

## **Soil Associations-Birch Meadow Farms-Fairlee, VT**

*Birch Meadow Farms has soil in two major soil associations.*

### **Hadley-Winooski-Limerick-Saco association**

*Level, well drained to poorly drained, medium textured soils subject to flooding; on bottom lands.*

This association is next to the major streams in Orange county. The largest areas are adjacent to the Connecticut River. Other areas of the soils in this association are adjacent to small streams and brooks throughout the county.

The Hadley soils are well drained and medium textured. They are on higher natural levees and rises near present stream channels. Hadley soils are flooded less frequently than the other major soils, because they are higher above stream level. Some areas of Hadley soils are above normal overflow and are seldom flooded.

The Winooski soils are moderately well drained and medium textured. They are in broad, intermediate positions between Hadley and Limerick soils.

The Limerick soils are poorly drained and medium textured. They are in old stream channels and depressions. Because of their low position, Limerick soils are flooded more frequently than the higher soils in the association.

Soils of minor extent in this association are the very poorly drained Saco soils, the well drained Merrimac and Agawam soils the excessively drained Windsor soils, and a few small areas of Muck.

Most areas of this association have been cleared of trees and are farmed. The main crops are corn for silage, hay, and pasture. The most poorly drained and inaccessible areas are idle or are in trees. The major limitation for farming is the hazard of flooding during spring and in other wet periods. The Limerick soils have a high water table and are excessively wet unless artificially drained. Flooding and excess wetness also are limitations for houses, septic tank absorption fields, highways, recreational facilities, and other community developments.

### **Merrimac-Agawam-Windsor-Winooski association**

*Level to steep, excessively drained to well drained, moderately coarse textured and coarse textured soils on stream terraces, and moderately well drained, medium textured soils on bottom lands subject to flooding.*

Merrimac soils are somewhat excessively drained and moderately coarse textured. They formed in water-deposited sand and gravel. They are level to steep and are on stream terraces.

Agawam soils are well drained and moderately coarse textured. They formed in water-deposited fine sandy loam over sand and gravel. They are level to steep and are on stream terraces.

Windsor soils are excessively drained and coarse textured. They formed in water-deposited sand. They are level to steep and are on stream terraces.

Winooski soils are moderately well drained and medium textured. They are in broad depressions on bottom lands that are subject to flooding.

Soils of minor extent in this association are the well drained Hadley and Hartland soils; the moderately well drained Belgrade and Ninigret soils; and the poorly drained Limerick, Raynham Variant, the Walpole soils. Ninigret and Walpole soils are on terraces that are underlain by sand and gravel. Hadley and Limerick soils are along streams and are subject to flooding. Hartland, Belgrade, and Raynham Variant soils are medium textured soils on dissected stream terraces.

The soils in this association are used primarily for farming. The main crops are hay, pasture, and corn for silage. Steep areas and inaccessible areas are in trees or are idle. Soils in this association are the main source of sand and gravel in the county. Many villages and roads are within this association. Merrimac, Agawam, and Windsor soils have few limitations for community developments where slope is not a consideration. Flooding limits the use of Winooski soils for community developments.



## **Description of Soils-Birch Meadow Farms, Fairlee, VT**

### **Agawam Series-**

The Agawam series consists of deep, well drained, level to steep soils on stream terraces. These soils formed in stratified outwash derived mainly from schist, granite, gneiss, and phyllite. Agawam soils have moderately available water capacity. Natural fertility is low. Permeability is moderately rapid, and the shrink-swell potential is low. If farmed, these soils are used mainly for hay, pasture, or corn for silage. Steep areas are in woodland or are idle.

#### **AgB-Agawam fine sandy loam, 3 to 8 percent slopes.**

This gently sloping soil is on stream terraces. This soil is used mainly for hay and pasture. Some areas are in corn silage. Crops on this soil respond well to lime and fertilizer. Where this soil has no plant cover, it is subject to soil blowing. Runoff is slow. The hazard of water erosion is slight. Capability subclass Iie; woodland suitability subclass 4o.

#### **AgE-Agawam fine sandy loam, 25 to 50 percent slopes.**

This steep soil is on strongly dissected stream terraces and along sharp terrace breaks. This soil is used mainly for woodland or unimproved pasture. The operation of modern farm machinery and logging equipment is hazardous. Slope limits this soil for most nonfarm uses. Where this soil has no plant cover, it is susceptible to soil blowing. Runoff is rapid. The hazard of water erosion is severe. Capability subclass VIIe; woodland suitability subclass 4r.

### **Hadley series-**

The Hadley series consist of deep, well drained level soils on the flood plains of the major streams and their tributaries. These soils formed in very fine sandy loam and silt loam alluvium. Hadley soils have high available water capacity. Natural fertility is high. Permeability is moderate. Frequency of flooding ranges from 1 to 2 times a year to once in 10 years or more. These soils are used mainly for farming.

#### **Ha-Hadley very fine sandy loam.**

This level soil is in areas that are parallel to the nearby stream. This soil is used mainly for corn for silage, hay, and pasture. Crops respond well to lime and fertilizer. Spring flooding delays the planting of crops in some years. In a few areas considerable debris is deposited by flood water. Flooding limits the use of this soil for most nonfarm uses. Runoff is slow. The hazard of water erosion is slight. Streambank erosion is a concern along some streams. Capability class I; woodland suitability subclass 3o.

### **Limerick series-**

The Limerick series consists of level, deep, poorly drained soils on the flood plains of major streams and their tributaries. These soils formed in very fine sandy loam and silt loam alluvial deposits. Limerick soils have a high available water capacity. Natural fertility is high. Permeability is moderate. The water table is within 1 foot of the surface in spring and after heavy rains. Most areas are flooded for several days early in spring. These soils are used mainly for hay and pasture.

#### **Le-Limerick very fine sandy loam.**

This level soil is used mainly for hay and pasture. A few areas are used for corn for silage. Frequent flooding limits the use of some areas, and flood debris must be removed from the surface. Most areas respond well to artificial drainage, but suitable outlets are difficult to locate. This soil is limited for most nonfarm use because it is subject to flooding and excess wetness. Runoff is slow. The hazard of water erosion is slight if the soil is cultivated. Capability subclass IIIw; woodland suitability subclass 4w.



### **Saco series-**

The Saco series consist of deep, very poorly drained, level soils on the flood plains of major streams and their tributaries. These soils formed in very fine sandy loam and silt loam alluvium. Saco soils have high available water capacity. Natural fertility is high. Permeability is moderate. The water table is at a depth of less than 1 foot most of the year. Most areas are flooded for several days each year, generally in spring. Most areas of this soil are idle or in woodland.

#### **Sa-Saco mucky silt loam.**

This level soil is in depressions. Most areas are flooded in spring and after heavy rain. Drainage outlets are difficult to locate because the soil surface is at about the same level as the water in nearby stream. Flooding and wetness limit this soil for most nonfarm use. Runoff is slow. The hazard of erosion is slight. Capability subclass VIw; woodland suitability subclass not assigned.

### **Windsor series-**

The Windsor series consists of level to steep, deep, excessively drained, sandy soils on stream terraces. These soils formed in water-deposited sand more than 4 feet deep. In most places the sand is underlain by stratified sand and gravel. Windsor soils have low available water capacity. Natural fertility is low. Permeability is rapid. These soils are used for hay, pasture, and corn for silage. The underlying material is a good source of sand.

#### **WnB-Windsor loamy fine sand, 0 to 8 percent slopes.**

This level to gently sloping soil is on stream terraces. Sand and gravel pits are common. Crops respond well to a management system that includes application of lime and fertilizer, conservation of moisture, and reduction of soil losses. Runoff is slow. This soil is subject to soil blowing in areas that have no plant cover. The hazard of water erosion is slight. Capability subclass IIIs; woodland suitability subclass 5s.

### **Winooski series-**

The Winooski series consists of level, deep, moderately well drained soils on flood plains of major streams and their tributaries. These soils formed in very fine sandy loam and silt loam alluvium. Winooski soils have high available water capacity. Natural fertility is high. Permeability is moderate. A seasonal high water table is at a depth of 1 ½ to 2 ½ feet in spring and during wet periods. Frequency of flooding varies from 1 time to 3 times a year to once in 10 years or more.

#### **Wo-Winooski very fine sandy loam.**

This soil is mainly used for hay, pasture and corn for silage. Frequent flooding limits the use of some of the lower lying areas. Debris from floods delays planting in some years. Crops respond well to a management system that includes application of lime and fertilizer and drainage. Wetness and the hazard of flooding limits this soil for most nonfarm uses. Runoff is slow. The hazard of water erosion is slight. Capability subclass Iiw; woodland suitability subclass 3o.



<b>Classification of the soils</b>			
<b>Soil name</b>	<b>Family or higher taxonomic class</b>		
Agawam	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts.		
Hadley	Coarse-silty, mixed, nonacid, mesic Typic Udifluvents.		
Limerick	Coarse-silty, mixed, nonacid, mesic Typic Fluvaquents.		
Saco	Coarse-silty, mixed, nonacid, mesic Fluvaquentic Humaquepts.		
Windsor	Mixed, mesic Typic Udipsamments.		
Winooski	Coarse-silty, mixed, mesic Aquic Udifluvents.		







<b>Water Management - Birch Meadow Farms</b>						
<b>Soil name and map symbol</b>	<b>Pond reservoir areas</b>	<b>Embankments, dikes and levees</b>	<b>Aquifer-fed excavated ponds</b>	<b>Drainage</b>	<b>Terraces and diversions</b>	<b>Grassed Waterways</b>
Agawam:						
<b>AgB, AgE</b> Hadley:	Seepage, slope	Seepage, piping	No water	Not needed	Slope, erodes easily	Slope, erodes easily
<b>Ha</b> Limerick:	Seepage	Piping, seepage	No water	Not needed	Not needed	Not needed
<b>Le</b> Saco:	Seepage	Piping, low strength.	Favorable	Wetness, floods	Not needed	Wetness
<b>Sa</b> Windsor:	Wetness	Low strength	Favorable	Wetness, floods	Not needed	Wetness
<b>WnB</b> Winooski:	Seepage, slope	Seepage, piping	No water	Not needed	Piping, slope, too sandy	Droughty, slope
<b>Wo</b>	Percs slowly	Piping	Deep to water	Floods, poor outlets	Not needed	Not needed
<b>Soil and water features-Birch Meadow Farms</b>						
	<b>Bedrock</b>					
<b>Soil name and map symbol</b>	<b>Depth (In.)</b>	<b>Potential Frost Action</b>				
Agawam: <b>AgB, AgE</b>	>60	Low				
Hadley: <b>Ha</b>	>60	High				
Limerick: <b>Le</b>	>60	High				
Saco: <b>Sa</b>	>60	High				
Windsor: <b>WnB</b>	>60	Low				
Winooski: <b>Wo</b>	>60	High				



## SOIL LEGEND

The first letter, always a capital, is the initial letter of the soil name. The third letter, A, B, C, D, or E, shows the slope class. Symbols without a slope letter are for nearly level soils.




SYMBOL	NAME
AgA	Agawam fine sandy loam, 0 to 3 percent slopes
AgB	Agawam fine sandy loam, 3 to 8 percent slopes
AgC	Agawam fine sandy loam, 8 to 15 percent slopes
AgD	Agawam fine sandy loam, 15 to 25 percent slopes
AgE	Agawam fine sandy loam, 25 to 50 percent slopes
BeB	Belgrade silt loam, 0 to 8 percent slopes
BeC	Belgrade silt loam, 8 to 15 percent slopes
BeD	Belgrade silt loam, 15 to 25 percent slopes
BuB	Buckland stony loam, 3 to 8 percent slopes
BuC	Buckland stony loam, 8 to 15 percent slopes
BuD	Buckland stony loam, 15 to 25 percent slopes
BvC	Buckland very stony loam, 8 to 25 percent slopes
BwE	Buckland soils, 25 to 50 percent slopes
CaB	Cabot stony silt loam, 0 to 8 percent slopes
CaC	Cabot stony silt loam, 8 to 15 percent slopes
CaD	Cabot stony silt loam, 15 to 25 percent slopes
CbB	Cabot very stony silt loam, 3 to 15 percent slopes
CbD	Cabot very stony silt loam, 15 to 25 percent slopes
CoB	Colrain stony fine sandy loam, 3 to 8 percent slopes
CoC	Colrain stony fine sandy loam, 8 to 15 percent slopes
CoD	Colrain stony fine sandy loam, 15 to 25 percent slopes
CsD	Colrain very stony fine sandy loam, 8 to 25 percent slopes
CsE	Colrain very stony fine sandy loam, 25 to 50 percent slopes
CxD	Colrain extremely stony fine sandy loam, 8 to 25 percent slopes
CxE	Colrain extremely stony fine sandy loam, 25 to 50 percent slopes
Ha	Hadley very fine sandy loam
HdB	Hartland silt loam, 0 to 8 percent slopes
HdC	Hartland silt loam, 8 to 15 percent slopes
HdD	Hartland silt loam, 15 to 25 percent slopes
HdE	Hartland silt loam, 25 to 50 percent slopes
Le	Limerick very fine sandy loam
MeA	Merrimac fine sandy loam, 0 to 3 percent slopes
MeB	Merrimac fine sandy loam, 3 to 8 percent slopes
MeC	Merrimac fine sandy loam, 8 to 15 percent slopes
MeD	Merrimac fine sandy loam, 15 to 25 percent slopes
MeE	Merrimac fine sandy loam, 25 to 50 percent slopes
Mu	Muck
NnB	Ninigret fine sandy loam, 0 to 8 percent slopes
NnC	Ninigret fine sandy loam, 8 to 15 percent slopes
Pc	Peacham soils
PoC	Pomfret stony loamy fine sand, 8 to 15 percent slopes
PoD	Pomfret stony loamy fine sand, 15 to 25 percent slopes
PsD	Pomfret very stony loamy fine sand, 8 to 25 percent slopes
PTE	Pomfret soils, 25 to 50 percent slopes
Ra	Raynham variant silt loam
Ro	Rock outcrop
Sa	Saco mucky silt loam
SoB	Stowe stony fine sandy loam, 3 to 8 percent slopes
SoC	Stowe stony fine sandy loam, 8 to 15 percent slopes
SoD	Stowe stony fine sandy loam, 15 to 25 percent slopes
StD	Stowe very stony fine sandy loam, 8 to 25 percent slopes
SwE	Stowe soils, 25 to 50 percent slopes
TbB	Tunbridge-Woodstock rocky fine sandy loams, 3 to 8 percent slopes
TbC	Tunbridge-Woodstock rocky fine sandy loams, 8 to 15 percent slopes
TbD	Tunbridge-Woodstock rocky fine sandy loams, 15 to 25 percent slopes
TrD	Tunbridge-Woodstock-Rock outcrop complex, 8 to 25 percent slopes
TwE	Tunbridge-Woodstock complex, 25 to 50 percent slopes
VeB	Vershire-Glover rocky loams, 3 to 8 percent slopes
VeC	Vershire-Glover rocky loams, 8 to 15 percent slopes
VeD	Vershire-Glover rocky loams, 15 to 25 percent slopes
VgD	Vershire-Glover-Rock outcrop complex, 8 to 25 percent slopes
VhE	Vershire-Glover complex, 25 to 50 percent slopes
Wa	Walpole fine sandy loam
WnB	Windsor loamy fine sand, 0 to 8 percent slopes
WnD	Windsor loamy fine sand, 8 to 25 percent slopes
WnE	Windsor loamy fine sand, 25 to 50 percent slopes
Wo	Winooski very fine sandy loam

# WORKS AND STRUCTURES

## Highways and roads

Divided .....	
Good motor .....	
Poor motor .....	
Trail .....	









## Highway markers

National Interstate .....	
U. S. ....	
State or county .....	

## Railroads

Single track .....	
Multiple track .....	
Abandoned .....	

## Bridges and crossings

Road .....	
Trail .....	
Railroad .....	
Ferry .....	
Ford .....	
Grade .....	
R. R. over .....	
R. R. under .....	

## Buildings

Buildings .....	
School .....	
Church .....	
Mine and quarry .....	
Gravel pit .....	

## Power line

## Pipeline

## Cemetery

## Dams

## Levee

## Tanks

## Well, oil or gas

## Forest fire or lookout station

## Windmill

## Located object





# CONVENTIONAL SIGNS

## BOUNDARIES

National or state .....	
County .....	
Minor civil division .....	
Reservation .....	
Land grant .....	
Small park, cemetery, airport ...	
Land survey division corners ...	

## DRAINAGE

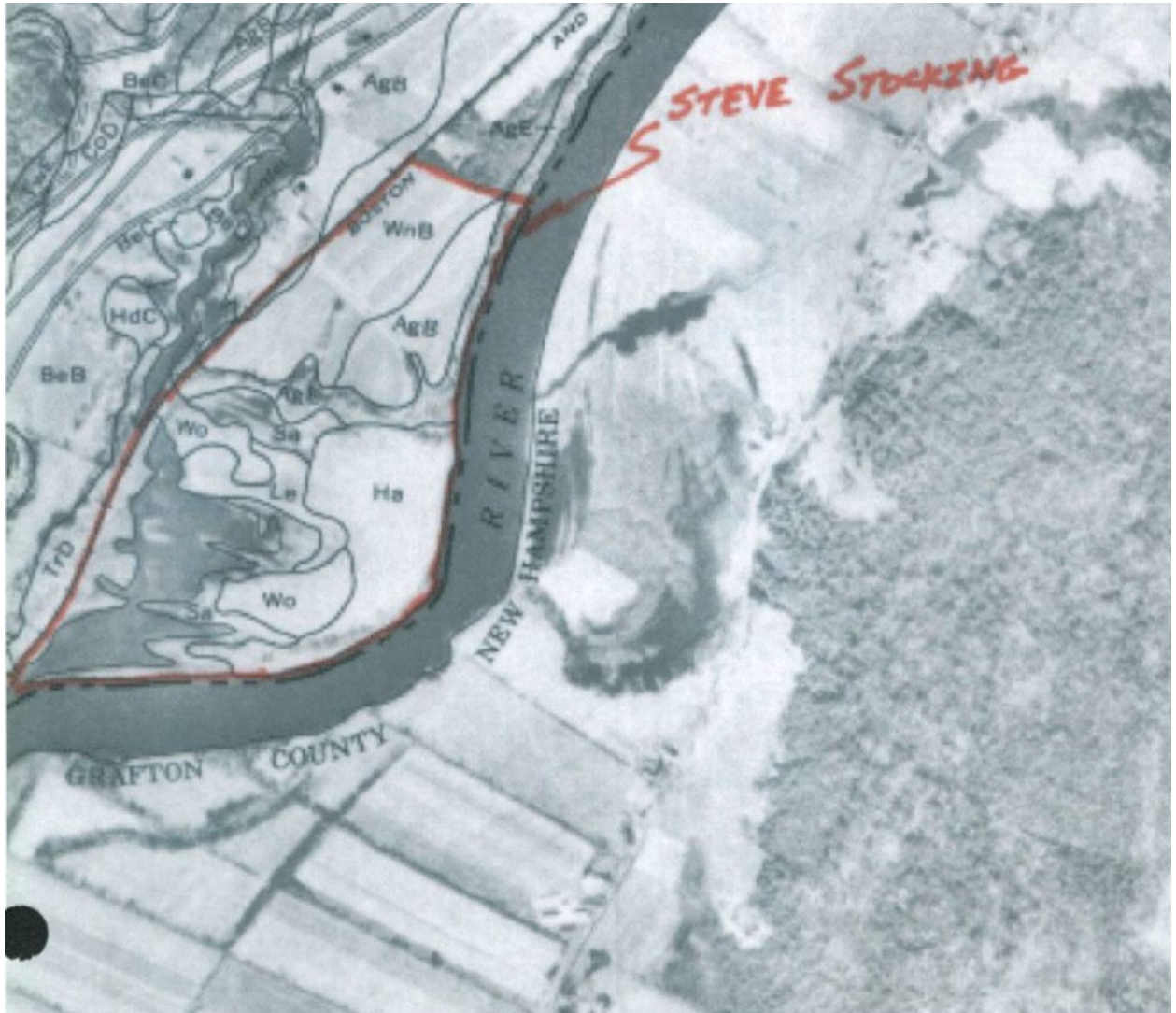
Streams, double-line	
Perennial .....	
Intermittent .....	
Streams, single-line	
Perennial .....	
Intermittent	
Crossable with tillage implements .....	
Not crossable with tillage implements .....	
Unclassified .....	
Canals and ditches .....	
Lakes and ponds	
Perennial .....	
Intermittent .....	
Spring .....	
Marsh or swamp .....	
Wet spot .....	
Drainage end or alluvial fan ...	

## RELIEF

Escarpments		
Bedrock .....		
Other .....		
Short steep slope .....		
Prominent peak .....		
Depressions		
Crossable with tillage implements .....	Large	Small
Not crossable with tillage implements .....		
Contains water most of the time .....		

## SOIL SURVEY DATA

Soil boundary and symbol .....	
Gravel .....	
Stoniness	
Stony .....	
Very stony .....	
Rock outcrops .....	
Chert fragments .....	
Clay spot .....	
Sand spot .....	
Gumbo or scabby spot .....	
Made land .....	
Severely eroded spot .....	
Blowout, wind erosion .....	
Gully .....	
Borrow pit .....	
Copper mine .....	
Sanitary land fill .....	





## SOIL FACT SHEET

### AgE Agawam fine sandy loam, 25 to 50 percent slopes

AGAWAM SOILS are very deep to bedrock and well drained. They formed in loamy over sandy glaciofluvial deposits on outwash plains and terraces. Permeability is moderately rapid in the upper part of the solum, moderately rapid or rapid in the lower part of the solum and rapid in the substratum. Some areas of these soils have gravelly deposits in the substratum.

This map unit is poorly suited to cultivated crops, hay and pasture because of steep and very steep slopes.

This map unit is composed of coarse textured, sandy and/or gravelly soils with rapid to very rapid permeability in the substratum. The type of septic system that would normally be installed on this map unit is Conventional/Soil Replacement. This map unit often requires backfilling with finer textured material in the area of the absorption field to slow the percolation rate enough to allow for thorough filtering of effluent. This process is commonly referred to as "soil replacement". This map unit has a slope limitation. However, there may be areas within this map unit that are flat enough to place a septic system, or cut and fill site modifications may produce a suitable area within the unit.

PHYSICAL/CHEMICAL PROPERTIES							SOIL FEATURES	
Name	Depth (inches)	pH	Permeability / hour (inches)	Clay (%)	Organic Matter (%)	Bedrock Depth (inches)	Hydric Soil?	Farmland Rating
Agawam	0 - 9	5 - 6.5	2 - 6	4 - 10	1 - 5	>60	No	Not Prime or Statewide
	9 - 23	5 - 6.5	2 - 6	1 - 10	0.5 - 3			
	23 - 60	5 - 6.5	6 - 20	1 - 2	0 - 1			

WATER FEATURES					FLOODING	RARE = 1 to 5 % chance / year OCCAS = 5 to 50 % chance / year FREQ = >50 % chance / year BRIEF = 2 to 7 days LONG = 7 to 30 days
Name	Frequency	Duration	From	Depth to Water Table		
Agawam	NONE			6 to >6 Feet		

LAND USE LIMITATIONS				AGRICULTURAL YIELD DATA	
Name	Land Use	Rating	Reason**		
Agawam	Pond reservoir area	Severe	seepage		
	Dwellings with basements	Severe	slope		

WOODLAND MANAGEMENT					
Name	Equipment Limitation	Windthrow Hazard	Name	Common Trees	Site Index
Agawam	SEVERE	SLIGHT	Agawam	sugar maple	
				northern red oak	65
				red pine	70

1 AUM = Enough forage to feed one 1,000 pound cow for 1 month on 1 acre.      Site Index = Height of Tree in 50 years

\*\* The reason listed is the most limiting restriction; there may be others that contribute to the particular rating.

## SOIL FACT SHEET

### Ha Hadley very fine sandy loam

HADLEY SOILS formed in loamy alluvium on flood plains, that are frequently flooded for brief duration from Mid-Winter through early Spring. They are very deep to bedrock and well drained. These soils have a water table at depths of 4.0 to 6.0 feet below the surface from late Fall through early Spring. Permeability is moderate or moderately rapid.

This map unit is well suited to cultivated crops, hay and pasture. Flooding is of short duration and usually occurs in the spring which may delay tillage. Stubble mulching and cover cropping are practices that help control erosion by flood waters. Land shaping, to provide good surface drainage, will allow the soil to be tilled soon after flooding. Streambanks should be maintained in permanent protective cover to help control streambank erosion. Proper stocking rates and rotational grazing will help to maintain a good stand of pasture plants and help to control erosion caused by flood water.

This map unit is composed of soils that flood and not suitable for use as septic tank absorption fields.

PHYSICAL/CHEMICAL PROPERTIES							SOIL FEATURES	
Name	Depth (inches)	pH	Permeability / hour (inches)	Clay (%)	Organic Matter (%)	Bedrock Depth (inches)	Hydric Soil?	Farmland Rating
Hadley	0 - 11	5 - 7.3	0.6 - 2	4 - 10	2 - 5	>60	No	Prime
	11 - 28	5 - 7.8	0.6 - 6	2 - 10	0.5 - 2			
	28 - 64	5 - 7.8	0.6 - 6	1 - 8	0 - .5			

WATER FEATURES					
FLOODING					
Name	Frequency	Duration	From		Depth to Water Table
Hadley	OCCAS	BRIEF	FEB	APR	4 to >6 Feet

RARE = 1 to 5 % chance / year  
 OCCAS = 5 to 50 % chance / year  
 FREQ = >50 % chance / year  
 BRIEF = 2 to 7 days  
 LONG = 7 to 30 days

LAND USE LIMITATIONS				AGRICULTURAL YIELD DATA	
Name	Land Use	Rating	Reason**	Crop Name	Yield / acre
Hadley	Pond reservoir area	Severe	seepage	ALFALFA HAY	5 TONS
	Dwellings with basements	Severe	flooding	CORN SILAGE	28 TONS
				GRASS-CLOVER	8 AUM

WOODLAND MANAGEMENT					
Name	Equipment Limitation	Windthrow Hazard	Name	Common Trees	Site Index
Hadley	SLIGHT	SLIGHT	Hadley	eastern white pine	70
				red pine	70
				sugar maple	63

1 AUM = Enough forage to feed one 1,000 pound cow for 1 month on 1 acre.      Site Index = Height of Tree in 50 years

\*\* The reason listed is the most limiting restriction; there may be others that contribute to the particular rating.



## SOIL FACT SHEET

### Le Limerick very fine sandy loam

LIMERICK SOILS formed in loamy alluvium on flood plains that are frequently flooded for brief duration from late Fall through late Spring. They are very deep to bedrock and poorly drained. These soils have a water table at depths of 0 to 1.5 feet below the surface from late Fall through late Spring. Permeability is moderate.

This map unit is suited to cultivated crops and well suited to hay and pasture. Flooding and the seasonal high water table are concerns during periods of high rainfall. Flooding is of short duration and usually occurs in the spring which may delay spring tillage. Stubble mulching and cover cropping are practices that help control erosion by flood waters. Land shaping, to provide good surface drainage, helps to dry the soil after flooding. Where suitable outlets are available, subsurface drainage can be used to lower the water table. Streambanks should be maintained in permanent protective cover to help control streambank erosion. Proper stocking rates and rotational grazing during wet periods will help to maintain a good stand of pasture plants and help to control erosion caused by flood water. Planting water tolerant plants helps to overcome the wetness caused by the seasonal high water table.

This map unit is composed of soils that flood and are too wet for use as septic tank absorption fields.

PHYSICAL/CHEMICAL PROPERTIES								SOIL FEATURES	
Name	Depth (inches)	pH	Permeability / hour (inches)	Clay (%)	Organic Matter (%)	Bedrock Depth (inches)	Hydric Soil?	Farmland Rating	
Limerick	0 - 5	5 - 7.3	0.6 - 2	4 - 10	2 - 5	>60	Yes	Statewide if drainage is possible	
	5 - 28	6 - 7.3	0.6 - 2	2 - 10	0 - 2				
	28 - 60	6 - 7.3	0.6 - 2	1 - 8	0 - 2				

### WATER FEATURES

FLOODING						RARE = 1 to 5 % chance / year OCCAS = 5 to 50 % chance / year FREQ = >50 % chance / year BRIEF = 2 to 7 days LONG = 7 to 30 days
Name	Frequency	Duration	From	Depth to Water Table		
Limerick	FREQ	BRIEF	NOV MAY	0 to 1.5 Feet		

### LAND USE LIMITATIONS

Name	Land Use	Rating	Reason**
Limerick	Pond reservoir area	Moderate	seepage
	Dwellings with basements	Severe	flooding

### AGRICULTURAL YIELD DATA

Crop Name	Yield / acre
CORN SILAGE	20 TONS
GRASS-CLOVER	5 AUM

### WOODLAND MANAGEMENT

Name	Equipment Limitation	Windthrow Hazard	Name	Common Trees	Site Index
Limerick	SEVERE	SEVERE	Limerick	eastern white pine	65
				red maple	40

1 AUM = Enough forage to feed one 1,000 pound cow for 1 month on 1 acre. Site Index = Height of Tree in 50 years

\*\* The reason listed is the most limiting restriction; there may be others that contribute to the particular rating.

## SOIL FACT SHEET

### Sa Saco mucky silt loam

SACO SOILS formed in loamy over sandy alluvial deposits on flood plains that are frequently flooded for brief duration from Fall through late Spring. They are very deep to bedrock and very poorly drained. These soils have a water table at depths of 0 to 0.5 feet below the surface from Fall through early Summer. Permeability is moderate in the surface layer and loamy part of the substratum and rapid or very rapid in the sandy part of the substratum.

This map unit is poorly suited to cultivated crops, hay and pasture because of the hazard of ponding and the seasonal high water table.

This map unit is composed of soils that flood and are too wet for use as septic tank absorption fields.

PHYSICAL/CHEMICAL PROPERTIES							SOIL FEATURES	
Name	Depth (Inches)	pH	Permeability / hour (Inches)	Clay (%)	Organic Matter (%)	Bedrock Depth (Inches)	Hydric Soil?	Farmland Rating
Saco	0 - 11	5 - 7.3	0.6 - 2	4 - 15	10 - 20	>60	Yes	Not Prime or Statewide
	11 - 28	5 - 7.3	0.6 - 2	2 - 15	0.5 - 3			
	28 - 66	6 - 7.3	0.6 - 2	2 - 15	0 - 1			

### WATER FEATURES

#### FLOODING

Name	Frequency	Duration	From		Depth to Water Table	
			OCT	MAY	0 to 0.5	Feet
Saco	FREQ	BRIEF				

RARE = 1 to 5 % chance / year  
 OCCAS = 5 to 50 % chance / year  
 FREQ = >50 % chance / year  
 BRIEF = 2 to 7 days  
 LONG = 7 to 30 days

### LAND USE LIMITATIONS

Name	Land Use	Rating	Reason**
Saco	Pond reservoir area	Moderate	seepage
	Dwellings with basements	Severe	flooding

### AGRICULTURAL YIELD DATA

### WOODLAND MANAGEMENT

Name	Equipment Limitation	Windthrow Hazard	Name	Common Trees	Site Index
Saco	SEVERE	SEVERE	Saco	northern whitecedar	45
				eastern white pine	50
				red maple	50

1 AUM = Enough forage to feed one 1,000 pound cow for 1 month on 1 acre.

Site Index = Height of Tree in 50 years

\*\* The reason listed is the most limiting restriction; there may be others that contribute to the particular rating.



## SOIL FACT SHEET

### WnB Windsor loamy fine sand, 0 to 8 percent slopes

WINDSOR SOILS formed in sandy glaciofluvial deposits on outwash plains and terraces. They are very deep to bedrock and excessively drained. Permeability is rapid or very rapid.

This map unit is suited to cultivated crops, hay and pasture. Droughtiness is a concern during periods of low rainfall. Tillage practices that leave part of the crop residue on the surface and supplemental additions of organic matter such as animal manures and other organic wastes help to increase the available water capacity of the soil. Proper stocking rates and rotational grazing during dry periods will help to maintain a good stand of pasture plants. Planting drought tolerant plants helps to overcome the droughtiness concern.

This map unit is composed of coarse textured, sandy and/or gravelly soils with rapid to very rapid permeability in the substratum. The type of septic system that would normally be installed on this map unit is Conventional/Soil Replacement. This map unit often requires backfilling with finer textured material in the area of the absorption field to slow the perc rate enough to allow for thorough filtering of effluent. This process is commonly referred to as "soil replacement".

PHYSICAL/CHEMICAL PROPERTIES							SOIL FEATURES	
Name	Depth (inches)	pH	Permeability / hour (inches)	Clay (%)	Organic Matter (%)	Bedrock Depth (inches)	Hydric Soil?	Farmland Rating
Windsor	0 - 7	5 - 6	6 - 20	1 - 3	2 - 4	>60	No	Statewide
	7 - 29	5 - 6	6 - 20	0 - 3	0.5 - 2			
	29 - 60	5 - 6.5	6 - 20	0 - 2	0 - .5			

WATER FEATURES					RARE = 1 to 5 % chance / year OCCAS = 5 to 50 % chance / year FREQ = >50 % chance / year BRIEF = 2 to 7 days LONG = 7 to 30 days
FLOODING					
Name	Frequency	Duration	From	Depth to Water Table	
Windsor	NONE			6 to >6 Feet	

LAND USE LIMITATIONS				AGRICULTURAL YIELD DATA	
Name	Land Use	Rating	Reason**	Crop Name	Yield / acre
Windsor	Pond reservoir area	Severe	seepage	GRASS-CLOVER	5 AUM
	Dwellings with basements	Slight		ALFALFA HAY	3 TONS
				CORN SILAGE	14 TONS

WOODLAND MANAGEMENT					
Name	Equipment Limitation	Windthrow Hazard	Name	Common Trees	Site Index
Windsor	SLIGHT	SLIGHT	Windsor	northern red oak	52
				red pine	61
				sugar maple	55

1 AUM = Enough forage to feed one 1,000 pound cow for 1 month on 1 acre.      Site Index = Height of Tree in 50 years

\*\* The reason listed is the most limiting restriction; there may be others that contribute to the particular rating.

## SOIL FACT SHEET

### Wo Winooski very fine sandy loam

WNOOSKI SOILS formed in alluvial deposits on flood plains that are frequently flooded for brief duration from late Fall through early Spring. They are very deep to bedrock and moderately well drained. These soils have a water table at depths of 1.5 to 3.0 feet below the surface from late Fall through early Spring. Permeability is moderate or moderately rapid.

This map unit is well suited to cultivated crops, hay and pasture. Flooding and the seasonal high water table are concerns during periods of high rainfall. Flooding is of short duration and usually occurs in the spring which may delay spring tillage. Stubble mulching and cover cropping are practices that help control erosion by flood waters. Land shaping, to provide good surface drainage, helps to dry the soil after flooding. Where suitable outlets are available, subsurface drainage can be used to lower the water table. Streambanks should be maintained in permanent protective cover to help control streambank erosion. Proper stocking rates and rotational grazing during wet periods will help to maintain a good stand of pasture plants and help to control erosion caused by flood water. Planting water tolerant plants helps to overcome the wetness caused by the seasonal high water table.

This map unit is composed of soils that flood and not suitable for use as septic tank absorption fields.

PHYSICAL/CHEMICAL PROPERTIES							SOIL FEATURES	
Name	Depth (inches)	pH	Permeability / hour (inches)	Clay (%)	Organic Matter (%)	Bedrock Depth (inches)	Hydric Soil?	Farmland Rating
Winooski	0 - 8	5 - 7.3	0.6 - 6	5 - 18	2 - 4	>60	No	Prime
	8 - 60	5 - 7.3	0.6 - 6	2 - 10	0.5 - 2			

WATER FEATURES						RARE = 1 to 5 % chance / year OCCAS = 5 to 50 % chance / year FREQ = >50 % chance / year BRIEF = 2 to 7 days LONG = 7 to 30 days
FLOODING						
Name	Frequency	Duration	From	Depth to Water Table		
Winooski	FREQ	BRIEF	FEB APR	1.5 to	3.0 Feet	

LAND USE LIMITATIONS				AGRICULTURAL YIELD DATA	
Name	Land Use	Rating	Reason**	Crop Name	Yield / acre
Winooski	Pond reservoir area	Severe	seepage	GRASS-CLOVER	7 AUM
	Dwellings with basements	Severe	flooding	ALFALFA HAY	4 TONS
				CORN SILAGE	26 TONS

WOODLAND MANAGEMENT					
Name	Equipment Limitation	Windthrow Hazard	Name	Common Trees	Site Index
Winooski	SLIGHT	SLIGHT	Winooski	white spruce	70
				sugar maple	65
				northern red oak	70

1 AUM = Enough forage to feed one 1,000 pound cow for 1 month on 1 acre.      Site Index = Height of Tree in 50 years

\*\* The reason listed is the most limiting restriction; there may be others that contribute to the particular rating.



## **Herbicide Description Sheet-Birch Meadow Farms**

**Pursuit W DG**-herbicide ECO-PAK; BASF Corp.

Active Ingredient: Imazethapyr ( $\pm$ ) -2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1*H*-imidazol-2-yl]-5-ethyl-3-pyridinecarboxylic acid

Synonyms: imazethapyr, AC 263,499, BAS 685 H

Formula: C<sub>15</sub> H<sub>19</sub> N<sub>3</sub> O<sub>3</sub>

Chemical Family: imidazolinone

Mol Wt: 289.300

For use in Alfalfa, Field Corn (Apply only on Clearfield corn hybrids), and edible legume vegetables. Pursuit W DG kills weeds by root and/or foliage uptake and rapid translocation to the growing points. Adequate soil moisture is important for optimum activity. Apply Pursuit W DG herbicide only on selected field corn hybrids warranted by the seed company to possess resistance/tolerance to direct application. Pursuit provides good to excellent control in Shattercane, Foxtail, Fall Panicum, Barnyardgrass, Velvetleaf and Pigweed; fair to poor control in Nutsedge, Quackgrass, Crabgrass, Common Ragweed, Lambsquarters, Jimsonweed and Burcucumber.

**Python WDG**-herbicide; Dow AgroSciences LLC.

Active Ingredient: Flumetsulam N-(2,6-Difluorophenyl)-5-Methyl(1,2,4)Triazolo(1,5-A)Pyrimidine-2-Sulfonamide

Python WDG herbicide is a selective product for broadleaf weed control in field corn and soybeans, and may be applied as a preplant surface, preplant incorporated, or preemergence treatment. Absorption of Python WDG occurs through both shoot and root uptake. When applications are made under adverse (dry or cold) conditions reduced activity may be observed and weeds may be suppressed and not controlled. Python provides good to excellent control in Jimsonweed, Lambsquarters, Pigweed, and Velvetleaf; fair to poor control in Burcucumber & Common Ragweed; and no control in Barnyardgrass, Crabgrass, Fall Panicum, Foxtail, Shattercane, Quackgrass and Nutsedge. Other Flumetsulam containing herbicides: Hornet, Scorpion III, Accent Gold, Broadstrike +Dual, Bicep Magnum TR, Broadstrike SF +Dual and Broadstrike +Treflan.

**Callisto**-herbicide; Syngenta Crop Protection.

Active Ingredient: Mesotrione

A Preemergence and Postemergence herbicide for control of annual broadleaf weeds in field corn. Callisto is a systemic preemergence and postemergence herbicide for the selective contact and residual control of broadleaf weeds in field corn, production seed field corn, field corn grown for silage and yellow popcorn. When used preemergence, weeds take up the product through the soil during emergence. Dry conditions following application may reduce the preemergence activity of Callisto. Callisto is not effective for the control of most grass weeds. Callisto provides control in Crabgrass, Galinsoga, Jimsonweed, Lambsquarters, Pigweed, Ragweed and Velvetleaf; and partial control in Cocklebur, Kochia & Morningglory.



# Conservation Plan Map

Steve Stocking






White River Natural Resources

Berlin Service Center  
NRCS  
Dan Koloski

Date: 10/09/2003



## Legend

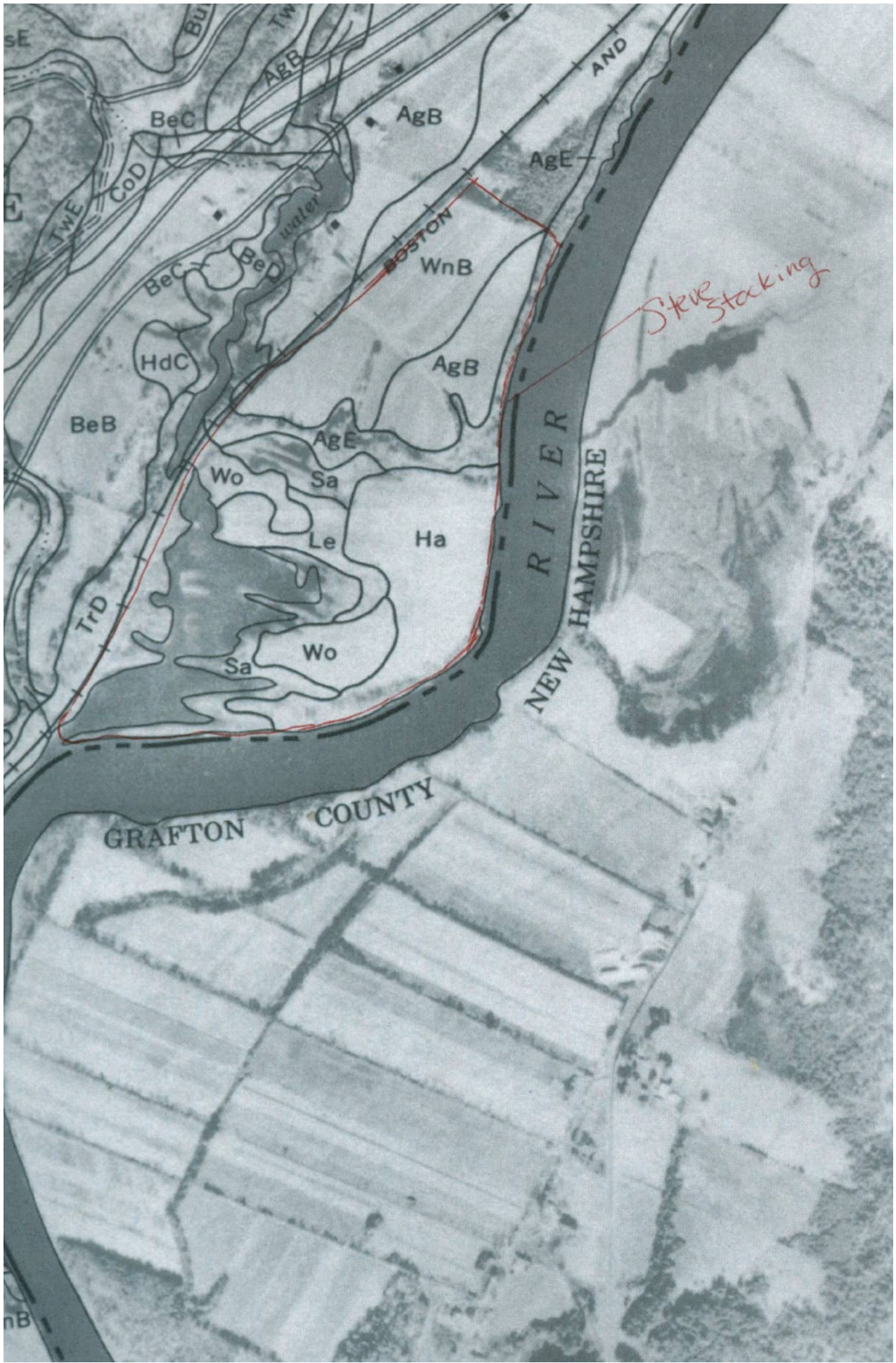
-  Resource Inventory (lines)
-  Common Land Unit
-  Roads - Major2
-  District Boundary
-  Town Boundary



600 0 600 1200 Feet

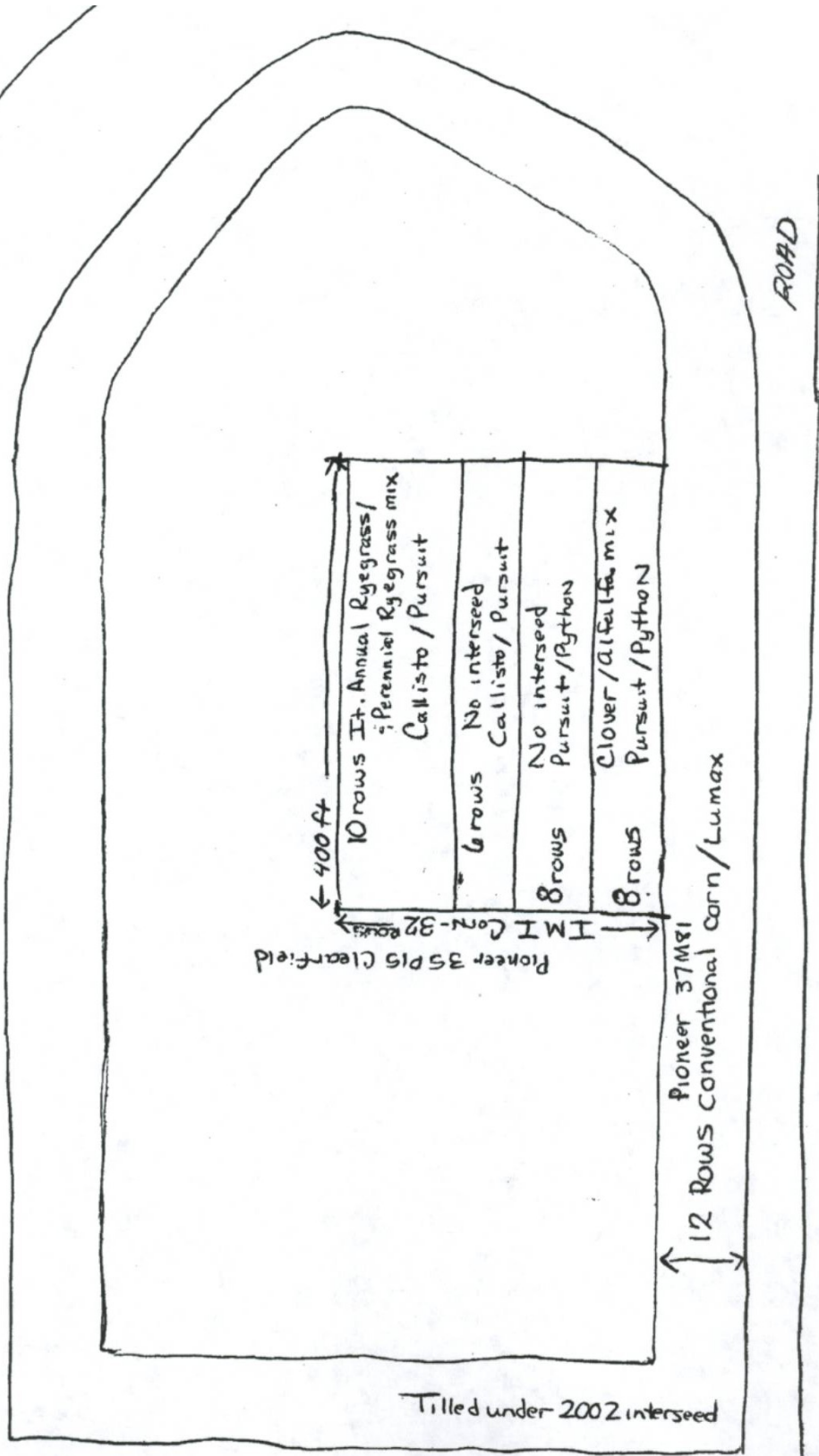






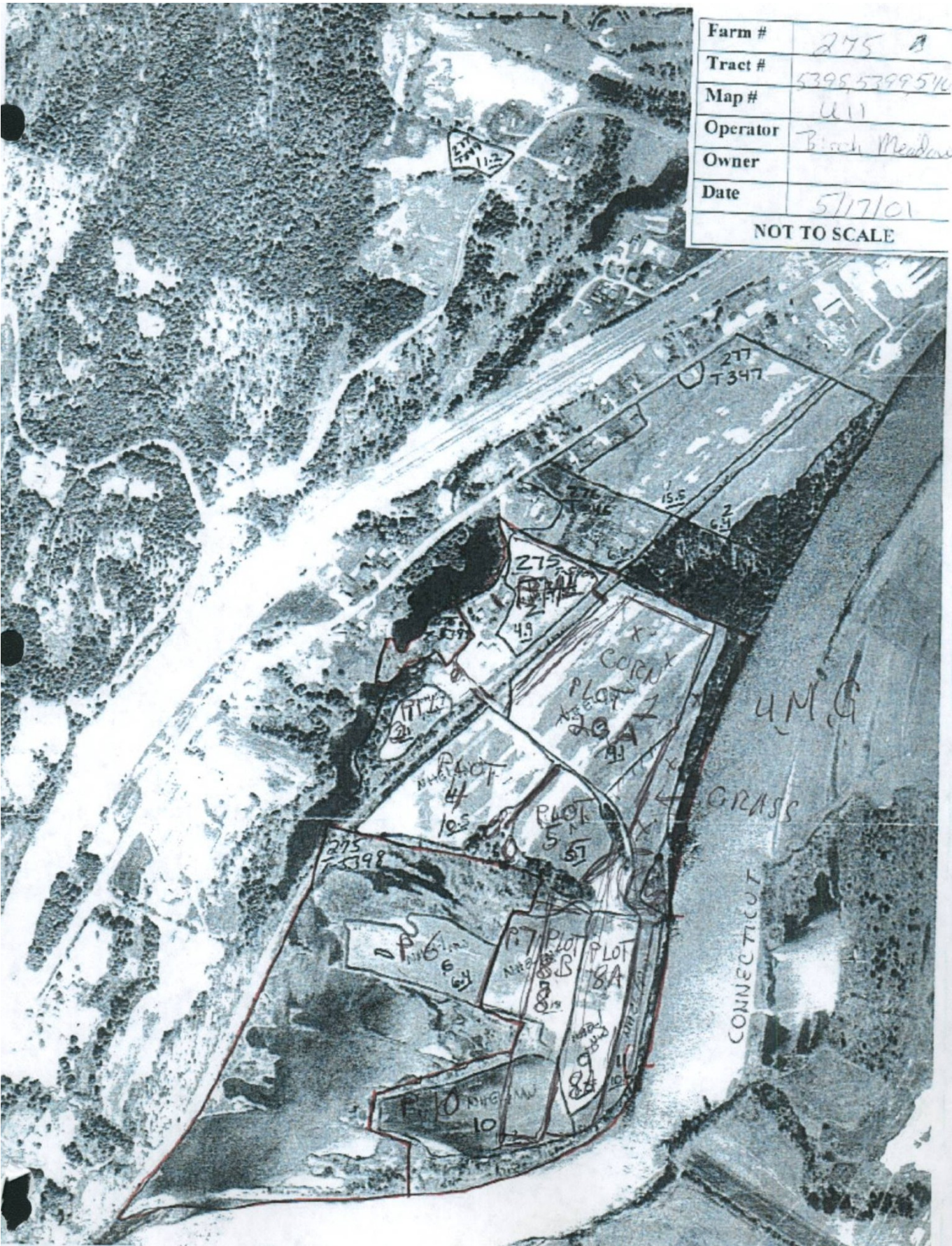
Connecticut River  
Grass buffer w/ trees

ROAD



2003 Field Plot Diagram - 8A - Steve Stockings - Birch Meadow  
Fairlee, VT





Farm #	275 B
Tract #	5398, 5399, 540
Map #	411
Operator	Birch Meadows
Owner	
Date	5/17/01
NOT TO SCALE	

NOT TO SCALE

CONNECTICUT  
GRASS  
U.M.G.

275  
PLOT 1  
COREN  
PLOT 2  
20A  
4.9

TRACT  
4  
10.5

PLOT 5  
5.7

275  
5398

PLOT 6  
6.5

PLOT 7  
7.8

PLOT 8A  
8.2

PLOT 10  
10

PLOT 9  
9.2

277  
T 347

15.5  
2  
6.4







4-17-03



4-17-03, 2002 Clover



4-17-03, 2002 Clover with roots



4-17-03, 2002 Interseed





04-29-03, 2002 Interseed



04-29-03, 2002 Interseed



04-29-03, 2002 Interseed



04-29-03, 2002 Interseed





05-16-03



05-16-03



05-16-03



05-16-03





05-27-03



05-27-03



05-27-03



05-27-03





06-17-03



06-17-03



06-17-03



06-17-03





07-08-03



07-08-03



07-08-03



07-08-03





07-23-03



07-23-03



07-23-03



07-23-03





08-06-03



08-06-03



08-06-03



08-06-03

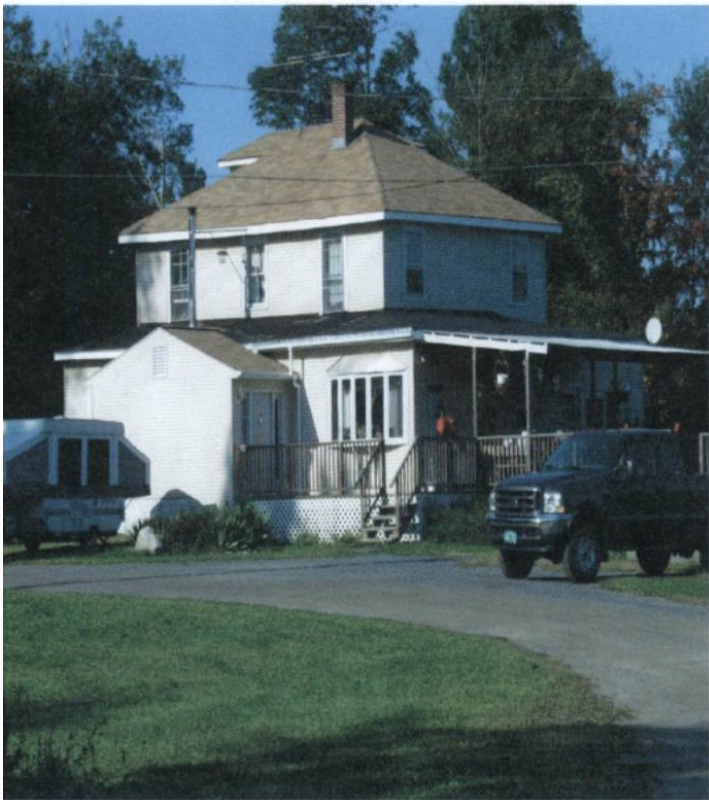




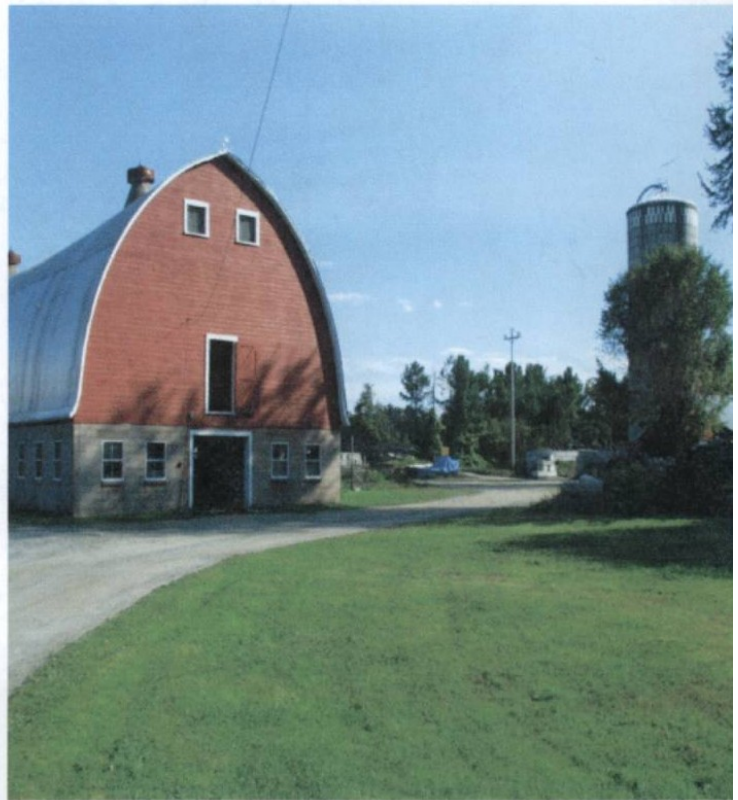
New Silage Storage Facility  
09-09-03



Farm Buildings & Silo  
09-09-03



Birch Meadow Farm – 09-09-03



Barn – 09-09-03





Sid Bosworth – UVM Extension  
Corn Yields – 09-09-03



Lucas Clover – LSC Student  
Corn Yields – 09-09-03



IMI Corn Ear – 09-09-03



IMI Corn – 09-09-03





09-30-03



09-30-03



09-30-03



09-30-03





10-21-03



10-21-03



10-21-03



10-21-03