Appendix A
Existing Conditions

Town of Richmond, Vermont

Bridge Street Bicycle & Pedestrian Feasibility Study

Appendix A: Resource Identification/ Existing Conditions

Submitted by:

Broadreach Planning & Design

In conjunction with

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Heritage Landscapes LLC.

University of Vermont Consulting Archeological Program

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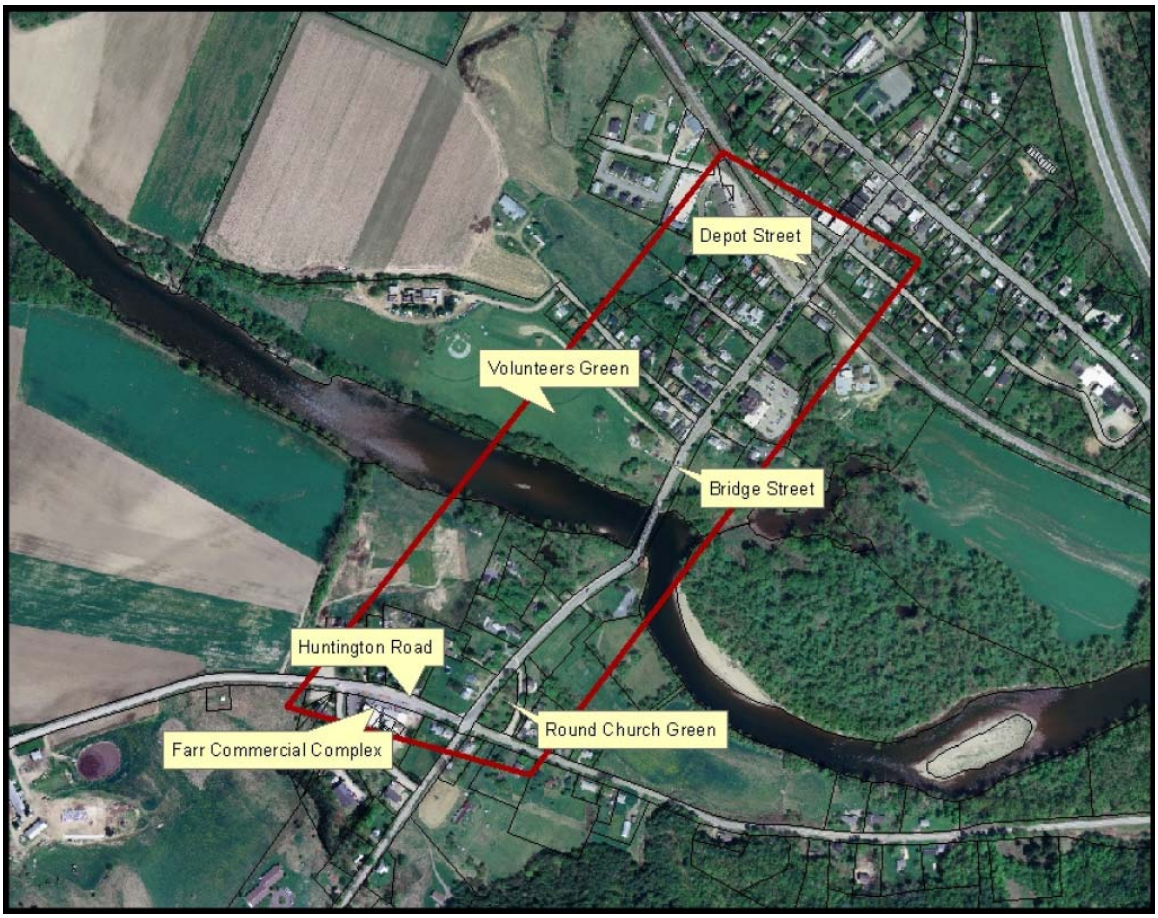
INTRODUCTION

This review provides an overview of the existing conditions and resources along Bridge Street between Depot Street and its southern end, and along Huntington Road between Bridge Street and Farr Street. This is the general limits of the Study Area along the roadways, but it extends off the roadways a bit, as **Figure 3-1** shows.

This report is formatted for double sided printing.

Figure 3-1: Study Area



After this introduction, the report consists of nine additional sections addressing:

- The right-of-way and roadway geometry,
- Land use,
- Utilities,
- Natural Resources,
- Historic and Archeological Resources,
- Hazardous areas,
- Lighting,
- Signage, and
- Bicycle and pedestrian patterns.

RIGHT-OF-WAY AND ROADWAY GEOMETRY

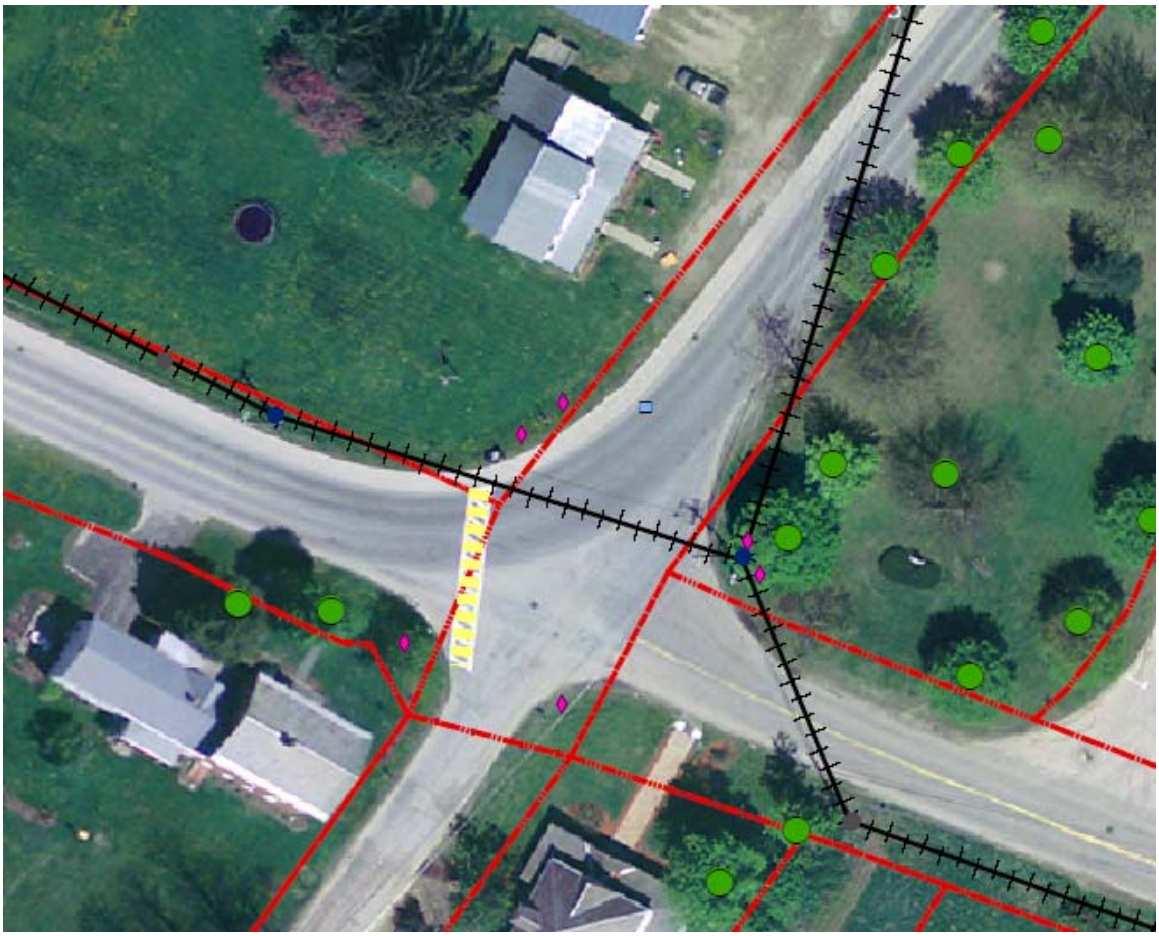
The Bridge Street and Huntington Road right-of-way within the Study Area are 3 rods wide – ±49 feet. The road is off-centered in the right-of-way. **Map 2a** and **2b** provide an overview of the existing information that is available to date. (These figures are collectively referenced as **Map 2** for the rest of this memo.)

The roadway is approximately 24-feet wide between the railroad and Church Street with two 12-foot wide travel lanes between asphalt curbs. The southbound lane of Bridge Street widens by approximately 3 feet between Church Street and Esplanade so that the total roadway is approximately 27 feet wide with a 15-foot wide southbound lane and a 12-foot wide northbound lane. South of Esplanade to the bridge, the road still maintains approximately a 26-foot width, but a variable width gravel shoulder makes the road appear wider. The bridge itself is approximately 18 feet wide with two 9-foot lanes. South of the bridge, the roadway is again approximately 24 feet wide with two twelve-foot travel lanes with a curb along the southbound lane.

Huntington Road west of the Bridge Street intersection is approximately 24 feet wide with two 12-foot travel lanes and a curb on the north side of the road. A curb defines the entrances to the Farr Shopping Area parking, but the curb line ends at the western end of the corner property on the north side of the roadway.

The northwest corner of the Bridge Street/Huntington Road/Thompson Road/Cochran Road intersection has been widened to facilitate turns at higher speeds from Bridge Street to Huntington Road and from Cochran Road to Bridge Street. The widening has taken the edges of the road out of the right-of-way as shown in **Figure 3-3**.

Figure 3-3: Huntington Road/Bridge Street Corner Detail



There is a continuous sidewalk along almost the entire length of the west side of Bridge Street in the Study Area. There is a break that extends from the northern end of the railroad right of way to the southern edge of Railroad Street. The sidewalk continues around the widened corner at Huntington Road and continues west approximately 180 feet, ending close to the western end of the corner property. There is no sidewalk on the east side of the street adjacent to the roadway, but there is a sidewalk set back from the roadway between the Town Offices and the Town Library.

Three crosswalks traverse Bridge Street, one in front of the Town Office, one in front of the Library, and one at the northern end of the Round Church Drive which crosses the road at an angle. There is one crosswalk on Huntington Road where it ends at Bridge Street. There is also a crosswalk on Church Street at the intersection with Bridge Street.

LAND USE

The land use along Bridge Street north of the Railroad is clearly commercial in nature. South of the railroad, the land use has a village residential feel, even though there are some businesses and institutional uses intermixed. The residential feel continues on the south side of the Winooski River, although the areas close to the River itself appear to be agricultural. The only other real commercial land use within the Study Area is located on the south side of Huntington Road east of Farr Street.

UTILITIES

OVERHEAD LINES

Overhead utility lines and poles line the west side of Bridge Street for most of the Study Area north of the Winooski River. Between Esplanade and Church Street, the utility poles are actually located in the street, adjacent to the west side curb. Between Church Street and Railroad Avenue, the utility poles are located in the small green space separating the sidewalk from the curb. The overhead utility lines cross over to the east side of the road north of the railroad. South of the Winooski River, the utility lines cross the roadway several times, ending on the north side of the roadway at the intersection with Huntington Road. The overhead utility lines line the north side of Huntington Road but lie along the south side of Cochran Road. **Map 2** shows the location of the utility poles and overhead wires.

SEWER & WATER

Sewer and water lines lie under the roadway mostly within the Bridge Street and Huntington Road rights-of-way. The specific location of these utilities has been surveyed as part of another study and will be included with the final utility information for this project if it is finalized and available.

STORM SEWER

There are stormwater drains under the roadway, but the specific direction and linkages between the few storm inlets on the north side of the Winooski are not now known. South of the River, the stormwater system was installed approximately ten years ago when the sidewalk was added to the west side of the road. This system empties into the Winooski River. This information is also being gathered by others and will be added to our data base when available. **Map 2** shows the location of existing storm inlets

NATURAL RESOURCES

WETLANDS

The most prominent natural resource within the Study Area is the Winooski River and associated wetlands. The most important mapped wetlands, which includes a State-identified Significant Natural Community, lies to the east of Bridge Street. **Map 2** highlights the specific location.
No other significant wetlands or critical wildlife habitat areas are located in the Study Area.

FLOODPLAINS

Portions of the Study Area close to the Winooski River are located within the 100 year flood plain. **Map 2** shows the location of the updated floodplain information, which is anticipated to be adopted in 2010. This information is used for this study because it is assumed that it will be officially in place when recommendations from this study may be implemented.

STEEP SLOPES

There are no significant slopes in the Study Area outside of those adjacent to the River. The slopes adjacent to the east side of Bridge Street north of the railroad are steep but only extend up a maximum of approximately 10 feet and are fully vegetated at this time. There are slight slopes along the sidewalk on both approaches to the bridge, as well as south of the bridge heading towards the Round Church Green.

STREET TREES

Most of the street trees along Bridge Street lie along the east side, most likely due to the presence of utility lines along much of the west side of the road. **Map 2** shows the location of existing street trees and other trees that are located close to the roadway.

SOILS

Attachment A contains a complete soils analysis of the Study Area. The soils report indicates that the area within the flood plain of the Winooski River is not well suited for the construction of roads due to the high water table. The soils data also indicates that there is a slight risk of off-road erosion hazards. Much of the study area is also not limited or only slightly limited for the construction of off-road trails.

HISTORIC AND ARCHEOLOGICAL RESOURCES

Heritage Landscapes conducted a review of the Study Area to assess potential historic resources in the project area. The focus of this review was the immediate areas along Bridge Street, including features in the right-of-way and the adjacent portions of abutting properties. The goal of the review

was to identify existing historic resources along the Bridge Street corridor that could potentially be affected by bicycle and pedestrian improvements. The Bridge Street Bridge and Round Church are both listed on the National Register of Historic Places, and additional structures are listed on the State Register of Historic Places.

The Village Cemetery, located on the east side of Bridge Street, represents an intact historic resource. The Village Cemetery has retained its current size and location at least since 1869, when it appeared on the Beers Atlas for Richmond, and its historic integrity remains high. At the periphery, the Village Cemetery is visually contained by tree plantings; the trees along Bridge Street provide separation between the busy street and the historic cemetery landscape. Too great an encroachment on the Village Cemetery would diminish the visual separation between the street and the cemetery, and undermine the Village Cemetery's character as an intact, contained, historic resource.

South of the Winooski River, the Round Church Green is an important historic resource, though the integrity of the Green has diminished slightly over time due to the loss of a portion of the landscape. The Round Church was built in 1812-1814 as a meetinghouse and place of worship, and the adjacent Green historically served as an important public landscape at the core of the community. Today, open lawn and trees both lining the street and scattered throughout the landscape characterize the Round Church Green. The original western section of the Green, across Bridge Street from the Green core, is no longer legible as part of the common, though it is still town-owned. Impacts to the core Green on the east side of the street should be avoided.

Retaining walls are positioned in several locations in the project area. South of the bridge, two retaining walls lie on the west side of the street. The more northerly wall appears to be historic and should be preserved as possible.

Attachment B includes a copy of the preliminary Historic Resource Assessment.

The archeological analysis of the site found that north of the Winooski River, the western portions of Volunteers Green and the property on the east side of the road across from Volunteers Green adjacent to the River are sensitive for archeological resources. South of the River, the open field north of the Round Church, Round Church Green, the lawn at the northeast corner of Bridge Street and Huntington Road, and the open/lawn area on the north side of Huntington Road across from Farr Road are also sensitive for archeological resources. One additional area, the large field at the western end of Old Brooklyn Court, is sensitive for archeological resources.

These areas should be examined in more detail if new bicycle or pedestrian facilities are proposed for these areas.

Attachment C includes a complete copy of the draft Archeological Resources Assessment.

HAZARDOUS AREAS

There are two sites within the Study Area listed on the States Hazardous Waste Database:

- The Sonoma Station parcel, and
- The Richmond Dentistry parcel.

The specific forms of contamination should not be affected by surface disturbances that may occur as part of the installation of bicycle or pedestrian improvements.

LIGHTING

Cobra head lights attached to the utility poles supply the lighting along Bridge Street and Huntington Road. **Map 2** shows the location of the utility poles that hold cobra light fixtures. The spacing of the lighting is not consistent, which results in an inconsistent light level along the road with lit sections separated by dark areas of unlit sections of variable length. Pedestrians and drivers typically have a few moments of reduced vision, which varies from person to person, as they pass from lighter to darker areas and their eyes adjust to the different lighting levels.

The cobra fixtures are the standard light fixture used by many communities. They are relatively inexpensive to install and maintain. They are not considered to be aesthetically pleasing nor scaled to pedestrian needs. When properly spaced, they do provide a consistent, acceptable light level for village streets.

There are also smaller, pedestrian scale light poles within the Town Center, with two close to the roadway.

SIGNAGE

There are a variety of regulatory and advisory signs along Bridge Street. Of special note are the crosswalk warning signs located on at each crosswalk for both directions of traffic on Bridge Street or Huntington Road, although there are not pre-warning signs for the crosswalks. **Map 2** shows the location and type of each sign along the roadway.

BICYCLE AND PEDESTRIAN PATTERNS

There is considerable pedestrian traffic that uses the sidewalk north of the Winooski River bridge. The levels are a bit less for the sidewalk south of the bridge. In general, pedestrian activity appears to be slightly higher than other Vermont Villages of similar scale, but there are not actual pedestrian counts to verify this observation.

More experienced bicyclists are currently using Huntington Road and Bridge Street, taking command of the travel lane when it is narrow, such as the bridge itself. The narrow width of the travel lane however, creates problems for most casual bicyclists, especially adjacent to the cemetery where curbs on both sides of the 12-foot lanes make them feel even smaller. Many less experienced bicyclists, including children, ride on the sidewalk. This often creates conflicts between bicyclists and pedestrians, especially on the bridge and its approaches.

When they have a destination, pedestrians and bicyclists are headed most often for:

- Volunteers Green;
- The adjacent bakery;
- The Town Library, Town Offices and Post Office;
- The Round Church;
- The businesses further north of Bridge Street, and
- The schools further to the north on Jericho Road.

Much of the pedestrian and bicycle traffic is more recreational in nature. People are just out to take a walk or a run or to ride their bicycles without having a real need to get to one destination or another.

PREVIOUS STUDIES

RICHMOND PEDESTRIAN FACILITY FEASIBILITY STUDY, Erik Sandblom, PC (ESPC) and Kathleen Ryan, Landscape Architect, January 2009

At the beginning of 2009, prior to undertaking this study, the Town of Richmond completed a study of pedestrian facility needs within the Village center. The relevant portion of the ESPC study for this project is the northern portion of Bridge Street between Main Street and Depot Street. This study overlaps with the Study Area of this project for portion of Bridge Street between Depot Street and the Railroad. The ESPC study's preferred alternative includes extending the existing sidewalk on the east side of Bridge Street close to Main Street south to the railroad track. There is no real discussion of how much it will need to cut into the hillside south of Pleasant Street. The preferred alternative also includes replacing the west sidewalk south of Depot Street with a newer five-foot wide concrete sidewalk, and the addition of a three foot shoulder on the northbound side of the roadway between the Railroad and Pleasant Street.

Crosswalks are also included across Pleasant Street, Depot Street, and the access drive north of the railroad, as well as on Bridge Street on the north side of the Depot/Pleasant Streets intersection. The curb is also recommended to be extended into the roadway on the west side of the street at this cross walk to minimize the distance pedestrian need to travel across the roadway.

The base plans for this study used to show the preferred alternative indicate that the sidewalk on the west side of the street south of Depot Street is mostly outside of the Bridge Street Right of way. It also shows Bridge Street south of the railroad track, near the bottom limit of the image, positioned

far to the west within the right-of-way and that the sidewalk is completely outside of the right-of-way.

RICHMOND VILLAGE PARKING STUDY, Resource Systems Group, Inc., 2007

The parking study covered the main roads in the village area. The recommendations relevant to this project include:

- The installation of bike racks in the village area,
- The addition of an extra parallel parking space and a loading space on the north side of Depot Street,
- The addition of parallel parking spaces along the east side of Bridge Street from Pleasant Street to the Town offices as well as a five-foot side concrete sidewalk directly adjacent to the parking spaces, and
- The addition of formalized parking on the Depot Street lot recently purchased by the Town.

RICHMOND DOWNTOWN STREETSCAPE, Kathleen Ryan, Landscape Architect with Arnold and Scangas Architects and Julie Campoli, landscape Architects, September 1998

This study recommends streetscape improvements for the main roads in the village, including Bridge Street from Main Street to the Railroad Street. The study recommends the addition of street trees on the slope on the east side of Bridge Street between Pleasant Street and the railroad. It also recommends a sidewalk extending south from the end of the existing sidewalk on the west side of Bridge Street north of the railroad across the railroad tracks to Railroad Street.

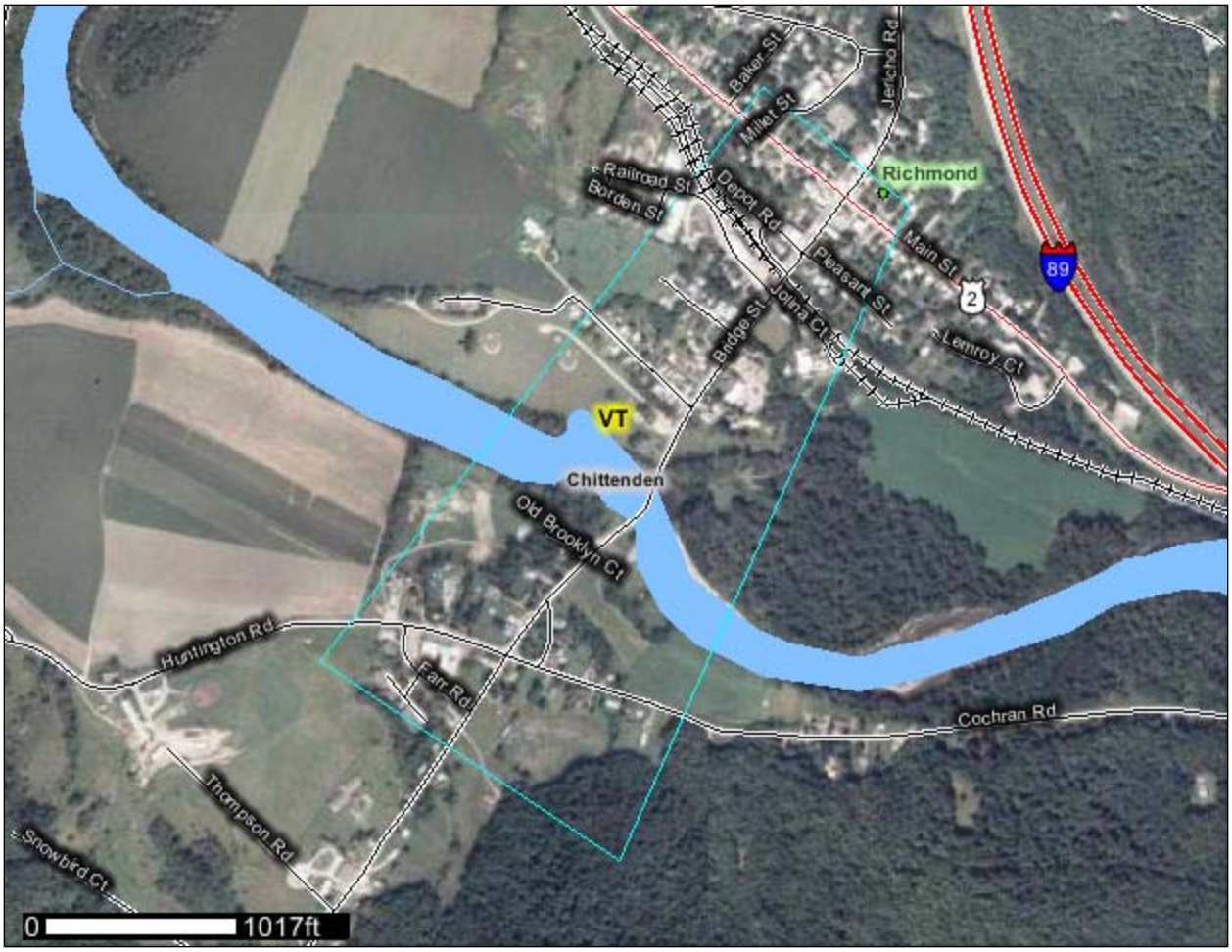
ATTACHMENT A
Soils Report

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Chittenden County, Vermont



October 29, 2009

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

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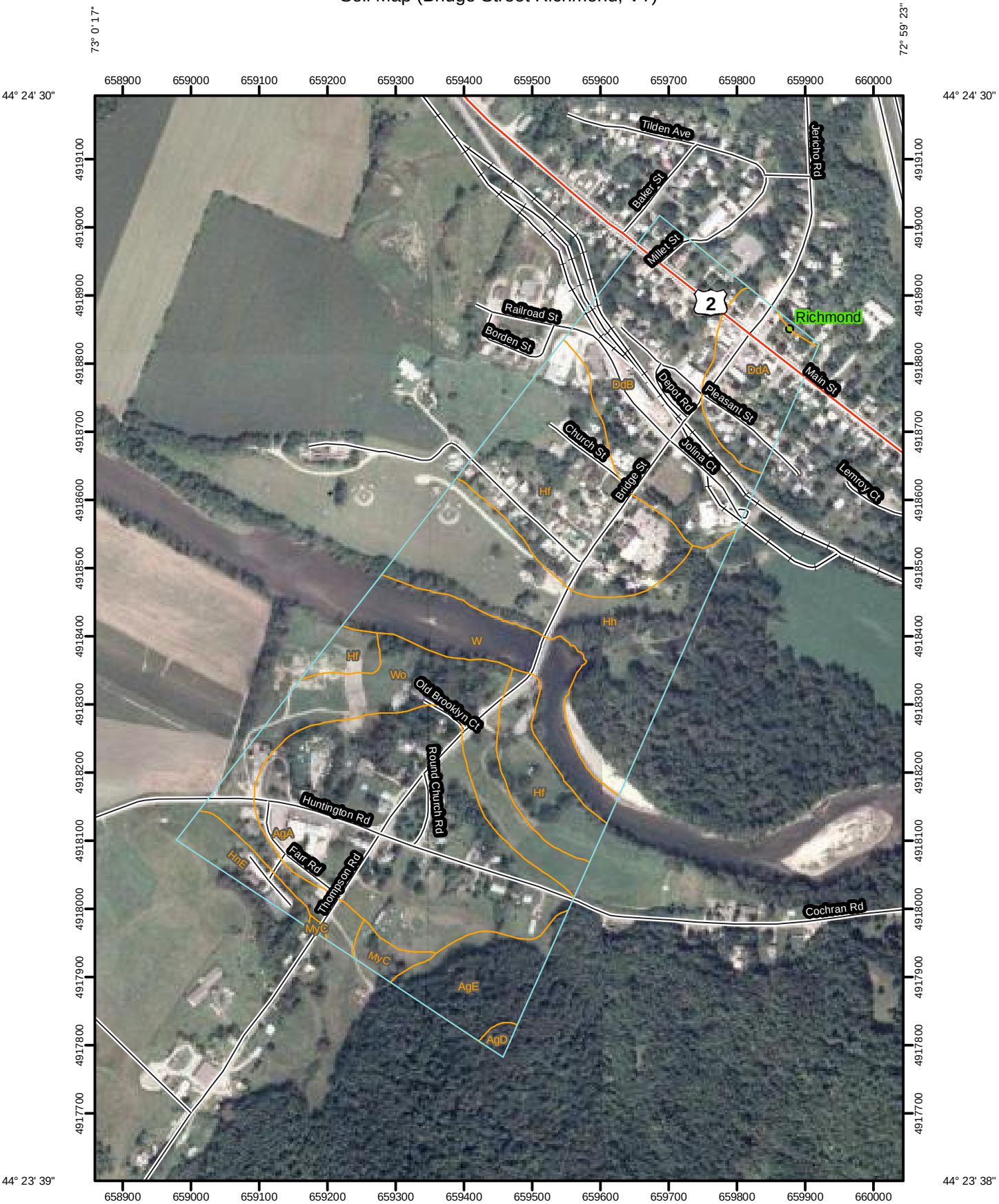
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Bridge Street Richmond, VT)



Map Scale: 1:7,600 if printed on A size (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1,000 1,500

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Units

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features

- Gully
- Short Steep Slope
- Other

Political Features

- Cities

Water Features

- Oceans
- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:7,600 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:15,840.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chittenden County, Vermont
Survey Area Data: Version 14, Jun 10, 2009

Date(s) aerial images were photographed: 8/20/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Bridge Street Richmond, VT)

Chittenden County, Vermont (VT007)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AgA	Agawam fine sandy loam, 0 to 5 percent slopes	25.6	20.8%
AgD	Agawam fine sandy loam, 12 to 30 percent slopes	0.4	0.3%
AgE	Agawam fine sandy loam, 30 to 60 percent slopes	5.7	4.6%
DdA	Duane and Deerfield soils, 0 to 5 percent slopes	6.8	5.5%
DdB	Duane and Deerfield soils, 5 to 12 percent slopes	18.8	15.3%
Hf	Hadley very fine sandy loam	21.5	17.5%
Hh	Hadley very fine sandy loam, frequently flooded	18.5	15.0%
HnE	Hinesburg fine sandy loam, 25 to 60 percent slopes	2.5	2.0%
MyC	Munson and Raynham silt loams, 6 to 12 percent slopes	1.2	1.0%
W	Water	8.3	6.7%
Wo	Winooski very fine sandy loam	13.8	11.2%
Totals for Area of Interest		**123.2**	**100.0%**

Map Unit Descriptions (Bridge Street Richmond, VT)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a

particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Chittenden County, Vermont

AgA—Agawam fine sandy loam, 0 to 5 percent slopes

Map Unit Setting

Elevation: 90 to 1,200 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 37 to 52 degrees F
Frost-free period: 90 to 180 days

Map Unit Composition

Agawam and similar soils: 85 percent
Minor components: 15 percent

Description of Agawam

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Coarse-loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability (nonirrigated): 1

Typical profile

0 to 9 inches: Fine sandy loam
9 to 18 inches: Fine sandy loam
18 to 32 inches: Loamy sand
32 to 65 inches: Gravelly loamy fine sand

Minor Components

Adams

Percent of map unit: 3 percent
Landform: Terraces

Deerfield

Percent of map unit: 3 percent
Landform: Deltas, terraces

Hartland

Percent of map unit: 3 percent

Ninigret

Percent of map unit: 3 percent

Windsor

Percent of map unit: 3 percent
Landform: Terraces

AgD—Agawam fine sandy loam, 12 to 30 percent slopes

Map Unit Setting

Elevation: 90 to 1,200 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 37 to 52 degrees F
Frost-free period: 90 to 180 days

Map Unit Composition

Agawam and similar soils: 85 percent
Minor components: 15 percent

Description of Agawam

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Concave, convex
Across-slope shape: Concave, convex
Parent material: Coarse-loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Properties and qualities

Slope: 12 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability (nonirrigated): 4e

Typical profile

0 to 9 inches: Fine sandy loam
9 to 18 inches: Fine sandy loam
18 to 32 inches: Loamy sand
32 to 65 inches: Gravelly loamy fine sand

Minor Components

Adams

Percent of map unit: 5 percent
Landform: Terraces

Hartland

Percent of map unit: 5 percent

Windsor

Percent of map unit: 5 percent
Landform: Terraces

AgE—Agawam fine sandy loam, 30 to 60 percent slopes

Map Unit Setting

Elevation: 90 to 1,200 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 37 to 52 degrees F
Frost-free period: 90 to 180 days

Map Unit Composition

Agawam and similar soils: 85 percent
Minor components: 15 percent

Description of Agawam

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability (nonirrigated): 7e

Typical profile

0 to 9 inches: Fine sandy loam
9 to 18 inches: Fine sandy loam

18 to 32 inches: Loamy sand
32 to 65 inches: Gravelly loamy fine sand

Minor Components

Adams
Percent of map unit: 3 percent
Landform: Terraces

Munson
Percent of map unit: 3 percent

Raynham
Percent of map unit: 3 percent
Landform: Drainageways

Scantic
Percent of map unit: 3 percent
Landform: Drainageways

Windsor
Percent of map unit: 3 percent
Landform: Terraces

DdA—Duane and Deerfield soils, 0 to 5 percent slopes

Map Unit Setting
Elevation: 90 to 1,200 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 37 to 52 degrees F
Frost-free period: 90 to 180 days

Map Unit Composition
Deerfield and similar soils: 45 percent
Duane and similar soils: 45 percent
Minor components: 10 percent

Description of Duane

Setting
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and gravelly glaciofluvial deposits

Properties and qualities
Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 18 to 24 inches

Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.5 inches)

Interpretive groups
Land capability (nonirrigated): 3w

Typical profile
0 to 4 inches: Fine sandy loam
4 to 11 inches: Gravelly loamy fine sand
11 to 15 inches: Gravelly loamy fine sand
15 to 52 inches: Very gravelly sand

Description of Deerfield

Setting
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Properties and qualities
Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.6 inches)

Interpretive groups
Land capability (nonirrigated): 3w

Typical profile
0 to 6 inches: Fine sandy loam
6 to 22 inches: Loamy sand
22 to 65 inches: Sand

Minor Components

Au gres
Percent of map unit: 10 percent

DdB—Duane and Deerfield soils, 5 to 12 percent slopes

Map Unit Setting
Elevation: 90 to 1,200 feet
Mean annual precipitation: 30 to 50 inches

Mean annual air temperature: 37 to 52 degrees F
Frost-free period: 90 to 180 days

Map Unit Composition
Deerfield and similar soils: 42 percent
Duane and similar soils: 42 percent
Minor components: 16 percent

Description of Duane

Setting
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy and gravelly glaciofluvial deposits

Properties and qualities
Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.5 inches)

Interpretive groups
Land capability (nonirrigated): 3w

Typical profile
0 to 4 inches: Fine sandy loam
4 to 11 inches: Gravelly loamy fine sand
11 to 15 inches: Gravelly loamy fine sand
15 to 52 inches: Very gravelly sand

Description of Deerfield

Setting
Landform: Terraces
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy glaciofluvial deposits

Properties and qualities
Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.6 inches)

Interpretive groups
Land capability (nonirrigated): 3e

Typical profile

0 to 6 inches: Fine sandy loam
6 to 22 inches: Loamy sand
22 to 65 inches: Sand

Minor Components

Adams

Percent of map unit: 3 percent
Landform: Terraces

Colton

Percent of map unit: 3 percent
Landform: Terraces

Stetson

Percent of map unit: 3 percent

Windsor

Percent of map unit: 3 percent
Landform: Terraces

Agawam

Percent of map unit: 2 percent

Au gres

Percent of map unit: 2 percent

Hf—Hadley very fine sandy loam

Map Unit Setting

Elevation: 90 to 1,000 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 120 to 180 days

Map Unit Composition

Hadley and similar soils: 85 percent
Minor components: 15 percent

Description of Hadley

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water capacity: High (about 10.5 inches)

Interpretive groups
Land capability (nonirrigated): 1

Typical profile
0 to 11 inches: Very fine sandy loam
11 to 68 inches: Very fine sandy loam
68 to 72 inches: Silt loam

Minor Components

Agawam
Percent of map unit: 5 percent

Occum
Percent of map unit: 5 percent
Landform: Flood plains

Winooski
Percent of map unit: 5 percent
Landform: Flood plains

Hh—Hadley very fine sandy loam, frequently flooded

Map Unit Setting
Elevation: 90 to 1,000 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 120 to 180 days

Map Unit Composition
Hadley and similar soils: 85 percent
Minor components: 15 percent

Description of Hadley

Setting
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water capacity: High (about 10.5 inches)

Interpretive groups

Land capability (nonirrigated): 1

Typical profile

0 to 11 inches: Very fine sandy loam
11 to 68 inches: Very fine sandy loam
68 to 72 inches: Silt loam

Minor Components

Limerick

Percent of map unit: 5 percent
Landform: Depressions on flood plains

Occum

Percent of map unit: 5 percent
Landform: Flood plains

Winooski

Percent of map unit: 5 percent
Landform: Flood plains

HnE—Hinesburg fine sandy loam, 25 to 60 percent slopes

Map Unit Setting

Elevation: 90 to 1,200 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 37 to 52 degrees F
Frost-free period: 90 to 180 days

Map Unit Composition

Hinesburg and similar soils: 85 percent
Minor components: 15 percent

Description of Hinesburg

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Concave

Across-slope shape: Concave
Parent material: Sandy glaciofluvial deposits over loamy glaciolacustrine deposits

Properties and qualities

Slope: 25 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 24 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 8.8 inches)

Interpretive groups

Land capability (nonirrigated): 7e

Typical profile

0 to 8 inches: Fine sandy loam
8 to 28 inches: Loamy fine sand
28 to 65 inches: Very fine sandy loam

Minor Components

Adams

Percent of map unit: 8 percent
Landform: Terraces

Windsor

Percent of map unit: 7 percent
Landform: Terraces

MyC—Munson and Raynham silt loams, 6 to 12 percent slopes

Map Unit Setting

Elevation: 90 to 1,000 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 120 to 180 days

Map Unit Composition

Raynham and similar soils: 45 percent
Munson and similar soils: 45 percent
Minor components: 10 percent

Description of Munson

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave

Parent material: Coarse-silty glaciolacustrine deposits over clayey glaciolacustrine deposits

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 10.6 inches)

Interpretive groups

Land capability (nonirrigated): 3e

Typical profile

0 to 8 inches: Silt loam
8 to 15 inches: Silt loam
15 to 65 inches: Silty clay

Description of Raynham

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-silty glaciolacustrine deposits

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water capacity: High (about 11.6 inches)

Interpretive groups

Land capability (nonirrigated): 3w

Typical profile

0 to 6 inches: Silt loam
6 to 22 inches: Silt loam
22 to 65 inches: Silt loam

Minor Components

Belgrade

Percent of map unit: 5 percent

Hartland

Percent of map unit: 5 percent

W—Water

Map Unit Composition

Water: 100 percent

Wo—Winooski very fine sandy loam

Map Unit Setting

Elevation: 90 to 1,000 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 120 to 180 days

Map Unit Composition

Winooski and similar soils: 85 percent
Minor components: 15 percent

Description of Winooski

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water capacity: High (about 10.4 inches)

Interpretive groups

Land capability (nonirrigated): 2w

Typical profile

0 to 10 inches: Very fine sandy loam
10 to 60 inches: Very fine sandy loam

Minor Components

Hadley

Percent of map unit: 5 percent

Landform: Flood plains

Limerick

Percent of map unit: 5 percent
Landform: Depressions on flood plains

Pootatuck

Percent of map unit: 5 percent
Landform: Flood plains

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Local Roads and Streets ( )

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the

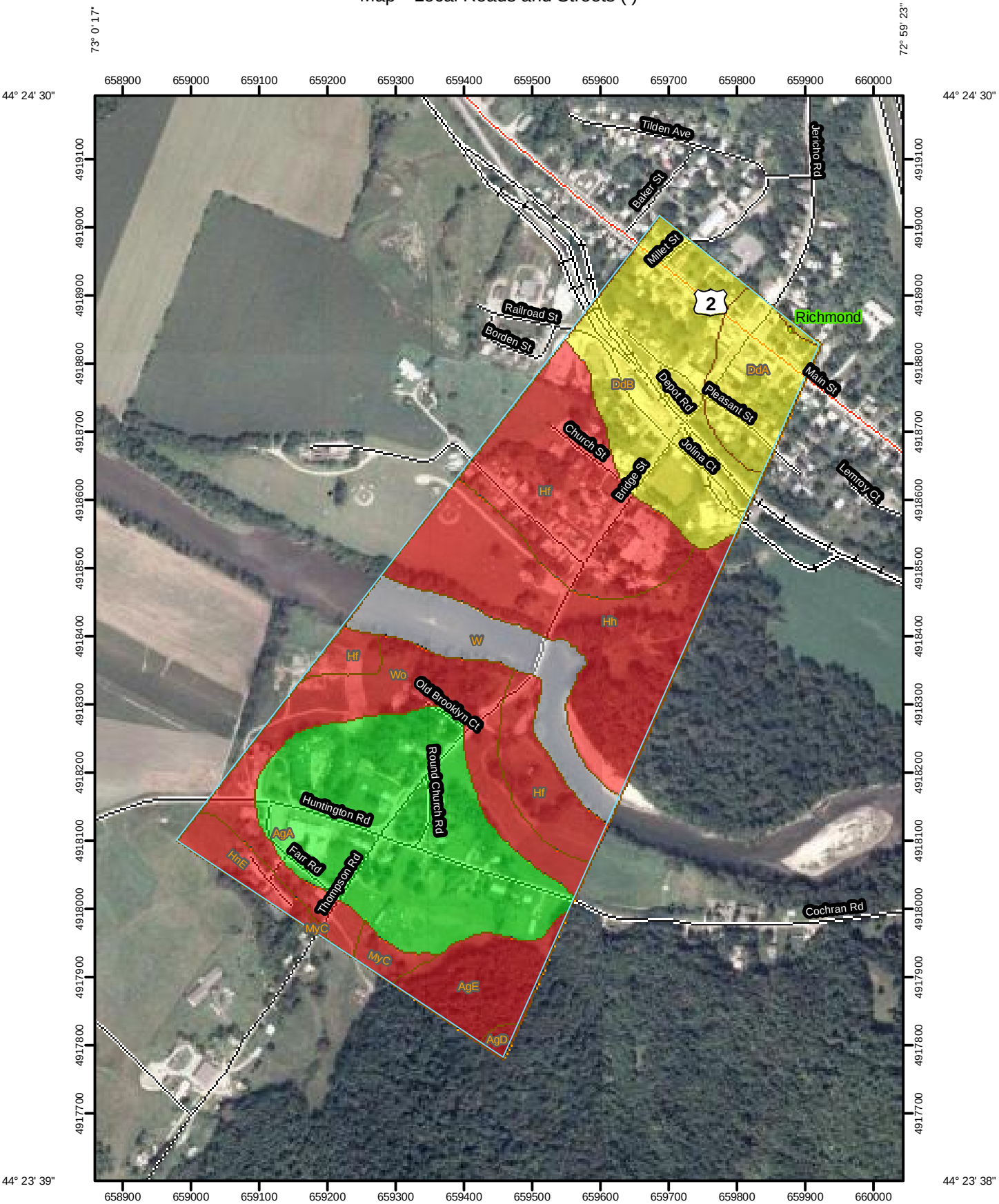
specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Local Roads and Streets ( )



Map Scale: 1:7,600 if printed on A size (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1,000 1,500

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Soil Ratings

Very limited

Somewhat limited

Not limited

Not rated or not available

Political Features

Cities

Water Features

Oceans

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

MAP INFORMATION

Map Scale: 1:7,600 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:15,840.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chittenden County, Vermont
Survey Area Data: Version 14, Jun 10, 2009

Date(s) aerial images were photographed: 8/20/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Local Roads and Streets ( )

Local Roads and Streets— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
AgA	Agawam fine sandy loam, 0 to 5 percent slopes	Not limited	Agawam (85%)		25.6	20.8%
			Adams (3%)			
			Windsor (3%)			
AgD	Agawam fine sandy loam, 12 to 30 percent slopes	Very limited	Agawam (85%)	Too steep (1.00)	0.4	0.3%
			Adams (5%)	Too steep (1.00)		
			Hartland (5%)	Frost action (1.00)		
				Too steep (1.00)		
			Windsor (5%)	Too steep (1.00)		
AgE	Agawam fine sandy loam, 30 to 60 percent slopes	Very limited	Agawam (85%)	Too steep (1.00)	5.7	4.6%
			Adams (3%)	Too steep (1.00)		
			Munson (3%)	Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
				Too steep (1.00)		
				Shrink-swell (0.50)		
			Raynham (3%)	Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Slope (0.04)		
			Scantic (3%)	Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
				Shrink-swell (0.50)		
			Windsor (3%)	Too steep (1.00)		
DdA	Duane and Deerfield soils, 0 to 5 percent slopes	Somewhat limited	Duane (45%)	Depth to saturated zone (0.43)	6.8	5.5%
			Deerfield (45%)	Frost action (0.50)		
				Depth to saturated zone (0.03)		

Local Roads and Streets— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
DdB	Duane and Deerfield soils, 5 to 12 percent slopes	Somewhat limited	Duane (42%)	Depth to saturated zone (0.43)	18.8	15.3%
				Slope (0.04)		
			Deerfield (42%)	Frost action (0.50)		
				Slope (0.04)		
				Depth to saturated zone (0.03)		
			Adams (3%)	Slope (0.04)		
			Colton (3%)	Slope (0.04)		
			Stetson (3%)	Slope (0.04)		
			Windsor (3%)	Slope (0.04)		
			Agawam (2%)	Slope (0.04)		
Hf	Hadley very fine sandy loam	Very limited	Hadley (85%)	Frost action (1.00)	21.5	17.5%
				Flooding (1.00)		
			Occum (5%)	Flooding (1.00)		
				Frost action (0.50)		
			Winooski (5%)	Frost action (1.00)		
				Flooding (1.00)		
				Depth to saturated zone (0.03)		
Hh	Hadley very fine sandy loam, frequently flooded	Very limited	Hadley (85%)	Frost action (1.00)	18.5	15.0%
				Flooding (1.00)		
			Limerick (5%)	Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Flooding (1.00)		
			Occum (5%)	Flooding (1.00)		
				Frost action (0.50)		
			Winooski (5%)	Frost action (1.00)		
				Flooding (1.00)		
				Depth to saturated zone (0.03)		
HnE	Hinesburg fine sandy loam, 25 to 60 percent slopes	Very limited	Hinesburg (85%)	Too steep (1.00)	2.5	2.0%
				Frost action (0.50)		
			Adams (8%)	Too steep (1.00)		
			Windsor (7%)	Too steep (1.00)		

Local Roads and Streets— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
MyC	Munson and Raynham silt loams, 6 to 12 percent slopes	Very limited	Munson (45%)	Depth to saturated zone (1.00)	1.2	1.0%
				Frost action (1.00)		
				Low strength (1.00)		
				Shrink-swell (0.50)		
				Slope (0.04)		
			Raynham (45%)	Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Slope (0.04)		
			Belgrade (5%)	Frost action (1.00)		
				Depth to saturated zone (0.35)		
				Slope (0.04)		
			Hartland (5%)	Frost action (1.00)		
				Slope (0.04)		
W	Water	Not rated	Water (100%)		8.3	6.7%
Wo	Winooski very fine sandy loam	Very limited	Winooski (85%)	Frost action (1.00)	13.8	11.2%
				Flooding (1.00)		
				Depth to saturated zone (0.03)		
			Hadley (5%)	Frost action (1.00)		
				Flooding (1.00)		
			Limerick (5%)	Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Flooding (1.00)		
			Pootatuck (5%)	Flooding (1.00)		
				Frost action (0.50)		
				Depth to saturated zone (0.19)		
Totals for Area of Interest					**123.2**	**100.0%**

Local Roads and Streets— Summary by Rating Value		
Rating	**Acres in AOI**	**Percent of AOI**
Very limited	63.6	51.7%
Somewhat limited	25.7	20.8%
Not limited	25.6	20.8%
Null or Not Rated	8.3	6.7%
Totals for Area of Interest	**123.2**	**100.0%**

Rating Options—Local Roads and Streets ( )

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Shallow Excavations ( )

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

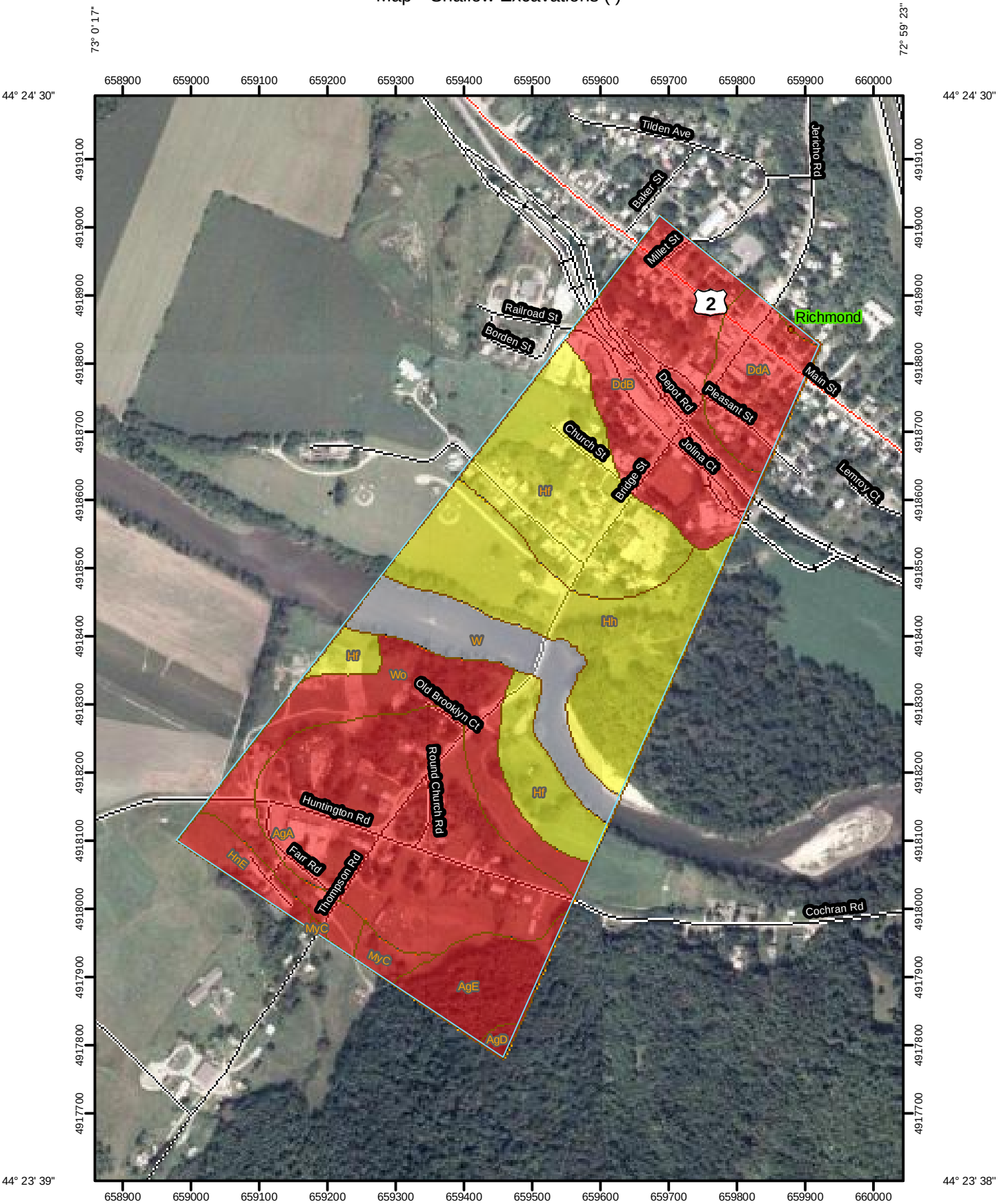
The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Shallow Excavations ( )



Map Scale: 1:7,600 if printed on A size (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1,000 1,500

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Soil Ratings

Very limited

Somewhat limited

Not limited

Not rated or not available

Political Features

Cities

Water Features

Oceans

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

MAP INFORMATION

Map Scale: 1:7,600 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:15,840.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chittenden County, Vermont
Survey Area Data: Version 14, Jun 10, 2009

Date(s) aerial images were photographed: 8/20/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Shallow Excavations ( )

Shallow Excavations— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
AgA	Agawam fine sandy loam, 0 to 5 percent slopes	Very limited	Agawam (85%)	Cutbanks cave (1.00)	25.6	20.8%
			Adams (3%)	Cutbanks cave (1.00)		
			Deerfield (3%)	Depth to saturated zone (1.00)		
				Cutbanks cave (1.00)		
			Ninigret (3%)	Depth to saturated zone (1.00)		
				Cutbanks cave (1.00)		
			Windsor (3%)	Cutbanks cave (1.00)		
AgD	Agawam fine sandy loam, 12 to 30 percent slopes	Very limited	Agawam (85%)	Cutbanks cave (1.00)	0.4	0.3%
				Too steep (1.00)		
			Adams (5%)	Cutbanks cave (1.00)		
				Too steep (1.00)		
			Hartland (5%)	Too steep (1.00)		
				Cutbanks cave (0.10)		
			Windsor (5%)	Cutbanks cave (1.00)		
				Too steep (1.00)		
AgE	Agawam fine sandy loam, 30 to 60 percent slopes	Very limited	Agawam (85%)	Too steep (1.00)	5.7	4.6%
				Cutbanks cave (1.00)		
			Adams (3%)	Too steep (1.00)		
				Cutbanks cave (1.00)		
			Munson (3%)	Depth to saturated zone (1.00)		
				Too steep (1.00)		
				Too clayey (0.28)		
				Cutbanks cave (0.10)		
			Raynham (3%)	Depth to saturated zone (1.00)		
				Cutbanks cave (0.10)		
				Slope (0.04)		
			Scantic (3%)	Depth to saturated zone (1.00)		
				Too clayey (0.13)		
				Cutbanks cave (0.10)		
			Windsor (3%)	Too steep (1.00)		
				Cutbanks cave (1.00)		

Shallow Excavations— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
DdA	Duane and Deerfield soils, 0 to 5 percent slopes	Very limited	Duane (45%)	Depth to saturated zone (1.00)	6.8	5.5%
				Cutbanks cave (1.00)		
			Deerfield (45%)	Depth to saturated zone (1.00)		
				Cutbanks cave (1.00)		
			Au Gres (10%)	Depth to saturated zone (1.00)		
				Cutbanks cave (1.00)		
DdB	Duane and Deerfield soils, 5 to 12 percent slopes	Very limited	Duane (42%)	Depth to saturated zone (1.00)	18.8	15.3%
				Cutbanks cave (1.00)		
				Slope (0.04)		
			Deerfield (42%)	Depth to saturated zone (1.00)		
				Cutbanks cave (1.00)		
				Slope (0.04)		
			Adams (3%)	Cutbanks cave (1.00)		
				Slope (0.04)		
			Colton (3%)	Cutbanks cave (1.00)		
				Slope (0.04)		
			Stetson (3%)	Cutbanks cave (1.00)		
				Slope (0.04)		
			Windsor (3%)	Cutbanks cave (1.00)		
				Slope (0.04)		
			Agawam (2%)	Cutbanks cave (1.00)		
				Slope (0.04)		
			Au Gres (2%)	Depth to saturated zone (1.00)		
				Cutbanks cave (1.00)		
Hf	Hadley very fine sandy loam	Somewhat limited	Hadley (85%)	Flooding (0.60)	21.5	17.5%
				Depth to saturated zone (0.15)		
				Cutbanks cave (0.10)		
Hh	Hadley very fine sandy loam, frequently flooded	Somewhat limited	Hadley (85%)	Flooding (0.80)	18.5	15.0%
				Depth to saturated zone (0.15)		
				Cutbanks cave (0.10)		

Shallow Excavations— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
HnE	Hinesburg fine sandy loam, 25 to 60 percent slopes	Very limited	Hinesburg (85%)	Too steep (1.00)	2.5	2.0%
				Cutbanks cave (1.00)		
				Depth to saturated zone (0.95)		
			Adams (8%)	Too steep (1.00)		
				Cutbanks cave (1.00)		
			Windsor (7%)	Too steep (1.00)		
				Cutbanks cave (1.00)		
MyC	Munson and Raynham silt loams, 6 to 12 percent slopes	Very limited	Munson (45%)	Depth to saturated zone (1.00)	1.2	1.0%
				Too clayey (0.28)		
				Cutbanks cave (0.10)		
				Slope (0.04)		
			Raynham (45%)	Depth to saturated zone (1.00)		
				Cutbanks cave (0.10)		
				Slope (0.04)		
			Belgrade (5%)	Depth to saturated zone (1.00)		
				Cutbanks cave (0.10)		
				Slope (0.04)		
W	Water	Not rated	Water (100%)		8.3	6.7%
Wo	Winooski very fine sandy loam	Very limited	Winooski (85%)	Depth to saturated zone (1.00)	13.8	11.2%
				Flooding (0.60)		
				Cutbanks cave (0.10)		
			Limerick (5%)	Depth to saturated zone (1.00)		
				Flooding (0.80)		
				Cutbanks cave (0.10)		
			Pootatuck (5%)	Depth to saturated zone (1.00)		
				Cutbanks cave (1.00)		
				Flooding (0.80)		
Totals for Area of Interest					**123.2**	**100.0%**

Shallow Excavations— Summary by Rating Value		
Rating	**Acres in AOI**	**Percent of AOI**
Very limited	74.9	60.8%
Somewhat limited	40.0	32.5%
Null or Not Rated	8.3	6.7%
Totals for Area of Interest	**123.2**	**100.0%**

Rating Options—Shallow Excavations ( )

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Land Management

Land management interpretations are tools designed to guide the user in evaluating existing conditions in planning and predicting the soil response to various land management practices, for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture, and rangeland. Example interpretations include suitability for a variety of irrigation practices, log landings, haul roads and major skid trails, equipment operability, site preparation, suitability for hand and mechanical planting, potential erosion hazard associated with various practices, and ratings for fencing and waterline installation.

Erosion Hazard (Off-Road, Off-Trail) ( )

The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope and soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

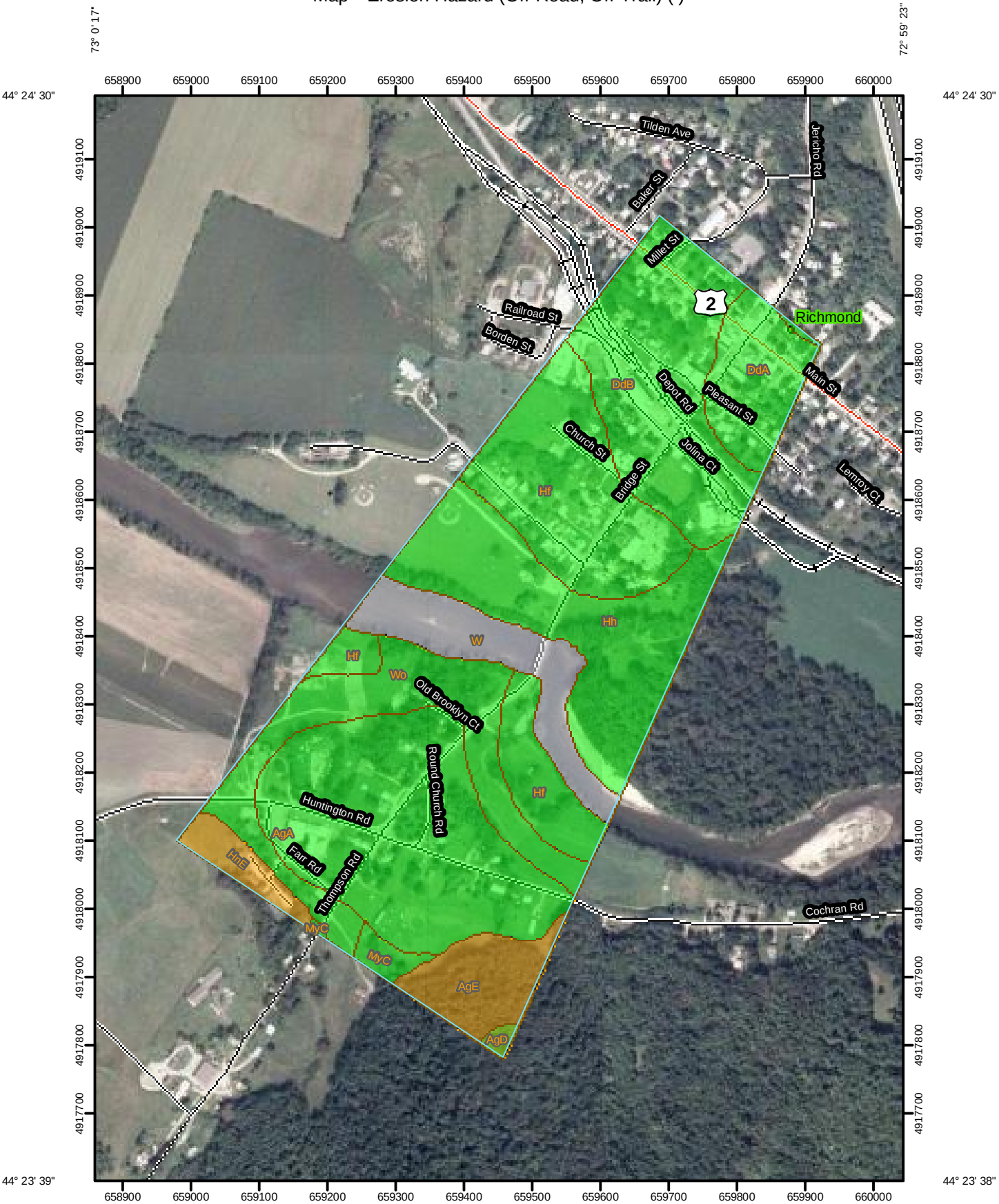
The ratings are both verbal and numerical. The hazard is described as "slight," "moderate," "severe," or "very severe." A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Erosion Hazard (Off-Road, Off-Trail) ( )



Map Scale: 1:7,600 if printed on A size (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1,000 1,500

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Soil Ratings

Very severe

Severe

Moderate

Slight

Not rated or not available

Political Features

Cities

Water Features

Oceans

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

MAP INFORMATION

Map Scale: 1:7,600 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:15,840.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chittenden County, Vermont
Survey Area Data: Version 14, Jun 10, 2009

Date(s) aerial images were photographed: 8/20/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Erosion Hazard (Off-Road, Off-Trail) ( )

Erosion Hazard (Off-Road, Off-Trail)— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
AgA	Agawam fine sandy loam, 0 to 5 percent slopes	Slight	Agawam (85%)		25.6	20.8%
			Adams (3%)			
			Deerfield (3%)			
			Hartland (3%)			
			Ninigret (3%)			
			Windsor (3%)			
AgD	Agawam fine sandy loam, 12 to 30 percent slopes	Moderate	Agawam (85%)	Slope/erodibility (0.50)	0.4	0.3%
			Adams (5%)	Slope/erodibility (0.50)		
			Hartland (5%)	Slope/erodibility (0.50)		
			Windsor (5%)	Slope/erodibility (0.50)		
AgE	Agawam fine sandy loam, 30 to 60 percent slopes	Severe	Agawam (85%)	Slope/erodibility (0.75)	5.7	4.6%
			Adams (3%)	Slope/erodibility (0.75)		
			Windsor (3%)	Slope/erodibility (0.75)		
DdA	Duane and Deerfield soils, 0 to 5 percent slopes	Slight	Duane (45%)		6.8	5.5%
			Deerfield (45%)			
			Au Gres (10%)			
DdB	Duane and Deerfield soils, 5 to 12 percent slopes	Slight	Duane (42%)		18.8	15.3%
			Deerfield (42%)			
			Adams (3%)			
			Colton (3%)			
			Stetson (3%)			
			Windsor (3%)			
			Agawam (2%)			
			Au Gres (2%)			
Hf	Hadley very fine sandy loam	Slight	Hadley (85%)		21.5	17.5%
			Agawam (5%)			
			Occum (5%)			
			Winooski (5%)			
Hh	Hadley very fine sandy loam, frequently flooded	Slight	Hadley (85%)		18.5	15.0%
			Limerick (5%)			
			Occum (5%)			
			Winooski (5%)			
HnE	Hinesburg fine sandy loam, 25 to 60 percent slopes	Severe	Hinesburg (85%)	Slope/erodibility (0.75)	2.5	2.0%
			Adams (8%)	Slope/erodibility (0.75)		
			Windsor (7%)	Slope/erodibility (0.75)		

Erosion Hazard (Off-Road, Off-Trail)— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
MyC	Munson and Raynham silt loams, 6 to 12 percent slopes	Slight	Munson (45%)		1.2	1.0%
			Raynham (45%)			
			Belgrade (5%)			
			Hartland (5%)			
W	Water	Not rated	Water (100%)		8.3	6.7%
Wo	Winooski very fine sandy loam	Slight	Winooski (85%)		13.8	11.2%
			Hadley (5%)			
			Limerick (5%)			
			Pootatuck (5%)			
Totals for Area of Interest					**123.2**	**100.0%**

Erosion Hazard (Off-Road, Off-Trail)— Summary by Rating Value		
Rating	**Acres in AOI**	**Percent of AOI**
Slight	106.4	86.4%
Severe	8.1	6.6%
Moderate	0.4	0.3%
Null or Not Rated	8.3	6.7%
Totals for Area of Interest	**123.2**	**100.0%**

Rating Options—Erosion Hazard (Off-Road, Off-Trail) ( )

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated

with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie.

The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Recreational Development

Recreational Development interpretations are tools designed to guide the user in identifying and evaluating the suitability of the soil for specific recreational uses. Example interpretations include camp areas, picnic areas, playgrounds, paths and trails, and off-road motorcycle trails.

Paths and Trails ( )

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling.

The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

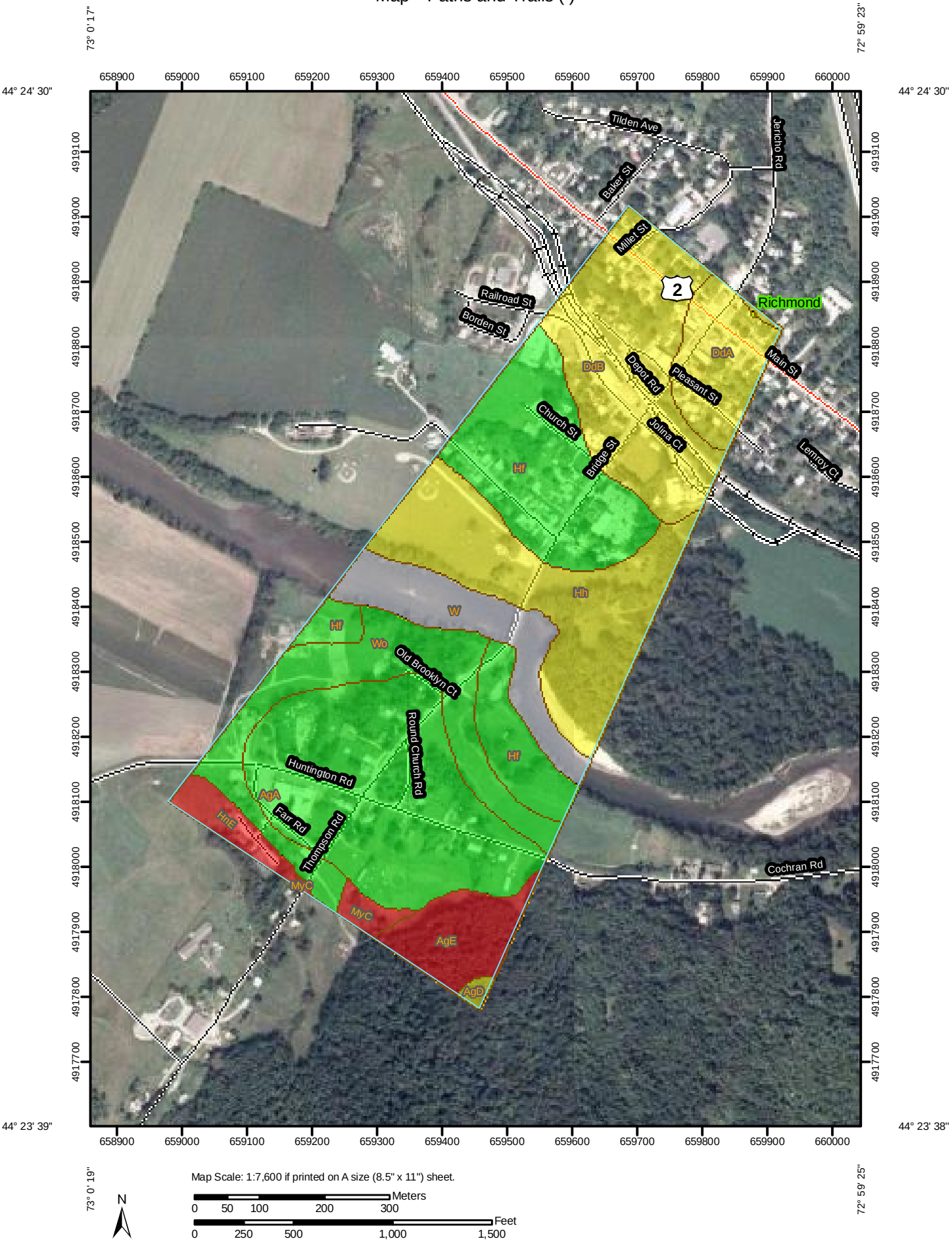
The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Paths and Trails ( )



Map Scale: 1:7,600 if printed on A size (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1,000 1,500

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Soil Ratings

Very limited

Somewhat limited

Not limited

Not rated or not available

Political Features

Cities

Water Features

Oceans

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

MAP INFORMATION

Map Scale: 1:7,600 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:15,840.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chittenden County, Vermont
Survey Area Data: Version 14, Jun 10, 2009

Date(s) aerial images were photographed: 8/20/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Paths and Trails ( )

Paths and Trails— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
AgA	Agawam fine sandy loam, 0 to 5 percent slopes	Not limited	Agawam (85%)		25.6	20.8%
			Deerfield (3%)			
			Hartland (3%)			
			Ninigret (3%)			
AgD	Agawam fine sandy loam, 12 to 30 percent slopes	Somewhat limited	Agawam (85%)	Slope (0.68)	0.4	0.3%
			Adams (5%)	Slope (0.68)		
				Too sandy (0.55)		
			Windsor (5%)	Slope (0.68)		
				Too sandy (0.59)		
AgE	Agawam fine sandy loam, 30 to 60 percent slopes	Very limited	Agawam (85%)	Slope (1.00)	5.7	4.6%
			Adams (3%)	Slope (1.00)		
				Too sandy (0.55)		
			Munson (3%)	Depth to saturated zone (1.00)		
				Water erosion (1.00)		
				Slope (0.18)		
			Raynham (3%)	Depth to saturated zone (1.00)		
				Water erosion (1.00)		
			Scantic (3%)	Depth to saturated zone (1.00)		
			Windsor (3%)	Slope (1.00)		
				Too sandy (0.59)		
DdA	Duane and Deerfield soils, 0 to 5 percent slopes	Somewhat limited	Duane (45%)	Depth to saturated zone (0.08)	6.8	5.5%
DdB	Duane and Deerfield soils, 5 to 12 percent slopes	Somewhat limited	Duane (42%)	Depth to saturated zone (0.08)	18.8	15.3%
			Adams (3%)	Too sandy (0.55)		
			Colton (3%)	Too sandy (0.52)		
			Windsor (3%)	Too sandy (0.59)		
Hf	Hadley very fine sandy loam	Not limited	Hadley (85%)		21.5	17.5%
			Agawam (5%)			
			Winooski (5%)			
Hh	Hadley very fine sandy loam, frequently flooded	Somewhat limited	Hadley (85%)	Flooding (0.40)	18.5	15.0%
			Occum (5%)	Flooding (0.40)		

Paths and Trails— Summary by Map Unit — Chittenden County, Vermont						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
HnE	Hinesburg fine sandy loam, 25 to 60 percent slopes	Very limited	Hinesburg (85%)	Slope (1.00)	2.5	2.0%
			Adams (8%)	Slope (1.00)		
				Too sandy (0.55)		
			Windsor (7%)	Slope (1.00)		
				Too sandy (0.59)		
MyC	Munson and Raynham silt loams, 6 to 12 percent slopes	Very limited	Munson (45%)	Depth to saturated zone (1.00)	1.2	1.0%
				Water erosion (1.00)		
			Raynham (45%)	Depth to saturated zone (1.00)		
				Water erosion (1.00)		
			Belgrade (5%)	Water erosion (1.00)		
				Depth to saturated zone (0.04)		
			Hartland (5%)	Water erosion (1.00)		
W	Water	Not rated	Water (100%)		8.3	6.7%
Wo	Winooski very fine sandy loam	Not limited	Winooski (85%)		13.8	11.2%
			Hadley (5%)			
Totals for Area of Interest					**123.2**	**100.0%**

Paths and Trails— Summary by Rating Value		
Rating	**Acres in AOI**	**Percent of AOI**
Not limited	60.9	49.5%
Somewhat limited	44.6	36.2%
Very limited	9.4	7.6%
Null or Not Rated	8.3	6.7%
Totals for Area of Interest	**123.2**	**100.0%**

Rating Options—Paths and Trails ( )

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie.

The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

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