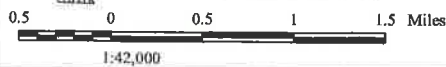


Existing Land Use Town of Grafton, Vt.

November 2018



Buildings (from E911):

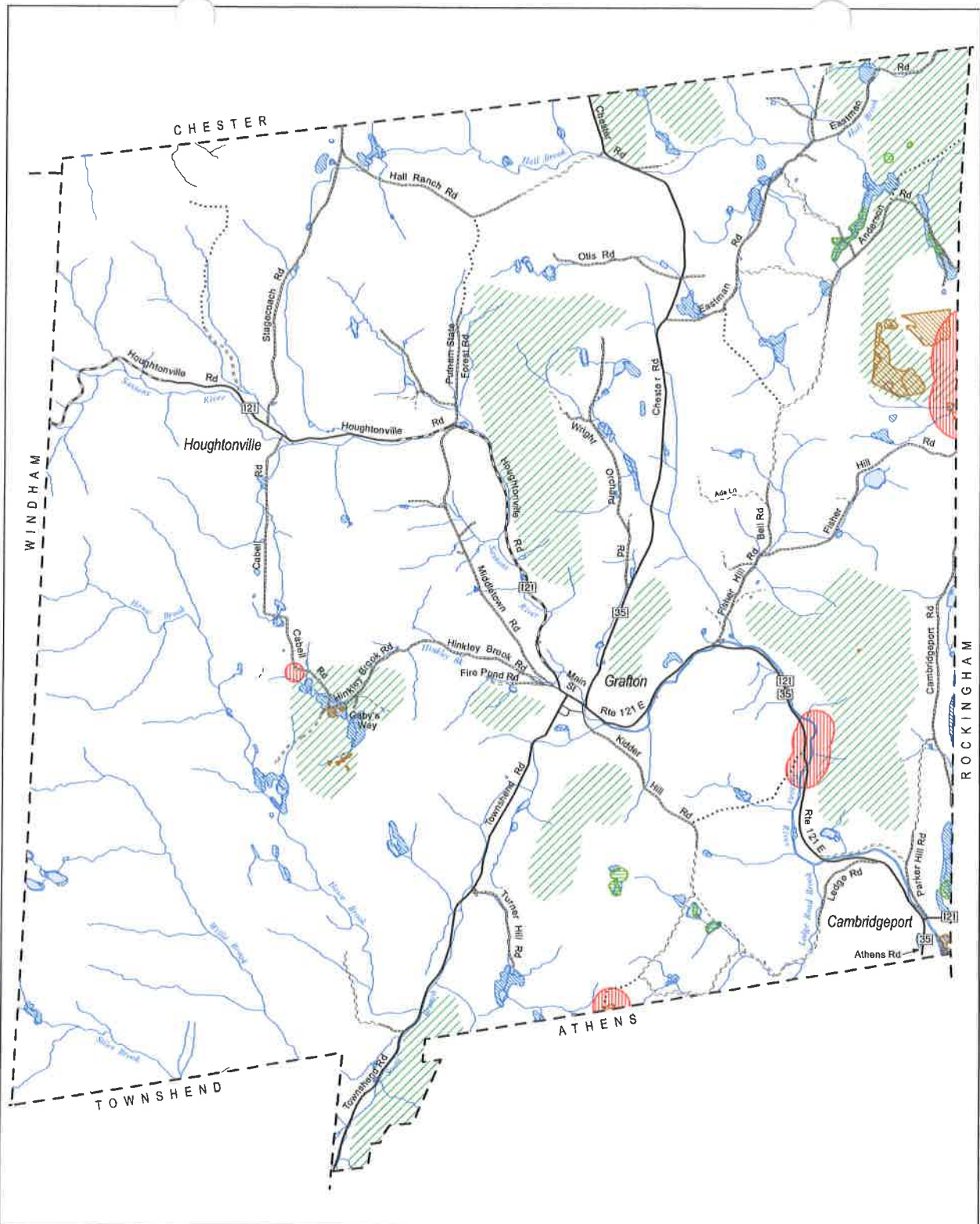
- Commercial
- Public/Institutional
- Single-family
- Multi-family

- Village
- State forest, town forest, town park
- Parcel enrolled in Use Value Appraisal, 2013
- Conservation easement

- paved roads
- unpaved roads
- Stream
- Pond or river

Data sources:

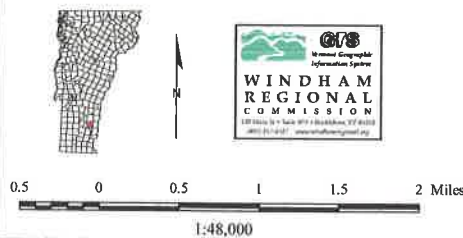
- Village boundaries were determined by the Grafton Planning Commission. Boundary data were developed by WRC GIS staff using existing roads, surface waters, and parcel data.
- State and town forest lands were derived from 1:5000 parcel coverage.
- Building locations and type are from the Vermont Enhanced 9-1-1 program and are current to 2018.
- Parcels enrolled in Use Value Appraisal were digitized by Windham Regional Commission using information provided by the Vermont Department of Taxes and the Windham County Forester.



Resource Areas - Water and Wildlife

Town of Grafton, Vt.

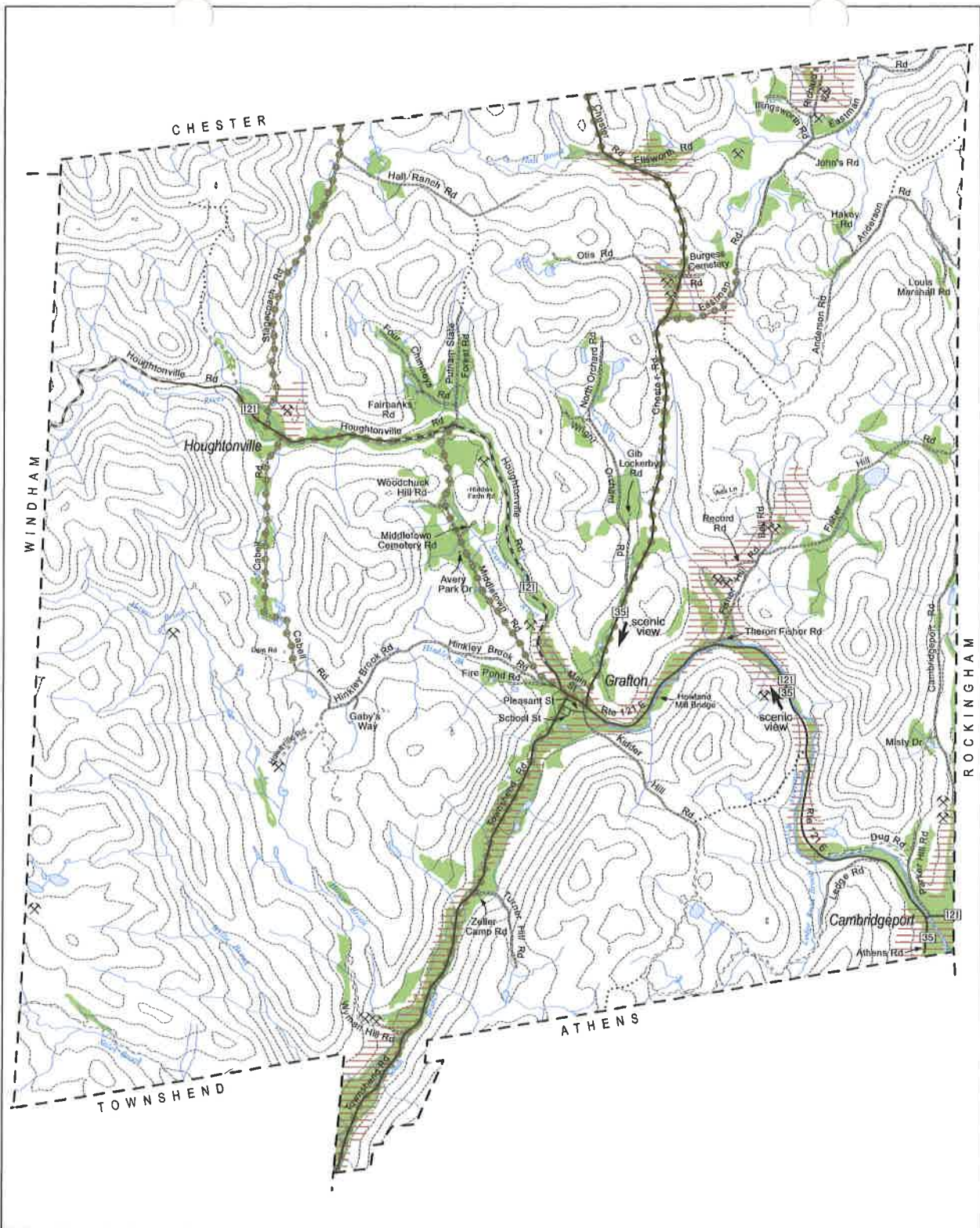
November 2018



- Endangered, threatened, rare, or uncommon animal
- Endangered, threatened, rare, or uncommon plant
- Significant natural community
- Deer wintering area
- Wetland
- Stream
- Pond or river
- paved roads
- unpaved roads

Data sources:

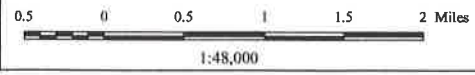
- Natural Heritage data are from VT Dept. of Fish and Wildlife, Nongame and Natural Heritage Program's Natural Heritage Inventory Database. This includes data on Rare, Threatened and Endangered Species and Significant Natural Communities database (VGIS layer RTENATCOM), and on uncommon species and other features (VGIS layer UNCOMSPOF), 2015.
- Deer wintering areas are taken from the VGIS data layer DEERWN. They were delineated by VT ANR, Department of Fish and Wildlife, and have been updated to a limited extent through 2011.
- Wetlands data are from the Vermont Significant Wetlands Inventory (VGIS data layer VSWI) as of 2010. These include wetlands in the original VSWI data, as well as those from National Wetlands Inventory (NWI) maps, and show approximate locations of wetlands that are generally 3 acres or larger.
- Surface waters are from the Vermont Hydrography Dataset. The dataset was generated at a scale of 1:5000 and was developed using digital orthophotos, topographic maps, color infrared aerial photography and other ancillary data sources.



Resource Areas - Land

Town of Grafton, Vt.

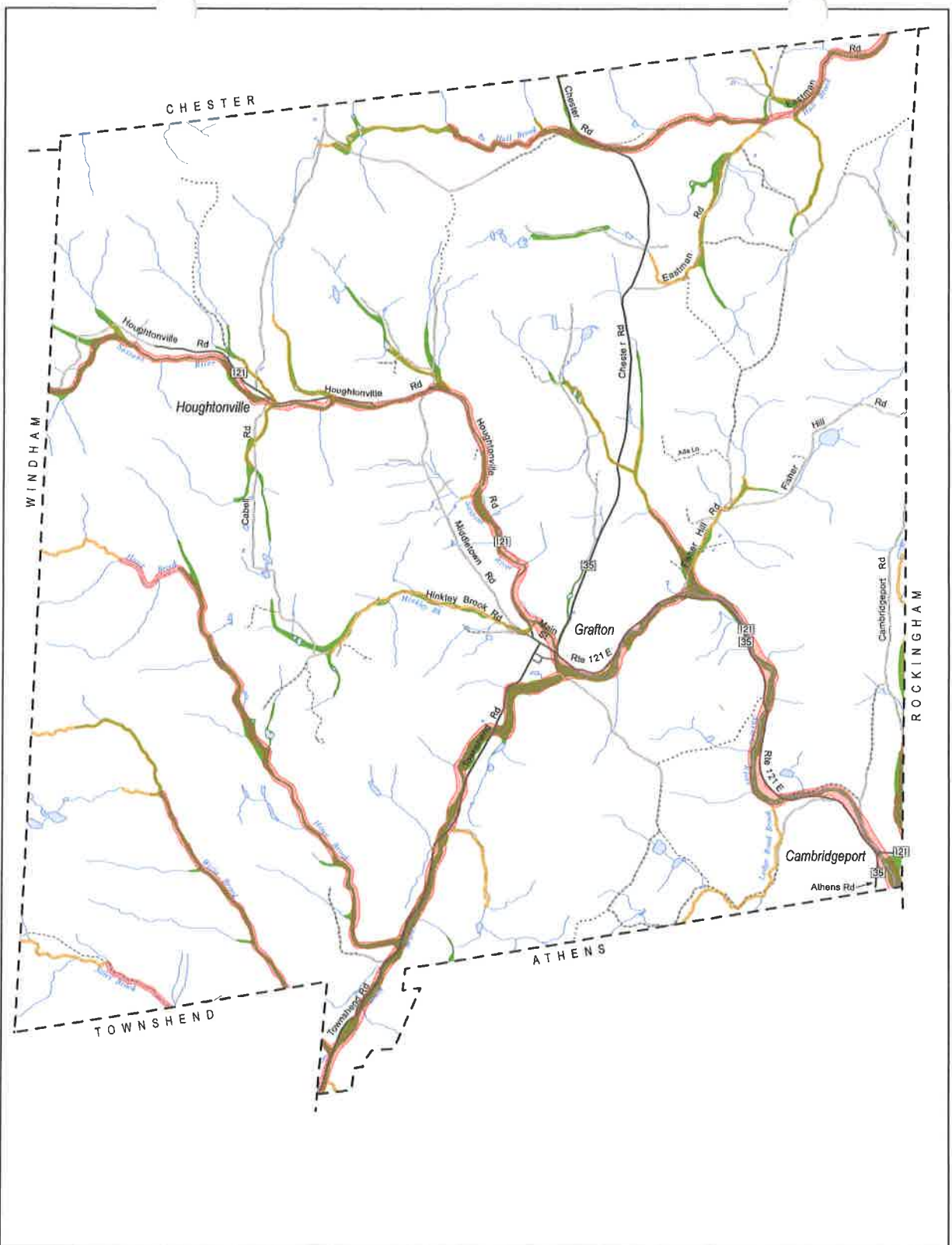
November 2018



- Gravel pit
- Scenic view
- Scenic road
- Sand and gravel resources
- 100-foot contour line
- Important farmland soil
- Stream
- Pond or river
- paved roads
- unpaved roads

Data sources:

- Important farmland soil delineations are derived using soils data available from VCGI. These soils qualify as Primary Agricultural Soils under Act 250. Soil boundary data were digitized from 1:20,000 orthophotos from the Windham County Soil Survey.
- Scenic roads and views were taken from the 1966 Resource Areas Town Plan map.
- Gravel pit locations were digitized from the 1982 Windham County Soil Survey.
- Sand and gravel resources are from the VGIS data layer AGORIS. This data layer was derived from "Geology for Environmental Planning" series, which in turn was derived from U.S. Geological Survey sources.
- Contour lines were generated from USGS 1:24,000 Digital Elevation Models by WRC using ESRI's Spatial Analyst. They are intended to portray the general hypsography of the area and should not be used to determine actual elevations.



Flood Hazards

Town of Grafton, Vt.

November 2018

- Special Flood Hazard Area
- Mapped River Corridor
- Streams with A River Corridor 50-foot setback

Data sources:

- Special Flood Hazard Area boundaries (i.e. "the 100-year floodplain") are from FEMA (Federal Emergency Management Agency) D-FIRM (Digital Flood Insurance Rate Map) data effective September 28, 2007.

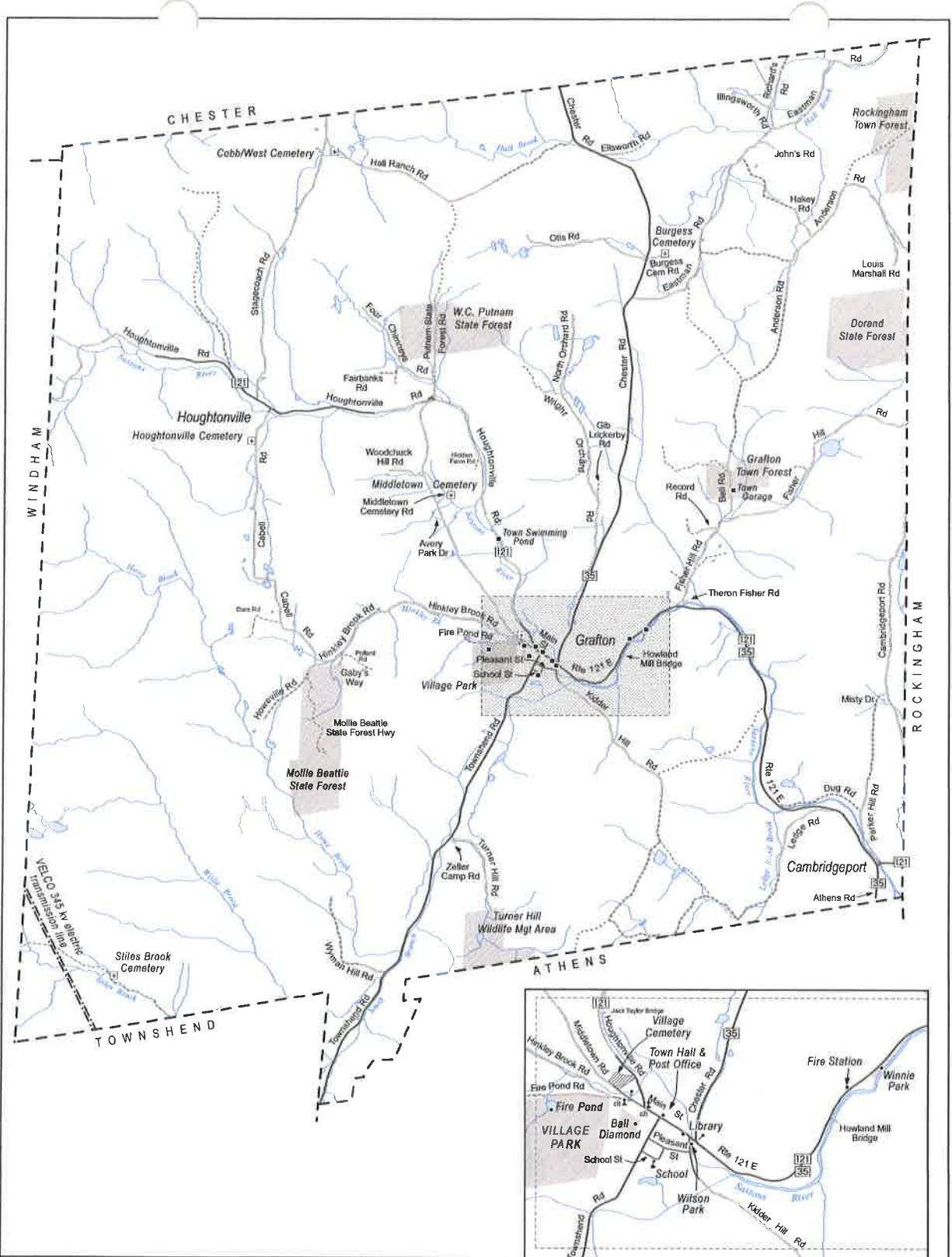
- Statewide River Corridors are from VT ANR Rivers Program 2015 data (VGIS data layer RIVERCORRIDORS).

Official source of River Corridor data is tinyurl.com/foodfreedyallax. Where river corridors are not mapped (i.e., a stream with a drainage area of between 0.5 and 2 square miles), the corridor is measured 50 feet horizontally from the top of the stream bank.



0.5 0 0.5 1 1.5 Miles

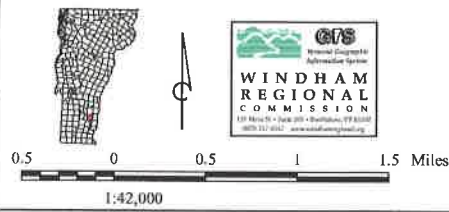
1:42,000



Community Facilities

Town of Grafton, Vt.

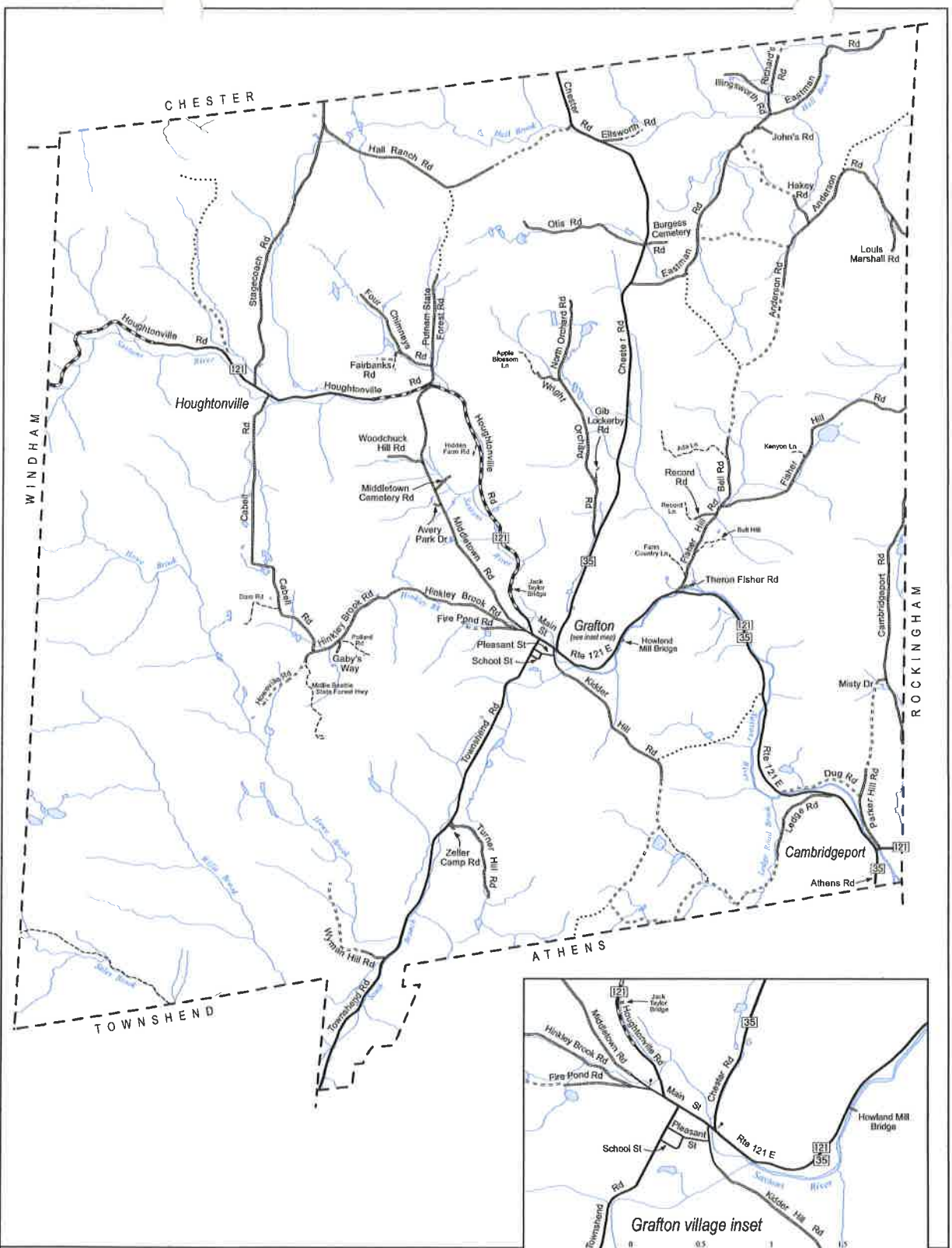
November 2018



- Cemetery (town-wide map)
- Cemetery (village inset map)
- Community facility (town-wide map)
- Community facility (village inset map)
- School
- Church
- Electric transmission line
- State forest, town forest, town park

Data sources:

- Electric transmission lines were digitized from 1:5000 orthophotos by Greenhorne & O'Mara Inc. under contract with OGIS.
- Cemetery locations were determined by WRC using 1:5000 orthophotos and 1:5000 digital parcel data.
- Community facilities were identified by the Grafton Planning Commission. Locations were determined by WRC using 1:5000 orthophotos and building points located by GPS for Vennon's Enhanced 9-1-1 project.
- Public land boundaries were determined using Grafton's 1:5000 digital parcel data.



Transportation System

Town of Grafton, Vt.

November 2018



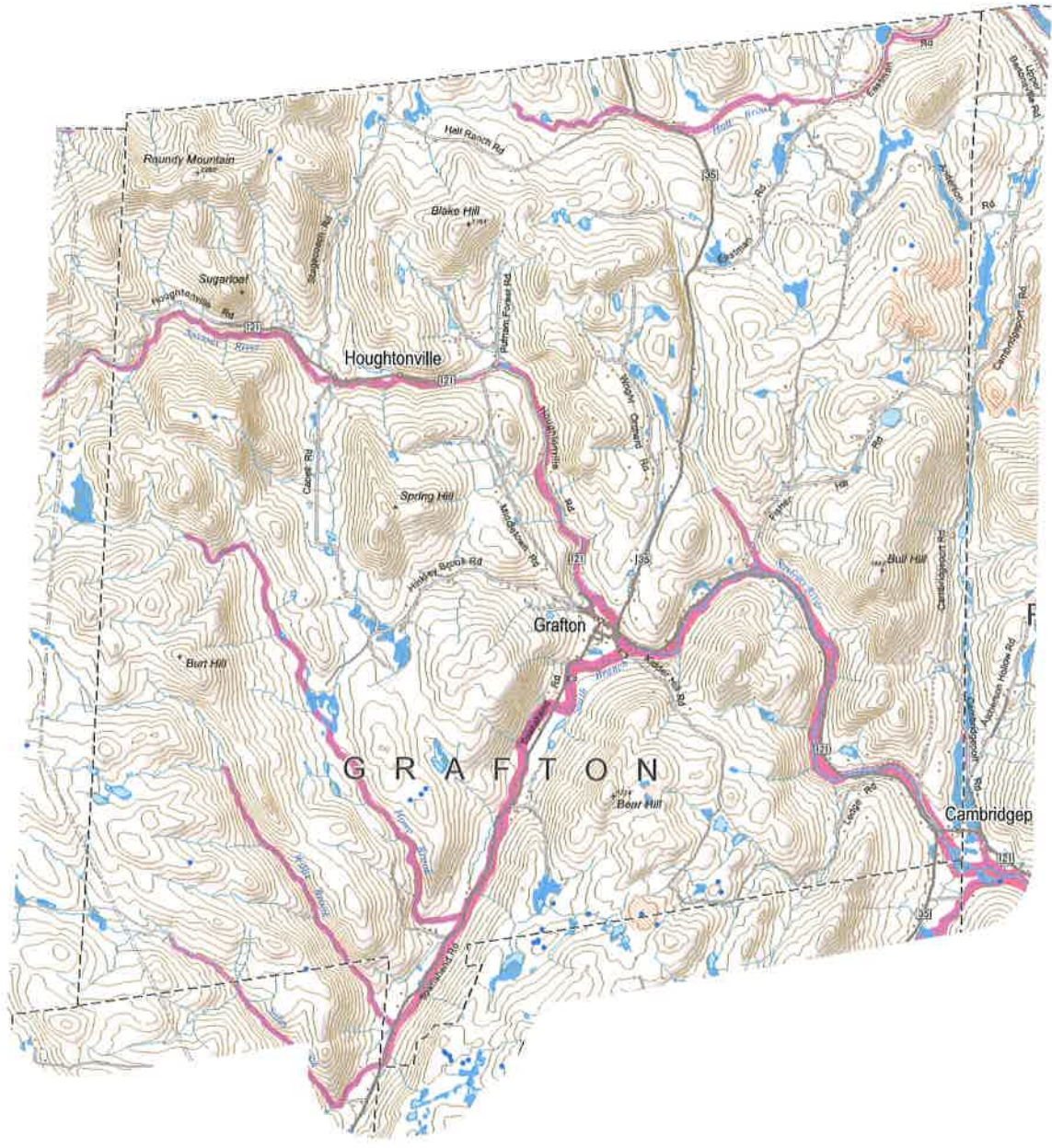
0.5 0 0.5 1 1.5 Miles

1:42,000

- Class 2 town highway - paved
- Class 2 town highway - unpaved
- Class 3 town highway - paved
- Class 3 town highway - unpaved
- Class 4 Town Highway
- Legal Trail
- Private road/drive
- Town boundary
- Stream
- River or pond
- Symbol denotes change in road name

Sources:

- Roads data are from Vt. Agency of Transportation (VGIS data layer RD), 2018, with minor edits by Windham Regional Commission.
- Surface waters are from the Vermont Hydrography Dataset (VGIS data layer SW000000). The dataset was generated at a scale of 1:5000 and was developed using digital orthophotos, topographic maps, color infra-red aerial photography and other ancillary data sources.



Town of Grafton Known Constraints for Energy Generation *

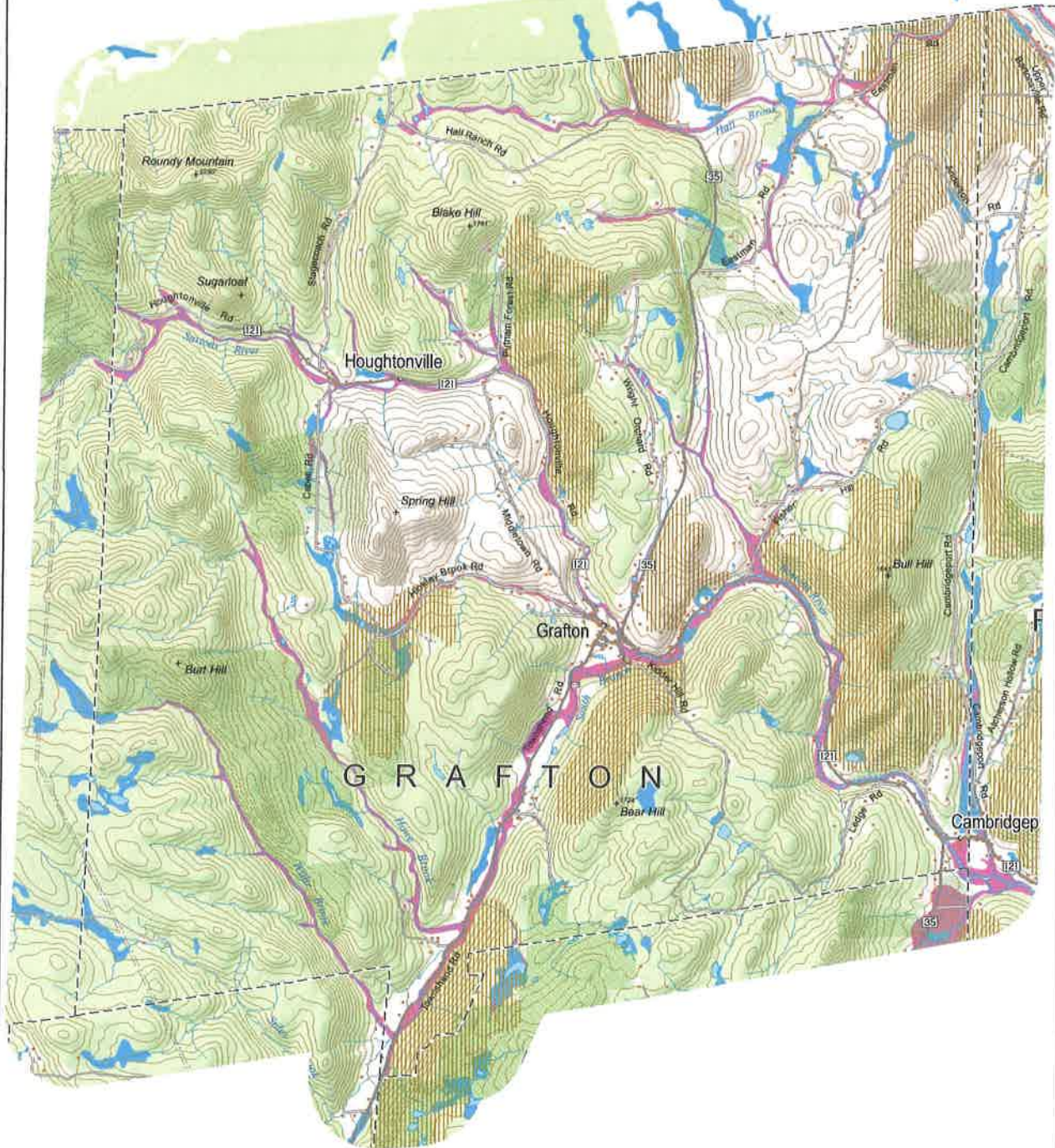
- Vernal Pools
- Class 1 and 2 Wetlands, VSWI
- DEC River Corridors and/or FEMA Floodways
- National Wilderness Areas
- State-significant Natural Communities and Rare, Threatened, and Endangered species

Some features are shown slightly larger than their actual size to improve visibility on this small-scale map.

* - as defined by Vermont's Act 174



April 2017



Town of Grafton Possible Constraints for Energy Generation *

Map 1 of 2

- Hydric Soils
- FEMA Special Flood Hazard Areas
- Protected lands (state fee lands and private conservation lands)
- Deer Wintering Areas
- Vermont Conservation Design Highest Priority Forest Blocks

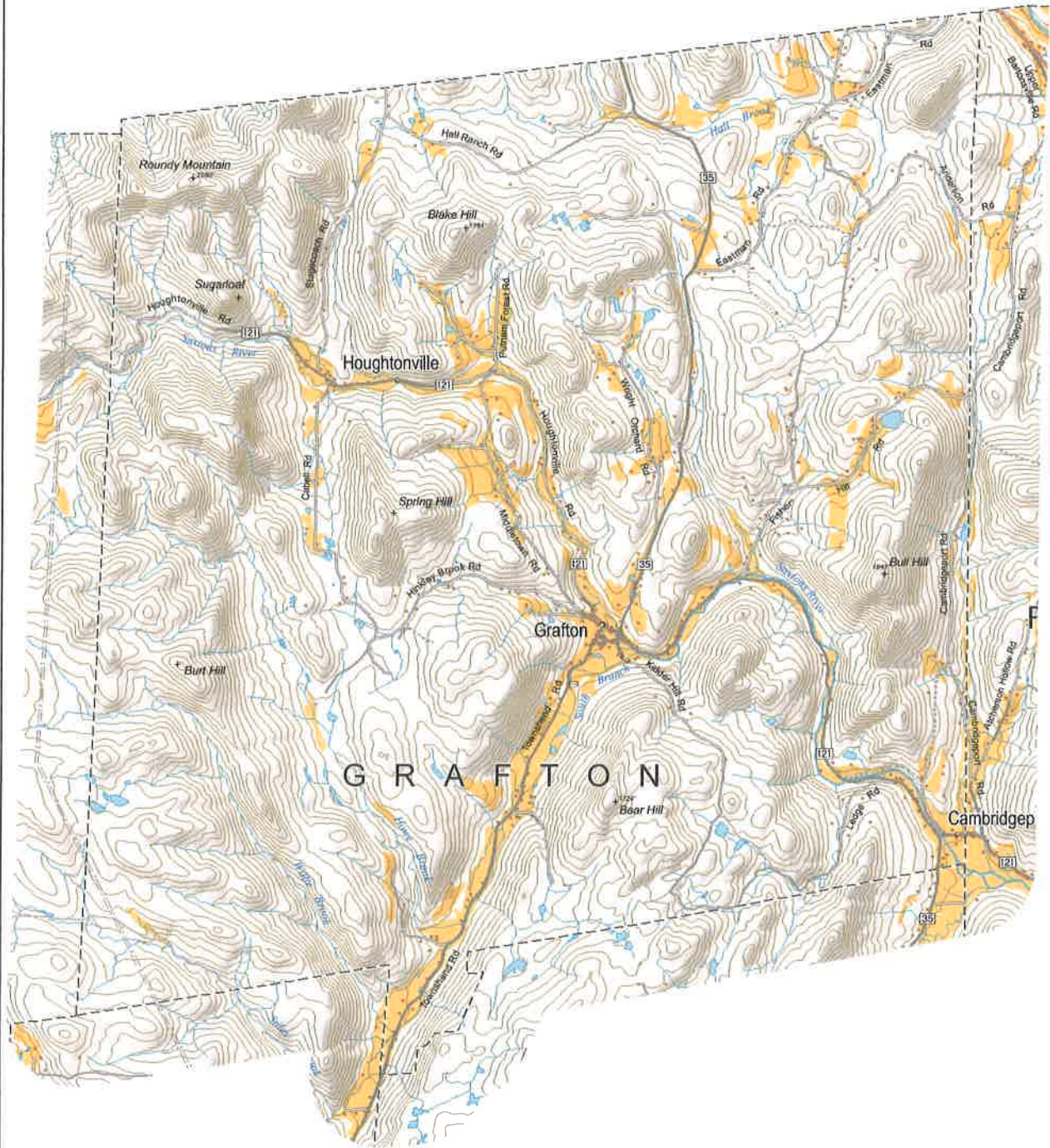
*all possible constraints except
ag soils and mitigation areas shown;
ag soils and mitigation areas on Map 2*

Some features are shown slightly larger than their actual size
to improve visibility on this small-scale map.

* - as defined by Vermont's Act 174



April 2017



Town of Grafton Possible Constraints for Energy Generation *

*only ag soils and mitigation areas shown;
all other possible constraints are shown
on Map 1*

Map 2 of 2

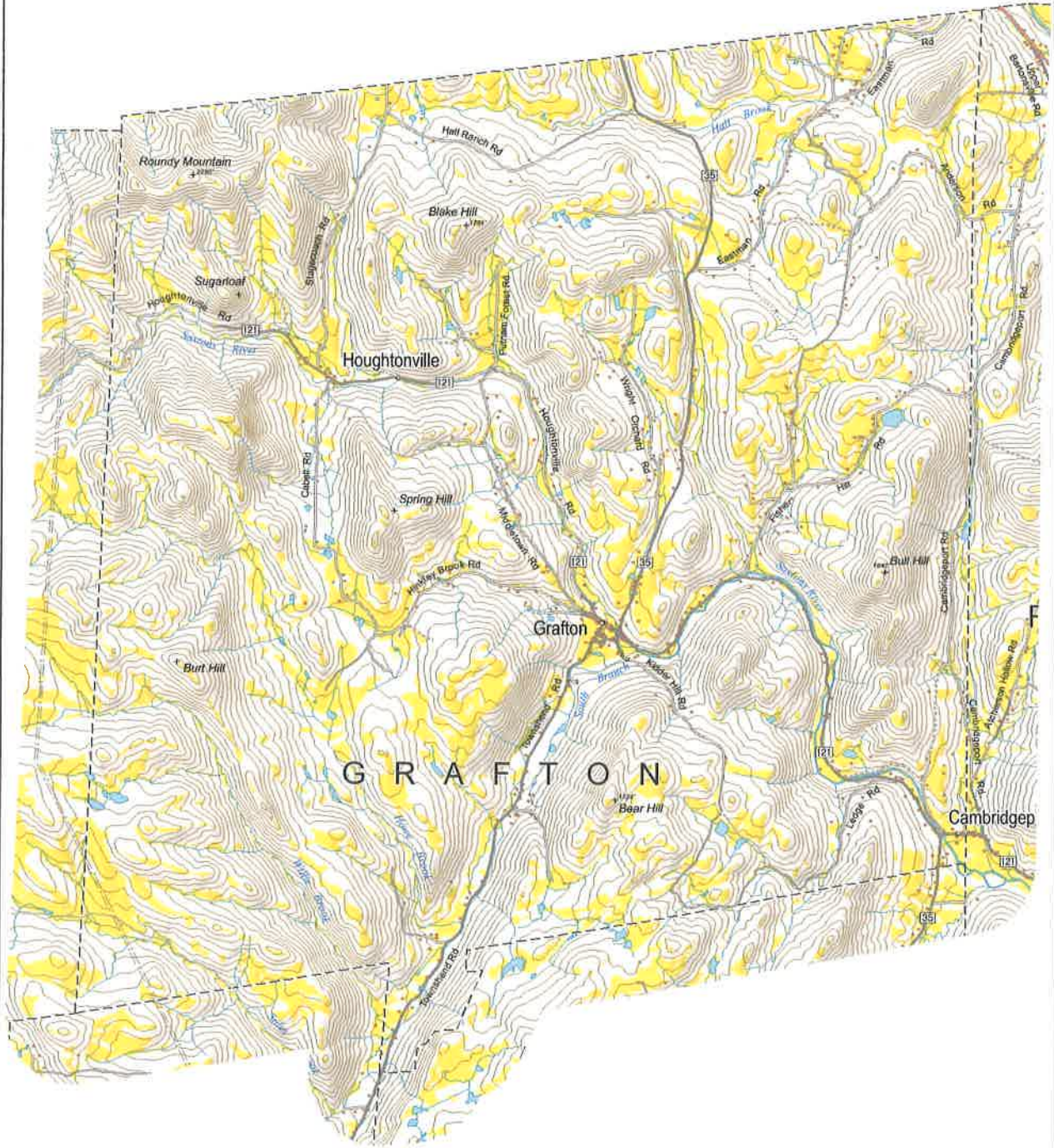
- Agricultural Soils
- Act 250 Agricultural Soil Mitigation Areas

Some features are shown slightly larger than their actual size to improve visibility on this small-scale map.


* - as defined by Vermont's Act 174



April 2017



Town of Grafton Solar Resource

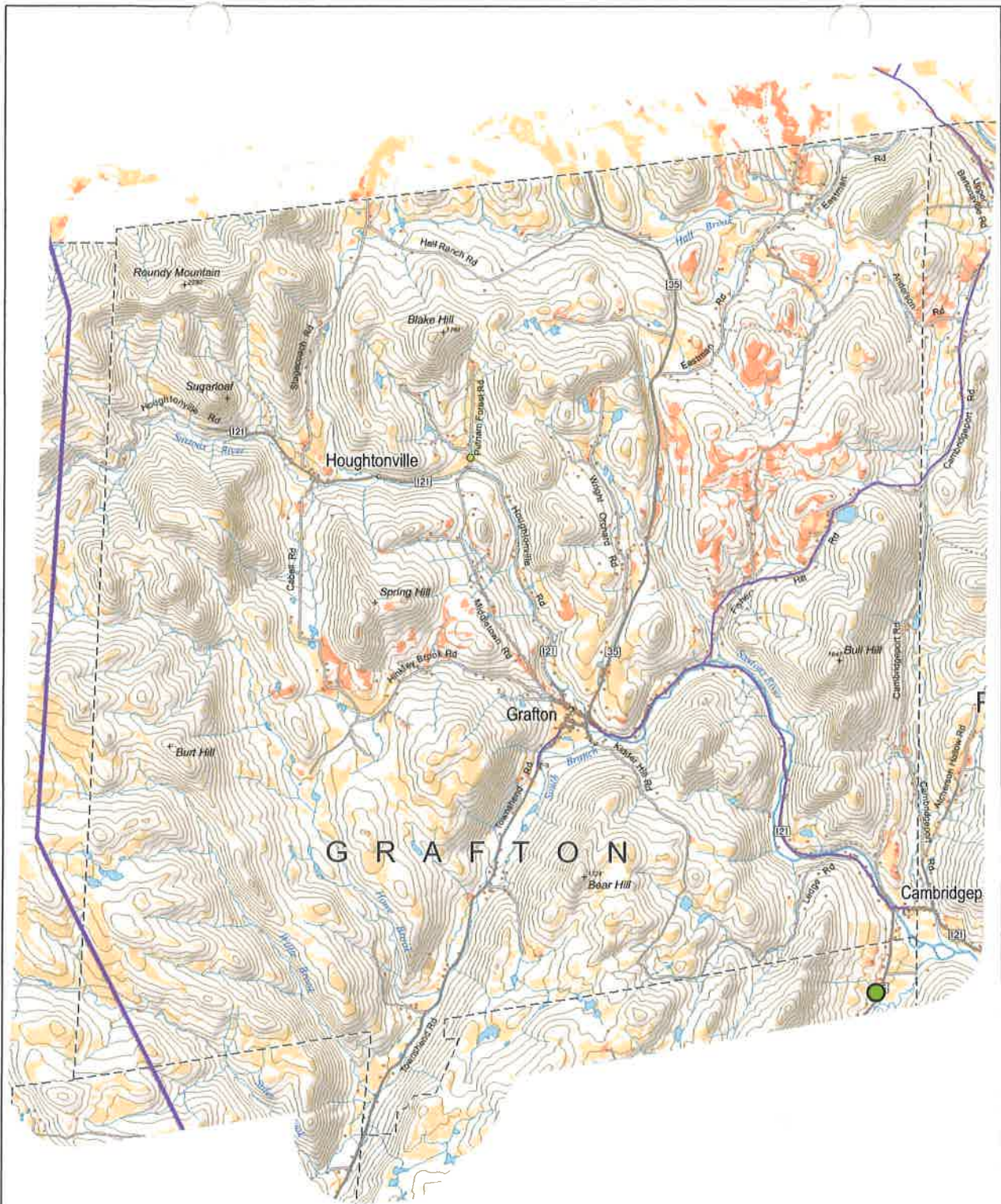
 Solar radiation generally suitable for generation determined by identifying areas with appropriate aspect, and excluding sites too steep for development (> 15% slope)

 5 acres
  50 acres
  100 acres

0 0.5 1 2 Miles

- The actual raw solar data used by the State of Vermont in their Act 174 analysis has not yet been released to the public (though the final, post-analysis data has).
 - The data on this map were developed by WRC using similar criteria, and until the actual raw data is released to the public, the data on this map will serve as a proxy.

April 2017



Town of Grafton Solar Energy Potential

- Prime Solar Energy Resource**
generally adequate solar resources and no identified constraints (i.e., no "known" and no "possible" constraints)
- Secondary Solar Energy Resource**
generally adequate solar resources and no "known" constraints, but at least one "possible" constraint

"known" and "possible" constraints are identified by the Vt. Public Service Department in their Act 174 Energy Planning Standards

Note: prime vs. secondary solar energy resource is NOT based on solar intensity.

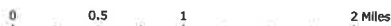
Existing solar installations:

- 1 - 19 kW (generally smaller-scale on-site: residence, farm, school, or business)
- 140 - 150 kW (generally larger-scale commercial/utility solar farms)
- 360 - 2000 kW

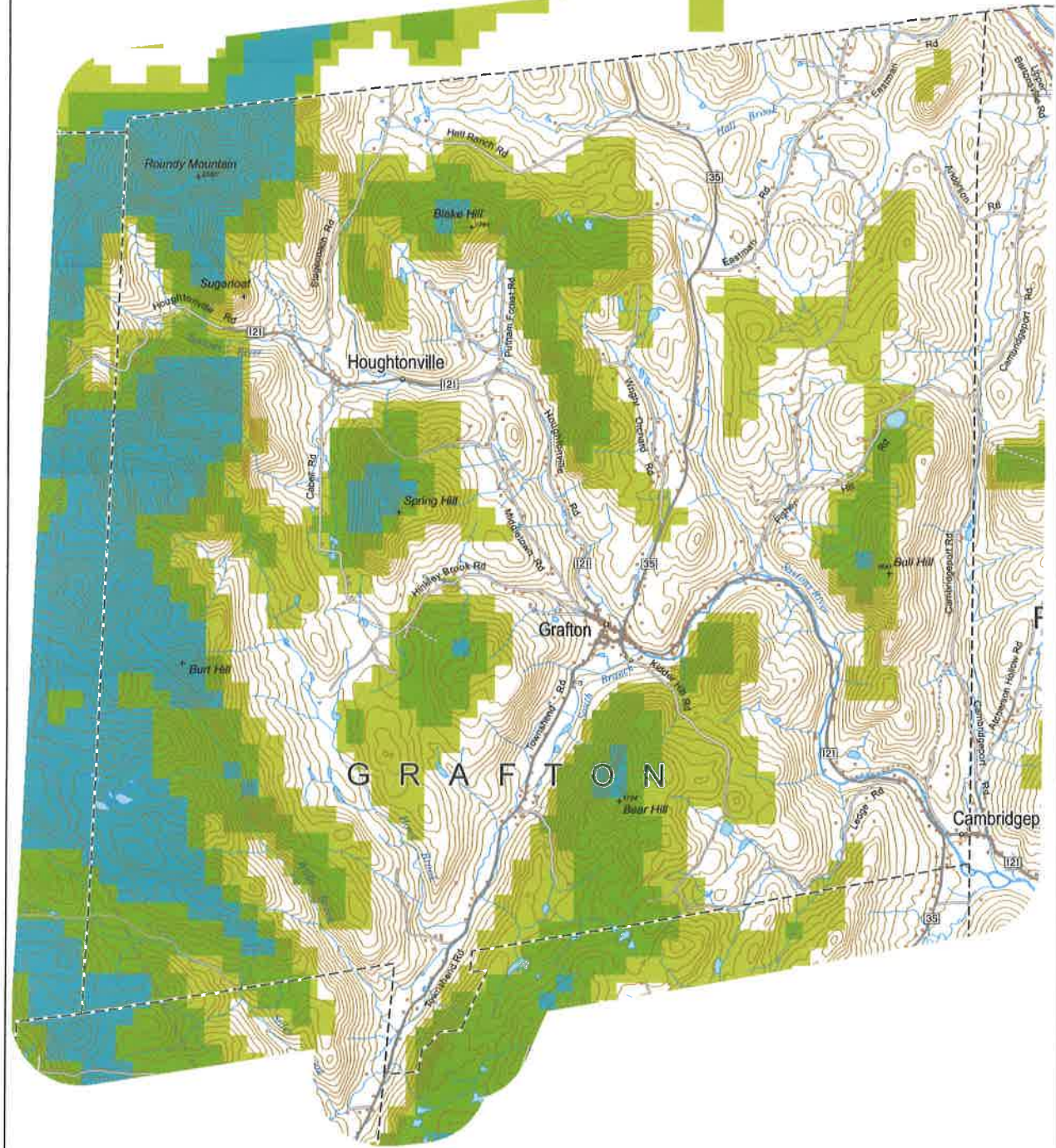
Existing solar installations from the Vermont Energy Atlas, developed from Certificates of Public Good; they may correspond to the address of the certificate holder and not the actual location of the installation.



- Substations
- 3 Phase Power Lines
- Transmission Lines



April 2017



Town of Grafton Wind Resource

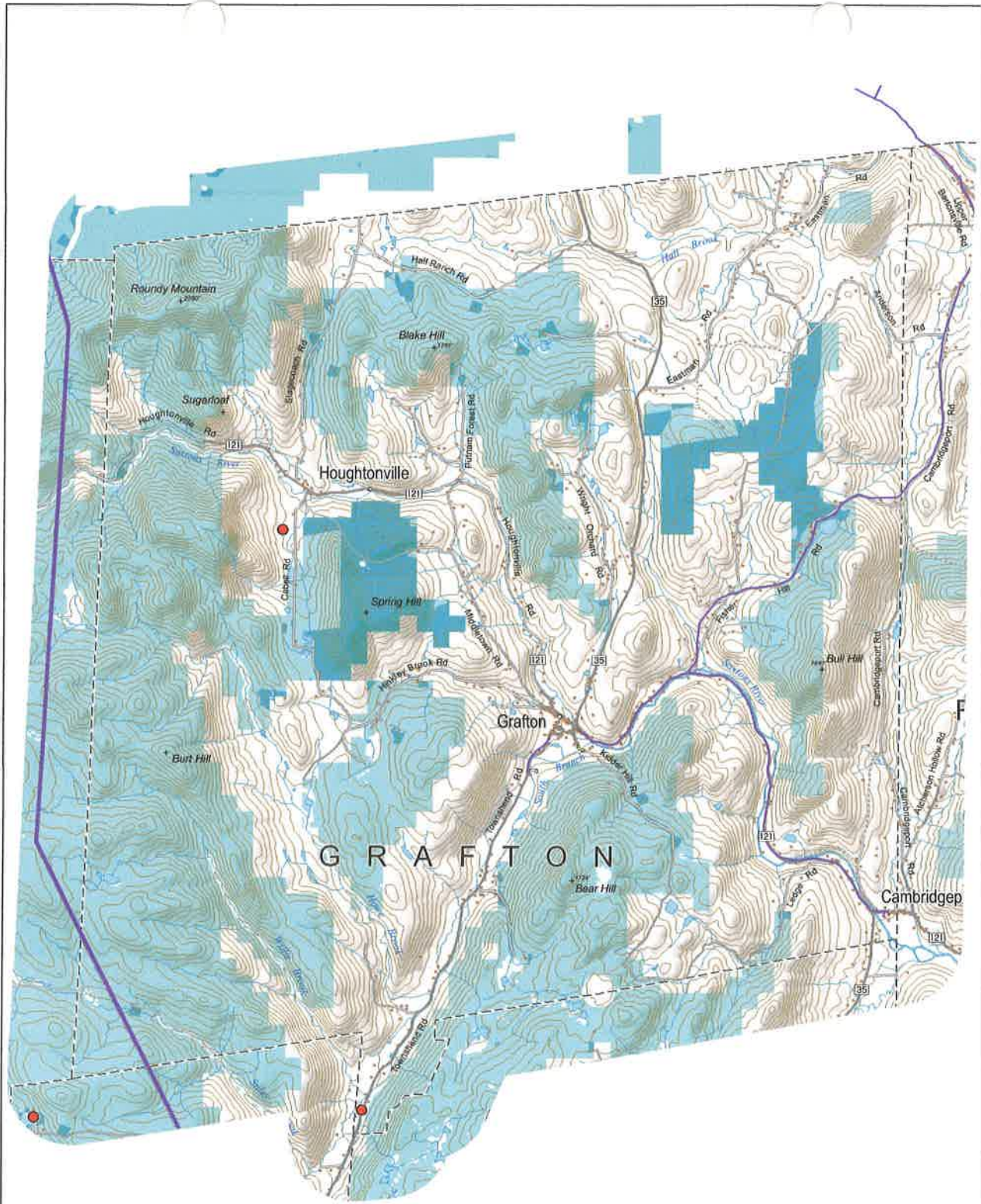
- Generally suitable wind for residential generation
- Generally suitable wind for small scale commercial generation (along with residential generation)
- Generally suitable wind for large scale commercial generation (along with residential and small scale commercial)
darker color = higher wind speed

- 5 acres
- 10 acres
- 50 acres
- 100 acres

0 0.5 1 2 Miles

- The actual raw wind data used by the State of Vermont in their Act 174 analysis has not yet been released to the public (though the final, post-analysis data has).
- The data on this map are very similar to that actual raw data, and until the actual raw data is released to the public, the data on this map will serve as a proxy.

April 2017



Town of Grafton Wind Energy Potential

- Prime Wind Energy Resource**
generally adequate wind resources and no identified constraints
(i.e., no "known" and no "possible" constraints)
- Secondary Wind Energy Resource**
generally adequate wind resources and no "known" constraints,
but at least one "possible" constraint

"known" and "possible" constraints are identified by the Vt Public Service Department in their Act 174 Energy Planning Standards

Note: prime vs. secondary wind energy resource is NOT based on wind speed.

- Existing Small Wind
- Existing Commercial Wind
- Commercial Wind In Development

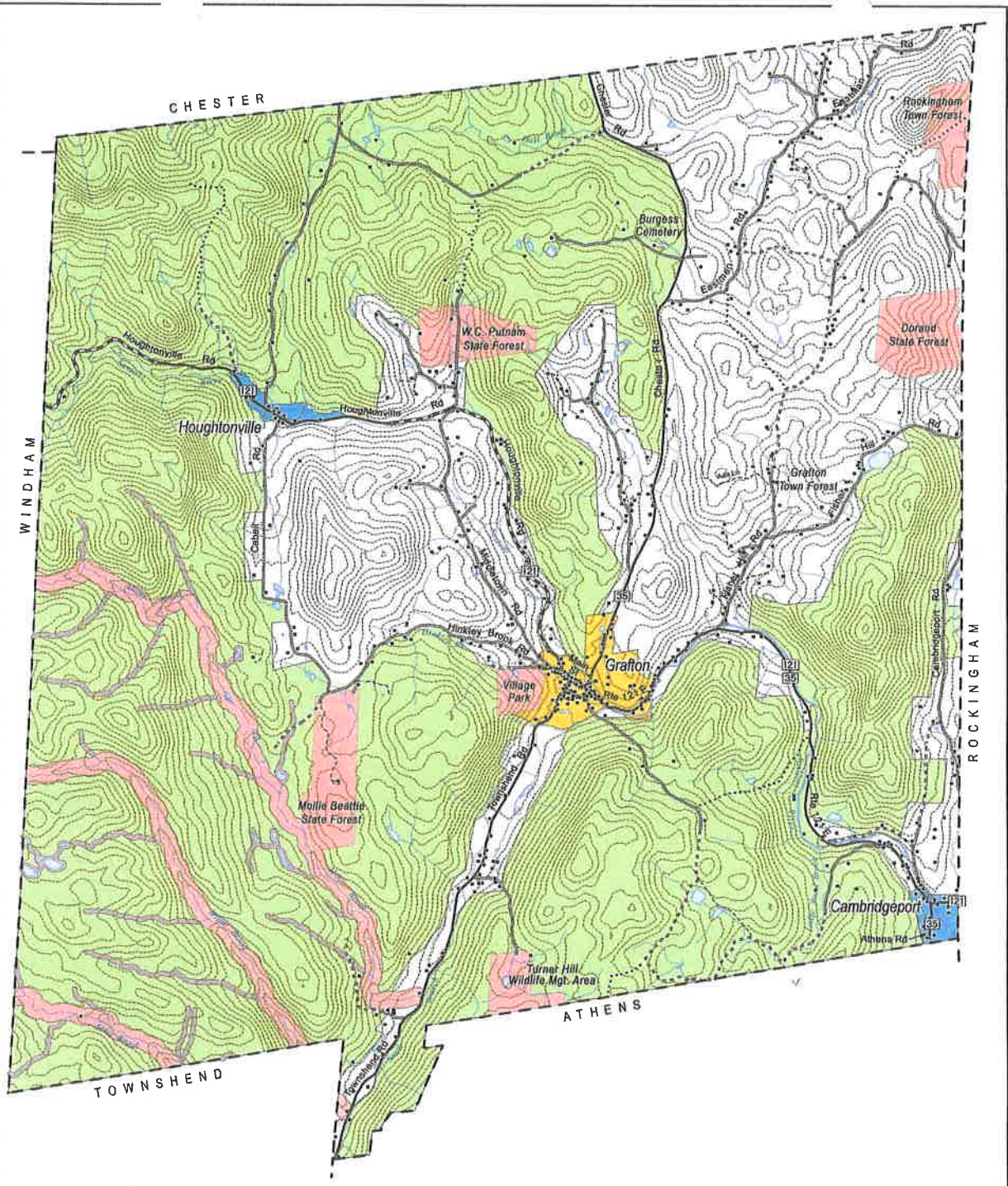
Existing wind from the Vermont Energy Atlas, developed from Certificates of Public Good. They may correspond to the address of the certificate holder and not the actual location of the installation.

- 5 acres
- 10 acres
- 50 acres
- 100 acres

- Substations
- 3 Phase Power Lines
- Transmission Lines



April 2017



Source: GIS for the town. This map is for planning purposes and general reference only.

Proposed Land Use Town of Grafton, Vt.

November 2018



- | | | | |
|--|------------------------|--|---------------|
| | Critical resource area | | paved roads |
| | Resource lands | | unpaved roads |
| | Rural residential | | Stream |
| | Village | | Pond or river |
| | Productive rural | | |
| | 50-foot contour | | structure |