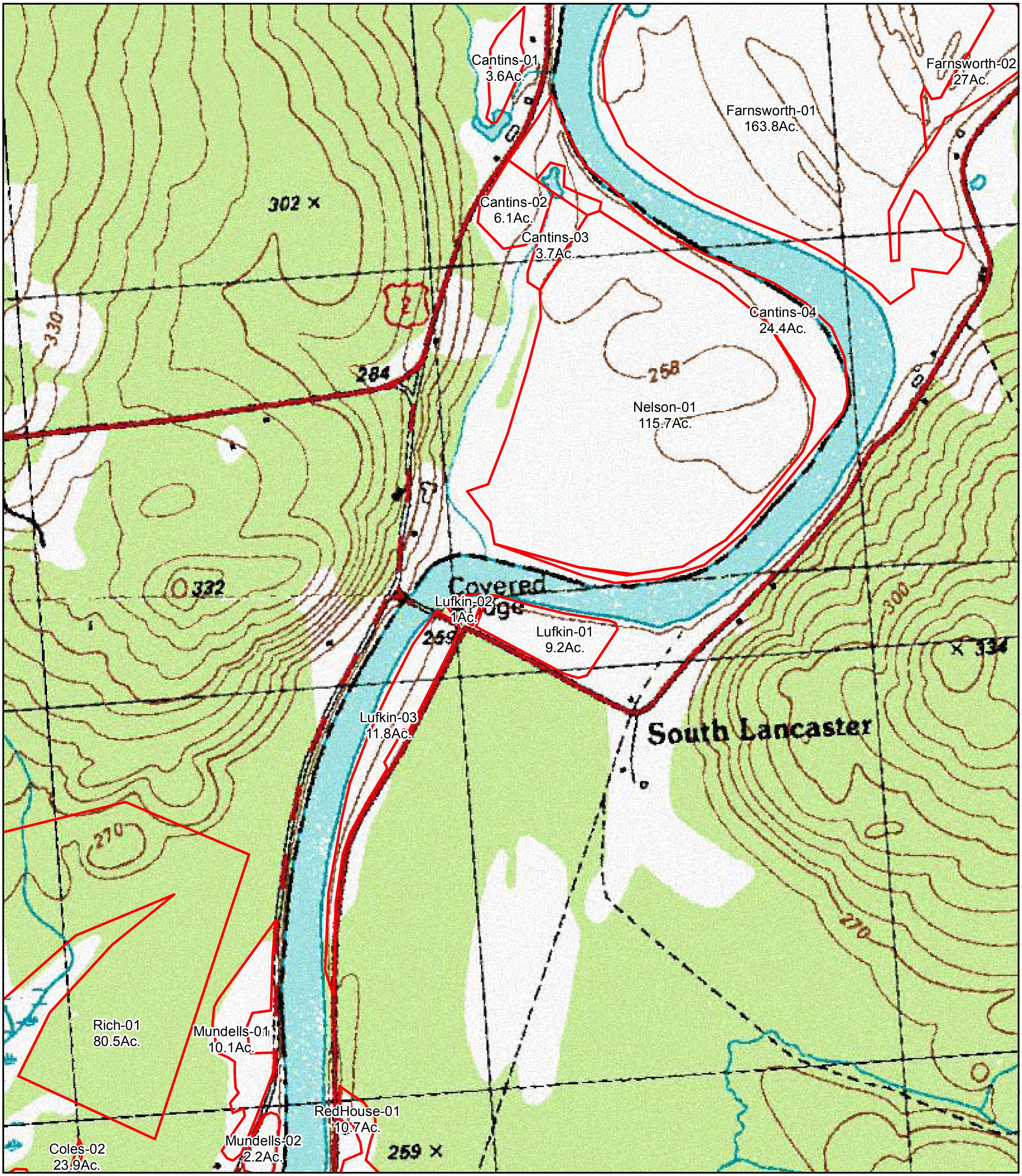

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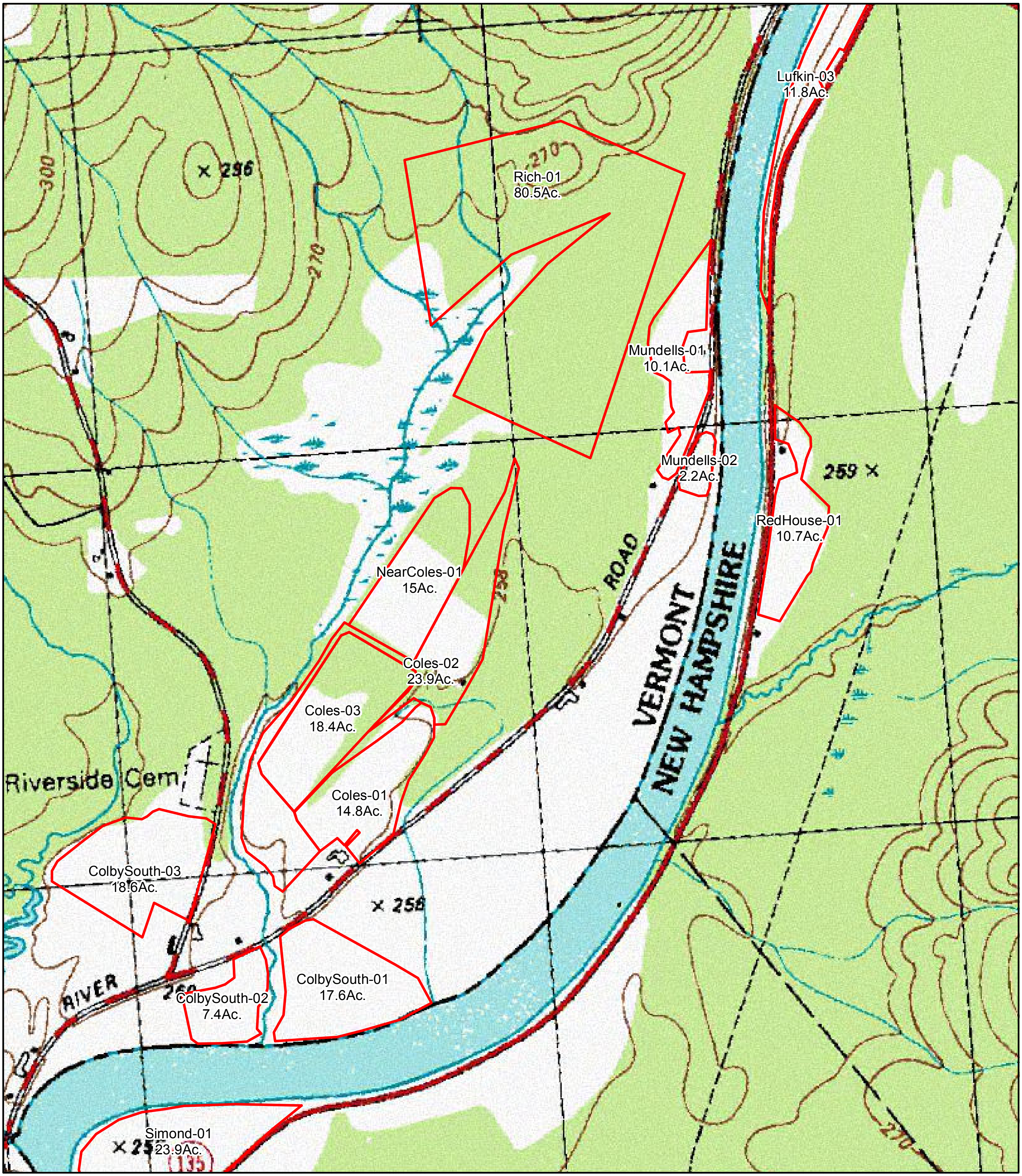

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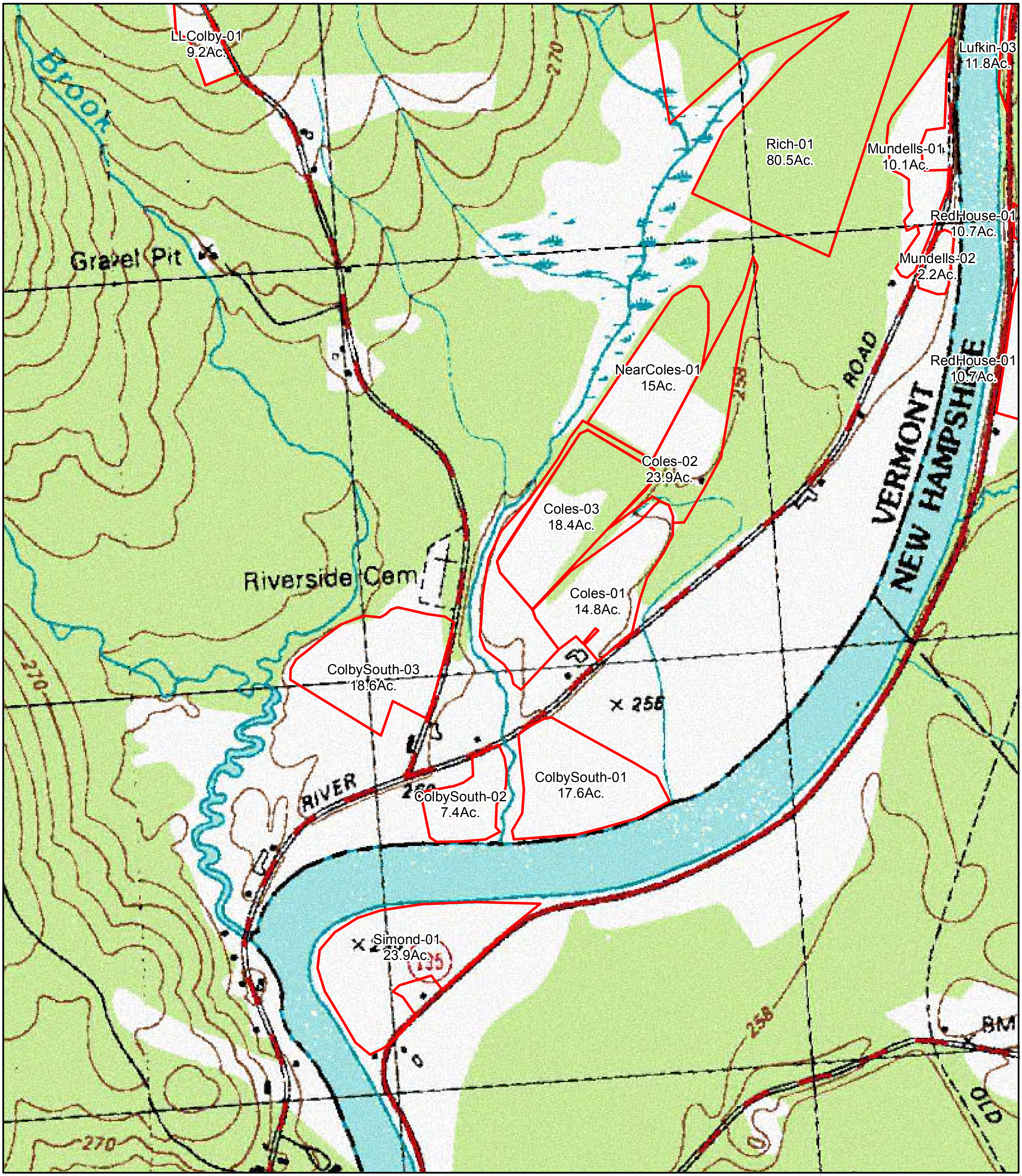

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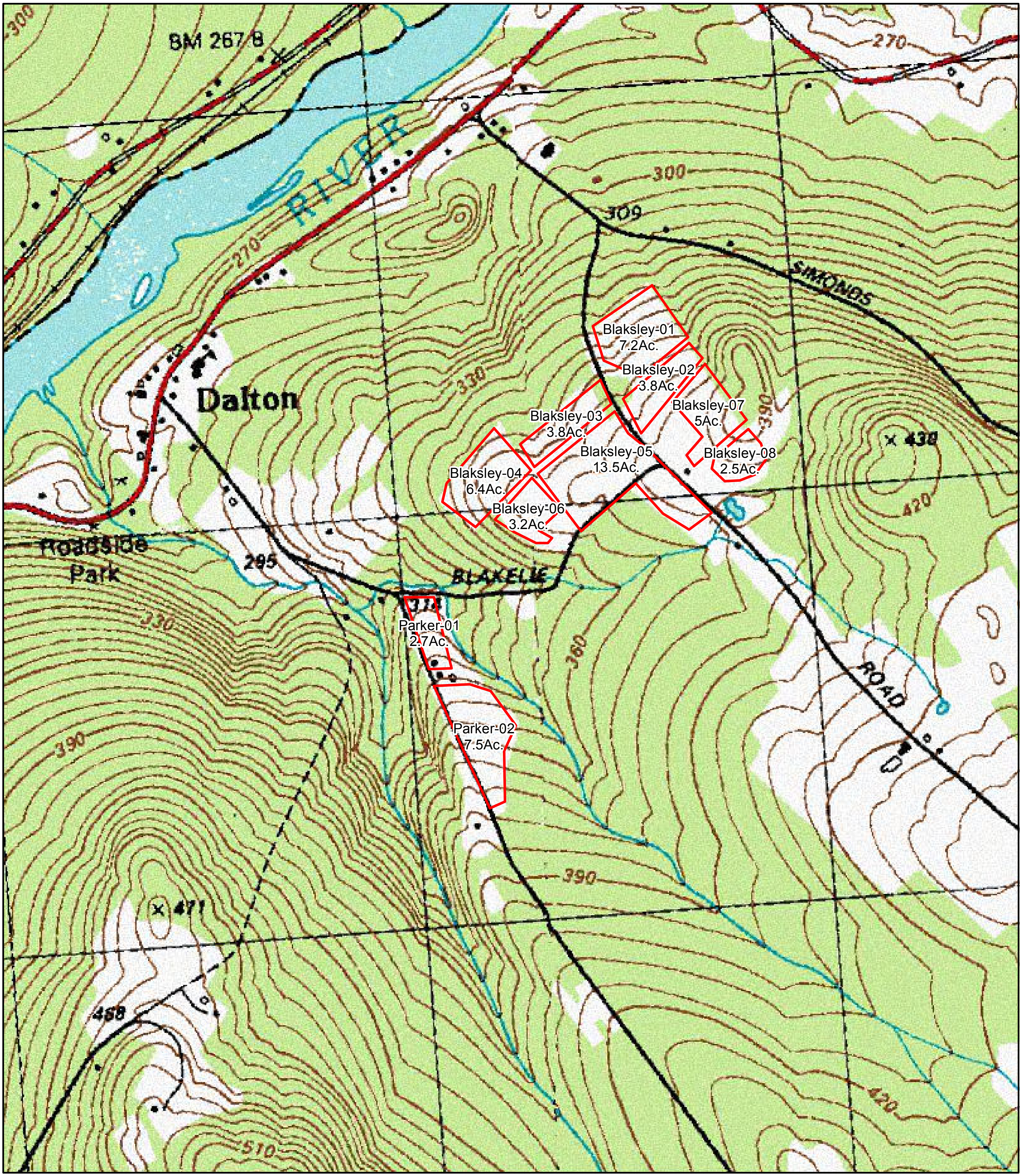

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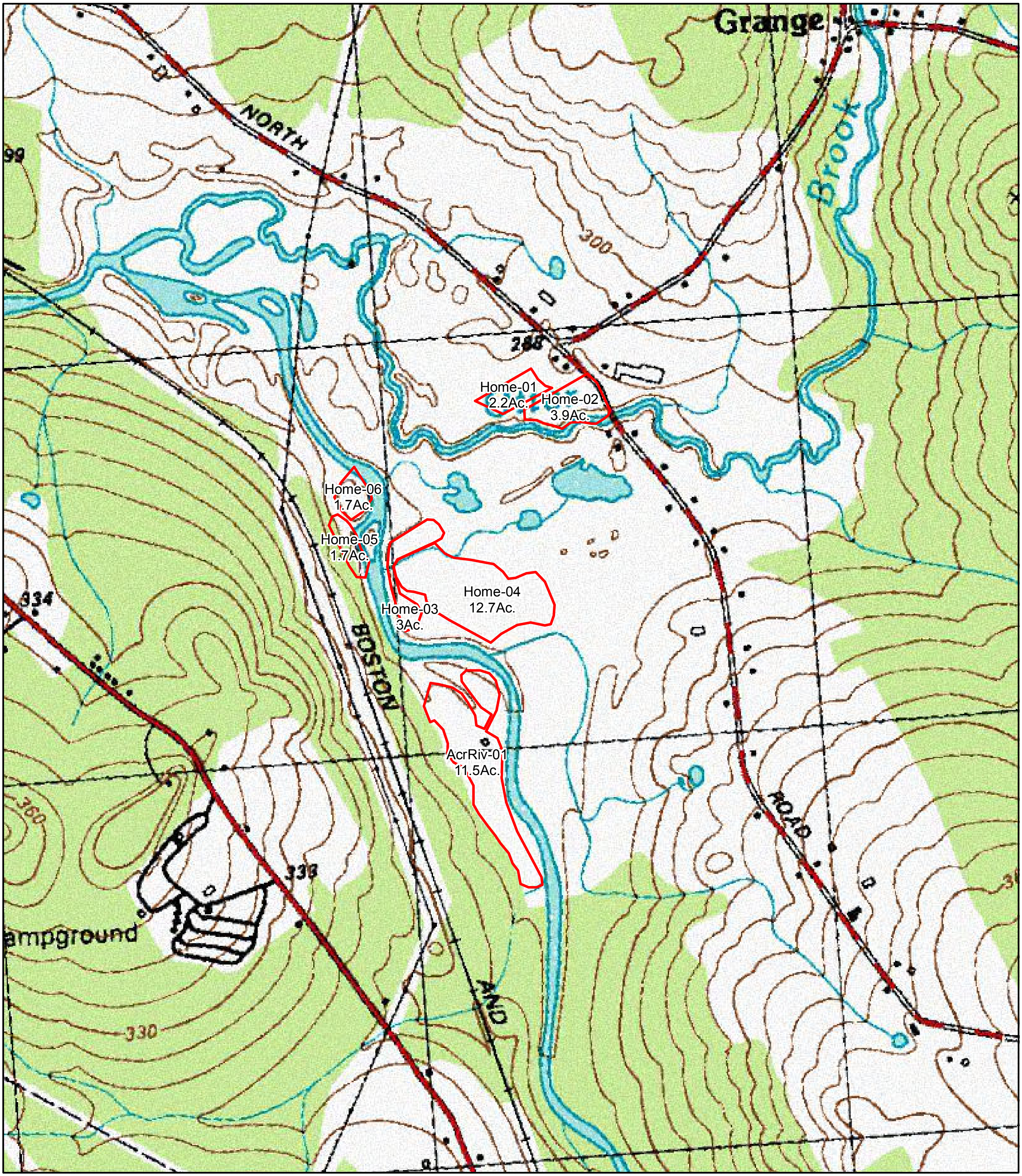

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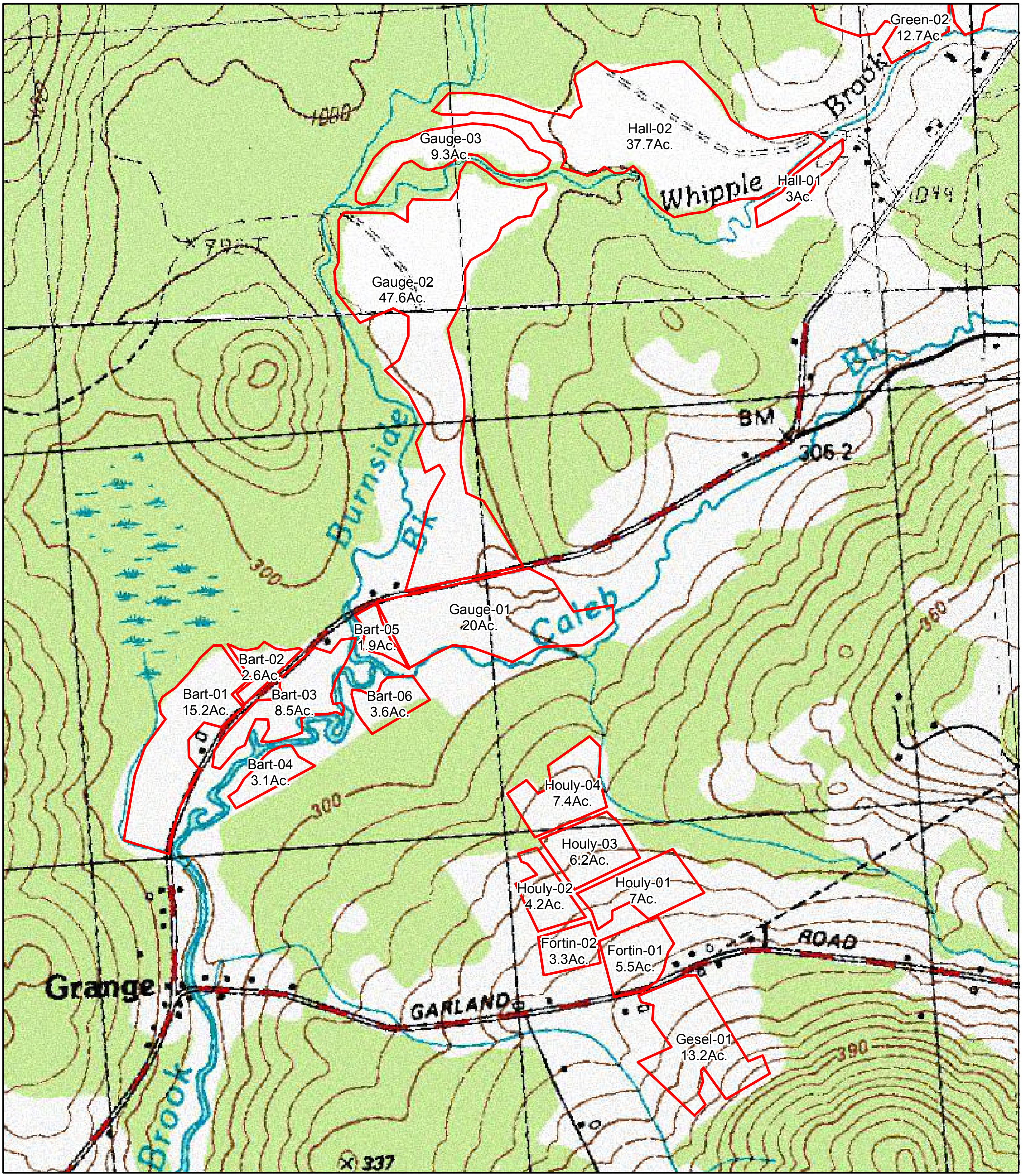

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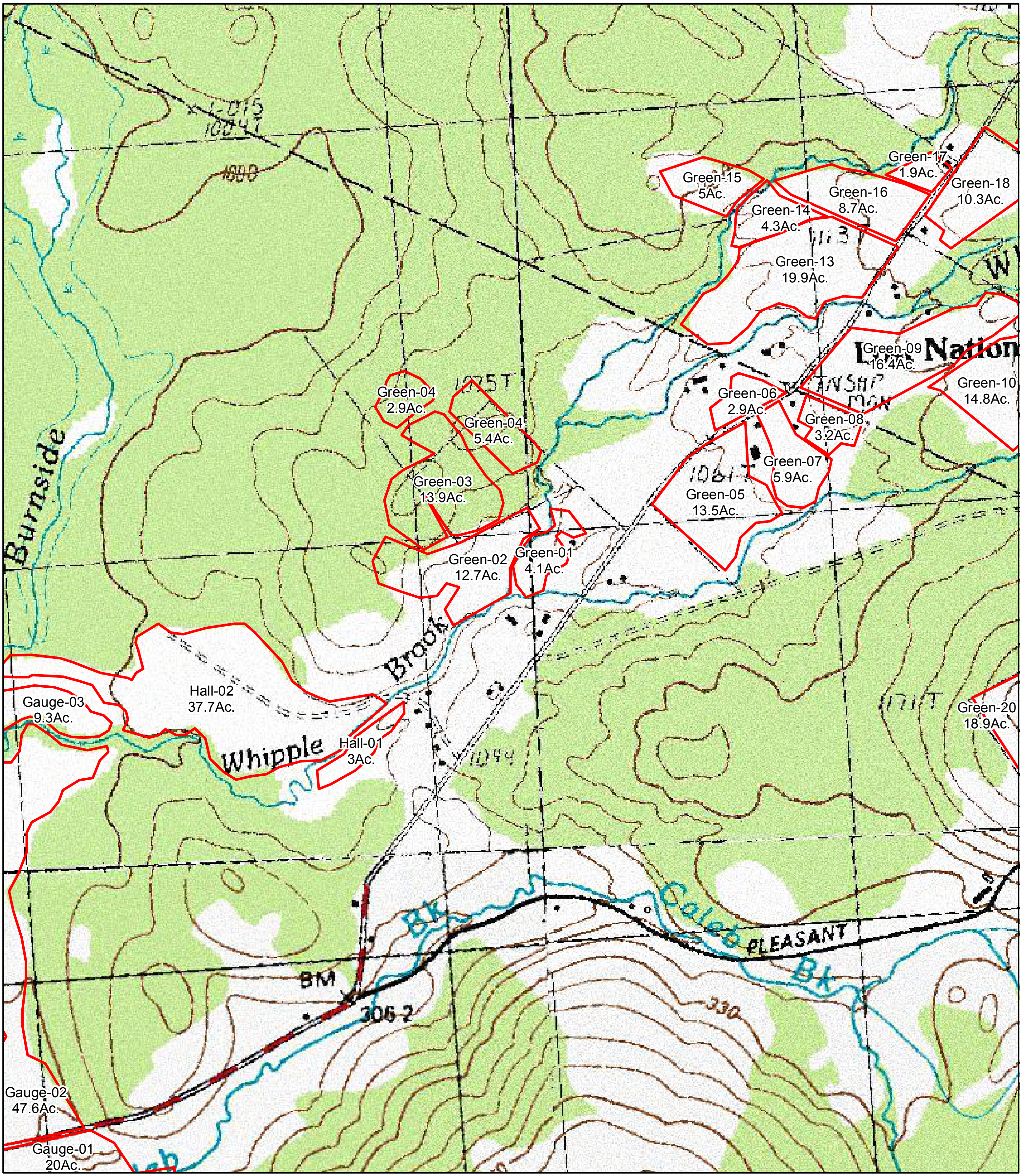

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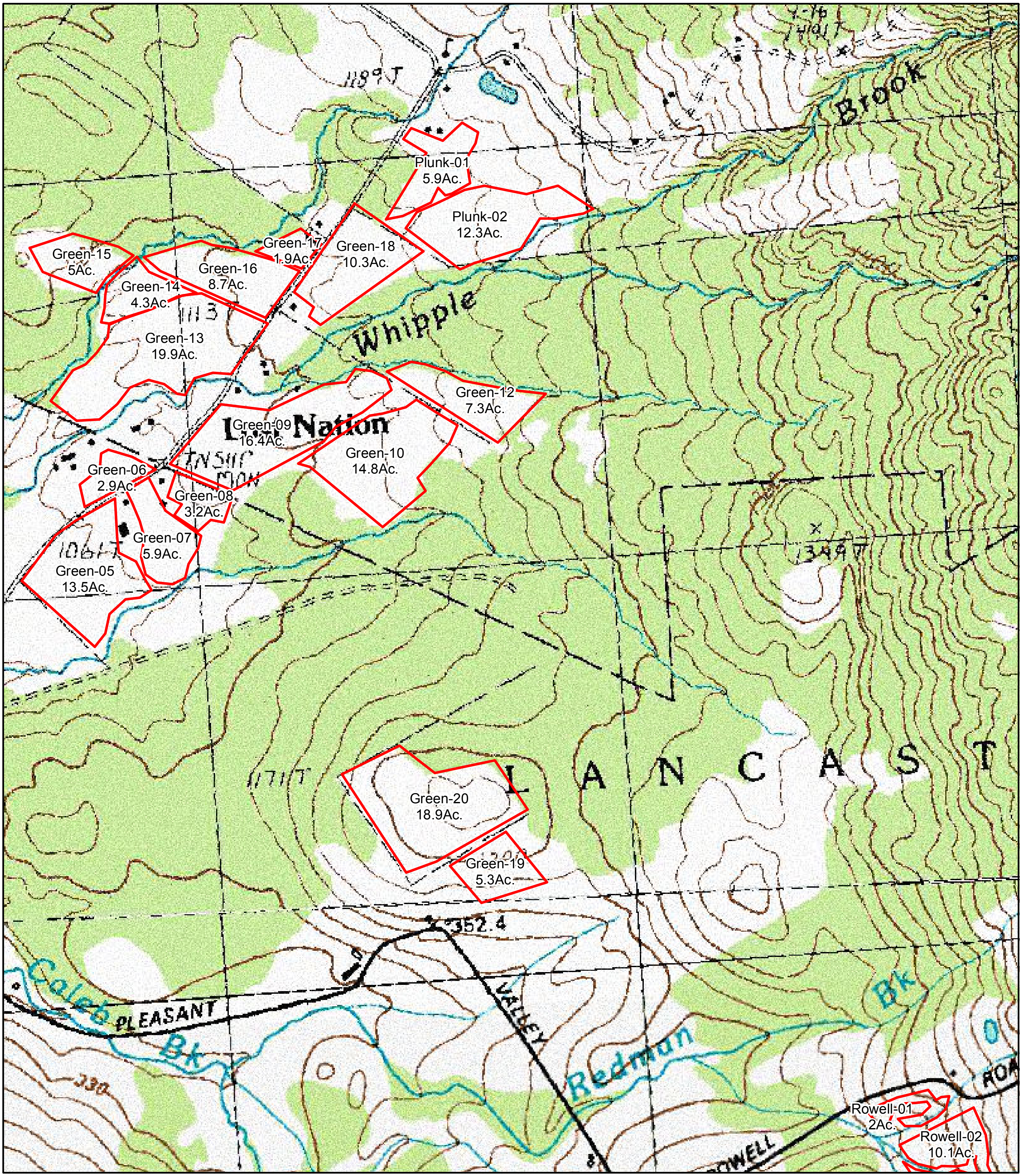

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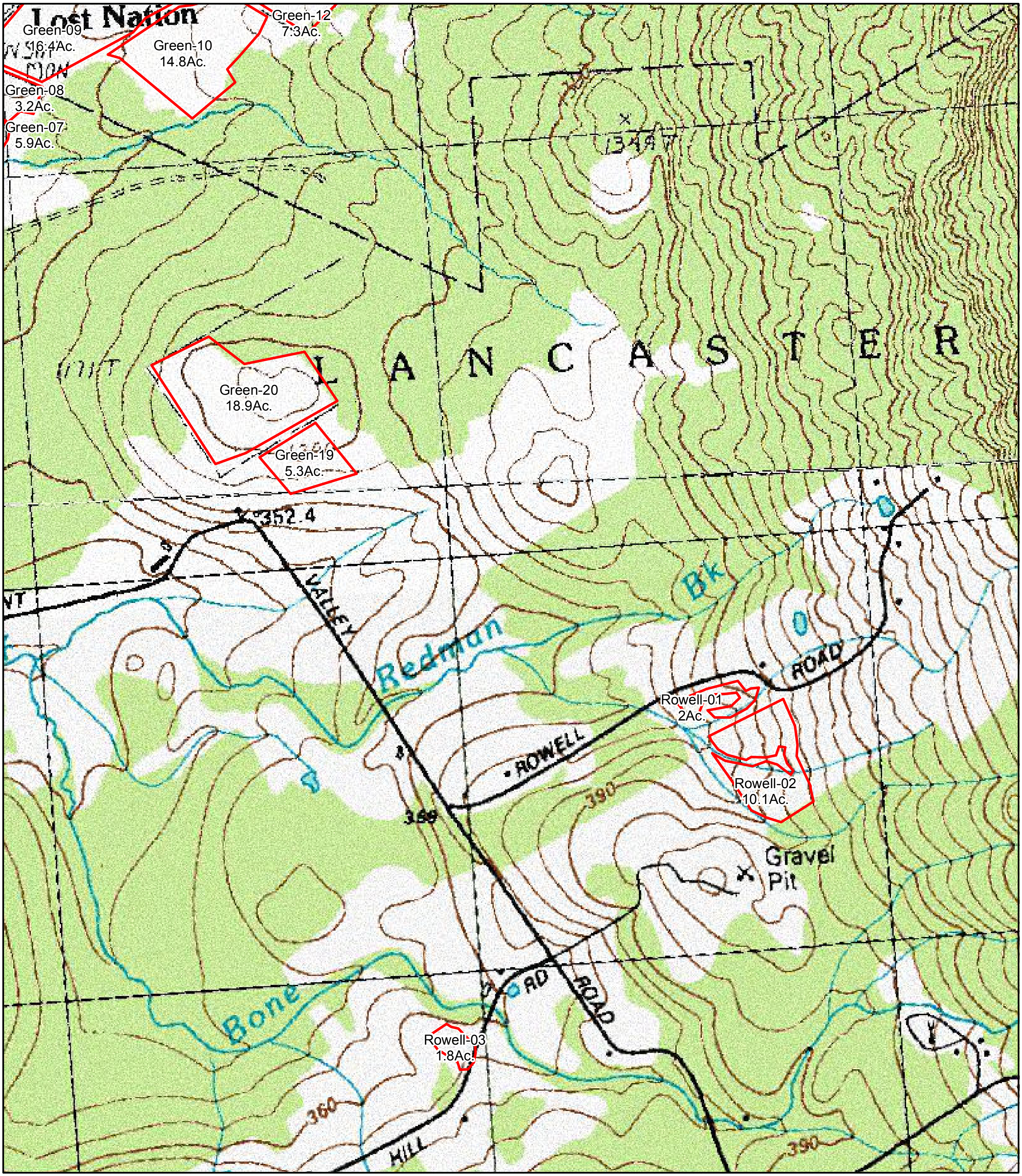

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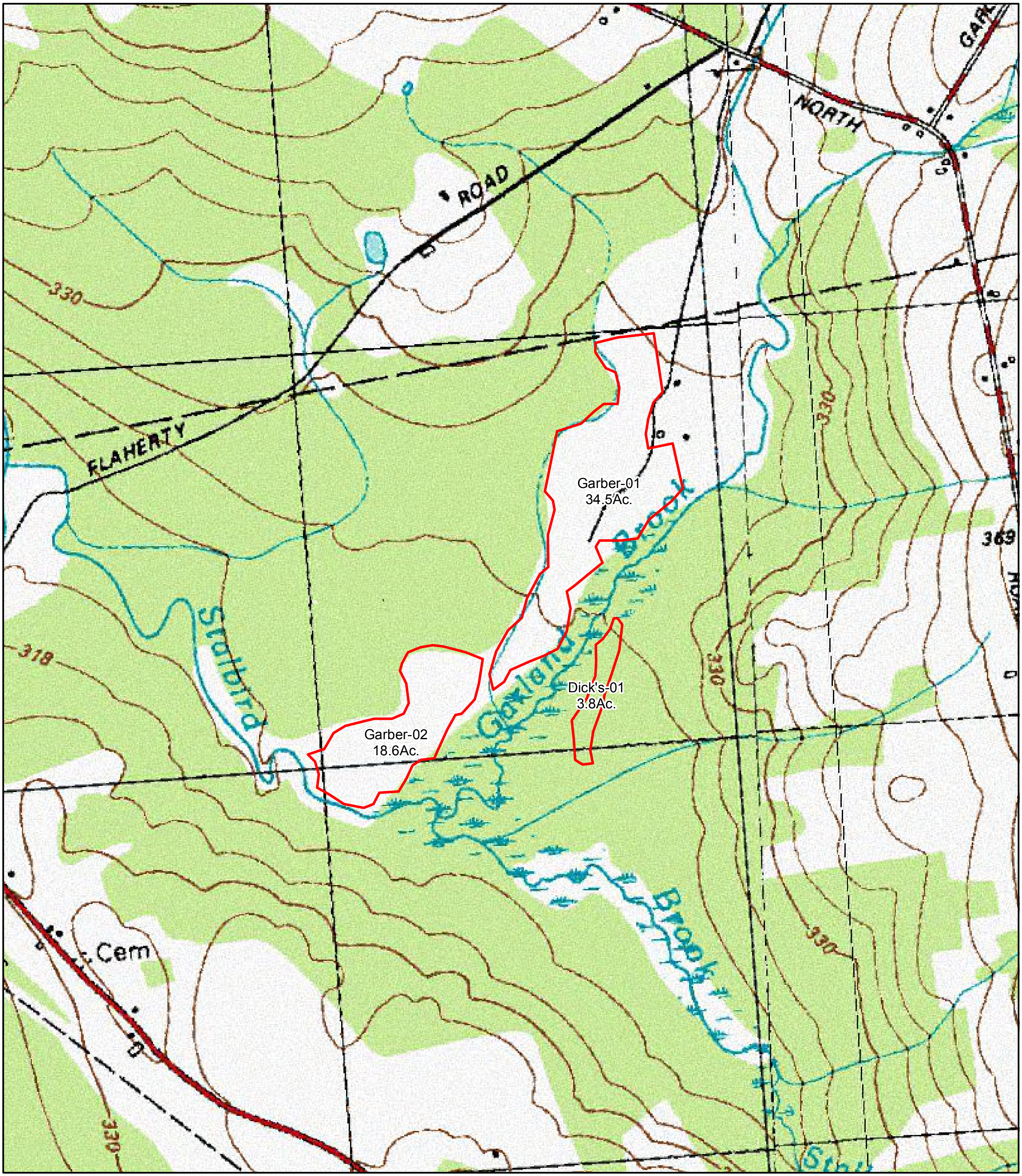

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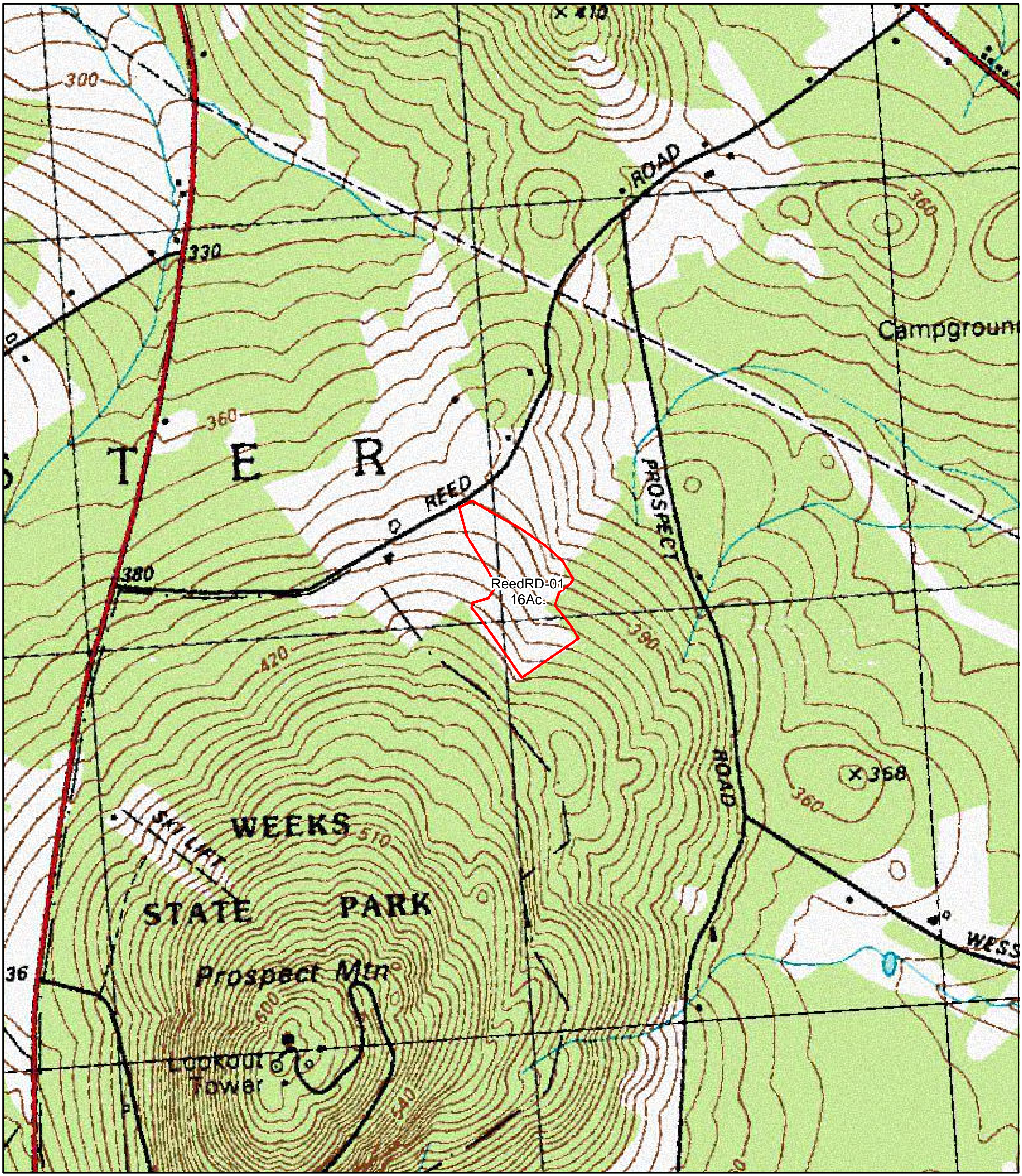

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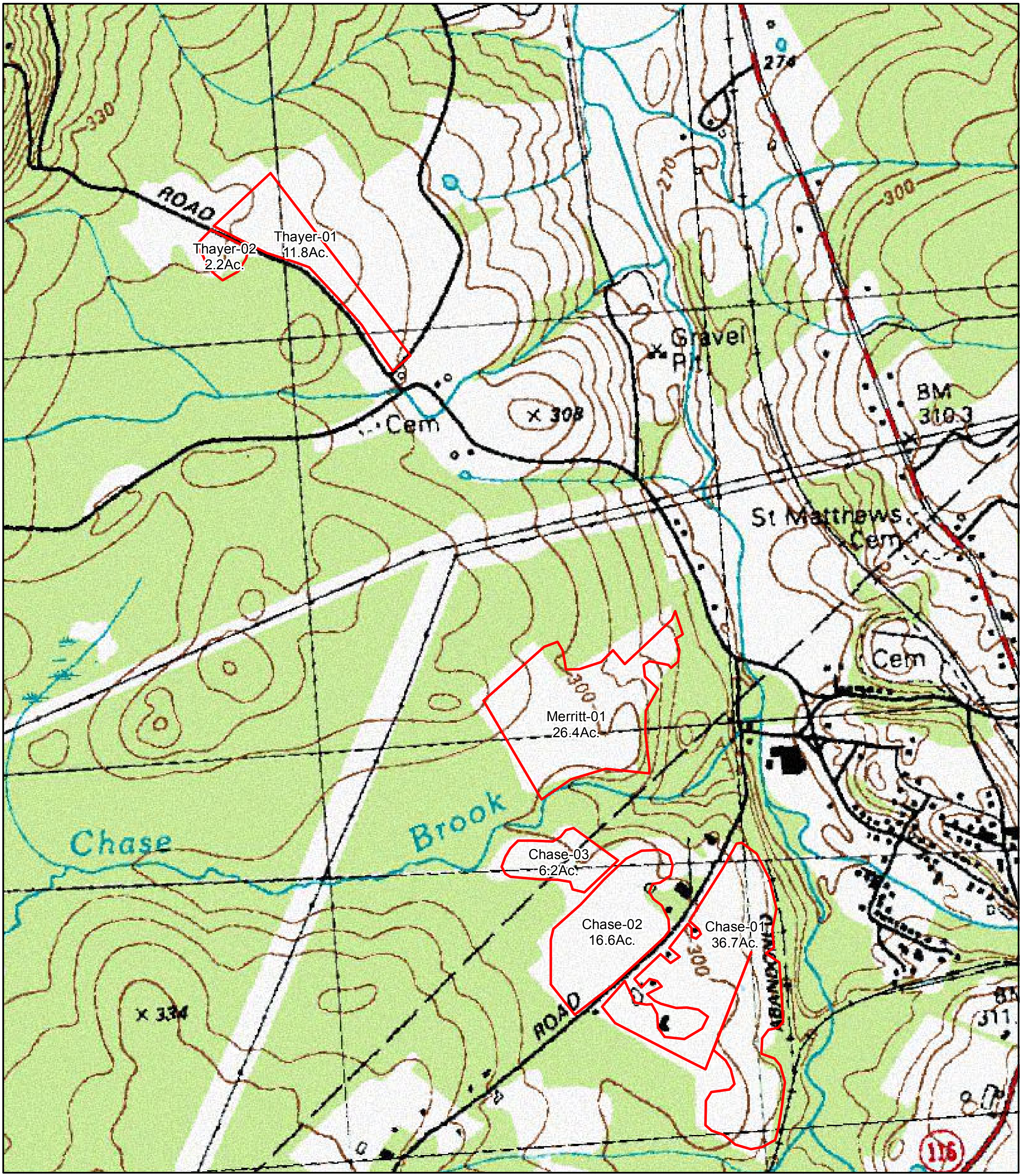

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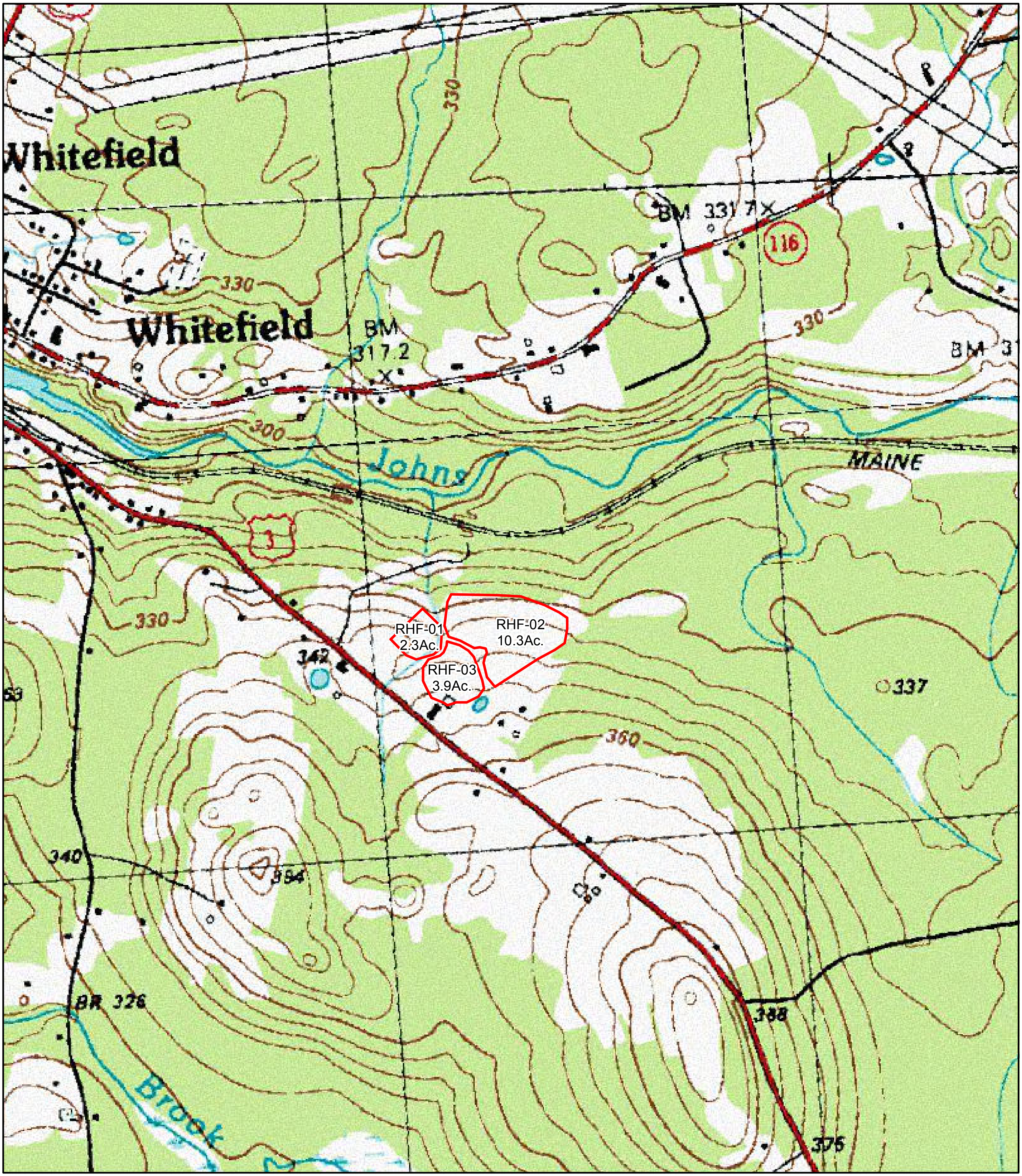

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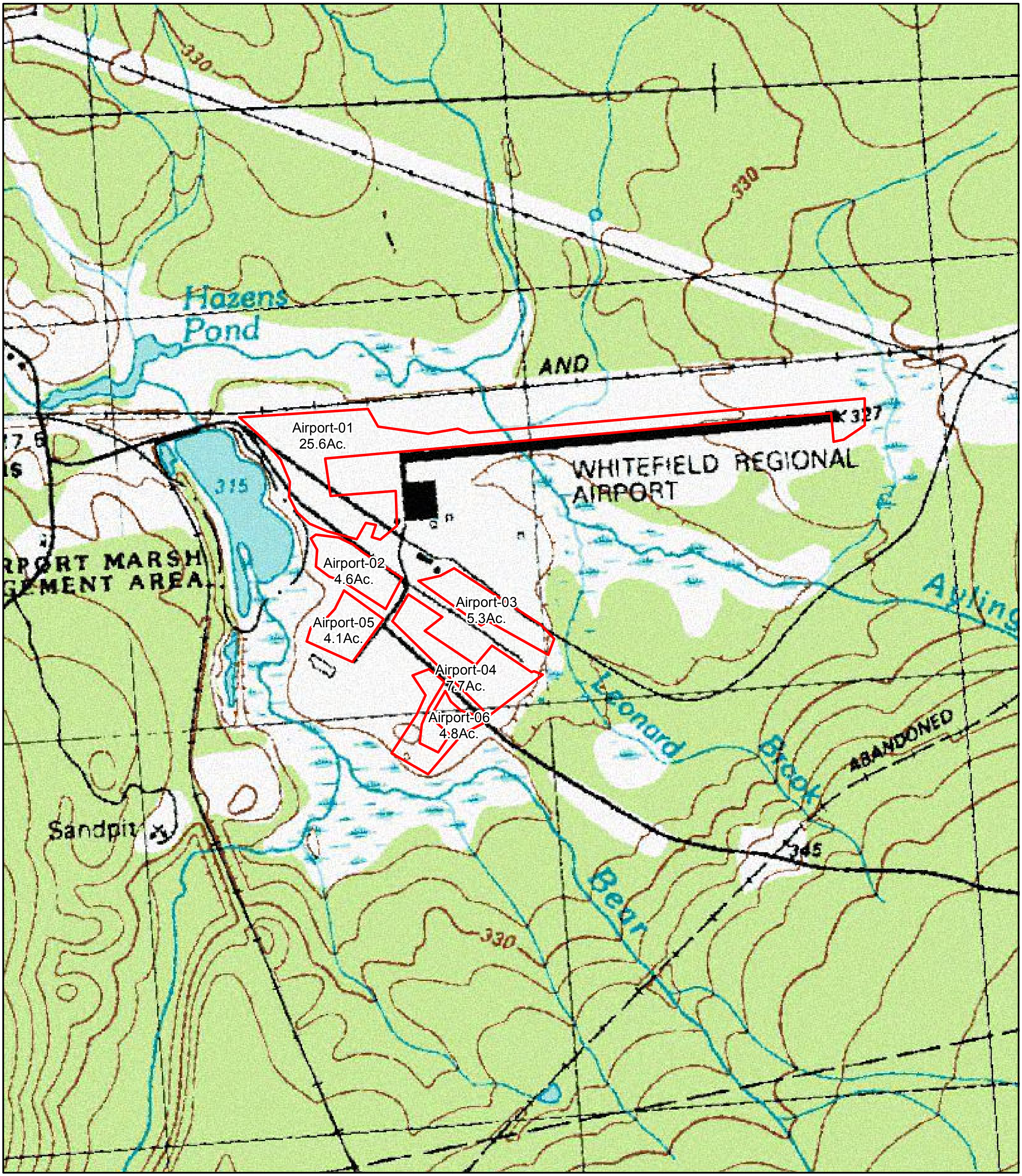

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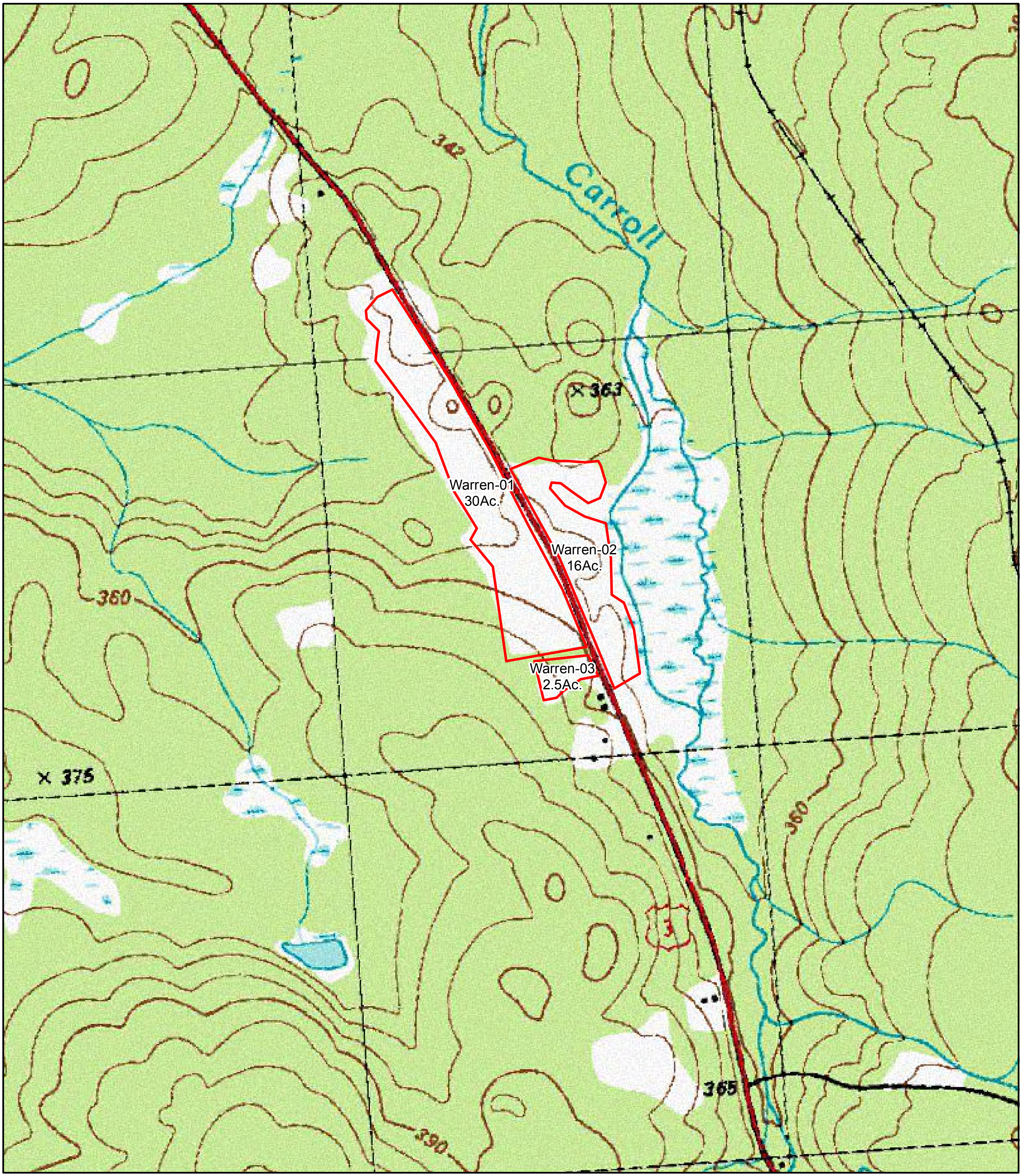

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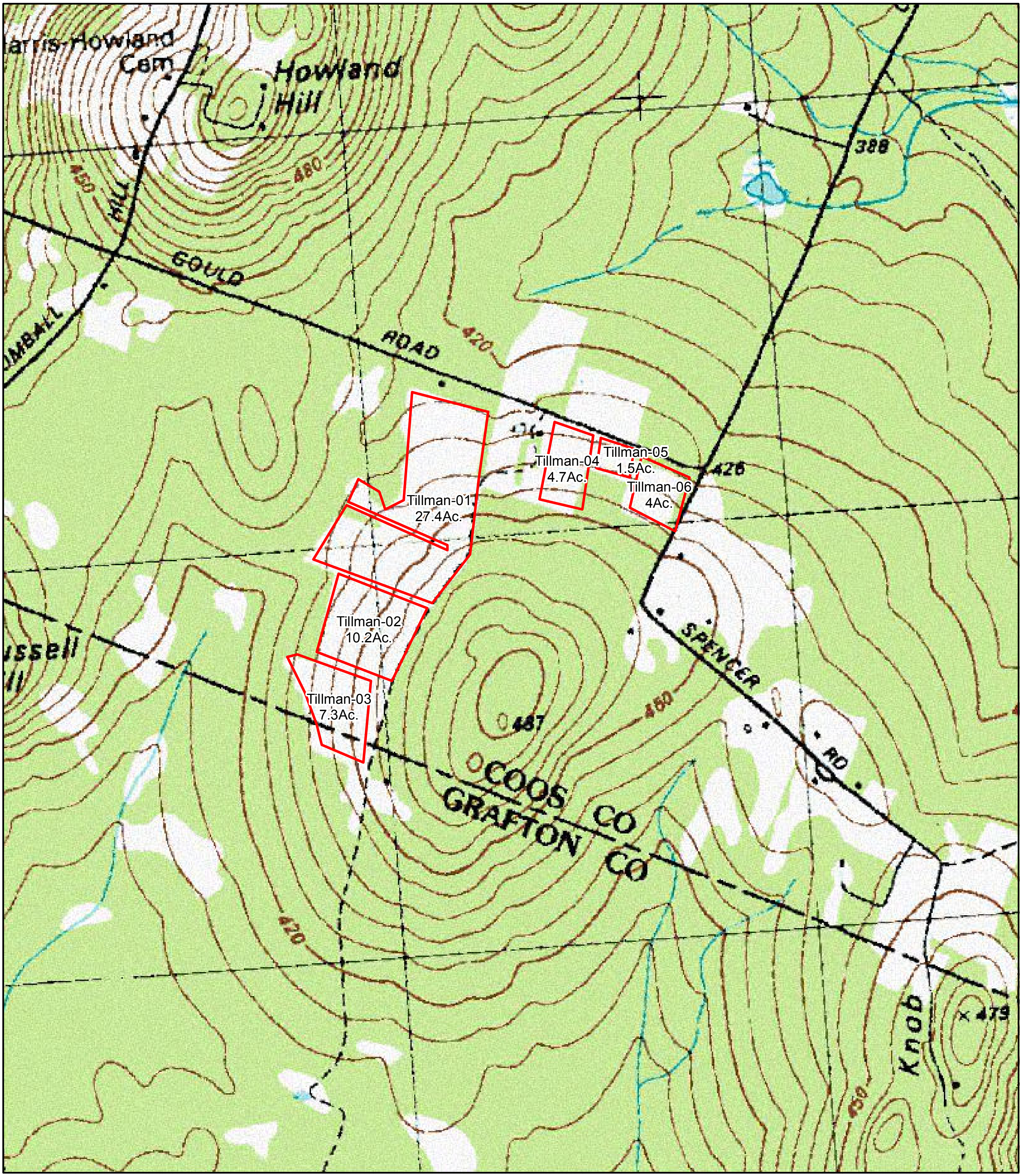

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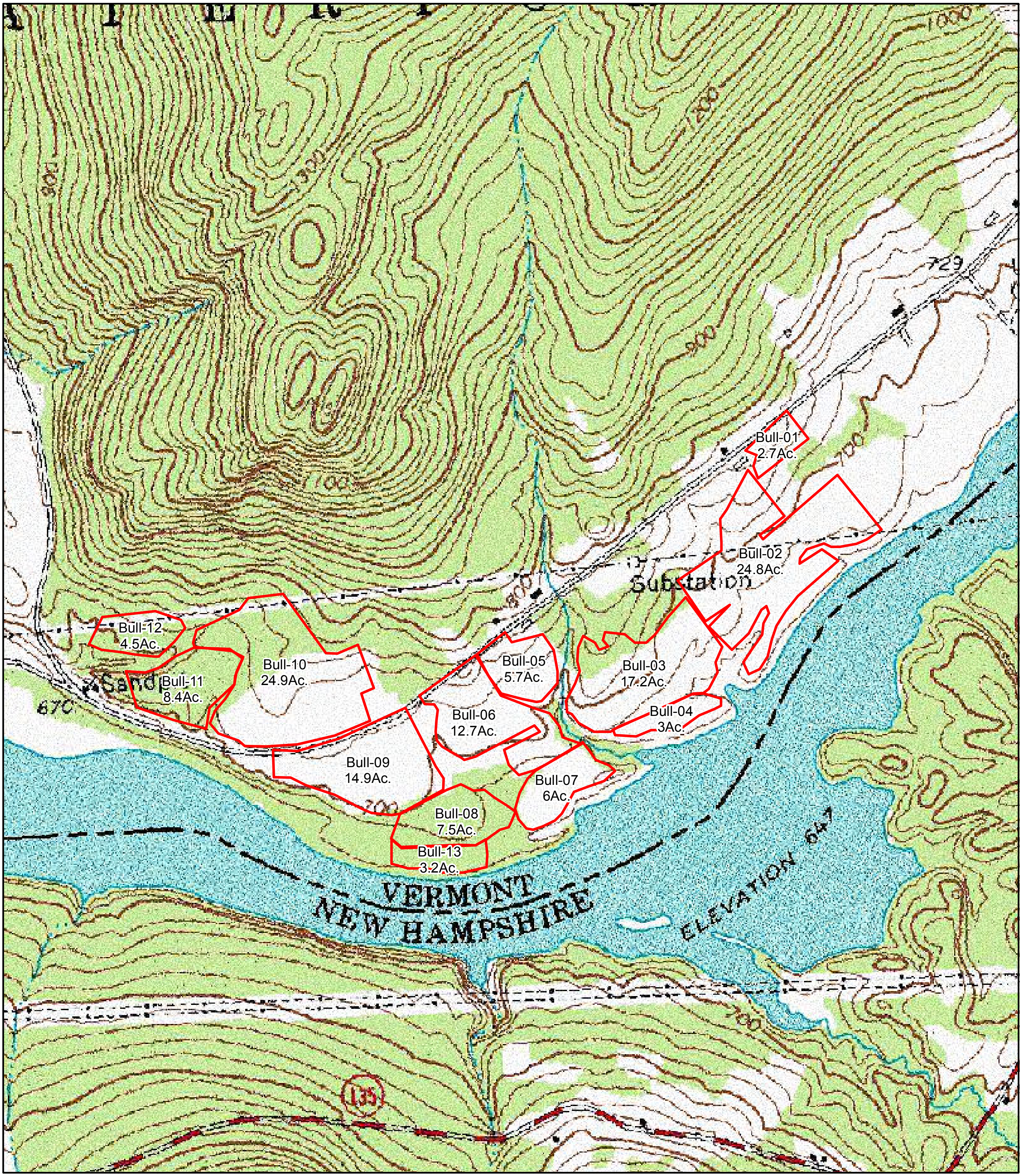

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Soil Type Map

Legend

▭ soil_type_layer

▭ 2016 Fields Forbes

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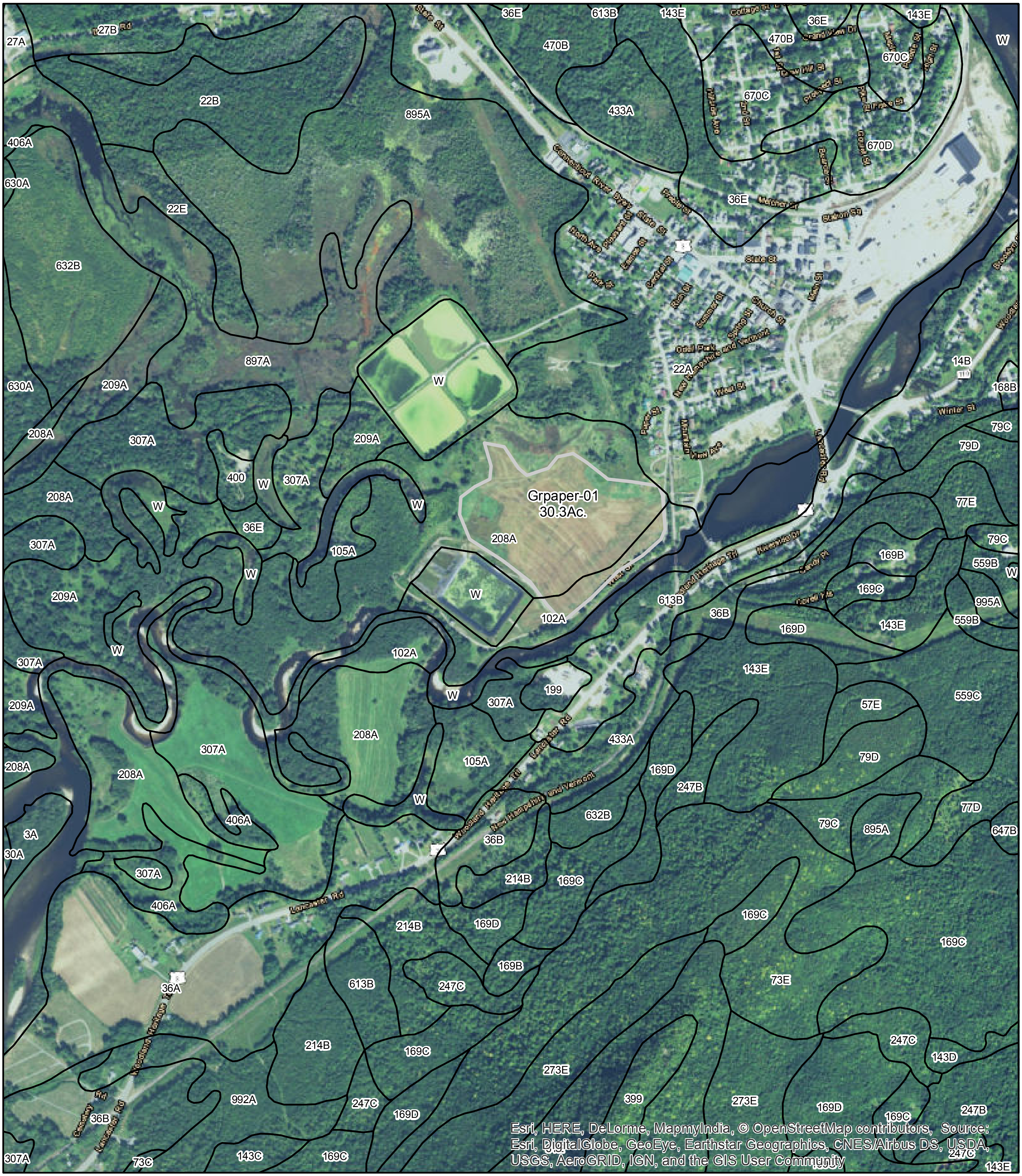

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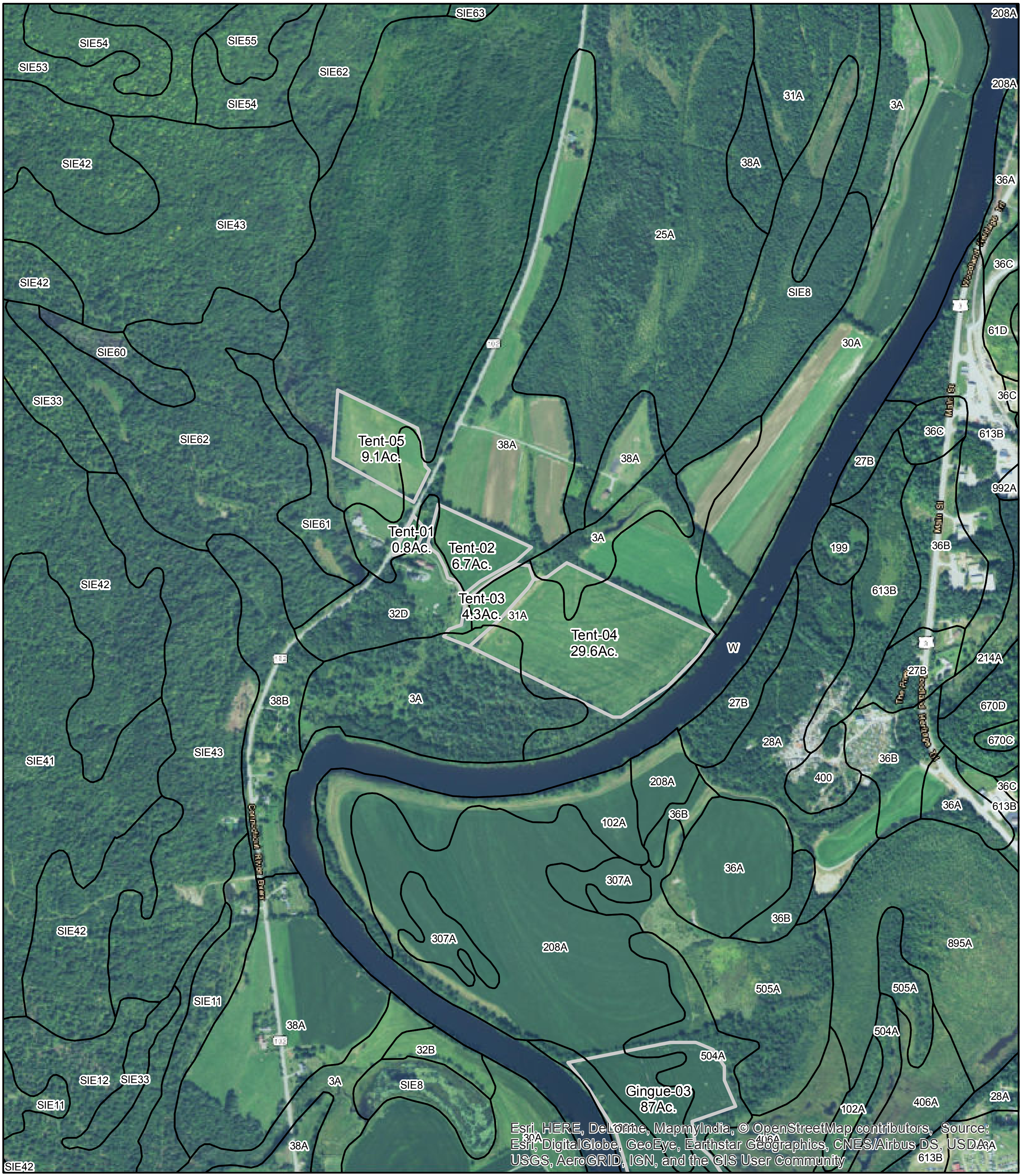

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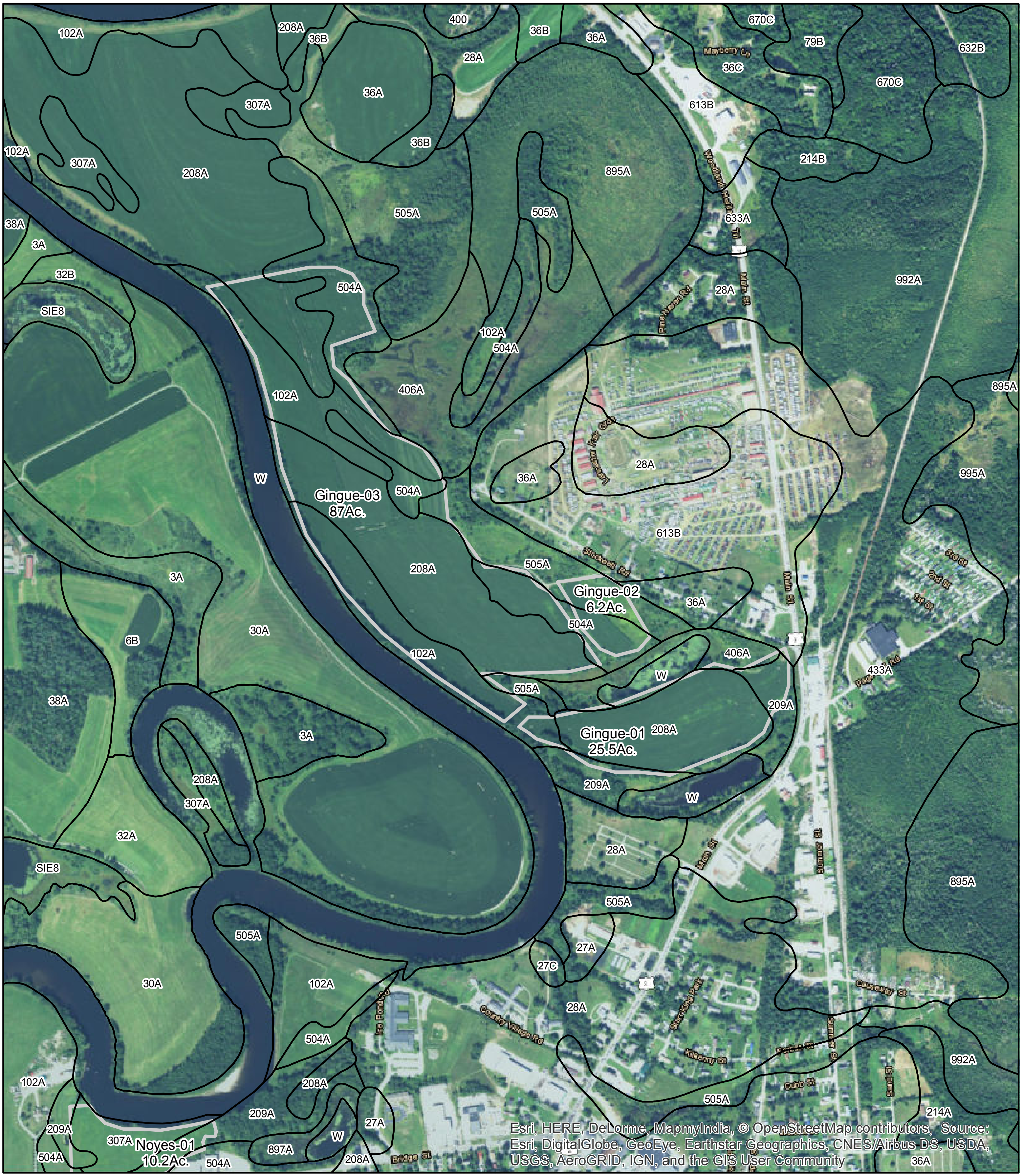

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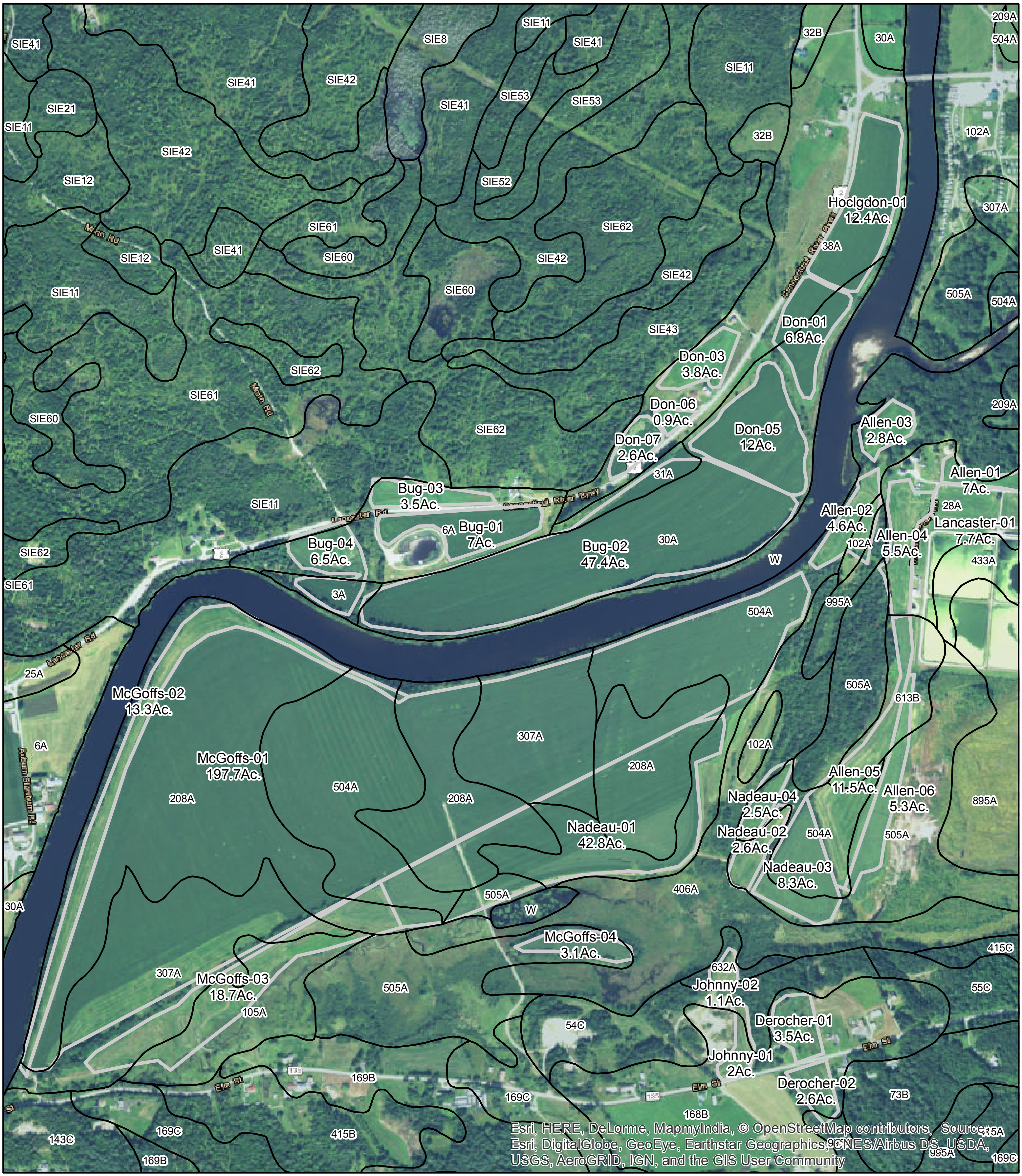

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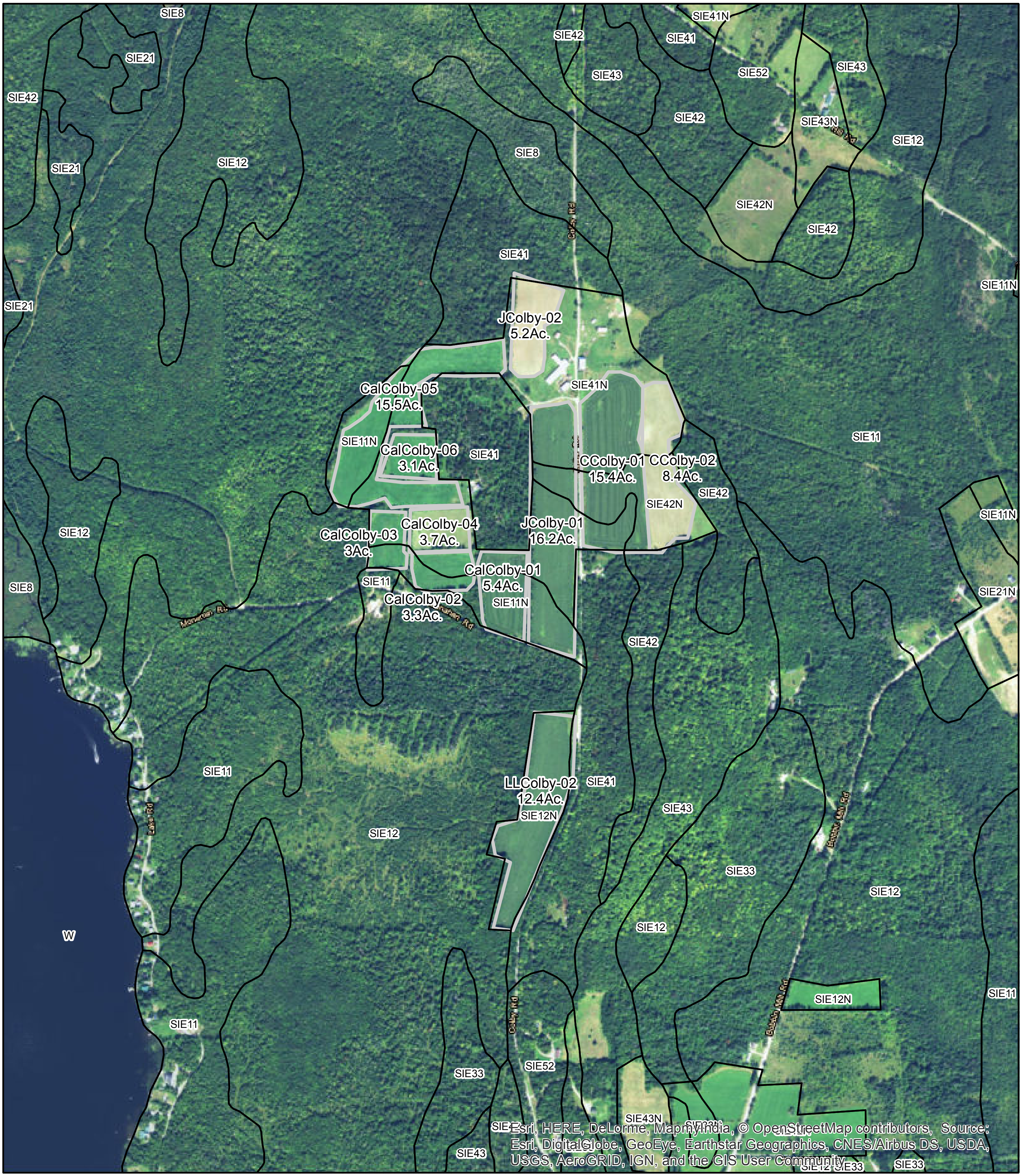

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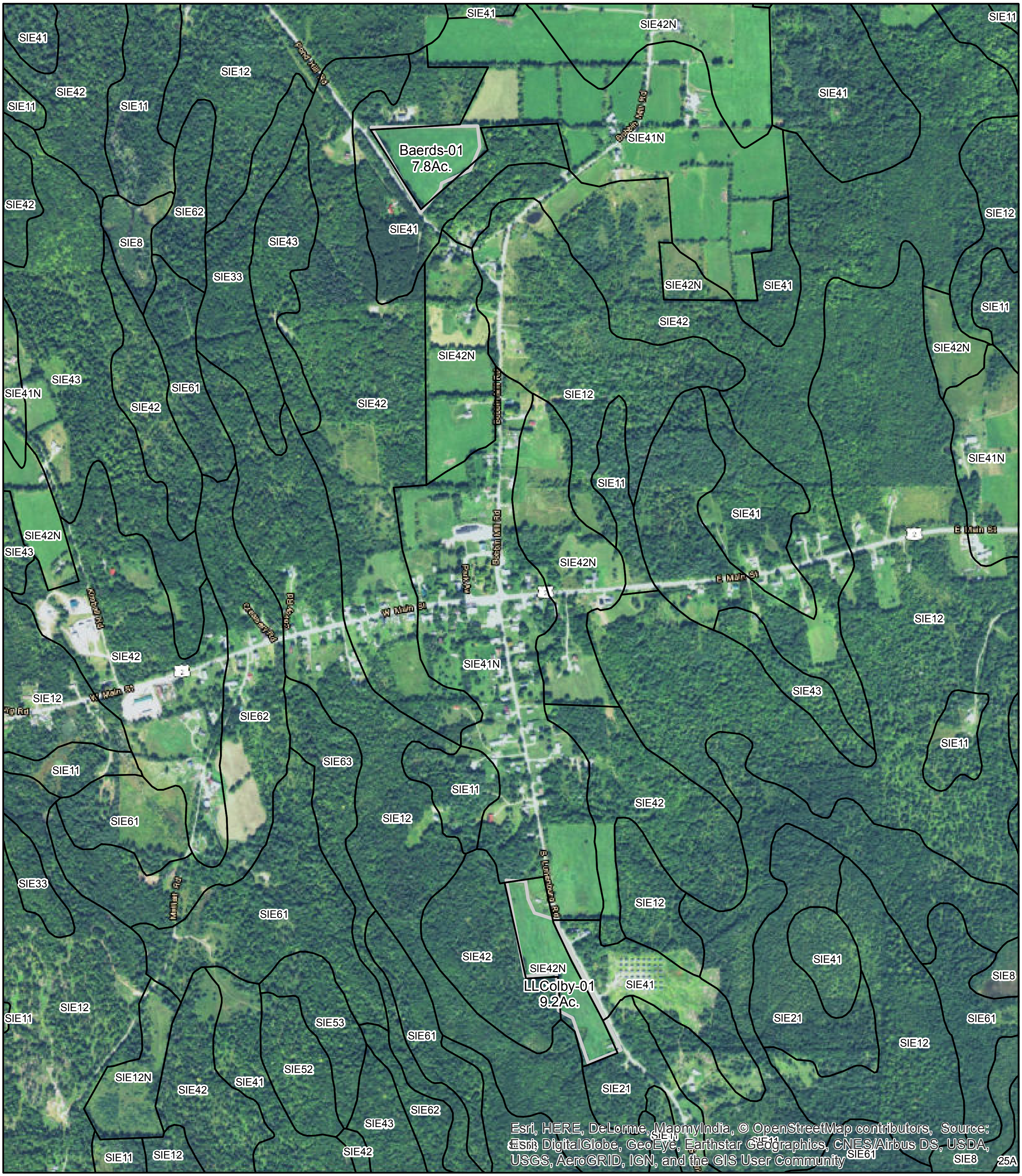

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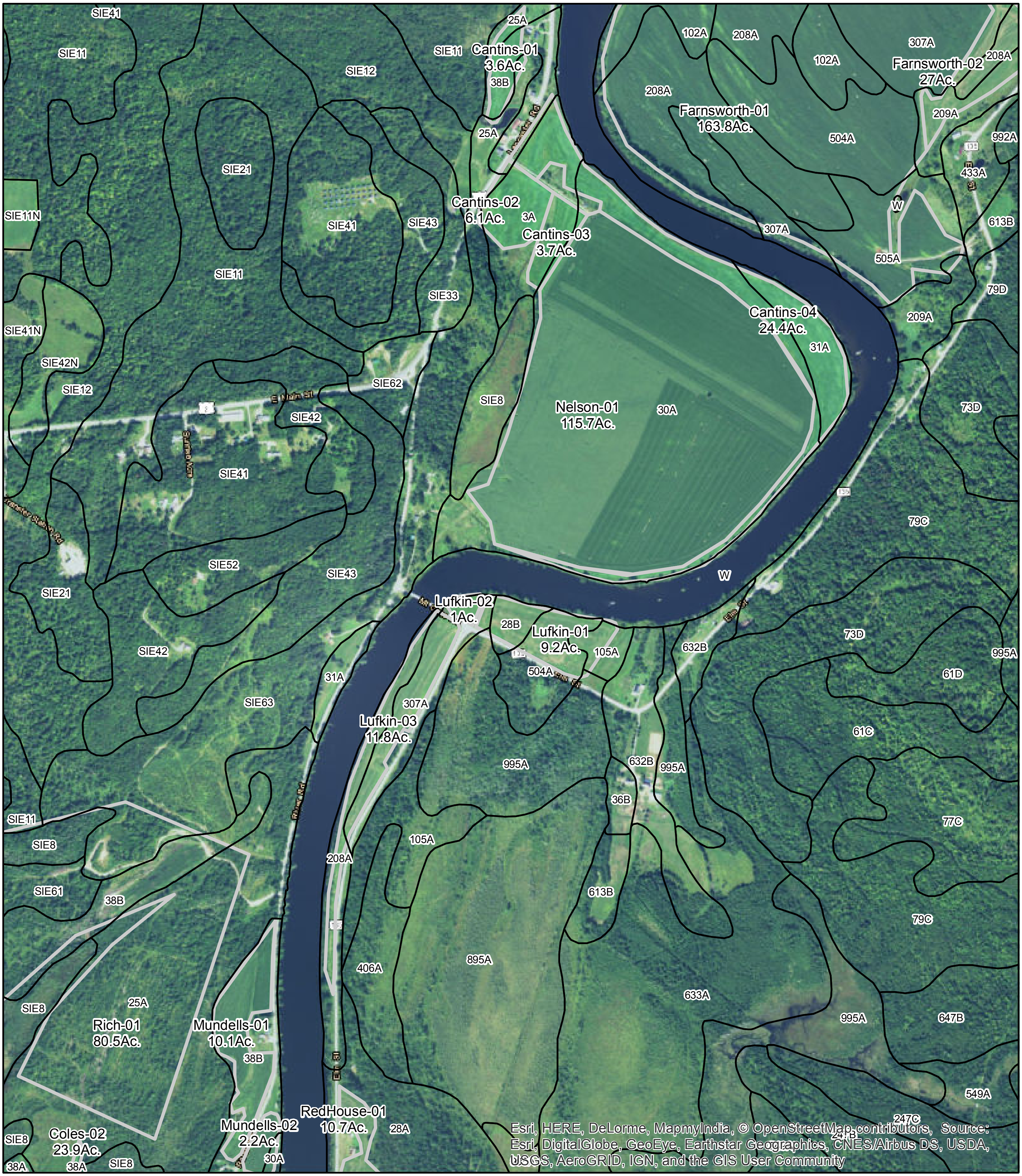

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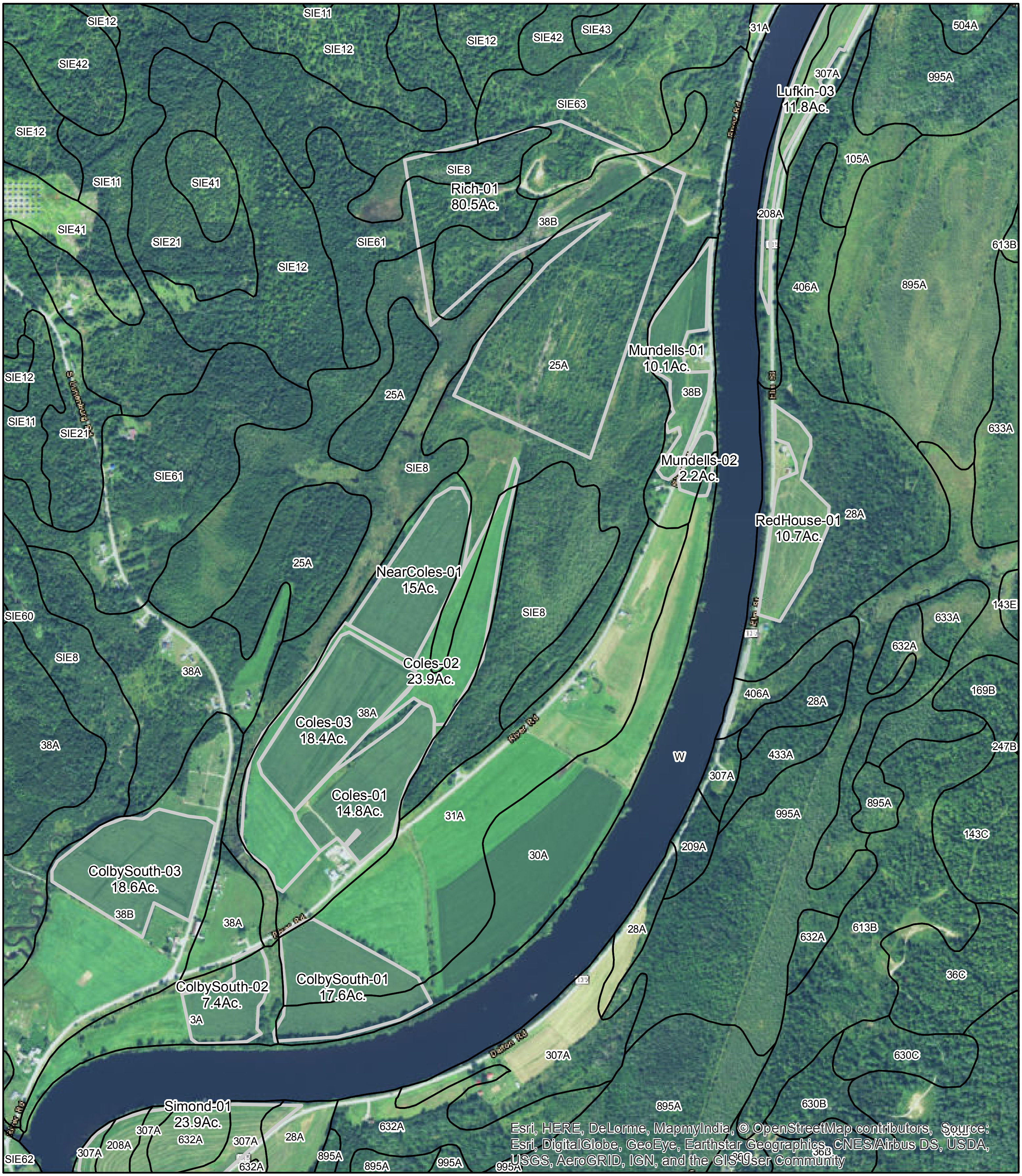

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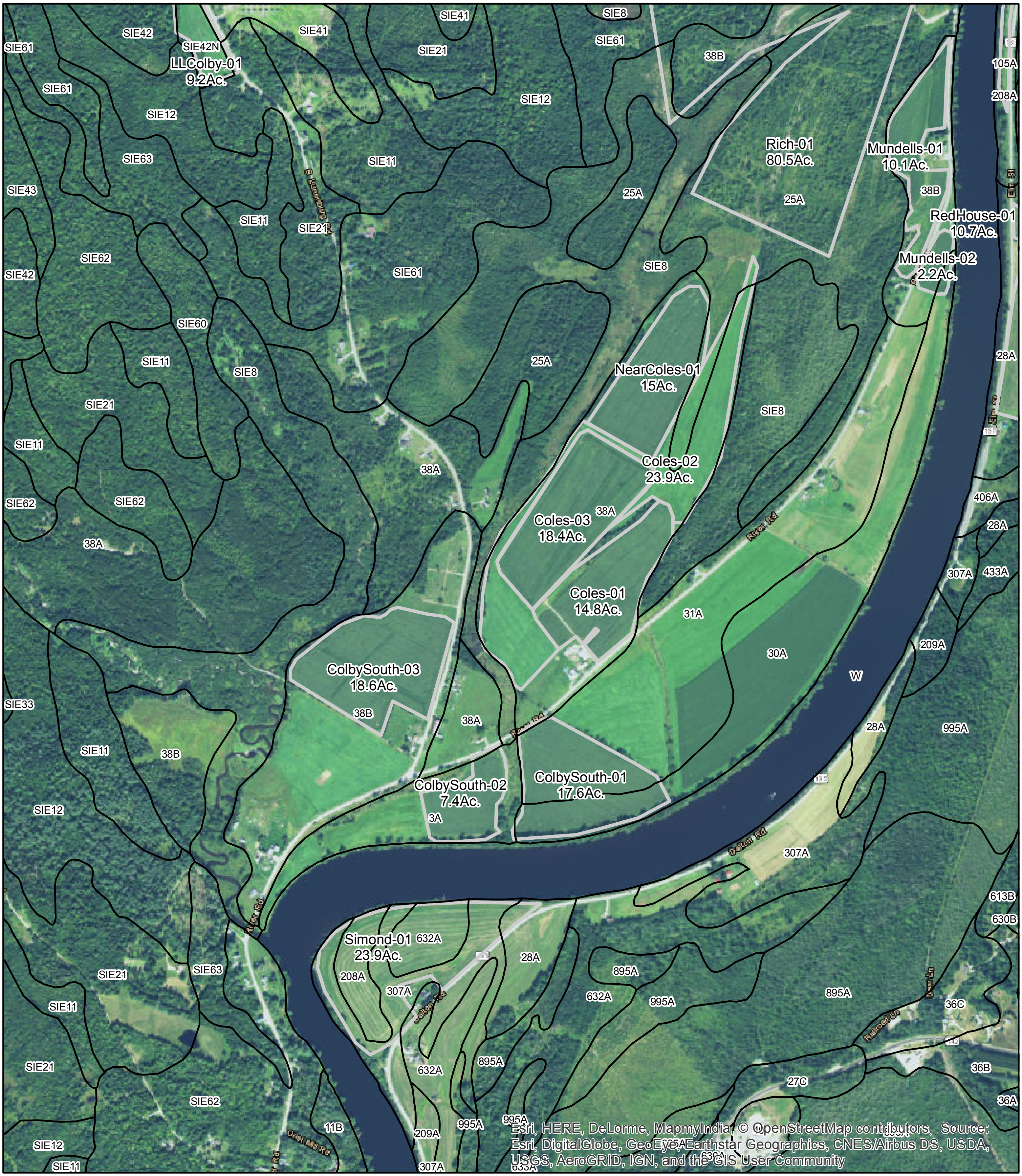

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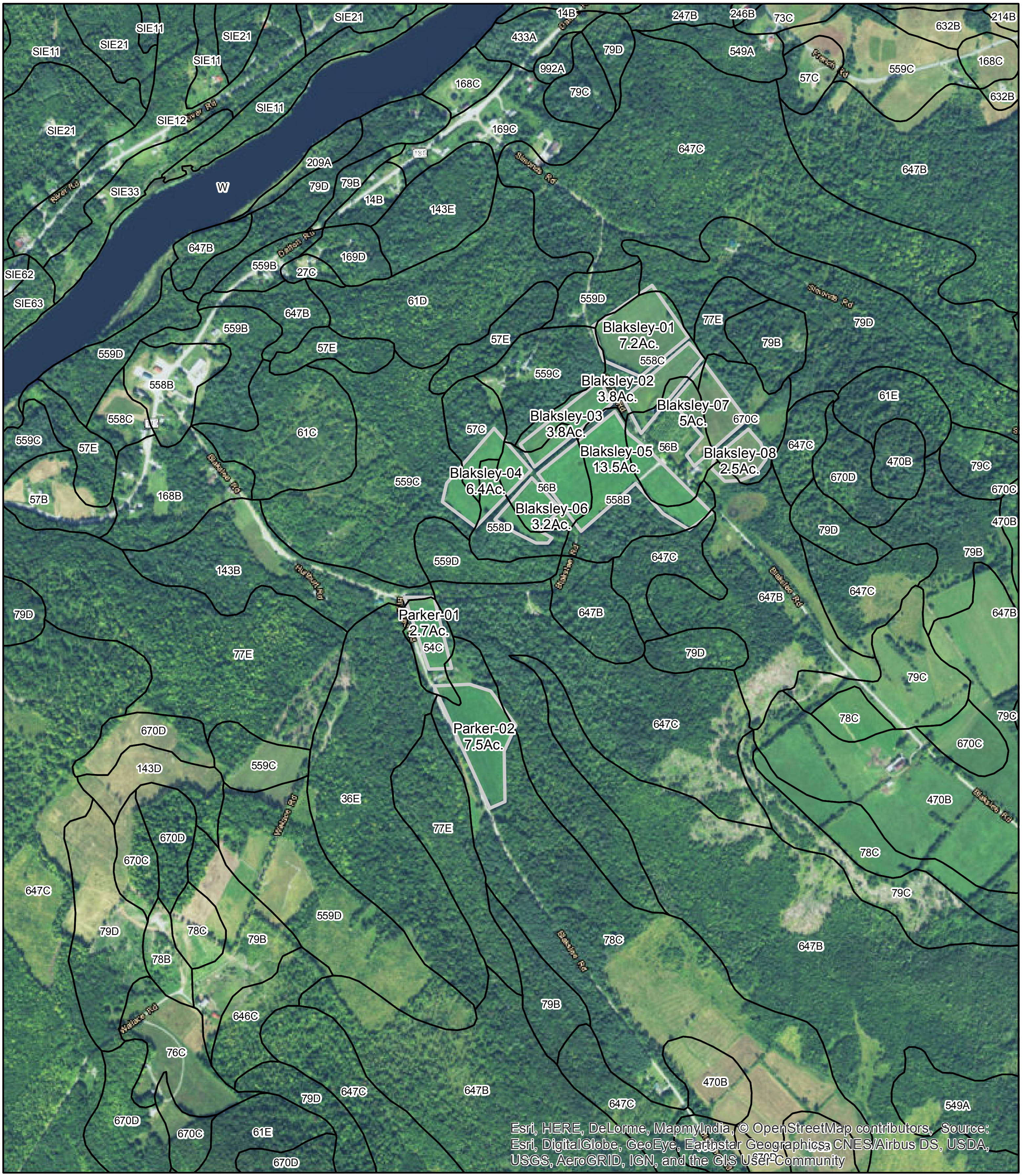

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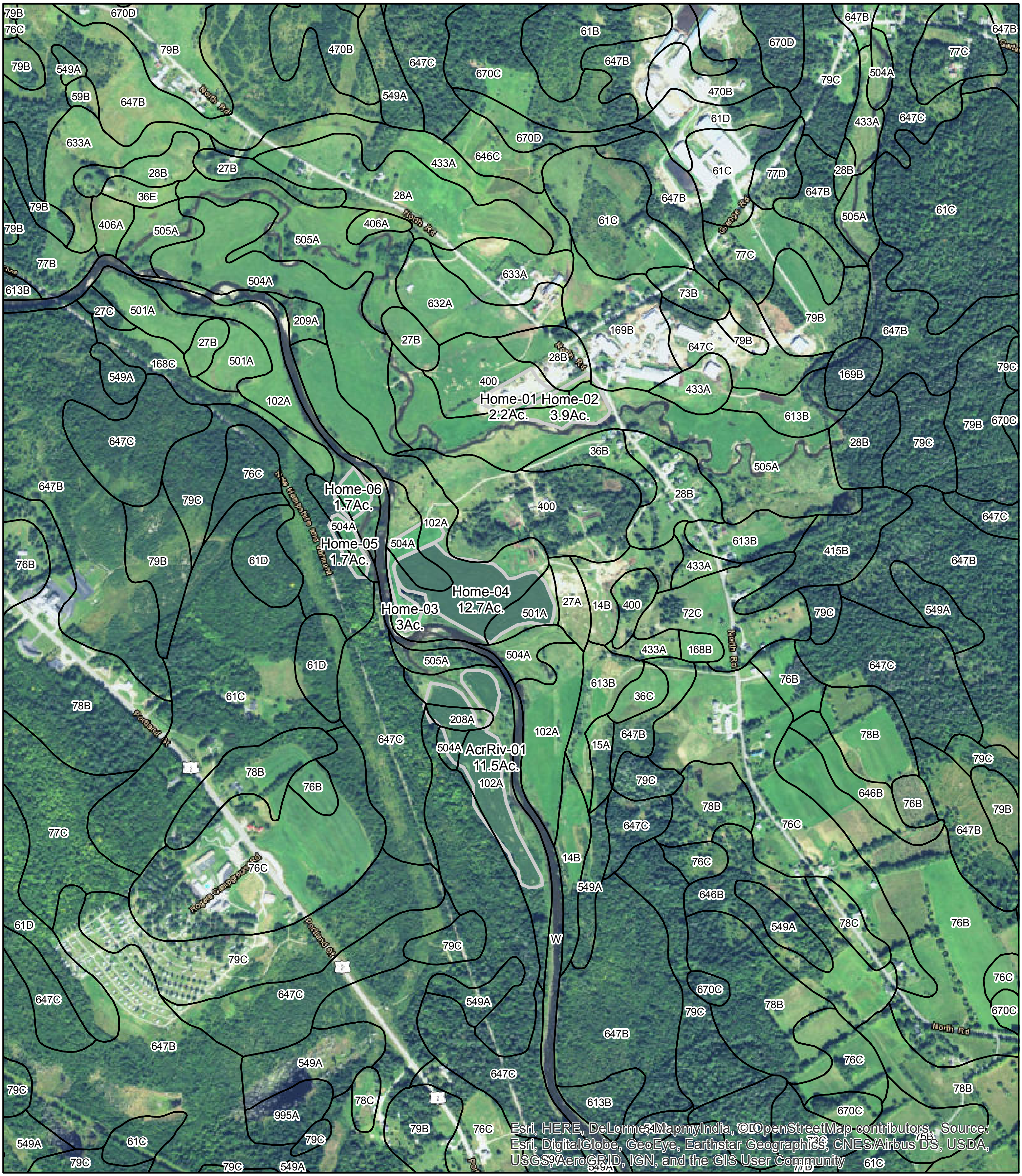

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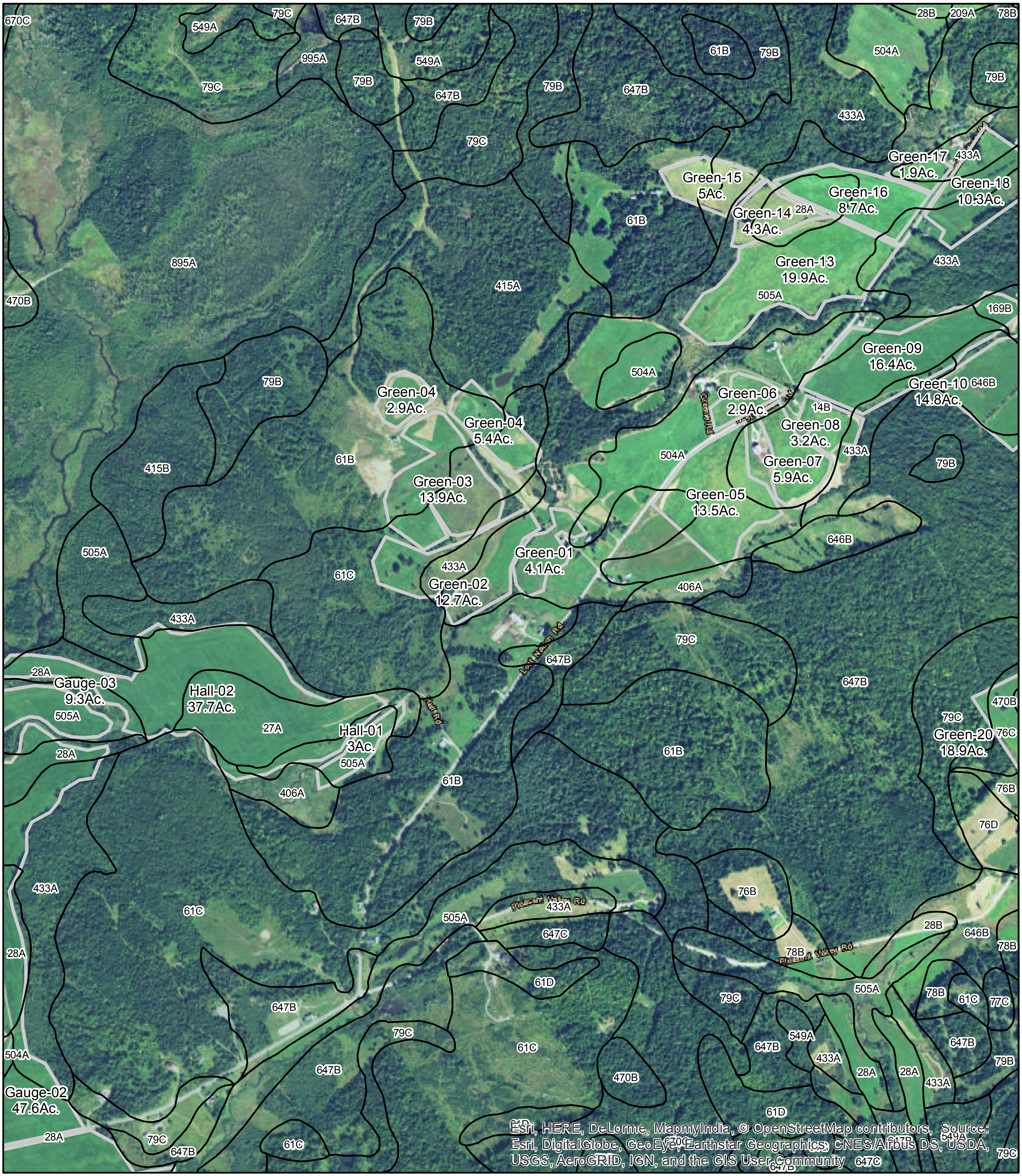

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Forbes Family Farm

Soil Type Map

Legend

▭ soil_type_layer

▭ 2016 Fields Forbes

0 550 1,100 2,200 Feet

N

BOURDEAU BROS. INC.

"WE CARE" for your Land and Animals

Prepare By: Jonathan

Date: 10/5/2017

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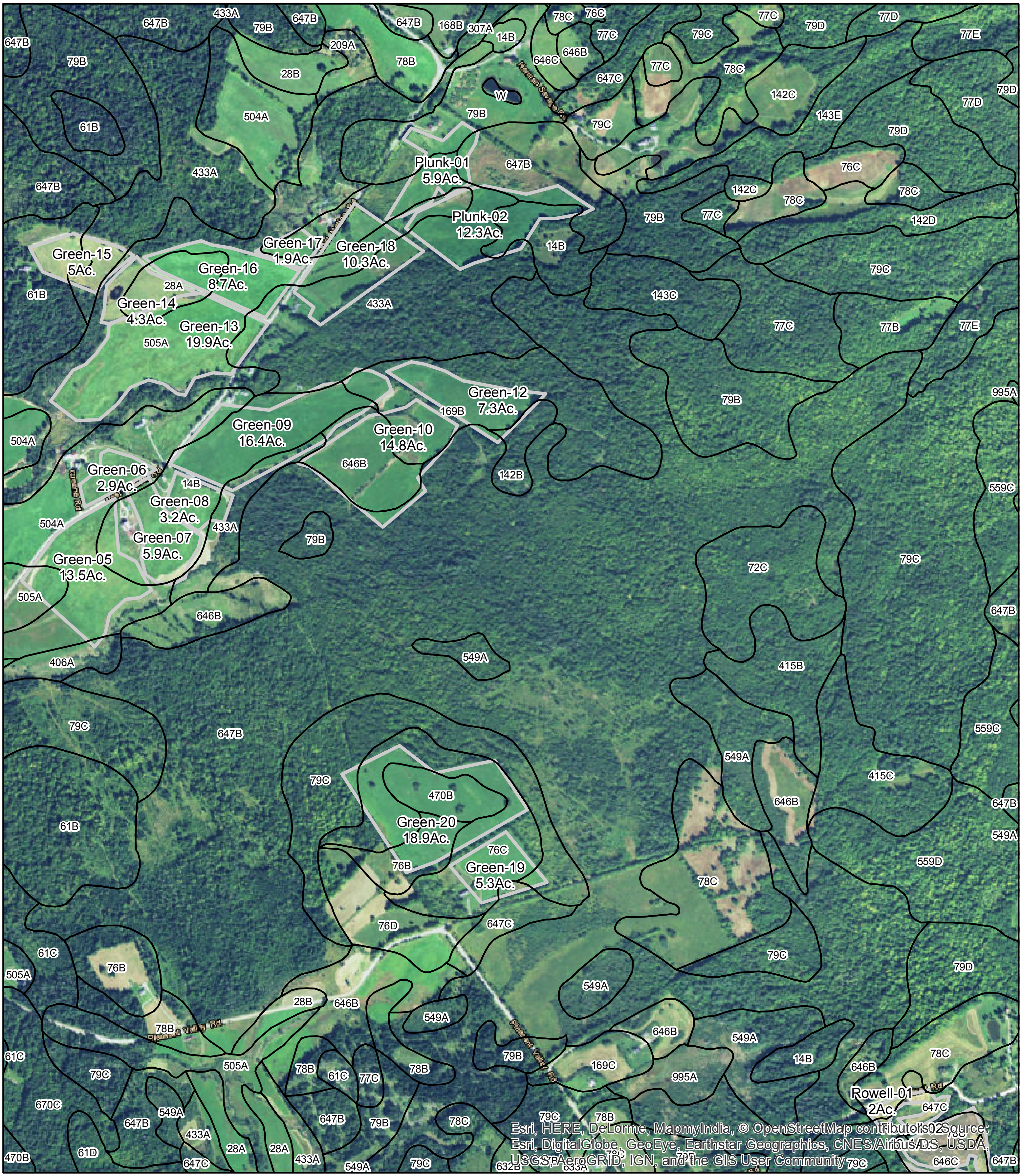

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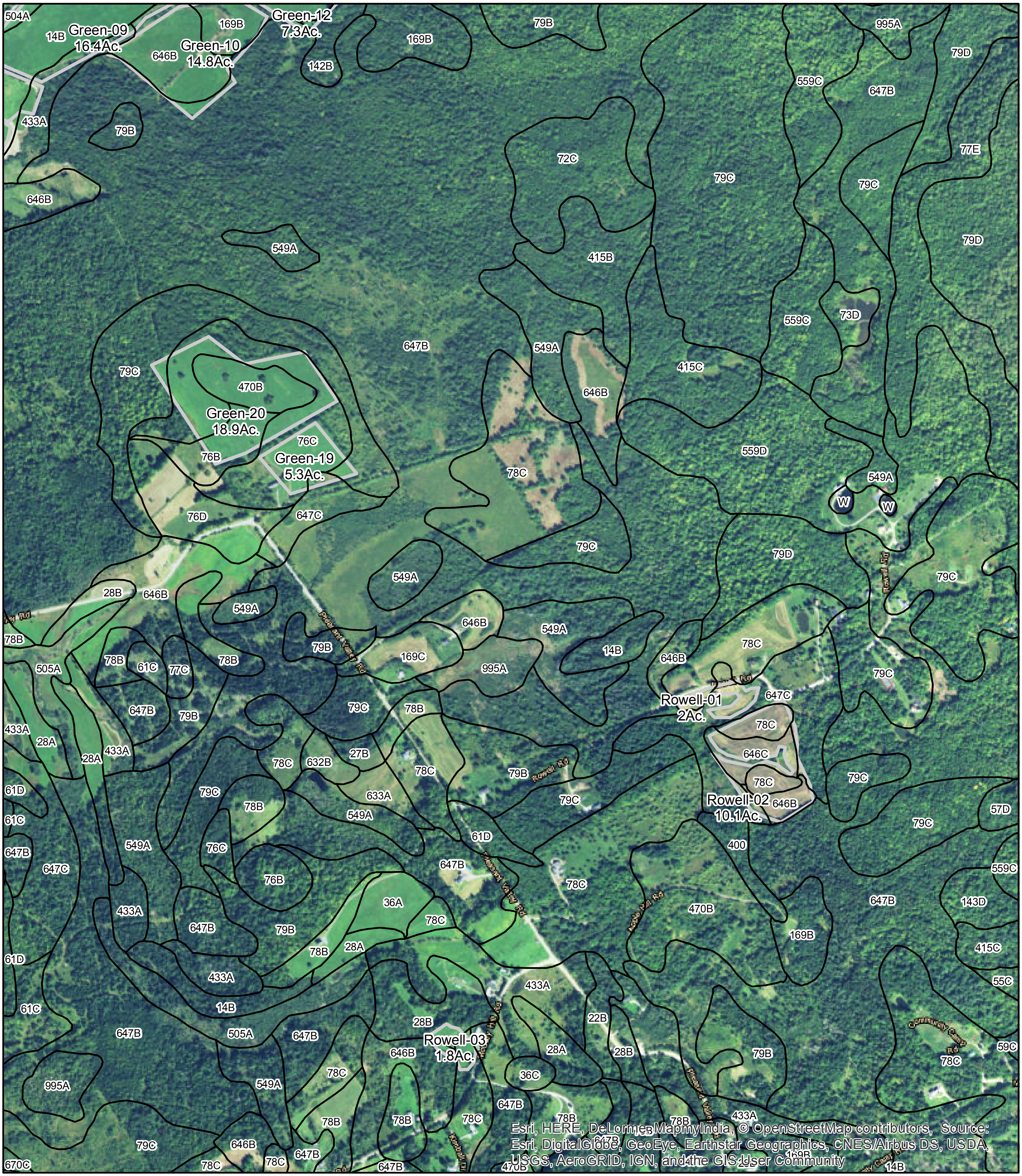

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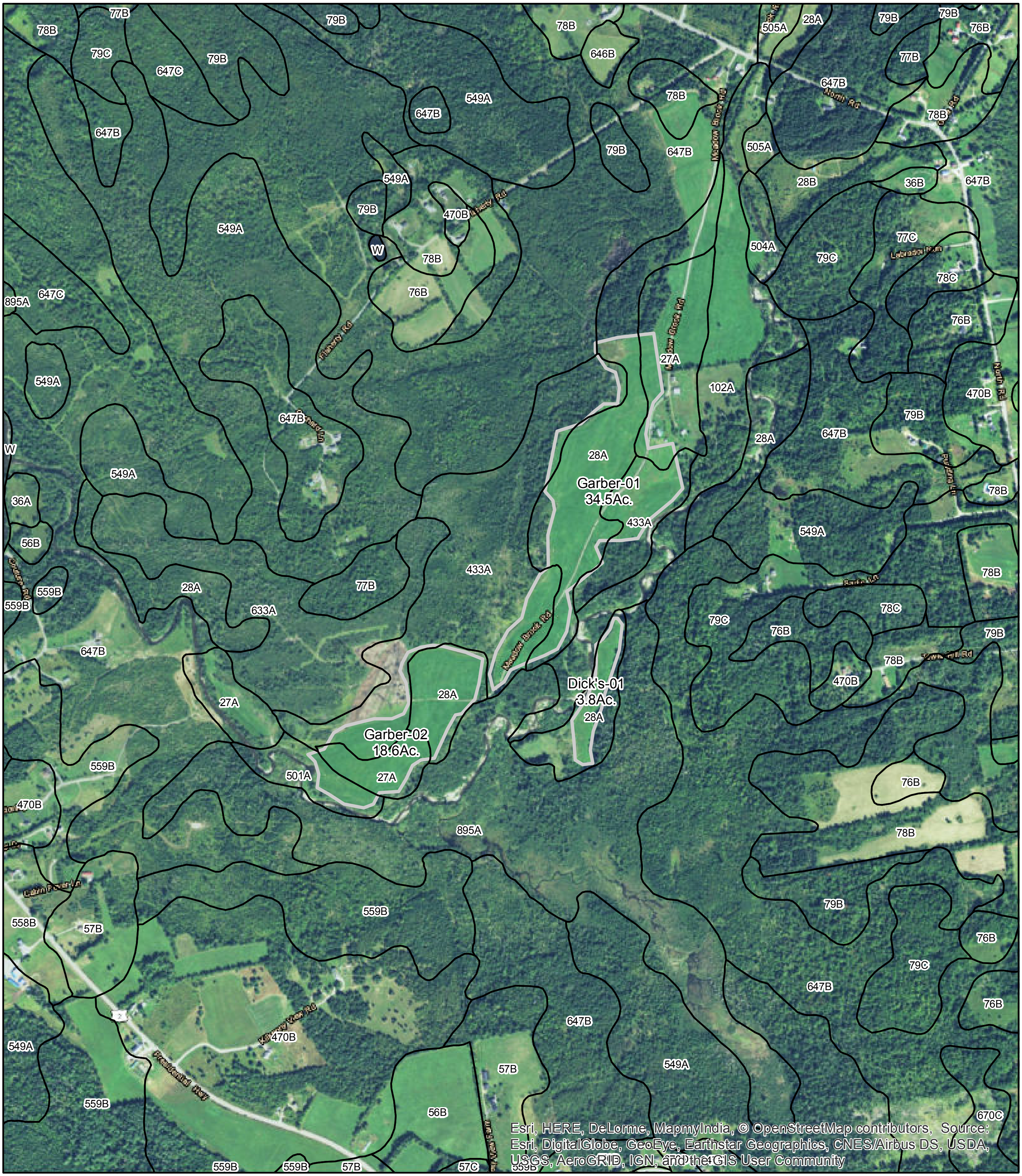

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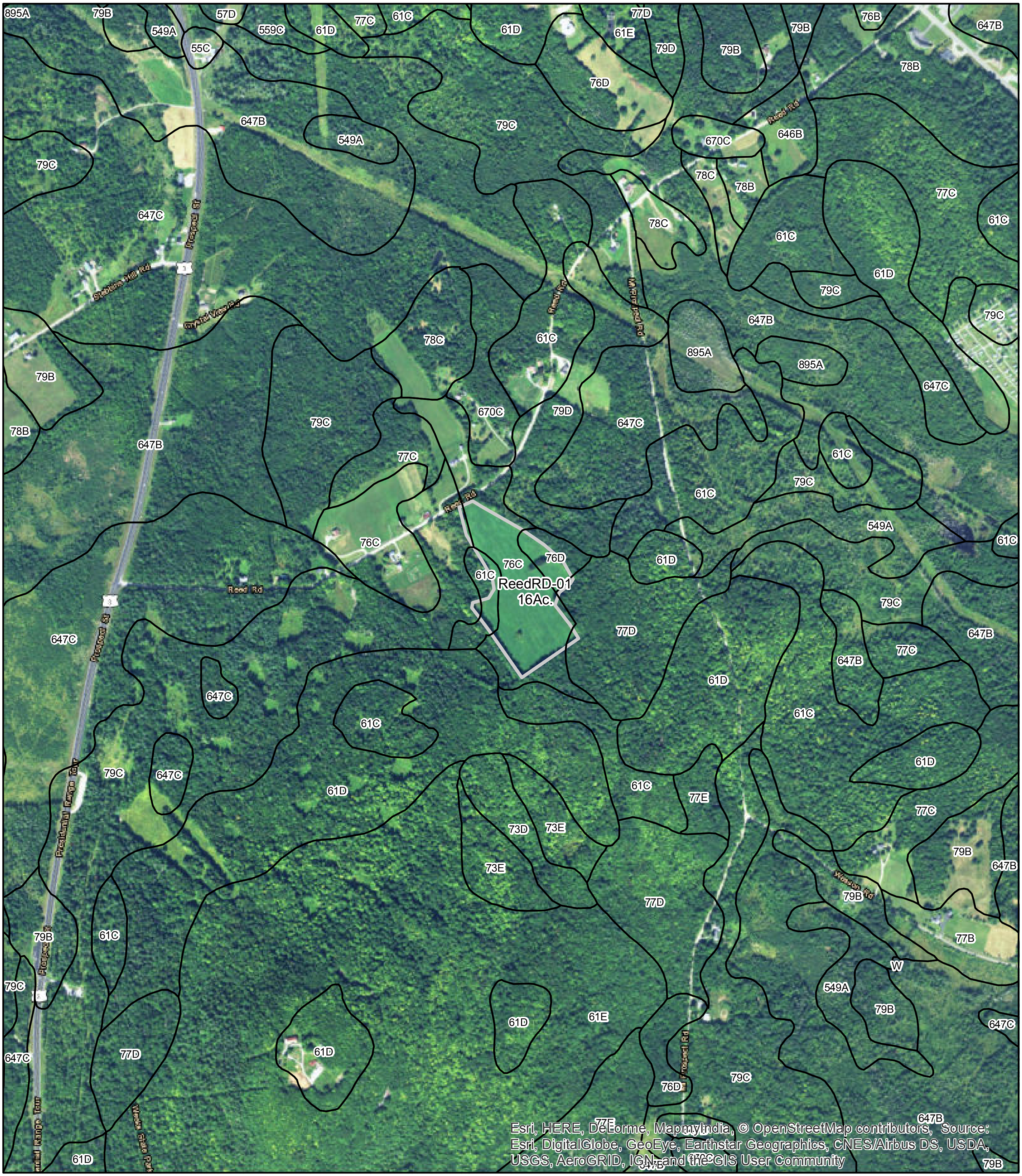

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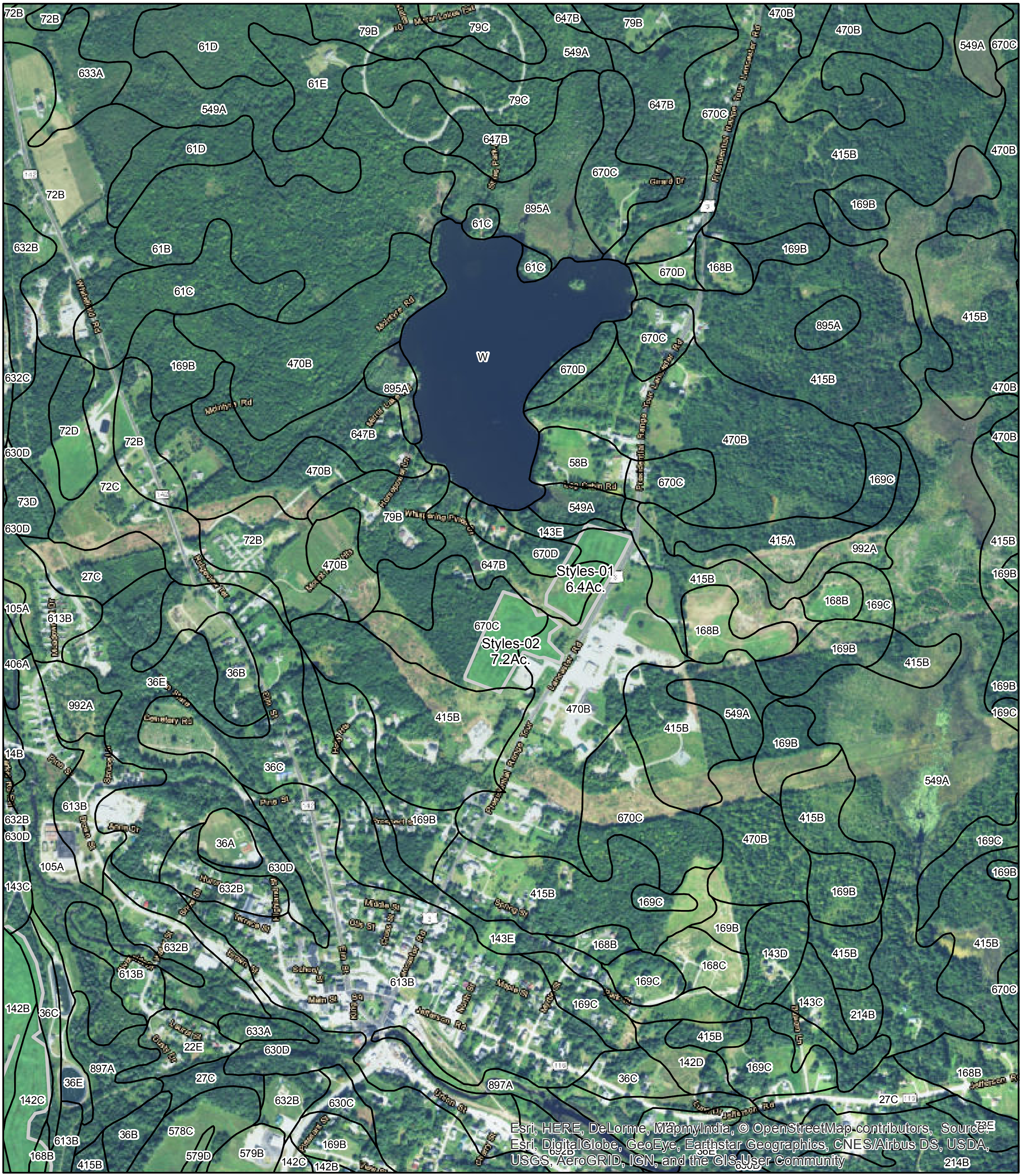

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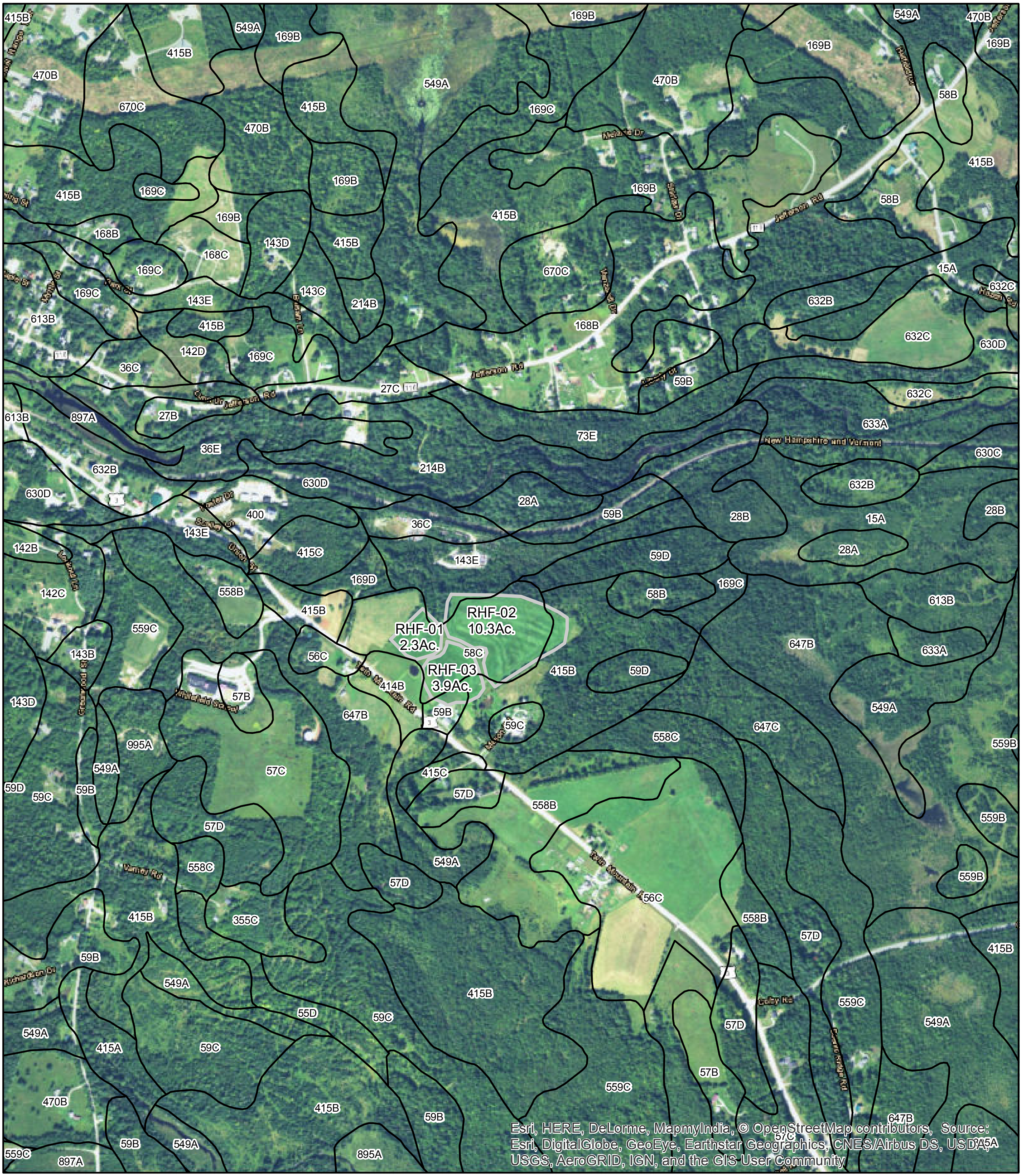

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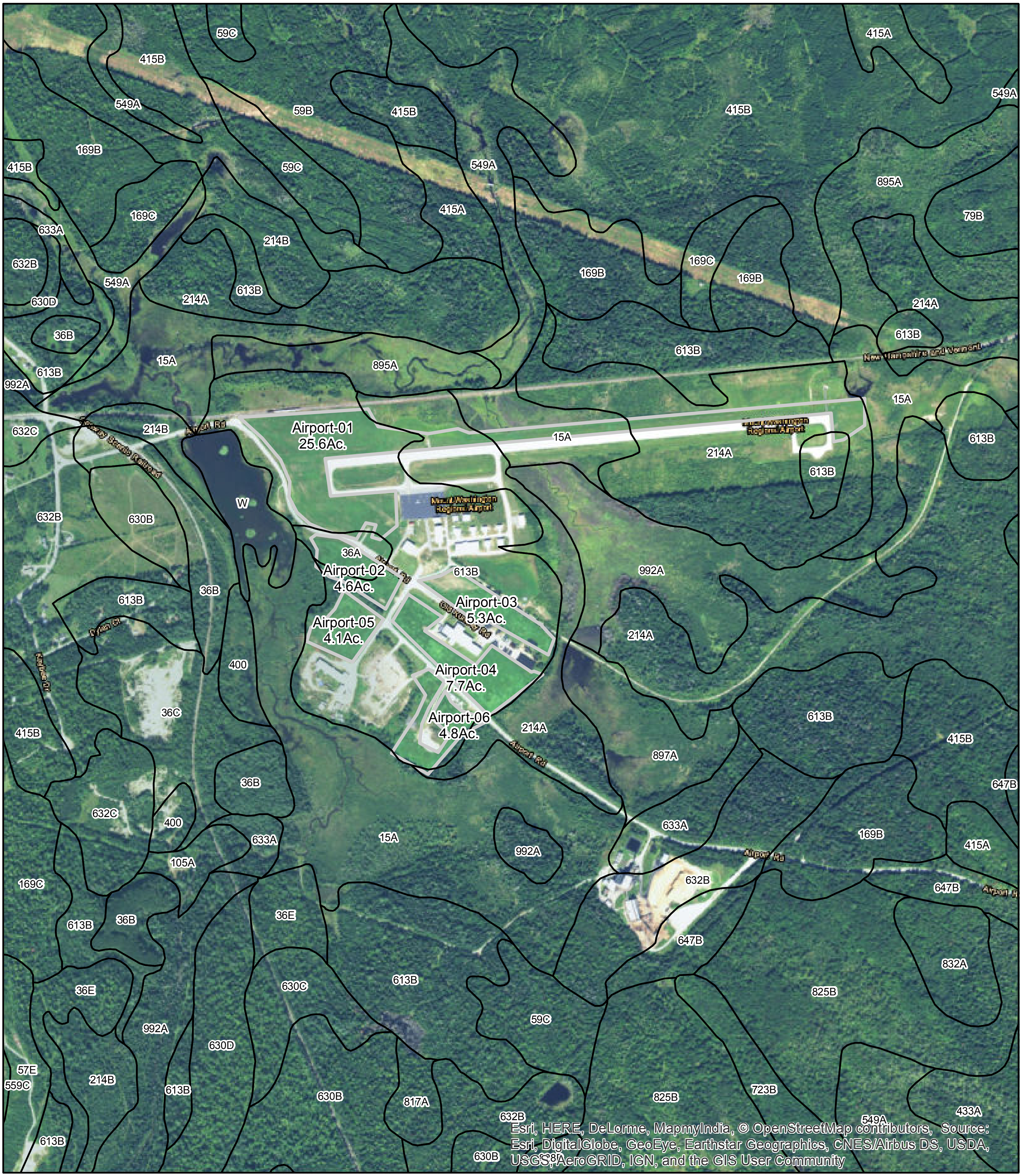

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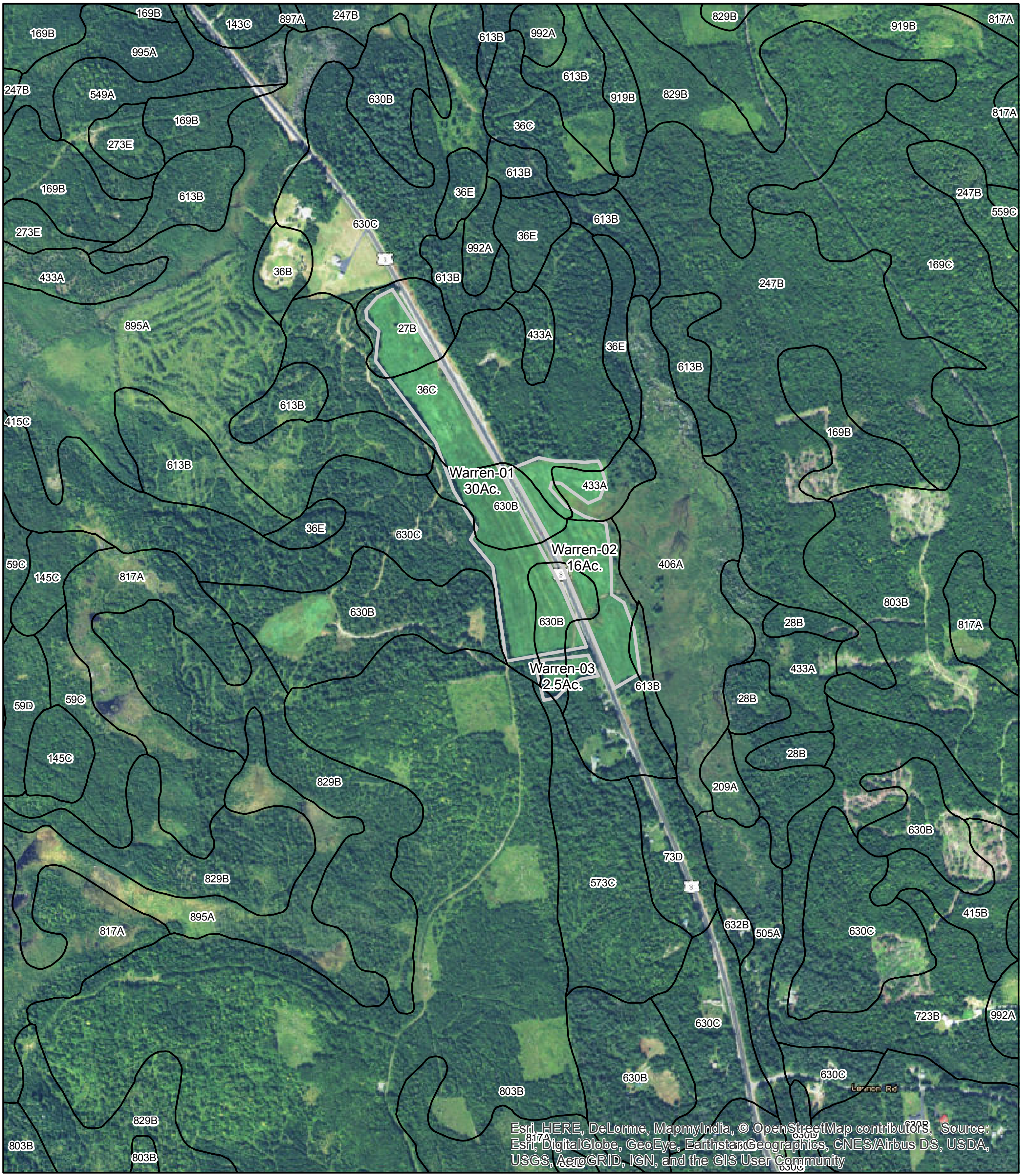

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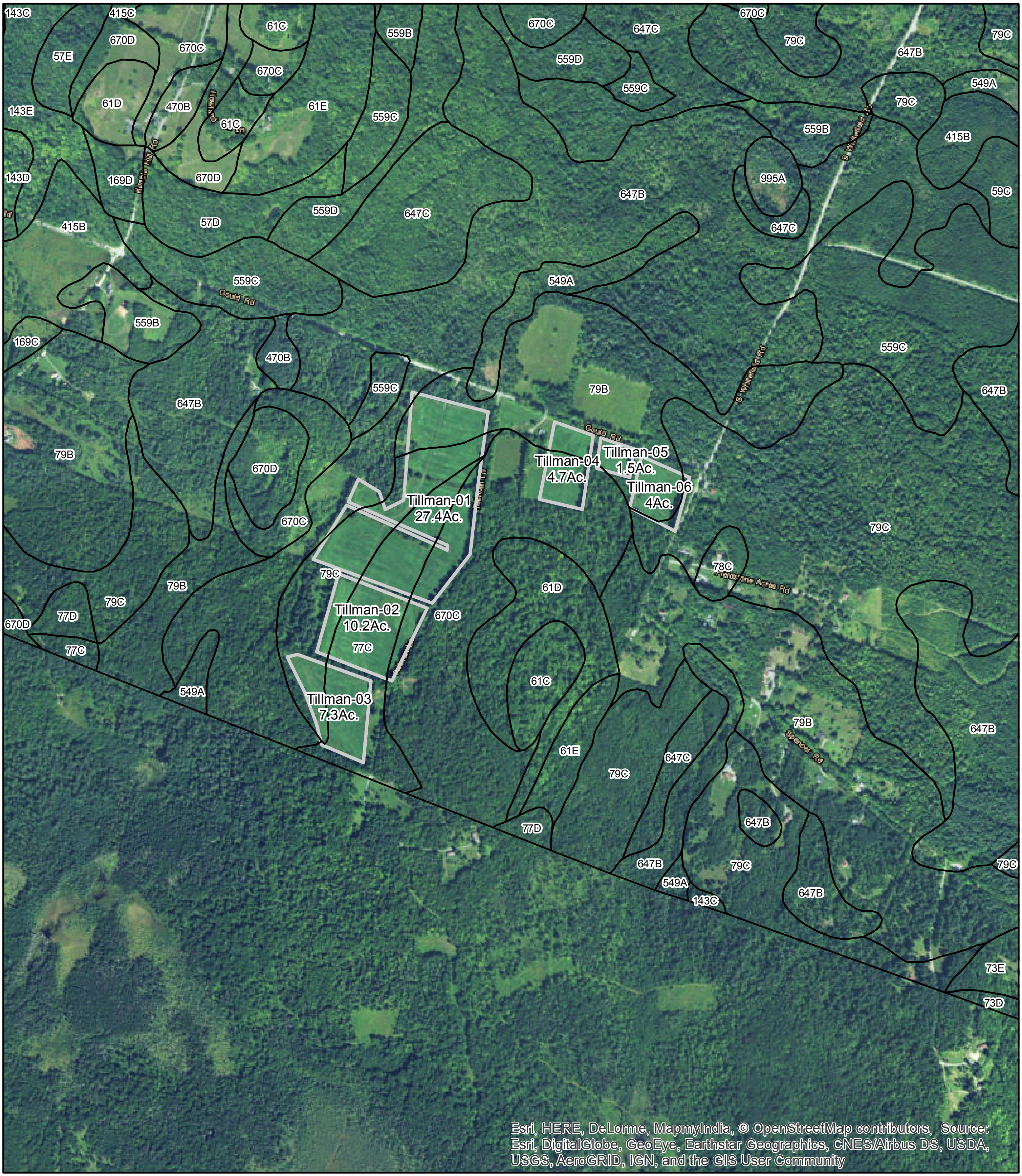

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Prepare By: Jonathan

Date: 10/5/2017

1 inch = 1,000 feet

Farm Summary

Farm Contact Information	
Farm Name	Forbes Farm Partnership
Contacts	Allan and Scott Forbes
Address	304 North Road
City	Lancaster
State	New Hampshire
Phone Number	
Program	None
Original Plan Year	2006

Current Plan Year
2017

Animal Information (Producing Liquid Manure Seperated)

	Current Number	Planned Number	Body Weight	Bedding Type	Housing Type	Days in Pasture	Units	Animal Units	Facility
Milking Cows	0	0	1,400	Sawdust / Shavings	Freestall	0	pounds	0	
Dry Cows	0	0	1,400	Sawdust / Shavings	Freestall	0	pounds	0	
Bulls	0	0	1,300	Sawdust / Shavings	Freestall	0	pounds	0	
Bred Heifers	0	0	1,000	Sawdust / Shavings	Freestall	0	pounds	0	
Open Heifers	0	0	500	Sawdust / Shavings	Freestall	0	pounds	0	
Calves	0	0	200	Sawdust / Shavings	Freestall	0	pounds	0	
Beef-Yearling HF	0	0	800	Sawdust / Shavings	Freestall	0	pounds	0	
Open Heifers	0	0	500	Sawdust / Shavings	Freestall	0	pounds	0	
Open Heifers	0	0	200	Sawdust / Shavings	Freestall	0	pounds	0	
Total Number	0	0						0	

Animal Information (Producing Liquid Manure Not Seperated)

	Current Number	Planned Number	Body Weight	Bedding Type	Housing Type	Days in Pasture	Units	Animal Units	Facility
Milking Cows	1,100	0	1,400	Sand	Freestall	0	pounds	1540	New Milking Facility
Dry Cows	200	0	1,400	Sawdust / Shavings	Freestall	0	pounds	280	Old Milking Facility
Bulls	0	0	1,300	Sawdust / Shavings	Freestall	0	pounds	0	
Bred Heifers	600	0	1,000	Compost	Freestall	0	pounds	600	Old Milking Facility
Open Heifers	480	0	500	Compost	Freestall	0	pounds	240	New Milking Facility
Calves	40	0	200	Separated Solids	Freestall	0	pounds	8	New Milking Facility
Beef-Yearling HF	70	0	800	Separated Solids	Freestall	0	pounds	56	Farnsworth
Open Heifers	0	0	500	Sawdust / Shavings	Freestall	0	pounds	0	
Open Heifers	0	0	200	Sawdust / Shavings	Freestall	0	pounds	0	
Total Number	2,490	0						2724	

Animal Information (Producing Semi Solid Manure)

	Current Number	Planned Number	Body Weight	Bedding Type	Housing Type	Days in Pasture	Units	Animal Units	Facility
Milking Cows	0	0	1,400	Sawdust / Shavings	Stanchion	0	pounds	0	
Dry Cows	0	0	1,400	Sawdust / Shavings	Stanchion	0	pounds	0	
Bulls	0	0	1,300	Sawdust / Shavings	Stanchion	0	pounds	0	
Bred Heifers	0	0	1,000	Sawdust / Shavings	Stanchion	0	pounds	0	
Open Heifers	250	0	500	Sawdust / Shavings	Stanchion	0	pounds	125	Old Milking Facility
Calves	130	0	200	Sawdust / Shavings	Stanchion	0	pounds	26	Old Milking Facility
Beef-Yearling HF	0	0	800	Sawdust / Shavings	Stanchion	0	pounds	0	
Open Heifers	0	0	500	Sawdust / Shavings	Stanchion	0	pounds	0	
Open Heifers	0	0	200	Sawdust / Shavings	Stanchion	0	pounds	0	
Total Number	380	0						151	

Animal Information (Total Producing Manure)

	Current Number	Planned Number	Body Weight	Units	Animal Units	Milk Production	Total Number
Milking Cows	1,100	0	1,400	pounds	1540	22,000	1,100
Dry Cows	200	0	1,400	pounds	280		200
Bulls	0	0	1,300	pounds	0		0
Bred Heifers	600	0	1,000	pounds	600		600
Open Heifers	730	0	500	pounds	365		730
Calves	170	0	200	pounds	34		170
Beef-Yearling HF	70	0	800	pounds	56		70
Open Heifers	0	0	500	pounds	0		0
Open Heifers	0	0	200	pounds	0		0
Total Number	2,870	0			2875		
		Animal Units/Acre		1.03			

Liquid Manure Storage Information

Storage Name	Type	Surface Area	Capacity	Facility
Heifer Pit	Concrete	7,300	110,000	Old Milking Facility
New Milking Barn Pit	Concrete	30,000	1,600,000	New Milking Facility
New Heifer Pit	Concrete	33,000	1,800,000	New Milking Facility
Vermont Satelite Pit	Concrete	67,000	3,725,000	New Milking Facility
Waste Water Pit	Earthen	9,000	460,000	Old Milking Facility
New Milk House and Parlor Pit	Earthen	15,000	1,400,000	New Milking Facility
Old Bunker Leachate Tank	Concrete		9,000	Old Milking Facility
Nadeau Stacking site Pit	Concrete	7,100	534,000	Nadeau
New Bunker Leachate Tank	Concrete		20,000	New Milking Facility
Old Milk House Collection Tank	Concrete		22,000	Old Milking Facility
Farnsworth Pit	Earthen	21,000	784,000	Farnsworth
Total		189,400	10,464,000	**Days of Storage**
Volume Required 180 Days of Storage			9,425,007	**200**

Semi Solid Manure Storage Information

Storage Name	Type	Surface Area	Capacity	Facility
Mortailty Compost Pad	Stack	900	121	Old Milking Facility
Field Stacking	Stack		4,000	Old Milking Facility
Nadeau Stacking site	Concrete	112,200	1,000	Nadeau
Composting Shed	Concrete		1,800	Old Milking Facility
Total		113,100	6,921	**Days of Storage**
Volume Required 180 Days of Storage			1,320	**944**

Runoff Storage Information

Storage Name	Type	Surface Area - Contributing to Manure Storage (Concrete/Asphalt	Surface Area - High Flow Separated (Concrete/ Asphalt)	Surface Area - Contributing to Manure Storage (Unimproved/Vegetated)	Surface Area - High Flow Separated (Unimproved/Vegetated)	Facility
Old Milking Feed Bunker	Concrete	37,000				Old Milking Facility
New Milking Feed Bunker	Concrete	52,800				New Milking Facility
Mortailty Compost Pad	Concrete	900				Old Milking Facility
Nadeau Stacking site	Concrete	112,200				Old Milking Facility
Total		202,900	0	0	0	

Forbes Farm Partnership
Waste Production

Assumptions

Milk production	22,000	lbs/year/animal			
Manure production		ft^3/day/animal, based on recommends in the USDA Agriculture Waste Management Field Handbook (AWMFH) Part 651. Minimum manure production for a mature animal is 1.37 ft^3, a heifier is 1.00 ft^3, a calve is 0.40 ft^{3,} a beef-calf is .93ft^3, a beef-cow is 1.0ft3, a beef-yearling-high forage 0.95ft3, a beef-yearling-high energy 0.82ft3, a goat is 0.65ft3, a Horse is 0.8ft3, a poultry-broiler is 1.26ft3, a poultry-layer is 0.93ft3, poultry-pullet is 0.73ft3, a poutry-turkey is 0.69ft3, a sheep-lamb is 0.63ft3, a swine-boar is 0.33ft3, a swine-gestating sow is 0.44ft3, a swine-gilt is 0.53ft3, a swine-grower is 1.0ft3, a swine lactating sow is 0.96ft3, a swine-nursery pig is 1.7ft3, and veal is 0.96ft3.			
Milking Cows	2.32				
Dry Cows	1.57				
Bulls	1.37				
Bred Heifers	1.37				
Open Heifers	1.00				
Calves	0.40				
Beef-Calf	0.93				
Beef-Cow	1.00				
Beef-Yearling HF	0.95				
Beef-Yearling HE	0.82	**Bedding density**			
Goat	0.65	Loose hay	4.0	lbs/ft^3	
Horse	0.80	Loose straw	2.5	lbs/ft^3	
Poultry-Broiler	1.26	Chopped hay	6.0	lbs/ft^3	
Poultry-Duck		Chopped straw	7.0	lbs/ft^3	
Poultry-Layer	0.93	Shavings	9.0	lbs/ft^3	
Poultry-Pullet	0.73	Sawdust	12.0	lbs/ft^3	
Poultry-Turkey	0.69	Sand	105.0	lbs/ft^3	
Sheep-Lamb	0.63			**Barn type**	
Swine-Boar	0.33		**Freestall**	**Stanchion**	**Pack**
Swine-Gestating Sow	0.44	**Material**		**(lbs/day/animal unit)**	
Swine-Gilt	0.53	Loose hay or straw		5.4	9.3
Swine-Grower	1.00	Chopped hay or straw	2.7	5.7	11.0
Swine-Lactating Sow	0.96	Shavings or sawdust	3.1	6.5	
Swine-Nursery Pig	0.70	Sand	20 to 35		
Veal	0.96				
Silage					
Rate	1	ft^3 of leachate/ton of forage stored at 20 percent solid content, based on recommends in the AWMFH Part 651			
Forage Requirements	8	estimated tons of forage per animal unit			
Milk house waste water					
Rate	0.6	ft^3/day/animal unit, based on recommends in the AWMFH Part 651 for milking house and milking parlor			
Recycle washwater	yes	Recycling washwater reduces milkhouse volume by 50%			
Storm water runoff					
Pond Surface	189,400	ft^2 (exposed surface area when half of the available storage volume is used)			
Concrete/Asphalt	202,900	ft^2 (exposed surface area when half of the available storage volume is used)			
with high flow separator	0	ft^2 (exposed surface area when half of the available storage volume is used)			
Geosynthetic/Roof	0	ft^2 (exposed surface area when half of the available storage volume is used)			
with high flow separator	0	ft^2 (exposed surface area when half of the available storage volume is used)			
Unimproved/Vegetated	0	ft^2 (exposed surface area when half of the available storage volume is used)			
with high flow separator	0	ft^2 (exposed surface area when half of the available storage volume is used)			
Annual Average Precipitation	36.5	inches of rainfall per year (based on AWMFH Part 651, appendix 10C)			
Percentage Occurring Oct to May	52	% or	18.8	inches of rain fall, Oct to May	
Concrete/Asphalt coefficient	75	% or	14.1	inches of runoff, Oct to May	
with high flow separator	19	% or	3.5	inches of runoff, Oct to May	
Geosynthetic/Roof coefficient	100	% or	18.8	inches of runoff, Oct to May	
with high flow separator	25	% or	4.7	inches of runoff, Oct to May	
Unimproved/Vegetated coefficient	25	% or	4.7	inches of runoff, Oct to May	
with high flow separator	6	% or	1.2	inches of runoff, Oct to May	
Consider precipitation as snow & rain	Yes	Precipitation also fall in the form of snow			
Storm event					
25 Year/24 Hour Year Storm Event	4.2	inches of rainfall per event (based on AWMFH Part 651, appendix 10C)			
Evaporation					
Area	189,400	ft^2 (surface area when half of the available storage volume is used)			
Annual Rate	25	inches of evaporation per year (based on AWMFH Part 651, appendix 10C)			
Percentage Occurring Oct to May	35	% or	8.8	inches of evaporation, Oct to May	
Substrates					
Under ANR indirect discharge permit	0	ft^2/week	0	gallons/week	
Under ANR solid waste permit	0	ft^2/week	0	gallons/week	

Expected Liquid Volume

Animal Units 2,724 /AU

	With Out Subtracting Time in Pasture		With Subtracting Time in Pasture	
Manure	4,255 ft^3/day or	11,616,428 gallons/year	4,255 ft^3/day or	11,616,428 gallons/year
Bedding	57 ft^3/day or	156,076 gallons/year	57 ft^3/day or	156,076 gallons/year
Silage	128 ft^3/day or	348,859 gallons/year	128 ft^3/day or	348,859 gallons/year
Milk house waste water	462 ft^3/day or	1,261,352 gallons/year	462 ft^3/day or	1,261,352 gallons/year
Storm water runoff	1,984 ft^3/day or	5,416,690 gallons/year	1,984 ft^3/day or	5,416,690 gallons/year
Storm event	645 ft^3/day or	1,759,954 gallons/year	645 ft^3/day or	1,759,954 gallons/year
Evaporation	-648 ft^3/day or	-1,770,197 gallons/year	-648 ft^3/day or	-1,770,197 gallons/year
Substrates	0 ft^3/day or	0 gallons/year	0 ft^3/day or	0 gallons/year
Total Liquid Manure Produced	6,882 ft^3/day or	18,789,162 gallons/year	6,882 ft^3/day or	18,789,162 gallons/year

Expected Semi Solid Volume

Animal Units 151 /AU

	With Out Subtracting Time in Pasture		With Subtracting Time in Pasture	
Total Semi Solid Manure Produced	322 ft^3/day or	2,640 tons/year	322 ft^3/day or	2,640 tons/year
		45	lbs/ft3	

Expected Liquid Storage Volume

Volume Required for 180 Days of Storage (Winter Period)		**1,260,028 ft^3 or**	**9,425,007 gallons**
Manure	765,862 ft^3		
Bedding	10,290 ft^3		
Silage	23,000 ft^3		
Milk house waste water	83,160 ft^3		
Storm water runoff	357,118 ft^3		
Storm event	137,305 ft^3		
Evaporation	-116,708 ft^3		
Substrates	0 ft^3		

Volume Required for 240 Days of Storage (Winter Period)		**1,634,269 ft^3 or**	**12,224,329 gallons**
Manure	1,021,150 ft^3		
Bedding	13,720 ft^3		
Silage	30,667 ft^3		
Milk house waste water	110,880 ft^3		
Storm water runoff	476,158 ft^3		
Storm event	137,305 ft^3		
Evaporation	-155,610 ft^3		
Substrates	0 ft^3		

Volume Required for 1 Year of Storage		**2,338,786 ft^3 or**	**17,494,117 gallons**
Manure	1,552,998 ft^3		
Bedding	20,866 ft^3		
Silage	46,639 ft^3		
Milk house waste water	168,630 ft^3		
Storm water runoff	806,931 ft^3		
Storm event	137,305 ft^3		
Evaporation	-394,583 ft^3		
Substrates	0 ft^3		
Seperator Removes Annually	0 ft^3	0 **gallons**	0 **Cu Yards**

Liquid Volume Summary

180 Days Storage Requirement	9,425,007 **gallons**
Farm Storage Capacity	10,464,000 **gallons**
Balance of Requirement minus Capacity	-1,038,993 **gallons**

Field Information

Field Information

Field ID	Acres	Farm #	Tract #	Field #	FSA Acres
AcrRiv-01	11.5	954	119	1	12.66
Airport-01	25.6	342	191	1,7	25.65
Airport-02	4.6	342	191	10	5.03
Airport-03	5.3	342	191	5	5.33
Airport-04	7.7	342	191	6	8.9
Airport-05	4.1	342	191	16	4.15
Airport-06	4.8	342	191	9	3.44
Allen-01	7	354	125	1	7.1
Allen-02	4.6	354	125	4	4.97
Allen-03	2.8	354	125	3	3.06
Allen-04	5.5	354	125	5	4.77
Allen-05	11.5	354	125	6	7.63
Allen-06	5.3	354	125	7	6.29
Baerds-01	7.8	430	476	1	7.75
Bart-01	15.2	353	122	1,7	14.83
Bart-02	2.6	353	122	2	2.53
Bart-03	8.5	353	122	3	8.67
Bart-04	3.1	353	122	4	3.83
Bart-05	1.9	353	122	5	2.25
Bart-06	3.6	353	122	6	4.03
igStinehour-0	20.7	1013	1294	1	20.24
Blaksley-01	7.2	10	45	7	7.58
Blaksley-02	3.8	10	45	5	4.2
Blaksley-03	3.2	10	45	12	3.1
Blaksley-04	6.4	10	45	13	6.85
Blaksley-05	13.5	10	45	9,14	13.39
Blaksley-06	5	10	45	4	6.13
Blaksley-07	2.5	10	45	3	3.75
Blaksley-08	2.5	353	122		
Bug-01	7	271	61	8	7.57
Bug-02	47.4	271	61	4	47.8
Bug-03	3.5	271	61	2	4.54
Bug-04	6.5	271	61	1	7
Bull-01	2.7				
Bull-02	24.8				
Bull-03	17.2				
Bull-04	3				
Bull-05	5.7				
Bull-06	12.7				
Bull-07	6				
Bull-08	7.5				
Bull-09	14.9				
Bull-10	24.9				
Bull-11	8.4				
Bull-12	4.5				
Bull-13	3.2				
CalColby-01	5.4	369	394	9	4.86
CalColby-02	3.3	369	394	8	3.26
CalColby-03	3	369	394	6	2.72
CalColby-04	3.7	369	394	7	3.15

Field Information

Field ID	Acres	Farm #	Tract #	Field #	FSA Acres
CalColby-05	15.5	369	394	2,12	16.04
CalColby-06	3.1	369	394	3	3.02
Cantins-01	3.6	36	59	2	5.4
Cantins-02	6.1	36	59	3	5.75
Cantins-03	3.7	36	59	4c	3.5
Cantins-04	24.4	954	751, 59	1b,4b	24
CColby-01	15.4	372	397	4	15.82
CColby-02	8.4	372	397	11	9.6
Chase-01	36.7	476, 473	698, 696	1,1	36.79
Chase-02	16.6	536	765	1	16.32
Chase-03	6.2	673	910	1	6.75
ColbySouth-01	17.6	954	880	3	17.7
ColbySouth-02	7.4	954	880	2	8.4
ColbySouth-03	18.6	954	880	1	19.38
Coles-01	14.8	895	1176	2	17.18
Coles-02	23.9	895951	1176, 1231	2b,1b,3b	30
Coles-03	18.4	895	1176	1	20.68
Crane-01	26.6	954	126	4,1	25.32
Crane-02	10.5	954	126	2	10.62
Crane-03	17.1	954	126	3	18.06
Derocher-01	3.5	1092	1388	1	2.99
Derocher-02	2.6	1092	1388	2	3.01
Dick's-01	3.8	954	778	6	3.83
Don-01	6.8	272	60	4	9.1
Don-02	0.5	272	60	4b	0.5
Don-03	3.8	272	60	2	4.75
Don-04	1.75	272	60	15	1.75
Don-05	12	272	60	14	12.68
Don-06	0.9	272	60	6	0.95
Don-07	2.6	272	60	5	2.6
Dump-01	13.1	954	124	3b,1	11.8
Dump-02	11.8	954	124	3	13
Dump-03	14.4	954	124	2	15.36
Dump-04	2.3	954	124	4	2.52
Farnsworth-01	163.8	954	1018, 1022	12,1,6	155.87
Farnsworth-02	27	954	1018	6,5,12b	33.21
Farnsworth-03	6.2	954	1018	7	7.2
Fortin-01	5.5	264	272	4	5.43
Fortin-02	3.3	264	272	6	2.96
Garber-01	34.5	954	120	1	34.75
Garber-02	18.6	954	120	3	19.12
Gauge-01	20	954	121	1	20.21
Gauge-02	47.6	954	121	3,2	48.72
Gauge-03	9.3	954	121	5	9.48
Gesel-01	13.2	68	491	1	14.43
Gingue-01	25.5	954	123	1	23.5
Gingue-02	6.2	954	123	3	6.25
Gingue-03	87	954	123	2	87.4
Greek-01	5	954	363	5	4.87
Greek-02	2.3	954	363	1	2.4

Field Information

Field ID	Acres	Farm #	Tract #	Field #	FSA Acres
Green-01	4.1		138	29	
Green-02	13.9		138	36	
Green-03	13.9		138	26	
Green-04	8.3		138	24	
Green-05	13.5		138	8	
Green-06	2.9		138	9	
Green-07	5.9		138	13	
Green-08	3.2		138	7	
Green-09	16.4		138	4	
Green-10	7		138	6a	
Green-11	7.8		138	6b	
Green-12	7.3		138	5	
Green-13	19.9		138	18	
Green-14	4.3		138	12	
Green-15	5		138	1	
Green-16	8.7		138	12	
Green-17	1.9		138	17	
Green-18	10.3		138	3	
Green-19	5.3		138	16	
Green-20	18.9		138	11	
Grpaper-01	30.3	1015	1298	1	29.74
Hall-01	3	827	1279	2	3.2
Hall-02	37.7	827	1079, 121	1,7	39.74
Hoclgdon-01	12.4	860	1128	1	13.83
Home-01	2.2	954	116	2	5.1
Home-02	3.9	954	116	6	4.17
Home-03	3	954	116	7	1.78
Home-04	12.7	954	118, 117	14,1	15.99
Home-05	1.7	954	116		
Home-06	1.7	954	116		
Houly-01	7	264	272	3	8.25
Houly-02	4.2	264	272	5	4.63
Houly-03	6.2	264	272	2	6.78
Houly-04	7.5	264	272	1	7.54
Irwin-01	37.1	358	97	1	29.59666667
Irwin-02	15.3	358	97	1	29.59666667
Irwin-03	40.8	358	97	1	29.59666667
JColby-01	16.2	371	396	5	15.35
JColby-02	5.2	371	396	1	5.39
Johnny-01	2	954	144	9	3.68
Johnny-02	1.1	954	144	5	
Lancaster-01	7.7	1042	1339	2	11.13
LLColby-01	9.2	407	451	1	9.74
LLColby-02	12.4	370	395	10	12.52
Lufkin-01	9.2	1063	1359	3	9.85
Lufkin-02	1	1063	1359	5	1.03
Lufkin-03	11.8	1063	1360	1	12.16
McGoffs-01	197.7	954	1020, 1005	1,13	203.01
McGoffs-02	13.3	954	1020, 1005	1b, 13b	13
McGoffs-03	18.7	954	1020	4	17.4

Field Information

Field ID	Acres	Farm #	Tract #	Field #	FSA Acres
McGoffs-04	3.1		144, 1005	12	
Merritt-01	26.4	447	673	1	26.9
Munce-01	14.4	595	129	5	18.62
Munce-02	1.4	595	42	2	3.75
Mundells-01	10.1	687	933	1	11.75
Mundells-02	2.81	687	933	2	2.81
Nadeau-01	42.8	954	1005	13	40.21
Nadeau-02	2	954	1005	10	1.56
Nadeau-03	8.3	954	1005	10	10
Nadeau-04	2.5	954	1005	9	2.37
NearColes-01	15	951	1231	2a	27.26
Nelson-01	115.7	954	751, 59	1,4	117.14
Noyes-01	10.2	910	1188	1	10.65
Parker-01	2.7	248	232	1	3.06
Parker-02	7.5	248	232	2	7.28
Peaslee-01	52.9	1054	1351	5,6.3	52.83
Peaslee-02	41.8	1054	1351	4	43.69
Peaslee-03	20.1	1054	1351	1,2	20.32
Plunk-01	5.9	1112	1414	4	5.4
Plunk-02	12.3	1112	1414	2	12.3
RedHouse-01	10.7	246	230	1	12.04
ReedRD-01	16	356	128	1	15.8
RHF-01	2.3	1093	1389	1	2.52
RHF-02	10.3	1093	1389	2	11.13
RHF-03	3.9	1093	1389	3	3.04
Rich-01	80.5				
Rowell-01	2	58	845	1	4.06
Rowell-02	10.1	58	845	2	11.38
Rowell-03	1.8				
Simond-01	23.9	188	472	5	25.7
Stinehour-01	2.4	410	454	6	6.86
Stinehour-02	6.3	410	454	2	2.71
Styles-01	6.4	996	1274	2	6.9
Styles-02	7.2	996	1274	1	9.82
Tent-01	0.8	530	756	2	1.25
Tent-02	6.7	530	756	3	7.46
Tent-03	4.3	530	756	4	4.51
Tent-04	29.6	530	756	5	29.76
Tent-05	9.1	530	756	1	9.42
Thayer-01	11.8	994	1272	3	12.48
Thayer-02	2.2	994	1272	4	2.1
Thurstonflat-01	4.6	419	464	2	4.94
Thurstonflat-02	11.2	419	464	3	11.62
Thurstonflat-03	1.6	419	464	1	1.96
Tillman-01	27.4	278	438	5,2	28.13
Tillman-02	10.2	278	438	2	10
Tillman-03	7.3	278	438	1	8.96
Tillman-04	4.7	278	438	7	6.93
Tillman-05	1.5	278	438	8	1.9
Tillman-06	4	278	438	9	4.34

Field Information

Field ID	Acres	Farm #	Tract #	Field #	FSA Acres
Warren-01	30	355	127	1	31.01
Warren-02	16	355	127	2	18.87
Warren-03	2.5	355	127	3	2.99
Weeks-01	8.9	54	314	7,12,6	9.15
Weeks-02	10.7	54	314	13,8	10.92
Weeks-03	20.3	54	314	4,5,14	22.2
Weeks-04	5.9	54	314	2	8.75

Forbes Family Farm 2017 Public NMP

Row Labels	Sum of Acres
Owned	1251.0
Rented	1545.3
Grand Total	**2796.3**

Crop Rotation

Field ID	Acres	Rotation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
AcrRiv-01	11.5	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Airport-01	25.6	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Airport-02	4.6	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Airport-03	5.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Airport-04	7.7	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Airport-05	4.1	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Airport-06	4.8	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Allen-01	7.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Allen-02	4.6	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Allen-03	2.8	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Allen-04	5.5	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Allen-05	11.5	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Allen-06	5.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Baerds-01	7.8	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Bart-01	15.2	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Bart-02	2.6	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Bart-03	8.5	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Bart-04	3.1	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Bart-05	1.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Bart-06	3.6	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
BigStinehour-01	20.7	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Blaksley-01	7.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Blaksley-02	3.8	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Blaksley-03	3.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Blaksley-04	6.4	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Blaksley-05	13.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Blaksley-06	5.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Blaksley-07	2.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Blaksley-08	2.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Bug-01	7.0	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Bug-02	47.4	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Bug-03	3.5	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Bug-04	6.5	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Bull-01	2.7	Con Hay	0	0	0	0	0	0	Grass	Grass	Grass	0
Bull-02	24.8	Con Hay	0	0	0	0	0	0	Grass	Grass	Grass	0
Bull-03	17.2	Con Hay	0	0	0	0	0	0	Grass	Grass	Grass	0
Bull-04	3.0	Con. Corn (SC)	0	0	0	0	0	0	Corn Silage	Corn Silage	Corn Silage	0
Bull-05	5.7	Con Hay	0	0	0	0	0	0	Grass	Grass	Grass	0
Bull-06	12.7	Con Hay	0	0	0	0	0	0	Grass	Grass	Grass	0
Bull-07	6.0	Con. Corn (SC)	0	0	0	0	0	0	Corn Silage	Corn Silage	Corn Silage	0
Bull-08	7.5	Con. Corn (SC)	0	0	0	0	0	0	Corn Silage	Corn Silage	Corn Silage	0
Bull-09	14.9	Con Hay	0	0	0	0	0	0	Grass	Grass	Grass	0
Bull-10	24.9	Con Hay	0	0	0	0	0	0	Grass	Grass	Grass	0
Bull-11	8.4	Con. Corn (SC)	0	0	0	0	0	0	Corn Silage	Corn Silage	Corn Silage	0
Bull-12	4.5	Con Hay	0	0	0	0	0	0	Grass	Grass	Grass	0
Bull-13	3.2	Con Hay	0	0	0	0	0	0	Grass	Grass	Grass	0
CalColby-01	5.4	Con. Corn (SC,WC	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
CalColby-02	3.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
CalColby-03	3.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
CalColby-04	3.7	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
CalColby-05	15.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
CalColby-06	3.1	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Cantins-01	3.6	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Cantins-02	6.1	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Cantins-03	3.7	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0

Crop Rotation

Field ID	Acres	Rotation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cantins-04	24.4	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
CColby-01	15.4	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
CColby-02	8.4	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Chase-01	36.7	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Chase-02	16.6	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Chase-03	6.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
ColbySouth-01	17.6	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
ColbySouth-02	7.4	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
ColbySouth-03	18.6	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Coles-01	14.8	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Coles-02	23.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Coles-03	18.4	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Crane-01	26.6	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Crane-02	10.5	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Crane-03	17.1	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Derocher-01	3.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Derocher-02	2.6	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Dick's-01	3.8	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Don-01	6.8	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Don-02	0.5	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Don-03	3.8	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Don-04	1.8	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Don-05	12.0	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Don-06	0.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Don-07	2.6	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Dump-01	13.1	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Dump-02	11.8	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Dump-03	14.4	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Dump-04	2.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Farnsworth-01	163.8	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Farnsworth-02	27.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Farnsworth-03	6.2	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Fortin-01	5.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Fortin-02	3.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Garber-01	34.5	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Garber-02	18.6	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Gauge-01	20.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Gauge-02	47.6	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Gauge-03	9.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Gesel-01	13.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Gingue-01	25.5	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Gingue-02	6.2	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Gingue-03	87.0	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Greek-01	5.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Greek-02	2.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-01	4.1	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-02	13.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-03	13.9	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-04	8.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-05	13.5	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-06	2.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-07	5.9	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-08	3.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-09	16.4	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-10	7.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0

Crop Rotation

Field ID	Acres	Rotation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Green-11	7.8	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-12	7.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-13	19.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-14	4.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-15	5.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-16	8.7	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-17	1.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-18	10.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-19	5.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Green-20	18.9	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Grpaper-01	30.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Hall-01	3.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Hall-02	37.7	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Hoclgdon-01	12.4	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Home-01	2.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Home-02	3.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Home-03	3.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Home-04	12.7	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Home-05	1.7	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Home-06	1.7	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Houly-01	7.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Houly-02	4.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Houly-03	6.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Houly-04	7.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Irwin-01	37.1	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Irwin-02	15.3	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Irwin-03	40.8	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
JColby-01	16.2	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
JColby-02	5.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Johnny-01	2.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Johnny-02	1.1	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Lancaster-01	7.7	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
LLColby-01	9.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
LLColby-02	12.4	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Lufkin-01	9.2	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Lufkin-02	1.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Lufkin-03	11.8	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
McGoffs-01	197.7	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
McGoffs-02	13.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
McGoffs-03	18.7	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
McGoffs-04	3.1	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Merritt-01	26.4	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Munce-01	14.4	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Munce-02	1.4	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Mundells-01	10.1	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Mundells-02	2.8	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Nadeau-01	42.8	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Nadeau-02	2.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Nadeau-03	8.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Nadeau-04	2.5	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
NearColes-01	15.0	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Nelson-01	115.7	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Noyes-01	10.2	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Parker-01	2.7	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Parker-02	7.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0

Crop Rotation

Field ID	Acres	Rotation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Peaslee-01	52.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Peaslee-02	41.8	Con. Corn (SC)	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	Corn Silage	0
Peaslee-03	20.1	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Plunk-01	5.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Plunk-02	12.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
RedHouse-01	10.7	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
ReedRD-01	16.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
RHF-01	2.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
RHF-02	10.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
RHF-03	3.9	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Rich-01	80.5	Con Hay	0	0	0	0	0	0	0	Corn Silage	Corn Silage	0
Rowell-01	2.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Rowell-02	10.1	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Rowell-03	1.8	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Simond-01	23.9	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Stinehour-01	2.4	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Stinehour-02	6.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Styles-01	6.4	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Styles-02	7.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tent-01	0.8	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tent-02	6.7	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tent-03	4.3	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tent-04	29.6	Con. Corn (SC)	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tent-05	9.1	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Thayer-01	11.8	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Thayer-02	2.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Thurstonflat-01	4.6	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Thurstonflat-02	11.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Thurstonflat-03	1.6	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tillman-01	27.4	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tillman-02	10.2	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tillman-03	7.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tillman-04	4.7	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tillman-05	1.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Tillman-06	4.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Warren-01	30.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Warren-02	16.0	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Warren-03	2.5	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Weeks-01	8.9	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Weeks-02	10.7	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Weeks-03	20.3	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0
Weeks-04	5.9	Con Hay	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	Grass	0

Crop Acres Summary

2010

	Column Labels		
	Corn Silage	Grass	Grand Total
Sum of Acres	1,025.2	1,555.1	2,580.3

2011

	Column Labels		
	Corn Silage	Grass	Grand Total
Sum of Acres	1,025.2	1,555.1	2,580.3

2012

	Column Labels		
	Corn Silage	Grass	Grand Total
Sum of Acres	1,025.2	1,555.1	2,580.3

2013

	Column Labels		
	Corn Silage	Grass	Grand Total
Sum of Acres	1,025.2	1,555.1	2,580.3

2014

	Column Labels		
	Corn Silage	Grass	Grand Total
Sum of Acres	1,025.2	1,555.1	2,580.3

2015

	Column Labels		
	Corn Silage	Grass	Grand Total
Sum of Acres	1,025.2	1,555.1	2,580.3

2016

	Column Labels		
	Corn Silage	Grass	Grand Total
Sum of Acres	1,050.1	1,665.7	2,715.8

2017

	Column Labels		
	Corn Silage	Grass	Grand Total
Sum of Acres	1,130.6	1,665.7	2,796.3

2018

	Column Labels		
	Corn Silage	Grass	Grand Total
Sum of Acres	1,130.6	1,665.7	2,796.3

2019

	Column Labels
	Grand Total
Sum of Acres	

Soil Test Information

Soil Test Interpretations and UVM Recommendations

Forbes Family Farm 2017 Public NMP

Field Info			Soil Test							UVM Recommendations					
Field ID	**Acres**	**2017**	**Date**	**pH**	**P**	**K**	**Mg**	**Zn**	**AL**	**Lime**	**N**	**P_2O_5**	**K_2O**	**Mg^+**	**Zn^+**
AcrRiv-01	11.5	Corn Silage	Farm Av.	6.4	8.1	92	87	3	77	2.0	130	0	80	0	0
Airport-01	25.6	Grass	Farm Av.	6.4	8.1	92	87	3	77	2.0	150	0	100	0	
Airport-02	4.6	Grass	2/2/2016	7.5	14.1	75	114	6	45	0.0	150	0	140	0	
Airport-03	5.3	Grass	2/2/2016	6.5	4.5	121	98	3	77	2.0	150	30	60	0	
Airport-04	7.7	Grass	2/2/2016	6.6	3.5	91	94	2	78	2.0	150	0	100	0	
Airport-05	4.1	Grass	2/2/2016	7.0	9.7	120	125	4	55	0.0	150	0	60	0	
Airport-06	4.8	Grass	2/2/2016	6.8	7.6	127	86	3	33	0.0	150	0	60	0	
Allen-01	7.0	Grass	2/2/2016	6.2	5.3	78	151	2	161	2.0	150	30	100	0	
Allen-02	4.6	Grass	2/2/2016	6.3	5.2	82	98	2	86	2.0	150	30	100	0	
Allen-03	2.8	Grass	2/2/2016	6.4	4.6	73	94	1	96	2.0	150	30	140	0	
Allen-04	5.5	Grass	2/2/2016	7.1	5.0	85	92	2	54	0.0	150	20	100	0	
Allen-05	11.5	Grass	2/2/2016	6.4	7.5	106	176	2	62	2.0	150	0	60	0	
Allen-06	5.3	Grass	2/2/2016	7.2	6.1	128	84	1	73	0.0	150	30	60	0	
Baerds-01	7.8	Grass	2/2/2016	6.8	3.4	71	100	1	66	0.0	150	0	140	0	
Bart-01	15.2	Grass	2/2/2016	6.2	7.4	198	149	3	86	2.0	150	0	0	0	
Bart-02	2.6	Grass	2/2/2016	6.0	7.3	162	159	3	82	3.0	150	0	0	0	
Bart-03	8.5	Grass	2/2/2016	5.6	6.8	96	102	3	93	3.0	150	30	100	0	
Bart-04	3.1	Grass	2/2/2016	5.9	6.7	118	126	3	49	2.5	150	20	60	0	
Bart-05	1.9	Grass	2/2/2016	5.9	11.0	174	172	6	33	2.0	150	0	0	0	
Bart-06	3.6	Grass	2/2/2016	6.0	9.9	164	149	3	36	2.0	150	0	0	0	
BigStinehour-01	20.7	Grass	2/2/2016	6.2	7.5	73	70	2	35	1.0	150	0	140	0	
Blaksley-01	7.2	Grass	2/2/2016	6.4	3.7	54	107	2	72	2.0	150	0	140	0	
Blaksley-02	3.8	Grass	2/2/2016	6.1	3.7	42	77	2	94	2.0	150	0	180	0	
Blaksley-03	3.2	Grass	2/2/2016	5.8	6.4	91	69	3	84	3.0	150	30	100	0	
Blaksley-04	6.4	Grass	2/2/2016	5.9	3.7	49	64	1	122	2.0	150	0	180	0	
Blaksley-05	13.5	Grass	2/2/2016	6.3	4.3	48	91	2	83	2.0	150	30	180	0	
Blaksley-06	5.0	Grass	2/2/2016	6.0	3.7	70	85	2	74	3.0	150	0	140	0	
Blaksley-07	2.5	Grass	2/2/2016	6.1	6.0	105	83	2	72	2.0	150	30	60	0	
Blaksley-08	2.5	Grass	Farm Av.	6.4	8.1	92	87	3	77	2.0	150	0	100	0	
Bug-01	7.0	Corn Silage	2/2/2016	7.0	10.0	112	88	3	55	0.0	120	0	20	0	0
Bug-02	47.4	Corn Silage	2/2/2016	7.0	20.4	151	81	3	20	0.0	150	0	30	0	0
Bug-03	3.5	Grass	2/2/2016	6.1	3.8	33	63	2	122	2.0	150	0	180	0	
Bug-04	6.5	Corn Silage	2/2/2016	7.2	13.8	136	90	4	35	0.0	120	0	0	0	0
Bull-01	2.7	Grass	5/17/2017	6.4	4.4	28	70	1	62	2.0	150	20	180	0	
Bull-02	24.8	Grass	5/17/2017	6.6	9.7	34	75	1	38	1.0	150	0	180	0	
Bull-03	17.2	Grass	5/17/2017	6.5	4.6	27	69	1	50	2.0	150	20	180	0	
Bull-04	3.0	Corn Silage	5/17/2017	6.7	15.0	90	78	3	40	1.0	100	0	80	0	0
Bull-05	5.7	Grass	5/17/2017	6.6	6.0	34	77	1	53	2.0	150	20	180	0	

pH Scale is 5.5 - 7
P Scale is 0 - 20(Excessive) ppm
K Scale is 0 - 160(Excessive) ppm
Mg Scale is 0 - 100(Excessive) ppm

P soil test 0-2 ppm min 60 lbs P, P soil test 2.1-4 ppm min 40lbs P,
Rec. of 20-30 lbs P at Planting on perennial's

Soil Test Interpretations and UVM Recommendations

Forbes Family Farm 2017 Public NMP

Field Info			Soil Test							UVM Recommendations					
Field ID	Acres	2017	Date	pH	P	K	Mg	Zn	AL	Lime	N	P_2O_5	K_2O	Mg^+	Zn^+
Bull-06	12.7	Grass	5/17/2017	6.4	6.3	45	67	1	55	2.0	150	20	180	0	
Bull-07	6.0	Corn Silage	5/17/2017	6.9	19.2	158	109	3	35	0.0	80	0	0	0	0
Bull-08	7.5	Corn Silage	5/17/2017	6.5	6.5	55	54	2	92	2.0	100	30	120	0	0
Bull-09	14.9	Grass	5/17/2017	6.7	6.9	30	87	1	34	0.0	150	20	180	0	
Bull-10	24.9	Grass	5/17/2017	6.6	5.9	40	95	1	44	2.0	150	20	180	0	
Bull-11	8.4	Corn Silage	5/17/2017	7.0	15.8	91	86	2	42	0.0	100	0	80	0	0
Bull-12	4.5	Grass	5/17/2017	6.8	7.7	37	95	1	46	0.0	150	0	180	0	
Bull-13	3.2	Grass	5/17/2017	6.5	6.5	55	54	2	92	2.0	150	30	140	0	
CalColby-01	5.4	Corn Silage	2/2/2016	7.0	8.5	142	71	1	52	0.0	80	0	0	0	0
CalColby-02	3.3	Grass	2/2/2016	5.8	4.8	48	47	1	178	2.0	150	30	180	6	
CalColby-03	3.0	Grass	2/2/2016	5.8	3.2	34	30	1	163	2.0	150	33	180	40	
CalColby-04	3.7	Grass	2/2/2016	6.0	4.7	34	35	1	161	2.0	150	30	180	30	
CalColby-05	15.5	Grass	2/2/2016	5.8	6.2	44	51	1	198	2.0	150	30	180	0	
CalColby-06	3.1	Grass	2/2/2016	5.9	4.0	36	41	1	155	2.0	150	0	180	18	
Cantins-01	3.6	Grass	2/2/2016	6.0	8.7	103	61	3	44	2.5	150	0	60	0	
Cantins-02	6.1	Grass	2/2/2016	6.2	6.3	49	110	2	58	2.0	150	20	180	0	
Cantins-03	3.7	Grass	2/2/2016	6.3	5.7	73	85	2	66	2.0	150	20	140	0	
Cantins-04	24.4	Grass	2/2/2016	6.2	8.9	66	107	2	60	2.0	150	0	140	0	
CColby-01	15.4	Corn Silage	2/2/2016	6.6	14.3	133	79	2	48	2.0	100	0	0	0	0
CColby-02	8.4	Grass	2/2/2016	6.3	7.0	54	68	1	81	2.0	150	30	140	0	
Chase-01	36.7	Grass	2/2/2016	6.0	5.2	85	56	2	116	2.0	150	30	100	0	
Chase-02	16.6	Grass	2/2/2016	6.3	4.8	89	81	2	78	2.0	150	30	100	0	
Chase-03	6.2	Grass	2/2/2016	6.2	6.5	88	107	4	87	2.0	150	30	100	0	
ColbySouth-01	17.6	Corn Silage	2/2/2016	7.0	13.9	116	85	2	31	0.0	130	0	20	0	0
ColbySouth-02	7.4	Corn Silage	2/2/2016	7.2	16.5	128	113	2	24	0.0	130	0	20	0	0
ColbySouth-03	18.6	Corn Silage	2/2/2016	7.0	16.8	123	108	3	30	0.0	80	0	20	0	0
Coles-01	14.8	Corn Silage	2/2/2016	7.0	8.3	136	116	2	64	0.0	80	0	0	0	0
Coles-02	23.9	Grass	2/2/2016	6.2	5.2	147	126	2	138	2.0	150	30	0	0	
Coles-03	18.4	Corn Silage	2/2/2016	7.2	6.7	139	101	2	88	0.0	80	30	0	0	0
Crane-01	26.6	Corn Silage	2/2/2016	7.1	21.1	113	87	1	15	0.0	130	0	20	0	0
Crane-02	10.5	Corn Silage	2/2/2016	7.2	5.4	102	92	1	54	0.0	130	20	20	0	0
Crane-03	17.1	Corn Silage	2/2/2016	7.3	8.4	136	101	1	37	0.0	130	0	0	0	0
Derocher-01	3.5	Grass	2/2/2016	5.8	5.1	45	50	3	180	2.0	150	30	180	0	
Derocher-02	2.6	Grass	2/2/2016	5.9	4.9	38	39	1	192	2.0	150	30	180	22	
Dick's-01	3.8	Grass	2/2/2016	6.6	13.5	108	163	3	42	2.0	150	0	60	0	
Don-01	6.8	Corn Silage	2/2/2016	7.0	4.3	106	58	2	46	0.0	150	20	80	0	0
Don-02	0.5	Grass	2/2/2016	6.4	5.1	76	55	2	44	2.0	150	20	100	0	
Don-03	3.8	Grass	2/2/2016	6.1	4.1	52	48	1	73	2.0	150	30	140	4	

pH Scale is 5.5 - 7
P Scale is 0 - 20(Excessive) ppm
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Mg Scale is 0 - 100(Excessive) ppm

P soil test 0-2 ppm min 60 lbs P, P soil test 2.1-4 ppm min 40lbs P,
Rec. of 20-30 lbs P at Planting on perennial's

Soil Test Interpretations and UVM Recommendations

Forbes Family Farm 2017 Public NMP

Field Info			Soil Test							UVM Recommendations					
Field ID	Acres	2017	Date	pH	P	K	Mg	Zn	AL	Lime	N	P_2O_5	K_2O	Mg^+	Zn^+
Don-04	1.8	Grass	2/2/2016	6.3	3.0	37	34	1	92	2.0	150	23	180	32	
Don-05	12.0	Corn Silage	2/2/2016	6.8	3.8	107	50	3	47	0.0	150	6	80	0	0
Don-06	0.9	Grass	2/2/2016	5.9	7.9	37	54	3	93	3.0	150	0	180	0	
Don-07	2.6	Grass	2/2/2016	6.7	7.2	84	73	2	63	0.0	150	0	100	0	
Dump-01	13.1	Grass	2/2/2016	6.0	5.5	64	80	2	61	2.5	150	20	140	0	
Dump-02	11.8	Corn Silage	2/2/2016	7.0	7.4	83	54	1	27	0.0	130	0	80	0	0
Dump-03	14.4	Corn Silage	2/2/2016	7.1	7.4	121	75	1	40	0.0	130	0	20	0	0
Dump-04	2.3	Grass	2/2/2016	6.9	6.2	98	126	2	113	0.0	150	30	100	0	
Farnsworth-01	163.8	Corn Silage	2/2/2016	7.0	9.0	89	56	2	48	0.0	130	0	80	0	0
Farnsworth-02	27.0	Grass	2/2/2016	6.3	5.9	65	112	2	61	2.0	150	20	140	0	
Farnsworth-03	6.2	Grass	2/2/2016	6.2	6.6	56	125	3	73	2.0	150	30	140	0	
Fortin-01	5.5	Grass	2/2/2016	5.9	4.9	53	88	2	119	2.0	150	30	140	0	
Fortin-02	3.3	Grass	2/2/2016	6.0	4.7	91	91	2	115	2.0	150	30	100	0	
Garber-01	34.5	Grass	2/2/2016	6.6	7.5	112	137	3	42	2.0	150	0	60	0	
Garber-02	18.6	Grass	2/2/2016	6.8	6.5	106	147	2	68	0.0	150	20	60	0	
Gauge-01	20.0	Grass	2/2/2016	6.2	9.9	151	159	3	34	1.0	150	0	0	0	
Gauge-02	47.6	Grass	2/2/2016	6.5	7.8	134	162	2	60	2.0	150	0	0	0	
Gauge-03	9.3	Grass	2/2/2016	6.7	8.2	62	116	2	29	0.0	150	0	140	0	
Gesel-01	13.2	Grass	2/2/2016	6.0	4.2	83	89	1	86	3.0	150	30	100	0	
Gingue-01	25.5	Corn Silage	2/2/2016	6.9	22.7	97	70	8	14	0.0	130	0	80	0	0
Gingue-02	6.2	Corn Silage	2/2/2016	6.5	7.1	77	47	3	35	1.0	130	0	80	6	0
Gingue-03	87.0	Corn Silage	2/2/2016	7.0	24.7	115	81	4	13	0.0	130	0	20	0	0
Greek-01	5.0	Grass	2/2/2016	6.5	9.2	83	162	4	68	2.0	150	0	100	0	
Greek-02	2.3	Grass	2/2/2016	6.0	10.7	114	106	5	82	3.0	150	0	60	0	
Green-01	4.1	Grass	2/2/2016	5.6	5.4	49	49	1	147	2.0	150	30	180	2	
Green-02	13.9	Grass	2/2/2016	6.1	8.5	115	114	2	107	2.0	150	0	60	0	
Green-03	13.9	Grass	2/2/2016	5.7	5.3	95	94	2	191	2.0	150	30	100	0	
Green-04	8.3	Grass	2/2/2016	5.6	7.3	91	92	2	151	2.0	150	0	100	0	
Green-05	13.5	Grass	2/2/2016	6.4	4.9	57	100	10	125	2.0	150	30	140	0	
Green-06	2.9	Grass	2/2/2016	6.2	5.9	79	121	2	68	2.0	150	20	100	0	
Green-07	5.9	Grass	2/2/2016	6.3	4.3	41	97	11	80	2.0	150	30	180	0	
Green-08	3.2	Grass	2/2/2016	6.1	3.3	51	74	26	136	2.0	150	20	140	0	
Green-09	16.4	Grass	2/2/2016	7.0	8.5	103	123	27	69	0.0	150	0	60	0	
Green-10	7.0	Grass	2/2/2016	6.4	5.0	73	83	13	46	2.0	150	20	140	0	
Green-11	7.8	Grass	2/2/2016	6.1	2.7	46	51	10	101	2.0	150	40	180	0	
Green-12	7.3	Grass	2/2/2016	6.5	4.1	61	120	12	72	2.0	150	30	140	0	
Green-13	19.9	Grass	2/2/2016	6.4	4.1	72	107	1	59	2.0	150	20	140	0	
Green-14	4.3	Grass	2/2/2016	6.2	4.0	79	88	2	102	2.0	150	0	100	0	

pH Scale is 5.5 - 7
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P soil test 0-2 ppm min 60 lbs P, P soil test 2.1-4 ppm min 40lbs P,
Rec. of 20-30 lbs P at Planting on perennial's

Soil Test Interpretations and UVM Recommendations

Forbes Family Farm 2017 Public NMP

Field Info			Soil Test							UVM Recommendations					
Field ID	**Acres**	**2017**	**Date**	**pH**	**P**	**K**	**Mg**	**Zn**	**AL**	**Lime**	**N**	**P_2O_5**	**K_2O**	**Mg^+**	**Zn^+**
Green-15	5.0	Grass	2/2/2016	6.3	4.3	114	109	2	91	2.0	150	30	60	0	
Green-16	8.7	Grass	2/2/2016	6.3	5.3	138	104	1	54	2.0	150	20	0	0	
Green-17	1.9	Grass	2/2/2016	6.2	4.4	97	101	2	100	2.0	150	30	100	0	
Green-18	10.3	Grass	2/2/2016	5.9	6.1	99	77	2	102	2.0	150	30	100	0	
Green-19	5.3	Grass	2/2/2016	5.9	6.2	109	117	2	86	3.0	150	30	60	0	
Green-20	18.9	Grass	2/2/2016	6.0	4.9	110	133	2	84	3.0	150	30	60	0	
Grpaper-01	30.3	Grass	2/2/2016	5.8	6.4	27	15	6	102	2.0	150	30	180	70	
Hall-01	3.0	Grass	2/2/2016	7.0	8.5	55	113	2	38	0.0	150	0	140	0	
Hall-02	37.7	Grass	2/2/2016	6.8	6.1	73	126	2	71	0.0	150	30	140	0	
Hoclgdon-01	12.4	Corn Silage	2/2/2016	7.2	4.3	91	76	1	62	0.0	80	20	80	0	0
Home-01	2.2	Grass	2/2/2016	6.0	3.8	81	79	7	85	3.0	150	0	100	0	
Home-02	3.9	Grass	2/2/2016	6.0	5.1	74	57	4	83	3.0	150	30	140	0	
Home-03	3.0	Grass	2/2/2016	6.3	11.2	195	161	2	29	1.0	150	0	0	0	
Home-04	12.7	Corn Silage	2/2/2016	6.8	9.1	237	114	2	51	0.0	130	0	0	0	0
Home-05	1.7	Grass	Farm Av.	6.4	8.1	92	87	3	77	2.0	150	0	100	0	
Home-06	1.7	Grass	Farm Av.	6.4	8.1	92	87	3	77	2.0	150	0	100	0	
Houly-01	7.0	Grass	2/2/2016	5.9	4.0	62	49	1	124	2.0	150	0	140	2	
Houly-02	4.2	Grass	2/2/2016	6.0	3.7	78	88	1	121	2.0	150	0	100	0	
Houly-03	6.2	Grass	2/2/2016	6.0	4.0	70	67	2	120	2.0	150	0	140	0	
Houly-04	7.5	Grass	2/2/2016	5.9	3.3	78	73	1	133	2.0	150	19	100	0	
Irwin-01	37.1	Grass	2/2/2016	5.7	2.4	30	25	1	76	3.0	150	40	180	50	
Irwin-02	15.3	Corn Silage	2/2/2016	6.4	3.8	34	28	1	50	2.0	130	6	160	44	8-10
Irwin-03	40.8	Grass	2/2/2016	5.9	3.4	62	42	1	52	2.5	150	0	140	16	
JColby-01	16.2	Corn Silage	2/2/2016	6.9	13.7	159	81	1	44	0.0	100	0	0	0	0
JColby-02	5.2	Grass	2/2/2016	6.2	7.4	97	70	1	102	2.0	150	0	100	0	
Johnny-01	2.0	Grass	2/2/2016	6.4	5.5	83	124	2	68	2.0	150	20	100	0	
Johnny-02	1.1	Grass	2/2/2016	6.2	5.4	127	79	2	152	2.0	150	30	60	0	
Lancaster-01	7.7	Grass	2/2/2016	6.4	4.7	67	116	2	101	2.0	150	30	140	0	
LLColby-01	9.2	Grass	2/2/2016	6.0	4.9	117	100	2	133	2.0	150	30	60	0	
LLColby-02	12.4	Grass	2/2/2016	6.8	11.0	152	79	2	52	0.0	150	0	0	0	
Lufkin-01	9.2	Grass	2/2/2016	6.9	5.5	46	112	2	56	0.0	150	20	180	0	
Lufkin-02	1.0	Grass	2/2/2016	6.8	4.2	85	155	1	55	0.0	150	20	100	0	
Lufkin-03	11.8	Grass	2/2/2016	6.9	5.3	73	156	2	38	0.0	150	20	140	0	
McGoffs-01	197.7	Corn Silage	2/2/2016	7.2	20.6	159	88	3	22	0.0	130	0	0	0	0
McGoffs-02	13.3	Grass	2/2/2016	6.2	11.6	94	97	4	24	1.0	150	0	100	0	
McGoffs-03	18.7	Grass	2/2/2016	6.7	11.4	102	88	4	46	0.0	150	0	60	0	
McGoffs-04	3.1	Corn Silage	2/2/2016	7.4	12.1	169	113	2	34	0.0	130	0	0	0	0
Merritt-01	26.4	Grass	2/2/2016	6.4	2.9	42	68	4	114	2.0	150	35	180	0	

pH Scale is 5.5 - 7
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P soil test 0-2 ppm min 60 lbs P, P soil test 2.1-4 ppm min 40lbs P,
Rec. of 20-30 lbs P at Planting on perennial's

Soil Test Interpretations and UVM Recommendations

Forbes Family Farm 2017 Public NMP

Field Info			Soil Test							UVM Recommendations					
Field ID	**Acres**	**2017**	**Date**	**pH**	**P**	**K**	**Mg**	**Zn**	**AL**	**Lime**	**N**	**P_2O_5**	**K_2O**	**Mg^+**	**Zn^+**
Munce-01	14.4	Corn Silage	2/2/2016	6.7	23.4	150	123	9	17	0.0	130	0	0	0	0
Munce-02	1.4	Corn Silage	2/2/2016	6.2	15.2	259	143	9	40	1.0	130	0	0	0	0
Mundells-01	10.1	Grass	2/2/2016	7.5	7.1	152	79	2	47	0.0	150	0	0	0	
Mundells-02	2.8	Grass	2/2/2016	7.6	7.1	132	104	2	50	0.0	150	0	0	0	
Nadeau-01	42.8	Corn Silage	2/2/2016	7.4	18.6	153	101	3	30	0.0	130	0	0	0	0
Nadeau-02	2.0	Grass	2/2/2016	6.1	3.3	49	55	2	204	2.0	150	36	180	0	
Nadeau-03	8.3	Grass	2/2/2016	7.2	4.6	131	86	1	73	0.0	150	30	0	0	
Nadeau-04	2.5	Grass	2/2/2016	6.1	3.2	59	69	1	119	2.0	150	21	140	0	
NearColes-01	15.0	Grass	2/2/2016	7.3	6.9	193	155	2	75	0.0	150	30	0	0	
Nelson-01	115.7	Corn Silage	2/2/2016	7.3	15.4	122	96	2	39	0.0	150	0	80	0	0
Noyes-01	10.2	Grass	2/2/2016	5.7	2.3	35	40	1	58	2.5	150	33	180	20	
Parker-01	2.7	Grass	2/2/2016	6.0	4.4	84	59	1	106	2.0	150	30	100	0	
Parker-02	7.5	Grass	2/2/2016	6.1	3.0	28	36	2	110	2.0	150	29	180	28	
Peaslee-01	52.9	Grass	2/2/2016	6.0	2.9	57	43	1	72	3.0	150	20	140	14	
Peaslee-02	41.8	Corn Silage	2/2/2016	6.4	13.2	112	35	2	51	2.0	150	0	80	30	0
Peaslee-03	20.1	Grass	2/2/2016	5.9	2.6	50	45	1	88	3.0	150	38	180	10	
Plunk-01	5.9	Grass	2/2/2016	6.1	4.6	71	116	1	74	2.0	150	30	140	0	
Plunk-02	12.3	Grass	2/2/2016	6.2	4.8	88	111	2	61	2.0	150	20	100	0	
RedHouse-01	10.7	Grass	2/2/2016	6.3	4.1	52	135	2	118	2.0	150	30	140	0	
ReedRD-01	16.0	Grass	2/2/2016	6.2	3.4	68	80	1	86	2.0	150	4	140	0	
RHF-01	2.3	Grass	2/2/2016	6.2	2.5	51	106	1	120	2.0	150	58	140	0	
RHF-02	10.3	Grass	2/2/2016	6.2	3.7	92	146	1	113	2.0	150	0	100	0	
RHF-03	3.9	Grass	2/2/2016	6.8	4.7	109	142	13	74	0.0	150	30	60	0	
Rich-01	80.5	Corn Silage	5/17/2017	4.7	2.9	124	77	2	239	2.0	150	101	80	0	0
Rowell-01	2.0	Grass	2/2/2016	5.7	5.1	64	102	1	195	2.0	150	30	140	0	
Rowell-02	10.1	Grass	2/2/2016	5.7	4.2	47	59	1	200	2.0	150	30	180	0	
Rowell-03	1.8	Grass	Farm Av.	6.4	8.1	92	87	3	77	2.0	150	0	100	0	
Simond-01	23.9	Grass	2/2/2016	6.3	6.5	65	90	3	68	2.0	150	20	140	0	
Stinehour-01	2.4	Grass	2/2/2016	6.0	5.1	77	84	1	62	2.5	150	20	100	0	
Stinehour-02	6.3	Grass	2/2/2016	6.1	4.8	66	67	2	95	2.0	150	30	140	0	
Styles-01	6.4	Grass	2/2/2016	5.9	6.4	99	80	3	110	2.0	150	30	100	0	
Styles-02	7.2	Grass	2/2/2016	5.9	5.7	139	89	2	88	3.0	150	30	0	0	
Tent-01	0.8	Grass	2/2/2016	5.8	6.8	76	60	3	139	2.0	150	30	100	0	
Tent-02	6.7	Grass	2/2/2016	6.1	5.8	58	75	3	94	2.0	150	30	140	0	
Tent-03	4.3	Grass	2/2/2016	6.3	4.4	76	71	3	57	2.0	150	20	100	0	
Tent-04	29.6	Grass	2/2/2016	6.1	4.9	71	73	3	62	2.0	150	20	140	0	
Tent-05	9.1	Grass	2/2/2016	6.2	4.9	85	71	3	117	2.0	150	30	100	0	
Thayer-01	11.8	Grass	2/2/2016	6.0	2.5	65	51	3	176	2.0	150	86	140	0	

pH Scale is 5.5 - 7
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P soil test 0-2 ppm min 60 lbs P, P soil test 2.1-4 ppm min 40lbs P,
Rec. of 20-30 lbs P at Planting on perennial's

Soil Test Interpretations and UVM Recommendations

Forbes Family Farm 2017 Public NMP

Field Info			Soil Test							UVM Recommendations					
Field ID	Acres	2017	Date	pH	P	K	Mg	Zn	AL	Lime	N	P_2O_5	K_2O	Mg^+	Zn^+
Thayer-02	2.2	Grass	2/2/2016	5.8	3.6	37	37	2	249	2.0	150	18	180	26	
Thurstonflat-01	4.6	Grass	2/2/2016	5.8	6.5	97	58	2	101	2.0	150	30	100	0	
Thurstonflat-02	11.2	Grass	2/2/2016	6.0	6.4	109	75	2	52	2.5	150	20	60	0	
Thurstonflat-03	1.6	Grass	2/2/2016	5.7	6.2	76	48	2	83	3.0	150	30	100	4	
Tillman-01	27.4	Grass	2/2/2016	6.8	4.3	109	133	2	91	0.0	150	30	60	0	
Tillman-02	10.2	Grass	2/2/2016	6.7	3.9	88	108	3	159	0.0	150	0	100	0	
Tillman-03	7.3	Grass	2/2/2016	6.4	2.8	59	86	4	176	2.0	150	65	140	0	
Tillman-04	4.7	Grass	2/2/2016	6.6	7.4	92	118	3	94	2.0	150	0	100	0	
Tillman-05	1.5	Grass	2/2/2016	6.6	4.8	72	78	2	123	2.0	150	30	140	0	
Tillman-06	4.0	Grass	2/2/2016	6.6	6.0	82	103	3	113	2.0	150	30	100	0	
Warren-01	30.0	Grass	2/2/2016	6.4	3.0	30	72	3	125	2.0	150	34	180	0	
Warren-02	16.0	Grass	2/2/2016	6.5	3.7	28	82	4	104	2.0	150	0	180	0	
Warren-03	2.5	Grass	2/2/2016	6.6	3.3	28	77	3	115	2.0	150	15	180	0	
Weeks-01	8.9	Grass	Farm Av.	6.4	8.1	92	87	3	77	2.0	150	0	100	0	
Weeks-02	10.7	Grass	Farm Av.	6.4	8.1	92	87	3	77	2.0	150	0	100	0	
Weeks-03	20.3	Grass	Farm Av.	6.4	8.1	92	87	3	77	2.0	150	0	100	0	
Weeks-04	5.9	Grass	Farm Av.	6.4	8.1	92	87	3	77	2.0	150	0	100	0	

pH Scale is 5.5 - 7
P Scale is 0 - 20(Excessive) ppm
K Scale is 0 - 160(Excessive) ppm
Mg Scale is 0 - 100(Excessive) ppm

P soil test 0-2 ppm min 60 lbs P, P soil test 2.1-4 ppm min 40lbs P,
Rec. of 20-30 lbs P at Planting on perennial's

Nutrient Management Plan

Forbes Family Farm 2017 Public NMP
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Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
AcrRiv-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
11.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
119	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	35		**UVM Recommendation Balance**		**23**	**79**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
1			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	34	Medium	2.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Airport-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
25.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
342	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
191	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
1,7			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	36	Medium	2.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Airport-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
342	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
191	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	HIGH			2400	45	6.0
FSA Field	150		**UVM Recommendation Balance**		**33**	**64**	**80**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
10			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	34	Medium	0.0	B, WD			ther (HydrGrp B, Non-cla		

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Airport-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
342	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
191	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	OPTIMUM			831	77	2.7
FSA Field	75		**UVM Recommendation Balance**		**19**	**34**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	31	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Airport-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
342	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
191	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			574	78	1.9
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
6			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Airport-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
342	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
191	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	HIGH			1398	55	4.2
FSA Field	150		**UVM Recommendation Balance**		**19**	**64**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
16			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	32	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			**Commericial Nutrients**							**Livestock Nutrients**						**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Airport-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
342	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
191	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	OPTIMUM			466	33	3.2
FSA Field	200		**UVM Recommendation Balance**		**19**	**64**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
9			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	34	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info			**Commericial Nutrients**							**Livestock Nutrients**						**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Allen-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
354	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
125	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			1341	161	1.7
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	36	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info			**Commericial Nutrients**							**Livestock Nutrients**						**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Allen-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
354	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
125	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			1007	86	1.5
FSA Field	35		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	51	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Allen-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
354	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
125	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			1015	96	1.3
FSA Field	35		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	51	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Allen-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
354	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
125	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			1234	54	1.9
FSA Field	300		**UVM Recommendation Balance**		**19**	**44**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	40	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Allen-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
11.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
354	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
125	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	HIGH			1512	62	2.2
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
6			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	39	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Allen-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.3				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
354	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
125	Distance to Water		Total Removed		160	60	200	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	OPTIMUM			1555	73	1.4
FSA Field	300		UVM Recommendation Balance		19	34	100	K_2O	60	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
7			Crop Removal Balance		9	4	-40	Mg	0	37	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Baerds-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.8				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
430	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
476	Distance to Water		Total Removed		160	60	200	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	HIGH			1212	66	1.2
FSA Field	300		UVM Recommendation Balance		19	64	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
1			Crop Removal Balance		9	4	-40	Mg	0	42	Medium	0.0	B, WD				Tunbridge (C)	
Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bart-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
15.2				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
353	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
122	Distance to Water		Total Removed		160	60	200	P_2O_5	0	2/2/2016	HIGH	EXCESSIVE	HIGH			765	86	2.5
FSA Field	35		UVM Recommendation Balance		19	64	160	K_2O	0	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
1,7			Crop Removal Balance		9	4	-40	Mg	0	53	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bart-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
353	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
122	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	EXCESSIVE	HIGH			999	82	2.5
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	49	Medium	3.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bart-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
8.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
353	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
122	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			756	93	2.7
FSA Field	35		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	52	Medium	3.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bart-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
353	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
122	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	OPTIMUM	HIGH			865	49	2.8
FSA Field	35		**UVM Recommendation Balance**		**19**	**44**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	57	Medium	2.5	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bart-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
353	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
122	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	EXCESSIVE	HIGH			840	33	5.7
FSA Field	40		**UVM Recommendation Balance**		**19**	**64**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
5			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	61	High	2.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bart-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
353	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
122	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	EXCESSIVE	HIGH			853	36	3.2
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
6			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	62	High	2.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
BigStinehour-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
20.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1013	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1294	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	OPTIMUM			900	35	1.8
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	18	Low	1.0	A, EWD			ther (HydrGrp A, Non-cla		

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commercial Nutrients						
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O
Blaksley-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0
7.2				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O
10	> 20 %		Total Fertilizer		103	0	0
FSA Tract			Total Manure		65.76	64	160
45	Distance to Water		Total Removed		160	60	200
FSA Field	300		UVM Recommendation Balance		19	64	20
7			Crop Removal Balance		9	4	-40

Livestock Nutrients							
Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20
		0			0	0	0
		0			0	0	0
Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O
		0			0	0	0

Crop Yield Goal		
Harvest	Tons/A	Moisture
Grass	4	10
Harvest	Tons/A	Moisture
	0	10

UVM Rec.		Soil Test Levels, Nutrient Recommendation				Soil Test Results		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	HIGH	1116	72	2.2
K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class		Soil Type	
Mg	0	28	Low	2.0	B, WD		ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients						
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O
Blaksley-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30
3.8				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O
10	> 20 %		Total Fertilizer		117	0	60
FSA Tract			Total Manure		65.76	64	160
45	Distance to Water		Total Removed		160	60	200
FSA Field	300		UVM Recommendation Balance		33	64	40
5			Crop Removal Balance		23	4	20

Livestock Nutrients							
Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20
		0			0	0	0
		0			0	0	0
Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O
		0			0	0	0

Crop Yield Goal		
Harvest	Tons/A	Moisture
Grass	4	10
Harvest	Tons/A	Moisture
	0	10

UVM Rec.		Soil Test Levels, Nutrient Recommendation				Soil Test Results		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	0	2/2/2016	MEDIUM	LOW	OPTIMUM	1115	94	2.2
K_2O	180	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class		Soil Type	
Mg	0	27	Low	2.0	B, WD		ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients						
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O
Blaksley-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0
3.2				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O
10	> 20 %		Total Fertilizer		103	0	0
FSA Tract			Total Manure		65.76	64	160
45	Distance to Water		Total Removed		160	60	200
FSA Field	300		UVM Recommendation Balance		19	34	60
12			Crop Removal Balance		9	4	-40

Livestock Nutrients							
Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20
		0			0	0	0
		0			0	0	0
Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O
		0			0	0	0

Crop Yield Goal		
Harvest	Tons/A	Moisture
Grass	4	10
Harvest	Tons/A	Moisture
	0	10

UVM Rec.		Soil Test Levels, Nutrient Recommendation				Soil Test Results		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM	718	84	2.5
K_2O	100	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class		Soil Type	
Mg	0	27	Low	3.0	B, WD		ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Blaksley-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
6.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
10	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
45	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	LOW	OPTIMUM			901	122	1.1
FSA Field	300		**UVM Recommendation Balance**		**33**	**64**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
13			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	27	Low	2.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Blaksley-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
13.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
10	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
45	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	LOW	OPTIMUM			1166	83	2.2
FSA Field	300		**UVM Recommendation Balance**		**33**	**34**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
9,14			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	27	Low	2.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Blaksley-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
10	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
45	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			1053	74	1.6
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
4			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	3.0	B, WD			ther (HydrGrp B, Non-cla		

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Blaksley-07	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
10	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
45	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	OPTIMUM			1014	72	2.2
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	28	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Blaksley-08	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
353	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
122	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	300		**UVM Recommendation Balance**		**33**	**64**	**120**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	28	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bug-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	16	65
Acreage				0	0	0	0			0			0	0	0			
7.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
271	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	120	Date	Ava. P	K	Mg			Ca	Al	Zn
61	Distance to Water		**Total Removed**		**144**	**80**	**176**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	OPTIMUM			1385	55	2.6
FSA Field	100		**UVM Recommendation Balance**		**1**	**79**	**185**	K_2O	20	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
8			**Crop Removal Balance**		**-23**	**-1**	**29**	Mg	0	15	Low	0.0	A, EWD				Adams (A)	

Balance = (Fertilizer + Manure) - Removed by Crop
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Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bug-02	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	26	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
47.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
271	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
61	Distance to Water		**Total Removed**		**234**	**130**	**286**	P_2O_5	0	2/2/2016	EXCESSIVE	HIGH	OPTIMUM			954	20	3.4
FSA Field	35		**UVM Recommendation Balance**		**3**	**79**	**175**	K_2O	30	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4			**Crop Removal Balance**		**-81**	**-51**	**-81**	Mg	0	52	Medium	0.0	B, WD				Ondawa (B)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bug-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
271	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
61	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	LOW	OPTIMUM			739	122	1.9
FSA Field	100		**UVM Recommendation Balance**		**33**	**64**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	23	Low	2.0	A, EWD				Adams (A)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bug-04	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	16	65
Acreage				0	0	0	0			0			0	0	0			
6.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
271	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	120	Date	Ava. P	K	Mg			Ca	Al	Zn
61	Distance to Water		**Total Removed**		**144**	**80**	**176**	P_2O_5	0	2/2/2016	HIGH	HIGH	OPTIMUM			1367	35	3.5
FSA Field	35		**UVM Recommendation Balance**		**1**	**79**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**-23**	**-1**	**29**	Mg	0	23	Low	0.0	A, EWD				Adams (A)	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bull-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	5/17/2017	OPTIMUM	LOW	OPTIMUM			1141	62	0.9
FSA Field	300		**UVM Recommendation Balance**		**33**	**44**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	29	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bull-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
24.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	5/17/2017	HIGH	LOW	OPTIMUM			1383	38	1.3
FSA Field	100		**UVM Recommendation Balance**		**33**	**64**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	36	Medium	1.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bull-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
17.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	5/17/2017	OPTIMUM	LOW	OPTIMUM			1141	50	1.0
FSA Field	300		**UVM Recommendation Balance**		**33**	**44**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	39	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commercial Nutrients						
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**
Bull-04	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30
Acreage				0	0	0	0
3.0				0	0	0	0
Crop				0	0	0	0
Corn Silage			N Credit	100	8		
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**
0	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**
FSA Tract			**Total Manure**		**95.04**	**64**	**160**
0	Distance to Water		**Total Removed**		**144**	**80**	**176**
FSA Field	100		**UVM Recommendation Balance**		**21**	**79**	**125**
0			**Crop Removal Balance**		**-23**	**-1**	**29**

Livestock Nutrients							
Source	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
DM	S	8000	< 2 days	Chisel	11.9	8	20
		0			0	0	0
		0			0	0	0
		0			0	0	0
Source	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
		0			0	0	0

UVM Rec.		**Soil Test Levels, Nutrient Recommendation**				**Soil Test Results**		
N	100	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	0	5/17/2017	HIGH	MEDIUM	OPTIMUM	1368	40	2.6
K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**		**Soil Type**	
Mg	0	18	Low	1.0	B, WD		Adams (A)	

Crop Yield Goal		
Harvest	**Tons/A**	**Moisture**
Corn Silage	16	65
Harvest	**Tons/A**	**Moisture**
	0	10

Field Info	Commericial Nutrients						
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**
Bull-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30
5.7				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**
FSA Tract			**Total Manure**		**65.76**	**64**	**160**
0	Distance to Water		**Total Removed**		**160**	**60**	**200**
FSA Field	100		**UVM Recommendation Balance**		**33**	**44**	**40**
0			**Crop Removal Balance**		**23**	**4**	**20**

Livestock Nutrients							
Source	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20
		0			0	0	0
		0			0	0	0
Source	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
		0			0	0	0

UVM Rec.		**Soil Test Levels, Nutrient Recommendation**				**Soil Test Results**		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	20	5/17/2017	OPTIMUM	LOW	OPTIMUM	1376	53	1.3
K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**		**Soil Type**	
Mg	0	33	Medium	2.0	B, WD		ther (HydrGrp B, Non-cla	

Crop Yield Goal		
Harvest	**Tons/A**	**Moisture**
Grass	4	10
Harvest	**Tons/A**	**Moisture**
	0	10

Field Info	Commercial Nutrients						
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**
Bull-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30
12.7				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**
FSA Tract			**Total Manure**		**65.76**	**64**	**160**
0	Distance to Water		**Total Removed**		**160**	**60**	**200**
FSA Field	100		**UVM Recommendation Balance**		**33**	**44**	**40**
0			**Crop Removal Balance**		**23**	**4**	**20**

Livestock Nutrients							
Source	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20
		0			0	0	0
		0			0	0	0
Source	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
		0			0	0	0

UVM Rec.		**Soil Test Levels, Nutrient Recommendation**				**Soil Test Results**		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	20	5/17/2017	OPTIMUM	LOW	OPTIMUM	1274	55	1.2
K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**		**Soil Type**	
Mg	0	33	Medium	2.0	B, WD		ther (HydrGrp B, Non-cla	

Crop Yield Goal		
Harvest	**Tons/A**	**Moisture**
Grass	4	10
Harvest	**Tons/A**	**Moisture**
	0	10

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bull-07	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	15	65
Acreage				0	0	0	0			0			0	0	0			
6.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	80	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**135**	**75**	**165**	P_2O_5	0	5/17/2017	HIGH	HIGH	HIGH			1926	35	2.7
FSA Field	100		**UVM Recommendation Balance**		**41**	**79**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**-14**	**4**	**40**	Mg	0	36	Medium	0.0	B, WD				Duxbury (B)	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bull-08	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	20	65
Acreage				0	0	0	0			0			0	0	0			
7.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	100	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**180**	**100**	**220**	P_2O_5	30	5/17/2017	OPTIMUM	MEDIUM	OPTIMUM			1081	92	1.9
FSA Field	300		**UVM Recommendation Balance**		**21**	**49**	**85**	K_2O	120	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**-59**	**-21**	**-15**	Mg	0	19	Low	2.0	B, WD				Monadnock (B)	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bull-09	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
14.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	5/17/2017	OPTIMUM	LOW	OPTIMUM			1462	34	1.1
FSA Field	300		**UVM Recommendation Balance**		**33**	**44**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	33	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bull-10	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
24.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	5/17/2017	OPTIMUM	LOW	OPTIMUM			1280	44	1.0
FSA Field	300		**UVM Recommendation Balance**		**33**	**44**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	32	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bull-11	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	20	65
Acreage				0	0	0	0			0			0	0	0			
8.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	100	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**180**	**100**	**220**	P_2O_5	0	5/17/2017	HIGH	MEDIUM	OPTIMUM			1548	42	2.3
FSA Field	300		**UVM Recommendation Balance**		**21**	**79**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**-59**	**-21**	**-15**	Mg	0	27	Low	0.0	B, WD				Monadnock (B)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Bull-12	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	5/17/2017	HIGH	LOW	OPTIMUM			1505	46	0.8
FSA Field	300		**UVM Recommendation Balance**		**33**	**64**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	32	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Bull-13	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**			
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0		0	10
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	5/17/2017	OPTIMUM	MEDIUM	OPTIMUM			1081	92	1.9
FSA Field	50		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
CalColby-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	15	65
Acreage				0	0	0	0			0			0	0	0			
5.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**			
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0		0	10
369	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	80	Date	Ava. P	K	Mg			Ca	Al	Zn
394	Distance to Water		**Total Removed**		**135**	**75**	**165**	P_2O_5	0	2/2/2016	HIGH	HIGH	OPTIMUM			1546	52	1.4
FSA Field	300		**UVM Recommendation Balance**		**41**	**79**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
9			**Crop Removal Balance**		**-14**	**4**	**40**	Mg	0	33	Medium	0.0	B, WD				Cabot (D)	
Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
CalColby-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**			
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0		0	10
369	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
394	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	LOW	MEDIUM			612	178	1.0
FSA Field	300		**UVM Recommendation Balance**		**33**	**34**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
8			**Crop Removal Balance**		**23**	**4**	**20**	Mg	6	39	Medium	2.0	B, WD				Tunbridge (C)	

Balance = (Fertilizer + Manure) - Removed by Crop
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Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
CalColby-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
369	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
394	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	33	2/2/2016	MEDIUM	LOW	LOW			466	163	0.7
FSA Field	300		**UVM Recommendation Balance**		**33**	**31**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
6			**Crop Removal Balance**		**23**	**4**	**20**	Mg	40	39	Medium	2.0	B, WD				Tunbridge (C)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
CalColby-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
369	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
394	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	LOW	LOW			606	161	0.8
FSA Field	300		**UVM Recommendation Balance**		**33**	**34**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
7			**Crop Removal Balance**		**23**	**4**	**20**	Mg	30	39	Medium	2.0	B, WD				Tunbridge (C)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
CalColby-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
15.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
369	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
394	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	LOW	OPTIMUM			604	198	1.4
FSA Field	300		**UVM Recommendation Balance**		**33**	**34**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2,12			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	40	Medium	2.0	B, WD				Tunbridge (C)	

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
CalColby-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
369	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
394	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	LOW	MEDIUM			632	155	1.1
FSA Field	300		**UVM Recommendation Balance**		**33**	**64**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**23**	**4**	**20**	Mg	18	39	Medium	2.0	B, WD				Tunbridge (C)	
Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Cantins-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
36	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
59	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	OPTIMUM			802	44	2.9
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	75	High	2.5	B, WD				Croghan (B)	
Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Cantins-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
6.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
36	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
59	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	LOW	HIGH			790	58	1.6
FSA Field	35		**UVM Recommendation Balance**		**33**	**44**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	64	High	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Cantins-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
36	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
59	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			863	66	2.0
FSA Field	35		**UVM Recommendation Balance**		**19**	**44**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4c			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	62	High	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Cantins-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
24.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
751, 59	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	HIGH			795	60	2.4
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1b,4b			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	57	Medium	2.0	B, WD				Ondawa (B)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
CColby-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	20	65
Acreage				0	0	0	0			0			0	0	0			
15.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
372	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	100	Date	Ava. P	K	Mg			Ca	Al	Zn
397	Distance to Water		**Total Removed**		**180**	**100**	**220**	P_2O_5	0	2/2/2016	HIGH	HIGH	OPTIMUM			1253	48	1.8
FSA Field	300		**UVM Recommendation Balance**		**21**	**79**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4			**Crop Removal Balance**		**-59**	**-21**	**-15**	Mg	0	39	Medium	2.0	B, WD				Tunbridge (C)	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
CColby-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
8.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
372	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
397	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			883	81	1.2
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
11			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	41	Medium	2.0	B, WD				Tunbridge (C)	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Chase-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
36.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
476, 473	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
698, 696	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			629	116	2.0
FSA Field	150		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1,1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	28	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Chase-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
16.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
536	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
765	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			894	78	2.1
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Chase-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
6.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
673	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
910	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			1420	87	4.2
FSA Field	100		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	30	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
ColbySouth-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	24	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
17.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
880	Distance to Water		**Total Removed**		**216**	**120**	**264**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	OPTIMUM			1282	31	2.0
FSA Field	35		**UVM Recommendation Balance**		**23**	**79**	**185**	K_2O	20	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**-63**	**-41**	**-59**	Mg	0	37	Medium	0.0	B, WD				Podunk (B)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
ColbySouth-02	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
7.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
880	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	HIGH			1590	24	1.9
FSA Field	35		**UVM Recommendation Balance**		**23**	**79**	**185**	K_2O	20	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	58	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
ColbySouth-03	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	15	65
Acreage				0	0	0	0			0			0	0	0			
18.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	80	Date	Ava. P	K	Mg			Ca	Al	Zn
880	Distance to Water		**Total Removed**		**135**	**75**	**165**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	HIGH			1814	30	2.9
FSA Field	75		**UVM Recommendation Balance**		**41**	**79**	**185**	K_2O	20	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**-14**	**4**	**40**	Mg	0	51	Medium	0.0	B, WD				Croghan (B)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Coles-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	15	65
Acreage				0	0	0	0			0			0	0	0			
14.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
895	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	80	Date	Ava. P	K	Mg			Ca	Al	Zn
1176	Distance to Water		**Total Removed**		**135**	**75**	**165**	P_2O_5	0	2/2/2016	HIGH	HIGH	HIGH			1634	64	1.8
FSA Field	50		**UVM Recommendation Balance**		**41**	**79**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**-14**	**4**	**40**	Mg	0	23	Low	0.0	B, WD				Croghan (B)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Coles-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
23.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
895951	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1176, 1231	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	HIGH	HIGH			926	138	2.4
FSA Field	35		**UVM Recommendation Balance**		**19**	**34**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2b,1b,3b			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	41	Medium	2.0	B, WD				Croghan (B)	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			Commercial Nutrients								Livestock Nutrients					Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Coles-03	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	15	65
Acreage				0	0	0	0			0			0	0	0			
18.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
895	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	80	Date	Ava. P	K	Mg			Ca	Al	Zn
1176	Distance to Water		**Total Removed**		**135**	**75**	**165**	P_2O_5	30	2/2/2016	OPTIMUM	HIGH	HIGH			1567	88	2.0
FSA Field	80		**UVM Recommendation Balance**		**41**	**49**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**-14**	**4**	**40**	Mg	0	21	Low	0.0	B, WD				Croghan (B)	

Field Info			Commerical Nutrients								Livestock Nutrients					Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Crane-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
26.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
126	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	EXCESSIVE	OPTIMUM	OPTIMUM			1263	15	1.4
FSA Field	40		**UVM Recommendation Balance**		**23**	**79**	**185**	K_2O	20	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4,1			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	51	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commercial Nutrients								Livestock Nutrients					Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Crane-02	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
10.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
126	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	20	2/2/2016	OPTIMUM	OPTIMUM	OPTIMUM			1838	54	1.1
FSA Field	300		**UVM Recommendation Balance**		**23**	**59**	**185**	K_2O	20	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	30	Low	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			Commercial Nutrients								Livestock Nutrients						Crop Yield Goal	
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Crane-03	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
17.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
126	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	HIGH	HIGH	HIGH			1602	37	1.3
FSA Field	300		**UVM Recommendation Balance**		**23**	**79**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	34	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commercial Nutrients								Livestock Nutrients						Crop Yield Goal	
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Derocher-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1092	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1388	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	LOW	MEDIUM			486	180	2.8
FSA Field	100		**UVM Recommendation Balance**		**33**	**34**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commercial Nutrients								Livestock Nutrients						Crop Yield Goal	
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Derocher-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1092	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1388	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	LOW	MEDIUM			302	192	1.2
FSA Field	100		**UVM Recommendation Balance**		**33**	**34**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**23**	**4**	**20**	Mg	22	29	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Dick's-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
778	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	HIGH			2026	42	2.9
FSA Field	150		**UVM Recommendation Balance**		**19**	**64**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
6			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	47	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Don-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	26	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
6.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
272	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
60	Distance to Water		**Total Removed**		**234**	**130**	**286**	P_2O_5	20	2/2/2016	OPTIMUM	OPTIMUM	OPTIMUM			987	46	1.9
FSA Field	35		**UVM Recommendation Balance**		**3**	**59**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4			**Crop Removal Balance**		**-81**	**-51**	**-81**	Mg	0	34	Medium	0.0	B, WD				Ondawa (B)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Don-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
0.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
272	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
60	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			598	44	1.5
FSA Field	300		**UVM Recommendation Balance**		**19**	**44**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4b			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	35	Medium	2.0	B, WD				Croghan (B)	

Balance = (Fertilizer + Manure) - Removed by Crop

T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Don-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
272	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
60	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	MEDIUM			752	73	1.2
FSA Field	230		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	4	31	Medium	2.0	B, WD				Croghan (B)	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Don-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
272	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
60	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	23	2/2/2016	MEDIUM	LOW	LOW			702	92	1.0
FSA Field	300		**UVM Recommendation Balance**		**33**	**41**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
15			**Crop Removal Balance**		**23**	**4**	**20**	Mg	32	30	Low	2.0	B, WD				Croghan (B)	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Don-05	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	26	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
12.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
272	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
60	Distance to Water		**Total Removed**		**234**	**130**	**286**	P_2O_5	6	2/2/2016	MEDIUM	OPTIMUM	MEDIUM			713	47	2.5
FSA Field	35		**UVM Recommendation Balance**		**3**	**73**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
14			**Crop Removal Balance**		**-81**	**-51**	**-81**	Mg	0	34	Medium	0.0	B, WD				Ondawa (B)	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Don-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
0.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
272	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
60	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	LOW	OPTIMUM			752	93	2.9
FSA Field	300		**UVM Recommendation Balance**		**33**	**64**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
6			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	32	Medium	3.0	B, WD				Croghan (B)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Don-07	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
272	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
60	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	OPTIMUM			1118	63	2.0
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	34	Medium	0.0	B, WD				Croghan (B)	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Dump-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
13.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
124	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			664	61	1.8
FSA Field	35		**UVM Recommendation Balance**		**19**	**44**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3b,1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	55	Medium	2.5	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Dump-02	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
11.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
124	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	OPTIMUM			1171	27	1.2
FSA Field	170		**UVM Recommendation Balance**		**23**	**79**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	36	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Dump-03	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
14.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
124	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	OPTIMUM			1431	40	1.1
FSA Field	300		**UVM Recommendation Balance**		**23**	**79**	**185**	K_2O	20	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	34	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Dump-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
124	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			1786	113	1.6
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	37	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Farnsworth-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage				0	0	0	0			0			0	0	0			
163.8				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O	BP	S	7	< 2 days	Chisel	3.72	4.5	7			
954	0 - 20 %		Total Fertilizer		26	15	45	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		121.1	95.5	209	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
1018, 1022	Distance to Water		Total Removed		198	110	242	P_2O_5	0	2/2/2016	HIGH	MEDIUM	OPTIMUM			1058	48	2.4
FSA Field	35		UVM Recommendation Balance		17	111	174	K_2O	80	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
12,1,6			Crop Removal Balance		-51	1	12	Mg	0	43	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Farnsworth-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
27.0				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
954	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1018	Distance to Water		Total Removed		160	60	200	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	HIGH			802	61	2.0
FSA Field	35		UVM Recommendation Balance		19	44	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
6,5,12b			Crop Removal Balance		9	4	-40	Mg	0	55	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Farnsworth-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
6.2				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
954	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1018	Distance to Water		Total Removed		160	60	200	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			858	73	3.1
FSA Field	35		UVM Recommendation Balance		19	34	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
7			Crop Removal Balance		9	4	-40	Mg	0	53	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
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M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Fortin-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
264	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
272	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			741	119	1.7
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	2.0	B, WD			ther (HydrGrp B, Non-cla		
Field Info			**Commericial Nutrients**					**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Fortin-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
264	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
272	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			702	115	1.8
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
6			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	2.0	B, WD			ther (HydrGrp B, Non-cla		
Field Info			**Commericial Nutrients**					**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Garber-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
34.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
120	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	HIGH			1913	42	2.8
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	59	Medium	2.0	B, WD			ther (HydrGrp B, Non-cla		

Balance = (Fertilizer + Manure) - Removed by Crop
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M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Garber-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
18.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
120	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	OPTIMUM	HIGH			1816	68	2.0
FSA Field	35		**UVM Recommendation Balance**		**19**	**44**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	54	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Gauge-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
20.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
121	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	HIGH	HIGH			1176	34	2.7
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	62	High	1.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Gauge-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
47.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
121	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	HIGH	HIGH			1307	60	2.2
FSA Field	50		**UVM Recommendation Balance**		**19**	**64**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3,2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	52	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Gauge-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
9.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
121	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	HIGH			1407	29	1.7
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	62	High	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Gesel-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
13.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
68	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
491	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			1070	86	1.4
FSA Field	150		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	28	Low	3.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Gingue-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
25.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
123	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	EXCESSIVE	MEDIUM	OPTIMUM			1470	14	7.6
FSA Field	35		**UVM Recommendation Balance**		**23**	**79**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	54	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Gingue-02	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
6.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
123	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	MEDIUM			917	35	3.1
FSA Field	100		**UVM Recommendation Balance**		**23**	**79**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	6	28	Low	1.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Gingue-03	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
87.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
123	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	EXCESSIVE	OPTIMUM	OPTIMUM			1294	13	3.5
FSA Field	35		**UVM Recommendation Balance**		**23**	**79**	**185**	K_2O	20	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	56	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Greek-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
363	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	HIGH			1599	68	4.4
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	39	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commercial Nutrients						
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O
Greek-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0
2.3				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**
FSA Tract			**Total Manure**		**65.76**	**64**	**160**
363	Distance to Water		**Total Removed**		**160**	**60**	**200**
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**100**
1			**Crop Removal Balance**		**9**	**4**	**-40**

Livestock Nutrients								Crop Yield Goal		
Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
		0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
		0			0	0	0			
Source	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
		0			0	0	0			

UVM Rec.		Soil Test Levels, Nutrient Recommendation				Soil Test Results		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	0	2/2/2016	HIGH	OPTIMUM	HIGH	1012	82	4.7
K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**		**Soil Type**	
Mg	0	39	Medium	3.0	B, WD		ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients						
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O
Green-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30
4.1				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**
FSA Tract			**Total Manure**		**65.76**	**64**	**160**
138	Distance to Water		**Total Removed**		**160**	**60**	**200**
FSA Field	35		**UVM Recommendation Balance**		**33**	**34**	**40**
29			**Crop Removal Balance**		**23**	**4**	**20**

Livestock Nutrients								Crop Yield Goal		
Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
		0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
		0			0	0	0			
Source	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
		0			0	0	0			

UVM Rec.		Soil Test Levels, Nutrient Recommendation				Soil Test Results		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	30	2/2/2016	OPTIMUM	LOW	MEDIUM	381	147	1.2
K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**		**Soil Type**	
Mg	2	51	Medium	2.0	B, WD		ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients						
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O
Green-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0
13.9				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**
FSA Tract			**Total Manure**		**65.76**	**64**	**160**
138	Distance to Water		**Total Removed**		**160**	**60**	**200**
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**100**
36			**Crop Removal Balance**		**9**	**4**	**-40**

Livestock Nutrients								Crop Yield Goal		
Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
		0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
		0			0	0	0			
Source	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
		0			0	0	0			

UVM Rec.		Soil Test Levels, Nutrient Recommendation				Soil Test Results		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	0	2/2/2016	HIGH	OPTIMUM	HIGH	826	107	1.8
K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**		**Soil Type**	
Mg	0	54	Medium	2.0	B, WD		ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
13.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			520	191	2.0
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
26			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
8.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	OPTIMUM			496	151	2.0
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
24			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	35	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
13.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			1026	125	10.3
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
8			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	36	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	HIGH			943	68	2.1
FSA Field	180		**UVM Recommendation Balance**		**19**	**44**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
9			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	39	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-07	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	LOW	OPTIMUM			1124	80	11.0
FSA Field	35		**UVM Recommendation Balance**		**33**	**34**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
13			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-08	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			650	136	26.1
FSA Field	300		**UVM Recommendation Balance**		**19**	**44**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
7			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	26	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Green-09	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
16.4				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
0	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		Total Removed		160	60	200	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	HIGH			1926	69	27.1
FSA Field	35		UVM Recommendation Balance		19	64	100	K_2O	60	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
4			Crop Removal Balance		9	4	-40	Mg	0	38	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Green-10	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.0				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
0	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		Total Removed		160	60	200	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			976	46	12.5
FSA Field	35		UVM Recommendation Balance		19	44	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
6a			Crop Removal Balance		9	4	-40	Mg	0	40	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Green-11	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.8				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
0	> 20 %		Total Fertilizer		117	0	60	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		Total Removed		160	60	200	P_2O_5	40	2/2/2016	MEDIUM	LOW	OPTIMUM			656	101	9.6
FSA Field	35		UVM Recommendation Balance		33	24	40	K_2O	180	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
6b			Crop Removal Balance		23	4	20	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Green-12	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.3				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
0	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		Total Removed		160	60	200	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			1235	72	11.6
FSA Field	35		UVM Recommendation Balance		19	34	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
5			Crop Removal Balance		9	4	-40	Mg	0	36	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Green-13	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
19.9				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
0	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		Total Removed		160	60	200	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	HIGH			1193	59	1.4
FSA Field	35		UVM Recommendation Balance		19	44	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
18			Crop Removal Balance		9	4	-40	Mg	0	54	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Green-14	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.3				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
0	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		Total Removed		160	60	200	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			1028	102	1.5
FSA Field	35		UVM Recommendation Balance		19	64	60	K_2O	100	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
12			Crop Removal Balance		9	4	-40	Mg	0	50	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

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2017 Plan and Nutrient Balance

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-15	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	HIGH			1231	91	1.5
FSA Field	35		**UVM Recommendation Balance**		**19**	**34**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-16	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
8.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	HIGH	HIGH			1149	54	1.4
FSA Field	50		**UVM Recommendation Balance**		**19**	**44**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
12			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	55	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-17	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			975	100	1.7
FSA Field	50		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
17			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	47	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

Forbes Family Farm 2017 Public NMP
2017 Plan and Nutrient Balance

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-18	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
10.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			1118	102	2.1
FSA Field	100		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	41	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-19	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	HIGH			838	86	2.4
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
16			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	3.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Green-20	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
18.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
138	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	HIGH			971	84	1.9
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
11			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	3.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

Forbes Family Farm 2017 Public NMP
2017 Plan and Nutrient Balance

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Grpaper-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
30.3				0	0	0	0			0			0	0	0			
Crop				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1015	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1298	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	LOW	LOW			740	102	5.8
FSA Field	100		**UVM Recommendation Balance**		**33**	**34**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**23**	**4**	**20**	Mg	70	41	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Hall-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.0				0	0	0	0			0			0	0	0			
Crop				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
827	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1279	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	HIGH			2184	38	2.4
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	60	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Hall-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
37.7				0	0	0	0			0			0	0	0			
Crop				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
827	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1079, 121	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			1836	71	2.1
FSA Field	35		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1,7			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	53	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

Forbes Family Farm 2017 Public NMP
2017 Plan and Nutrient Balance

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Hoclgdon-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	15	65
Acreage				0	0	0	0			0			0	0	0			
12.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
860	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	80	Date	Ava. P	K	Mg			Ca	Al	Zn
1128	Distance to Water		**Total Removed**		**135**	**75**	**165**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			1363	62	1.1
FSA Field	50		**UVM Recommendation Balance**		**41**	**59**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**-14**	**4**	**40**	Mg	0	21	Low	0.0	B, WD				Croghan (B)	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Home-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
116	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			506	85	6.9
FSA Field	50		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	33	Medium	3.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Home-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
116	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			509	83	3.8
FSA Field	35		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
6			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	51	Medium	3.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Home-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
116	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	EXCESSIVE	HIGH			753	29	2.2
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
7			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	64	High	1.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Home-04	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
12.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
118, 117	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	HIGH	EXCESSIVE	HIGH			964	51	1.9
FSA Field	35		**UVM Recommendation Balance**		**23**	**79**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
14,1			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	38	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Home-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
116	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	54	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Home-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.7				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
954	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
116	Distance to Water		Total Removed		160	60	200	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	35		UVM Recommendation Balance		19	64	60	K_2O	100	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
0			Crop Removal Balance		9	4	-40	Mg	0	54	Medium	2.0	B, WD				)ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Houly-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.0				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
264	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
272	Distance to Water		Total Removed		160	60	200	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	MEDIUM			492	124	1.2
FSA Field	300		UVM Recommendation Balance		19	64	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
3			Crop Removal Balance		9	4	-40	Mg	2	26	Low	2.0	B, WD				)ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Houly-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.2				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
264	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
272	Distance to Water		Total Removed		160	60	200	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			746	121	1.3
FSA Field	300		UVM Recommendation Balance		19	64	60	K_2O	100	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
5			Crop Removal Balance		9	4	-40	Mg	0	26	Low	2.0	B, WD				)ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Houly-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
6.2				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
264	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
272	Distance to Water		Total Removed		160	60	200	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			618	120	1.5
FSA Field	100		UVM Recommendation Balance		19	64	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
2			Crop Removal Balance		9	4	-40	Mg	0	29	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Houly-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.5				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
264	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
272	Distance to Water		Total Removed		160	60	200	P_2O_5	19	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			588	133	1.2
FSA Field	35		UVM Recommendation Balance		19	45	60	K_2O	100	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
1			Crop Removal Balance		9	4	-40	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Irwin-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
37.1				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
358	> 20 %		Total Fertilizer		117	0	60	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
97	Distance to Water		Total Removed		160	60	200	P_2O_5	40	2/2/2016	MEDIUM	LOW	LOW			353	76	1.1
FSA Field	75		UVM Recommendation Balance		33	24	40	K_2O	180	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
1			Crop Removal Balance		23	4	20	Mg	50	42	Medium	3.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
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M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Irwin-02	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
15.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
358	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
97	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	6	2/2/2016	MEDIUM	LOW	LOW			674	50	0.9
FSA Field	75		**UVM Recommendation Balance**		**23**	**73**	**45**	K_2O	160	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	44	27	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Irwin-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
40.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
358	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
97	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	MEDIUM			333	52	1.2
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	16	55	Medium	2.5	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
JColby-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	20	65
Acreage				0	0	0	0			0			0	0	0			
16.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
371	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	100	Date	Ava. P	K	Mg			Ca	Al	Zn
396	Distance to Water		**Total Removed**		**180**	**100**	**220**	P_2O_5	0	2/2/2016	HIGH	HIGH	OPTIMUM			1646	44	1.3
FSA Field	300		**UVM Recommendation Balance**		**21**	**79**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**-59**	**-21**	**-15**	Mg	0	39	Medium	0.0	B, WD				Tunbridge (C)	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			Commericial Nutrients							Livestock Nutrients						Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
JColby-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.2				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
371	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
396	Distance to Water		Total Removed		160	60	200	P_2O_5	0	2/2/2016	HIGH	MEDIUM	OPTIMUM			804	102	1.4
FSA Field	300		UVM Recommendation Balance		19	64	60	K_2O	100	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
1			Crop Removal Balance		9	4	-40	Mg	0	41	Medium	2.0	B, WD				Tunbridge (C)	

Field Info			Commericial Nutrients							Livestock Nutrients						Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Johnny-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.0				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
954	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
144	Distance to Water		Total Removed		160	60	200	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	HIGH			968	68	1.5
FSA Field	75		UVM Recommendation Balance		19	44	60	K_2O	100	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
9			Crop Removal Balance		9	4	-40	Mg	0	45	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commericial Nutrients							Livestock Nutrients						Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Johnny-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.1				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
954	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
144	Distance to Water		Total Removed		160	60	200	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	OPTIMUM			700	152	1.6
FSA Field	75		UVM Recommendation Balance		19	34	100	K_2O	60	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
5			Crop Removal Balance		9	4	-40	Mg	0	43	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			**Commericial Nutrients**							**Livestock Nutrients**							**Crop Yield Goal**	
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Lancaster-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1042	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1339	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			1608	101	1.5
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	36	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info			**Commericial Nutrients**							**Livestock Nutrients**							**Crop Yield Goal**	
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
LLColby-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
9.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
407	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
451	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	HIGH			852	133	2.2
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	40	Medium	2.0	B, WD				Tunbridge (C)	
Field Info			**Commericial Nutrients**							**Livestock Nutrients**							**Crop Yield Goal**	
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
LLColby-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
12.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
370	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
395	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	HIGH	OPTIMUM			1567	52	1.8
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
10			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	60	Medium	0.0	B, WD				Cabot (D)	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Lufkin-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
9.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1063	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1359	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	LOW	HIGH			1588	56	2.0
FSA Field	35		**UVM Recommendation Balance**		**33**	**44**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	55	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Lufkin-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1063	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1359	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	HIGH			1554	55	1.1
FSA Field	35		**UVM Recommendation Balance**		**19**	**44**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	55	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Lufkin-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
11.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1063	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1360	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	HIGH			1388	38	1.5
FSA Field	35		**UVM Recommendation Balance**		**19**	**44**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	58	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			**Commericial Nutrients**					**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
McGoffs-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage				0	0	0	0			0			0	0	0			
197.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**	BP	S	7	< 2 days	Chisel	3.72	4.5	7			
954	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**121.1**	**95.5**	**209**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
1020, 1005	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	EXCESSIVE	HIGH	OPTIMUM			1209	22	2.9
FSA Field	50		**UVM Recommendation Balance**		**17**	**111**	**254**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
1,13			**Crop Removal Balance**		**-51**	**1**	**12**	Mg	0	54	Medium	0.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info			**Commericial Nutrients**					**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
McGoffs-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
13.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1020, 1005	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	OPTIMUM			593	24	3.5
FSA Field	50		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
1b, 13b			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	60	Medium	1.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info			**Commericial Nutrients**					**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
McGoffs-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
18.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1020	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	OPTIMUM			1263	46	3.9
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
4			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	61	High	0.0	B, WD			ther (HydrGrp B, Non-cla		

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
McGoffs-04	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage				0	0	0	0			0			0	0	0			
3.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**	BP	S	7	< 2 days	Chisel	3.72	4.5	7			
0	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**121.1**	**95.5**	**209**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
144, 1005	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	HIGH	EXCESSIVE	HIGH			1629	34	2.0
FSA Field	90		**UVM Recommendation Balance**		**17**	**111**	**254**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
12			**Crop Removal Balance**		**-51**	**1**	**12**	Mg	0	38	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Merritt-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
26.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
447	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
673	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	35	2/2/2016	MEDIUM	LOW	OPTIMUM			952	114	3.7
FSA Field	35		**UVM Recommendation Balance**		**33**	**29**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Munce-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
14.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
595	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
129	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	EXCESSIVE	HIGH	HIGH			1144	17	8.5
FSA Field	300		**UVM Recommendation Balance**		**23**	**79**	**205**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**-45**	**-31**	**-37**	Mg	0	37	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commercial Nutrients						
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**
Munce-02	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0
1.4				0	0	0	0
Crop				0	0	0	0
Corn Silage			N Credit	100	8		
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**
595	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**
FSA Tract			**Total Manure**		**95.04**	**64**	**160**
42	Distance to Water		**Total Removed**		**198**	**110**	**242**
FSA Field	200		**UVM Recommendation Balance**		**23**	**79**	**205**
2			**Crop Removal Balance**		**-45**	**-31**	**-37**

Livestock Nutrients							
Source	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
DM	S	8000	< 2 days	Chisel	11.9	8	20
		0			0	0	0
		0			0	0	0
		0			0	0	0
Source	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
		0			0	0	0

Crop Yield Goal		
Harvest	**Tons/A**	**Moisture**
Corn Silage	22	65
Harvest	**Tons/A**	**Moisture**
	0	10

UVM Rec.		**Soil Test Levels, Nutrient Recommendation**				**Soil Test Results**		
N	130	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	0	2/2/2016	HIGH	EXCESSIVE	HIGH	976	40	8.6
K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**		**Soil Type**	
Mg	0	30	Low	1.0	B, WD		ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients						
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**
Mundells-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0
10.1				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**
687	> 20 %		**Total Fertilizer**		**103**	**0**	**0**
FSA Tract			**Total Manure**		**65.76**	**64**	**160**
933	Distance to Water		**Total Removed**		**160**	**60**	**200**
FSA Field	100		**UVM Recommendation Balance**		**19**	**64**	**160**
1			**Crop Removal Balance**		**9**	**4**	**-40**

Livestock Nutrients							
Source	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20
		0			0	0	0
		0			0	0	0
Source	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
		0			0	0	0

Crop Yield Goal		
Harvest	**Tons/A**	**Moisture**
Grass	4	10
Harvest	**Tons/A**	**Moisture**
	0	10

UVM Rec.		**Soil Test Levels, Nutrient Recommendation**				**Soil Test Results**		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	0	2/2/2016	HIGH	HIGH	OPTIMUM	2092	47	1.9
K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**		**Soil Type**	
Mg	0	68	High	0.0	B, WD		Croghan (B)	

Field Info	Commercial Nutrients						
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**
Mundells-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0
2.8				0	0	0	0
Crop				0	0	0	0
Grass			N Credit	100	8		
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**
687	> 20 %		**Total Fertilizer**		**103**	**0**	**0**
FSA Tract			**Total Manure**		**65.76**	**64**	**160**
933	Distance to Water		**Total Removed**		**160**	**60**	**200**
FSA Field	75		**UVM Recommendation Balance**		**19**	**64**	**160**
2			**Crop Removal Balance**		**9**	**4**	**-40**

Livestock Nutrients							
Source	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
DM	1	4000	Not incorporated	Not incorporated	10.3	8	20
DM	F	4000	Not incorporated	Not incorporated	6.12	8	20
		0			0	0	0
		0			0	0	0
Source	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**
		0			0	0	0

Crop Yield Goal		
Harvest	**Tons/A**	**Moisture**
Grass	4	10
Harvest	**Tons/A**	**Moisture**
	0	10

UVM Rec.		**Soil Test Levels, Nutrient Recommendation**				**Soil Test Results**		
N	150	Date	Ava. P	K	Mg	Ca	Al	Zn
P_2O_5	0	2/2/2016	HIGH	HIGH	HIGH	1724	50	1.5
K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**		**Soil Type**	
Mg	0	59	Medium	0.0	B, WD		Croghan (B)	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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2017 Plan and Nutrient Balance

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Nadeau-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	22	65
Acreage				0	0	0	0			0			0	0	0			
42.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**	BP	S	7	< 2 days	Chisel	3.72	4.5	7			
954	0 - 20 %		**Total Fertilizer**		**26**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**121.1**	**95.5**	**209**	N	130	Date	Ava. P	K	Mg			Ca	Al	Zn
1005	Distance to Water		**Total Removed**		**198**	**110**	**242**	P_2O_5	0	2/2/2016	HIGH	HIGH	HIGH			1768	30	3.2
FSA Field	90		**UVM Recommendation Balance**		**17**	**111**	**254**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
13			**Crop Removal Balance**		**-51**	**1**	**12**	Mg	0	43	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info			**Commericial Nutrients**					**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Nadeau-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1005	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	36	2/2/2016	MEDIUM	LOW	OPTIMUM			700	204	2.1
FSA Field	200		**UVM Recommendation Balance**		**33**	**28**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
10			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	36	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info			**Commericial Nutrients**					**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Nadeau-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
8.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
954	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1005	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	HIGH	OPTIMUM			1679	73	1.1
FSA Field	120		**UVM Recommendation Balance**		**19**	**34**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
10			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	40	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Nadeau-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.5				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
954	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1005	Distance to Water		Total Removed		160	60	200	P_2O_5	21	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			594	119	1.2
FSA Field	300		UVM Recommendation Balance		19	43	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class			Soil Type		
9			Crop Removal Balance		9	4	-40	Mg	0	36	Medium	2.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
NearColes-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
15.0				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
951	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1231	Distance to Water		Total Removed		160	60	200	P_2O_5	30	2/2/2016	OPTIMUM	EXCESSIVE	HIGH			1799	75	2.3
FSA Field	300		UVM Recommendation Balance		19	34	160	K_2O	0	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class			Soil Type		
2a			Crop Removal Balance		9	4	-40	Mg	0	32	Medium	0.0	B, WD			Croghan (B)		

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Nelson-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	26	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
115.7				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
954	0 - 20 %		Total Fertilizer		58	15	45	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		95.04	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
751, 59	Distance to Water		Total Removed		234	130	286	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	OPTIMUM			1410	39	1.8
FSA Field	80		UVM Recommendation Balance		3	79	125	K_2O	80	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class			Soil Type		
1,4			Crop Removal Balance		-81	-51	-81	Mg	0	43	Medium	0.0	B, WD			Ondawa (B)		

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Noyes-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
10.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
910	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1188	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	33	2/2/2016	MEDIUM	LOW	MEDIUM			544	58	1.4
FSA Field	80		**UVM Recommendation Balance**		**33**	**31**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**23**	**4**	**20**	Mg	20	51	Medium	2.5	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Parker-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
248	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
232	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			667	106	1.3
FSA Field	100		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	29	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Parker-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
248	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
232	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	29	2/2/2016	MEDIUM	LOW	MEDIUM			923	110	1.7
FSA Field	150		**UVM Recommendation Balance**		**33**	**35**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**23**	**4**	**20**	Mg	28	27	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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2017 Plan and Nutrient Balance

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Peaslee-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
52.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1054	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1351	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	MEDIUM	MEDIUM	MEDIUM			508	72	0.9
FSA Field	35		**UVM Recommendation Balance**		**19**	**44**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
5,6.3			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	14	59	Medium	3.0	B, WD			ther (HydrGrp B, Non-cla		

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Peaslee-02	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	26	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
41.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1054	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1351	Distance to Water		**Total Removed**		**234**	**130**	**286**	P_2O_5	0	2/2/2016	HIGH	OPTIMUM	LOW			516	51	1.6
FSA Field	200		**UVM Recommendation Balance**		**3**	**79**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
4			**Crop Removal Balance**		**-81**	**-51**	**-81**	Mg	30	37	Medium	2.0	B, WD			Ondawa (B)		

Field Info	Commercial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Peaslee-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4.5	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
20.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1054	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1351	Distance to Water		**Total Removed**		**180**	**68**	**225**	P_2O_5	38	2/2/2016	MEDIUM	LOW	MEDIUM			579	88	0.7
FSA Field	50		**UVM Recommendation Balance**		**33**	**26**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**			**Soil Type**		
1,2			**Crop Removal Balance**		**3**	**-4**	**-5**	Mg	10	41	Medium	3.0	B, WD			Podunk (B)		

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Plunk-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.9				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
1112	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1414	Distance to Water		Total Removed		160	60	200	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			1106	74	1.4
FSA Field	80		UVM Recommendation Balance		19	34	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
4			Crop Removal Balance		9	4	-40	Mg	0	43	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Plunk-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
12.3				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
1112	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1414	Distance to Water		Total Removed		160	60	200	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	HIGH			1205	61	1.5
FSA Field	35		UVM Recommendation Balance		19	44	60	K_2O	100	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
2			Crop Removal Balance		9	4	-40	Mg	0	54	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
RedHouse-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
10.7				0	0	0	0			0			0	0	0	Harvest	Tons/A	Moisture
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			Source	T	S.S. Rate/A	Incorp. Timing	Incorp. Method	N	P_2O_5	K_2O		0	10
FSA Farm	Surface Cover, %		Per Acre		N	P_2O_5	K_2O			0			0	0	0			
246	> 20 %		Total Fertilizer		103	0	0	UVM Rec.		Soil Test Levels, Nutrient Recommendation						Soil Test Results		
FSA Tract			Total Manure		65.76	64	160	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
230	Distance to Water		Total Removed		160	60	200	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			990	118	1.7
FSA Field	140		UVM Recommendation Balance		19	34	20	K_2O	140	P-Index Score	P-Index Int.	Lime Rec T/A	Soil Drainage Class				Soil Type	
1			Crop Removal Balance		9	4	-40	Mg	0	37	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
ReedRD-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
16.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
356	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
128	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	4	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			1011	86	1.2
FSA Field	300		**UVM Recommendation Balance**		**19**	**60**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
RHF-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1093	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1389	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	58	2/2/2016	MEDIUM	MEDIUM	HIGH			827	120	0.8
FSA Field	35		**UVM Recommendation Balance**		**19**	**6**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
RHF-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
10.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1093	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1389	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	HIGH			871	113	1.3
FSA Field	40		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	35	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
RHF-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
3.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
1093	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1389	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	HIGH			921	74	12.5
FSA Field	60		**UVM Recommendation Balance**		**19**	**34**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	36	Medium	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Rich-01	Corn Starter	P	Inj. or subsurf. banded (0)	150	12	10	30	DM	S	8000	< 2 days	Chisel	11.9	8	20	Corn Silage	26	65
Acreage	Corn Side Dress	M	Surf. appl. May-Sept. (0.70)	100	32	0	0			0			0	0	0			
80.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Corn Silage			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	0 - 20 %		**Total Fertilizer**		**58**	**15**	**45**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**95.04**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**234**	**130**	**286**	P_2O_5	101	5/17/2017	MEDIUM	OPTIMUM	OPTIMUM			297	239	1.9
FSA Field	50		**UVM Recommendation Balance**		**3**	**-22**	**125**	K_2O	80	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**-81**	**-51**	**-81**	Mg	0	6	Low	2.0	B, WD				ther (HydrGrp A, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Rowell-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
58	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
845	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			658	195	1.1
FSA Field	35		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	35	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			**Commericial Nutrients**							**Livestock Nutrients**						**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Rowell-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
10.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
58	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
845	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	LOW	OPTIMUM			360	200	0.7
FSA Field	35		**UVM Recommendation Balance**		**33**	**34**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	34	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info			**Commericial Nutrients**							**Livestock Nutrients**						**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Rowell-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
0	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
0	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	100		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
0			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	31	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info			**Commericial Nutrients**							**Livestock Nutrients**						**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Simond-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
23.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
188	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
472	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			705	68	2.7
FSA Field	40		**UVM Recommendation Balance**		**19**	**44**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	53	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Stinehour-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
410	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
454	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			636	62	1.4
FSA Field	50		**UVM Recommendation Balance**		**19**	**44**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
6			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	19	Low	2.5	A, EWD				ther (HydrGrp A, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Stinehour-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
6.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
410	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
454	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			578	95	1.5
FSA Field	150		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	15	Low	2.0	A, EWD				ther (HydrGrp A, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Styles-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
6.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
996	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1274	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			742	110	2.8
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
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M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients								Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing		Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Styles-02	Grass Top Dress	S	Surf. appl. May-Sept.	(0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept.	(0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.2					0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop					0	0	0	0			0			0	0	0			
Grass			N Credit		100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**			**N**	**P_2O_5**	**K_2O**			0			0	0	0			
996	> 20 %		**Total Fertilizer**			**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**			**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1274	Distance to Water		**Total Removed**			**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	HIGH	OPTIMUM			759	88	2.2
FSA Field	300		**UVM Recommendation Balance**			**19**	**34**	**160**	K_2O	0	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**			**9**	**4**	**-40**	Mg	0	27	Low	3.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients								Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing		Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Tent-01	Grass Top Dress	S	Surf. appl. May-Sept.	(0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept.	(0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
0.8					0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop					0	0	0	0			0			0	0	0			
Grass			N Credit		100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**			**N**	**P_2O_5**	**K_2O**			0			0	0	0			
530	> 20 %		**Total Fertilizer**			**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**			**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
756	Distance to Water		**Total Removed**			**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			396	139	3.0
FSA Field	300		**UVM Recommendation Balance**			**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**			**9**	**4**	**-40**	Mg	0	31	Medium	2.0	B, WD				Croghan (B)	

Field Info	Commericial Nutrients								Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing		Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Tent-02	Grass Top Dress	S	Surf. appl. May-Sept.	(0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept.	(0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
6.7					0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop					0	0	0	0			0			0	0	0			
Grass			N Credit		100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**			**N**	**P_2O_5**	**K_2O**			0			0	0	0			
530	> 20 %		**Total Fertilizer**			**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**			**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
756	Distance to Water		**Total Removed**			**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			644	94	2.9
FSA Field	300		**UVM Recommendation Balance**			**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**			**9**	**4**	**-40**	Mg	0	31	Medium	2.0	B, WD				Croghan (B)	

Balance = (Fertilizer + Manure) - Removed by Crop
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M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Tent-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
530	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
756	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			662	57	2.5
FSA Field	150		**UVM Recommendation Balance**		**19**	**44**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	34	Medium	2.0	B, WD				Croghan (B)	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Tent-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4.5	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
29.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
530	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
756	Distance to Water		**Total Removed**		**180**	**68**	**225**	P_2O_5	20	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			535	62	2.6
FSA Field	50		**UVM Recommendation Balance**		**19**	**44**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5			**Crop Removal Balance**		**-11**	**-4**	**-65**	Mg	0	47	Medium	2.0	B, WD				Podunk (B)	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Tent-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
9.1				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
530	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
756	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			535	117	3.0
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	15	Low	2.0	A, EWD				ther (HydrGrp A, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

Forbes Family Farm 2017 Public NMP
2017 Plan and Nutrient Balance

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Thayer-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
11.8				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
994	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1272	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	86	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			432	176	2.8
FSA Field	150		**UVM Recommendation Balance**		**19**	**-22**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Thayer-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
994	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
1272	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	18	2/2/2016	MEDIUM	LOW	MEDIUM			385	249	2.4
FSA Field	300		**UVM Recommendation Balance**		**33**	**46**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4			**Crop Removal Balance**		**23**	**4**	**20**	Mg	26	26	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info			Commericial Nutrients					Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Thurstonflat-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
419	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
464	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			686	101	1.9
FSA Field	200		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	15	Low	2.0	A, EWD				ther (HydrGrp A, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info			**Commericial Nutrients**								**Livestock Nutrients**						**Crop Yield Goal**	
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Thurstonflat-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
11.2				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
419	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
464	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	20	2/2/2016	OPTIMUM	OPTIMUM	OPTIMUM			657	52	2.1
FSA Field	100		**UVM Recommendation Balance**		**19**	**44**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	18	Low	2.5	A, EWD				ther (HydrGrp A, Non-cla	
Field Info			**Commericial Nutrients**								**Livestock Nutrients**						**Crop Yield Goal**	
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Thurstonflat-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.6				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
419	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
464	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	MEDIUM			385	83	1.6
FSA Field	35		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	4	19	Low	3.0	A, EWD				ther (HydrGrp A, Non-cla	
Field Info			**Commericial Nutrients**								**Livestock Nutrients**						**Crop Yield Goal**	
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Tillman-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
27.4				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
278	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
438	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	OPTIMUM	HIGH			1893	91	2.3
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**100**	K_2O	60	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
5,2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	0.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients								Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**		**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Tillman-02	Grass Top Dress	S	Surf. appl. May-Sept.	(0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept.	(0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
10.2					0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop					0	0	0	0			0			0	0	0			
Grass			N Credit		100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**			**N**	**P_2O_5**	**K_2O**			0			0	0	0			
278	> 20 %		**Total Fertilizer**			**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**			**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
438	Distance to Water		**Total Removed**			**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	MEDIUM	HIGH			1217	159	3.2
FSA Field	300		**UVM Recommendation Balance**			**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**			**9**	**4**	**-40**	Mg	0	27	Low	0.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients								Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**		**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Tillman-03	Grass Top Dress	S	Surf. appl. May-Sept.	(0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept.	(0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
7.3					0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop					0	0	0	0			0			0	0	0			
Grass			N Credit		100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**			**N**	**P_2O_5**	**K_2O**			0			0	0	0			
278	> 20 %		**Total Fertilizer**			**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**			**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
438	Distance to Water		**Total Removed**			**160**	**60**	**200**	P_2O_5	65	2/2/2016	MEDIUM	MEDIUM	OPTIMUM			981	176	4.2
FSA Field	300		**UVM Recommendation Balance**			**19**	**-1**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**			**9**	**4**	**-40**	Mg	0	26	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients								Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**		**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Tillman-04	Grass Top Dress	S	Surf. appl. May-Sept.	(0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept.	(0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.7					0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop					0	0	0	0			0			0	0	0			
Grass			N Credit		100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**			**N**	**P_2O_5**	**K_2O**			0			0	0	0			
278	> 20 %		**Total Fertilizer**			**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**			**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
438	Distance to Water		**Total Removed**			**160**	**60**	**200**	P_2O_5	0	2/2/2016	HIGH	MEDIUM	HIGH			1433	94	2.6
FSA Field	300		**UVM Recommendation Balance**			**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
7			**Crop Removal Balance**			**9**	**4**	**-40**	Mg	0	28	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Tillman-05	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
1.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
278	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
438	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	OPTIMUM			1048	123	2.3
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**20**	K_2O	140	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
8			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Tillman-06	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
4.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
278	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
438	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	30	2/2/2016	OPTIMUM	MEDIUM	HIGH			1242	113	2.7
FSA Field	300		**UVM Recommendation Balance**		**19**	**34**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
9			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	27	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	
Field Info	**Commericial Nutrients**							**Livestock Nutrients**								**Crop Yield Goal**		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Warren-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
30.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
355	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
127	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	34	2/2/2016	MEDIUM	LOW	OPTIMUM			836	125	3.4
FSA Field	300		**UVM Recommendation Balance**		**33**	**30**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
1			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	29	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Warren-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
16.0				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
355	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
127	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	2/2/2016	MEDIUM	LOW	OPTIMUM			1004	104	4.4
FSA Field	80		**UVM Recommendation Balance**		**33**	**64**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	30	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Warren-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	200	26	0	30	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
2.5				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
355	> 20 %		**Total Fertilizer**		**117**	**0**	**60**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
127	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	15	2/2/2016	MEDIUM	LOW	OPTIMUM			1077	115	2.7
FSA Field	300		**UVM Recommendation Balance**		**33**	**49**	**40**	K_2O	180	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
3			**Crop Removal Balance**		**23**	**4**	**20**	Mg	0	29	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	**Fertilizer Name**	**T**	**Fertilizer Method and Timing**	**Rate/A**	**N**	**P_2O_5**	**K_2O**	**Source**	**T**	**Liq. Manure Rate/A**	**Incorporation Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**	**Harvest**	**Tons/A**	**Moisture**
Weeks-01	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
8.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
54	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
314	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
7,12,6			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	28	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

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Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Weeks-02	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
10.7				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
54	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
314	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
13,8			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	28	Low	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Weeks-03	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
20.3				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
54	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
314	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	35		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
4,5,14			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	37	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Field Info	Commericial Nutrients							Livestock Nutrients								Crop Yield Goal		
Field Name	Fertilizer Name	T	Fertilizer Method and Timing	Rate/A	N	P_2O_5	K_2O	Source	T	Liq. Manure Rate/A	Incorporation Timing	Incorp. Method	N	P_2O_5	K_2O	Harvest	Tons/A	Moisture
Weeks-04	Grass Top Dress	S	Surf. appl. May-Sept. (0.70)	150	38	0	0	DM	1	4000	Not incorporated	Not incorporated	10.3	8	20	Grass	4	10
Acreage	Grass Top Dress	1	Surf. appl. May-Sept. (0.70)	100	38	0	0	DM	F	4000	Not incorporated	Not incorporated	6.12	8	20			
5.9				0	0	0	0			0			0	0	0	**Harvest**	**Tons/A**	**Moisture**
Crop				0	0	0	0			0			0	0	0			
Grass			N Credit	100	8			**Source**	**T**	**S.S. Rate/A**	**Incorp. Timing**	**Incorp. Method**	**N**	**P_2O_5**	**K_2O**		0	10
FSA Farm	Surface Cover, %		**Per Acre**		**N**	**P_2O_5**	**K_2O**			0			0	0	0			
54	> 20 %		**Total Fertilizer**		**103**	**0**	**0**	**UVM Rec.**		**Soil Test Levels, Nutrient Recommendation**						**Soil Test Results**		
FSA Tract			**Total Manure**		**65.76**	**64**	**160**	N	150	Date	Ava. P	K	Mg			Ca	Al	Zn
314	Distance to Water		**Total Removed**		**160**	**60**	**200**	P_2O_5	0	Farm Av.	HIGH	MEDIUM	OPTIMUM			1038	77	2.7
FSA Field	300		**UVM Recommendation Balance**		**19**	**64**	**60**	K_2O	100	**P-Index Score**	**P-Index Int.**	**Lime Rec T/A**	**Soil Drainage Class**				**Soil Type**	
2			**Crop Removal Balance**		**9**	**4**	**-40**	Mg	0	36	Medium	2.0	B, WD				ther (HydrGrp B, Non-cla	

Balance = (Fertilizer + Manure) - Removed by Crop
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	Tons		
	N	P	K
Fertilizer	113	8.48	37.6
Manure (Fert. Eqiv.)	114	95.9	234
Crop Removal	248	114	307
Farm Balance	-21.6	-9.28	-35.6

Yield Factor

Crop	**Factor**
Alfalfa/Grass	1
Grass	1
Corn Silage	1
Soybean	1
Corn Grain	1

Total 10% Hay (Tons)	**6687**
Total 65% Corn Silage (Tons)	**25402**
Total 14% Corn Grain (Tons)	**0**
Total Soybean (Tons)	**0**
Total Acres Alfalfa/Grass	**0**
Total Acres Grass	**1666**
Total Acres Corn Silage	**1131**
Total Acres Corn Grain	**0**
Total Acres Soybean	**0**

	S.S.	**Liquid**
Total Manure Allocated (gal)	**2,852**	**22,370,080**
Manure Allocation Goal (gal)	**2,640**	**18,789,162**
Alfalfa/Grass Manure Allocation	**0**	**0**
Grass Manure Allocation	**0**	**13,325,280**
Corn Silage Manure Allocation	**2,852**	**9,044,800**
Corn Grain Manure Allocation	**0**	**0**
Soybean Manure Allocation	**0**	**0**
New Seeding Manure Allocation	**0**	**0**
Pasture Manure Allocation	**0**	**0**
Fall Manure Allocation	**0**	**6,662,640**
Spring Manure Allocation	**2,852**	**9,044,800**
1st Cut Manure Allocation	**0**	**6,662,640**
2nd Cut Manure Allocation	**0**	**0**

Balance = (Fertilizer + Manure) - Removed by Crop
T = Timing of Application, PP = Pre Plant (May-June) P = Planting (May-June), 1 = First Cut (May-June), 2 = 2nd Cut (June-July),
M = Mid season (June-July), F = Fall season (Sep-Oct)

Test Results

Soil Test Results

Field ID	Date	pH	Ava. P	K	Mg	Al	Ca	CEC	Zn	OM	Ca, %	Mg, %	K, %
AcrRiv-01	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Airport-01	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Airport-02	02/02/16	7.5	14.1	75.0	114.4	44.9	2400.0	13.2	6.0	8.0	90.6	7.1	1.5
Airport-03	02/02/16	6.5	4.5	121.0	98.0	76.8	831.0	6.8	2.7	5.9	60.9	11.8	4.5
Airport-04	02/02/16	6.6	3.5	91.0	94.0	78.0	574.0	5.0	1.9	3.9	57.7	15.5	4.7
Airport-05	02/02/16	7.0	9.7	120.0	125.0	54.9	1398.0	8.5	4.2	4.8	81.7	12.0	3.6
Airport-06	02/02/16	6.8	7.6	127.0	86.0	33.0	466.0	4.1	3.2	4.4	56.4	17.1	7.9
Allen-01	02/02/16	6.2	5.3	78.0	151.0	160.6	1341.0	10.1	1.7	10.9	66.4	12.3	2.0
Allen-02	02/02/16	6.3	5.2	82.0	98.0	86.4	1007.0	7.5	1.5	7.9	67.2	10.8	2.8
Allen-03	02/02/16	6.4	4.6	73.0	94.0	96.2	1015.0	7.4	1.3	7.4	68.4	10.4	2.5
Allen-04	02/02/16	7.1	5.0	85.0	92.0	54.2	1234.0	7.2	1.9	4.7	85.6	10.6	3.0
Allen-05	02/02/16	6.4	7.5	106.0	176.0	61.9	1512.0	10.8	2.2	10.8	70.1	13.5	2.5
Allen-06	02/02/16	7.2	6.1	128.0	84.0	72.6	1555.0	8.9	1.4	5.4	87.4	7.8	3.7
Baerds-01	02/02/16	6.8	3.4	71.0	100.0	65.6	1212.0	7.8	1.2	8.7	77.4	10.6	2.3
Bart-01	02/02/16	6.2	7.4	198.0	149.0	85.6	765.0	7.4	2.5	12.1	51.5	16.6	6.8
Bart-02	02/02/16	6.0	7.3	162.0	159.0	82.4	999.0	8.7	2.5	11.4	57.1	14.9	4.7
Bart-03	02/02/16	5.6	6.8	96.0	102.0	92.7	756.0	7.3	2.7	8.2	51.8	11.5	3.4
Bart-04	02/02/16	5.9	6.7	118.0	126.0	48.7	865.0	7.8	2.8	9.4	55.2	13.3	3.8
Bart-05	02/02/16	5.9	11.0	174.0	172.0	32.6	840.0	8.0	5.7	12.3	52.1	17.6	5.5
Bart-06	02/02/16	6.0	9.9	164.0	149.0	36.2	853.0	7.9	3.2	6.9	53.9	15.6	5.3
BigStinehour-01	02/02/16	6.2	7.5	73.0	70.0	34.7	900.0	6.8	1.8	9.1	65.6	8.4	2.7
Blaksley-01	02/02/16	6.4	3.7	54.0	107.0	72.2	1116.0	8.2	2.2	8.0	68.3	10.8	1.7
Blaksley-02	02/02/16	6.1	3.7	42.0	77.0	94.4	1115.0	8.2	2.2	6.3	67.8	7.8	1.3
Blaksley-03	02/02/16	5.8	6.4	91.0	69.0	83.7	718.0	6.7	2.5	12.3	53.7	8.5	3.5
Blaksley-04	02/02/16	5.9	3.7	49.0	64.0	122.0	901.0	7.1	1.1	8.3	62.9	7.3	1.7
Blaksley-05	02/02/16	6.3	4.3	48.0	91.0	82.8	1166.0	8.2	2.2	9.0	70.5	9.0	1.5
Blaksley-06	02/02/16	6.0	3.7	70.0	85.0	74.3	1053.0	7.9	1.6	8.4	66.8	8.8	2.3
Blaksley-07	02/02/16	6.1	6.0	105.0	83.0	72.2	1014.0	7.9	2.2	10.3	63.9	8.6	3.4
Blaksley-08	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Bug-01	02/02/16	7.0	10.0	112.0	88.0	55.2	1385.0	8.4	2.6	4.2	82.5	8.7	3.4
Bug-02	02/02/16	7.0	20.4	151.0	81.0	19.8	954.0	5.9	3.4	3.4	80.3	11.3	6.5
Bug-03	02/02/16	6.1	3.8	33.0	63.0	121.8	739.0	6.1	1.9	6.0	60.8	8.5	1.4
Bug-04	02/02/16	7.2	13.8	136.0	90.0	35.4	1367.0	8.0	3.5	4.1	84.9	9.3	4.3
Bull-01	05/17/17	6.4	4.4	27.9	70.0	61.8	1141.2	7.6	0.9	5.6	75.4	7.6	0.9
Bull-02	05/17/17	6.6	9.7	34.0	75.4	38.0	1383.2	8.5	1.3	4.9	80.7	7.3	1.0
Bull-03	05/17/17	6.5	4.6	26.8	69.4	49.6	1140.8	7.4	1.0	5.6	77.1	7.7	0.9
Bull-04	05/17/17	6.7	15.0	90.2	78.0	39.9	1367.6	8.6	2.6	3.8	79.5	7.5	2.7
Bull-05	05/17/17	6.6	6.0	34.0	76.5	53.2	1376.0	8.5	1.3	6.5	80.8	7.4	1.0
Bull-06	05/17/17	6.4	6.3	45.4	66.5	54.5	1274.0	8.2	1.2	5.2	77.1	6.6	1.4
Bull-07	05/17/17	6.9	19.2	157.6	108.6	35.4	1926.0	11.4	2.7	4.7	84.4	7.8	3.5
Bull-08	05/17/17	6.5	6.5	55.2	53.6	91.6	1081.2	7.1	1.9	4.2	75.6	6.2	2.0
Bull-09	05/17/17	6.7	6.9	30.4	86.6	33.8	1461.6	9.5	1.1	4.8	76.4	7.5	0.8
Bull-10	05/17/17	6.6	5.9	40.1	95.3	43.6	1280.0	8.3	1.0	5.0	76.9	9.4	1.2
Bull-11	05/17/17	7.0	15.8	91.2	85.7	42.0	1547.6	8.7	2.3	3.6	88.6	8.1	2.7
Bull-12	05/17/17	6.8	7.7	36.7	95.2	45.9	1505.2	9.0	0.8	5.4	83.5	8.7	1.0
Bull-13	05/17/17	6.5	6.5	55.2	53.6	91.6	1081.2	7.1	1.9	4.2	75.6	6.2	2.0
CalColby-01	02/02/16	7.0	8.5	142.0	71.0	52.1	1546.0	8.8	1.4	7.8	87.9	6.7	4.1
CalColby-02	02/02/16	5.8	4.8	48.0	47.0	177.7	612.0	6.0	1.0	8.4	50.5	6.3	2.0
CalColby-03	02/02/16	5.8	3.2	34.0	30.0	162.6	466.0	4.8	0.7	6.7	48.5	5.1	1.8
CalColby-04	02/02/16	6.0	4.7	34.0	35.0	160.7	606.0	5.7	0.8	8.3	53.2	5.1	1.5
CalColby-05	02/02/16	5.8	6.2	44.0	51.0	198.0	604.0	6.1	1.4	8.3	49.6	6.9	1.8
CalColby-06	02/02/16	5.9	4.0	36.0	41.0	154.5	632.0	5.8	1.1	8.9	54.3	5.7	1.6
Cantins-01	02/02/16	6.0	8.7	103.0	61.0	43.9	802.0	6.7	2.9	7.3	59.4	7.5	3.9
Cantins-02	02/02/16	6.2	6.3	49.0	110.0	57.8	790.0	6.6	1.6	6.7	59.9	13.8	1.9
Cantins-03	02/02/16	6.3	5.7	73.0	85.0	65.8	863.0	6.8	2.0	7.2	63.5	10.3	2.7
Cantins-04	02/02/16	6.2	8.9	66.0	107.0	59.9	795.0	6.7	2.4	6.6	59.4	13.2	2.5
CColby-01	02/02/16	6.6	14.3	133.0	79.0	48.2	1253.0	8.4	1.8	7.0	74.2	7.7	4.0
CColby-02	02/02/16	6.3	7.0	54.0	68.0	81.4	883.0	6.9	1.2	9.0	63.8	8.0	2.0
Chase-01	02/02/16	6.0	5.2	85.0	56.0	115.6	629.0	5.8	2.0	5.8	53.8	7.9	3.7
Chase-02	02/02/16	6.3	4.8	89.0	81.0	77.6	894.0	7.0	2.1	7.0	63.9	9.6	3.3
Chase-03	02/02/16	6.2	6.5	88.0	107.0	86.6	1420.0	9.9	4.2	11.0	71.4	8.9	2.3
ColbySouth-01	02/02/16	7.0	13.9	116.0	85.0	31.2	1282.0	7.5	2.0	4.0	85.8	9.4	4.0
ColbySouth-02	02/02/16	7.2	16.5	128.0	113.0	24.1	1590.0	9.3	1.9	4.8	85.7	10.1	3.5
ColbySouth-03	02/02/16	7.0	16.8	123.0	108.0	30.4	1814.0	10.6	2.9	6.7	85.3	8.4	3.0
Coles-01	02/02/16	7.0	8.3	136.0	116.0	63.8	1634.0	9.5	1.8	8.6	85.8	10.0	3.7
Coles-02	02/02/16	6.2	5.2	147.0	126.0	138.2	926.0	8.1	2.4	12.7	56.9	12.8	4.6
Coles-03	02/02/16	7.2	6.7	139.0	101.0	87.6	1567.0	9.1	2.0	6.0	86.3	9.2	3.9
Crane-01	02/02/16	7.1	21.1	113.0	87.0	14.6	1263.0	7.4	1.4	4.8	85.4	9.7	3.9
Crane-02	02/02/16	7.2	5.4	102.0	92.0	53.6	1838.0	10.3	1.1	7.2	89.4	7.4	2.5
Crane-03	02/02/16	7.3	8.4	136.0	101.0	37.2	1602.0	9.3	1.3	7.2	86.2	8.9	3.8
Derocher-01	02/02/16	5.8	5.1	45.0	50.0	179.8	486.0	5.4	2.8	6.1	45.1	7.7	2.1
Derocher-02	02/02/16	5.9	4.9	38.0	39.0	191.7	302.0	4.1	1.2	6.1	36.7	7.9	2.3
Dick's-01	02/02/16	6.6	13.5	108.0	163.0	42.2	2026.0	12.9	2.9	9.5	78.6	10.4	2.1

Soil Test Results

Field ID	Date	pH	Ava. P	K	Mg	Al	Ca	CEC	Zn	OM	Ca, %	Mg, %	K, %
Don-01	02/02/16	7.0	4.3	106.0	58.0	46.0	987.0	5.7	1.9	5.0	85.9	8.3	4.7
Don-02	02/02/16	6.4	5.1	76.0	55.0	44.0	598.0	4.8	1.5	4.5	62.7	9.5	4.1
Don-03	02/02/16	6.1	4.1	52.0	48.0	72.5	752.0	6.0	1.2	8.4	62.2	6.6	2.2
Don-04	02/02/16	6.3	3.0	37.0	34.0	92.0	702.0	5.4	1.0	5.6	64.7	5.2	1.8
Don-05	02/02/16	6.8	3.8	107.0	50.0	47.2	713.0	4.9	2.5	3.3	73.0	8.4	5.6
Don-06	02/02/16	5.9	7.9	37.0	54.0	92.7	752.0	6.5	2.9	6.8	57.4	6.8	1.4
Don-07	02/02/16	6.7	7.2	84.0	73.0	62.7	1118.0	7.3	2.0	6.5	76.2	8.2	2.9
Dump-01	02/02/16	6.0	5.5	64.0	80.0	61.3	664.0	6.0	1.8	5.1	55.0	11.0	2.7
Dump-02	02/02/16	7.0	7.4	83.0	54.0	26.7	1171.0	6.6	1.2	3.4	89.0	6.7	3.2
Dump-03	02/02/16	7.1	7.4	121.0	75.0	40.0	1431.0	8.2	1.1	6.0	87.5	7.5	3.8
Dump-04	02/02/16	6.9	6.2	98.0	126.0	113.4	1786.0	11.1	1.6	9.5	80.6	9.4	2.3
Farnsworth-01	02/02/16	7.0	9.0	89.0	56.0	47.7	1058.0	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-02	02/02/16	6.3	5.9	65.0	112.0	60.8	802.0	6.7	2.0	9.2	60.1	13.8	2.5
Farnsworth-03	02/02/16	6.2	6.6	56.0	125.0	73.0	858.0	7.2	3.1	7.3	59.5	14.3	2.0
Fortin-01	02/02/16	5.9	4.9	53.0	88.0	119.0	741.0	7.0	1.7	8.6	52.8	10.3	1.9
Fortin-02	02/02/16	6.0	4.7	91.0	91.0	115.3	702.0	6.6	1.8	9.3	53.2	11.3	3.5
Garber-01	02/02/16	6.6	7.5	112.0	137.0	42.3	1913.0	12.0	2.8	12.2	79.4	9.4	2.4
Garber-02	02/02/16	6.8	6.5	106.0	147.0	68.0	1816.0	11.3	2.0	8.2	80.4	10.7	2.4
Gauge-01	02/02/16	6.2	9.9	151.0	159.0	34.0	1176.0	9.1	2.7	12.3	64.2	14.3	4.2
Gauge-02	02/02/16	6.5	7.8	134.0	162.0	60.0	1307.0	9.3	2.2	9.8	69.9	14.3	3.7
Gauge-03	02/02/16	6.7	8.2	62.0	116.0	28.9	1407.0	9.1	1.7	7.9	77.3	10.5	1.7
Gesel-01	02/02/16	6.0	4.2	83.0	89.0	85.9	1070.0	8.2	1.4	9.6	65.0	8.9	2.6
Gingue-01	02/02/16	6.9	22.7	97.0	70.0	14.1	1470.0	8.3	7.6	4.1	88.8	6.9	3.0
Gingue-02	02/02/16	6.5	7.1	77.0	47.0	35.2	917.0	6.4	3.1	5.6	71.9	6.1	3.1
Gingue-03	02/02/16	7.0	24.7	115.0	81.0	12.8	1294.0	7.5	3.5	5.3	86.1	8.8	3.9
Greek-01	02/02/16	6.5	9.2	83.0	162.0	67.7	1599.0	10.7	4.4	11.3	74.5	12.5	2.0
Greek-02	02/02/16	6.0	10.7	114.0	106.0	81.9	1012.0	8.6	4.7	14.2	59.0	10.2	3.4
Green-01	02/02/16	5.6	5.4	49.0	49.0	147.4	381.0	5.1	1.2	8.8	37.6	7.9	2.5
Green-02	02/02/16	6.1	8.5	115.0	114.0	107.4	826.0	7.3	1.8	8.1	56.8	12.9	4.1
Green-03	02/02/16	5.7	5.3	95.0	94.0	190.6	520.0	6.2	2.0	6.9	41.9	12.5	3.9
Green-04	02/02/16	5.6	7.3	91.0	92.0	151.2	496.0	6.6	2.0	9.1	37.6	11.5	3.5
Green-05	02/02/16	6.4	4.9	57.0	100.0	124.5	1026.0	7.7	10.3	8.0	66.2	10.6	1.9
Green-06	02/02/16	6.2	5.9	79.0	121.0	67.6	943.0	7.5	2.1	6.8	62.7	13.3	2.7
Green-07	02/02/16	6.3	4.3	41.0	97.0	79.8	1124.0	8.1	11.0	7.4	69.4	9.9	1.3
Green-08	02/02/16	6.1	3.3	51.0	74.0	135.7	650.0	5.7	26.1	7.1	57.0	10.7	2.3
Green-09	02/02/16	7.0	8.5	103.0	123.0	68.6	1926.0	11.2	27.1	9.1	85.9	9.0	2.4
Green-10	02/02/16	6.4	5.0	73.0	83.0	46.4	976.0	7.2	12.5	7.4	68.1	9.5	2.6
Green-11	02/02/16	6.1	2.7	46.0	51.0	101.4	656.0	5.5	9.6	7.5	59.4	7.7	2.2
Green-12	02/02/16	6.5	4.1	61.0	120.0	72.4	1235.0	8.4	11.6	8.7	73.0	11.7	1.9
Green-13	02/02/16	6.4	4.1	72.0	107.0	58.9	1193.0	8.3	1.4	10.0	72.0	10.6	2.2
Green-14	02/02/16	6.2	4.0	79.0	88.0	102.2	1028.0	7.9	1.5	9.1	65.3	9.2	2.6
Green-15	02/02/16	6.3	4.3	114.0	109.0	90.5	1231.0	8.8	1.5	9.6	69.5	10.1	3.3
Green-16	02/02/16	6.3	5.3	138.0	104.0	54.4	1149.0	8.5	1.4	9.6	67.8	10.1	4.2
Green-17	02/02/16	6.2	4.4	97.0	101.0	99.7	975.0	7.8	1.7	11.9	62.7	10.7	3.2
Green-18	02/02/16	5.9	6.1	99.0	77.0	101.8	1118.0	8.7	2.1	10.2	64.2	7.3	2.9
Green-19	02/02/16	5.9	6.2	109.0	117.0	85.5	838.0	7.7	2.4	11.6	54.5	12.5	3.6
Green-20	02/02/16	6.0	4.9	110.0	133.0	83.8	971.0	8.2	1.9	11.4	59.4	13.4	3.4
Grpaper-01	02/02/16	5.8	6.4	27.0	15.0	102.4	740.0	6.1	5.8	6.3	60.4	2.1	1.1
Hall-01	02/02/16	7.0	8.5	55.0	113.0	38.1	2184.0	12.1	2.4	10.1	90.4	7.7	1.2
Hall-02	02/02/16	6.8	6.1	73.0	126.0	70.9	1836.0	11.0	2.1	9.0	83.4	9.5	1.7
Hoclgdon-01	02/02/16	7.2	4.3	91.0	76.0	61.8	1363.0	7.8	1.1	6.9	87.5	8.1	3.0
Home-01	02/02/16	6.0	3.8	81.0	79.0	85.4	506.0	5.2	6.9	4.8	48.8	12.5	4.0
Home-02	02/02/16	6.0	5.1	74.0	57.0	83.4	509.0	5.4	3.8	5.3	47.1	8.6	3.5
Home-03	02/02/16	6.3	11.2	195.0	161.0	29.1	753.0	7.0	2.2	6.6	54.0	19.0	7.2
Home-04	02/02/16	6.8	9.1	237.0	114.0	51.2	964.0	7.3	1.9	6.7	65.7	12.8	8.3
Home-05	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Home-06	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Houly-01	02/02/16	5.9	4.0	62.0	49.0	124.2	492.0	5.3	1.2	9.3	46.5	7.7	3.0
Houly-02	02/02/16	6.0	3.7	78.0	88.0	120.5	746.0	6.6	1.3	8.6	56.1	10.9	3.0
Houly-03	02/02/16	6.0	4.0	70.0	67.0	119.9	618.0	5.9	1.5	10.1	52.0	9.3	3.0
Houly-04	02/02/16	5.9	3.3	78.0	73.0	133.0	588.0	5.7	1.2	9.8	51.2	10.4	3.5
Irwin-01	02/02/16	5.7	2.4	30.0	25.0	76.1	353.0	4.1	1.1	4.7	43.3	5.0	1.9
Irwin-02	02/02/16	6.4	3.8	34.0	28.0	50.2	674.0	4.9	0.9	3.4	68.1	4.7	1.8
Irwin-03	02/02/16	5.9	3.4	62.0	42.0	52.0	333.0	3.9	1.2	3.6	43.0	9.0	4.1
JColby-01	02/02/16	6.9	13.7	159.0	81.0	43.5	1646.0	10.3	1.3	7.4	80.1	6.5	4.0
JColby-02	02/02/16	6.2	7.4	97.0	70.0	101.7	804.0	6.8	1.4	8.5	59.3	8.5	3.7
Johnny-01	02/02/16	6.4	5.5	83.0	124.0	68.4	968.0	7.3	1.5	7.3	66.2	14.0	2.9
Johnny-02	02/02/16	6.2	5.4	127.0	79.0	151.7	700.0	6.4	1.6	7.8	54.2	10.1	5.0
Lancaster-01	02/02/16	6.4	4.7	67.0	116.0	100.7	1608.0	10.6	1.5	12.0	75.8	9.0	1.6
LLColby-01	02/02/16	6.0	4.9	117.0	100.0	133.3	852.0	7.9	2.2	14.0	54.2	10.5	3.8
LLColby-02	02/02/16	6.8	11.0	152.0	79.0	51.9	1567.0	9.7	1.8	8.2	80.4	6.6	4.0
Lufkin-01	02/02/16	6.9	5.5	46.0	112.0	55.6	1588.0	9.6	2.0	9.4	82.5	9.6	1.2
Lufkin-02	02/02/16	6.8	4.2	85.0	155.0	55.4	1554.0	10.1	1.1	9.7	76.9	12.6	2.2

Soil Test Results

Field ID	Date	pH	Ava. P	K	Mg	Al	Ca	CEC	Zn	OM	Ca, %	Mg, %	K, %
Lufkin-03	02/02/16	6.9	5.3	73.0	156.0	38.4	1388.0	9.0	1.5	8.8	77.0	14.3	2.1
McGoffs-01	02/02/16	7.2	20.6	159.0	88.0	21.8	1209.0	7.2	2.9	4.3	83.5	10.0	5.6
McGoffs-02	02/02/16	6.2	11.6	94.0	97.0	24.4	593.0	5.5	3.5	4.6	53.8	14.5	4.4
McGoffs-03	02/02/16	6.7	11.4	102.0	88.0	45.6	1263.0	8.0	3.9	6.5	78.4	9.0	3.3
McGoffs-04	02/02/16	7.4	12.1	169.0	113.0	34.0	1629.0	9.5	2.0	6.7	85.3	9.8	4.5
Merritt-01	02/02/16	6.4	2.9	42.0	68.0	114.2	952.0	6.9	3.7	5.5	68.6	8.0	1.5
Munce-01	02/02/16	6.7	23.4	150.0	123.0	17.4	1144.0	8.1	8.5	6.6	70.2	12.4	4.7
Munce-02	02/02/16	6.2	15.2	259.0	143.0	39.9	976.0	8.4	8.6	7.6	58.1	14.0	7.9
Mundells-01	02/02/16	7.5	7.1	152.0	79.0	47.2	2092.0	11.5	1.9	6.0	90.5	5.6	3.4
Mundells-02	02/02/16	7.6	7.1	132.0	104.0	50.1	1724.0	9.9	1.5	5.9	86.9	8.6	3.4
Nadeau-01	02/02/16	7.4	18.6	153.0	101.0	30.3	1768.0	10.1	3.2	5.6	87.3	8.2	3.9
Nadeau-02	02/02/16	6.1	3.3	49.0	55.0	204.0	700.0	5.8	2.1	5.5	60.3	7.8	2.2
Nadeau-03	02/02/16	7.2	4.6	131.0	86.0	73.0	1679.0	9.5	1.1	7.9	88.4	7.5	3.5
Nadeau-04	02/02/16	6.1	3.2	59.0	69.0	119.4	594.0	5.2	1.2	4.2	56.9	10.8	2.9
NearColes-01	02/02/16	7.3	6.9	193.0	155.0	75.2	1799.0	10.8	2.3	9.1	83.0	11.8	4.6
Nelson-01	02/02/16	7.3	15.4	122.0	96.0	38.9	1410.0	8.2	1.8	5.7	85.7	9.6	3.8
Noyes-01	02/02/16	5.7	2.3	35.0	40.0	57.6	544.0	4.9	1.4	4.7	55.0	6.7	1.8
Parker-01	02/02/16	6.0	4.4	84.0	59.0	106.0	667.0	6.0	1.3	9.6	55.1	8.1	3.6
Parker-02	02/02/16	6.1	3.0	28.0	36.0	109.9	923.0	6.6	1.7	7.4	69.3	4.4	1.1
Peaslee-01	02/02/16	6.0	2.9	57.0	43.0	71.8	508.0	4.9	0.9	4.8	51.8	7.2	3.0
Peaslee-02	02/02/16	6.4	13.2	112.0	35.0	51.4	516.0	4.4	1.6	2.6	58.9	6.6	6.6
Peaslee-03	02/02/16	5.9	2.6	50.0	45.0	88.2	579.0	5.5	0.7	6.2	52.6	6.8	2.3
Plunk-01	02/02/16	6.1	4.6	71.0	116.0	74.2	1106.0	8.5	1.4	10.5	64.7	11.1	2.1
Plunk-02	02/02/16	6.2	4.8	88.0	111.0	61.0	1205.0	8.7	1.5	9.6	68.9	10.5	2.6
RedHouse-01	02/02/16	6.3	4.1	52.0	135.0	117.5	990.0	7.8	1.7	10.4	63.3	14.2	1.7
ReedRD-01	02/02/16	6.2	3.4	68.0	80.0	86.4	1011.0	7.7	1.2	8.9	65.6	8.5	2.3
RHF-01	02/02/16	6.2	2.5	51.0	106.0	119.7	827.0	6.7	0.8	7.9	61.5	13.0	1.9
RHF-02	02/02/16	6.2	3.7	92.0	146.0	113.2	871.0	7.9	1.3	8.7	55.0	15.2	3.0
RHF-03	02/02/16	6.8	4.7	109.0	142.0	74.0	921.0	6.8	12.5	7.8	67.9	17.2	4.1
Rich-01	05/17/17	4.7	2.9	123.5	76.8	239.3	297.1	9.1	1.9	16.4	16.2	6.9	3.5
Rowell-01	02/02/16	5.7	5.1	64.0	102.0	194.6	658.0	6.9	1.1	8.4	47.5	12.2	2.4
Rowell-02	02/02/16	5.7	4.2	47.0	59.0	200.4	360.0	5.0	0.7	10.6	35.7	9.6	2.4
Rowell-03	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Simond-01	02/02/16	6.3	6.5	65.0	90.0	67.6	705.0	5.8	2.7	5.7	60.6	12.7	2.9
Stinehour-01	02/02/16	6.0	5.1	77.0	84.0	62.2	636.0	6.0	1.4	7.0	53.2	11.5	3.3
Stinehour-02	02/02/16	6.1	4.8	66.0	67.0	95.3	578.0	5.5	1.5	6.6	52.7	10.0	3.1
Styles-01	02/02/16	5.9	6.4	99.0	80.0	109.9	742.0	6.8	2.8	7.8	54.2	9.6	3.7
Styles-02	02/02/16	5.9	5.7	139.0	89.0	87.9	759.0	7.1	2.2	7.9	53.3	10.3	5.0
Tent-01	02/02/16	5.8	6.8	76.0	60.0	139.1	396.0	5.0	3.0	6.3	39.7	9.9	3.9
Tent-02	02/02/16	6.1	5.8	58.0	75.0	93.5	644.0	5.8	2.9	5.4	55.9	10.8	2.6
Tent-03	02/02/16	6.3	4.4	76.0	71.0	56.8	662.0	5.5	2.5	5.7	60.6	10.8	3.6
Tent-04	02/02/16	6.1	4.9	71.0	73.0	62.2	535.0	5.2	2.6	5.1	51.5	11.6	3.5
Tent-05	02/02/16	6.2	4.9	85.0	71.0	117.4	535.0	5.4	3.0	4.3	49.8	10.8	4.1
Thayer-01	02/02/16	6.0	2.5	65.0	51.0	176.1	432.0	4.7	2.8	7.9	46.4	9.0	3.6
Thayer-02	02/02/16	5.8	3.6	37.0	37.0	249.0	385.0	4.7	2.4	7.2	40.5	6.4	2.0
Thurstonflat-01	02/02/16	5.8	6.5	97.0	58.0	100.7	686.0	6.4	1.9	12.7	53.2	7.4	3.8
Thurstonflat-02	02/02/16	6.0	6.4	109.0	75.0	51.8	657.0	6.0	2.1	11.0	54.6	10.2	4.6
Thurstonflat-03	02/02/16	5.7	6.2	76.0	48.0	82.9	385.0	4.8	1.6	7.9	40.1	8.2	4.1
Tillman-01	02/02/16	6.8	4.3	109.0	133.0	90.9	1893.0	11.5	2.3	10.2	82.2	9.5	2.4
Tillman-02	02/02/16	6.7	3.9	88.0	108.0	158.5	1217.0	7.9	3.2	8.3	76.6	11.2	2.8
Tillman-03	02/02/16	6.4	2.8	59.0	86.0	175.6	981.0	7.1	4.2	8.3	69.3	10.0	2.1
Tillman-04	02/02/16	6.6	7.4	92.0	118.0	94.1	1433.0	9.4	2.6	9.5	76.2	10.3	2.5
Tillman-05	02/02/16	6.6	4.8	72.0	78.0	123.1	1048.0	6.9	2.3	10.4	75.4	9.2	2.6
Tillman-06	02/02/16	6.6	6.0	82.0	103.0	113.2	1242.0	8.2	2.7	8.4	75.6	10.3	2.5
Warren-01	02/02/16	6.4	3.0	30.0	72.0	125.2	836.0	6.2	3.4	7.0	67.5	9.5	1.2
Warren-02	02/02/16	6.5	3.7	28.0	82.0	103.8	1004.0	6.9	4.4	7.5	72.3	9.7	1.0
Warren-03	02/02/16	6.6	3.3	28.0	77.0	115.2	1077.0	7.1	2.7	7.2	75.5	8.9	1.0
Weeks-01	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Weeks-02	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Weeks-03	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Weeks-04	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2

Lab num	Date	Name	desc 1	Ngal	Ammgal	OrgNgal	P205gal	K20gal	ManTS	Dengal
23821640	6/21/2017	Forbes Farm	Forbes Farm,New Milk House and Parlor Pit,08/23/2016,	1	0.1	0.9	0.8	0.8	0.18	8.08
23821650	6/21/2017	Forbes Farm	Forbes Farm,Heifer Barn SS,08/23/2016,	26.1	9.2	16.9	7.5	18.4	8.61	8.28
23821670	6/21/2017	Forbes Farm	Forbes Farm,New Milking Barn Pit,08/23/2016,	20.3	10.1	10.3	6.3	16.5	4.44	8.31
23821710	6/22/2017	Forbes Farm	Forbes Farm,Waste Water Pit,08/23/2016,	2.2	0.9	1.3	1.6	1.5	1.48	8.16
23821720	6/21/2017	Forbes Farm	Forbes Farm,New Heifer Pit,08/23/2016,	11.3	2.5	8.9	5.2	10.9	7.67	8.51
23821740	6/21/2017	Forbes Farm	Forbes Farm,Vermont Pit,08/23/2016,	11.1	10.2	0.8	7.7	17.4	7.54	8.77
			Average	12.0	5.5	6.5	4.9	10.9	5.0	8.4

Lab num	Date	Name	desc 1	Nton	Ammton	OrgNton	P205ton	K20ton	ManTS	Denft
23821620	6/21/2017	Forbes Farm	Forbes Farm,Dry Cow Pre Fresh Barn,08/23/2016,	6.4	2	4.4	2.5	7.9	32.93	71.68
23821630	6/21/2017	Forbes Farm	Forbes Farm,Old Heifer Pit,08/23/2016,	7.2	2.7	4.6	1.7	6.1	15.13	62.31
23821730	6/21/2017	Forbes Farm	Forbes Farm,Heifer Barn SS,08/23/2016,	11.7	3.6	8.1	3.4	10.2	17.47	62.31
			Average	8.4	2.8	5.7	2.5	8.1	21.8	65.4

Field ID	Sample #	Date	pH	MMPppm	MMKppm	MMMgppm	MMAlppm	MMCappm	CEC	MMZnppm	OM%	BSCa	BSMg	BSK
AcrRiv-01	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Airport-01	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Airport-01	2	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Airport-02	1	2/2/2016	7.5	14.1	75	114.4	44.9	2400	13.2	6	8	90.6	7.1	1.5
Airport-03	1	2/2/2016	6.5	4.5	121	98	76.8	831	6.8	2.7	5.9	60.9	11.8	4.5
Airport-04	1	2/2/2016	6.6	3.5	91	94	78	574	5	1.9	3.9	57.7	15.5	4.7
Airport-05	1	2/2/2016	7	9.7	120	125	54.9	1398	8.5	4.2	4.8	81.7	12	3.6
Airport-06	1	2/2/2016	6.8	7.6	127	86	33	466	4.1	3.2	4.4	56.4	17.1	7.9
Allen-01	1	2/2/2016	6.2	5.3	78	151	160.6	1341	10.1	1.7	10.9	66.4	12.3	2
Allen-02	1	2/2/2016	6.3	5.2	82	98	86.4	1007	7.5	1.5	7.9	67.2	10.8	2.8
Allen-03	1	2/2/2016	6.4	4.6	73	94	96.2	1015	7.4	1.3	7.4	68.4	10.4	2.5
Allen-04	1	2/2/2016	7.1	5	85	92	54.2	1234	7.2	1.9	4.7	85.6	10.6	3
Allen-05	1	2/2/2016	6.4	7.5	106	176	61.9	1512	10.8	2.2	10.8	70.1	13.5	2.5
Allen-06	1	2/2/2016	7.2	6.1	128	84	72.6	1555	8.9	1.4	5.4	87.4	7.8	3.7
Baerds-01	1	2/2/2016	6.8	3.4	71	100	65.6	1212	7.8	1.2	8.7	77.4	10.6	2.3
Bart-01	1	2/2/2016	6.2	7.4	198	149	85.6	765	7.4	2.5	12.1	51.5	16.6	6.8
Bart-02	1	2/2/2016	6	7.3	162	159	82.4	999	8.7	2.5	11.4	57.1	14.9	4.7
Bart-03	1	2/2/2016	5.6	6.8	96	102	92.7	756	7.3	2.7	8.2	51.8	11.5	3.4
Bart-04	1	2/2/2016	5.9	6.7	118	126	48.7	865	7.8	2.8	9.4	55.2	13.3	3.8
Bart-05	1	2/2/2016	5.9	11	174	172	32.6	840	8	5.7	12.3	52.1	17.6	5.5
Bart-06	1	2/2/2016	6	9.9	164	149	36.2	853	7.9	3.2	6.9	53.9	15.6	5.3
BigStinehour-01	1	2/2/2016	6.2	7.5	73	70	34.7	900	6.8	1.8	9.1	65.6	8.4	2.7
BigStinehour-01	2	2/2/2016	6.2	7.5	73	70	34.7	900	6.8	1.8	9.1	65.6	8.4	2.7
Blaksley-01	1	2/2/2016	6.4	3.7	54	107	72.2	1116	8.2	2.2	8	68.3	10.8	1.7
Blaksley-02	1	2/2/2016	6.1	3.7	42	77	94.4	1115	8.2	2.2	6.3	67.8	7.8	1.3
Blaksley-03	1	2/2/2016	5.8	6.4	91	69	83.7	718	6.7	2.5	12.3	53.7	8.5	3.5
Blaksley-04	1	2/2/2016	5.9	3.7	49	64	122	901	7.1	1.1	8.3	62.9	7.3	1.7
Blaksley-05	1	2/2/2016	6.3	4.3	48	91	82.8	1166	8.2	2.2	9	70.5	9	1.5
Blaksley-06	1	2/2/2016	6	3.7	70	85	74.3	1053	7.9	1.6	8.4	66.8	8.8	2.3
Blaksley-07	1	2/2/2016	6.1	6	105	83	72.2	1014	7.9	2.2	10.3	63.9	8.6	3.4
Blaksley-08	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Bug-01	1	2/2/2016	7	10	112	88	55.2	1385	8.4	2.6	4.2	82.5	8.7	3.4
Bug-02	1	2/2/2016	7	20.4	151	81	19.8	954	5.9	3.4	3.4	80.3	11.3	6.5
Bug-02	2	2/2/2016	7	20.4	151	81	19.8	954	5.9	3.4	3.4	80.3	11.3	6.5
Bug-02	3	2/2/2016	7	20.4	151	81	19.8	954	5.9	3.4	3.4	80.3	11.3	6.5
Bug-03	1	2/2/2016	6.1	3.8	33	63	121.8	739	6.1	1.9	6	60.8	8.5	1.4
Bug-04	1	2/2/2016	7.2	13.8	136	90	35.4	1367	8	3.5	4.1	84.9	9.3	4.3
CalColby-01	1	2/2/2016	7	8.5	142	71	52.1	1546	8.8	1.4	7.8	87.9	6.7	4.1
CalColby-02	1	2/2/2016	5.8	4.8	48	47	177.7	612	6	1	8.4	50.5	6.3	2
CalColby-03	1	2/2/2016	5.8	3.2	34	30	162.6	466	4.8	0.7	6.7	48.5	5.1	1.8
CalColby-04	1	2/2/2016	6	4.7	34	35	160.7	606	5.7	0.8	8.3	53.2	5.1	1.5
CalColby-05	1	2/2/2016	5.8	6.2	44	51	198	604	6.1	1.4	8.3	49.6	6.9	1.8
CalColby-06	1	2/2/2016	5.9	4	36	41	154.5	632	5.8	1.1	8.9	54.3	5.7	1.6
Cantins-01	1	2/2/2016	6	8.7	103	61	43.9	802	6.7	2.9	7.3	59.4	7.5	3.9
Cantins-02	1	2/2/2016	6.2	6.3	49	110	57.8	790	6.6	1.6	6.7	59.9	13.8	1.9
Cantins-03	1	2/2/2016	6.3	5.7	73	85	65.8	863	6.8	2	7.2	63.5	10.3	2.7
Cantins-04	1	2/2/2016	6.2	8.9	66	107	59.9	795	6.7	2.4	6.6	59.4	13.2	2.5
Cantins-04	2	2/2/2016	6.2	8.9	66	107	59.9	795	6.7	2.4	6.6	59.4	13.2	2.5
CColby-01	1	2/2/2016	6.6	14.3	133	79	48.2	1253	8.4	1.8	7	74.2	7.7	4
CColby-02	1	2/2/2016	6.3	7	54	68	81.4	883	6.9	1.2	9	63.8	8	2
Chase-01	1	2/2/2016	6	5.2	85	56	115.6	629	5.8	2	5.8	53.8	7.9	3.7
Chase-01	2	2/2/2016	6	5.2	85	56	115.6	629	5.8	2	5.8	53.8	7.9	3.7
Chase-02	1	2/2/2016	6.3	4.8	89	81	77.6	894	7	2.1	7	63.9	9.6	3.3
Chase-03	1	2/2/2016	6.2	6.5	88	107	86.6	1420	9.9	4.2	11	71.4	8.9	2.3

ColbySouth-01	1	2/2/2016	7	13.9	116	85	31.2	1282	7.5	2	4	85.8	9.4	4
ColbySouth-02	1	2/2/2016	7.2	16.5	128	113	24.1	1590	9.3	1.9	4.8	85.7	10.1	3.5
ColbySouth-03	1	2/2/2016	7	16.8	123	108	30.4	1814	10.6	2.9	6.7	85.3	8.4	3
Coles-01	1	2/2/2016	7	8.3	136	116	63.8	1634	9.5	1.8	8.6	85.8	10	3.7
Coles-02	1	2/2/2016	6.2	5.2	147	126	138.2	926	8.1	2.4	12.7	56.9	12.8	4.6
Coles-02	2	2/2/2016	6.2	5.2	147	126	138.2	926	8.1	2.4	12.7	56.9	12.8	4.6
Coles-03	1	2/2/2016	7.2	6.7	139	101	87.6	1567	9.1	2	6	86.3	9.2	3.9
Crane-01	1	2/2/2016	7.1	21.1	113	87	14.6	1263	7.4	1.4	4.8	85.4	9.7	3.9
Crane-01	2	2/2/2016	7.1	21.1	113	87	14.6	1263	7.4	1.4	4.8	85.4	9.7	3.9
Crane-02	1	2/2/2016	7.2	5.4	102	92	53.6	1838	10.3	1.1	7.2	89.4	7.4	2.5
Crane-03	1	2/2/2016	7.3	8.4	136	101	37.2	1602	9.3	1.3	7.2	86.2	8.9	3.8
Derocher-01	1	2/2/2016	5.8	5.1	45	50	179.8	486	5.4	2.8	6.1	45.1	7.7	2.1
Derocher-02	1	2/2/2016	5.9	4.9	38	39	191.7	302	4.1	1.2	6.1	36.7	7.9	2.3
Dick's-01	1	2/2/2016	6.6	13.5	108	163	42.2	2026	12.9	2.9	9.5	78.6	10.4	2.1
Don-01	1	2/2/2016	7	4.3	106	58	46	987	5.7	1.9	5	85.9	8.3	4.7
Don-02	1	2/2/2016	6.4	5.1	76	55	44	598	4.8	1.5	4.5	62.7	9.5	4.1
Don-03	1	2/2/2016	6.1	4.1	52	48	72.5	752	6	1.2	8.4	62.2	6.6	2.2
Don-04	1	2/2/2016	6.3	3	37	34	92	702	5.4	1	5.6	64.7	5.2	1.8
Don-05	1	2/2/2016	6.8	3.8	107	50	47.2	713	4.9	2.5	3.3	73	8.4	5.6
Don-06	1	2/2/2016	5.9	7.9	37	54	92.7	752	6.5	2.9	6.8	57.4	6.8	1.4
Don-07	1	2/2/2016	6.7	7.2	84	73	62.7	1118	7.3	2	6.5	76.2	8.2	2.9
Dump-01	1	2/2/2016	6	5.5	64	80	61.3	664	6	1.8	5.1	55	11	2.7
Dump-02	1	2/2/2016	7	7.4	83	54	26.7	1171	6.6	1.2	3.4	89	6.7	3.2
Dump-03	1	2/2/2016	7.1	7.4	121	75	40	1431	8.2	1.1	6	87.5	7.5	3.8
Dump-04	1	2/2/2016	6.9	6.2	98	126	113.4	1786	11.1	1.6	9.5	80.6	9.4	2.3
Farnsworth-01	1	2/2/2016	7	9	89	56	47.7	1058	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-01	2	2/2/2016	7	9	89	56	47.7	1058	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-01	3	2/2/2016	7	9	89	56	47.7	1058	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-01	4	2/2/2016	7	9	89	56	47.7	1058	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-01	5	2/2/2016	7	9	89	56	47.7	1058	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-01	6	2/2/2016	7	9	89	56	47.7	1058	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-01	7	2/2/2016	7	9	89	56	47.7	1058	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-01	8	2/2/2016	7	9	89	56	47.7	1058	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-01	9	2/2/2016	7	9	89	56	47.7	1058	6.4	2.4	5.3	81.9	7.2	3.5
Farnsworth-02	1	2/2/2016	6.3	5.9	65	112	60.8	802	6.7	2	9.2	60.1	13.8	2.5
Farnsworth-02	2	2/2/2016	6.3	5.9	65	112	60.8	802	6.7	2	9.2	60.1	13.8	2.5
Farnsworth-03	3	2/2/2016	6.2	6.6	56	125	73	858	7.2	3.1	7.3	59.5	14.3	2
Fortin-01	1	2/2/2016	5.9	4.9	53	88	119	741	7	1.7	8.6	52.8	10.3	1.9
Fortin-02	1	2/2/2016	6	4.7	91	91	115.3	702	6.6	1.8	9.3	53.2	11.3	3.5
Garber-01	1	2/2/2016	6.6	7.5	112	137	42.3	1913	12	2.8	12.2	79.4	9.4	2.4
Garber-01	2	2/2/2016	6.6	7.5	112	137	42.3	1913	12	2.8	12.2	79.4	9.4	2.4
Garber-02	1	2/2/2016	6.8	6.5	106	147	68	1816	11.3	2	8.2	80.4	10.7	2.4
Gauge-01	1	2/2/2016	6.2	9.9	151	159	34	1176	9.1	2.7	12.3	64.2	14.3	4.2
Gauge-02	1	2/2/2016	6.5	7.8	134	162	60	1307	9.3	2.2	9.8	69.9	14.3	3.7
Gauge-02	2	2/2/2016	6.5	7.8	134	162	60	1307	9.3	2.2	9.8	69.9	14.3	3.7
Gauge-02	3	2/2/2016	6.5	7.8	134	162	60	1307	9.3	2.2	9.8	69.9	14.3	3.7
Gauge-03	1	2/2/2016	6.7	8.2	62	116	28.9	1407	9.1	1.7	7.9	77.3	10.5	1.7
Gesel-01	1	2/2/2016	6	4.2	83	89	85.9	1070	8.2	1.4	9.6	65	8.9	2.6
Gingue-01	1	2/2/2016	6.9	22.7	97	70	14.1	1470	8.3	7.6	4.1	88.8	6.9	3
Gingue-01	2	2/2/2016	6.9	22.7	97	70	14.1	1470	8.3	7.6	4.1	88.8	6.9	3
Gingue-02	1	2/2/2016	6.5	7.1	77	47	35.2	917	6.4	3.1	5.6	71.9	6.1	3.1
Gingue-03	1	2/2/2016	7	24.7	115	81	12.8	1294	7.5	3.5	5.3	86.1	8.8	3.9
Gingue-03	2	2/2/2016	7	24.7	115	81	12.8	1294	7.5	3.5	5.3	86.1	8.8	3.9
Gingue-03	3	2/2/2016	7	24.7	115	81	12.8	1294	7.5	3.5	5.3	86.1	8.8	3.9
Gingue-03	4	2/2/2016	7	24.7	115	81	12.8	1294	7.5	3.5	5.3	86.1	8.8	3.9

Gingue-03	5	2/2/2016	7	24.7	115	81	12.8	1294	7.5	3.5	5.3	86.1	8.8	3.9
Greek-01	1	2/2/2016	6.5	9.2	83	162	67.7	1599	10.7	4.4	11.3	74.5	12.5	2
Greek-02	1	2/2/2016	6	10.7	114	106	81.9	1012	8.6	4.7	14.2	59	10.2	3.4
Green-01	1	2/2/2016	5.6	5.4	49	49	147.4	381	5.1	1.2	8.8	37.6	7.9	2.5
Green-02	1	2/2/2016	6.1	8.5	115	114	107.4	826	7.3	1.8	8.1	56.8	12.9	4.1
Green-03	1	2/2/2016	5.7	5.3	95	94	190.6	520	6.2	2	6.9	41.9	12.5	3.9
Green-04	1	2/2/2016	5.6	7.3	91	92	151.2	496	6.6	2	9.1	37.6	11.5	3.5
Green-05	1	2/2/2016	6.4	4.9	57	100	124.5	1026	7.7	10.3	8	66.2	10.6	1.9
Green-06	1	2/2/2016	6.2	5.9	79	121	67.6	943	7.5	2.1	6.8	62.7	13.3	2.7
Green-07	1	2/2/2016	6.3	4.3	41	97	79.8	1124	8.1	11	7.4	69.4	9.9	1.3
Green-08	1	2/2/2016	6.1	3.3	51	74	135.7	650	5.7	26.1	7.1	57	10.7	2.3
Green-09	1	2/2/2016	7	8.5	103	123	68.6	1926	11.2	27.1	9.1	85.9	9	2.4
Green-10	1	2/2/2016	6.4	5	73	83	46.4	976	7.2	12.5	7.4	68.1	9.5	2.6
Green-11	1	2/2/2016	6.1	2.7	46	51	101.4	656	5.5	9.6	7.5	59.4	7.7	2.2
Green-12	1	2/2/2016	6.5	4.1	61	120	72.4	1235	8.4	11.6	8.7	73	11.7	1.9
Green-13	1	2/2/2016	6.4	4.1	72	107	58.9	1193	8.3	1.4	10	72	10.6	2.2
Green-14	1	2/2/2016	6.2	4	79	88	102.2	1028	7.9	1.5	9.1	65.3	9.2	2.6
Green-15	1	2/2/2016	6.3	4.3	114	109	90.5	1231	8.8	1.5	9.6	69.5	10.1	3.3
Green-16	1	2/2/2016	6.3	5.3	138	104	54.4	1149	8.5	1.4	9.6	67.8	10.1	4.2
Green-17	1	2/2/2016	6.2	4.4	97	101	99.7	975	7.8	1.7	11.9	62.7	10.7	3.2
Green-18	1	2/2/2016	5.9	6.1	99	77	101.8	1118	8.7	2.1	10.2	64.2	7.3	2.9
Green-19	1	2/2/2016	5.9	6.2	109	117	85.5	838	7.7	2.4	11.6	54.5	12.5	3.6
Green-20	1	2/2/2016	6	4.9	110	133	83.8	971	8.2	1.9	11.4	59.4	13.4	3.4
Grpaper-01	1	2/2/2016	5.8	6.4	27	15	102.4	740	6.1	5.8	6.3	60.4	2.1	1.1
Grpaper-01	2	2/2/2016	5.8	6.4	27	15	102.4	740	6.1	5.8	6.3	60.4	2.1	1.1
Hall-01	1	2/2/2016	7	8.5	55	113	38.1	2184	12.1	2.4	10.1	90.4	7.7	1.2
Hall-02	1	2/2/2016	6.8	6.1	73	126	70.9	1836	11	2.1	9	83.4	9.5	1.7
Hall-02	2	2/2/2016	6.8	6.1	73	126	70.9	1836	11	2.1	9	83.4	9.5	1.7
Hoclgdon-01	1	2/2/2016	7.2	4.3	91	76	61.8	1363	7.8	1.1	6.9	87.5	8.1	3
Home-01	1	2/2/2016	6	3.8	81	79	85.4	506	5.2	6.9	4.8	48.8	12.5	4
Home-02	1	2/2/2016	6	5.1	74	57	83.4	509	5.4	3.8	5.3	47.1	8.6	3.5
Home-03	1	2/2/2016	6.3	11.2	195	161	29.1	753	7	2.2	6.6	54	19	7.2
Home-04	1	2/2/2016	6.8	9.1	237	114	51.2	964	7.3	1.9	6.7	65.7	12.8	8.3
Home-05	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Home-06	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Houly-01	1	2/2/2016	5.9	4	62	49	124.2	492	5.3	1.2	9.3	46.5	7.7	3
Houly-02	1	2/2/2016	6	3.7	78	88	120.5	746	6.6	1.3	8.6	56.1	10.9	3
Houly-03	1	2/2/2016	6	4	70	67	119.9	618	5.9	1.5	10.1	52	9.3	3
Houly-04	1	2/2/2016	5.9	3.3	78	73	133	588	5.7	1.2	9.8	51.2	10.4	3.5
Irwin-01	1	2/2/2016	5.7	2.4	30	25	76.1	353	4.1	1.1	4.7	43.3	5	1.9
Irwin-01	2	2/2/2016	5.7	2.4	30	25	76.1	353	4.1	1.1	4.7	43.3	5	1.9
Irwin-02	1	2/2/2016	6.4	3.8	34	28	50.2	674	4.9	0.9	3.4	68.1	4.7	1.8
Irwin-03	1	2/2/2016	5.9	3.4	62	42	52	333	3.9	1.2	3.6	43	9	4.1
Irwin-03	2	2/2/2016	5.9	3.4	62	42	52	333	3.9	1.2	3.6	43	9	4.1
Irwin-03	3	2/2/2016	5.9	3.4	62	42	52	333	3.9	1.2	3.6	43	9	4.1
JColby-01	1	2/2/2016	6.9	13.7	159	81	43.5	1646	10.3	1.3	7.4	80.1	6.5	4
JColby-02	1	2/2/2016	6.2	7.4	97	70	101.7	804	6.8	1.4	8.5	59.3	8.5	3.7
Johnny-01	1	2/2/2016	6.4	5.5	83	124	68.4	968	7.3	1.5	7.3	66.2	14	2.9
Johnny-02	1	2/2/2016	6.2	5.4	127	79	151.7	700	6.4	1.6	7.8	54.2	10.1	5
Lancaster-01	1	2/2/2016	6.4	4.7	67	116	100.7	1608	10.6	1.5	12	75.8	9	1.6
LLColby-01	1	2/2/2016	6	4.9	117	100	133.3	852	7.9	2.2	14	54.2	10.5	3.8
LLColby-02	1	2/2/2016	6.8	11	152	79	51.9	1567	9.7	1.8	8.2	80.4	6.6	4
Lufkin-01	1	2/2/2016	6.9	5.5	46	112	55.6	1588	9.6	2	9.4	82.5	9.6	1.2
Lufkin-02	1	2/2/2016	6.8	4.2	85	155	55.4	1554	10.1	1.1	9.7	76.9	12.6	2.2
Lufkin-03	1	2/2/2016	6.9	5.3	73	156	38.4	1388	9	1.5	8.8	77	14.3	2.1

McGoffs-01	1	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-01	2	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-01	3	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-01	4	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-01	5	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-01	6	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-01	7	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-01	8	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-01	9	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-01	10	2/2/2016	7.2	20.6	159	88	21.8	1209	7.2	2.9	4.3	83.5	10	5.6
McGoffs-02	1	2/2/2016	6.2	11.6	94	97	24.4	593	5.5	3.5	4.6	53.8	14.5	4.4
McGoffs-03	1	2/2/2016	6.7	11.4	102	88	45.6	1263	8	3.9	6.5	78.4	9	3.3
McGoffs-04	1	2/2/2016	7.4	12.1	169	113	34	1629	9.5	2	6.7	85.3	9.8	4.5
Merritt-01	1	2/2/2016	6.4	2.9	42	68	114.2	952	6.9	3.7	5.5	68.6	8	1.5
Merritt-01	2	2/2/2016	6.4	2.9	42	68	114.2	952	6.9	3.7	5.5	68.6	8	1.5
Munce-01	1	2/2/2016	6.7	23.4	150	123	17.4	1144	8.1	8.5	6.6	70.2	12.4	4.7
Munce-02	1	2/2/2016	6.2	15.2	259	143	39.9	976	8.4	8.6	7.6	58.1	14	7.9
Mundells-01	1	2/2/2016	7.5	7.1	152	79	47.2	2092	11.5	1.9	6	90.5	5.6	3.4
Mundells-02	1	2/2/2016	7.6	7.1	132	104	50.1	1724	9.9	1.5	5.9	86.9	8.6	3.4
Nadeau-01	1	2/2/2016	7.4	18.6	153	101	30.3	1768	10.1	3.2	5.6	87.3	8.2	3.9
Nadeau-01	2	2/2/2016	7.4	18.6	153	101	30.3	1768	10.1	3.2	5.6	87.3	8.2	3.9
Nadeau-01	3	2/2/2016	7.4	18.6	153	101	30.3	1768	10.1	3.2	5.6	87.3	8.2	3.9
Nadeau-02	1	2/2/2016	6.1	3.3	49	55	204	700	5.8	2.1	5.5	60.3	7.8	2.2
Nadeau-03	1	2/2/2016	7.2	4.6	131	86	73	1679	9.5	1.1	7.9	88.4	7.5	3.5
Nadeau-04	1	2/2/2016	6.1	3.2	59	69	119.4	594	5.2	1.2	4.2	56.9	10.8	2.9
NearColes-01	1	2/2/2016	7.3	6.9	193	155	75.2	1799	10.8	2.3	9.1	83	11.8	4.6
Nelson-01	1	2/2/2016	7.3	15.4	122	96	38.9	1410	8.2	1.8	5.7	85.7	9.6	3.8
Nelson-01	2	2/2/2016	7.3	15.4	122	96	38.9	1410	8.2	1.8	5.7	85.7	9.6	3.8
Nelson-01	3	2/2/2016	7.3	15.4	122	96	38.9	1410	8.2	1.8	5.7	85.7	9.6	3.8
Nelson-01	4	2/2/2016	7.3	15.4	122	96	38.9	1410	8.2	1.8	5.7	85.7	9.6	3.8
Nelson-01	5	2/2/2016	7.3	15.4	122	96	38.9	1410	8.2	1.8	5.7	85.7	9.6	3.8
Nelson-01	6	2/2/2016	7.3	15.4	122	96	38.9	1410	8.2	1.8	5.7	85.7	9.6	3.8
Noyes-01	1	2/2/2016	5.7	2.3	35	40	57.6	544	4.9	1.4	4.7	55	6.7	1.8
Parker-01	1	2/2/2016	6	4.4	84	59	106	667	6	1.3	9.6	55.1	8.1	3.6
Parker-02	1	2/2/2016	6.1	3	28	36	109.9	923	6.6	1.7	7.4	69.3	4.4	1.1
Peaslee-01	1	2/2/2016	6	2.9	57	43	71.8	508	4.9	0.9	4.8	51.8	7.2	3
Peaslee-01	2	2/2/2016	6	2.9	57	43	71.8	508	4.9	0.9	4.8	51.8	7.2	3
Peaslee-01	3	2/2/2016	6	2.9	57	43	71.8	508	4.9	0.9	4.8	51.8	7.2	3
Peaslee-02	4	2/2/2016	6.4	13.2	112	35	51.4	516	4.4	1.6	2.6	58.9	6.6	6.6
Peaslee-02	5	2/2/2016	6.4	13.2	112	35	51.4	516	4.4	1.6	2.6	58.9	6.6	6.6
Peaslee-02	6	2/2/2016	6.4	13.2	112	35	51.4	516	4.4	1.6	2.6	58.9	6.6	6.6
Peaslee-03	1	2/2/2016	5.9	2.6	50	45	88.2	579	5.5	0.7	6.2	52.6	6.8	2.3
Plunk-01	1	2/2/2016	6.1	4.6	71	116	74.2	1106	8.5	1.4	10.5	64.7	11.1	2.1
Plunk-02	1	2/2/2016	6.2	4.8	88	111	61	1205	8.7	1.5	9.6	68.9	10.5	2.6
RedHouse-01	1	2/2/2016	6.3	4.1	52	135	117.5	990	7.8	1.7	10.4	63.3	14.2	1.7
ReedRD-01	1	2/2/2016	6.2	3.4	68	80	86.4	1011	7.7	1.2	8.9	65.6	8.5	2.3
RHF-01	1	2/2/2016	6.2	2.5	51	106	119.7	827	6.7	0.8	7.9	61.5	13	1.9
RHF-02	1	2/2/2016	6.2	3.7	92	146	113.2	871	7.9	1.3	8.7	55	15.2	3
RHF-03	1	2/2/2016	6.8	4.7	109	142	74	921	6.8	12.5	7.8	67.9	17.2	4.1
Rowell-01	1	2/2/2016	5.7	5.1	64	102	194.6	658	6.9	1.1	8.4	47.5	12.2	2.4
Rowell-02	1	2/2/2016	5.7	4.2	47	59	200.4	360	5	0.7	10.6	35.7	9.6	2.4
Rowell-03	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Simond-01	1	2/2/2016	6.3	6.5	65	90	67.6	705	5.8	2.7	5.7	60.6	12.7	2.9
Simond-01	2	2/2/2016	6.3	6.5	65	90	67.6	705	5.8	2.7	5.7	60.6	12.7	2.9
Stinehour-01	1	2/2/2016	6	5.1	77	84	62.2	636	6	1.4	7	53.2	11.5	3.3

Stinehour-02	1	2/2/2016	6.1	4.8	66	67	95.3	578	5.5	1.5	6.6	52.7	10	3.1
Styles-01	1	2/2/2016	5.9	6.4	99	80	109.9	742	6.8	2.8	7.8	54.2	9.6	3.7
Styles-02	1	2/2/2016	5.9	5.7	139	89	87.9	759	7.1	2.2	7.9	53.3	10.3	5
Tent-01	1	2/2/2016	5.8	6.8	76	60	139.1	396	5	3	6.3	39.7	9.9	3.9
Tent-02	1	2/2/2016	6.1	5.8	58	75	93.5	644	5.8	2.9	5.4	55.9	10.8	2.6
Tent-03	1	2/2/2016	6.3	4.4	76	71	56.8	662	5.5	2.5	5.7	60.6	10.8	3.6
Tent-04	1	2/2/2016	6.1	4.9	71	73	62.2	535	5.2	2.6	5.1	51.5	11.6	3.5
Tent-04	2	2/2/2016	6.1	4.9	71	73	62.2	535	5.2	2.6	5.1	51.5	11.6	3.5
Tent-05	1	2/2/2016	6.2	4.9	85	71	117.4	535	5.4	3	4.3	49.8	10.8	4.1
Thayer-01	1	2/2/2016	6	2.5	65	51	176.1	432	4.7	2.8	7.9	46.4	9	3.6
Thayer-02	1	2/2/2016	5.8	3.6	37	37	249	385	4.7	2.4	7.2	40.5	6.4	2
Thurstonflat-01	1	2/2/2016	5.8	6.5	97	58	100.7	686	6.4	1.9	12.7	53.2	7.4	3.8
Thurstonflat-02	1	2/2/2016	6	6.4	109	75	51.8	657	6	2.1	11	54.6	10.2	4.6
Thurstonflat-03	1	2/2/2016	5.7	6.2	76	48	82.9	385	4.8	1.6	7.9	40.1	8.2	4.1
Tillman-01	1	2/2/2016	6.8	4.3	109	133	90.9	1893	11.5	2.3	10.2	82.2	9.5	2.4
Tillman-01	2	2/2/2016	6.8	4.3	109	133	90.9	1893	11.5	2.3	10.2	82.2	9.5	2.4
Tillman-02	1	2/2/2016	6.7	3.9	88	108	158.5	1217	7.9	3.2	8.3	76.6	11.2	2.8
Tillman-03	1	2/2/2016	6.4	2.8	59	86	175.6	981	7.1	4.2	8.3	69.3	10	2.1
Tillman-04	1	2/2/2016	6.6	7.4	92	118	94.1	1433	9.4	2.6	9.5	76.2	10.3	2.5
Tillman-05	1	2/2/2016	6.6	4.8	72	78	123.1	1048	6.9	2.3	10.4	75.4	9.2	2.6
Tillman-06	1	2/2/2016	6.6	6	82	103	113.2	1242	8.2	2.7	8.4	75.6	10.3	2.5
Warren-01	1	2/2/2016	6.4	3	30	72	125.2	836	6.2	3.4	7	67.5	9.5	1.2
Warren-01	2	2/2/2016	6.4	3	30	72	125.2	836	6.2	3.4	7	67.5	9.5	1.2
Warren-02	1	2/2/2016	6.5	3.7	28	82	103.8	1004	6.9	4.4	7.5	72.3	9.7	1
Warren-03	1	2/2/2016	6.6	3.3	28	77	115.2	1077	7.1	2.7	7.2	75.5	8.9	1
Weeks-01	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Weeks-02	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Weeks-03	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Weeks-03	2	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Weeks-04	1	Farm Av.	6.4	8.1	92.1	87.3	77.4	1038.4	7.5	2.7	7.3	67.5	9.6	3.2
Bull-01	1	5/17/2017	6.4	4.4	27.9	70	61.8	1141.2	7.6	0.9	5.58	75.4	7.6	0.9
Bull-02	1	5/17/2017	6.57	9.7	34	75.4	38	1383.2	8.5	1.3	4.85	80.7	7.3	1
Bull-02	2	5/17/2017	6.57	9.7	34	75.4	38	1383.2	8.5	1.3	4.85	80.7	7.3	1
Bull-03	1	5/17/2017	6.52	4.6	26.8	69.4	49.6	1140.8	7.4	1	5.6	77.1	7.7	0.9
Bull-04	1	5/17/2017	6.65	15	90.2	78	39.9	1367.6	8.6	2.6	3.75	79.5	7.5	2.7
Bull-05	1	5/17/2017	6.58	6	34	76.5	53.2	1376	8.5	1.3	6.45	80.8	7.4	1
Bull-06	1	5/17/2017	6.44	6.3	45.4	66.5	54.5	1274	8.2	1.2	5.19	77.1	6.6	1.4
Bull-07	1	5/17/2017	6.9	19.2	157.6	108.6	35.4	1926	11.4	2.7	4.65	84.4	7.8	3.5
Bull-08	1	5/17/2017	6.5	6.5	55.2	53.6	91.6	1081.2	7.1	1.9	4.15	75.6	6.2	2
Bull-09	1	5/17/2017	6.71	6.9	30.4	86.6	33.8	1461.6	9.5	1.1	4.83	76.4	7.5	0.8
Bull-10	1	5/17/2017	6.57	5.9	40.1	95.3	43.6	1280	8.3	1	5.03	76.9	9.4	1.2
Bull-10	2	5/17/2017	6.57	5.9	40.1	95.3	43.6	1280	8.3	1	5.03	76.9	9.4	1.2
Bull-11	1	5/17/2017	7.03	15.8	91.2	85.7	42	1547.6	8.7	2.3	3.55	88.6	8.1	2.7
Bull-12	1	5/17/2017	6.83	7.7	36.7	95.2	45.9	1505.2	9	0.8	5.35	83.5	8.7	1
Rich-01	1	5/17/2017	4.66	2.9	123.5	76.8	239.3	297.1	9.1	1.9	16.44	16.2	6.9	3.5
Rich-01	2	5/17/2017	4.66	2.9	123.5	76.8	239.3	297.1	9.1	1.9	16.44	16.2	6.9	3.5
Rich-01	3	5/17/2017	4.66	2.9	123.5	76.8	239.3	297.1	9.1	1.9	16.44	16.2	6.9	3.5
Rich-01	4	5/17/2017	4.66	2.9	123.5	76.8	239.3	297.1	9.1	1.9	16.44	16.2	6.9	3.5
Rich-01	5	5/17/2017	4.66	2.9	123.5	76.8	239.3	297.1	9.1	1.9	16.44	16.2	6.9	3.5
Bull-13	1	5/17/2017	6.5	6.5	55.2	53.6	91.6	1081.2	7.1	1.9	4.15	75.6	6.2	2

Supporting Info

Field Assessments

Forbes Family Farm 2017 Public NMP

Field Info					Resource Determinations							Resource Concerns							
Field ID	Acres	Tract #	Field #	Crop	Soil Type ID	Soil Type Name	Soil Drainage	Rotation	Rotation RUSLE II	Annual RUSLE II	HEL	PI > 60	PI > 100	LI > 10	<25' Buffer	Total Distance to Water	Veg. Buffer Width	Manure Spreading Setback	Very High Soil P
AcrRiv-01	11.5	119	1	Corn Silage	102A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Airport-01	25.6	191	1,7	Grass	613B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						35	35	0	
Airport-02	4.6	191	10	Grass	613B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						150	150	0	
Airport-03	5.3	191	5	Grass	613B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						75	75	0	
Airport-04	7.7	191	6	Grass	613B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						300	200	0	
Airport-05	4.1	191	16	Grass	613B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						150	150	0	
Airport-06	4.8	191	9	Grass	613B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						200	200	0	
Allen-01	7.0	125	1	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	300	0	
Allen-02	4.6	125	4	Grass	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Allen-03	2.8	125	3	Grass	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Allen-04	5.5	125	5	Grass	613A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	170	0	
Allen-05	11.5	125	6	Grass	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	300	0	
Allen-06	5.3	125	7	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	300	0	
Baerds-01	7.8	476	1	Grass	41N	Tunbridge (C)	B, WD	Con Hay	0.32	0.46						300	300	0	
Bart-01	15.2	122	1,7	Grass	27A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Bart-02	2.6	122	2	Grass	27A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	35	0	
Bart-03	8.5	122	3	Grass	550A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Bart-04	3.1	122	4	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Bart-05	1.9	122	5	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1		X				40	40	0	
Bart-06	3.6	122	6	Grass	632A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1		X				35	35	0	
BigStinehour-01	20.7	1294	1	Grass	25A	Other (HydrGrp A, Non-clay)	A, EWD	Con Hay	0.0062	0.0089				X		35	300	0	
Blaksley-01	7.2	45	7	Grass	558C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Blaksley-02	3.8	45	5	Grass	558C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Blaksley-03	3.2	45	12	Grass	558C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Blaksley-04	6.4	45	13	Grass	558D	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Blaksley-05	13.5	45	9,14	Grass	558B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						300	300	0	
Blaksley-06	5.0	45	4	Grass	56B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						300	300	0	
Blaksley-07	2.5	45	3	Grass	670C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Blaksley-08	2.5	122	0	Grass	670C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Bug-01	7.0	61	8	Corn Silage	6A	Adams (A)	A, EWD	Con. Corn (SC)	1.1	1.1				X		100	100	0	
Bug-02	47.4	61	4	Corn Silage	30A	Ondawa (B)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	X
Bug-03	3.5	61	2	Grass	6A	Adams (A)	A, EWD	Con. Corn (SC)	1.1	1.1				X		100	100	0	
Bug-04	6.5	61	1	Corn Silage	6A	Adams (A)	A, EWD	Con. Corn (SC)	1.1	1.1				X		35	35	0	
Bull-01	2.7	0	0	Grass	22C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Bull-02	24.8	0	0	Grass	6B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						100	100	0	
Bull-03	17.2	0	0	Grass	74C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	35	0	
Bull-04	3.0	0	0	Corn Silage	6C	Adams (A)	B, WD	Con. Corn (SC)	1.1	1.1						100	100	0	
Bull-05	5.7	0	0	Grass	16D	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						100	100	0	
Bull-06	12.7	0	0	Grass	6B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						100	100	0	
Bull-07	6.0	0	0	Corn Silage	32B	Duxbury (B)	B, WD	Con. Corn (SC)	2	2						100	100	0	
Bull-08	7.5	0	0	Corn Silage	74C	Monadnock (B)	B, WD	Con. Corn (SC)	1.7	1.7						300	300	0	
Bull-09	14.9	0	0	Grass	74C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Bull-10	24.9	0	0	Grass	16C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Bull-11	8.4	0	0	Corn Silage	75C	Monadnock (B)	B, WD	Con. Corn (SC)	1.7	1.7						300	300	0	
Bull-12	4.5	0	0	Grass	8C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						300	300	0	
Bull-13	3.2	0	0	Grass	22C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						50	50	0	
CalColby-01	5.4	394	9	Corn Silage	11N	Cabot (D)	B, WD	Con. Corn (SC,WC)	1.4	1.4						300	300	0	
CalColby-02	3.3	394	8	Grass	41N	Tunbridge (C)	B, WD	Con Hay	0.32	0.46						300	300	0	
CalColby-03	3.0	394	6	Grass	41N	Tunbridge (C)	B, WD	Con Hay	0.32	0.46						300	300	0	
CalColby-04	3.7	394	7	Grass	41N	Tunbridge (C)	B, WD	Con Hay	0.32	0.46						300	300	0	
CalColby-05	15.5	394	2,12	Grass	41N	Tunbridge (C)	B, WD	Con Hay	0.32	0.46						300	300	0	
CalColby-06	3.1	394	3	Grass	41N	Tunbridge (C)	B, WD	Con Hay	0.32	0.46						300	300	0	
Cantins-01	3.6	59	2	Grass	38B	Croghan (B)	B, WD	Con. Corn (SC)	3.5	3.5		X				35	35	0	
Cantins-02	6.1	59	3	Grass	3A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.9	2.9		X				35	35	0	
Cantins-03	3.7	59	4c	Grass	3A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.9	2.9		X				35	35	0	

Field Assessments

Forbes Family Farm 2017 Public NMP

Field Info					Resource Determinations							Resource Concerns							
Field ID	Acres	Tract #	Field #	Crop	Soil Type ID	Soil Type Name	Soil Drainage	Rotation	Rotation RUSLE II	Annual RUSLE II	HEL	PI > 60	PI > 100	LI > 10	<25' Buffer	Total Distance to Water	Veg. Buffer Width	Manure Spreading Setback	Very High Soil P
Cantins-04	24.4	751, 59	1b,4b	Grass	30A	Ondawa (B)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
CColby-01	15.4	397	4	Corn Silage	41N	Tunbridge (C)	B, WD	Con. Corn (SC)	2.3	2.3						300	300	0	
CColby-02	8.4	397	11	Grass	42N	Tunbridge (C)	B, WD	Con Hay	0.32	0.46						300	300	0	
Chase-01	36.7	698, 696	1,1	Grass	142B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						150	150	0	
Chase-02	16.6	765	1	Grass	142B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						300	300	0	
Chase-03	6.2	910	1	Grass	168B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						100	100	0	
ColbySouth-01	17.6	880	3	Corn Silage	31A	Podunk (B)	B, WD	Con. Corn (SC)	1.5	1.5						35	35	0	
ColbySouth-02	7.4	880	2	Corn Silage	3A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.9	2.9						35	35	0	
ColbySouth-03	18.6	880	1	Corn Silage	38B	Croghan (B)	B, WD	Con. Corn (SC)	3.5	3.5						75	75	0	
Coles-01	14.8	1176	2	Corn Silage	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						50	50	0	
Coles-02	23.9	1176, 1231	2b,1b,3b	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						35	35	0	
Coles-03	18.4	1176	1	Corn Silage	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						80	35	0	
Crane-01	26.6	126	4,1	Corn Silage	202A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						40	40	0	X
Crane-02	10.5	126	2	Corn Silage	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	40	0	
Crane-03	17.1	126	3	Corn Silage	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	40	0	
Derocher-01	3.5	1388	1	Grass	138B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						100	35	0	
Derocher-02	2.6	1388	2	Grass	168B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						100	100	0	
Dick's-01	3.8	778	6	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						150	150	0	
Don-01	6.8	60	4	Corn Silage	30A	Ondawa (B)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Don-02	0.5	60	4b	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						300	300	0	
Don-03	3.8	60	2	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						230	230	0	
Don-04	1.8	60	15	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						300	300	0	
Don-05	12.0	60	14	Corn Silage	30A	Ondawa (B)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Don-06	0.9	60	6	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						300	180	0	
Don-07	2.6	60	5	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						300	180	0	
Dump-01	13.1	124	3b,1	Grass	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Dump-02	11.8	124	3	Corn Silage	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						170	35	0	
Dump-03	14.4	124	2	Corn Silage	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	35	0	
Dump-04	2.3	124	4	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	300	0	
Farnsworth-01	163.8	1018, 1022	12,1,6	Corn Silage	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Farnsworth-02	27.0	1018	6,5,12b	Grass	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Farnsworth-03	6.2	1018	7	Grass	307A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Fortin-01	5.5	272	4	Grass	76B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						300	300	0	
Fortin-02	3.3	272	6	Grass	470B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						300	300	0	
Garber-01	34.5	120	1	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Garber-02	18.6	120	3	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	
Gauge-01	20.0	121	1	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1		X				35	35	0	
Gauge-02	47.6	121	3,2	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						50	50	0	
Gauge-03	9.3	121	5	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1		X				35	35	0	
Gesel-01	13.2	491	1	Grass	78C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						150	150	0	
Gingue-01	25.5	123	1	Corn Silage	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	X
Gingue-02	6.2	123	3	Corn Silage	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						100	100	0	
Gingue-03	87.0	123	2	Corn Silage	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						35	35	0	X
Greek-01	5.0	363	5	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	300	0	
Greek-02	2.3	363	1	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						300	300	0	

Field Assessments

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Field Info					Resource Determinations							Resource Concerns							
Field ID	**Acres**	**Tract #**	**Field #**	**Crop**	**Soil Type ID**	**Soil Type Name**	**Soil Drainage**	**Rotation**	**Rotation RUSLE II**	**Annual RUSLE II**	**HEL**	**PI > 60**	**PI > 100**	**LI > 10**	**<25' Buffer**	**Total Distance to Water**	**Veg. Buffer Width**	**Manure Spreading Setback**	**Very High Soil P**
Green-01	4.1	138	29	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Green-02	13.9	138	36	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Green-03	13.9	138	26	Grass	61C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**35**	**0**	
Green-04	8.3	138	24	Grass	61B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Green-05	13.5	138	8	Grass	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**300**	**300**	**0**	
Green-06	2.9	138	9	Grass	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**180**	**180**	**0**	
Green-07	5.9	138	13	Grass	14B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Green-08	3.2	138	7	Grass	14B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**300**	**0**	
Green-09	16.4	138	4	Grass	14B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Green-10	7.0	138	6a	Grass	14B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Green-11	7.8	138	6b	Grass	646B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Green-12	7.3	138	5	Grass	169B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Green-13	19.9	138	18	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Green-14	4.3	138	12	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Green-15	5.0	138	1	Grass	61B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Green-16	8.7	138	12	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**50**	**35**	**0**	
Green-17	1.9	138	17	Grass	433A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**50**	**50**	**0**	
Green-18	10.3	138	3	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**100**	**100**	**0**	
Green-19	5.3	138	16	Grass	76C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**300**	**0**	
Green-20	18.9	138	11	Grass	470B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**300**	**0**	
Grpaper-01	30.3	1298	1	Grass	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**100**	**100**	**0**	
Hall-01	3.0	1279	2	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1		**X**				**35**	**35**	**0**	
Hall-02	37.7	1079, 121	1,7	Grass	27A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Hoclgdon-01	12.4	1128	1	Corn Silage	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						**50**	**50**	**0**	
Home-01	2.2	116	2	Grass	400	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**50**	**50**	**0**	
Home-02	3.9	116	6	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Home-03	3.0	116	7	Grass	102A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1		**X**				**35**	**35**	**0**	
Home-04	12.7	118, 117	14,1	Corn Silage	102A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Home-05	1.7	116	0	Grass	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Home-06	1.7	116	0	Grass	102A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Houly-01	7.0	272	3	Grass	78B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**300**	**0**	
Houly-02	4.2	272	5	Grass	76B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**300**	**0**	
Houly-03	6.2	272	2	Grass	78B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**100**	**100**	**0**	
Houly-04	7.5	272	1	Grass	78B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Irwin-01	37.1	97	1	Grass	30A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**75**	**75**	**0**	
Irwin-02	15.3	97	1	Corn Silage	30A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**75**	**75**	**0**	
Irwin-03	40.8	97	1	Grass	30A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
JColby-01	16.2	396	5	Corn Silage	41N	Tunbridge (C)	B, WD	Con. Corn (SC)	2.3	2.3						**300**	**300**	**0**	
JColby-02	5.2	396	1	Grass	41N	Tunbridge (C)	B, WD	Con Hay	0.32	0.46						**300**	**300**	**0**	
Johnny-01	2.0	144	9	Grass	168A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**75**	**75**	**0**	
Johnny-02	1.1	144	5	Grass	632A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**75**	**75**	**0**	
Lancaster-01	7.7	1339	2	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**300**	**300**	**0**	
LLColby-01	9.2	451	1	Grass	42N	Tunbridge (C)	B, WD	Con Hay	0.32	0.46						**300**	**300**	**0**	
LLColby-02	12.4	395	10	Grass	12N	Cabot (D)	B, WD	Con Hay	0.42	0.6		**X**				**300**	**300**	**0**	
Lufkin-01	9.2	1359	3	Grass	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Lufkin-02	1.0	1359	5	Grass	307A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
Lufkin-03	11.8	1360	1	Grass	307A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
McGoffs-01	197.7	1020, 1005	1,13	Corn Silage	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**50**	**50**	**0**	**X**
McGoffs-02	13.3	1020, 1005	1b, 13b	Grass	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1		**X**				**50**	**50**	**0**	
McGoffs-03	18.7	1020	4	Grass	105A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1		**X**				**35**	**35**	**0**	

Field Assessments

Forbes Family Farm 2017 Public NMP

Field Info					Resource Determinations							Resource Concerns							
Field ID	**Acres**	**Tract #**	**Field #**	**Crop**	**Soil Type ID**	**Soil Type Name**	**Soil Drainage**	**Rotation**	**Rotation RUSLE II**	**Annual RUSLE II**	**HEL**	**PI > 60**	**PI > 100**	**LI > 10**	**<25' Buffer**	**Total Distance to Water**	**Veg. Buffer Width**	**Manure Spreading Setback**	**Very High Soil P**
McGoffs-04	3.1	144, 1005	12	Corn Silage	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**90**	**90**	**0**	
Merritt-01	26.4	673	1	Grass	72B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Munce-01	14.4	129	5	Corn Silage	102A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**300**	**180**	**0**	**X**
Munce-02	1.4	42	2	Corn Silage	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**200**	**200**	**0**	
Mundells-01	10.1	933	1	Grass	38B	Croghan (B)	B, WD	Con. Corn (SC)	3.5	3.5		**X**				**100**	**35**	**0**	
Mundells-02	2.8	933	2	Grass	38B	Croghan (B)	B, WD	Con. Corn (SC)	3.5	3.5						**75**	**75**	**0**	
Nadeau-01	42.8	1005	13	Corn Silage	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**90**	**90**	**0**	
Nadeau-02	2.0	1005	10	Grass	505A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**200**	**200**	**0**	
Nadeau-03	8.3	1005	10	Grass	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**120**	**120**	**0**	
Nadeau-04	2.5	1005	9	Grass	504A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**300**	**200**	**0**	
NearColes-01	15.0	1231	2a	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						**300**	**300**	**0**	
Nelson-01	115.7	751, 59	1,4	Corn Silage	30A	Ondawa (B)	B, WD	Con. Corn (SC)	2.1	2.1						**80**	**35**	**0**	
Noyes-01	10.2	1188	1	Grass	307A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**80**	**35**	**0**	
Parker-01	2.7	232	1	Grass	54C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**100**	**100**	**0**	
Parker-02	7.5	232	2	Grass	78C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**150**	**150**	**0**	
Peaslee-01	52.9	1351	5,6,3	Grass	3A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.9	2.9						**35**	**35**	**0**	
Peaslee-02	41.8	1351	4	Corn Silage	30A	Ondawa (B)	B, WD	Con. Corn (SC)	2.1	2.1						**200**	**35**	**0**	
Peaslee-03	20.1	1351	1,2	Grass	31A	Podunk (B)	B, WD	Con. Corn (SC)	1.5	1.5						**50**	**50**	**0**	
Plunk-01	5.9	1414	4	Grass	433A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**80**	**80**	**0**	
Plunk-02	12.3	1414	2	Grass	433A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**35**	**35**	**0**	
RedHouse-01	10.7	230	1	Grass	28A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**140**	**140**	**0**	
ReedRD-01	16.0	128	1	Grass	76C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**300**	**0**	
RHF-01	2.3	1389	1	Grass	58C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**35**	**35**	**0**	
RHF-02	10.3	1389	2	Grass	58C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**40**	**35**	**0**	
RHF-03	3.9	1389	3	Grass	58C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**60**	**35**	**0**	
Rich-01	80.5	0	0	Corn Silage	25A	Other (HydrGrp A, Non-clay)	B, WD	Con Hay	0.0062	0						**50**	**50**	**0**	
Rowell-01	2.0	845	1	Grass	647C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**35**	**35**	**0**	
Rowell-02	10.1	845	2	Grass	646B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**35**	**35**	**0**	
Rowell-03	1.8	0	0	Grass	78C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**100**	**100**	**0**	
Simond-01	23.9	472	5	Grass	208A	Other (HydrGrp B, Non-clay)	B, WD	Con. Corn (SC)	2.1	2.1						**40**	**40**	**0**	
Stinehour-01	2.4	454	6	Grass	25A	Other (HydrGrp A, Non-clay)	A, EWD	Con Hay	0.0062	0.0089				**X**		**50**	**50**	**0**	
Stinehour-02	6.3	454	2	Grass	25A	Other (HydrGrp A, Non-clay)	A, EWD	Con Hay	0.0062	0.0089				**X**		**150**	**150**	**0**	
Styles-01	6.4	1274	2	Grass	647B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**300**	**0**	
Styles-02	7.2	1274	1	Grass	670C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**300**	**0**	
Tent-01	0.8	756	2	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						**300**	**300**	**0**	
Tent-02	6.7	756	3	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						**300**	**300**	**0**	
Tent-03	4.3	756	4	Grass	38A	Croghan (B)	B, WD	Con. Corn (SC)	1.1	1.1						**150**	**150**	**0**	
Tent-04	29.6	756	5	Grass	31A	Podunk (B)	B, WD	Con. Corn (SC)	1.5	1.5						**50**	**35**	**0**	
Tent-05	9.1	756	1	Grass	25A	Other (HydrGrp A, Non-clay)	A, EWD	Con Hay	0.0062	0.0089				**X**		**300**	**300**	**0**	
Thayer-01	11.8	1272	3	Grass	630B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**150**	**150**	**0**	
Thayer-02	2.2	1272	4	Grass	630B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**300**	**0**	
Thurstonflat-01	4.6	464	2	Grass	25A	Other (HydrGrp A, Non-clay)	A, EWD	Con Hay	0.0062	0.0089				**X**		**200**	**300**	**0**	
Thurstonflat-02	11.2	464	3	Grass	25A	Other (HydrGrp A, Non-clay)	A, EWD	Con Hay	0.0062	0.0089				**X**		**100**	**100**	**0**	
Thurstonflat-03	1.6	464	1	Grass	25A	Other (HydrGrp A, Non-clay)	A, EWD	Con Hay	0.0062	0.0089				**X**		**35**	**35**	**0**	
Tillman-01	27.4	438	5,2	Grass	77C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**300**	**0**	
Tillman-02	10.2	438	2	Grass	77C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**300**	**0**	
Tillman-03	7.3	438	1	Grass	77C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**300**	**0**	
Tillman-04	4.7	438	7	Grass	670C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**300**	**0**	
Tillman-05	1.5	438	8	Grass	79B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**300**	**0**	
Tillman-06	4.0	438	9	Grass	79B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**300**	**0**	

Field Assessments

Forbes Family Farm 2017 Public NMP

Field Info					Resource Determinations							Resource Concerns							
Field ID	**Acres**	**Tract #**	**Field #**	**Crop**	**Soil Type ID**	**Soil Type Name**	**Soil Drainage**	**Rotation**	**Rotation RUSLE II**	**Annual RUSLE II**	**HEL**	**PI > 60**	**PI > 100**	**LI > 10**	**<25' Buffer**	**Total Distance to Water**	**Veg. Buffer Width**	**Manure Spreading Setback**	**Very High Soil P**
Warren-01	30.0	127	1	Grass	630B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**80**	**0**	
Warren-02	16.0	127	2	Grass	630B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**80**	**80**	**0**	
Warren-03	2.5	127	3	Grass	630B	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.29	0.41						**300**	**80**	**0**	
Weeks-01	8.9	314	7,12,6	Grass	78C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**300**	**0**	
Weeks-02	10.7	314	13,8	Grass	646C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**300**	**0**	
Weeks-03	20.3	314	4,5,14	Grass	646C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**35**	**35**	**0**	
Weeks-04	5.9	314	2	Grass	647C	Other (HydrGrp B, Non-clay)	B, WD	Con Hay	0.33	0.47						**300**	**35**	**0**	

Rusle II

Forbes Family Farm 2017 Public NMP

Field ID		Field Attributes							Rusle II Rotation		Rusle II Annual Soil Loss								
Field ID	Acres	State/ County	Tillage	Soil Type ID	Soil Type Name	Soil Drainage	Slope	Length	Rotation	Rotation Soil Loss	Hay	New Seeding	Corn Silage	GS Corn Silage	Corn Grain	GS Corn Grain	Soybean	GS Soybean	Pasture
AcrRiv-01	11.5	NH/COO	Conv	102A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Airport-01	25.6	NH/COO	Conv	613B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Airport-02	4.6	NH/COO	Conv	613B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Airport-03	5.3	NH/COO	Conv	613B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Airport-04	7.7	NH/COO	Conv	613B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Airport-05	4.1	NH/COO	Conv	613B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Airport-06	4.8	NH/COO	Conv	613B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Allen-01	7.0	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Allen-02	4.6	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Allen-03	2.8	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Allen-04	5.5	NH/COO	Conv	613A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Allen-05	11.5	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Allen-06	5.3	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Baerds-01	7.8	VT/ESS	Conv	41N	Tunbridge (C)	B, WD	8%	150	Con Hay	0.32	0.46	1.5	0	0	0	0	0	0	0.46
Bart-01	15.2	NH/COO	Conv	27A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Bart-02	2.6	NH/COO	Conv	27A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Bart-03	8.5	NH/COO	Conv	550A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Bart-04	3.1	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Bart-05	1.9	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Bart-06	3.6	NH/COO	Conv	632A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
BigStinehour-01	20.7	VT/ESS	Conv	25A	Other (HydrGrp A, Non-clay)	A, EWD	2%	200	Con Hay	0.0062	0.0089	0.026	0	0	0	0	0	0	0.0089
Blaksley-01	7.2	NH/COO	Conv	558C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Blaksley-02	3.8	NH/COO	Conv	558C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Blaksley-03	3.2	NH/COO	Conv	558C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Blaksley-04	6.4	NH/COO	Conv	558D	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Blaksley-05	13.5	NH/COO	Conv	558B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Blaksley-06	5.0	NH/COO	Conv	56B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Blaksley-07	2.5	NH/COO	Conv	670C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Blaksley-08	2.5	NH/COO	Conv	670C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Bug-01	7.0	VT/ESS	Conv	6A	Adams (A)	A, EWD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Bug-02	47.4	VT/ESS	Conv	30A	Ondawa (B)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Bug-03	3.5	VT/ESS	Conv	6A	Adams (A)	A, EWD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Bug-04	6.5	VT/ESS	Conv	6A	Adams (A)	A, EWD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Bull-01	2.7	VT/ESS	Conv	22C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Bull-02	24.8	VT/ESS	Conv	6B	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Bull-03	17.2	VT/ESS	Conv	74C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Bull-04	3.0	VT/ESS	Conv	6C	Adams (A)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Bull-05	5.7	VT/ESS	Conv	16D	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Bull-06	12.7	VT/ESS	Conv	6B	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Bull-07	6.0	VT/ESS	Conv	32B	Duxbury (B)	B, WD	2%	200	Con. Corn (SC)	2	2	0	2	2	2	2	0	0	2
Bull-08	7.5	VT/ESS	Conv	74C	Monadnock (B)	B, WD	2%	200	Con. Corn (SC)	1.7	1.7	0	1.7	1.7	1.7	1.7	0	0	1.7
Bull-09	14.9	VT/ESS	Conv	74C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Bull-10	24.9	VT/ESS	Conv	16C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Bull-11	8.4	VT/ESS	Conv	75C	Monadnock (B)	B, WD	2%	200	Con. Corn (SC)	1.7	1.7	0	1.7	1.7	1.7	1.7	0	0	1.7
Bull-12	4.5	VT/ESS	Conv	8C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Bull-13	3.2	VT/ESS	Conv	22C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
CalColby-01	5.4	VT/ESS	Conv	11N	Cabot (D)	B, WD	2%	200	Con. Corn (SC,WC)	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
CalColby-02	3.3	VT/ESS	Conv	41N	Tunbridge (C)	B, WD	8%	150	Con Hay	0.32	0.46	1.5	0	0	0	0	0	0	0.46
CalColby-03	3.0	VT/ESS	Conv	41N	Tunbridge (C)	B, WD	8%	150	Con Hay	0.32	0.46	1.5	0	0	0	0	0	0	0.46
CalColby-04	3.7	VT/ESS	Conv	41N	Tunbridge (C)	B, WD	8%	150	Con Hay	0.32	0.46	1.5	0	0	0	0	0	0	0.46

If Slope is 0 and a Hay field it use a default Con. Hay Rusle II

Rusle II

Forbes Family Farm 2017 Public NMP

Field ID		Field Attributes							Rusle II Rotation		Rusle II Annual Soil Loss								
Field ID	Acres	State/ County	Tillage	Soil Type ID	Soil Type Name	Soil Drainage	Slope	Length	Rotation	Rotation Soil Loss	Hay	New Seeding	Corn Silage	GS Corn Silage	Corn Grain	GS Corn Grain	Soybean	GS Soybean	Pasture
CalColby-05	15.5	VT/ESS	Conv	41N	Tunbridge (C)	B, WD	8%	150	Con Hay	0.32	0.46	1.5	0	0	0	0	0	0	0.46
CalColby-06	3.1	VT/ESS	Conv	41N	Tunbridge (C)	B, WD	8%	150	Con Hay	0.32	0.46	1.5	0	0	0	0	0	0	0.46
Cantins-01	3.6	VT/ESS	Conv	38B	Croghan (B)	B, WD	6%	150	Con. Corn (SC)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Cantins-02	6.1	VT/ESS	Conv	3A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Cantins-03	3.7	VT/ESS	Conv	3A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Cantins-04	24.4	VT/ESS	Conv	30A	Ondawa (B)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
CColby-01	15.4	VT/ESS	Conv	41N	Tunbridge (C)	B, WD	3%	200	Con. Corn (SC)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
CColby-02	8.4	VT/ESS	Conv	42N	Tunbridge (C)	B, WD	8%	150	Con Hay	0.32	0.46	1.5	0	0	0	0	0	0	0.46
Chase-01	36.7	NH/COO	Conv	142B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Chase-02	16.6	NH/COO	Conv	142B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Chase-03	6.2	NH/COO	Conv	168B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
ColbySouth-01	17.6	VT/ESS	Conv	31A	Podunk (B)	B, WD	2%	200	Con. Corn (SC)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
ColbySouth-02	7.4	VT/ESS	Conv	3A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
ColbySouth-03	18.6	VT/ESS	Conv	38B	Croghan (B)	B, WD	6%	150	Con. Corn (SC)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Coles-01	14.8	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Coles-02	23.9	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Coles-03	18.4	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Crane-01	26.6	NH/COO	Conv	202A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Crane-02	10.5	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Crane-03	17.1	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Derocher-01	3.5	NH/COO	Conv	138B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Derocher-02	2.6	NH/COO	Conv	168B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Dick's-01	3.8	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Don-01	6.8	VT/ESS	Conv	30A	Ondawa (B)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Don-02	0.5	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Don-03	3.8	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Don-04	1.8	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Don-05	12.0	VT/ESS	Conv	30A	Ondawa (B)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Don-06	0.9	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Don-07	2.6	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Dump-01	13.1	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Dump-02	11.8	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Dump-03	14.4	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Dump-04	2.3	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Farnsworth-01	163.8	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Farnsworth-02	27.0	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Farnsworth-03	6.2	NH/COO	Conv	307A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Fortin-01	5.5	NH/COO	Conv	76B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Fortin-02	3.3	NH/COO	Conv	470B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Garber-01	34.5	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Garber-02	18.6	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Gauge-01	20.0	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Gauge-02	47.6	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Gauge-03	9.3	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Gesel-01	13.2	NH/COO	Conv	78C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Gingue-01	25.5	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Gingue-02	6.2	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Gingue-03	87.0	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Greek-01	5.0	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Greek-02	2.3	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

If Slope is 0 and a Hay field it use a default Con. Hay Rusle II

Rusle II

Forbes Family Farm 2017 Public NMP

Field ID		Field Attributes							Rusle II Rotation		Rusle II Annual Soil Loss								
Field ID	Acres	State/ County	Tillage	Soil Type ID	Soil Type Name	Soil Drainage	Slope	Length	Rotation	Rotation Soil Loss	Hay	New Seeding	Corn Silage	GS Corn Silage	Corn Grain	GS Corn Grain	Soybean	GS Soybean	Pasture
Green-01	4.1	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Green-02	13.9	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Green-03	13.9	NH/COO	Conv	61C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Green-04	8.3	NH/COO	Conv	61B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Green-05	13.5	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Green-06	2.9	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Green-07	5.9	NH/COO	Conv	14B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Green-08	3.2	NH/COO	Conv	14B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Green-09	16.4	NH/COO	Conv	14B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Green-10	7.0	NH/COO	Conv	14B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Green-11	7.8	NH/COO	Conv	646B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Green-12	7.3	NH/COO	Conv	169B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Green-13	19.9	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Green-14	4.3	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Green-15	5.0	NH/COO	Conv	61B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Green-16	8.7	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Green-17	1.9	NH/COO	Conv	433A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Green-18	10.3	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Green-19	5.3	NH/COO	Conv	76C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Green-20	18.9	NH/COO	Conv	470B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Grpaper-01	30.3	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Hall-01	3.0	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Hall-02	37.7	NH/COO	Conv	27A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Hoclgdon-01	12.4	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Home-01	2.2	NH/COO	Conv	400	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Home-02	3.9	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Home-03	3.0	NH/COO	Conv	102A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Home-04	12.7	NH/COO	Conv	102A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Home-05	1.7	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Home-06	1.7	NH/COO	Conv	102A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Houly-01	7.0	NH/COO	Conv	78B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Houly-02	4.2	NH/COO	Conv	76B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Houly-03	6.2	NH/COO	Conv	78B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Houly-04	7.5	NH/COO	Conv	78B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Irwin-01	37.1	NH/COO	Conv	30A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Irwin-02	15.3	NH/COO	Conv	30A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Irwin-03	40.8	NH/COO	Conv	30A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
JColby-01	16.2	VT/ESS	Conv	41N	Tunbridge (C)	B, WD	3%	200	Con. Corn (SC)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
JColby-02	5.2	VT/ESS	Conv	41N	Tunbridge (C)	B, WD	8%	150	Con Hay	0.32	0.46	1.5	0	0	0	0	0	0	0.46
Johnny-01	2.0	NH/COO	Conv	168A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Johnny-02	1.1	NH/COO	Conv	632A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lancaster-01	7.7	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
LLColby-01	9.2	VT/ESS	Conv	42N	Tunbridge (C)	B, WD	8%	150	Con Hay	0.32	0.46	1.5	0	0	0	0	0	0	0.46
LLColby-02	12.4	VT/ESS	Conv	12N	Cabot (D)	B, WD	8%	150	Con Hay	0.42	0.6	1.9	0	0	0	0	0	0	0.6
Lufkin-01	9.2	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lufkin-02	1.0	NH/COO	Conv	307A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lufkin-03	11.8	NH/COO	Conv	307A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
McGoffs-01	197.7	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
McGoffs-02	13.3	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
McGoffs-03	18.7	NH/COO	Conv	105A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

If Slope is 0 and a Hay field it use a default Con. Hay Rusle II

Rusle II

Forbes Family Farm 2017 Public NMP

Field ID		Field Attributes							Rusle II Rotation		Rusle II Annual Soil Loss								
Field ID	Acres	State/ County	Tillage	Soil Type ID	Soil Type Name	Soil Drainage	Slope	Length	Rotation	Rotation Soil Loss	Hay	New Seeding	Corn Silage	GS Corn Silage	Corn Grain	GS Corn Grain	Soybean	GS Soybean	Pasture
McGoffs-04	3.1	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Merritt-01	26.4	NH/COO	Conv	72B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Munce-01	14.4	NH/COO	Conv	102A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Munce-02	1.4	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Mundells-01	10.1	VT/ESS	Conv	38B	Croghan (B)	B, WD	6%	150	Con. Corn (SC)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Mundells-02	2.8	VT/ESS	Conv	38B	Croghan (B)	B, WD	6%	150	Con. Corn (SC)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Nadeau-01	42.8	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Nadeau-02	2.0	NH/COO	Conv	505A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Nadeau-03	8.3	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Nadeau-04	2.5	NH/COO	Conv	504A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
NearColes-01	15.0	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Nelson-01	115.7	VT/ESS	Conv	30A	Ondawa (B)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Noyes-01	10.2	NH/COO	Conv	307A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Parker-01	2.7	NH/COO	Conv	54C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Parker-02	7.5	NH/COO	Conv	78C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Peaslee-01	52.9	VT/ESS	Conv	3A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Peaslee-02	41.8	VT/ESS	Conv	30A	Ondawa (B)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Peaslee-03	20.1	VT/ESS	Conv	31A	Podunk (B)	B, WD	2%	200	Con. Corn (SC)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Plunk-01	5.9	NH/COO	Conv	433A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Plunk-02	12.3	NH/COO	Conv	433A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
RedHouse-01	10.7	NH/COO	Conv	28A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
ReedRD-01	16.0	NH/COO	Conv	76C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
RHF-01	2.3	NH/COO	Conv	58C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
RHF-02	10.3	NH/COO	Conv	58C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
RHF-03	3.9	NH/COO	Conv	58C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Rich-01	80.5	VT/ESS	Conv	25A	Other (HydrGrp A, Non-clay)	B, WD	2%	200	Con Hay	0.0062	0.0089	0.026	0	0	0	0	0	0	0.0089
Rowell-01	2.0	NH/COO	Conv	647C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Rowell-02	10.1	NH/COO	Conv	646B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Rowell-03	1.8	NH/COO	Conv	78C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Simond-01	23.9	NH/COO	Conv	208A	Other (HydrGrp B, Non-clay)	B, WD	2%	200	Con. Corn (SC)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Stinehour-01	2.4	VT/ESS	Conv	25A	Other (HydrGrp A, Non-clay)	A, EWD	2%	200	Con Hay	0.0062	0.0089	0.026	0	0	0	0	0	0	0.0089
Stinehour-02	6.3	VT/ESS	Conv	25A	Other (HydrGrp A, Non-clay)	A, EWD	2%	200	Con Hay	0.0062	0.0089	0.026	0	0	0	0	0	0	0.0089
Styles-01	6.4	NH/COO	Conv	647B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Styles-02	7.2	NH/COO	Conv	670C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Tent-01	0.8	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Tent-02	6.7	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Tent-03	4.3	VT/ESS	Conv	38A	Croghan (B)	B, WD	2%	200	Con. Corn (SC)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Tent-04	29.6	VT/ESS	Conv	31A	Podunk (B)	B, WD	2%	200	Con. Corn (SC)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Tent-05	9.1	VT/ESS	Conv	25A	Other (HydrGrp A, Non-clay)	A, EWD	2%	200	Con Hay	0.0062	0.0089	0.026	0	0	0	0	0	0	0.0089
Thayer-01	11.8	NH/COO	Conv	630B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Thayer-02	2.2	NH/COO	Conv	630B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Thurstonflat-01	4.6	VT/ESS	Conv	25A	Other (HydrGrp A, Non-clay)	A, EWD	2%	200	Con Hay	0.0062	0.0089	0.026	0	0	0	0	0	0	0.0089
Thurstonflat-02	11.2	VT/ESS	Conv	25A	Other (HydrGrp A, Non-clay)	A, EWD	2%	200	Con Hay	0.0062	0.0089	0.026	0	0	0	0	0	0	0.0089
Thurstonflat-03	1.6	VT/ESS	Conv	25A	Other (HydrGrp A, Non-clay)	A, EWD	2%	200	Con Hay	0.0062	0.0089	0.026	0	0	0	0	0	0	0.0089
Tillman-01	27.4	NH/COO	Conv	77C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Tillman-02	10.2	NH/COO	Conv	77C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Tillman-03	7.3	NH/COO	Conv	77C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Tillman-04	4.7	NH/COO	Conv	670C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Tillman-05	1.5	NH/COO	Conv	79B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Tillman-06	4.0	NH/COO	Conv	79B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41

If Slope is 0 and a Hay field it use a default Con. Hay Rusle II

Rusle II

Forbes Family Farm 2017 Public NMP

Field ID		Field Attributes							Rusle II Rotation		Rusle II Annual Soil Loss									
Field ID	Acres	State/ County	Tillage	Soil Type ID	Soil Type Name	Soil Drainage	Slope	Length	Rotation	Rotation Soil Loss	Hay	New Seeding	Corn Silage	GS Corn Silage	Corn Grain	GS Corn Grain	Soybean	GS Soybean	Pasture
Warren-01	30.0	NH/COO	Conv	630B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Warren-02	16.0	NH/COO	Conv	630B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Warren-03	2.5	NH/COO	Conv	630B	Other (HydrGrp B, Non-clay)	B, WD	6%	150	Con Hay	0.29	0.41	1.3	0	0	0	0	0	0	0.41
Weeks-01	8.9	NH/COO	Conv	78C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Weeks-02	10.7	NH/COO	Conv	646C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Weeks-03	20.3	NH/COO	Conv	646C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47
Weeks-04	5.9	NH/COO	Conv	647C	Other (HydrGrp B, Non-clay)	B, WD	8%	150	Con Hay	0.33	0.47	1.5	0	0	0	0	0	0	0.47

If Slope is 0 and a Hay field it use a default Con. Hay Rusle II

Forbes Farm Partnership
Waste Production

Calculations

Animal Units, AU (liquid Manure Seperated)

$$AU = \frac{\text{Number of Animal x Average Animal Weight}}{\text{1,000 lbs}}$$

Current Number of Animals

Number of Animals				
Milking Cows	0	cows at	1,400	pounds
Dry Cows	0	cows at	1,400	pounds
Bulls	0	cows at	1,300	pounds
Bred Heifers	0	cows at	1,000	pounds
Open Heifers	0	cows at	500	pounds
Calves	0	cows at	200	pounds
Beef-Yearling HF	0	cows at	800	pounds
Open Heifers	0	cows at	500	pounds
Open Heifers	0	cows at	200	pounds
Total	**0**	**cows**		

Average Animal Weight #DIV/0! lbs **AU = #DIV/0!** (Current)

Proposed Additional Number of Animals

Number of Animals				
Milking Cows	0	cows at	1,400	pounds
Dry Cows	0	cows at	1,400	pounds
Bulls	0	cows at	1,300	pounds
Bred Heifers	0	cows at	1,000	pounds
Open Heifers	0	cows at	500	pounds
Calves	0	cows at	200	pounds
Beef-Yearling HF	0	cows at	800	pounds
Open Heifers	0	cows at	500	pounds
Open Heifers	0	cows at	200	pounds
Total	**0**	**cows**		

Average Animal Weight #DIV/0! lbs **AU = #DIV/0!** (With) (Proposed)

Manure Production, M (ft^3/day) (liquid Manure Seperated)

M = Manure Production per Animal x Number of Animals

Production Rate		
Milking Cows	2.32	ft^3/day/animal
Dry Cows	1.57	ft^3/day/animal
Bulls	1.37	ft^3/day/animal
Bred Heifers	1.37	ft^3/day/animal
Open Heifers	1.00	ft^3/day/animal
Calves	0.40	ft^3/day/animal
Beef-Yearling HF	0.95	ft^3/day/animal
Open Heifers	1.00	ft^3/day/animal
Open Heifers	1.00	ft^3/day/animal

M = 0 **MP= 0**

Bedding Production, B (ft^3/day) (Liquid Manure Seperated)

$$B = \frac{\text{Bedding Requirements x AU}}{\text{2 x Bedding Density}}$$ (for each animal type)

Bedding Requirements

Milking Cows	3.1	lbs/day/animal unit
Dry Cows	3.1	lbs/day/animal unit
Bulls	3.1	lbs/day/animal unit
Bred Heifers	3.1	lbs/day/animal unit
Open Heifers	3.1	lbs/day/animal unit
Calves	3.1	lbs/day/animal unit
Beef-Yearling HF	3.1	lbs/day/animal unit
Open Heifers	3.1	lbs/day/animal unit
Open Heifers	3.1	lbs/day/animal unit

Bedding Density

Milking Cows	12.0	lbs/ft^3
Dry Cows	12.0	lbs/ft^3
Bulls	12.0	lbs/ft^4
Bred Heifers	12.0	lbs/ft^5
Open Heifers	12.0	lbs/ft^6
Calves	12.0	lbs/ft^3
Beef-Yearling HF	12.0	lbs/ft^3
Open Heifers	12.0	lbs/ft^3
Open Heifers	12.0	lbs/ft^3

B = **0.00** **BP =** **0.00**

Animal Units, AU (liquid Manure Not Seperated)

$$AU = \frac{\text{Number of Animal x Average Animal Weight}}{\text{1,000 lbs}}$$

Current Number of Animals

Number of Animals				
Milking Cows	1,100	cows at	1,400	pounds
Dry Cows	200	cows at	1,400	pounds
Bulls	0	cows at	1,300	pounds
Bred Heifers	600	cows at	1,000	pounds
Open Heifers	480	cows at	500	pounds
Calves	40	cows at	200	pounds
Beef-Yearling HF	70	cows at	800	pounds
Open Heifers	0	cows at	500	pounds
Open Heifers	0	cows at	200	pounds
Total	**2,490**	**cows**		

Average Animal Weight 998 lbs **AU = 2,485** (Current)

Proposed Additional Number of Animals

Number of Animals				
Milking Cows	0	cows at	1,400	pounds
Dry Cows	0	cows at	1,400	pounds
Bulls	0	cows at	1,300	pounds
Bred Heifers	0	cows at	1,000	pounds
Open Heifers	0	cows at	500	pounds
Calves	0	cows at	200	pounds
Beef-Yearling HF	0	cows at	800	pounds
Open Heifers	0	cows at	500	pounds
Open Heifers	0	cows at	200	pounds
Total	**0**	**cows**		

Average Animal Weight #DIV/0! lbs **AU = #DIV/0!** (With)
(Proposed)

Manure Production, M (ft^3/day) (liquid Manure Not Seperated)

M = Manure Production per Animal x Number of Animals

Production Rate		
Milking Cows	2.32	ft^3/day/animal
Dry Cows	1.57	ft^3/day/animal
Bulls	1.37	ft^3/day/animal
Bred Heifers	1.37	ft^3/day/animal
Open Heifers	1.00	ft^3/day/animal
Calves	0.40	ft^3/day/animal
Beef-Yearling HF	0.95	ft^3/day/animal
Open Heifers	1.00	ft^3/day/animal
Open Heifers	1.00	ft^3/day/animal

M = 4,254.8 **MP= 4,254.8**

Bedding Production, B (ft^3/day) (Liquid Manure Not Seperated)

$$B = \frac{\text{Bedding Requirements x AU}}{\text{2 x Bedding Density}}$$ (for each animal type)

Bedding Requirements

Milking Cows	1.5	lbs/day/animal unit
Dry Cows	3.1	lbs/day/animal unit
Bulls	3.1	lbs/day/animal unit
Bred Heifers	1.5	lbs/day/animal unit
Open Heifers	1.5	lbs/day/animal unit
Calves	2	lbs/day/animal unit
Beef-Yearling HF	2	lbs/day/animal unit
Open Heifers	3.1	lbs/day/animal unit
Open Heifers	3.1	lbs/day/animal unit

Bedding Density

Milking Cows	105.0	lbs/ft^3
Dry Cows	12.0	lbs/ft^3
Bulls	12.0	lbs/ft^4
Bred Heifers	75.0	lbs/ft^5
Open Heifers	75.0	lbs/ft^6
Calves	40.0	lbs/ft^3
Beef-Yearling HF	40.0	lbs/ft^3
Open Heifers	12.0	lbs/ft^3
Open Heifers	12.0	lbs/ft^3

B = 57.2

BP = 57.2

Animal Units, AU (Semi Solid Manure)

$$AU = \frac{\text{Number of Animal x Average Animal Weight}}{\text{1,000 lbs}}$$

Current Number of Animals

Number of Animals

Milking Cows	0	cows at	1,400	pounds
Dry Cows	0	cows at	1,400	pounds
Bulls	0	cows at	1,300	pounds
Bred Heifers	0	cows at	1,000	pounds
Open Heifers	250	cows at	500	pounds
Calves	130	cows at	200	pounds
Beef-Yearling HF	0	cows at	800	pounds
Open Heifers	0	cows at	500	pounds
Open Heifers	0	cows at	200	pounds
Total	**380**	**cows**		

Average Animal Weight 397 lbs **AU = 151** (Current)

Proposed Additional Number of Animals

Number of Animals

Milking Cows	0	cows at	1,400	pounds
Dry Cows	0	cows at	1,400	pounds
Bulls	0	cows at	1,300	pounds
Bred Heifers	0	cows at	1,000	pounds
Open Heifers	0	cows at	500	pounds
Calves	0	cows at	200	pounds
Beef-Yearling HF	0	cows at	800	pounds
Open Heifers	0	cows at	500	pounds
Open Heifers	0	cows at	200	pounds
Total	**0**	**cows**		

Average Animal Weight #DIV/0! lbs **AU = #DIV/0!** (With) (Proposed)

Manure Production, M (ft^3/day) (Semi Solid Manure)

M = Manure Production per Animal x Number of Animals

Production Rate

Milking Cows	2.32	ft^3/day/animal
Dry Cows	1.57	ft^3/day/animal
Bulls	1.37	ft^3/day/animal
Bred Heifers	1.37	ft^3/day/animal
Open Heifers	1.00	ft^3/day/animal
Calves	0.40	ft^3/day/animal
Beef-Yearling HF	0.95	ft^3/day/animal
Open Heifers	1.00	ft^3/day/animal
Open Heifers	1.00	ft^3/day/animal

M = 302 **MP= 302**

Bedding Production, B (ft^3 /day) (Semi Solid Manure)

$$B = \frac{\text{Bedding Requirements x AU}}{\text{2 x Bedding Density}}$$ (for each animal type)

Bedding Requirements

Milking Cows	3.1	lbs/day/animal unit
Dry Cows	3.1	lbs/day/animal unit
Bulls	3.1	lbs/day/animal unit
Bred Heifers	3.1	lbs/day/animal unit
Open Heifers	3.1	lbs/day/animal unit
Calves	3.1	lbs/day/animal unit
Beef-Yearling HF	3.1	lbs/day/animal unit
Open Heifers	3.1	lbs/day/animal unit
Open Heifers	3.1	lbs/day/animal unit

Bedding Density

Milking Cows	12.0	lbs/ft^3
Dry Cows	12.0	lbs/ft^3
Bulls	12.0	lbs/ft^4
Bred Heifers	12.0	lbs/ft^5
Open Heifers	12.0	lbs/ft^6
Calves	12.0	lbs/ft^3
Beef-Yearling HF	12.0	lbs/ft^3
Open Heifers	12.0	lbs/ft^3
Open Heifers	12.0	lbs/ft^3

B = 20

BP = 20

Leachate Production, L (ft^3/day)

$$L = \frac{\text{Rate x Forage Requirement x AU}}{\text{180 days}}$$

Rate	1	ft^3/ton of forage stored at 20 percent moisture content
Forage Requirement	8	tons/animal unit

L = 128

Milkhouse Production, MH (ft^3/day)

MH = Rate x AU (Milking Animals) x Recycling coefficent

Rate	0.6	ft^3/day/milking animal unit

MH = 462

Stormwater runoff, R (ft^3/day)

$$R = \frac{\text{Square Feet of Drainage Area x Average Annual Rainfall or Runoff}}{\text{213 days (Oct to May)}}$$

Pond Surface	189,400	ft^2
Concrete/Asphalt	202,900	ft^2
with high flow separator	0	ft^2
Geosynthetic/Roof	0	ft^2
with high flow separator	0	ft^2
Unimproved/Vegetated	0	ft^2
with high flow separator	0	ft^2

Precipitation as rain	1.57	ft	
Concrete/Asphalt coefficient	1.17	ft	
with high flow separator	0.29	ft	Old Milk
Geosynthetic/Roof coefficient	1.57	ft	New Milk
with high flow separator	0.39	ft	
Unimproved/Vegetated coefficient	0.39	ft	
with high flow separator	0.10	ft	

R = 2512 Assuming that all precipitation fall in the form of rain

Precipitation as snow & rain	1.57	ft	Value not reduced since snow not
Concrete/Asphalt coefficient	0.62	ft	
with high flow separator	0.16	ft	
Geosynthetic/Roof coefficient	1.57	ft	Value not reduced since snow
with high flow separator	0.39	ft	not removed from
Unimproved/Vegetated coefficient	0.21	ft	
with high flow separator	0.05	ft	

R = 1984 Assuming that precipitation also fall in the form of snow and is removed

Storm Event, S (ft^3/day)

$$S = \frac{\text{Square Feet of Drainage Area x Storm Event}}{\text{213 days (Oct to May)}}$$

Pond Surface	189,400	ft^2
Concrete/Asphalt	202,900	ft^2
Geosynthetic/Roof	0	ft^2
Unimproved/Vegetated	0	ft^2
Storm Event	0.35	ft

S = 645

Evaporation, E (ft^3/day)

$$E = \frac{\text{Inches of Evaporation Occurring in Oct to May x Area}}{\text{213 Days (Oct to May)}}$$

Rate	0.73	ft/Oct to May
Area	189,400	ft^2

E = **-648**

United States Department of Agriculture
Natural Resources Conservation Service
New Hampshire

Operation and Maintenance Worksheet
Waste Storage Facility

For: Landowner/Operator______________________________

Job Location______________________________

County______________ Prepared By______________________ Date_______________

Operation and Maintenance Items

A properly operated and maintained waste storage structure is an asset to your farm. This waste storage structure was designed and installed for temporary storage of animal waste. The estimated life span of this installation is at least 15 years. The life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

General Recommendations

- ⇒ Do not allow human entry to any enclosed structure without safety equipment that includes ladders and breathing apparatus.
- ⇒ Maintain appropriate warning signs.
- ⇒ Safety stations should be inspected twice a year. Safety items such as ropes, ladders and swim rings should be replaced as necessary.
- ⇒ Do not allow the operation of any equipment that exceeds the design load limit on or within twenty feet of the structure.
- ⇒ Maintain all pumps, agitators, piping, valves and all other electrical and mechanical equipment in good operating condition by following the manufacturer's recommendations. Repair as necessary.
- ⇒ Maintain grounding rods and wiring for all electrical equipment in good condition.
- ⇒ Inspect haul roads and approaches to and from the waste storage facility frequently to determine the need for stabilizing materials.
- ⇒ A thorough inspection of pond liners and concrete sumps, pits, walls, ramps, and floors for damage, separation and/or cracks should be made each time the pond is emptied. Repair any damage prior to refilling the pond.
- ⇒ Do not dispose of dead animals, greases, syringes, or other non-animal waste products in the facility.
- ⇒ All fences, railings, and/or warning signs shall be maintained to prevent unauthorized human or livestock entry.
- ⇒ Annually inspect pond for damage from normal use. At no more than 3 to 6 month intervals open and close gates and valves to assure proper function. Immediately remove any blockage or obstructions and repair any damage.
- ⇒ Inspect inlet, embankments and outlets after heavy rains for possible damage. Promptly repair any damage.
- ⇒ Annually inspect the downstream toe of the embankment. If there are wet areas or seeps, contact the local NRCS office for additional assistance.
- ⇒ Maintain vigorous growth of vegetative coverings. This includes reseeding, fertilization, and application of herbicides when necessary. Periodic mowing may also be needed to control height.
- ⇒ Fill rills and gullies that occur on the embankments and/or spillway and re-vegetate.
- ⇒ Maintain a grass filter strip around the perimeter of the pond to trap sediment.

⇒ If fences are installed, they shall be maintained to prevent unauthorized or livestock entry.
⇒ Immediately repair any vandalism, vehicular, or livestock damage.
⇒ Repair spalls, cracks and weathered areas in concrete surfaces.
⇒ Repair or replace rusted or damaged metal and paint.
⇒ Inspect for damage from rodents or burrowing animals. Repair any damage. Take appropriate corrective actions to alleviate further damage.
⇒ Remove woody vegetation from embankments.
⇒ Avoid excessive travel on any portion of the system that will harm or destroy the vegetative cover.
⇒ Apply insecticides for insect control as per manufacturer's recommendations and precautions, as needed.
⇒ Operate system in a manner to minimize odors and air drift.

Special Operation and Maintenance Requirements: ________________________

United States Department of Agriculture
Natural Resources Conservation Service
New Hampshire

Operation and Maintenance Worksheet
For Your
Animal Mortality Facility

For: Landowner/Operator____

Job Location____

County______________ Prepared By______________________ Date_______________

Operation and Maintenance Items

An operation and maintenance plan applicable to this practice that includes, but is not limited to, the items listed below will be developed with the operator, and will become a part of the overall waste management system plan. The requirements in the individual operation and maintenance plan shall be consistent with the practice purposes, intended life, and design criteria. Safety considerations shall be prominently displayed in the plan.

Normal Mortality

Animal mortality facilities will normally be operated or used on a daily basis. At each operation or use, the facility shall be inspected to note any maintenance needs or indicators of operation problems.

Special Operation and Maintenance Requirements: ____

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Landowner's Name, Town, NH

OPERATION AND MAINTENANCE PLAN
FOR
COMPOSTING FACILITY

A properly operated and maintained **Composting Facility** is an asset to your property. This composting facility was designed and installed for temporary storage and treatment of animal wastes. The estimated life span of this practice is 15 years. The life of this practice can be assured and usually increased by developing and carrying out a good operation and maintenance program. An effective program includes:

Operation

1. **Temperature**. Operating temperature of the composting material should be 131ºF to 170ºF once the process has begun. Operating temperature should be reached in about seven days and remain elevated for up to 14 days. The pile should remain at or above 110ºF for the remainder of the designated composting period.

   If temperature falls significantly during composting period, odors develop, or if material does not reach operating temperature, investigate piles for moisture content, porosity, and thoroughness of mixing. Compost managed at the required temperatures will favor destruction of pathogens, plant diseases and weed seeds.

2. **Aeration.** Heat generated by the process causes piles to dehydrate. As the process proceeds, material consolidates, and the volume of voids decreases, restricting airflow. Select materials for the composting mix that will insure adequate air movement throughout the composting process. Periodically turning the pile and maintaining proper moisture levels for windrows and static piles will normally provide adequate aeration.

3. **Pathogens.** Composting of dead animal carcasses and animal parts should include strict temperature monitoring to insure pathogens are destroyed. For active piles, the temperature must be maintained at 131ºF or higher for three consecutive days to achieve pathogen reduction. For aerated windrows, the temperature must be maintained at 131ºF or higher for 15 consecutive days and the windrow must be turned at least five times during the high temperature period.

4. **Vectors.** Flies, rats and birds may be attracted to raw compost feedstocks. Mosquitoes may reproduce where standing water is present. To minimize vector problems, reduce exposed feedstock storage, turn piles frequently, eliminate standing water and keep the area clean.

5. **Nutrients.** Keep compost well aerated to maintain nitrogen loss by denitrification. Keep pH at neutral or slightly lower to avoid nitrogen loss by ammonification. High amounts of available carbon will aid in nitrogen immobilization.

   Include compost nutrients in nutrient management plans. Prevent loss of nutrients and pollutants to surface and ground water.

6. **Testing Needs.** Test compost material for carbon, nitrogen, moisture, and pH if compost fails to reach desired temperature of if odor problems develop. The finished compost material should be periodically tested for constituents that could cause plant phytotoxicity as the result of application to crops. Compost made from dead animal or animal parts should be tested for indicator pathogens such as E. coli and salmonella. Composted materials that are prepared for the retail market require testing for labeling purposes.

Maintenance

1. Do not allow any equipment that exceeds design load limits on or within twenty feet of the structure.

2. Maintain all electrical and mechanical equipment in good operating condition by following electrical codes and manufacturers recommendations. Inspect and repair ground rods, switches, and wiring.

3. Fences, railings, and/or warning signs must be maintained to provide warning and prevent unauthorized entry.

4. Repair any vandalism, vehicular or animal damage as soon as possible. Inspect and maintain runoff control structures and practices.

Specific Requirements for Your Practice

1.

2.

3.

Signatures:

Reviewed by: ______________________ Date _______________
Landowner/Operator

Reviewed by: ______________________ Date ________________
Conservationist

United States Department of Agriculture
Natural Resources Conservation Service
New Hampshire

Operation and Maintenance Worksheet
Diversion

For: Landowner/Operator____

Job Location____

County______________ Prepared By______________________ Date________________

Operation and Maintenance Items

A properly operated and maintained diversion is an asset to the farm. This practice was designed and installed to convey water. The estimated life span of this installation is at least 10 years. The life of the practice can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require performance of periodic maintenance and may also require operational items to maintain satisfactory performance. A good operation and maintenance program includes:

- ⇒ Avoid excessive travel on any portion of the diversion that will harm or destroy the vegetative cover.
- ⇒ Periodically check the elevation of fill and restore if necessary.
- ⇒ Maintain vigorous growth of vegetative coverings. This includes reseeding, fertilization and application of herbicides when necessary. Periodic mowing may also be needed to control height.
- ⇒ Periodically remove the sediment or soil that is deposited in the channel and restore to the original dimension.
- ⇒ Remove all foreign debris that hinders system operation any obstructions or blockage of spillways, trash racks, or pipe inlets.
- ⇒ All settlement or cracks in the soil should be investigated to determine the cause and immediately repaired.
- ⇒ Eradicate or otherwise remove all rodents or burrowing animals. Immediately repair any damage caused by their activity.
- ⇒ Immediately repair any vandalism, vehicular, or livestock damage to any earthfills, spillways, outlets or other apparatuses.

Special Operation and Maintenance Requirements:____

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United States Department of Agriculture
Natural Resources Conservation Service
New Hampshire

Operation and Maintenance Worksheet For Your Nutrient Management

For: Landowner/Operator____

Job Location____

County______________ Prepared By______________________ Date_______________

Operation and Maintenance Items

The owner/client is responsible for safe operation and maintenance of this practice including all equipment. Operation and maintenance addresses the following:

- ⇒ periodic plan review to determine if adjustments or modifications to the plan are needed. As a minimum, plans will be reviewed and revised with each soil test cycle.
- ⇒ protection of fertilizer and organic by-product storage facilities from weather and accidental leakage or spillage.
- ⇒ documentation of the actual rate at which nutrients were applied. When the actual rates used differ from or exceed the recommended and planned rates, records will indicate the reasons for the differences.
- ⇒ Maintaining records to document plan implementation. As applicable, records include:
  - ∗ soil test results and recommendations for nutrient application,
  - ∗ quantities, analyses and sources of nutrients applied,
  - ∗ dates and methods of nutrient applications,
  - ∗ crops planted, planting and harvest dates, yields, and crop residues removed,
  - ∗ results of water, plant, and organic by-product analyses, and
  - ∗ dates of review and person performing the review, and recommendations that resulted from the review.

Records should be maintained for five years; or for a period longer than five years if required by other Federal, Tribal, state, or local ordinances, or program.

Workers should be protected from and avoid unnecessary contact with chemical fertilizers and organic by-products. Protection should include the use of protective clothing when working with plant nutrients. Extra caution must be taken when handling ammonia sources of nutrients, or when dealing with organic wastes stored in unventilated enclosures.

The disposal of material generated by the cleaning nutrient application equipment should be accomplished properly. Excess material should be collected and stored or field applied in an appropriate manner. Excess material should not be applied on areas of high potential risk for runoff and leaching.

The disposal or recycling of nutrient containers should be done according to state and local guidelines or regulations.

Special Operation and Maintenance Requirements:____

ATTACHMENT B

Supplemental Nutrient Management Plan (NMP) Provisions

Forbes Farm Partnership, Inc.
NPDES Permit No. NH0023540
Lancaster, NH and Guildhall, VT

The permittee shall implement the following supplemental Nutrient Management Plan (NMP) provisions. The final Permit, Nutrient Management Plan (NMP), and this Attachment B – Supplemental NMP Provisions, will be enforceable upon the issuance of the Permit. If there are any conflicting requirements between the Permit, NMP, or Attachment B – Supplemental NMP Provisions, the most stringent requirement shall apply.

1. NMP, page 5, Farm Specific Narrative Descriptions, description number 4, Spreader Calibration - the permittee will change “then” to “they pick fields” in its next revised NMP.

2. NMP, page 6, Farm Specific Narrative Descriptions, description number 2, Waste Sampling - when the permittee is making comparisons between the waste and the book value for the manure nutrient content, the QA/QC for the individual samples shall be within an acceptable range and the waste that is compared to the book value shall be the same kind.

3. NMP, page 6, Farm Specific Narrative Descriptions, description number 3, Soil Sampling - the permittee shall use a 95th percentile soil nutrient value to make its decisions on application rates to avoid over application of the manure fertilizer, instead of using a farm average soil nutrient result. The permittee will also reflect this approach in its next revised NMP.

4. NMP, pages 18-45, Farm Maps - all yellow coded buffers shall not include wetlands, tributaries, or other surface water bodies. When land applying manure fertilizer, the permittee shall not land apply within 100-feet, or within a 35-foot vegetative/forested upland distance, from any wetland, tributary, or other surface water body. The buffer distance shall not include any sloped land. Also, the permittee will change all yellow coded buffers to reflect this requirement in its next revised NMP.

5. NMP, page 23 - the permittee shall implement a 100-foot buffer or a 35-foot upland vegetative/forested buffer. The buffer shall not include any sloped land, and shall not include the abutting wetland or Unnamed Tributary. The permittee shall revise its yellow coded buffer between Field IDs: Bug-01, Bug-02, Bug-03, and Bug-04, to not include any wetland or tributary in its next revised NMP.

   [See also: NMP, page 51, USGS Relief Map, Unnamed Tributary to the Connecticut River - This Unnamed Tributary is west of the following Fields Identifications (ID): Bug-01, Bug-02, and Bug-03, and east of Field ID: Bug-04].

6. NMP, pages 28-33, Soil Test Information - the permittee shall add a color coding key to its next revised NMP that will identify each color’s significance in the soil tables.

7. NMP, page 38, Field ID Weeks-03, buffer map - the permittee shall implement a 35-foot or greater upland vegetative/forested buffer that is a **lateral** distance away from Martin Meadow Pond, and is not a wetland or tributary. If any land between surface waters of the United States and Field ID Weeks is sloped, the sloped land shall not be included in the permittee’s 35-foot upland vegetative/forested buffer.

ATTACHMENT B, Supplemental Nutrient Management Plan, Continued;

8. NMP, page 109, bottom of the page, Liquid Volume Summary - the permittee shall regularly dredge the waste storage structures to remove solids build up in order to maintain its 180-day storage requirement, since there is approximately a 9.9% reserve. The permittee will add this to the permittee's revised NMP.

9. NMP, pages 130-198, the permittee shall revise all "P-Index" values, all "P-Index Int." values, all "Surface Cover, %" values, and all "Distance to Water" values, to reflect a 100-foot or 35-foot upland vegetative/forested buffer that is not located in any wetland, tributary, or other surface water body when it calculates the amount of manure fertilizer it land applies. The permittee will also incorporate its revised calculations in its next revised NMP.

10. NMP, page 229, Operation and Maintenance Worksheet Waste Storage Facility – The permittee shall record the amount of freeboard on its NMP worksheet/checklist, and will include this requirement in its next revised NMP.

11. NMP, page 229, Operation and Maintenance Worksheet Waste Storage Facility - the permittee shall conduct weekly inspections for its waste storage structures. The permittee shall change "Annually inspect pond for damage from normal use" to "Weekly inspect pond for damage from normal use" in its next revised NMP [See: NMP, page 229, General Recommendations, item number 11].

12. NMP, pages 229-235, NRCS worksheets – the permittee will mirror the final permit requirements, including all narrative requirements listed in the permit including, but not limited to: reporting/recordkeeping, cleaning up of any manure spills from transport vehicles on roadways (See: Part I.A.4.f. of the permit), chemical handling, and clean water diversion (See: Part I.B., Nutrient Management Requirements of the permit) in its next revised NMP.

13. Page numbers shall be added to the permittee's next revised NMP.

PART II STANDARD NPDES CAFO CONDITIONS

A. GENERAL CONDITIONS

1**.** <u>Duty to Comply</u>

The permittee must comply with all conditions of this permit. Any permit non-compliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

a. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.

b. The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any of such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402 (a)(3) or 402 (b)(8) of the CWA is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who <u>negligently</u> violates such requirements is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. Any person who <u>knowingly</u> violates such requirements is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

Note: See 40 CFR §122.41(a)(2) for complete “Duty to Comply” regulations.

2. <u>Permit Actions</u>

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or notifications of planned changes or anticipated noncompliance does not stay any permit condition.

3. Duty to Provide Information

The permittee shall furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

4. Reopener Clause

The Regional Administrator reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA in order to bring all discharges into compliance with the CWA.

For any permit issued to a treatment works treating domestic sewage (including “sludge-only facilities”), the Regional Administrator or Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405 (d) of the CWA. The Regional Administrator or Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or contains a pollutant or practice not limited in the permit.

Federal regulations pertaining to permit modification, revocation and reissuance, and termination are found at 40 CFR §§122.62, 122.63, 122.64, and 124.5.

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

6. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges.

7. Confidentiality of Information

a. In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).

b. Claims of confidentiality for the following information will be denied:
(1) The name and address of any permit applicant or permittee
(2) Permit applications, permits, and effluent data as defined in 40 CFR §2.302(a)(2).

c. Information required by NPDES application forms provided by the Regional Administrator under 40 CFR §122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

8. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Regional Administrator. (The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

9. State Authorities

Nothing in Part 122, 123, or 124 precludes more stringent State regulation of any activity covered by these regulations, whether or not under an approved State program.

10. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, or local laws and regulations.

B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Bypass

a. Definitions

(1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can be reasonably expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of Paragraphs B.4.c. and 4.d. of this section.

c. Notice

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (twenty-four hour reporting).

d. Prohibition of bypass

Bypass is prohibited, and the Regional Administrator may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(3) (i) The permittee submitted notices as required under Paragraph 4.c. of this section.
(ii) The Regional Administrator may approve an anticipated bypass, after considering its adverse effects, if the Regional Administrator determines that it will meet the three conditions listed above in paragraph 4.d. of this section.

e. Any bypass allowed by Part V.A.10 of this permit must, where practicable, be released to vegetated fields for filtering, or captured in secondary containment to minimize discharges to waters of the United States.

5. Upset

a. Definition. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph B.5.c. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated;
(3) The permittee submitted notice of the upset as required in paragraphs D.1.a. and 1.e. (twenty-four hour notice); and
(4) The permittee complied with any remedial measures required under B.3. above.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

C. MONITORING REQUIREMENTS

1. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report or application except for the information concerning storm water discharges which must be retained for a total of 6 years. This retention period may be extended by request of the Regional Administrator at any time.

c. Records of monitoring information shall include:

(1)The date, exact place, and time of sampling or measurements;
(2)The individual(s) who performed the sampling or measurements;
(3)The date(s) analyses were performed;
(4)The individual(s) who performed the analyses;
(5)The analytical techniques or methods used; and
(6)The results of such analyses.

d. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 unless other test procedures have been specified in the permit.

e. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

2. Inspection and Entry

The permittee shall allow the Regional Administrator or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee’s premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

D. REPORTING REQUIREMENTS

1. Reporting Requirements

a. Planned Changes. The permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR§122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantities of the pollutants discharged. This notification applies to pollutants which are subject neither to the effluent limitations in the permit, nor to the notification requirements at 40 CFR§122.42(a)(1).

(3) The alteration or addition results in a significant change in the permittee's manure use or disposal practices, and such alteration, addition or change may justify the application of permit conditions different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved nutrient management plan.

b. Anticipated noncompliance. The permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the CWA. (See 40 CFR Part 122.61; in some cases, modification or revocation and reissuance is mandatory.)

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(2) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. Twenty-four hour reporting.

(1) The permittee shall report any noncompliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances.

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(2) The following shall be included as information which must be reported within 24 hours under this paragraph.

(a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)
(b) Any upset which exceeds any effluent limitation in the permit.
(c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Regional Administrator in the permit to be reported within 24 hours. (See 40 CFR §122.44(g).

(3) The Regional Administrator may waive the written report on a case-by-case basis for reports under Paragraph D.1.e. if the oral report has been received within 24 hours.

f. Compliance Schedules. Reports of compliance or noncompliance with, any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under Paragraphs D.1.d., D.1.e., and D.1.f. of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D.1.e. of this section.

h. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, it shall promptly submit such facts or information.

<u>2. Signatory Requirement</u>

a. All applications, reports, or information submitted to the Regional Administrator shall be signed and certified. (See 40 CFR §122.22)

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 2 years per violation, or by both.

3. Availability of Reports

Except for data determined to be confidential under Paragraph A.8. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

E. DEFINITIONS AND ABBREVIATIONS

1. Definitions for Individual NPDES Permits including CAFO and Storm Water Requirements

Administrator means the Administrator of the United States Environmental Protection Agency, or authorized representative.

Applicable standards and limitations means all, State, interstate, and Federal standards and limitations to which a "discharge", a "sewage sludge use or disposal practice", or a related activity is subject to, including "effluent limitations", water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices", pretreatment standards, and "standards for sewage sludge use and disposal" under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of the CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions, or modifications to the forms; or forms approved by EPA for use in "approved States", including any approved modifications or revisions.

Average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For total and/or fecal coliforms and Escherichia coli, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" measured during the calendar week divided by the number of "daily discharges" measured during the week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Best Professional Judgment (BPJ) means a case-by-case determination of Best Practicable Treatment (BPT), Best Available Treatment (BAT), or other appropriate technology-based standard based on an evaluation of the available technology to achieve a particular pollutant reduction and other factors set forth in 40 CFR §125.3 (d).

Composite Sample means a sample consisting of a minimum of eight grab samples of equal volume collected at equal intervals during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportional to flow, or a sample consisting of the same number of grab samples, or greater, collected proportionally to flow over that same time period.

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a "discharge" which occurs without interruption throughout the operating hours of the facility except for infrequent shutdowns for maintenance, process changes, or similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, and Pub. L. 97-117; 33 USC §§1251 et seq.

Daily Discharge means the discharge of a pollutant measured during the calendar day or any other 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Discharge Monitoring Report Form (DMR) means the EPA standard national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by "approved States" as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Director normally means the person authorized to sign NPDES permits by EPA or the State or an authorized representative. Conversely, it also could mean the Regional Administrator or the State Director as the context requires

Discharge of a pollutant means:
(a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source", or
(b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation (See "Point Source" definition).

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Effluent limitation means any restriction imposed by the Regional Administrator on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States", the waters of the "contiguous zone", or the ocean.

Effluent limitation guidelines means a regulation published by the Administrator under Section 304(b) of CWA to adopt or revise "effluent limitations".

EPA means the United States "Environmental Protection Agency".
Flow-weighted composite sample means a composite sample consisting of a mixture of aliquots where the volume of each aliquot is proportional to the flow rate of the discharge.

Facility or activity means any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

Grab Sample – An individual sample collected in a period of less than 15 minutes.

Hazardous Substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the CWA.

Indirect Discharger means a non-domestic discharger introducing pollutants to a publicly owned treatment works.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

Maximum daily discharge limitation means the highest allowable "daily discharge" concentration that occurs only during a normal day (24-hour duration).

Municipality means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management agency under Section 208 of the CWA.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. The term includes an "approved program".

New Discharger means any building, structure, facility, or installation:

(a) From which there is or may be a "discharge of pollutants";
(b) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;
(c) Which is not a "new source"; and
(d) Which has never received a finally effective NPDES permit for discharges at that "site".

This definition includes an "indirect discharger" which commences discharging into "waters of the United States" after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a "site" for which it does not have a permit; and any offshore rig or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a "site" under EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Regional Administrator in the issuance of a final permit to be in an area of biological concern. In determining whether an area is an area of biological concern, the Regional Administrator shall consider the factors specified in 40 CFR §§125.122 (a) (1) through (10).

An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a "new discharger" only for the duration of its discharge in an area of biological concern.

New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants", the construction of which commenced:

(a) After promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or
(b) After proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

NPDES means "National Pollutant Discharge Elimination System".

Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES programs.

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved" State.

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to any pipe ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 CFR §122.2).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or
(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes is approved by the authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Primary industry category means any industry category listed in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified 12 E.R.C. 1833 (D. D.C. 1979)); also listed in Appendix A of 40 CFR Part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operation is not the operator of the treatment works or (b) not a "POTW".

Publicly Owned Treatment Works (POTW) means any facility or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality". This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Regional Administrator means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

Secondary Industry Category means any industry which is not a "primary industry category".

Section 313 water priority chemical means a chemical or chemical category which:

(1) is listed at 40 CFR §372.65 pursuant to Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986);

(2) is present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and

(3) satisfies at least one of the following criteria:
- (i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table V (certain toxic pollutants and hazardous substances);
- (ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the CWA at 40 CFR §116.4; or
- (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage Sludge means any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, Type III Marine Sanitation Device pumpings (33 CFR Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Significant materials includes, but is not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets, raw materials used in food processing or production, hazardous substance designated under section 101(14) of CERCLA, any chemical the facility is required to report pursuant to EPCRA Section 313, fertilizers, pesticides, and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

Significant spills includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 CFR §110.10 and §117.21) or Section 102 of CERCLA (see 40 CFR § 302.4).

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to Section 405(d) of the CWA, and is required to obtain a permit under 40 CFR §122.1(b)(3).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands.

Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Time-weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

Toxic pollutants means any pollutant listed as toxic under Section 307 (a)(1) or, in the case of "sludge use or disposal practices" any pollutant identified in regulations implementing Section 405(d) of the CWA.

Treatment works treating domestic sewage means a POTW or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices.

For purposes of this definition, "domestic sewage" includes waste and wastewater from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Regional Administrator may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR Part 503 as a "treatment works treating domestic sewage", where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR Part 503.

Waste Pile means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

Waters of the United States means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide;

(b) All interstate waters, including interstate "wetlands";

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands", sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
(1)Which are or could be used by interstate or foreign travelers for recreational or other purpose;
(2)From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or,
(3)Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in Paragraphs (a) through (d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in Paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

2. Definitions for NPDES CAFO Permits

Animal feeding operation (AFO) means a lot or facility (other than an aquatic animal production facility) where the following conditions are met: (i) animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of forty-five (45) days or more in any 12-month period, and (ii) crops, vegetation, forage growth, or postharvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Agricultural land is land on which a food crop, feed crop, or fiber crop is grown. This includes range land and land used as pasture.

Agronomic rate is the whole sludge application rate (dry weight basis) designed: (1) to provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop or vegetation grown on the land; and (2) to minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to ground water.

Concentrated animal feeding operation (CAFO) means an AFO which is defined as a Large CAFO or Medium CAFO by 40 CFR 122.23(b)(4) and (6), or that is designated as a CAFO.

Cover crop is a small grain crop, such as oat, wheat, or barley, not grown for harvest.

E. coli means the bacterial count (Parameter 1) at 40 CFR 136.3 in Table 1A, which also cites the approved methods of analysis.

Fecal coliform means the bacterial count (Parameter 1 at 40 CFR Part 136.3 in Table 1A), which also cites the approved methods of analysis.

Feed crops are crops produced primarily for consumption by animals.

Fiber crops are crops such as flax and cotton.

Food crops are crops consumed by humans. These include, but are not limited to, fruits, vegetables and tobacco.

Land application means the application of manure, litter, or process wastewater onto or incorporated into the soil.

Land application area means land under the control of a CAFO owner or operator, whether it is owned, rented, or leased, to which manure, litter, or process wastewater from the production area is or may be applied. 40 CFR §412.2(e).

Large CAFO means an AFO that stables or confines as many as or more than the numbers of animals specified in any of the following categories: (i) 700 mature dairy cattle, whether milked or dry; (ii)1,000 veal calves; (iii)1,000 cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs; (iv) 2,500 swine each weighing 55 pounds or more; (v)10,000 swine each weighing less than 55 pounds; (vi) 500 horses; (vii) 10,000 sheep or lambs; (viii) 55,000 turkeys; (ix) 30,000 laying hens or broilers, if the AFO uses a liquid manure handling system; (x)125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system; (xi) 82,000 laying hens, if the AFO uses other than a liquid manure handling system; (xii) 30,000 ducks (if the AFO uses other than a liquid manure handling system); or (xiii) 5,000 ducks (if the AFO uses a liquid manure handling system).

Liquid manure handling system means a system that collects and transports or moves waste material with the use of water, such as in washing of pens and flushing of confinement facilities. This would include the use of water impoundments for manure and/or wastewater treatment.

Manure is defined to include manure, litter, bedding, compost and raw materials or other materials commingled with manure or set aside for land application or other use.

Medium CAFO means any AFO that stables or confines as many or more than the numbers of animals specified in any of the following categories: (i) 200 to 699 mature dairy cattle, whether milked or dry cows; (ii) 300 to 999 veal calves; (iii) 300 to 999 cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs; (iv) 750 to 2,499 swine each weighing 55 pounds or more; (v) 3,000 to 9,999 swine each weighing less than 55 pounds; (vi)150 to 499 horses, (vii) 3,000 to 9,999 sheep or lambs, (viii) 16,500 to 54,999 turkeys, (ix) 9,000 to 29,999 laying hens or broilers, if the AFO uses a liquid manure handling system; (x) 37,500 to 124,999 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system; (xi) 25,000 to 81,999 laying hens, if the AFO uses other than a liquid manure handling system; (xii) 10,000 to 29,999 ducks (if the AFO uses other than a liquid manure handling system); or (xiii) 1,500 to 4,999 ducks (if the AFO uses a liquid manure handling system) **and** either one of the following conditions are met (a) pollutants are discharged into waters of the United States through a man-made ditch, flushing system, or other similar man-made device; or (b) pollutants are discharged directly into waters of the United States which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.

NH NRCS Conservation Practice Standard means New Hampshire Natural Resource Conservation Service, Conservation Practice Standard for Nutrient Management Code.

Overflow means the discharge of manure or process wastewater resulting from the filling of wastewater or manure storage structures beyond the point at which no more manure, process wastewater, or stormwater can be contained by the structure. 40 CFR §412.2(g).

Pasture is land on which animals feed directly on feed crops such as legumes, grasses, grain stubble or stover.

Process wastewater means water directly or indirectly used in the operation of the CAFO for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other AFO facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes any water which comes into contact with or is a constituent of raw materials, products, or byproducts including manure, litter, feed, milk, eggs, or bedding. 40 CFR § 412.2(d).

Production area means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal containment area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milk rooms, milking centers, cow yards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities. 40 CFR § 412.2(h).

Runoff is rainwater, leachate or other liquid that drains overland on any part of a land surface and runs off the land surface.

Small CAFO means an AFO that is designated as a CAFO and is not a Medium CAFO.

Setback means a specified distance from waters of the United States or potential conduits to waters of the United States where manure, litter, and process wastewater may not be land applied. Examples of conduits to surface waters include but are not limited to: Open tile line intake structures, sinkholes, and agricultural well heads.

Ten (10)-year, 24-hour rainfall event, 25-year, 24-hour rainfall event, 50-year, 24 hour and 100-year, 24-hour rainfall event mean precipitation events with a probable recurrence interval of once in ten years, or twenty five years, or fifty years, one hundred years, respectively, as defined by the National Weather Service in Technical Paper No. 40, "Rainfall Frequency Atlas of the United States," May, 1961, or equivalent regional or State rainfall probability information developed from this source. 40 CFR § 412.2(j).

Total solids are the materials in sewage sludge that remains as residue when the sewage sludge is dried at103 to 105 degrees Celsius.

Vegetated buffer means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching waters of the United States.

VT NRCS Conservation Practice Standard means Vermont Natural Resource Conservation Service, Conservation Practice Standard for Nutrient Management Code.

3. Commonly Used Abbreviations

BOD_5	Five-day biochemical oxygen demand unless otherwise specified
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
cfu	colony forming units
DO	Dissolved oxygen
lbs/day	Pounds per day
mg/l	Milligram(s) per liter
Nitrogen	
Total N	Total nitrogen
NH_3-N	Ammonia nitrogen as nitrogen
NO_3-N	Nitrate as nitrogen
NO_2-N	Nitrite as nitrogen
NO_3-O_2	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
NMP	Nutrient Management Plan
Oil & Grease	Freon extractable material
pH	A measure of the hydrogen ion concentration. A measure of the acidity or alkalinity of a liquid or material
Surfactant	Surface-active agent
Temp. °F	Temperature in degrees Fahrenheit
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
FIVE POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

FOR THE DRAFT CONCENTRATED ANIMAL FEEDING OPERATION NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER**:** NH0023540

PUBLIC NOTICE START AND END DATES: April 18, 2018 – May 17, 2018

PUBLIC NOTICE NUMBER: NH-07-18

NAME AND MAILING ADDRESS OF APPLICANT:

Forbes Facility Partnership
304 North Road
Lancaster, NH 03584

ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

304 North Road and 36 Grange Road
Lancaster, NH 03583

and

Route 102 (Satellite Lagoon)
Guildhall, VT 05905

RECEIVING WATER: Unnamed Tributary to Otter Brook, Martin Meadow Pond, Otter Brook, Israel River, Wetland to Unnamed Tributary to Connecticut River, Unnamed Tributary to Connecticut River, and Connecticut River (Upper CT River Watershed) (Hydrologic Basin Code: NHRIV8010805-06)

RECEIVING WATER CLASSIFICATION: B (Cold Water Fishery)

SIC CODE: 0241 (Dairy Facility)

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FIGURES

Figure 1: Location of Forbes Facility Partnership Facility

APPENDICES

Appendix A: Acronyms and Definitions

Appendix B: Bibliography

EXHIBITS

Exhibit A: Nitrogen Loads

NOTE: The text of this Fact Sheet contains words and phrases in ***bold and italics***. These words and phrases are the first usage in this Fact Sheet and are defined in **Appendix A**.

1. PROPOSED ACTION

Forbes Facility Partnership (Forbes Facility) (the “permittee”) has applied to the US Environmental Protection Agency (EPA) for a National Pollutant Discharge Elimination System (NPDES) permit under the federal Clean Water Act, 33 U.S.C. 1251 *et seq*. EPA proposes to authorize the ***discharge*** in accordance with the terms and conditions of the Draft Permit.

2. TYPE OF FACILITY

2.1. Site History and Facility Description

The permittee is a large dairy facility located in the town of Lancaster in Coos County, NH with a satellite ***lagoon*** and additional cropland located approximately 5 miles west in the town of Guildhall, Vermont. The Town of Lancaster is situated on the northern Connecticut River, near the state border with Vermont, and approximately 45 miles south of the Quebec border. The facility has been owned and operated by the Forbes family since 1902. The dairy herd consists of approximately 1,100 lactating cows, 200 dry cows, 1,330 heifers, 70 beef yearling Holstein Friesian, and 170 calves. The facility milks about 1,100 cows per day. The collected milk is trucked off-site for processing.

The ***Production Area*** for this facility, by definition under 40 CFR Part 412.2(h), includes but is not limited to the animal confinement area, the ***manure*** storage area, the raw materials storage area, and the ***waste*** containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to the permittee’s lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to ***feed*** silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions which separate uncontaminated storm water. The Production Area also includes any area used in the storage, handling, treatment, or disposal of mortalities.

The facility houses approximately 2,875 dairy animals on site each year in two areas - Site 1, the main farm and Site 2, the milking barn. At this facility, dairy animals do not roam freely over pasture land. Dairy animals are confined and feed is brought to them for consumption.

Site 1, the main facility, consists of a milking operation and main barn; repair shop, heifer barn and grain storage area; an adjacent 16,500 cubic foot manure pit; three additional heifer and/or ***calf*** barns; silos, grass and corn silage area; an adjacent ***silage leachate*** storage pit; hay storage structure; sawdust storage building; milk house wastewater pond; and connecting roadways. A small, unnamed tributary of Otter Brook is located about 200 feet from the main barn. Otter Brook, a small Class B fresh water body, is located approximately 0.25 miles south of the Production Area. See: photographs in the permittee’s NMP. Site 2, the milking barn, consists of a milk house and milk parlor; two “milking cow” barns; a 252,000 cubic foot cow barn manure pit; two “heifer” barns; an adjacent heifer barn manure pit, silos, grass and corn silage area with a low flow collection system; milk house wastewater pond; and connecting roadways. Otter Brook is located less than a mile south of Site 2, across Grange Road. See: photographs in the permittee’s NMP.

The permittee also maintains a 498,000 cubic foot manure winter storage lagoon in Guildhall, Vermont, located in Field ID Number 24, off Route 2 and approximately 700 feet north of the Connecticut River. The lagoon has sufficient capacity for 180 days of storage. During the winter months, manure from the facility's two NH production areas is trucked in and stored in the lagoon. The stored manure is land applied to crop land the following spring.

According to its nutrient management plan, the facility generates a total of 16,625,523 gallons of liquid manure, wastewater and ***litter*** annually. The permittee maintains a land base and ***land applies*** manure and ***process wastewater*** from its dairy operations to approximately 2,797 acres of cropping fields, from which it harvests corn silage (1,131 acres), grass and hay (1,666 acres) to feed the herd. Some of the acreage is rented from other property owners, including approximately 500 acres located on the Vermont side of the state border. The permittee currently conducts soil testing every three years and manure testing every 1-3 years.

2.2. Facility Classification under Clean Water Act and Implementing Regulations

The facility is a Large Dairy Cow Concentrated Animal Feeding Operation. The Draft Permit requirements propose requirements based on 40 CFR Subpart C 412.30, which applies to operations defined as concentrated animal feeding operations (CAFOs) under 40 CFR 122.23 and includes the following animals: mature dairy cows, either milking or dry; cattle other than mature dairy cows or veal calves. Subpart C applies to CAFOs with 700 or more mature dairy cows whether milked or dry (i.e., includes heifers, steers, and bulls); and/or, 1000 or more cattle other than mature dairy cows or veal calves. the facility in a letter dated July 19, 2010 under Section 308 of the Clean Water Act.

Because more than 700 dairy cows are stabled or confined and fed or maintained at the facility for more than 45 days or more per year, with feed brought to the animals, this facility is a "concentrated animal feeding operation," as used in the definition of a "***point source***" in Section 502(14) of the Act, 33 U.S.C. § 1362(14), and is a large CAFO as defined in 40 C.F.R. §§ 122.23(b)(l), 122.23(b)(2), 122.23(b)(4) and Part 412 Subpart C, Dairy Cows and Cattle Other Than Veal Calves.

2.3. NPDES Permitting History

This facility is an existing source that submitted a NPDES permit application for its large CAFO dairy operation in September 2006. The facility also submitted a Nutrient Management Plan (NMP), dated October 11, 2006. EPA requested additional information from the permittee, and additional operational information was provided to EPA on August 20, 2010. EPA conducted a site visit and meeting at the facility on May 9, 2016 with the following participating agencies: New Hampshire Natural Resources Conservation Service (NRCS), New Hampshire Department of Environmental Services (NHDES), and Vermont Department of Environmental Conservation (VTDEC). The facility has supplemented its permit application with updated information and updated NMPs dated August 2016, June 23, 2017, and December 18, 2017. Several submittals were needed in order for the NMP to be found acceptable for public notice. Even so, the Draft Permit includes a supplemental list of items that make the NMP consistent with the applicable CAFO regulations 40 CFR Part 122.42(e)(6)(ii).

The facility's NMP was conditionally approved by EPA and its permit application was deemed complete on March 5, 2018. The condition for approval was that a supplemental list of items has been included in a future revision of the NMP and in the permit. This has been done in Attachment B to the Draft Permit. The Draft Permit reflects the most current information for this facility at the time of public notice.

3. AUTHORIZED DISCHARGES COVERED BY THE DRAFT PERMIT

3.1. CAFO Waste Generation Rates, Containment Type, Storage Capacity, and Proposed Discharges

3.1.1. Waste Generation Rates

The permittee's total annual manure, litter and process wastewater generation is 2,340,015 cubic feet (6,089 ft^3/day liquid waste and 322 ft^3/day semi solid manure). The facility's annual waste generation is 15,736,458 gallons of liquid waste and 2,640 tons of semi-solid manure. Liquid and solid waste from the animal and milking parlors is collected and stored on-site in manure pits and milk house wastewater storage ponds, prior to being land applied to fields in accordance with the permittee's NMP.

3.1.2. Containment Type and Storage Capacity

Please see: NMP Attachment A of the Permit

3.1.3. Manure, Litter, Process Wastewater, and Feed Storage

Manure is a by-product generated by CAFOs. Fresh manure (as excreted) from beef animals is approximately 83-92% liquid. Liquid manure is stored in lagoons, pits, or other structures such as above ground steel or concrete storage tanks. Generally, liquid manure is stored until land applied to crops or pasture fields, used in anaerobic digesters, or ***exported*** to other parties.

Manure, litter, process wastewater, feed stocks (i.e. animal feed), and other materials are sources that could become contaminated with run-off from the facility's production area. In order to prevent discharges to surface water, the materials listed above need to be stored and managed to prevent run-off (except in limited circumstances). Collection of the run-off that is generated can be used as a source of crop nutrients.

The Draft Permit conditions are directed at ensuring that materials which can be sources of contaminated run-off to surface waters are managed to minimize this risk. The permittee is required to cover all solid materials and direct clean water away from the facility so that it does not come into contact with contaminants or collect and store the run-off which can be used later for ***land application*** as crop nutrients.

Adequate storage is necessary to prevent surface water discharges. The Draft Permit requirements for adequate storage of manure, litter, and process wastewater are based on 40 CFR § 122.42(e)(1)(i).

3.1.4. New Source Regulations

Dairy operations meeting the CAFO definition at 40 CFR122.23 and having a production threshold of less than 200 dairy cows (small size CAFO) or 200 to 699 dairy cows (medium size CAFO) or at least 700 dairy cows (large size CAFO) under the CAFO definition are required to get NPDES permit coverage prior to discharging into ***waters of the U.S.*** In addition, CAFO facilities constructed after promulgation of these new source performance standards (promulgated in 1974 and amended in 2003 and 2008) are considered ***new sources*** under 40 CFR 122.2 and 122.29. In accordance with Section 511(c)(1) of the CWA and the EPA's regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) at 40 CFR Part 6, issuance of NPDES permits for *new sources* are considered major federal actions subject to NEPA review. The permittee's new heifer barn #6 and its northern half of heifer barn #5 were constructed after the new source standards were amended in 2008. However, this work does not meet the criteria for a new source. If the permittee expands its operations in the future, and if its expansion meets the new source definition under 40 CFR 122.2 and 122.29, coverage of the permittee's facility would be subject to NEPA review.

3.1.5. CAFO-Regulated Discharges from the Facility

The large dairy cow CAFO ***effluent*** limit guideline at 40 CFR Part 412.31 includes an exception to the performance standard of "no discharge" from the Production Area for discharges attributable to unusual rainfall events if certain conditions are met. The permittee proposes to discharge Production Area wastewater to Otter Brook, Israel River, and the Connecticut River under this exception. Production Area wastes include process wastewater (milkhouse wastewater, silage leachate, and barnyard runoff), cow manure and animal litter.

Site 1, Main Facility
Manure is removed from the main heifer barn at least once a day using a skid scraper to scrape up and transfer the manure to the adjacent manure lagoon. Manure from the other three barns is removed by scraping and is transported to the manure lagoon. Milkhouse wastewater and leachate from the silage leachate collector is pumped into a manure tank to be land applied or stored in the manure pit. Berms prevent "clean" stormwater from entering the bulk silos and leachate area and the barn roof water drains into gravel to percolate away from the Production Area. Runoff from the exercise yard and alleyways flows through a limited amount of vegetated ***buffers*** before reaching surface waters. Silage runoff is caught by a berm and runs into a small pit and pumped into a spreader tank by a vacuum truck. The silage area has a cement barrier to prevent runoff. Washwater from the milking room runs into a floor drain into a holding tank and is recycled.

Site 2, Milking Barn

Manure is removed from the milking cow barns at least once a day using a skid scraper to scrape up and transfer the manure to the adjacent manure lagoon. Manure from the heifer barn is removed by scraping and is transported to the manure lagoon. Milkhouse wastewater and leachate from the silage leachate collector is pumped into a manure tank to be land applied or stored in the manure pit. Berms prevent "clean" stormwater from entering the bunk silos and leachate area and the barn roof water drains into gravel to percolate away from the Production Area. Runoff from the exercise yard and alleyways flows through wide grass filter strips buffers before reaching surface waters. Silage runoff is caught by a berm and runs into a small pit and pumped into a spreader tank by a vacuum truck. The silage area has a cement barrier to prevent runoff. Washwater from the milking room runs into a floor drain into a holding tank and is recycled.

Site 3, Winter Manure Storage Lagoon

Although the State of New Hampshire does not have a moratorium on land applying manure, litter and wastewater during the winter season, the permittee does not land apply during the non-growing season. Rather, the barns are cleaned several times a day with a skid scraper and the manure is transported by truck to an NRCS designed manure storage lagoon, located within Field ID Number Bug-01, off Route 2, in Lunenburg, VT. Manure is removed from the lagoon during the following growing season and land applied to fields under the ***control*** of the permittee.

4. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMIT DERIVATIONS

The effluent limitations, monitoring requirements, and implementation schedule may be found in Part I (Effluent Limitations and Monitoring Requirements) of the Draft Permit.

4.1. General Basis of Permit Requirements

The Clean Water Act (CWA), 33 U.S.C. §§ 1251 *et seq.*, prohibits the discharge of ***pollutants*** to waters of the United States without authorization from a National Pollutant Discharge Elimination System (NPDES) permit, unless the discharge is otherwise authorized by the statute. *See* 33 U.S.C. §§ 1311(a) and 1342(a). The NPDES permit is the mechanism used to implement the CWA's technology-based and water quality-based requirements on a facility-specific basis. As such, NPDES permits impose pollutant discharge limits and other requirements, such as requirements for best management practices, maintenance, monitoring and reporting. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136.

When developing permit limits, EPA applies technology-based and water quality-based requirements. Where both types of requirements apply to a particular pollutant discharge, the more stringent requirement is included in the permit so that both types of requirements will be satisfied.

4.1.1. Technology-Based Requirements

The CWA imposes a number of technology standards requiring the use of particular levels of pollution control technology. Federal technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (*see* 40 CFR §125 Subpart A). Technology-based discharge standards include: (a) the best practicable control technology currently available (BPT) standard for a limited number of "conventional pollutants" and metals, (b) the best conventional control technology (BCT) standard for other conventional pollutants; and the best available technology economically achievable (BAT) standard for toxic and non-conventional pollutants. *See* 33 U.S.C. §§ 1311(b)(1)(A), 1311(b)(2)(A), and 1311(b)(2)(E). Which of the CWA's technology standards apply to a given facility is determined by a variety of factors, such as the type of pollutant at issue and the type of facility in question.

Existing point sources discharging pollutants to receiving waters were initially subject to effluent limitations based on the BPT standard, which were to have been satisfied by July 1, 1977. *See* 33 U.S.C. §§ 1311(b)(1)(A), 1314(b)(1)(B). Existing point sources discharging conventional pollutants are subject to effluent limitations based on the BCT standard, which were to have been satisfied by March 31, 1989. *See* 33 U.S.C. §§ 1311(b)(2)(E), 1314(b)(4)(A); *see also* 40 C.F.R. § 401.16 (conventional pollutants include biochemical oxygen demand (BOD), total suspended solids (TSS) (nonfilterable), turbidity, pH, dissolved oxygen, and E. coli bacteria). The BCT standard requires compliance with limitations based on the "best conventional pollutant control technology."

Discharges of toxics and "nonconventional" pollutants (*i.e.*, pollutants that are neither "toxic" nor "conventional," such as heat) from existing point sources were required to comply by March 31, 1989, with effluent limitations based on the BAT standard. *See* 33 U.S.C. § 1311(b)(2)(A) and (F); *see also* 40 C.F.R. § 401.15 (list of toxic pollutants). The BAT standard requires compliance with:

> effluent limitations . . . which . . . shall require application of the best available technology economically achievable . . ., which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the [EPA] Administrator pursuant to section 1314(b)(2) of this title, which such effluent limitations shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him ... that such elimination is technologically and economically achievable . . . as determined in accordance with regulations issued by the [EPA] Administrator pursuant to Section 1314(b)(2) of this title . . ..33 U.S.C. § 1311(b)(2)(A).

That is, EPA must require the most stringent possible limits that could be met by use of the most effective pollution control technologies that are technologically and economically achievable, and that will result in reasonable progress toward eliminating the discharge of the pollutant(s) in question. BAT is the CWA's most stringent standard for existing ***dischargers***. "Congress intended these limitations to be based on the performance of the single best-performing plant in an industrial field." *Chem. Mfrs. Ass'n v. EPA*, 870 F.2d 177, 226 (5th Cir.1989). *See also Kennecott v. EPA*, 780 F.2d 445, 448 (4th Cir. 1985) ("In setting BAT, EPA uses not the average plant, but the optimally operating plant, the pilot plant which acts as a beacon to show what is possible.").

The CWA requires compliance with BPT, BCT and BAT ***effluent limitations*** no later than March 31, 1989. *See* 33 U.S.C. § 1311(b)(1)(A) and (2); 40 C.F.R. § 125.3(a)(2). Thus, the statutory deadline for achieving compliance with effluent limits based on these standards has already passed and compliance is required immediately. *See* 40 C.F.R.§ 122.47(a)(1).

EPA has two alternative methods for giving effect to the CWA's technology standards. First, EPA can approach the matter on an industrial category-wide basis (e.g., for CAFOs or paper mills). Industrial categories may, in turn, be broken down into sub-categories based on factors such as the type of processes used or the location of the facilities (e.g., effluent limitations may be tailored for different types of CAFOs or paper mills). EPA then determines the pollution reduction method(s) that satisfies the applicable technology standard for that industrial category (e.g., BAT or BCT), and sets the effluent limitations for particular pollutants based on the use of that method. These industrial category-wide (or sub-category-wide) effluent limitations are referred to as National Effluent Limitation Guidelines (NELGs). Once a pertinent NELG has been developed, it is used to determine the limits to be included in individual facility permits. *See* 40 C.F.R. § 125.3(c)(1).

Second, when EPA has not developed an NELG for a particular industry, or for a particular pollutant discharged by an industry for which NELGs have otherwise been promulgated, the Agency uses its ***Best Professional Judgment*** (BPJ) to develop permit limits based on a case-by-case, site-specific application of the relevant technology standard. *See* 33 U.S.C. § 1342(a)(1)(B); 40 C.F.R. § 125.3(c)(2). As one court has explained, "BPJ limits constitute case-specific determinations of the appropriate technology-based limitations for a particular point source." *NRDC v. EPA*, 859 F.2d 156, 199 (D.C. Cir. 1988).

EPA has promulgated technology-based National Effluent Guidelines for Concentrated Animal Feeding Operations (CAFO) Point Source Category, Subpart C, Dairy Cows and Cattle Other than Veal Calves. Specifically, the ELG prohibits the discharge of process wastewater pollutants into U.S. waters, except whenever rainfall events cause an ***overflow*** of process wastewater from a facility that is designed, constructed, operated, and maintained to handle all of the manure, litter and process wastewater, including the runoff and direct precipitation from all normal rainfall events up to a ***25-year, 24-hour storm event*** at the Production Area, then any process wastewater pollutants in the overflow may be discharged into the U.S. waters. The ELG further requires that owners or operators of large dairy cattle CAFOs properly apply manure, litter and process wastewater to land application areas under their control. Specifically, the ELG requires that specific best management practices be developed and implemented and certain records be maintained. The CAFO ELG was originally promulgated in 1974 and was revised in 2003 and 2008.

Permit limitations are based on BPJ when national effluent limitations guidelines that apply to the appropriate industrial category, or to the particular process involved, have not been issued. For example, there is no ELG for Small or Medium CAFOs or for "exotic" animal species, and there is no applicable ELG for the land application areas at large horse, sheep, or duck CAFOs. Given the similarity in the operational characteristics of CAFOs, in many cases permit writers may find that it is appropriate to develop BPJ effluent limitations for Medium and Small CAFOs that are the same as or similar to the effluent limitations for Large CAFOs. Permit writers may also establish different technology-based limitations for Medium and Small CAFOs based on BPJ. For example, in some cases permit writers may find it appropriate to develop BPJ technology-based limitations that focus on the site-specific circumstances that resulted in the small or medium-sized AFO being defined or designated as a CAFO in the first place.

The Draft Permit includes a design and implementation standard that meets both the best available technology economically achievable (BAT) regulations under 40 C.F.R. § 412.13 and the best practicable control technology currently available (BPT) regulations under 40 C.F.R. § 412.12. The BAT regulations require meeting the 25-year, 24-hour storm event and the BPT regulations require meeting the 10-year, 24-hour storm event. The BAT standard is more stringent than the BPT standard. Therefore, in order to protect the receiving waters, the Draft Permit requires meeting the 25-year, 24-hour storm event.

4.1.2. Water Quality-Based Requirements

Water quality-based limitations are required in NPDES permits when effluent limits and other requirements and standards more stringent than technology-based requirements are necessary to maintain or achieve compliance with State or Federal water quality requirements. *See* 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. § 122.44(d)(1). The applicable New Hampshire ***water quality standards*** can be found in the NH Surface Water Quality Regulations, Chapter Env-Wq 1700 et seq. See generally, Title 50, Water Management and Protection, Chapter 485A, Water Pollution and Waste Disposal Section 485-A.

Hereinafter, New Hampshire's Surface Water Quality Regulations are referred to as the NH Water Quality Standards (NH WQS). The applicable Vermont *water quality standards* can be found in the VT Surface Water Quality Regulations, Chapter 29(a). Vermont’s Water Quality Regulations are referred to as the VT Water Quality Standards (VT WQS).

State water quality standards (WQS) have three components: (a) beneficial designated uses for water bodies or segments of water bodies; (b) instream numeric and/or narrative water quality criteria intended to protect the assigned designated uses; and (c) antidegradation requirements intended to ensure that once a particular level of water quality is attained it will not be degraded, except under very limited circumstances, and to protect especially high quality or important water bodies. *See* 40 C.F.R. § 131.12. The Vermont Surface Water Quality Standards, and the New Hampshire Surface Water Quality Regulations found at Chapter Env-Wq 1708, include each of these three elements.

The State assigns each of the water bodies under its jurisdiction, and in some cases specific segments of these water bodies, to a particular water quality classification (e.g., Class A or Class B). Each water quality classification is assigned a particular set of designated uses and accompanying water quality criteria. New Hampshire also has a number of water quality criteria that apply to all its waters, including narrative water quality criteria requiring restrictions on the discharge of toxic constituents and mandating the use of EPA criteria established pursuant to Section 304(a) of the CWA unless the WQS specify a different criterion for the specific pollutant or the State establishes site-specific criteria.

When using chemical-specific numeric criteria to develop permit limits, both the acute and chronic aquatic-life criteria, expressed in terms of maximum allowable in-stream pollutant concentration, are used. Acute aquatic-life criteria are considered applicable to daily time periods (i.e., maximum daily limits), while chronic aquatic-life criteria are considered applicable to monthly time periods (i.e., average monthly limits). Chemical-specific limits are allowed under 40 CFR § 122.44(d)(1) and are implemented under 40 C.F.R. § 122.45(d).

Narrative criteria from the State’s water quality standards provide a basis for limiting toxicity in discharges where (a) a specific pollutant can be identified as causing or contributing to the toxicity but the State has no numeric standard; or (b) toxicity cannot be traced to a specific pollutant.

NPDES permits must address any pollutant or pollutant parameter (conventional, non-conventional, toxic and whole effluent toxicity) that is or may be discharged at a level that causes, contributes, or has a “reasonable potential” to cause or contribute to an excursion above any water quality standard. *See* 40 C.F.R. § 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration of a pollutant discharge exceeds the applicable criterion or interferes with maintenance of applicable designated uses. In determining whether there is a reasonable potential for an excursion, EPA considers (a) existing controls on point and non-point sources of pollution; (b) pollutant concentrations and variability in the effluent and receiving water; (c) the sensitivity of the test species used in toxicity testing; (d) known water quality impacts of processes on wastewater; and, (e) where appropriate, dilution of the effluent in the receiving water. *See id.* The determination of whether in this case there is a reasonable potential for an excursion above any water quality standard is discussed in Part 4.3.1.2. below.

4.1.3. Antidegradation Requirements

Federal regulations found at 40 C.F.R. § 131.12 require states to develop and adopt a statewide antidegradation policy, as part of their water quality standards, to ensure the maintenance and protection of existing instream water uses and the level of water quality necessary to protect the existing uses. Antidegradation policies are also supposed to maintain the quality of waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water, subject to limited exceptions. The New Hampshire Antidegradation Policy is found at Chapter Env-Wq 1708, and the Vermont Antidegradation Policy is found in the Vermont Water Quality Standards, Environmental Protection Rule Chapter 29(a), Section 1-03. While the permittee is not proposing new or increased pollutant discharges, the draft permit must satisfy the anti-degradation requirements to ensure that the existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

The Draft Permit does not allow an increase in pollutant discharges from its ***existing operations***. In fact, given that the facility is now subject to NPDES permit requirements and regulatory-required nutrient management practices, it is likely that the facility will decrease its loading to the receiving water compared to its existing operations. During the review of this Draft Permit as part of the State Certification process, EPA expects the State of New Hampshire and the State of Vermont to determine that there will be no lowering of water quality and no loss of existing uses as a result of the discharge authorized.

4.1.4. Applicable Water Quality Standards

The State of New Hampshire has designated the Unnamed Tributary to Otter Brook, Martin Meadow Pond, Otter Brook, Israel River, the Wetland to Unnamed Tributary to Connecticut River, the Unnamed Tributary to Connecticut River, and the Connecticut River as Class B surface waters. The State of Vermont has designated the Connecticut River as a Class B surface water. All existing instream uses and the level of water quality necessary to protect the existing uses of these waters shall be maintained and protected. Class B water bodies in the State of New Hampshire and the State of Vermont are considered acceptable for fishing, swimming, and other recreational purposes and, after adequate treatment, for use as water supplies. [RSA 485-A:8, II.]

In addition to the general water quality criteria in the New Hampshire Water Quality Standards at Chapter Env-Wq 1703.03, Class B waters shall have no objectionable physical characteristics, and shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60-day period of 126 Escherichia coli (E.coli) per 100 milliliters, or a single sample of not greater than 406 E. coli per 100 milliliters; unless naturally occurring. In addition to the general water quality criteria specified in Chapter 29(a), §3-01 of the Vermont Water Quality Standards Environmental Protection Rule, Class B waters shall contain not greater than 126 Escherichia coli (E.coli) organisms per 100 milliliters or 10% of samples above 235 E. coli per 100 ml. All waters shall maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters.

4.1.5. State Certification Requirement

EPA may not issue a permit unless the state agency with jurisdiction over the receiving waters certifies that the effluent requirements contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards or the certification is deemed to be waived. The New Hampshire Department of Environmental Services (NHDES), and the Vermont Department of Environmental Conservation (VTDEC), have reviewed the Draft Permit and Fact Sheet and advised EPA that the proposed requirements are adequate to protect water quality. EPA has requested permit certification pursuant to 40 CFR 124.53 and expects that the Draft Permit will be certified.

4.2. Receiving Water Description

4.2.1. Background

The facility is located near Otter Brook, Israel River, and the Connecticut River in New Hampshire, and along the Connecticut River in Vermont. Otter Brook (NHRIV8010805-06, Lancaster) is a small, Class B, fresh water tributary of the Israel River in the Upper Connecticut River watershed. The entire brook is 6.015 miles and is not designated as a beach area. EPA also authorized a NPDES permit to discharge to the Connecticut River for the Lancaster Wastewater Treatment Facility located upstream on Water Street in Lancaster, NH. This NPDES permit was issued on November 5, 2008 and includes: conventional pollutant limitations, nutrients monitoring, and requirements to evaluate and optimize the removal of total nitrogen.

4.2.2. Available Dilution

Available dilution typically is based on a known or estimated value of the lowest average annual receiving water flow which occurs for seven (7) consecutive days with a recurrence interval of once in ten (10) years (7Q10) for aquatic life or the harmonic mean flow for human health (carcinogens only). In addition, for discharges within the NH state boundary, 10 percent of the assimilative capacity of the receiving water is held in reserve for future needs in accordance with New Hampshire’s Surface Water Quality Regulations, Env-Ws 1705.01. For the wet weather discharges covered by this permit, there are no quantitative calculations of water quality-based effluent limits that incorporate a dilution factor. An estimated available dilution calculation may be determined for this facility in the future.

4.2.3. Water Quality Impairments

Under Section 303(d) of the CWA, states are required to develop information on the quality of their water resources and report this information to the EPA, the U. S. Congress, and the public. The responsibility for monitoring the waters within the State, identifying those waters that are impaired, and developing a plan to bring them into compliance with the NH WQ Standards and VT WQ Standards, resides with the New Hampshire Department of Environmental Services (NHDES) and the Vermont Department of Environmental Conservation (VTDEC).

According to NHDES’s *Final 2012 Section 303(d) Surface Water Quality List* approved by EPA on September 24, 2015, Otter Brook and Israel River are severely impaired for aquatic life use (fish bioassessments), marginally impaired due to pH, and their fish consumption is marginally impaired due to mercury (caused by atmospheric deposition). The Connecticut River (Assessment unit NHRIV801010903-02), Otter Brook (Assessment unit NHRIV801010805-06), and Israel River (Assessment unit NHRIV801010806-06) are severely impaired for primary contact recreation use due to E. coli bacteria.

4.3. Proposed Permit Effluent Limitations and Conditions

In the text above, EPA explained in general terms the technology-based and water quality-based requirements of the CWA, and receiving water conditions. In the text below, EPA explains how it has applied these requirements in developing a draft NPDES permit for the facility.

4.3.1. CAFO-Regulated Discharges from the Facility

4.3.1.1. Technology-based Effluent Limitations

4.3.1.1.1. National Effluent Limitation Guidelines Applicable to Large Dairy Cow CAFOS – Production Area

Large CAFOs are subject to the national effluent limitation guidelines found at 40 CFR Part 412. 40 CFR Part 412, Subpart C applies to discharges resulting from the production areas at dairy cow and cattle, other than veal calves, CAFO (herein called large dairy cow CAFOs). Effluent limitations attainable by the application of Best Practicable Control Technology currently available (BPT) require no discharge of manure, litter, or process wastewater pollutants from the production area into U.S waters, except whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated, and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the location of the point source, then any process wastewater pollutants in the overflow may be discharged into U.S. waters. Effluent limitations attainable for the Best Available Technology economically achievable (BAT) are the same as BPT.

In accordance with the Large Dairy Cow CAFO ELG, Part I.A.1 of the Draft Permit states that:

> (T)here shall be no discharge of manure, litter or process wastewater pollutants to waters of the United States from the Production Area except whenever rainfall events cause an overflow of manure, litter or process wastewater from the Production Area or a collection system that is designed, constructed, operated and maintained to prevent:
>
> - any discharge of manure, litter or process wastewater from the production area; plus,
>
> - the runoff and direct precipitation from a 25-year, 24-hour rainfall event from the Production Area.

Any pollutants in the overflow may be discharged into Otter Book, Israel River, and Connecticut River that meet the requirements of this permit. Discharges must meet water quality standards under the Clean Water Act.

4.3.1.1.2. National Effluent Limitation Guidelines Applicable to Large Dairy Cow CAFOs – Land Application Areas

The ELG at 40 CFR 412.31(b) requires Large CAFOs that apply manure, litter or process wastewater to land under their control to prepare and implement a site-specific nutrient management plan (NMP) that minimizes the CAFO's impact on water quality, to maintain specific records, and implement field-specific ***best management plans*** (BMPs) that achieve realistic production goals while minimizing nitrogen and phosphorus movement to surface waters. Specifically, the NMP must address and the permittee must comply with the following minimum requirements:

(1) The NMP must address the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters.

(2) Determine ***application rates*** for manure, litter, or process wastewater that minimize phosphorus and nitrogen transport from the field to surface waters in compliance with the most current New Hampshire and Vermont NRCS nutrient management ***conservation practices.***

(3) Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States.

(4) Establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater.

(5) Manure must be analyzed at least once annually for nitrogen and phosphorus content. Soil must be analyzed at least once every five years. The results of these analyses must be used in determining application rates for manure, litter, and process wastewater.

(6) Equipment used for land application of manure, litter, or process wastewater must be inspected periodically for leaks.

(7) Manure, litter, or process wastewater must not be applied closer than one-hundred (100) feet to any down-gradient water of the United States, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to waters of the United States. The permittee may elect to use a 35-foot vegetated buffer where applications of manure, litter, or process wastewater are prohibited as an alternative to the 100-foot setback to meet this requirement. As a compliance alternative, the permittee may demonstrate that a set-back or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the 100-foot setback.

(8) Complete on-site records, including the site specific NMP, must be maintained to document implementation of all required land application practices.

4.3.1.2. Water Quality based Effluent Limitations

4.3.1.2.1 Water Quality based Effluent Limitations and Standards - Production Area and Authorized Overflow from the Production Area

In those cases where technology-based effluent limitations are not sufficient to meet water quality standards, and where an analysis of frequency, duration and magnitude of the anticipated discharge (consisting of potential overflows of manure, litter, or process wastewater) indicates the reasonable potential to violate applicable water quality standards the permitting authority must develop more stringent water quality-based effluent limitations on a site-specific basis.

In this case, the following factors have been considered in determining whether, after the implementation of the technology-based effluent limitations, there remains a reasonable potential to violate applicable water quality standards based on discharges from the Production Area.

- Dry weather discharges are never allowed nor are discharges caused by poor management, even if it is raining.

- The National Effluent Limitation Guideline (NELG) at 40 CFR Parts 412.31, 32 and 33 is a performance standard of “no discharge” from the Production Area.

- This strict “no discharge” performance standard is subject to an exception for discharges attributable to unusual rain fall events if certain conditions are met. The exception provides recognition of the fact that the basic technology for preventing discharges from feedlots requires containment and/or storage facilities. Containment and storage facilities have physical limitations on their capacity to accommodate excessive quantities of rainfall, resulting in occasional unavoidable overflows.

- Discharges from the Production Area are allowed only if the facility meets all of the following conditions: the production area is designed, built, operated and maintained to handle all of the manure, litter and process wastewater, including the runoff and direct precipitation from all normal rainfall events up to a 25-year, 24-hour rainfall event. To meet this requirement, the design volume of the containment or storage structure must reflect the following minimum storage design specifications, based on EPA’s CAFO technical guidance document “Managing Manure Nutrients at Concentrated Animal Feeding Operations” December 2004, Chapter 2, Section B.1:

    - the volume of manure, litter, process wastewater, and other wastes accumulated during
    - the storage period;
    - normal precipitation less evaporation during the storage period;
    - normal runoff during the storage period;
    - the direct precipitation from the 25-year, 24-hour storm;
    - the runoff from the 25-year, 24-hour storm event from the production area;
    - residual solids after liquid has been removed,
    - sediment load in the runoff from the Production Area; and,
    - necessary ***freeboard*** to maintain structural integrity of the storage system.

- The maximum length of time between emptying events for the Production Area process wastewater collection system is the storage period used by the permittee to calculate the design volume of the collection system.

- The operating procedures and BMPs included in the Draft Permit at Part 1.B, include: ensure adequate storage of manure litter and process wastewater including procedures to ensure proper operation and maintenance of the storage facilities; ensure proper management of dead animals; ensure that clean water is diverted from the production area; ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater or stormwater storage and treatment systems; identify appropriate site specific conservation practices to be implemented to control runoff of pollutants into waters of the United States; and, keep records that document that the facility is meeting the ELG requirements contained in the Draft Permit.

- While it is not expected that this facility will discharge frequently, if there is a discharge, it is expected that water quality impacts to surface waters will be minimized with the implementation of BMPs and diverting effluent flow away from surface waters whenever possible.

Thus, as long as the permittee operates and maintains its Production Area to contain all manure, litter and process wastewater including the runoff and the direct precipitation for a 25-year, 24-hour rainfall event and the Production Area is operated in accordance with the additional measures and record required in the Draft Permit at Part 1.B, Nutrient Management Plan Requirements, most, if not all, Production Area discharges to Otter Brook will be prevented.

For the reasons stated above, the application of the no discharge ELG at 40 CFR Parts 412.31, 32, and 33 sets requirements such that discharges from the Production Area are not anticipated. If discharges in the Production Area occur, they will be infrequent. Based on this low frequency of discharges from the Production Area, in this case EPA finds that there is not a reasonable potential for a discharge from the CAFO-regulated Production Area to violate applicable water quality standards. Thus, in this case, the application of the ELGs satisfies the water quality-based requirements of the Clean Water Act with respect to CAFO-regulated Production Area discharges.

The Draft Permit also requires that each discharge event be monitored, documented and reported to EPA, NHDES, and VTDEC on the monthly discharge monitoring reports. Specifically, the Draft Permit includes monitoring requirements for rainfall precipitation, discharge flow, pH, dissolved oxygen, Escherichia coliform bacteria (E. coli), ***biochemical oxygen demand*** (BOD_5), total suspended solids (TSS), total phosphorus, total nitrogen, and ammonia nitrogen. This monitoring will provide a more complete characterization of the frequency, cause, and nature of any discharges to inform future permitting actions and/or response actions.

4.3.1.2.2. Water Quality based Effluent Limitations and Standards - Land Application Sites

The Draft Permit prohibits unauthorized dry weather discharges from land application sites. Therefore, EPA finds there is not a reasonable potential to violate applicable water quality standards based on these discharges, and this provision contributes to meeting the water quality-based requirements of the Act with respect to CAFO-regulated land application site discharges.

4.3.1.2.3. Water Quality based Effluent Limitations and Standards - Authorized Agricultural Stormwater Discharges from Land Application Sites

The ***agricultural stormwater*** discharge exemption at 40 CFR §122.23(e) states that "…where the manure, litter or process wastewater has been land applied in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater, as specified in §122.42(e)(1)(vi)-(ix), a precipitation-related discharge of manure, litter or process wastewater from land areas under the control of a CAFO is an agricultural stormwater discharge and satisfies the water quality based requirements of the Act with respect to CAFO-regulated land application site stormwater discharges."

4.3.1.3. Nutrient Management Plan Requirements

CAFOs are required to develop and implement a Nutrient Management Plan (NMP). The goal of a NMP is to minimize the CAFO's impact on water quality. CAFOs are agricultural operations where animals are kept and raised in confined situations. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures. CAFOs generally congregate animals, feed, manure, dead animals, and production operations on a small land area referred to as the Production Area. Manure and wastewater from CAFOs have the potential to contribute pollutants such as nitrogen and phosphorus, organic matter, sediment, pathogens, heavy metals, hormones, antibiotics, and ammonia to the environment. Animal waste can enter water bodies from spills or breaks of waste storage structures, due to accidents or excessive rain, and non-agricultural application of manure to crop land.

The NMP must describe the practices and procedures that will be implemented at the CAFO to meet all of the Production Area and land application site requirements that apply to the operation. NMPs for large CAFOs must describe how the operation will achieve the discharge requirements and specific management practices required in the permit. In accordance with the ELG, no discharges of manure, litter, or wastewater from the Production Area of the CAFO may enter waters of the United States.
EPA has derived the technology-based requirements related to land application sites under the control of the Large Dairy Cow CAFO owner using best practicable control technology currently available (BPT). CAFOs that land apply are required to develop and implement a NMP that incorporates Best Management Practices (BMPs) based on field-specific assessments of the potential for nitrogen and phosphorus transport from each field to surface waters; that address the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals while minimizing nitrogen and phosphorus movement to surface waters; analyze manure at least once annually and soil at least every five years for nitrogen and phosphorus content; inspect land application equipment for leaks; and comply with setback requirements. In addition to meeting the applicable Part 412 effluent limitations and standards, the NMP must meet the requirements of 40 CFR §122.42(e)(1) and (2).

4.3.1.3.1. NMP Content

The permittee is required to develop, implement, maintain and comply with a Nutrient Management Plan (NMP) designed to prevent the discharge of pollutants to waters of the United States from the Production Areas and from fields under its control where manure, litter or process waste water is land applied. The NMP shall be a written document that is consistent with the effluent limitations and conditions of this permit and the federal CAFO requirements found at 40 CFR §122.42(e)(1) and (2) and the applicable 40 CFR Part 412 effluent limitations and standards. The NMP must be developed in compliance with the

New Hampshire NRCS Conservation Practices, Vermont Natural Resources Conservation Service (NRCS) Conservation Practices, and the Vermont Phosphorus Index Guidance. The NMP serves as a tool to document the permittee's compliance with the effluent requirements and specific management practices required by the permit. The NMP shall be modified as necessary to reflect the best management practices, operation and maintenance procedures and infrastructure improvements implemented by the facility to fulfill the requirements of this permit.

For all fields under the permittee's control where manure, litter, or process wastewater is land applied, the NMP must include information on field specific nutrient transport potential; the form, source, amount, timing, and method of application of manure, litter or process wastewater; the determination of application rates for manure, litter, or process wastewater must minimize phosphorus and nitrogen transport from the field to surface waters in compliance with the most current New Hampshire and Vermont NRCS Nutrient Management Conservation Practices; identify appropriate site specific conservation practices to be implemented, including appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States; establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater, the schedule and procedures to test manure and soil for nitrogen and phosphorus content; land application equipment inspection schedule and results; manure, litter or process wastewater setbacks, buffers or alternative conservation practices; and, maintain complete on-site records including the site specific NMP to document implementation of all required land application practices.

Application rates are expressed in the NMP consistent with the Narrative Approach.

4.3.1.3.2.1. Narrative Rate Approach: The Narrative Rate Approach expresses a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied. Permittees selecting the narrative rate approach to address rates of application must include in the NMP submitted to EPA the information required at 40 CFR §122.42(e)(5)(i) for each crop, field, and year covered by the NMP, which will be used by the EPA to establish site specific permit terms.

CAFOs that use the Narrative Rate Approach must calculate maximum amounts of manure, litter, and process wastewater to be land applied at least once each year using the methodology specified in the NMP before land applying manure, litter, and process wastewater. Such calculations must rely on the following data:

(1) A field-specific determination of soil levels of nitrogen and phosphorus. For nitrogen, the determination must include a concurrent determination of nitrogen that will be plant available. For phosphorus, the determination must include the results of the most recent soil test conducted as required in the permit.

(2) The results of the most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application, as required in the permit, in order to determine the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.

EPA is setting effluent limitations in this permit instead of through the NMP. 40 CFR 122.42(e)(5)(i) and (ii) define two approaches to developing a NMP, linear and narrative. In the linear approach, effluent limitations are the rates of application of waste expressed as lbs/N or lbs/P. The narrative approach sets effluent limitations as the process by which a facility calculates its waste application rates in lbs/N or lbs/P. The permittee will be using the narrative approach. The Draft Permit proposes a method for calculating a field nutrient budget based on the narrative approach. The difference between the inputs and outputs on a completed field nutrient budget worksheet is the maximum amount of nutrients that may be applied to satisfy crop needs on the field relative to the completed worksheet. This maximum amount of needed nutrients is the effluent limitation. The Permittee may not exceed this amount for the year.

By setting the difference between the inputs and outputs as the limit, the goal is to have:

$$Inputs - Outputs \cong 0 \; after \; crop \; harvest$$

4.3.1.3.2.1. Linear Approach: An alternative approach for expressing application rates is the Linear Approach. The linear approach expresses rates of application as pounds of nitrogen and phosphorus. Permittees selecting the linear approach to address rates of application must include in the NMP submitted to EPA the information required at 40 CFR §122.42(e)(5)(i), for each crop, field and year covered by the NMP. This information will be used by EPA to establish site-specific permit terms.

Large CAFOs using the Linear Approach must calculate the maximum amount of manure, litter, and process wastewater to be land applied at least once each year using the results of the most recent representative manure, litter, and process wastewater tests of nitrogen and phosphorus. Such representative tests must be taken within twelve (12) months of the date of land application.

If the permittee wants to change its approach to linear, the permittee must:

- Update its NMP (See: 40 CFR § 122.42(e)(6)(i)).
- Have the updated NMP reviewed and accepted by EPA (See: 40 CFR § 122.42(e)(6)(ii)).
- Go through the public process (public notice and a 30 day public comment period)(See: 40 CFR § 122.42(e)(6)).

4.3.1.3.2. Schedule

The permittee shall implement its Nutrient Management Plan which are Attachments A and B of the final permit upon the effective date of the permit. Whenever the permittee makes any changes to its NMP, the permittee must submit the revised NMP to EPA within ten (10) days of the NMP revision and identify any changes from the previous version. [See also: Section 4.3.1.3.3. Terms of the NMP below for implementation of revisions.]

4.3.1.3.3. Terms of the NMP

The permittee must meet all of the regulatory requirements under 40 CFR Part 122.42 and Part 122.23, and shall correct any deficiencies that are identified in daily and weekly inspections in a timely manner.

If the permittee wants or needs to change their operation from what is described in the NMP submitted for permit coverage, before the changes are implemented on site, the CAFO must:

- Update its NMP (See: 40 CFR § 122.42(e)(6)(i)).
- Have the updated NMP reviewed and accepted by EPA (See: 40 CFR § 122.42(e)(6)(ii).
- Go through the public process (public notice and a 30 day public comment period)(See: 40 CFR § 122.42(e)(6)).

Examples of significant changes that require an updated NMP, review and acceptance before the changes are implemented include: adding or removing fields from use, increasing the number of milking cows to plus ten compared to the established permitted number, changing crops that will be grown, changing from narrative to linear approach, or changing the number of wastewater storage structures. Other significant changes that require an updated NMP and a public review process are possible. CAFO rule requires nine minimum practices that must be in the NMP. However, there are two other requirements (depth gauge for liquid waste storage facilities and record keeping) listed in a different CFR that are also part of the NMP. The list of elements the permittee must comply with and the federal CAFO rule (40 CFR 122.42) requires in a NMP is:

1. Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities.

2. Ensure proper management of animal mortalities to ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities.

3. Ensure that clean water is diverted, as appropriate, from the production area.

4. Prevent direct contact of confined animals with waters of the United States.

5. Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.

6. Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States.

7. Identify protocols for appropriate testing of manure, litter, process wastewater, and soil.

8. Establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater.

9. Identify specific records that will be maintained to document the implementation and management of the minimum elements described in paragraphs (e)(1)(i) through (e)(1)(viii) of this section.

The nine elements are addressed through specific permit requirements, the minimum operating standards for Permittees (technical standards). Therefore, the permit application (Notice of Intent), yearly field nutrient budget, annual reports, and the permit itself satisfy the NMP review and acceptance requirements and the record keeping requirements in number nine. This removes the regulatory review and acceptance process of the entire NMP that is necessary strictly following the federal CAFO rule.

4.3.1.4. Land Application Site Permit Terms

The permittee must meet all of the regulatory requirements under 40 CFR 122.23 and shall identify protocols for appropriate testing of soil, manure, litter, and process wastewater. Soil, manure and process wastewater sampling and analysis protocols must be developed and conducted in accordance with the requirements of the Vermont NRCS Conservation Practices, NH NRCS Conservation Practices (Standard 590), and the University of New Hampshire (UNH) protocol, Vermont recognized guidance or practice or UNH recognized guidance or practice. [40 CFR §122.23(e)(1)(vi)].

The permittee’s site specific NMP shall document the calculation of land application rates of manure, litter, or process wastewater. The Vermont NRCS or the New Hampshire NRCS Conservation Practice Standards for Nutrient Management shall be used for calculating these rates. The rate calculation shall address the form, source, amount, timing, and method of application on each field to achieve realistic production goals while minimizing nitrogen and phosphorus movement to surface water. The rate calculation shall be based on the results of a field specific assessment of the potential for nitrogen and phosphorus transport from the field to surface waters using the assessment tools and procedures described in the Vermont NRCS or the New Hampshire NRCS Conservation Practices for Nutrient Management (including the Vermont Phosphorus Index). The NMP must also include any additional information necessary to assess the adequacy of the application rates included in the NMP. [40 CFR §122.23(e)(1)(viii)]

The NMP shall identify appropriate site specific conservation practices to be implemented by the permittee, including, as appropriate, buffers or equivalent practices, to control runoff of pollutants to waters of the United States from land application activities. Equipment used for land application of manure, litter, or process wastewater must be inspected at least monthly for leaks. In addition to regularly scheduled leak inspections, the permittee shall take measures to prevent the discharge of wastewater from its land application vehicles while travelling along public roadways. Wastewater spills onto parked cars or members of the public are prohibited. All leaks and spills must be reported in accordance with the permit. [See: Part I.D.7. of the Permit]

4.3.1.5. Off-site Transfer of Manure, Litter or Process Wastewater Requirements

n cases where CAFO-generated manure, litter, or process wastewater is sold or given away, the permittee must maintain records (for five years) that show the date and amount of manure, litter or process wastewater that leaves the facility; record the name and address of the recipient; and provide the recipient(s) with the test results on the nutrient content of the manure, litter or process wastewater. [40 CFR §122.42(e)(3)]0 CFR §122.42(e)(3)]

4.3.1.6. Additional Technology and Water Quality-based Effluent Limitations

Flow - Consistent with the effluent limit guideline (ELG) exception for discharges from Large Dairy Cow CAFOs (40 CFR Part 412) no flow limits have been set for overflows from the Production Areas, as long as the Production Areas are designed and operated to accommodate all manure, litter and process waste water, including runoff and direct precipitation from all rainfall events up to a 25-year, 24-hour frequency storm event. The permittee shall report the total number of discharge events. The Draft Permit requires the monitoring and reporting of the flow volume on the discharge monitoring report (DMR) for each discharge event. Acceptable means of measuring this flow are use of continuous flow meters, weirs or a calculated estimation based on site conditions. The Draft Permit also requires reporting of weather data from an on site rain gauge located at the facility, concurrent with each storm event that results in a discharge. The permittee shall report the maximum ***intensity***, duration, and amount of precipitation for the rain event on the DMR cover letter. Intensity shall be reported in units of inches/hour and amount of precipitation shall be reported in units of inches. Measurement of the duration of a rain event shall begin at the start of a precipitation event greater than 0.1 inches in magnitude and end when the precipitation event ends.

Biological Oxygen Demand (BOD_5) – When BOD_5 levels are high, dissolved oxygen levels decrease. This occurs because the oxygen that is available in the water is being consumed by decomposing organisms that are consuming the waste. Since less dissolved oxygen is available in the water, fish and other aquatic organisms may not survive. In order to better characterize the discharges at this facility for future permitting, the Draft Permit establishes for each discharge a monitoring requirement for BOD_5, monitored at a frequency of once per discharge event.

Total Suspended Solids (TSS) - Total suspended solids include all particles suspended in water which will not pass through a filter. Runoff carrying silt, dirt and eroded soil is often a source of suspended solids. Nationally, sediment and siltation from CAFOs are known to contribute to the impairment of water.

New Hampshire has a narrative general water quality standard (Env-Wq 1703.03) that states, in part, that all surface waters shall be free from substances in kind or quantity which settle to form harmful deposits; float as foam, debris, scum or other visible substances; or produce odor, color, taste or turbidity which is not naturally occurring and would render it unsuitable for its designated uses. Turbidity of water is related to the amount of suspended and colloidal material present in the water column. Aside from the aesthetic problems of color that a turbid discharge can create, turbidity reduces water clarity; therefore, the penetration of light into that water column is reduced, negatively impacting the growth and life cycles of various aquatic species (plants and animals). In order to better characterize the discharges at this facility for future permitting, the Draft Permit establishes for each discharge a monitoring requirement for TSS, monitored at a frequency of once per discharge event.

pH – The NH-WQS states that Class B waters shall be 6.5-8.0 except when due to natural causes. This pH water quality standard is more stringent than the VT-WQS of 6.5-8.5 for Class B waters, and would be applied if pH limitations were imposed. The Draft Permit includes pH monitoring requirements for this new permit, in order to assess the discharge.

Dissolved Oxygen - The NH-WQS (Env-Wq 1703.07) state that "class B waters shall have an instantaneous minimum dissolved oxygen concentration of at least 5 mg/l. If applicable, for the period from October 1st to May 14th, in areas identified by the fish and game department as cold water fish spawning areas of species whose early life stages are not directly exposed to the water, the 7 day mean dissolved oxygen concentration shall be at least 9.5 mg/l and the instantaneous minimum dissolved oxygen concentration shall be at least 8 mg/l. This period shall be extended to June 30 to protect spring spawners and/or late hatches of fall spawners. The Draft Permit establishes a monitoring requirement for dissolved oxygen for this new permit, in order to assess the discharge.

Bacteria - The primary pollutants of concern from CAFOs are manure and manure pathogens. The NH-WQS and VT-WQS for Class B waters (non-designated beach areas) are required to meet a maximum daily *Escherichia coli (E. coli)* value of 406 cfu/100 ml. Due to the nature of this facility's operation, the Draft Permit includes an *E. coli* monitoring requirement for each discharge event in order to assess the discharge during wet weather storm events.

Nutrients: Ammonia-Nitrogen, Nitrogen, and Phosphorous - Animal waste contains significant quantities of nutrients, particularly nitrogen and phosphorous. Although nitrogen and phosphorus are essential for plant growth, high concentrations of these nutrients can cause eutrophication, a condition in which aquatic plant and algal growth is excessive. Ammonia is one of several forms of nitrogen that exist in aquatic environments. Unlike other forms of nitrogen, which can cause nutrient over-enrichment of a water body at elevated concentrations and indirect effects on aquatic life, ammonia causes direct toxic effects on aquatic life.

Phosphorus

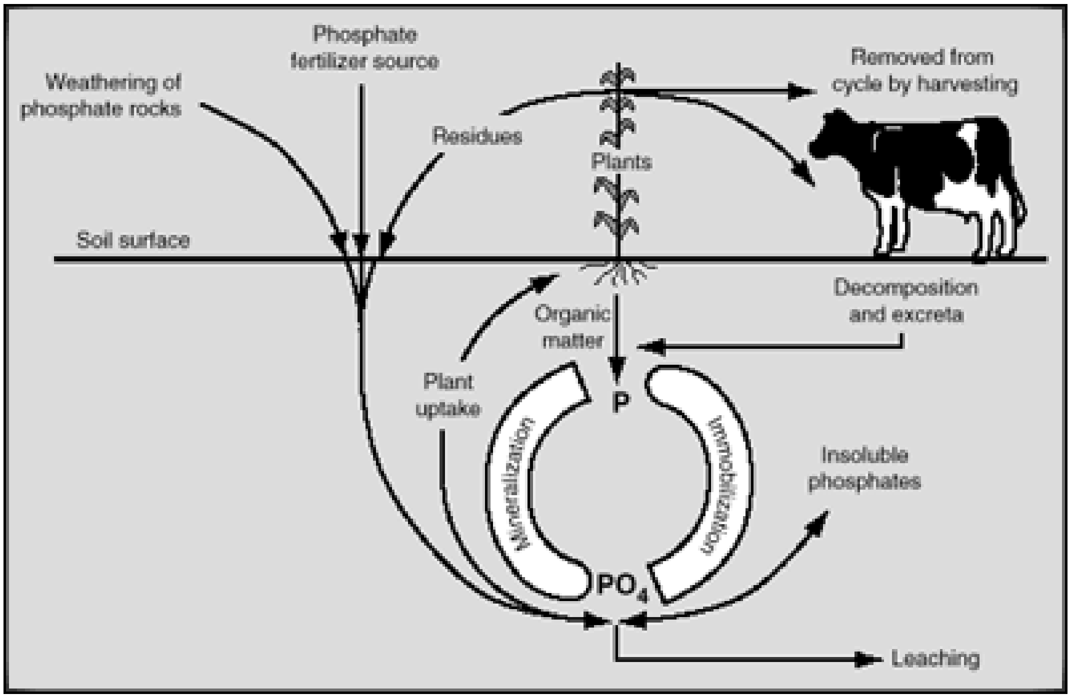


**image comes from the College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa (*CTAHR, Unkown)

Phosphorus is a major nutrient supplied by manure. In soil and manure nutrient testing the term phosphorous is conventionally used when talking about the soil component but only measure plant available phosphorus. One pound of plant available phosphorus is roughly equivalent to 2.3 lbs. of P_2O_5 in the soil. Like nitrate, phosphorus must be mineralized from the organic form to the inorganic form to become available to plants. Plants use mostly the inorganic phosphate (PO_4^-) form of phosphorus.

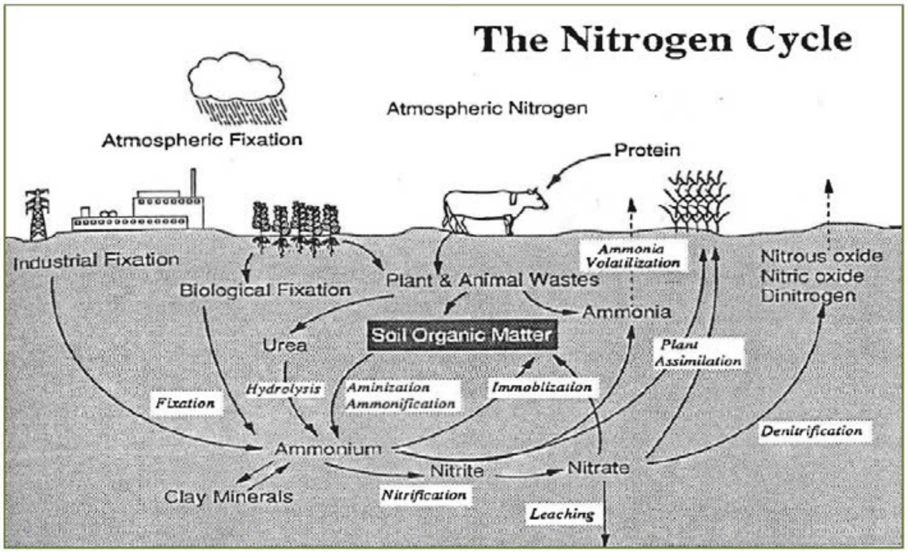
Phosphorus usually binds tightly with soil particles making it less prone to movement off-site. Movement usually occurs via erosion or run-off of soil particles with phosphorus bound to them.

Little phosphorus is usually present in soil pore-water (plant available) within the soil because of its strong binding affinity. However, as phosphorus content increases in a field, plant available phosphorus increases. As the amount of plant available (free) phosphorus increases, more movement of phosphorus with water can occur.

Another source of phosphorus movement occurs in areas where all of the soil-binding sites have been used. This is where phosphorus would have attached itself to soil particles. Soil binding site saturation is most likely to occur in areas where manure or chemical fertilizers have been applied for many years. Manure is an imbalanced fertilizer because it does not provide nutrients to a crop at the same ratio of nutrients that the crop uses. This results in the less used nutrient (phosphorus) building up in field soil. In extreme cases, all the soil binding sites are used up, causing the unbound phosphorus to move with soil-pore water in addition to soil bound phosphorus running off through erosion.

Phosphorus is often the limiting nutrient for plant growth for a crop or for a waterbody. Having enough plant available phosphorus on crop fields ensures that crops develop and mature quickly. In water bodies, excess phosphorus often contributes problems such as algae blooms. Water bodies that look like pea soup, or that have a green scum are experiencing an algae bloom. Algae blooms decrease the dissolved oxygen in a waterbody, leading to the possibility of killing fish and loss of recreational opportunities.

Nitrogen



The nitrogen contained in manure occurs in several forms, including ammonia and nitrate, which can produce adverse environmental impacts when transported in excess quantities to the environment. Plant and algae respiration and decomposition reduces dissolved oxygen concentrations in the surface water, creating poor habitat for fish and other aquatic animals. In addition, nitrogen in the form of ammonia can reduce the receiving stream’s dissolved oxygen concentration through nitrification and can be toxic to aquatic life at elevated temperatures and elevated pH concentration (i.e., the toxicity level of ammonia depends on the temperature and pH of the receiving water (USEPA 1999). The result can be fish kills, reduced biodiversity, objectionable odors and growth of toxic organisms.

Various forms of nitrogen exist in manure, litter, process wastewater and soil. The most prevalent forms include organic nitrogen, ammonia/ammonium (NH_3/NH_4^+), nitrate (NO_3^-) and nitrite (NO_2^-).

Organic nitrogen is nitrogen trapped in organic matter such as plant and animal tissues. Soil organisms (e.g. bacteria and fungi) must break down the organic matter to make the nitrogen available to plants. This is the mineralization (ammonification and nitrification) process where organic forms of nitrogen are transformed into inorganic forms (nitrite, nitrate, ammonium), which are available for plants to use. Inorganic forms of nitrogen can also be transformed to organic forms of nitrogen or nitrogen gasses through immobilization and denitrification by bacteria and fungi or uptake by plants.

Ammonium is the largest fraction of crop available nitrogen contained in manure applied to crop fields. The other main source is soil bacteria fixing organic nitrogen into the ammonium form through the ammonification process. Ammonium is fairly immobile in soil due to its positive charge being attracted to the soils negative charge. Plants take up ammonium as a nitrogen source although it is less available to plants than nitrate.

Ammonium is converted to nitrite and then nitrate though the nitrification process. This process will also reverse, with nitrite and nitrate converting to ammonium. Ammonium also converts to ammonia (NH_3), a compound that volatilizes.

Ammonium in manure converts quickly to ammonia when exposed to air. That makes the conversion especially important in land application. The ammonium component of manure, when land applied and not incorporated into the soil will quickly convert to ammonia, which volatilizes. The speed of conversion is dependent upon various atmospheric conditions (e.g. temperature, wind, humidity). The ammonia that volatizes is lost to the atmosphere and no longer available as crop nutrients.

Nitrate and nitrite are plant available components of the total nitrogen in manure, but most nitrate comes from bacterial conversion (nitrification) of ammonium after manure is land applied. The nitrification rate generally increases with temperature and moisture. Ammonium converts first to nitrite (usually negligible amount in soil) then quickly to nitrate. Nitrate is negatively charged like soil, and therefore highly mobile with water because it is not attracted to soil particles. These characteristics allow easy leaching to surface and ***groundwaters*** as nitrate is transported with water from various sources. In addition to plant uptake and leaching, some loss of nitrate occurs through denitrification to nitrous oxide (N_2O) or elemental nitrogen (N_2). Nitrous oxide and nitrogen gasses are lost to the atmosphere.

When consumed by humans, nitrate is converted to nitrites within the body. Nitrites bind with blood hemoglobin and prevent it from carrying oxygen. Nitrates themselves are not directly toxic to most people and are consumed daily, mostly in vegetables. Nitrates do pose health risks to vulnerable populations.

Noted vulnerable populations include pregnant or nursing women and infants under six months old. High nitrate intake in these populations is more likely to cause methemoglobinemia, or “blue-baby syndrome.”

Excess nitrates also contribute to the eutrophication of waterbodies. Nitrates are an essential nutrient for plant growth, however too much can lead to excess algae or macrophyte (plant) growth. An overabundance of algae can lead to reductions in dissolved oxygen, which causes stress or death to aquatic organisms, including fish. The smell from decomposing algae blooms can also be quite strong. Nitrogen in the form of ammonia/ammonium discharged to waterbodies can also be directly toxic to aquatic life and cause fish kills.

Otter Brook and the Israel River flow into the Connecticut River, which enters Long Island Sound. It has been determined that excessive nitrogen loadings are causing significant water quality problems in Long Island Sound, including low dissolved oxygen. In December 2000, the Connecticut Department of Environmental Protection (CT DEP) completed a ***Total Maximum Daily Load*** (TMDL) for addressing nitrogen-driven eutrophication impacts in Long Island Sound. The TMDL included a Waste Load Allocation (WLA) for point sources and a Load Allocation (LA) for non-point sources. The point source WLA for out-of-basin sources (Massachusetts, New Hampshire and Vermont wastewater facilities discharging to the Connecticut, Housatonic and Thames River watersheds) requires an aggregate 25% reduction from the baseline total nitrogen loading estimated in the TMDL. See TMDL-*A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* (CT DEP 2000).

The baseline total nitrogen point source loadings estimated for the Connecticut, Housatonic, and Thames River watersheds were 21,672 lbs/day, 3,286 lbs/day, and 1,253 lbs/day respectively (see table below). The estimated 2004-2005 point source total nitrogen loadings for the Connecticut, Housatonic, and Thames Rivers respectively are 13,836 lbs/day, 2,151 lbs/day, and 1,015 lbs/day, based on recent information and including all POTWs in the watershed. The following table summarizes the estimated baseline loadings, TMDL target loadings, and estimated current loadings:

Table 1. Nitrogen Loadings to Long Island Sound

Basin	**Baseline Loading[1] (lbs/day)**	**TMDL Target[2] (lbs/day)**	**Current Loading[3] (lbs/day)**
Connecticut River	21,672	16,254	13,836
Housatonic River	3,286	2,464	2,151
Thames River	1,253	939	1,015
Totals	26,211	19,657	17,002

1. Estimated loading from TMDL, (see Appendix 3 to CT DEP “Report on Nitrogen Loads to Long Island Sound,” April 1998).
2. Reduction of 25% from baseline loading.
3. Estimated current loading from 2004 – 2005 DMR data – detailed summary attached as **Exhibit A**.

The overall TMDL target of a 25 percent aggregate reduction from baseline loadings is currently being met. In order to ensure that the aggregate nitrogen loading from out-of-basin point sources does not exceed the TMDL target of a 25 percent reduction over baseline loadings, EPA has therefore included a permit condition for all existing treatment facilities in Massachusetts and New Hampshire that discharge to the Connecticut, Housatonic and Thames River watersheds, requiring the permittees to evaluate alternative methods of operating their treatment plants to optimize the removal of nitrogen, and to describe previous and ongoing optimization efforts. Facilities not currently engaged in optimization efforts will also be required to implement optimization measures sufficient to ensure that their nitrogen loads do not increase, and that the aggregate 25% reduction is maintained. EPA Region I-New England also intends to continue working with the State of Vermont to ensure that similar requirements are included in its discharge permits.

The New Hampshire Water Quality Standards (Env-Ws 1703.14, Nutrients) do not contain numerical criteria for total phosphorus and nitrogen. The criteria for nutrients states that “Class B waters shall contain no phosphorus or nitrogen in such concentrations that would impair any existing or designated uses, unless naturally occurring. The Water Quality Standards also require that “any existing discharges containing either phosphorus or nitrogen which encourage cultural eutrophication shall be treated to remove phosphorus or nitrogen to ensure attainment and maintenance of water quality standards.” In order to better characterize the discharges at this facility for future permitting, the Draft Permit establishes for each discharge a monitoring requirement for phosphorus, nitrogen, and ammonia at a frequency of once per discharge event.

The Vermont DEC adopted Water Quality Standards (Environmental Protection Rule Chapter 29(a) Section 3-04.B.5.a.) that contain numerical criteria for total phosphorus and nitrogen in all Class B waters, except for segments within Lake Champlain and Lake Memphremagog. Within this section of the Vermont WQS, Table 5 provides nutrient concentration values and nutrient response conditions. The permittee will need to meet either the nutrient concentration values or the nutrient response conditions. One exception to this requirement is that if the concentration values are met, but the nutrient response conditions are not met as a result of nutrient enrichment, the VT-DEC may establish alternate nutrient criteria on a case-by-case basis as necessary to achieve compliance with the nutrient response conditions. All waters are required to maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of the downstream waters.

EPA is currently developing a total nitrogen threshold loading limit to ensure that the Connecticut River watershed does not cause or contribute to eutrophication related impairments in Long Island Sound. This load limit is likely to result in the establishment of water quality based total nitrogen limits for individual point source discharges in the Connecticut River watershed.

In the interim, Part I.A.5.c. of the Draft Permit requires the permittee to optimize the operation of its facility for nitrogen removal. The permittee is strongly advised to consider alternatives for further enhancing nitrogen reduction in conjunction with any treatment system upgrades or operational modifications that are envisioned. The permittee is required to document its evaluation of means to optimize the reduction of nitrogen discharges and present a description of recommended operational changes within one year of the effective date of the permit. The permittee shall implement the recommended operational changes in order to maintain the existing annual level of mass discharge loading of total nitrogen. Given the high variability of effluent total nitrogen levels and in order to better track trends in total nitrogen discharges from this facility, the Draft Permit includes a monitoring requirement for total nitrogen, phosphorus, and ammonia at a frequency of once per discharge.

In addition to nutrient monitoring requirements, buffer requirements are also included in the Draft Permit to protect surface waters. Soil testing analysis results provided by the permittee in its Nutrient Management Plan (NMP) indicate land parcels with varying degrees of nutrient saturation. Parcels used for land application will need to have the appropriate buffers in place (i.e., a 100-foot buffer, or, if appropriate, an alternative 35-foot vegetative buffer) in order to maintain a safe distance between land application and surface waters, especially for parcels with soil test results that show excessive nutrient enrichment. Table 2 is a summary of the permittee's land parcels with nutrient saturation.

Table 2. Land Parcels with High Potential for Phosphorus Movement to a Surface Water

Name of Parcel	Date of Sampling	P Index Value	Phosphorus Index Rating	Distance to Surface Water (feet)	Nutrient Management Plan Page No.
Bart - 05	2/2/2016	61	High	40	136
Bart - 06	2/2/2016	62	High	35	136
Cantins - 01	2/2/2016	75	High	35	147
Cantins - 02	2/2/2016	64	High	35	147
Cantins - 03	2/2/2016	62	High	35	148
Gauge – 01	2/2/2016	62	High	35	160
Gauge – 03	2/2/2016	62	High	35	161
Home – 03	2/2/2016	64	High	35	172
McGoffs – 03	2/2/2016	61	High	35	179
Mundells - 01	2/2/2016	68	High	100	181
Bug-01	2/2/2016	See: Footnote 2	See: Footnote 2	See: Footnote 2	139
Bug-02	2/2/2016	See: Footnote 2	See: Footnote 2	See: Footnote 2	140
Bug-03	2/2/2016	See: Footnote 2	See: Footnote 2	See: Footnote 2	140
Bug04	2/2/2016	See: Footnote 2	See: Footnote 2	See: Footnote 2	140

Footnotes:

1 - Each "Date of Sampling" represents one soil sample that was analyzed for nitrogen, phosphorus, potassium, magnesium, calcium, aluminum, and zinc (See: Forbes Facility Nutrient Management Plan, October 2017, pages 39 – 103).

2 - This value will change after the permittee corrects its 2017 Nutrient Management Plan (NMP) on page 23. The yellow coded 35 foot vegetative buffer between the following fields: Bug-01, Bug-02, Bug-03, and Bug-04 is a wetland and a tributary to the Connecticut River. The Draft Permit requires this correction. [See also: 2017 Nutrient Management Plan, Facility Maps Section, Field ID: Bug-01, Bug-02, Bug-03, and Bug-04, the area between these four fields are a water of the United States, page 23.]

In addition to protecting surface waters**,** it is strongly recommended that the permittee withhold land application in areas with soil that is ***saturated*** with nutrients in order to protect water resources. The phosphorus index (P-Index) values listed in Table 2 above are higher than 60. This indicates a high potential for phosphorus loss and adverse effects on surface and/or groundwater resources. Table 3 below illustrates increasing phosphorus transport risk and site vulnerability with increasing P-Index values.

Table 3. Phosphorus Transport Risk Assessment Index Rating and Site Vulnerability[1]

Phosphorus Transport Risk Assessment Rating	P Index Value	Site Vulnerability Chart
LOW	≤ 29	Low potential for phosphorus loss if current facilitying practices are maintained.
MEDIUM	30 - 59	Medium potential for phosphorus loss. **Some remediation measures should be undertaken** to lessen the probability of phosphorus loss.
HIGH	60 - 99	High potential for P loss and adverse effects on surface and/or ground waters. Soil and water **conservation measures and phosphorus management plans are needed** to reduce the probability of phosphorus loss.
VERY HIGH	≤ 100	Very high potential for phosphorus loss and adverse effects on surface and/or ground waters. **All necessary soil and water conservation measures and a nutrient management plan must be implemented** to minimize phosphorus loss from this field.

Toxic Substances - The New Hampshire Water Quality Standards (Env-Ws 1703.21, Water Quality Criteria for Toxic Substances) states that “Unless naturally occurring or allowed under part Env-Ws 1707, all surface waters shall be free from toxic substances or chemical constituents in concentrations or combinations that:

(1) Injure or are inimical to plants, animals, humans or aquatic life; or

(2) Persist in the environment or accumulate in aquatic organisms to levels that result in harmful concentrations in edible portions of fish, shellfish, other aquatic life, or wildlife which might consume aquatic life.”

The permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
Additional Special Conditions (i.e., *Liner* Requirements) - The permitting authority has the discretion to include additional special conditions in NPDES permits for CAFOs beyond those required by the NPDES CAFO regulations where it has determined that they are necessary to achieve effluent limitations

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[1] University of Vermont College of Agriculture and Life Sciences, Vermont Phosphorus Index Guide – version 6.0, page 2, October 2017.

and standards under the Clean Water Act. 40 CFR Part 22.44(k). For example, such additional requirements could address hydrologic connections between the containment of wastewater and surface waters of the United States.

The Draft Permit requires the permittee to document that no direct hydrologic connection exists between the contained wastewater and surface waters of the United States. Where the permittee cannot document that no direct hydrologic connection exists, the ponds, lagoons and basins of the containment facilities must have a liner which will prevent the potential contamination of surface waters. The permittee is required to meet the NH/VT NRCS, Conservation Practices Standard for Pond Sealing or Lining (Standard Code 520) to prevent environmental impacts, given the potential of animal wastewater entering waters of the United States.

5. Monitoring and Reporting

5.1. Monitoring Requirements for all Discharges

The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308 (a) of the CWA in accordance with 40 C.F.R. Parts 122.41 (j), 122.44 (l), and 122.48.

The Draft Permit requires the Permittee to electronically report monitoring results obtained during each calendar month as a Discharge Monitoring Report (DMR) to EPA and the State of NH and VT using NetDMR no later than the 15th day of the month following the completed reporting period.

NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure internet application to EPA through the Environmental Information Exchange Network. NetDMR has allowed participants to discontinue mailing in hard copy forms to EPA under 40 CFR § 122.41 and § 403.12. NetDMR is accessed from the following website: https://cdx.epa.gov. Further information about NetDMR, including contacts for EPA Region 1, can be found on the EPA Region 1 NetDMR website.[2]

The Draft Permit requires the permittee to report a notice of non-compliance within 24-hours of becoming aware of such condition, or by the next business day, and in writing within five (5) calendar business days of any discharge. The cause of the non-compliance, a description of the non-complying discharge including its impact upon the receiving water, the anticipated time the condition has been corrected, the duration of the period of non-compliance, the steps taken by the permittee to reduce and eliminate the non-complying discharge, and the steps taken by the permittee to prevent recurrence of the condition of non-compliance is required to be included in the written report.

With the use of NetDMR, the Permittee is no longer required to submit hard copies of DMRs and reports to EPA, NH and VT unless otherwise specified in the Draft Permit. In most cases, reports required under the permit shall be submitted to EPA as an electronic attachment through NetDMR. Certain exceptions are provided in the Permit, such as for providing written notifications required under the Part II Standard Conditions.

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[2] https://netdmr.zendesk.com/hc/en-us/articles/209616386-Training

5.2. CAFO Annual Reporting Requirements

The permittee is required to prepare and submit an annual report for the previous 12 months. The annual report is due to EPA, NHDES, and VTDEC on or before **February 15th** of each calendar year. The report must include the number of animals confined at the facility; an estimation of the total amount of manure, litter and process wastewater generated at the facility in the past 12 months; an estimate of the total amount of manure, litter and process wastewater transferred to other persons in the past 12 months; the dates and times and estimated volumes of all discharges from your production area in the past 12 months; and a statement of whether a certified nutrient management planner developed or approved your nutrient management plan. CAFOs that land apply manure, litter and process wastewater are required to report additional information specific to their land application practices, which are included in Part I.D.3. of the Draft Permit and at 40 CFR §122.42(e)(4).

On or before **December 21, 2020**, all annual reports required by this permit must be submitted electronically by the permittee to EPA in accordance with 40 CFR Subpart D, Part 3, §122.22, and 40 CFR Part 127.

6. ENDANGERED SPECIES ACT

Section 7(a) of the Endangered Species Act of 1973 (ESA), as amended, grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (“listed species”) and habitat of such species that has been designated as critical (a “critical habitat”). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to ensure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, or plants to determine if any such listed species might potentially be impacted by the issuance of this NPDES permit. The review has focused on the potential for protected freshwater species and anadromous fish to be present in Otter Brook, the Israel River, and the Connecticut River. Based on this analysis, no listed marine or anadromous species under the jurisdiction of NMFS is expected to be present in the action area. No consultation with NMFS is required. Only one freshwater species, the dwarf wedgemussel (DWM) (*Alasmidonta heterodon*), federally listed as endangered, has been identified as potentially occurring in the action area of the discharges from this facility. While the species is not specifically documented in Otter Brook or the Israel River, the mussel is expected to be in the near-by mainstem of the Connecticut River adjacent to Lancaster, NH and Guildhall, VT. According to USFWS, no critical habitat rules have been published for the dwarf wedgemussel. In addition, no conservation plans have been created for this species at the present time.

An analysis of potential impacts to dwarf wedgemussels from unusual rainfall event discharges from the permittee’s facilities will be presented in a request for concurrence letter addressed to the USFWS. Based on the analysis, EPA has made the preliminary determination that the proposed activity may affect, but is not likely to adversely affect, any relevant species listed as federally threatened or endangered. Any impacts to dwarf wedgemussels will be insignificant or discountable.

Therefore, EPA has judged that a formal consultation pursuant to Section 7 of the ESA is not required. As part of the informal consultation process, EPA is seeking concurrence from USFWS with the preliminary determination through the initiation of consultation. EPA anticipates concurrence with this determination. Supporting information included in this Fact Sheet and the Draft Permit will be made available to USFWS when the Draft Permit is published.

Reinitiation of consultation will take place: (a) if new information reveals effects of the action that may affect listed species in a manner or to an extent not previously considered in the consultation; (b) if the identified action is subsequently modified in a manner that causes an effect to the listed species that was not considered in the consultation; or (c) if a new species is listed or critical habitat is designated that may be affected by the identified action.

7. ESSENTIAL FISH HABITAT DETERMINATION

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the NMFS if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat" (EFH). The Amendments define EFH as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," (16 U.S.C. § 1802 (10)). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH (50 C.F.R. § 600.910 (a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. *Id.*

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b) (1) (A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999 and are identified on the NMFS website at http://www.nero.noaa.gov/hcd/webintro.html. In some cases, a narrative identifies rivers and other waterways that should be considered EFH due to present or historic use by federally managed species. While Otter Brook and the Israel River are not specifically listed as essential fish habitat, the estuary associated with the mainstem of the Connecticut River is identified as EFH for juvenile and adult Atlantic salmon life stages. The narrative included with the EFH designations states "All aquatic habitats in the watersheds of the above listed rivers, including all tributaries to the extent that they are currently or were historically accessible for salmon migration" [are included in the EFH designation]. EPA has taken the conservative approach and judged that the action area of all outfalls designated by this federal action are likely included as part of the EFH designation, based on the above information.

EPA has concluded that the conditions contained in the Draft Permit minimize adverse effects to the EFH and Atlantic salmon, for the following reasons:

- The discharge, which is currently unpermitted, will be subject to new pollutant controls as a result of the NPDES permit that will significantly improve effluent quality and decrease effluent quantity;

- The permit is written to ensure the discharge complies with applicable state water quality standards, including water quality criteria designed to achieve the uses designated for the receiving water. EPA believes that the effluent limitations, conditions, and monitoring requirements contained in the Draft Permit are protective of state water quality standards, and therefore will minimize impacts to aquatic organisms, including EFH species;

- The permit contains monitoring requirements that will allow EPA to confirm that the aggregate of known or unknown pollutants in the effluent are not toxic to aquatic organisms.

EPA believes that the conditions contained within the proposed permit adequately protects all aquatic life, including those with designated EFH in the receiving water, and that further mitigation is not warranted. If adverse impacts to EFH are detected as a result of this permit action, or if new information is received that changes the basis for these conclusions, EPA will contact NMFS Habitat Division.

As the federal agency charged with authorizing the discharge from this facility, EPA has submitted the Draft Permit and this Fact Sheet, along with a letter under separate cover, to NMFS Habitat Division for their review.

8. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the state water pollution control agency with jurisdiction over the receiving water(s) in which the discharge originates either certifies that the effluent limitations and/or conditions contained in the permit are stringent enough to assure, among other things, that the discharge will not cause the receiving water to violate state water quality standards or the certification is deemed to be waived as set forth in 40 CFR § 124.53. The NHDES is the certifying authority within the State of New Hampshire. The VTDEC is the certifying authority within the State of Vermont.

The staff of the NHDES-Water Division, Surface Water Quality Bureau, has reviewed the Draft Permit and advised EPA-Region I that the limitations are adequate to protect water quality. The staff of the Vermont DEC has also reviewed the Draft Permit and advised EPA-Region I that the limitations are adequate to protect water quality. EPA-Region I has requested permit certification by the two states and expects that the Draft Permit will be certified. Regulations governing state certification are set forth in 40 CFR §§124.53 and §124.55.

9. ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION

All persons, including ***applicants***, who believe any condition of the Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period to:

Janet Deshais
U.S. Environmental Protection Agency
Region 1 (New England)
5 Post Office Square - Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912

The comments should reference the name and permit number: “Forbes Facility Permit, NH0023540”.

Any person, prior to such date, may submit a request in writing for a public hearing to consider the Draft Permit to EPA-New England and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. In reaching a final decision on the Draft Permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston Office. Within thirty (30) days following the notice of final permit decision, permits may be appealed to the Environmental Appeals Board in the manner described at 40 CFR § 124.19.

10. EPA-NEW ENGLAND CONTACT

Additional information concerning the Draft Permit may be obtained between the hours of 9:00 A.M. and 5:00 P.M. (8:00 A.M. and 4:00 P.M. for the state), Monday through Friday, excluding holidays from:

Janet Deshais, Region I
U.S. Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square
Suite 100, Mail Code: OEP06-4
Boston, Massachusetts 02109-3912
Telephone No.: (617) 918-1667
E-mail: deshais.janet@epa.gov

2/12/2018
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DATE

Ken Moraff, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

Appendix A: Acronyms and Definitions

AFO: Animal Feeding Operation
BAT: Best Available Technology Economically Achievable
BCT: Best Conventional Pollutant Control Technology
BPJ: Best Professional Judgment
BPT: Best Practicable Control Technology Currently Available
BOD: Biological Oxygen Demand
CAFO: Concentrated/Confined Animal Feeding Operation
CFR: Code of Federal Regulations
COD: Chemical Oxygen Demand
CWA: Federal Clean Water Act
DNMA: Dairy Nutrient Management Act, chapter 90.64 RCW
DNMP: Dairy Nutrient Management Program
EPA: United States Environmental Protection Agency
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
FWPCA: Federal Water Pollution Control Act, synonym for CWA
MOA: Memorandum of Agreement
NEIWPCC: New England Interstate Water Pollution Control Commission
NHDES: New Hampshire Department of Environmental Services
NMP: Nutrient Management Plan
NELGs: National Effluent Limitation Guidelines
NPDES: National Pollutant Discharge Elimination System
NRCS: Natural Resource Conservation Service
NSPS: New Source Performance Standards
SEPA: State Environmental Policy Act
TMDL: Total Maximum Daily Load
TSP: Technical Service Provider
USC: United State Code
USDA: United States Department of Agriculture
VTDEC: Vermont Department of Environmental Conservation

25-year, 24-hour Storm Event[1]:
Mean precipitation event with a probable recurrence interval of once in a 25-year period, as defined by the National Weather Service in Technical Paper No. 40, "Rainfall Frequency Atlas of the United States," May 1961, or equivalent regional or State rainfall probability information developed from this source. The amount of precipitation from a storm event of this type varies by location.

Agricultural Stormwater[2]:
Discharges to surface water from ***land application fields*** can be considered agricultural stormwater only if the following are true:

1. The discharge was not from the **production area**,

2. The discharge did not take place during dry weather,

3. The discharge was not caused by human activities even if the activity took place during precipitation,

4. The discharge is stormwater runoff only, does not contain land application wastewater, manure was applied in accordance with site-specific nutrient management practices that "ensure appropriate agricultural utilization of the nutrients" in the manure to be applied. 40 CFR Part 122.23(e), and

5. The permittee is in compliance with their CAFO permit and NMP.

Applicant[3]:
See Part II definitions.

Application for Coverage[4]:
The form developed by EPA used by a discharger to apply for coverage under an individual permit.

Application Rate[5]:
The rate in quantity per acre (e.g. gallons/acre, tons/acre) that manure, litter, process waste, process wastewater, or other nutrients from all sources are applied to a land application field.

Best Management Practices (BMPs)[6]:
See Part II definitions.

Best Professional Judgement (BPJ)[7]:
See Part II definitions.

Biochemical Oxygen Demand (BOD)[8]:
Laboratory measurement of the amount of oxygen consumed by microorganisms while decomposing organic matter in a product. BOD levels are indicative of the effect of the waste on fish or other aquatic life which require oxygen to live, and though not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

BOD_5 [9]:
The amount of dissolved oxygen consumed in five days by biological processes breaking down organic matter.

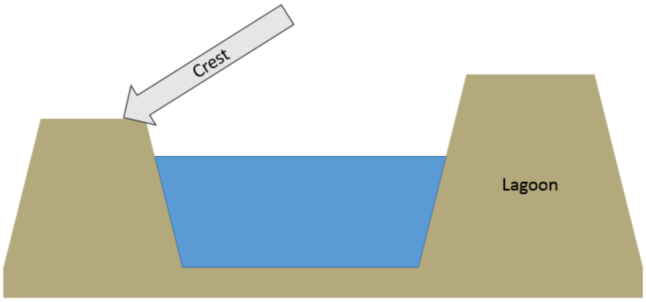
Buffer Zone[10]:
The region near the border of a protected area; a transition zone between areas managed for different objectives.

Calf[11]:
Young male or female bovine animal under 1 year of age.

Conservation practice (NRCS)[12]:
Any technique or measure used to protect soil and water resources for which standards and specifications for installation, operation, or maintenance have been developed. Practices approved by USDA's Natural Resources Conservation Service are compiled at each conservation district in its field office technical guide.

Control[13]:
Performing, directing, managing, overseeing, supervising, or giving instruction about, any action or decision.

Crest[14]:
The highest point of the structural (e.g. embankment) wall of a ***lagoon*** or other liquid storage structure.



Critical Storage Period[15]:
The number of continuous days manure and wastewater cannot be land applied or otherwise used. This occurs during the winter months or during the crop growing season when application cannot be made.

Discharge[16]:
See Part II definitions.

Discharger[17]:
The owner or operator of any commercial or industrial operation subject to regulation under Chapter 90.48 Revised Code of Washington (RCW) or the federal Clean Water Act due to a ***discharge***.

Effluent[18]:
See Part II definitions.

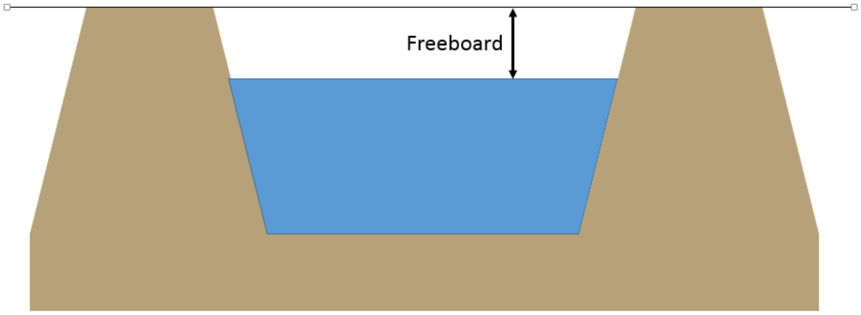
Effluent Limitation[19]:
See Part II definitions.

Existing Operation[20]:
An operation that began operating prior to the issuance date of this permit.

Export[21]:
The removal of manure, litter, and process wastewater, or other sources of nutrients from the CAFO's production system to another party that is not under the ***control*** of the Permittee.

Feed[22]:
Materials used for animal nutrition or that will be processed and used for animal nutrition that are stored by the CAFO such as silage, grain, vegetable leavings, or other materials used for animal nutrition.

Freeboard[23]:
The vertical distance from the maximum storage level (including normal storage plus storage volume for a 25-year, 24-hour storm event) of a lagoon to the lowest point on the lagoon ***crest***.



General Permit[24]:
A permit that covers multiple dischargers of a point source category within a designated geographical area in lieu of issuing individual site-specific permits to each discharger.

Geomembrane Liner[25]:
A type of lagoon liner material that is a synthetic polymer such as reinforced polypropylene, high density polyethylene (HDPE), or polyvinyl chloride (PVC) and that is usually between 35 and 60 mil thick.

Groundwater[26]:
Water located below the surface of the ground that is a ***water of the U.S***.

Intensity[27]:
Rainfall intensity is defined as the ratio of the total amount of rain (rainfall depth) falling during a given period to the duration of the period. It is expressed in depth units per unit time. The permittee is required to report rainfall intensity in units of inches/hour.

Lagoon[28]:
A structure designed for storage of liquid manure, process wastewater, digestate, or other liquids or slurries.

Land Apply/Application[29]:
The process of putting manure, litter, process waste, process wastewater, or other sources of nutrients on to a field to provide nutrients for crop growth.

Land Application Field[30]:
A single contiguous land unit under the control of the CAFO (excluding the production area) to which manure, litter, process wastewater, or other sources of crop nutrients are added as a fertilizer or soil amendment.

Litter[31]:
Animal bedding, materials used in animal housing such as straw, sand, or shavings on the floor, or spilled **feed** that has come into contact with manure or other contaminants.

Manure[32]:
Liquid and solid livestock excrement; may include spilled feed, bedding, or soil.

New Operation[33]:
A facility that began operation after the issuance date of this permit.

Overflow[34]:
The discharge of manure or process wastewater resulting from the filling of wastewater or manure storage structures beyond the point at which no more manure, process wastewater, or storm water can be contained by the structure.

Point Source[35]:
See Part II definitions.

Process Wastewater[36]:
Any water that is used as part of the operation of a CAFO that has come into contact with **manure**, **litter**, **feed**, or digestate from anaerobic digesters, is used in the processing of products (e.g. egg washing) by the CAFO, or otherwise comes into contact with contaminants on the CAFO.

Production Area[37]:
The locations making up a CAFO facility that are used for animal confinement, ***manure, litter***, ***feed***, and ***process wastewater*** storage, product processing facilities (e.g. milking parlor, egg washing, feed mixing), and other areas used for the storage, handling, treatment, processing, or movement of raw materials, products, or wastes. This includes manure stockpiled on fields.

Saturated[38]:
Soil with an excessive amount of nutrients within its pore structure.

Synthetic Liner[39]:
Synonymous with ***Geomembrane Liner***.

Total Maximum Daily Load (TMDL)[40]:
A calculation of the maximum amount of a pollutant that a water body can receive and still meet state water quality standards. Percentages of the total maximum daily load are allocated to the various pollutant sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The TMDL calculations include a "margin of safety" to ensure that the water body can be protected in case there are unforeseen events or unknown sources of the pollutant. The calculation also accounts for seasonable variation in water quality.

Waste[41]:
Discarded materials.

Waters of the United States[42]:
See Part II definitions.

Water Quality Standards[43]:
State or federal law or regulation consisting of a designated use or uses for the waters of the United States, water quality criteria for such waters based upon such uses, and an antidegradation policy and implementation procedures. Water quality standards protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act.

The current state and federal standards for water quality include the following, but are not limited to:

- Surface Waters of the State of New Hampshire
- Surface Waters of the State of Vermont
- Ground Water Quality Standards
- Sediment Management Standards
- Human health based criteria in the National Toxics Rule (40 CFR § 131.36)

Footnote References:

[1] 40 CFR Part 412.2(i).

[2] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section 4.1.8., Agricultural Stormwater Exemption for Permitted CAFOs, page 98, doc # 822F-12-001, February 2012, and 40 CFR Part 122.23(e).

[3] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section 3.11, NPDES CAFO Permit Applications and Notice of Intent, page 53, doc # 822F-12-001, February 2012.

[4] 40 CFR Part 122.2 Definitions (*Applications*).

[5] 40 CFR Part 122.42(e)(5)(i)(A).

[6] 40 CFR Part 122.2 Definitions.

[7] 40 CFR Part 122.44(s)(2).

[8] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-1, page 13, doc # 822F-12-001, February 2012.

[9] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-1, page 13, doc # 822F-12-001, February 2012.

[10] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-1, page 13, doc # 822F-12-001, February 2012.

[11] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-1, page 14, doc # 822F-12-001, February 2012.

[12] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-1, page 14, doc # 822F-12-001, February 2012.

[13] Merriam-Webster Dictionary

[14] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Conservation Practice: Sediment Basin (Code 350) for Production Area/Land Application Area, page 446, doc # 822F-12-001, February 2012.

[15] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-1, page 15, doc # 822F-12-001, February 2012.

[16] 40 CFR Part 122.2 Definitions.

[17] 40 CFR Part 122.2 Definitions.

[18] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-1, page 16, doc # 822F-12-001, February 2012.

[19] 40 CFR Part 122.2 Definitions.

[20] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section 4.1.1., page 72, doc # 822F-12-001, February 2012.

[21] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section 2.6, page 650, doc # 822F-12-001, February 2012.

[22] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-8, page 18, doc # 822F-12-001, February 2012 and Best Professional Judgement.

[23] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-8, pages 18 and 126, doc # 822F-12-001, February 2012.
[24] 40 CFR Part 122.23 (h).

[25] Natural Resources Conservation Service (NRCS) Conservation Practice Standard, Pond Sealing or Lining – Flexible Membrane, Code 521A.

[26] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section 2.2.9., Table 2-3, page 47, doc # 822F-12-001, February 2012.

[27] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section 5.3.2., page 132, doc # 822F-12-001, February 2012.

[28] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-8, (*Containment*) page 15, doc # 822F-12-001, February 2012.

[29] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-9, page 19, doc # 822F-12-001, February 2012.

[30] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-9, page 19, doc # 822F-12-001, February 2012.

[31] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-10, page 20, doc # 822F-12-001, February 2012.

[32] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-9, page 20, doc # 822F-12-001, February 2012.

[33] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section 4.1.1., page 72, doc # 822F-12-001, February 2012.

[34] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-12, page 22, doc # 822F-12-001, February 2012.

[35] Section 502(14) of the Clean Water Act, 33 U.S.C. § 1362(14).

[36] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-13, page 23, doc # 822F-12-001, February 2012.

[37] 40 CFR Part 122.23(b)(8).

[38] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Appendix E-1, page 323, doc # 822F-12-001, February 2012.

[39] Natural Resources Conservation Service (NRCS) Conservation Practice Standard, Pond Sealing or Lining – Flexible Membrane, Code 521A.

[40] NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, Section Glossary-17, page 27, Section 3.2, page 56, doc # 822F-12-001, February 2012.

[41] 40 CFR Part 122.23(b)(7).

[42] Section 404 of the Clean Water Act, 40 CFR 230.3(s), and website: www.epa.gov/cwa-404/definition-waters-united-states-under-clean-water-act for the Current Implementation of Waters of the United States.

[43] Total Maximum Daily Loads (303d) Glossary, Office of Water/Office of Ground Water and Drinking Water, January 6, 2010, program site: https://www.epa.gov/tmdl

Appendix B: Bibliography

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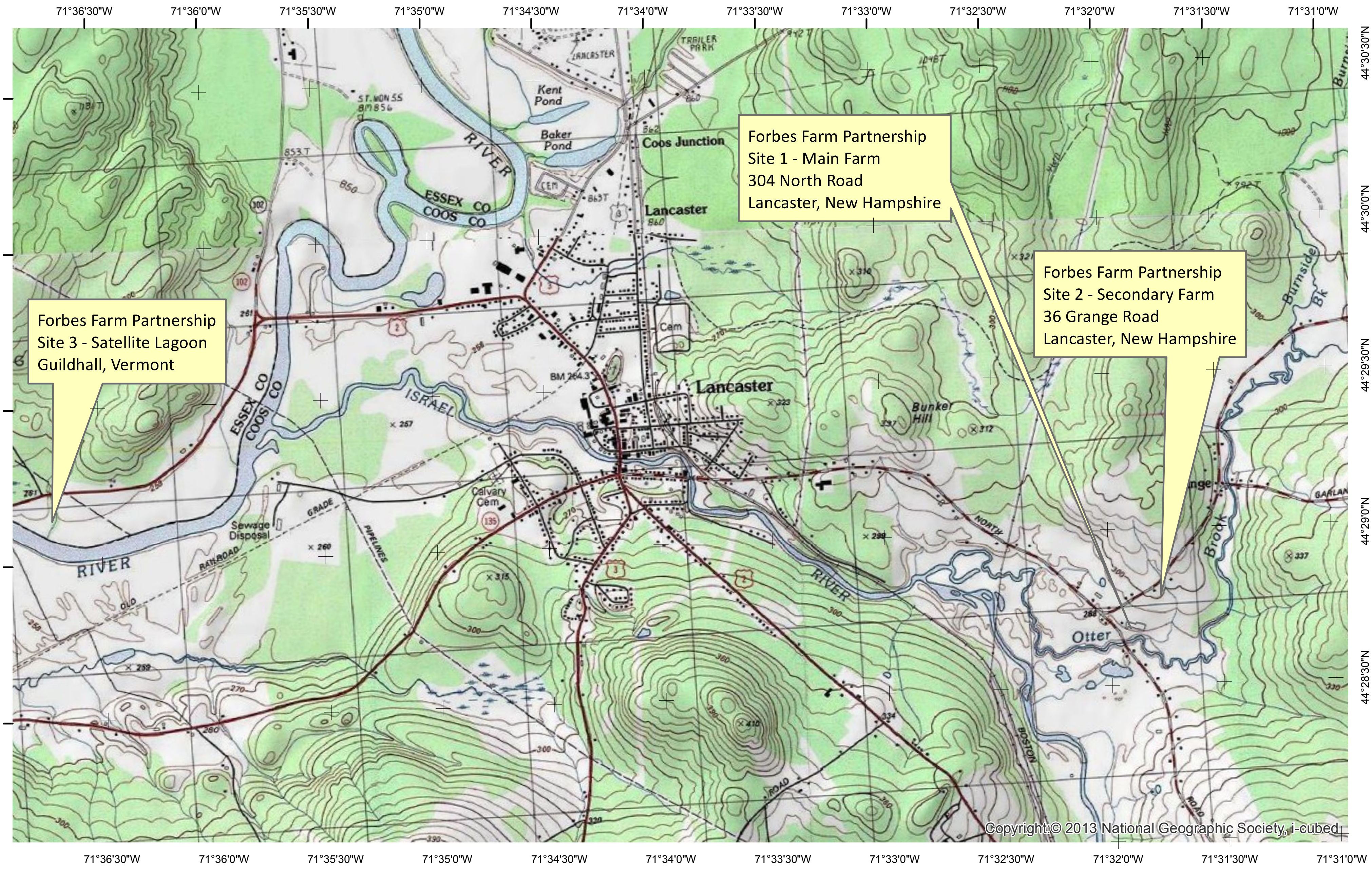

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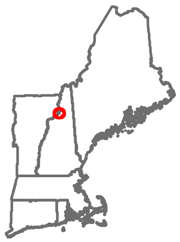

FIGURE 1
Location of Forbes Farm Partnership Facility

Forbes Farm Partnership

EPA

7/31/2017

EXHIBIT A – NITROGEN LOADS

NH, VT, MA Discharges to Connecticut River Watershed

NAME	NUMBER	DESIGN FLOW (MGD)[1]	AVERAGE FLOW (MGD)[2]	TOTAL NITROGEN (mg/l)[3]	TOTAL NITROGEN (lbs/day)[4]	Exp. Date
Bethlehem	NH0100501		0.19	19.6	31.1	
Charlestown	NH0100765		0.38	19.6	62.1	
Claremont	NH0101257		1.60	14.0[6]	186.8	2005
Colebrook	NH0100315		0.22	19.6	36.0	
Groveton	NH0100226		0.49	19.6	80.1	
Woodsville	NH0100978		0.19	16.0[6]	25.4	
Hinsdale	NH0100382		0.27	19.6	44.1	
Lancaster	NH0100145		0.98	8.8[6]	71.9	2005
Lisbon	NH0100421		0.17	19.6	27.8	
Littleton	NH0100153		0.77	10.0[6]	64.2	
Newport	NH0100200		0.65	19.6	106.2	2006
Keene	NH0100790	6.0	3.47	12.7	367.5	1999
Northumberland	NH0101206		0.06	19.6	9.8	
Sunapee	NH0100544		0.35	15.5	44.7	
Troy	NH0101052		0.10	19.6	16.3	
Lebanon	NH0100366		1.87	19.0[6]	296.3	2011
Swanzey	NH0101150		0.09	19.6	14.7	
Whitefield	NH0100510		0.12	19.6	19.6	
Winchester	NH0100404		0.23	19.6	37.6	
Hanover	NH0100099		1.5	19.6	245.2	
			13.70		**1,787.4**	
Bellows Falls	VT010013	1.40[5]	0.61	21.0[6]	106.8	
Bethel	VT0100048	0.12[5]	0.12	19.6	19.6	
Bradford	VT0100803	0.14[5]	0.14	19.6	22.9	
Brattleboro	VT010064	3.00[5]	1.64	20.0[6]	273.6	2009
Bridgewater	VT0100846	0.04[5]	0.04	19.6	6.5	
Canaan	VT0100625	0.18[5]	0.18	19.6	29.4	
Cavendish	VT0100862	0.15[5]	0.15	19.6	24.5	
Chelsea	VT0100943	0.06[5]	0.06	19.6	9.8	
Chester	VT010081	0.18[5]	0.18	19.6	29.4	
Danville	VT0100633	0.06[5]	0.06	19.6	9.8	
Lunenberg	VT0101061	0.08[5]	0.08	19.6	13.1	
Hartford	VT0100978	0.30[5]	0.3	19.6	49.0	
Ludlow	VT0100145	0.70[5]	0.36	15.5	46.5	
Lyndon	VT0100595	0.75[5]	0.75	19.6	122.6	2007
Putney	VT0100277	0.08[5]	0.08	19.6	13.1	
Randolph	VT0100285	0.40[5]	0.4	19.6	65.4	
Readsboro	VT0100731	0.75[5]	0.75	19.6	122.6	2007
Royalton	VT0100854	0.07[5]	0.07	19.6	11.4	

ST. Johnsbury	VT0100579	1.60	1.14	12.0[6]	114.1	2009
Saxtons River	VT0100609	0.10[5]	0.1	19.6	16.3	
Sherburne Fire Dist.	VT0101141	0.30[5]	0.3	19.6	49.0	
Woodstock WWTP	VT0100749	0.05[5]	0.05	19.6	8.2	
Springfield	VT0100374	2.20	1.25	12.0[6]	125.1	2003
Hartford	VT0101010	1.22[5]	0.97	30.0[6]	242.7	2006
Whitingham	VT0101109	0.01[5]	0.01	19.6	1.6	
Whitingham Jacksonville	VT0101044	0.05[5]	0.05	19.6	8.2	
Cold Brook Fire Dist.	VT0101214	0.05[5]	0.05	19.6	8.2	
Wilmington	VT0100706	0.14[5]	0.14	19.6	22.9	
Windsor	VT0100919	1.13[5]	0.45	19.6	73.6	
Windsor-Weston	VT0100447	0.02[5]	0.02	19.6	3.3	
Woodstock WTP	VT0100757	0.45[5]	0.45	19.6	73.6	
Woodstock-Taftsville	VT0100765	0.01[5]	0.01	19.6	1.6	
			10.96		**1724.4**	
Huntington	MA0101265	0.20[5]	0.12	19.6	19.6	
Russell	MA0100960	0.24	0.16	19.6	26.2	
Westfield	MA0101800	6.10[5]	3.78	20.4	643.1	2005
Woronoco Village	MA0103233	0.02	0.01	19.6	1.6	
Charlemont	MA0103101	0.05[5]	0.03	19.6	4.9	
Greenfield	MA0101214	3.20	3.77	13.6	427.6	2007
Monroe	MA0100188	0.02	0.01	19.6	1.6	
Old Deerfield	MA0101940	0.25[5]	0.18	9.2	13.8	
Shelburne Falls	MA0101044	0.25[5]	0.22	16.9	31.0	
Amherst	MA0100218	7.10	4.28	14.1	503.3	2005
Barre	MA0103152	0.30[5]	0.29	26.4	63.8	
Belchertown	MA0102148	1.00	0.41	12.7	43.4	
Easthampton	MA0101478	3.80	3.02	19.6	493.7	2000
Hadley	MA0100099	0.54	0.32	25.9	69.1	
Hatfield	MA0101290	0.50[5]	0.22	15.6	28.6	
Holyoke	MA0101630	17.50[5]	9.70	8.6	695.7	2005
Montague	MA0100137	1.83[5]	1.60	12.9	172.1	2006
Northampton	MA0101818	8.60[5]	4.40	22.1	811.0	2005
Northfield School	MA0032573	0.45	0.10	19.6	16.3	
Northfield	MA0100200	0.28	0.24	16.8	33.6	
South Deerfield	MA0101648	0.85	0.70	7.9	46.1	
South Hadley	MA0100455	4.20[5]	3.30	28.8	792.6	2005
Sunderland	MA0101079	0.50[5]	0.19	8.7	13.8	
Athol	MA0100005	1.75[5]	1.39	17.2	199.4	2007
Erving #2	MA0101052	2.70[5]	1.80	3.2	48.0	2007
Erving #1	MA0101516	1.02[5]	0.32	29.3	78.2	
Erving #3	MA0102776	0.01	0.01	19.6	1.6	
Gardner	MA0100994	5.00[5]	3.70	14.6	450.5	2007

Orange	MA0101257	1.10[5]	1.20	8.6	86.1	
Royalston	MA0100161	0.04[5]	0.07	19.6	11.4	
Templeton	MA0100340	2.80[5]	0.40	26.4	88.1	
Winchendon	MA0100862	1.10[5]	0.61	15.5	78.9	
Chicopee	MA0101508	15.50[5]	10.0	19.4	1,618.0	2010
Hardwick W	MA0102431	0.04[5]	0.01	12.3	1.0	
Hardwick G	MA0100102	0.23[5]	0.14	14.6	17.0	
N Brookfield	MA0101061	0.76[5]	0.62	23.1	119.4	2005
Palmer	MA0101168	5.60[5]	2.40	18.8	376.3	2005
Spencer	MA0100919	1.08[5]	0.56	13.6	63.5	
Ware	MA0100889	1.00[5]	0.74	9.4	58.0	
Warren	MA0101567	1.50	0.53	14.1	62.3	
Springfield			45.4	4.3	1,628.1	2006
			104.05		**9,938.3**	

1. Design flow – typically included as a permit limit in MA and VT but not in NH.

2. Average discharge flow for 2004 – 2005. If no data in PCS, average flow was assumed to equal design flow.

3. Total nitrogen value based on effluent monitoring data. If no effluent monitoring data, total nitrogen value assumed to equal average of MA secondary treatment facilities (19.6 mg/l), average of MA seasonal nitrification facilities (15.5 mg/l), or average of MA year round nitrification facilities (12.7 mg/l). Average total nitrogen values based on a review of 27 MA facilities with effluent monitoring data. Facility is assumed to be a secondary treatment facility unless ammonia data is available and indicates some level of nitrification.

4. Current total nitrogen load.

5. Flow limit is based on an annual average rather than a monthly average.

6. Effluent total nitrogen data from USGS study.

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES WATER DIVISION P.O. BOX 95 CONCORD, NEW HAMPSHIRE 03302-0095	U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 1 OFFICE OF ECOSYSTEM PROTECTION 5 POST OFFICE SQUARE BOSTON, MASSACHUSETTS 02109

VERMONT WATERSHED MANAGEMENT DIVISION
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
MAIL BUILDING – 2ND FLOOR
ONE NATIONAL LIFE DRIVE
MONTPELIER, VERMONT 05620-3522

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO THE WATERS OF THE UNITED STATES UNDER SECTIONS 301 AND 402 OF THE CLEAN WATER ACT (THE "ACT"), AS AMENDED, AND REQUEST FOR STATE CERTIFICATION UNDER SECTION 401 OF THE ACT, AND ISSUANCE OF A STATE SURFACE WATER PERMIT UNDER NH RSA 485-A:13, I(a) AND UNDER VT 10 V.S.A. CHAPTER 47 REGULATIONS.

PUBLIC NOTICE PERIOD: April 18, 2018 – May 17, 2018

PERMIT NUMBER: NH0023540

PUBLIC NOTICE NUMBER: NH-07-18

NAME AND MAILING ADDRESS OF APPLICANT: Forbes Farm Partnership
304 North Road
Lancaster, NH 03584

NAME AND LOCATION OF FACILITY WHERE DISCHARGE OCCURS:

Forbes Farm Partnership (a large Concentrated Animal Feeding Operation – CAFO)

304 North Road and 36 Grange Road Lancaster, NH 03583	and	Route 102 (Satellite Lagoon) Guildhall, VT 05905

RECEIVING WATER(S): Unnamed Tributary to Otter Brook, Martin Meadow Pond, Otter Brook, Israel River, Wetland to Unnamed Tributary to Connecticut River, Unnamed Tributary to Connecticut River, and Connecticut River (Upper CT River Watershed) (Hydrologic Basin Code: NHRIV8010805-06)

RECEIVING WATER CLASSIFICATION: B (Cold Water Fishery) / SIC CODE**:** 0241 (Dairy Farm)

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency (EPA), the New Hampshire Department of Environmental Services, Water Division (NHDES-WD), and the Vermont Department of Environmental Conservation, Watershed Management Division (VTDEC) have cooperated in the development of a draft permit for the Forbes Farm Partnership, which has submitted a permit application for authorization to discharge in accordance with the terms and conditions of the Draft Permit. The effluent limits and permit conditions imposed have been drafted to assure compliance with the Clean Water Act, 33 U.S.C. sections 1251 et seq., Chapter 485-A of the New Hampshire Statutes: Water Pollution and Waste Disposal, the New Hampshire Surface Water Quality Regulations, Env-Wq 1700 et seq, and 10 V.S.A Chapter 47 of the Vermont Statutes. EPA has formally requested that the State certify the Draft Permit pursuant to Section 401 of the Clean Water Act and expects that the Draft Permit will be certified.

INFORMATION ABOUT THE DRAFT PERMIT:

The Draft Permit, Fact Sheet, Nutrient Management Plan (NMP) and other Attachments may be obtained at no cost at http://www.epa.gov/region1/npdes/draft_permits_listing_nh.html or by contacting:

Janet Deshais
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (OEP06-1)
Boston, MA 02109-3912
Telephone: (617) 918-1667
deshais.janet@epa.gov

The administrative record containing all documents relating to this Draft Permit including all data submitted by the applicant may be inspected at the EPA Boston office mentioned above between 9:00 a.m. and 5:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **May 17, 2018**, to the address or email address listed above. Any person, prior to such date, may submit a request in writing to EPA and NHDES for a public hearing to consider this Draft Permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the Draft Permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice.

EUGENE J. FORBES, P.E., DIRECTOR
WATER DIVISION
NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES

KEN MORAFF, DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
U.S. ENVIRONMENTAL PROTECTION
AGENCY - REGION I

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