

**Town  
of  
Sandgate, Vermont**



**DRAFT  
Sandgate Town Plan  
8/26/2015**

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## SANDGATE PLANNING COMMISSION

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Assistance was provided by the Bennington County Regional Commission.

## SECTION 1: INTRODUCTION

Prior to the arrival of the first white settlers, the area now occupied by the Town of Sandgate was part of the hunting and fishing grounds of several Indian tribes. An important Indian trail traversed the town and a campground was located at a spring near Chunks Brook.

The Town of Sandgate was chartered on August 11, 1761 by Benning Wentworth, Governor of New Hampshire. The town was laid out as a square with each side approximately six miles long. Sandgate actually covers 27,072 acres of extremely rugged land in the middle of the Taconic Mountain Range. The east side of the town, which includes the valley of the Green River, is separated from the Camden Valley and West Sandgate by a high mountain ridge that is crossed by just one road that snakes through "The Notch" in that ridge.

Despite the relatively harsh physical environment and climate, settlers began arriving in Sandgate not long after its founding. Many of these original settlers migrated from Connecticut, including Reuben Thomas who, in 1769, was the first to arrive. The town's first inhabitants cleared the land, grew a variety of crops, and raised livestock; sheep husbandry became particularly important in the early part of the 19th century. The population of Sandgate steadily grew until 1810 when 1,187 people resided in the town. A variety of businesses sprang up to support this burgeoning population. By 1801 the town supported four inns, a sawmill, a grist mill, a fulling mill, a still house, a tannery, three blacksmith shops, a lime kiln, a shoemaker's shop, a clothing shop, and a trip hammer works. A number of neighborhood schools were also established to educate the town's children; there were ten schools operating in Sandgate by the mid-19th century.

Much of the town was settled in these early years, but the greatest concentrations of population were located in the valley areas in West Sandgate, along the Green River, and in "Beartown." Roads were soon constructed to connect these areas and to establish links with other communities. The roads leading from Salem, N.Y., through West Sandgate and The Notch to the Green River, then northeast to Manchester and Dorset via Beartown, had become an important travel route by the middle of the 19th century. Roads also connected Sandgate with Rupert to the north and Arlington to the south.

An interesting early settlement in Sandgate was established by Daniel Shays and his followers. Soon after the Revolutionary War, Shays led an unsuccessful rebellion in Massachusetts to protest exorbitant taxes and foreclosures. When the rebellion failed, Shays was charged with treason and fled to Sandgate where he started a settlement in the northwestern part of the town. This settlement consisted of a tavern, a store, a fort and block house, a mill, a schoolhouse, and 15 to 18 houses clustered around a village green. A dysentery epidemic in 1798 ravaged the town and may have caused the dissolution of Shays' settlement.

While disease claimed the lives of many early settlers, the principal reason for the steady decline in Sandgate's population during the 19th century was the emigration of residents to more fertile farmland in the Midwest. Even so, numerous farms and businesses continued to operate in Sandgate through the 19th and into the 20th century. Several events in the 20th century have had a significant impact on the town: the arrival of the automobile led to the

improvement of some roads and contributed to the abandonment of others; a disastrous flood in 1927 damaged or destroyed many roads, bridges, and much private property; and electricity arrived in Sandgate in 1938. The town's last general store was torn down in 1944, and the last local school was discontinued in 1956.

Sandgate's population continued to decline until 1960, when only 93 persons resided in the town. Since that time, however, a steady increase in the town's population has occurred. According to the 2010 U.S. Census, 405 persons lived in Sandgate. Many of today's residents, because of improved transportation and telecommunication systems, either commute to work outside of town or work out of their homes. A number of people have also chosen to live in Sandgate following retirement. Many vacation or seasonal homes also are located in the town; these structures range from modest camps to expensive contemporary residences. 2010 Census data reveals that 40.3% of the total housing units in Sandgate are classified as vacation/seasonal units. Current economic activities in Sandgate include one inn, several small home-based businesses, a limited amount of farming, and logging. In addition, a Carthusian monastery is located high on the slopes of Mt. Equinox in the eastern part of the town.

Sandgate is best known today as a quiet rural community surrounded by the expansive forests of the Taconic Range. This outstanding natural environment, with its vast backcountry, cascading mountain streams, abundant wildlife, and spectacular vistas, contributes much to the quality of life for both residents of Sandgate and visitors to the town. Townspeople have long expressed a desire to maintain Sandgate's special rural character. Another long-standing interest has been the need to provide essential services without unduly burdening the taxpayers of the town.



**Figure 1: Residents enjoy Sandgate's rural character.**

In one effort to achieve these general objectives, the Town of Sandgate formed a municipal planning commission and, in 1970, adopted the first plan for the town. Updated and revised plans were subsequently prepared in 1975, 1982, 1987, 1992, 1994, 2002 and 2010. The Town has also put into effect zoning, subdivision, and health regulations. The Vermont Planning and Development Act was amended in 1988 to include a set of common planning goals that

municipalities, regions, and state agencies should strive to achieve. The Act now also strongly urges regional cooperation and coordination among the various levels of government. Fortunately, Sandgate has historically espoused many of the same goals as those contained in the state planning law, and has for many years participated in regional planning through the Bennington County Regional Commission.

This Town Plan is the most recent manifestation of Sandgate's ongoing planning process. The plan has been updated to reflect current conditions, issues, and objectives, and should serve as a tool to be used by residents in their efforts to guide development and ensure that Sandgate will continue to be an outstanding community in which to live. In 2008, the planning commission conducted a survey of Sandgate property owners, and the results of that survey clearly indicated that rural character, scenic beauty and natural resources are the attributes highly valued by the majority of respondents. Specifically, the Town Plan should be consulted when making public policy decisions, evaluating public investments, reviewing development proposals, and when considering new or amended bylaws and ordinances. The Plan should also provide clear guidelines to individuals who propose new developments in Sandgate. Essentially, this Town Plan will serve as the basic planning document for the town for the next five years.

## SECTION 2: GOALS

This section enumerates a number of goals which are deemed important for the Town of Sandgate. Some of the goals may be realized by continuing to pursue current policies and directions; others may only be attained with new policies, regulations, investments, or other strategies. Each goal, however, will remain important and relevant for the town over the next several years. Subsequent sections will detail specific policies and actions which will facilitate the attainment of these goals.

### 2.1 Maintain an effective planning process

Effective and responsible decision-making should be promoted through reliance on a coordinated, comprehensive planning process and policy framework. The planning process should be premised on the notion that residents of Sandgate should have the primary responsibility for shaping the town's future direction. Citizens should be encouraged to serve on town boards or commissions, attend public meetings and hearings, and otherwise actively participate in the local planning process.

Although the town is geographically rather isolated, activities and developments in nearby areas can affect Sandgate, and because few products or services are available locally, residents of Sandgate continually interact with other nearby communities. Moreover, many people who do not live in Sandgate enjoy the plentiful resources of our town. Cooperation with neighboring towns and the Bennington County Regional Commission is important to ensure that any intermunicipal and regional issues are effectively addressed.

### 2.2 Effectively manage future growth and development

Relatively few areas in Sandgate are well-suited to most land development activities. The town should regulate and direct new development to achieve the following objectives:

- discourage sprawl and development that would result in excessive costs to the town;
- provide opportunities for a reasonable level of continued growth in both primary and seasonal housing units;

- preserve the town's rural character and valuable open spaces;
- limit and discourage fragmentation of parcels in the F2 zone;
- avoid soil erosion, ground water contamination, air pollution, and damage to other important natural resources.

To maintain the quality of Sandgate's unique rural character, the town must recognize the importance of aesthetic values. New developments and any public facilities should be sited and designed to be harmonious with the surrounding rural landscape and existing neighborhoods.

### 2.3 Identify and protect important natural resources and historic features

Sandgate derives much of its appeal from the high quality of its abundant natural resources. Protection of these resources will contribute to maintaining a high quality of life for residents. Special areas, including significant natural and fragile ecological areas, important features of the landscape, scenic roads, waterways, views, and historical, educational, cultural, and scientific sites should be identified and measures taken to preserve them for the enjoyment of current and future residents of the town.

A variety of streams, wetlands, ponds, forests, agricultural soils, and important wildlife habitats are present in Sandgate. These areas should be protected from incompatible development or use because they provide valuable recreational and economic opportunities, and help maintain the quality of the environment. Existing measures that are designed to ensure their protection should be evaluated and modified if necessary.

Sandgate relies on safe and clean ground water for much of its domestic water supply. Ground water recharge areas must, therefore, be protected from incompatible development and contamination.

Air quality is a natural asset of great value to Sandgate. Activities, whether local or beyond the town's boundaries, that would degrade air quality should be discouraged.

### 2.4 Maintain and enhance recreational opportunities

Many outdoor, natural resource based recreational activities are available in Sandgate. Cooperation with other communities may help to provide access to organized recreational facilities and activities that are not available in Sandgate.

### 2.5 Support appropriate economic activities

Because of its remote location and environmental constraints, the type of economic development that is appropriate in Sandgate is quite limited. Forestry, agriculture, outdoor recreation, and closely related businesses have historically been important in Sandgate and should be encouraged in the future. Opportunities for customary home occupations should also be supported; improved telecommunications and information services may contribute to the success of some such enterprises.

### 2.6 Encourage efficient energy use

The town's land use pattern, individual developments, and infrastructure should promote energy efficiency and conservation. In addition, sound proposals to develop renewable energy resources should be pursued.

### 2.7 Plan for, finance, and provide an efficient system of public facilities and services



Public facilities and services are critical to the well-being of Sandgate, and are necessary to support future growth and development. The local road system is of particular importance to the town. Emphasis should be placed on the maintenance and improvement of existing roads although certain portions of town roads that are in poor condition and are not maintained in the winter may need to be reclassified (to Class 4) so that the town is not confronted with excessive maintenance costs in the future.

The adequacy of other public facilities and services should be assessed to determine whether any improvements are needed. Consideration should be given to schools, communication systems, health care services, fire and police protection, solid waste disposal, and other public and quasi-public services. Cooperation with other towns should be pursued when appropriate.

Public capital investments should be planned to meet significant needs and coordinated so that excessive tax burdens are avoided.

2.8 Ensure access to good educational opportunities for all residents

Because Sandgate has not operated a local school since 1956, access to educational facilities for townspeople involves coordination with other towns and provides school choice. Children have been able to receive a good education by attending schools in nearby towns. A quality education should continue to be available to residents at costs not excessive to the town's taxpayers.

2.9 Actively encourage a high quality of life for residents of the town

The underlying goal of Sandgate's planning effort is to ensure a high quality of life for all residents through economic, environmental, and community planning. Particular emphasis should be placed on the availability of safe and affordable housing for all residents, the provision of necessary services, and the maintenance of a clean, healthy, and aesthetically pleasing environment.

**SECTION 3: POPULATION, HOUSING, AND ECONOMIC CHARACTERISTICS**

3.1 Population

After decades of decline, Sandgate's population began to increase in the 1960s. The town's population grew very rapidly in the 1970s, and continued to grow, although at a more moderate pace, during the 1980s and 1990s (Table 3.1). According to the 2010 U.S. Census, there were 405 year-round residents in Sandgate. The rate of population growth in Sandgate has been consistently higher than the regional growth rate over the past 30 years. Population is projected to continue to grow at a fairly constant rate over the next several years, although the rate of growth is projected to be lower than in previous decades.

Table 3.1

Population Growth Vermont

Year	Sandgate	Population % Change	Bennington County	% Change
1960	93	59	25088	4.03
1970	127	37	29282	16.72
1980	234	84	33345	13.88
1990	278	19	35854	7.52
2000	353	27	36994	3.18
2010	405	15	37125	.35

- Sandgate, (housingdata.org)

The median age of Sandgate residents is 39. A profile of the town's population age structure reveals a relatively high proportion of people in older age categories when compared to Bennington County or Vermont as a whole (Table 3.2). This data suggests that Sandgate is home to a relatively large number of senior citizens and retirees, and fewer young families with children than an "average" town in the county or state.

**Table 3.2**

**Population Age Characteristics  
Percent of Population in Age Class**

	0-19	20-44	45-64	65+	Median Age
Sandgate	23	24.1	34.5	18.5	39.0
Bennington County	23.5	26.3	31.3	18.9	45.1
Vermont	24	30.7	30.8	14.5	41.5

Source: 2010 U.S. Census

Many of Sandgate's residents have moved into the town from outside of Vermont. Much of the town's population growth in recent years has been due to this pattern of migration into the community.

### 3.2 Housing

As would be expected from the town's population growth over the past 30 years, Sandgate has seen a significant increase in the number of housing units during this same time. As of the 2010 census, there were 162 occupied year-round housing units in the town, an increase of 13 since 2000 (Table 3.3). Of particular interest is the fact that there are a large number (40.3%) of seasonal and recreational housing units in Sandgate. There has been some conversion of seasonal dwellings to year-round housing units over the past decade. Clearly then, planning in Sandgate must give due consideration to both year-round and seasonal residential development.

**Table 3.3**

**Year-Round and Seasonal Housing Units – Sandgate, Vermont**

Year	Owner-occupied	Renter-occupied	Occupied Year-Round Housing Units	Seasonal/Recreational Housing Units	For Sale	For Rent	Vacant Units	Total Housing Units
1980	87	15	102	128	1	0	11	241
1990	80	31	114	128	4	0	20	262
2000	117	32	149	108	4	0	11	268
2010	136	26	162	105	3	4	20	287

Source: 2010 U.S. Census

Several other interesting facts about housing in Sandgate can be discerned from the most recent U.S. Census data. Of the 287 total housing units in town, nearly all are single-family dwellings or camps, and only 26 units are renter-occupied. Housing costs are relatively low in Sandgate. The median value of owner-occupied housing units in Sandgate in 2000 was \$113,800. The median value of owner-occupied housing units 2007-2011 in Sandgate was \$224,300, possibly due to new expensive homes built since 2000. At the same time, the county median home value was \$204,800, close to the state median value of \$213,000. The median monthly mortgage payment in Sandgate (\$1396) is slightly lower than the county median (\$1,415). On the other hand, median gross rent (all units) in Sandgate has fluctuated in recent years, from \$938 in 2005-2009 to \$639 from 2007-2011. As a percentage of household income, housing costs in Sandgate are relatively high, with 44.1% percent of owners and 16.1% percent of renters paying at or above 30% of their income toward housing costs.

In 2008, the Planning Commission performed a build-out analysis—which identifies all potential lots in the town, based on current zoning laws—to assist in the community planning process. According to this study, there is an adequate amount of land zoned for residential use that is physically capable of sustaining current levels of growth over the next several years.

### 3.3 Economic Characteristics

Economic activities in Sandgate are quite limited due to the town's small size and remote location. The town's extensive forests sustain ongoing logging activities. Other than logging and a small amount of farming, however, the only economic enterprises in Sandgate are several home occupations, an inn, and a garage. Most Sandgate residents who are in the labor force commute to work in another town.

The town's total work force (2013 American Community Survey 5-Year Estimates) consists of 218 persons. The unemployment rate in 2000 was 4.9%, only slightly higher than the county or state rates. Of the 199 employed workers over 16 years of age, 170 reported that they commute to work and 27 reported that they work from home, a significant increase since 2000. The average commute time is approximately 30 minutes, reflecting, no doubt, the average commute times to the regional economic centers in Manchester and Bennington.

Data on the occupations of Sandgate residents reveals that a significant majority (37%) work in management, professional, and related occupations (Table 3.4). Service businesses, manufacturing, and retail trade are the leading employers by industrial classification.

The median income of a Sandgate household (\$44,821) is lower than the county and statewide medians (housingdata.org). The town's per capita income (\$21,937) is also lower than the county or statewide figures.

All of these economic and demographic statistics suggest that Sandgate is and will remain a very rural community with only limited economic activity within its borders. The town should support those industries that are most appropriate in this setting: principally forestry, agriculture, and home occupations. Improvements and technical advances in telecommunications could also be beneficial to Sandgate residents by enabling them to work out of their homes while exchanging information with offices or business clients in distant locations. Because many residents work in other towns in the area, local officials should also remain aware of important regional economic development issues.

Table 3.4

Occupation and Industry of Employed Residents of Sandgate, Vermont

Occupation	Number
------------	--------

	Employed/%
Management, business, science, and arts occupations	80/40.2%
Service occupations	21/10.6%
Sales and office occupations	35/17.6%
Natural resources, construction and maintenance occupations	39/19.6%
Production, transportation and material moving occupations	24/12.1%
Industry	Number Employed
Agriculture, forestry, fishing, hunting, mining	23/11.6%
Construction	23/11.6%
Manufacturing	19/9.5%
Wholesale trade	--
Retail trade	41/20.6%
Transportation and warehousing, and utilities	3/1.5%
Information	3/1.5%
Finance, insurance, real estate, and rental and leasing	6/3.0%
Professional, scientific, management, administrative and waste management services	17/8.5%
Education services, health care and social assistance	28/14.1%
Arts, entertainment, recreation, accommodation and food services	16/8.0%
Other services except public administration	13/6.5%
Public administration	7/3.5%

Source: 2009-2013 American Community Survey



**Figure 2: The working landscape is an essential part of Sandgate's rural landscape.**

## SECTION 4: NATURAL RESOURCES

### 4.1 Physiography

The Town of Sandgate is located entirely within the structurally complex Taconic Mountain physiographic province. The bedrock in this area consists largely of metamorphosed sedimentary rocks: slate, shale, and phyllite, as well as some limestone, dolomite, marble, quartzite, and schist. The subsurface caves and enlarged bedrock fractures that occur in the area have resulted from naturally acidic water dissolving carbonate bedrock. Evidence of the

Pleistocene glaciations can be seen in the till deposits -- unsorted mixtures of glacial sediments ranging in size from clays to large boulders -- that cover much of the town.

The town's topography is characterized by an irregular pattern of steeply sloping mountains and ridges separated by numerous stream valleys and hollows (Map 1). Over 19,000 of the town's 27,039 acres lie at slopes in excess of 20 percent; the only substantial areas of moderately level ground occur in the valleys of the Green River and Terry Brook. Overall topographic relief is considerable, ranging from an elevation of about 670 feet above sea level along the Green River near Arlington to over 3,300 feet on Bear Mountain in the northeastern part of town. Other prominent summits in Sandgate include Moffit Mountain, Egg Mountain, Swearing Hill, and Minister Hill.



**Figure 3: Swearing Hill in Spring.**

A particularly significant geological feature in Sandgate is the rugged ridge that traverses the town from the southwest to the northeast and divides the drainage basin of the Green River from those of Terry Brook and Chunks Brook. This ridge is crossed by only one road, thus forming a very real physical barrier between east and west Sandgate. The one road that does connect the two sides of town passes through "The Notch," a spectacular switchback passage that winds through steep rock walls.

Physical characteristics of the land are important in determining locations that are best suited for development. Because development on steep slopes or on soils that are too shallow, wet, or unstable can cause severe problems—roads will be difficult and costly to maintain, emergency services may not be able to access the site, septic systems can fail and contaminate water supplies, erosion will result in soil loss and degrade aquatic environments, and so on—siting in these areas is discouraged. Conversely, when development is directed to appropriate locations, communities can grow and prosper while minimizing environmental damage and the need for inordinate expenditures of public funds. In Sandgate, areas well-suited to development are largely confined to valley areas along the Green River and some of its tributaries and in West Sandgate. These areas are characterized by moderate slopes and relatively deep soils that can supply adequate quantities of clean ground water while supporting sanitary wastewater disposal systems.

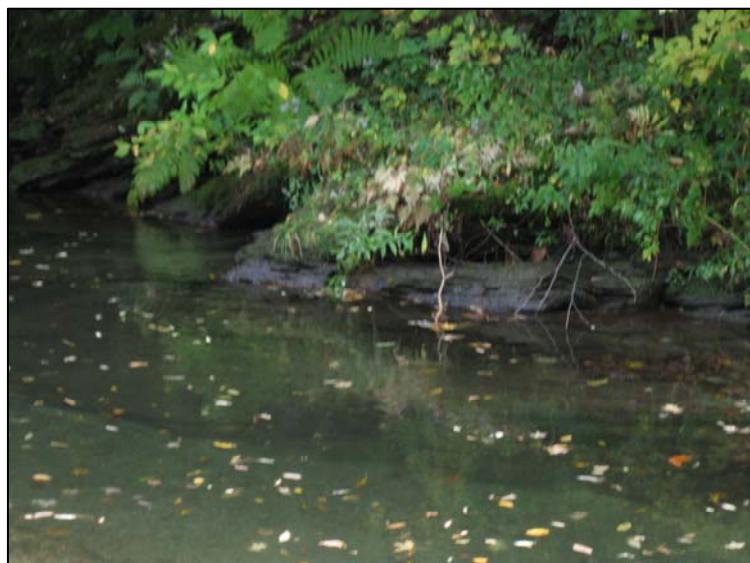
The U.S.D.A. Natural Resource Conservation Service has completed a comprehensive soil survey that covers the Town of Sandgate. This survey allows planners and landowners to determine whether soils in a particular area are best suited for residential development, agriculture, forestry, sand and gravel extraction, or some other activity. This information should be a basic element in future land use planning activities in Sandgate and is available at the Bennington County Regional Commission's GIS facility, allowing for rapid interpretations of soil data in conjunction with other geographic attributes.

## 4.2 Water Resources

### Rivers and Streams

Sandgate contains a variety of surface water features (Map 3). The most prominent of these are the numerous streams that cascade down the town's hollows and valleys. The Green River and its tributaries drain the east side of town, while Terry Brook and Chunks Brook drain most of the west side of town. These three streams, in turn, all flow into the Batten Kill. A small area in the northwestern part of Sandgate drains toward White Creek in Rupert and New York State. Because White Creek, like the Batten Kill, is a tributary of the Hudson River, the entire Town of Sandgate lies within the Hudson River drainage basin.

These streams serve a number of important functions. In addition to supplying clean water to larger waterways, they serve as important fisheries (the Green River supports populations of native brook and brown trout), provide a critical habitat component for many wildlife species, afford opportunities for swimming and other recreational activities, and are critical to the area's aesthetic appeal. These functions will be preserved if the streams, stream banks, and riparian vegetation are maintained in a free-flowing and unpolluted state. The Town of Sandgate has recognized the need to protect these resources, and has passed specific regulations as part of the municipal Zoning Bylaws that place restrictions on certain activities that occur within 100 feet of a stream. The town should also encourage development planning that maintains green space along streams, and should seek opportunities—such as conservation easements—for ensuring public access to streams in appropriate locations.



**Figure 4: A favorite swimming hole on the Green River.**

## Ponds

Because of its rugged topography, Sandgate is not home to any large lakes. There are a number of small ponds, however, and one impoundment known as Lake Madeleine which, at 20 acres, is the largest body of water in town. Three of the town's larger ponds -- Lake Madeleine, Barbos Lake, and Hopper Pond -- are relatively inaccessible to the public, being located in a remote area on the private lands of the Carthusian Monastery on Mt. Equinox. Some ponds do offer such recreational benefits as fishing (especially in private, stocked ponds) and swimming. Moreover, all of the ponds serve as important wildlife habitat and scenic resources.



**Figure 5: One of Sandgate's many small ponds.**

Planning for the protection of water resources must consider not only activities that occur on or immediately adjacent to the waterbody, but also activities that occur within the watershed. For example, building construction or logging activities can add sediments and other contaminants to streams or drainage ways that flow into a pond. These materials can degrade water quality and accelerate excessive weed growth (eutrophication) in the pond. The Vermont Agency of Natural Resources has published a manual, *Planning for Lake Water Quality Protection*, which is intended to assist communities in planning for lakes and ponds. Persons undertaking activities that could affect pond water quality should consider the recommendations contained in that manual in addition to any local zoning regulations. Special attention should be given to ponds that lie at high elevations (above 1,800 feet) because these waterbodies support especially fragile ecosystems that thrive only in a relatively narrow range of water quality conditions.

## Wetlands

Additional important water features, found principally along stream valleys in Sandgate, are wetlands. Wetlands are lands transitional between aquatic and terrestrial systems where the water table is usually at or near the surface or the land is covered by shallow water. The State of Vermont defines wetlands as “those areas of the state that are inundated by surface or ground water with a frequency sufficient to support significant vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction”. A wetland has one or more of the following attributes: (1) at least periodically, the land supports

predominantly hydrophytic vegetation; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season each year. Benefits provided by wetlands include: flood and storm water control, maintenance of surface and ground water quality, open space and aesthetic appreciation, fish and wildlife habitat including a large number of threatened and endangered species, ecological research and educational opportunities, and sources of nutrients for freshwater food chains.

Wetlands include, but are not limited to, marshes, swamps, sloughs, potholes, fens, river and lake overflows, bogs and ponds. Since many of the town's wetlands lie in the same lowlands where most of the future growth will occur, special attention must be given to the protection of these natural areas.

### Vernal Pools

Vernal pools are temporary bodies of water that usually occur in woodland depressions. Most vernal pools are filled by spring rains and snowmelt and are typically dry during the summer months. Some pools are filled again in the fall and contain water during the winter. During wet years, many vernal pools contain water year-round. Typically vernal pools are less than 3 feet deep and vary in size from just a few feet across to over 100 feet in width. Vernal pools provide important breeding habitat for many amphibians including the tree frog and salamanders as well as many species of insects. These habitats are safe breeding grounds because they do not support fish populations. Since many amphibians return to the same vernal pool each year to breed, destruction or alteration of vernal pools may result in the loss of local populations of some species. However, because of their small size and temporary nature, vernal pools are not protected under the Vermont Wetland Rules. They are a unique and very vulnerable habitat area that should be identified and protected under municipal regulations.

### Floodplains and River Corridors

Development in floodplains and river corridors is inherently dangerous, due both to the immediate hazards associated with flood water inundation, and to the increased flooding that may occur downstream when developed floodplains are no longer capable of retaining flood waters. Such development can also interfere with the function and quality of floodplain wetlands. Flood hazard regulations are therefore necessary to reduce the risk that construction in floodplain areas will result in property damage, personal injury, or unnecessary costs to the public. Sandgate joined the National Flood Insurance Program in 2013 thereby providing access to flood insurance for anyone in the community including structures within high risk flood hazard zones. This insurance helps to protect owners from financial loss as private insurers mostly do not provide coverage for damage due to overland flow.

FEMA has recently developed revised flood hazard maps that have a projected effective date in December 2015. These new maps are based on a more accurate measure of topography using LIDAR, a method using lasers to determine elevations within a few centimeters.

Additionally, the Vermont Agency of Natural Resources, the Bennington County Regional Commission and the Bennington County Conservation District have cooperatively completed a series of studies of the Batten Kill watershed resulting in the mapping of River Corridors.

The following hazard zones are mapped for the Town of Sandgate:



Special Flood Hazard Areas (Zone A): areas subject to inundation by a one percent annual chance “base flood” event. This area is also known as the 100-year flood zone however this is a misnomer and the area has an independent 1 percent chance of flooding on any year. Some areas within this zone will flood more frequently. Over a 30 year mortgage, sites within this zone have more than a one in four chance of experiencing flooding.

River Corridors: these areas identify the extent needed for horizontal adjustments of river and stream channels as they meander. This space allows the channel to maintain a stable slope and least erosive/damaging form. This area accommodates the water, sediment, debris and energy of the system without causing a down-cutting (incision) process. Channels in an equilibrium slope can maintain their ability to flood (and disperse energy and sediment) thereby reducing the damaging erosive power of the flow.

Dynamic equilibrium is determined at the channel reach scale. These areas are subject to fluvial erosion hazards, from gradual stream bank erosion to catastrophic channel enlargement and bank failure. More importantly the corridors provide the space needed by the channel to handle large flows and moderate damage. River Corridors have been mapped by The Vermont River Management Program in accordance with accepted state fluvial geomorphic assessment and mapping protocols. In the coming year it is anticipated that the fluvial geomorphic data for the Batten Kill will be used to update the current (Jan 3, 2015) version of mapped River Corridors.

River Corridors and the new Digital Flood Insurance Rate Map with Special Flood Hazard Areas can be viewed at [tinyurl.com/floodreadyatlas](http://tinyurl.com/floodreadyatlas) . Effective and historic Flood Insurance Rate Maps can be found at [www.msc.fema.gov](http://www.msc.fema.gov) .

The Special Flood Hazard Areas address hazards from flooding due to inundation. However, most flood damage in Vermont streams is the result of erosion. Vermont has now established a statewide goal of flood resilience, to encourage communities to protect river corridors and has established the Emergency Relief and Assistance Fund (ERAF) as an incentive for communities to take hazard mitigation actions before the next declared disaster.

River Corridor protection is also in alignment with other state and community goals such as clean water, wildlife habitat, and public recreation.

The table below shows the number of structures by type from E911 data that are in the Special Flood Hazard Areas or within a River Corridor. These numbers are really estimates as the E911 points are not always located exactly where structures are.

TABLE 4.2 Structures in the Special Flood Hazard Area (SFHA) and/or River Corridors (FEH) in Sandgate. Source: BCRC GIS analyses		
Type	SFHA	FEH
Single family	2	12
Commercial	0	1
Lodging	0	1

As of May 2015, there were two structures located within the Special Flood Hazard Area. There are properties vulnerable to flooding or to flooding-caused-erosion that are not currently protected through the National Flood Insurance Program.

Most of the 14 structures already in the River Corridors are probably older "Pre-FIRM" structures. Such buildings, built before the Flood Insurance Rate Maps were available may be able to access a special lower rate flood insurance at this time. Over the coming years the premiums for Pre-FIRM residential structures will rise at 5 to 18% per year plus fees until at actuarial cost for the risk of the group. The cost of insurance for non-residential structures is rising at 5 – 25% a year. The owners of these structures may need help, notably in the form of grants, to elevate or relocate. The community should assess the extent of this need in its Hazard Mitigation Plan and identify strategies to address them

### Shoreline Buffer Strips

The maintenance and enhancement of shoreline vegetation is perhaps the easiest and most effective means of protecting the many benefits and values associated with surface waters. Setting aside strips of naturally growing vegetation is essential to the health of all streams, lakes and ponds. Vegetated shorelines contribute to water quality and shoreline protection in the following ways:

- Provide bank support,
- Provide food and shelter for fish and wildlife,
- Intercept and filter out pollutants,
- Keep water temperatures cool during the summer months when fish are susceptible to heat stress,
- Reduce surface runoff,
- Increase wildlife diversity,
- Reduce the impacts of flood and ice damage to stream channels, adjacent lands, and structures, and
- Preserve the natural characteristics of water.

Where onsite evaluations have not been conducted by the Department of Fish and Wildlife staff, the agency recommends riparian buffer zones not less than 50 feet and up to 100 feet for the protection of water quality, fish habitat, and wildlife habitat for regulated projects on streams. A greater or lesser setback may be recommended when an onsite investigation has been conducted. Wider buffer zones are recommended for sites having the following characteristics: steeper slopes, specific natural resource values of concern (e.g. threatened or endangered species), and projects or activities posing great risks to the environment. Details regarding the calculation of buffer strip widths are available from the Department of Fish and Wildlife and the Vermont River Management Program.

### Groundwater

Groundwater provides the primary supply of potable water for most of the town residents. Groundwater moves beneath the ground through aquifers. An aquifer is an underground area of water-saturated sand, gravel or fractured bedrock that is permeable enough to yield water through wells or springs. The surface area that drains into an aquifer is called an aquifer recharge area. Groundwater occurs in the unconsolidated sediment of streams and buried valleys and in bedrock fractures. While the potential for groundwater in areas of unconsolidated sediment is generally favorable, wells producing water from rock fractures usually have lower

yields. The town's mountains and uplands are composed of exposed bedrock or bedrock which is covered by a thin layer of glacial till with low permeability. Bedrock fractures are the primary source of groundwater in these upland areas. Protection of groundwater requires the protection of surface waters, wetlands, watersheds, and recharge areas in a coordinated and ecologically sound fashion.

When an aquifer becomes polluted, simply removing the source of contamination does not clean up the groundwater. A contaminated aquifer may remain polluted for many years or, in some cases, forever. Groundwater occurring in rock fractures is highly susceptible to contamination. While unconsolidated sediment can usually filter out organic pollution contained in groundwater, the same water can travel for miles through rock fractures without any appreciable purification. Once contamination occurs, control and abatement are extremely difficult. Contamination sources include improperly designed or malfunctioning septic systems, industrial floor drains, poor agricultural practices, road salt, leaking underground storage tanks, and old solid waste disposal sites.

### Stormwater

Stormwater runoff is a threat to water quality in our local streams, ponds, and lakes. Stormwater runoff is typically a problem in areas with a significant amount of impervious surface, including roads, parking lots, driveways, and rooftops. These surfaces prevent rainwater from infiltrating into the ground. Instead, stormwater runoff moves across these surfaces collecting sediment, nutrients, and other pollutants which quickly flow into our surface waters. For streams, the result is a higher volume of water during rain storms, which leads to faster flows and the potential for more erosion and greater flood damage. The amount of impervious surface also reduces opportunities to recharge groundwater, which leads to lower stream flows during dry conditions.

### *Stormwater Treatment Options*

There are a variety of stormwater management techniques that can be used to reduce the impact of impervious surfaces in the watershed. First and foremost, the amount of impervious surface can be reduced by ensuring that development is not creating excessive surfaces, such as unnecessary parking, long driveways, or overly wide roads. When surfaces are built, a variety of practices can be employed that capture and slow the runoff, provide opportunity for infiltration, and allow nutrients and sediment to be removed before stormwater is discharged into a stream.

### *Low Impact Development*

Low Impact Development (LID) is "an innovative land planning and engineering design approach which seeks to maintain a sites pre-development ecological and hydrologic function through the protection, enhancement, or mimicry of natural processes." LID is considered a non-structural practice used predominantly with new development. At its core, LID focuses on minimizing the impacts of development on a particular site. In doing so, LID mitigates problems before they start.

The concept of LID is generally thought to encompass eight principles (outlined below). When LID is incorporated as part of a site design the result is wetland and riparian habitat protection, reduction of peak runoff flow and rate through the reduction of impervious surfaces, reduced risk of flooding, improved community value and aesthetics, and long-term cost savings from reduced water infrastructure maintenance.

### LID Principles

- Utilize Conservation Development
- Minimize Soil Compaction
- Minimize Total Disturbance
- Protect Natural Flow Patterns
- Protect Riparian Buffers
- Protect Sensitive Areas
- Reduce Impervious Surfaces
- Disconnect Stormwater

Municipalities support the use of LID through the enactment of LID bylaws. Such bylaws help guide future development in a way that protects water quality, encourages environmental protection, provides flexibility, and promotes sustainability.

### Green Stormwater Infrastructure

The practice of LID often goes hand-in-hand with the use of Green Stormwater Infrastructure (GSI). GSI is defined as "systems and practices that restore and maintain natural hydrologic processes in order to reduce the volume and water quality impacts of the built environment while providing multiple societal benefits." GSI represents a structural addition to the landscape and can be used to manage development impacts not addressed by LID. It can also be used to retrofit existing sites which were planned with conventional methods.

GSI Best Management Practices (BMP) can be used to effectively restore and maintain natural hydrologic processes when developing/redeveloping land. Examples of GSI BMPs include bioretention systems, porous asphalt systems, and grass filter strips. The core benefit of these systems is that runoff generated from development is infiltrated, evaporated, or recycled rather than polluting downstream resources. The Town recognizes the importance of GSI for protecting its sensitive water resources as well as the State's interest in promoting its use at the municipal level.

Water Resources Policy: The ecological and hydrological integrity of rivers, streams and wetlands should be maintained to provide key ecosystem services such as water purification, pollutant abatement, nutrient dispersal and cycling and flood water retention. Rivers, streams and wetlands should also be protected to allow for continued recreational use and to provide valuable scenic resources. Development within identified Special Flood Hazard Areas and River Corridors should be avoided. The Town, BCRC and Vermont ANR should work cooperatively to complete and maintain updated flood hazard and fluvial erosion hazard maps and identify specific areas of concern.

### Actions

1. The surface waters in the Town of Sandgate are extraordinarily valuable natural resources that must be protected from incompatible development and land uses. The natural characteristics and values of these resources should be preserved. An undisturbed buffer should be considered, wherever possible, between any developed area and a river, stream, lake, or state-defined wetland to ensure that water resources are protected. This buffer should be at least 50 feet for streams such as Tidd Brook with minimal potential for lateral or vertical adjustment and 100 feet for streams such as The Green River with significant potential for such adjustment.

2. Recreational uses such as fishing, canoeing and swimming are appropriate in natural settings in and along rivers, streams, lakes, ponds, and wetlands. Development planning should include provisions for public access to these resources.
3. Aquifers and ground water recharge areas must be protected from activities or development that would adversely affect the quantity or quality of available ground water. Municipal zoning and health ordinances and the regulations of the Vermont Agency of Natural Resources must be strictly enforced to protect individual water supplies.
4. Silvicultural practices that minimize soil erosion and impact on roads, streams, wildlife habitat and the natural appearance of mountain and ridge tops should be employed.
5. The Town should participate in cooperative planning for regional water resources. Such projects may consider issues related to environmental quality, public health, recreational use and public access, fish and wildlife habitat, and aesthetic values, and should involve representatives of town governments, special interest groups and interested persons.
6. In-stream ponds are discouraged on all streams that support fish life. In cases where feasible alternatives do not exist, in-stream ponds on seasonal streams, or off-stream ponds that discharge directly into a stream may be acceptable provided that the pond waters do not violate Vermont Water Quality Standards.
7. Developments or activities that would have an undo adverse effect on the quality of the Town's surface waters shall be prohibited.

Flood Resiliency Policy: To protect the public health, safety and welfare, new development should be avoided in identified Special Flood Hazard Areas and River Corridors.

Flood Resiliency Actions:

1. The Town should maintain flood hazard regulations to guide development toward safer locations and to incrementally achieve safer building stocks where they already exist in flood hazard areas. These regulations are designed to protect property and the health and safety of the population against the hazards of flood water inundation, and to protect the community against the costs which may be incurred when unsuitable development occurs in areas prone to flooding.
2. New development in Special Flood Hazard Areas and the River Corridors should be avoided where possible. Any new development that does occur should be designed and sited so as to avoid any increase in flooding or erosion and have no adverse impact.
3. Support acquisition by public entities or conservation organizations of buffers and River Corridors, especially those identified in hazard mitigation and river corridor plans.
4. Sandgate should prioritize bridge and culvert repairs and replacements to address condition, geomorphic compatibility and ability to provide functional passage for aquatic

organisms. Bridges and culverts that impede flow during flooding events should be reconstructed or replaced.

5. The Town should maintain a current Local Emergency Operations Plan that provides for emergency response and flood preparedness.

6. The Town should develop and maintain a local hazard mitigation plan that meets FEMA requirements and provides access to grant funds that will reduce current risks.

7. Forested lands should be protected to assure that precipitation can be absorbed by forest soils and litter and the peak flow attenuated. Acquisition of land or easements or Current Use assessment should be used to protect these areas, especially along the tributaries.

8. The Town should collaborate with other municipalities, the BCRC, and the State of Vermont in planning for the use and protection of regional water resources such as the Green River and The Batten Kill. This could involve an inter-municipal agreement.

9. The Town should reach out to property owners within the flood zones to support elevation or acquisition of structures subject to repeated flooding and eligible for funding under the FEMA Hazard Mitigation Grant Program.

10. The Town should encourage owners in flood hazard zones to secure propane tanks, fire wood, boats and other items that could float away in a flood, thereby creating hazards for those downstream.

11. The Town should consider participation in the FEMA Community Rating System program by implementing projects that would ultimately lead to rate reductions in flood insurance premiums for residents and businesses.

12. The Town should take comprehensive steps to increase flood resilience including the five elements that allow [Sandgate to maximize post-disaster funding through the Emergency Relief and Assistance Fund](#).

#### Stormwater Actions:

In order to maintain and enhance the chemical, physical and biological quality of surface and ground water the Town should take the following actions:

1. Evaluate a by-law within the Town regulatory framework to require LID for new development projects and to support the use of GSI. Specifically consider by-law additions/changes that:
  - i. Conserve and strive to enhance existing significant natural features, including steep slopes, wetlands, streams, creeks, trees, and fish and

- wildlife habitat conservation areas.
  - ii. Require that new development be designed in a manner that demonstrates respect of the natural features of the neighborhood, such as terraces, ravines, woodlands, streams and wetlands.
  - iii. Provide incentives and support for the preservation of open space corridors to maintain natural transitions between semirural areas and critical areas, in addition to open spaces and protected easements that are adjacent to developed portions of the neighborhood.
  - iv. Preserve native soils, to the extent possible, during development.
  - v. Allow, under the discretion and guidance of the Planning Commission, for the use of privately maintained, smaller and more strategically placed stormwater detention facilities.
  - vi. Encourage the use of native and habitat plants in landscaping.
  - vii. Encourage the use of permeable surfaces.
  - viii. Minimize excavation, clearing, and grading.
- 2. Integrate GSI such as raingardens and filter strips at existing Town facilities.
- 3. Review new development projects for jurisdiction under State Stormwater Operational standards and require that the terms of the permit, including the installation and maintenance of GSI systems, are upheld by the project owner.
- 4. Promote LID and GSI by providing information for landowners and developers on the Town website.
- 5. Use road maintenance methods and materials that will maintain or improve water quality, such as those described in the *Vermont Better Backroads Manual*.
- 6. Evaluate standards for private roads and driveways including minimum culvert sizing, culvert spacing, as well as roadside ditch construction and erosion control to reduce the energy and volume of runoff entering the public right-of-way thereby reducing the likelihood of erosion and sedimentation to surface waters.
- 7. Provide incentives or require parking lot landscaping, shared parking lots and driveways and encourage creative design approaches that minimize impervious cover while still ensuring public safety and access for emergency vehicles.
- 8. Maintain the Forest District which prohibits commercial and industrial development in:
  - i. Watersheds of upland streams
  - ii. Watersheds characterized by steep slopes and shallow soils
  - iii. Areas supplying large amounts of recharge waters to aquifers.

### 4.3 Forest Lands

The vast majority of land in Sandgate is covered by forests. This was not always the case, however, as early settlers cleared large areas for agriculture and settlement. With time, the economic viability of farming on Sandgate's marginal lands declined, as did the demand for wood products. Consequently, the town's population dwindled and the forests began reclaiming the once cleared landscape. Today, forests of mixed hardwoods (principally maple, beech, and yellow birch) cover most of the town. Oak stands occur on some south-facing slopes and on hill tops with shallow soils. Coniferous and mixed forests are found at higher elevations and on poor soils. The town also contains a large number of white birch trees, found mainly in areas that are in transition from open field to mature mixed hardwood forest.



**Figure 6: Much of Sandgate is a forested landscape.**

While Sandgate does contain some high quality timber stands, there are extensive areas covered by forests of relatively poor quality. This situation is largely attributable to past logging practices that removed only the best trees and left the poorer ones. New logging practices are designed to improve the quality of timber stands. Effective logging can encourage the growth of a variety of economically valuable tree species and also provide improved habitat for many wildlife species. Economic factors play a strong role in promoting particular forest management practices. Any energy crisis, for example, encourages people to remove poor quality trees for use as firewood.

Forests help to prevent soil erosion and flooding, contribute to air and water quality, and provide valuable timber, wildlife, recreational, and aesthetic resources. Timber harvesting is a particularly important economic activity in Sandgate. Proper management will ensure a continuing yield of valuable forest products well into the future as well as improved wildlife habitat. Several lumber companies own and manage large parcels of timber land in Sandgate. In addition, numerous individuals and foundations own land that is enrolled in Vermont's Current Use (Use Value Appraisal) program (some of the lumber company lands are also enrolled in this program); a current forest management plan is required for all of these parcels. As of 2015 there are 58 parcels in Sandgate, containing ????? acres of managed agricultural and forest land, enrolled in this important program.

A number of other uses are also of great importance in Sandgate's forests. The town's forests contains some of the most popular deer hunting land in the region, important black bear habitat, hunting camps, and support other recreational pursuits. Obviously, the extensive network of trails and logging roads that exist in the forests are critical to many of these activities.

The greatest threat to Sandgate's forests is the fragmentation of large parcels of forest land. Such land subdivision is caused by factors ranging from a landowner's inability to pay property taxes to speculative real estate development. Fragmentation replaces large contiguous tracts of forest land with multiple small parcels which are far more difficult to effectively manage for timber production, wildlife habitat, or recreational use.

There are several possible ways to preserve Sandgate's forest lands and the values that they serve. The Current Use program, mentioned earlier, provides property tax relief to landowners who keep their forest lands undeveloped and well managed. The foregone municipal tax



revenues are replaced by payments from the state. The level of state funding for this program in future years is uncertain, however, particularly during recessionary times. Local zoning regulations are another tool that can be used to protect forest lands, for example, specifying parcel shape. Much of Sandgate is zoned "Forest 2," permitting only forestry, recreational uses and facilities, agriculture, and dwellings on large lots. Dwellings are not permitted on land lying above the 1,600 foot elevation contour. Land may also be preserved through the acquisition of development rights or conservation easements by organizations such as the Vermont Land Trust.

One tool that can help towns evaluate the value of parcels of forest land is the Forest Land Evaluation and Site Assessment (FLESA) process. This process allows towns to assess the value of discrete units of forest land for timber productivity, wildlife habitat, recreation, and other uses. The Bennington County Regional Commission has developed a regional resource inventory and FLESA of lands in the Taconic Range. This information will aid towns in long-range forest planning.

#### 4.4 Agricultural Lands

At one time, there were numerous farms in Sandgate, and much of the land was cleared for pasture and cropland. Agricultural activity rapidly declined as growth in the fertile lands of the Midwestern United States and improved transportation made farming in areas like Sandgate a losing proposition. Some of the better soils in town still are farmed, however, and these operations help maintain the rural character of the town. In addition to serving as a livelihood for some residents, the open fields provide valuable wildlife habitat and scenic vistas. The town should strive to preserve its most productive agricultural soils (Map 4), even if they are not currently being farmed, for some future time when local farming may once again become economically important or necessary.



**Figure 7: Productive agricultural land in Sandgate is a valuable natural resource.**

As in the case of forests, a number of techniques are available to help towns preserve agricultural lands. Zoning regulations that permit only compatible types and densities of development and "clustering" provisions that allow subdivisions to be concentrated on one section of a parcel while the best agricultural soils are left undeveloped are effective regulatory measures. Vermont's Current Use program provides property tax relief to agricultural landowners as well as to forest landowners.

#### 4.5 Wildlife Habitat

The importance of Sandgate's waters, forests, and fields to populations of fish and wildlife has already been noted. Particular mention should be made of the Green River as an important fishery and of the numerous winter deer yards (Map 5) that provide crucial shelter and browse for deer during the winter months. The Vermont Department of Fish and Wildlife has determined that important seasonal black bear habitat exists east of the Green River in Sandgate. Many other wildlife species, both game and nongame animals, thrive in the town and contribute to the rural character and quality of life that residents enjoy.

The most important factor in maintaining viable populations of these animals is the protection of their habitats. Information on the nature and location of important habitats should be maintained and should be readily accessible to the public. The presence of such areas should be considered when determining the appropriateness of public land ownership. Development and logging activities should be planned so as to avoid damage to deer yards, aquatic environments, and other important wildlife habitats. Specific measures that can be taken to minimize adverse impacts on wildlife include: the maintenance or provision of natural buffers between developed areas and wildlife habitat, the maintenance of vegetated corridors along streams, shorelines, and between similar but separate habitat areas, and utilization of construction practices that minimize environmental disturbances.



**Figure 8: Many Sandgate residents enjoy fishing, hunting and viewing wildlife.**

#### 4.6 Air Quality

The quality of the air in Sandgate is generally excellent, and efforts should be made to ensure that it remains clear and clean. There are a number of things that could impact air quality in the area. The increasing cost of disposing of solid waste may have the undesired effect of encouraging the burning of refuse, an activity that can produce unpleasant local air pollution. Such "backyard burning" is, in fact, illegal under state law and should be discouraged. Although Sandgate is not home to any industrial facilities that pollute the air, airborne contaminants emanating from distant sources can affect air quality locally. Sulfur dioxide emissions from coal-burning power plants and resulting air quality degradation and acid deposition in downwind mountainous areas is a well documented example of such a situation that could pose a very real threat to Sandgate. The town should work with the Bennington County Regional Commission and other interested parties to present air quality concerns at state and interstate environmental reviews.

#### 4.7 Earth Resources

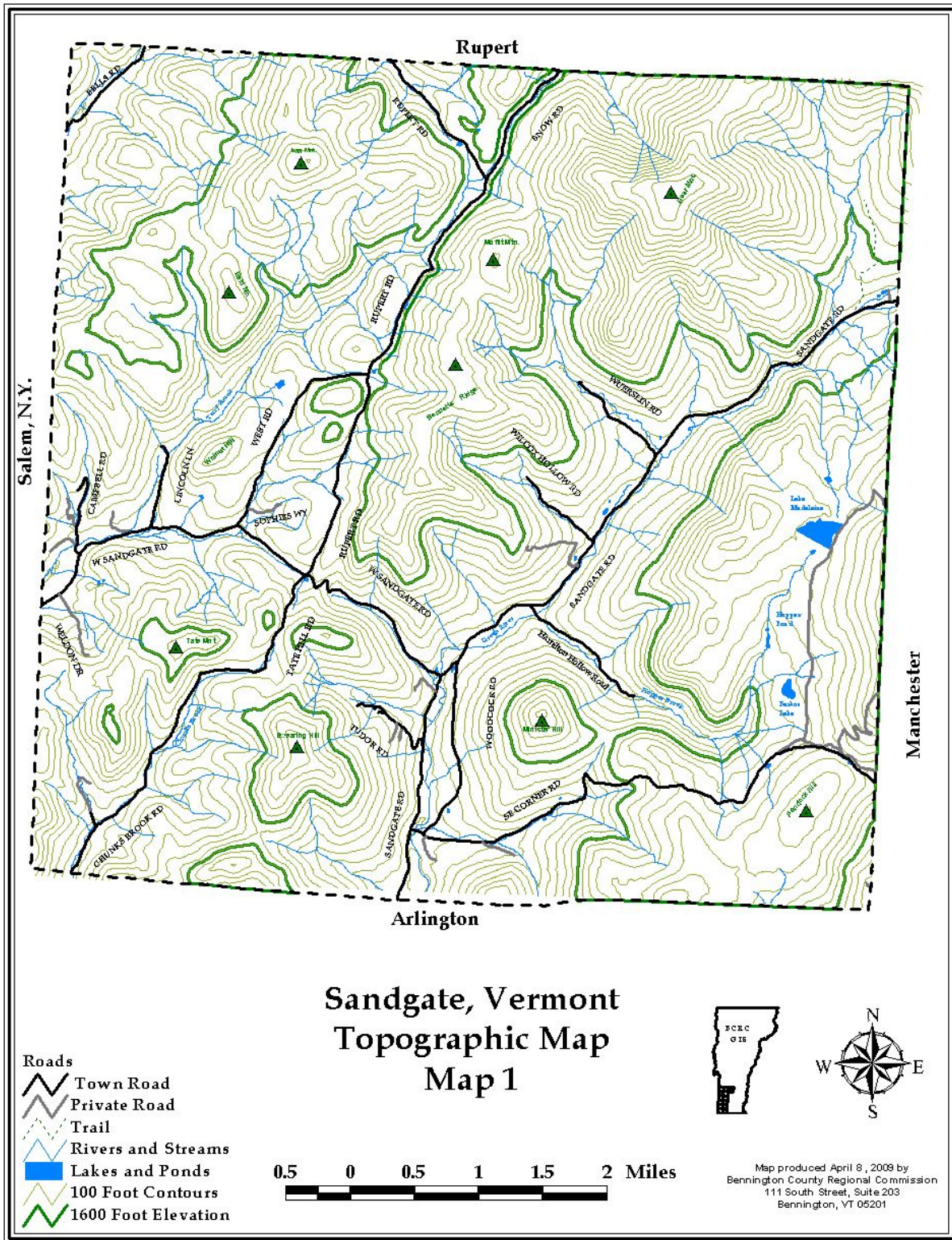
There have never been extensive earth resource extraction activities in Sandgate. There are, however, a number of small sand and gravel deposits that provide materials for construction projects in the area (Map 6). These deposits are important and should remain available for use in years to come. The town should identify important deposits and ensure that new developments do not render these resources inaccessible.

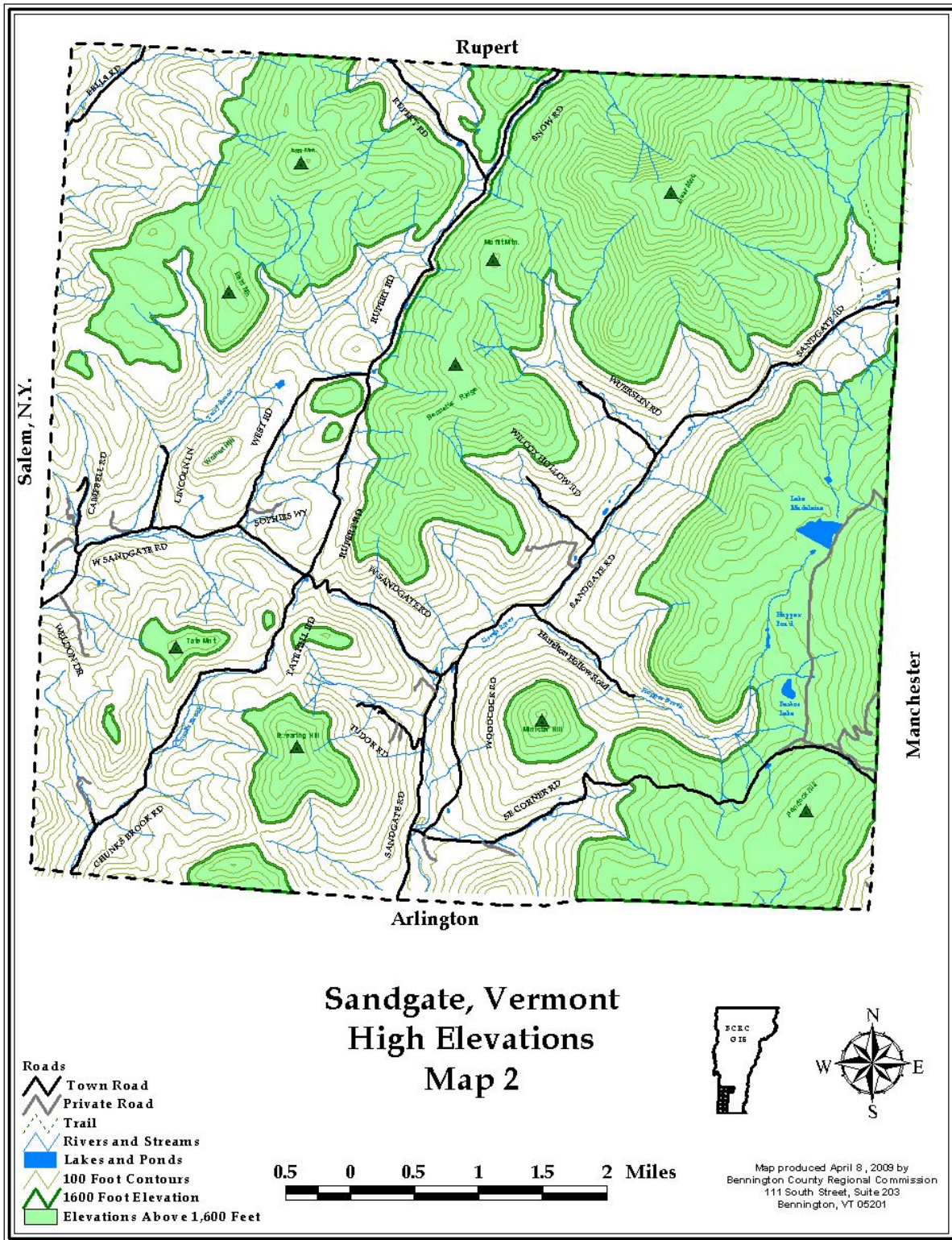
Consideration must also be given to the fact that extraction operations can be damaging to the environment if carried out improperly. Extraction methods must consider both immediate environmental concerns and the use of the site after completion of the sand and gravel mining. The zoning bylaws contain specific regulations designed to minimize the environmental impacts of earth products removal, and to assure restoration of sites once work is completed. These regulations should be strictly enforced.

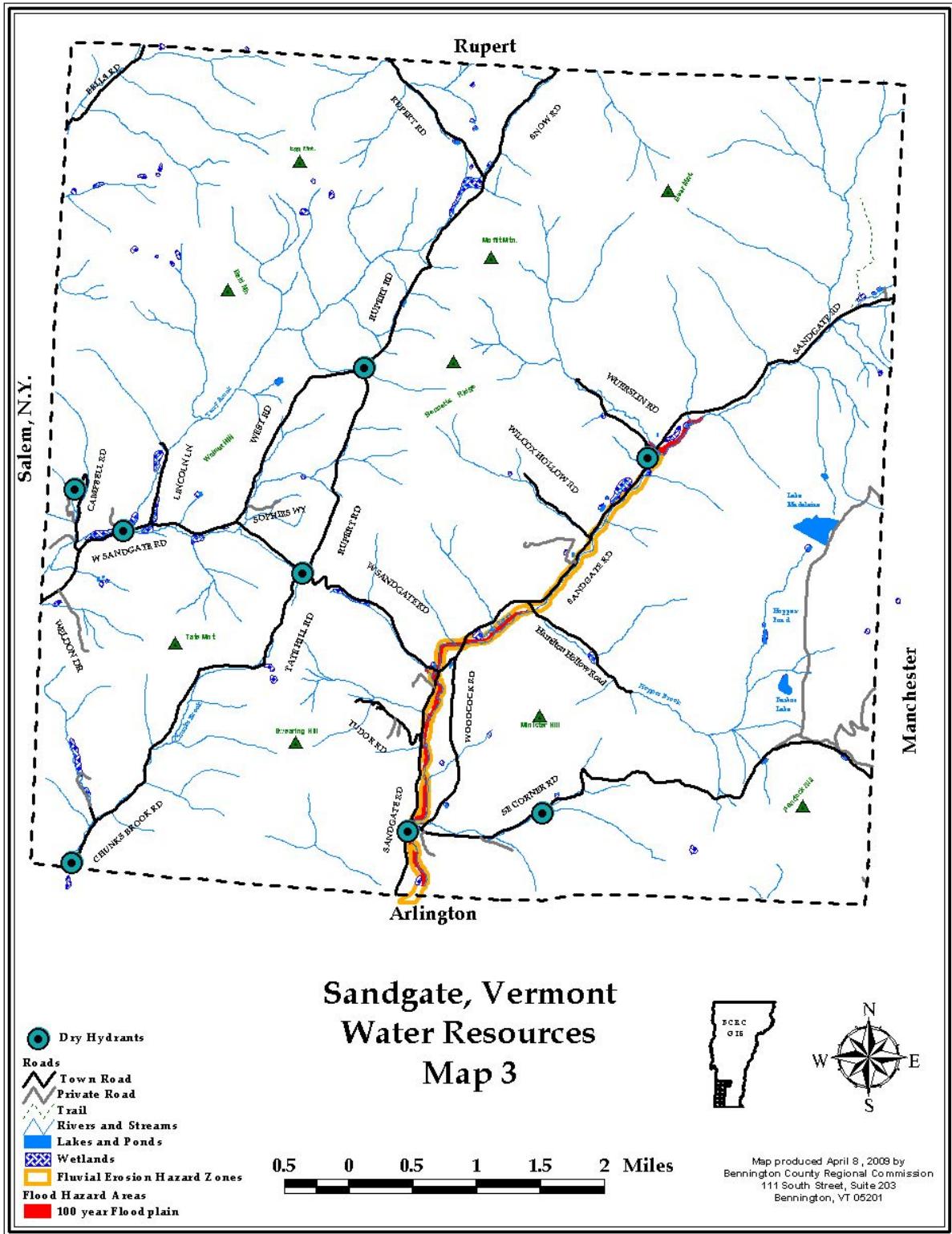
#### 4.8 Policies and Recommendations

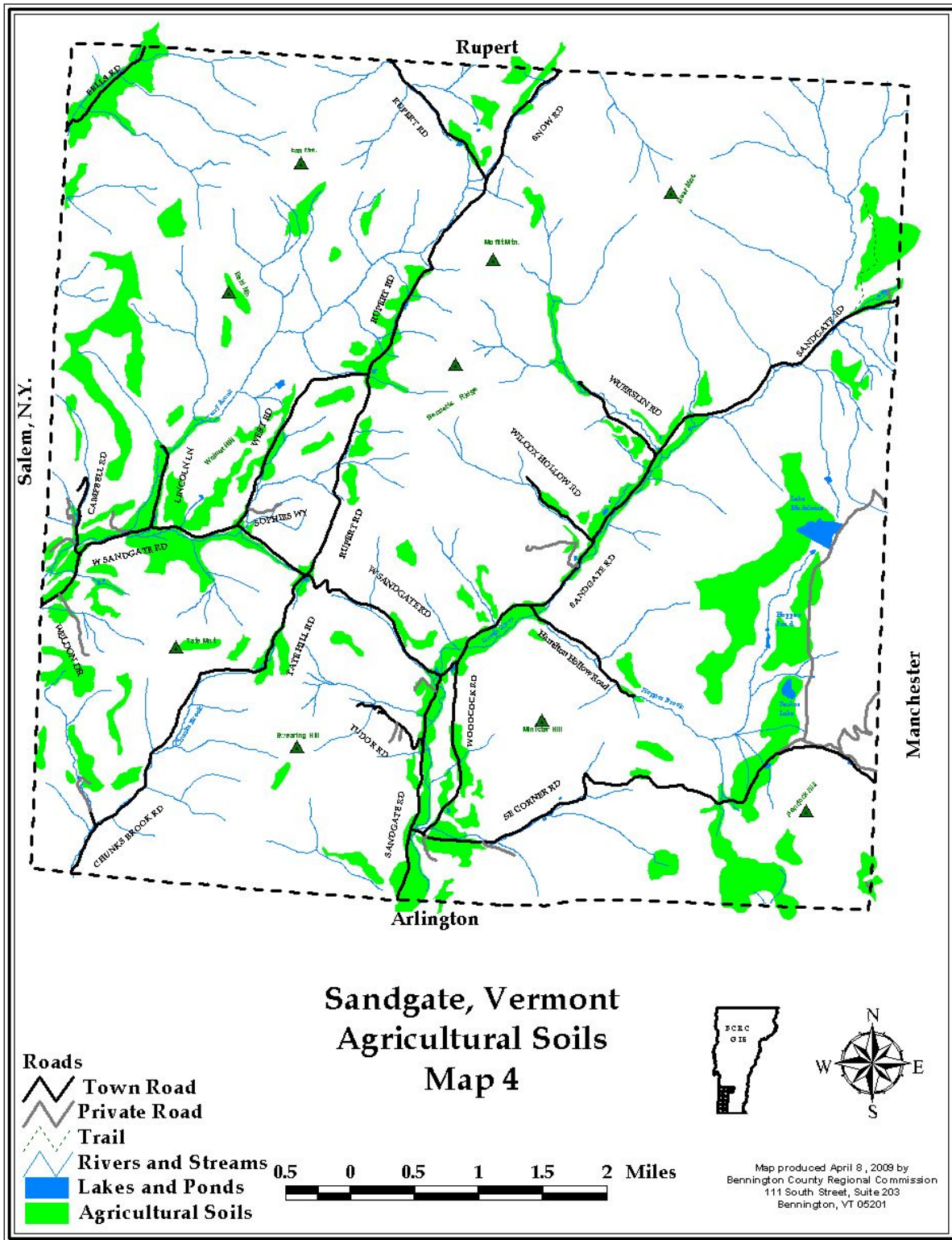
1. Growth should be directed to areas where physical conditions are most capable of supporting such development. Growth should be restricted in areas of high elevation, steep slopes, or poor soils where environmental damage is likely to occur as a result of development. Special attention must be given to the need to prevent soil erosion, contamination of surface and ground water, and damage to natural ecological communities.
2. The town should use soil data and other geographic information in land use planning.
3. The natural characteristics and values of Sandgate's rivers, streams, natural ponds, and state-defined wetlands should be preserved. The municipal zoning bylaws regulate uses within designated buffer areas adjacent to these resources.

4. The municipal subdivision and health ordinances, and the regulations of the Vermont Agency of Natural Resources, must be strictly enforced to protect individual water supplies.
5. An effort should be made to encourage public access to streams, forests, trails, and other important natural resources and recreation areas.
6. Development in important forest, agricultural, or wildlife habitat areas should consider the preservation of those resources.
7. The town should pursue and support policies and programs that encourage the preservation of important forest areas.
8. Silvicultural practices should promote growth of high quality timber stands and the establishment or protection of important wildlife habitat. Such practices should also minimize soil erosion and impacts on roads, streams, and the natural appearance of mountain and ridge tops.
9. The town should consider use of a forest land and site assessment (FLESA) program and the BCRC's Taconic Range forest study and resource inventory to aid in long-range forest planning and decision-making.
10. A land evaluation and site assessment (LESA) should be considered to serve as an inventory of Sandgate's agricultural lands.
11. The town should remain aware of potential threats to local air quality, and work with appropriate organizations to ensure that Sandgate's air remains clear and clean.
12. Important sand and gravel resources should remain available for economic extraction and use. Local regulations should be designed to ensure that extraction operations are environmentally sound and that sites are properly restored.

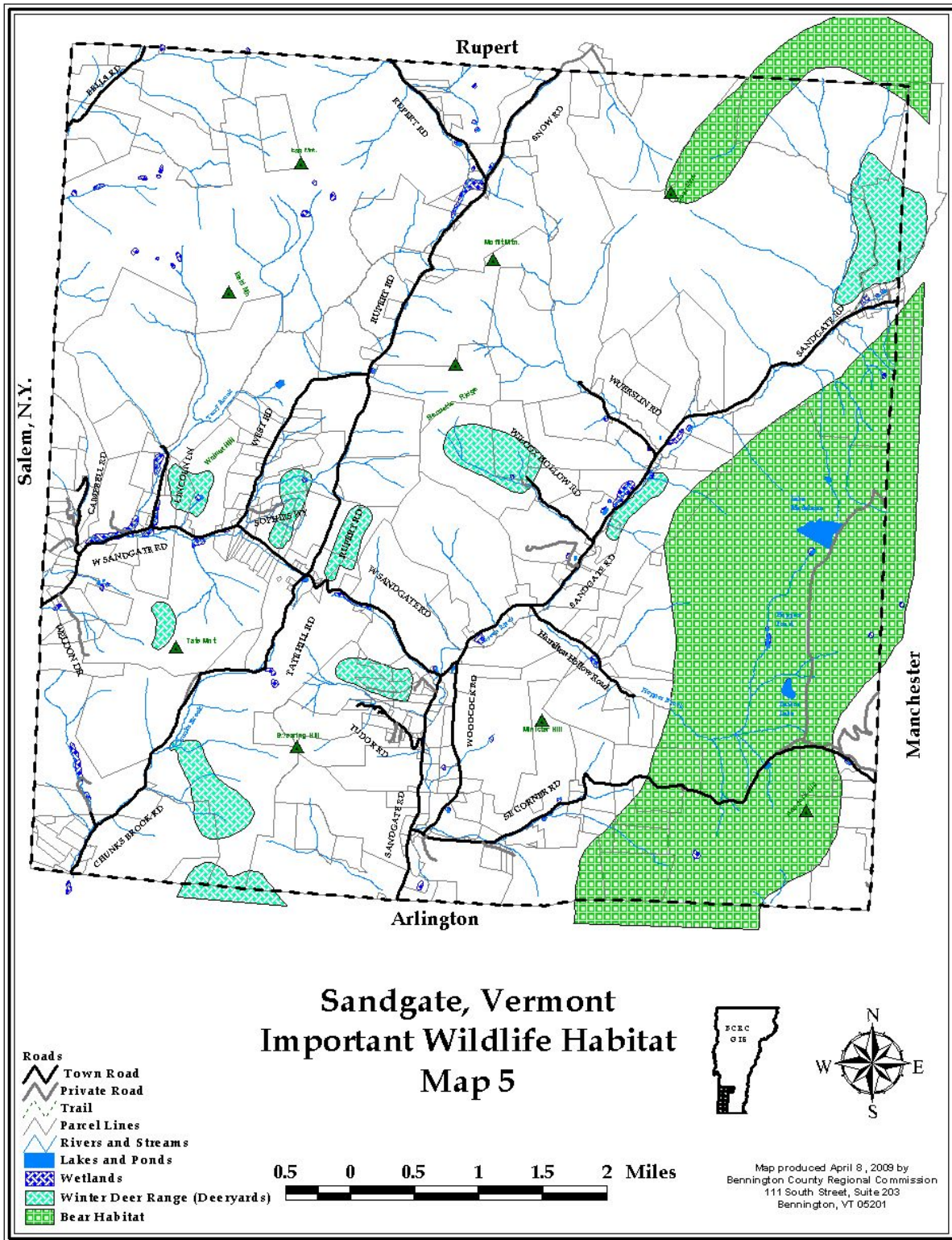


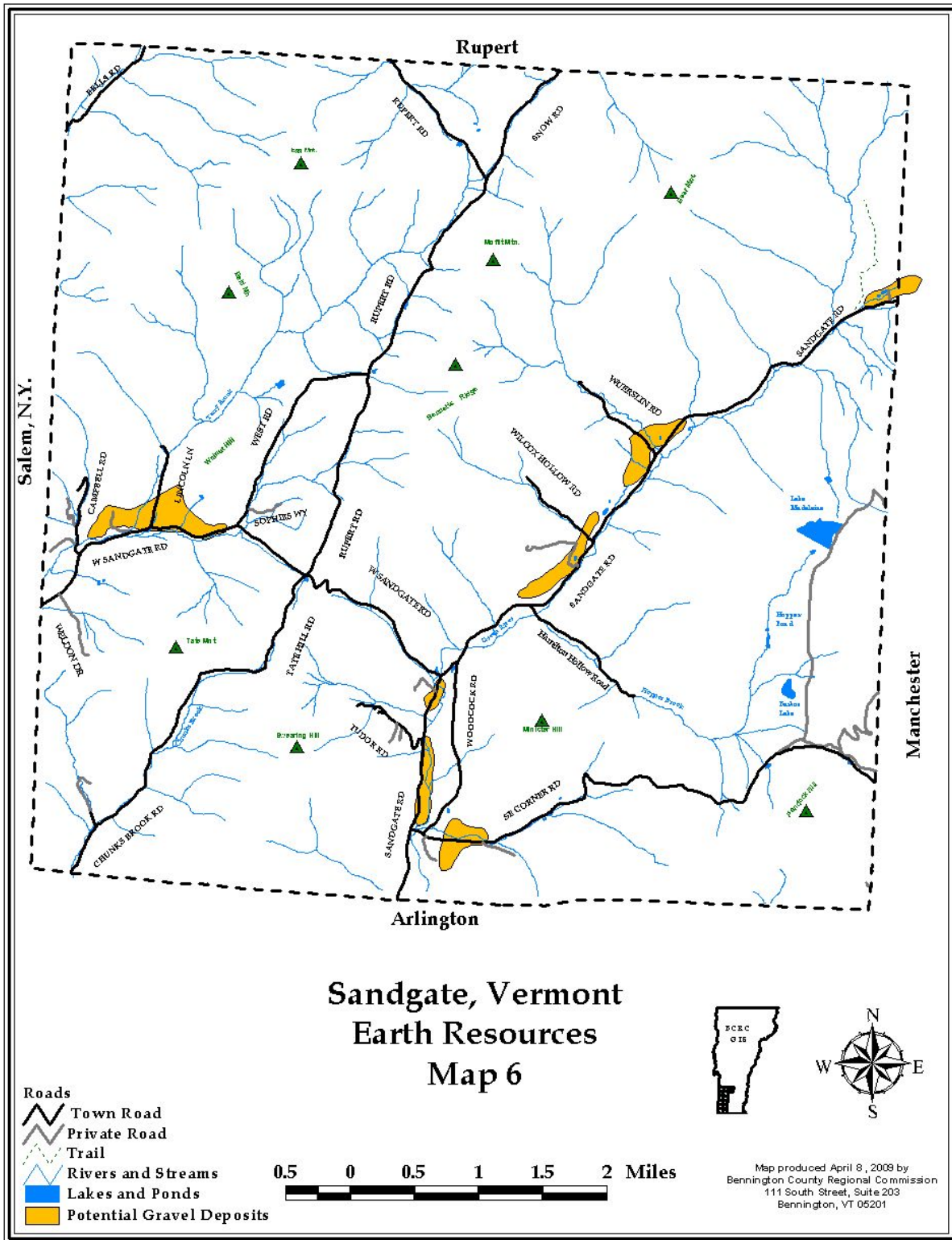












## SECTION 5: HISTORIC RESOURCES

Human activity in the past has left historic structures, features, and archaeological sites. Because these artifacts of our past offer opportunities for learning and tangible reminders of our heritage, they are historic resources and entitled to parallel consideration with other resources in Sandgate. This section of the plan will describe known historic resources and expected resource potential in Sandgate, identify some threats to resource preservation, and outline the processes which will implement their preservation.

Historic structures and features (those 50 years old) known to exist in Sandgate are the old stone walls and foundations of the Daniel Shays Village, the remains of several mill sites, the stone arched bridge on Woodcock Road, four cemeteries, the old school house and the Sandgate United Methodist Church built in 1877. All of these structures have been located and mapped as part of an historic sites inventory completed in 2007 (Map 7). Sandgate also contains many houses, out buildings, and camps built before the 20<sup>th</sup> century.



**Figure 9: The United Methodist Church built in 1877.**



**Figure 10: Sandgate's historic one room schoolhouse.**



**Figure 11: Old mill site near Beartown.**



**Figure 12: Stone arched bridge on Woodcock Road.**



**Figure 13: Old Beartown cemetery.**



**Figure 14: Old cemetery on Rupert Road.**



**Figure 15: Sandgate Village cemetery.**



**Figure 16: West Sandgate cemetery**

Although all of the known archaeological sites are historic, some parts of Sandgate may contain prehistoric archaeological sites. Certain areas around rivers, streams and wetlands, for instance, are archaeologically sensitive. Borrowing ideas about prehistoric Native American behavior from research results in nearby Green Mountain towns enables archaeologists to narrow their field of inquiry. Prehistoric sites are likely to reflect similar use of the Green Mountains as a source of quartzite for making stone tools. During the 17th century, Native Americans trapped for commercial trade with European posts in the Hudson and Connecticut River Valleys. Sandgate, with its proximity to the Batten Kill, is likely to have been a source of furs for trade as well as part of the Native American subsistence base. There are undoubtedly small, repeatedly occupied prehistoric sites in Sandgate, and thus additional reason to give proposed development projects close attention.

Any activity or development, which alters land surfaces, could have a negative effect on the preservation of archaeological sites in the area. Timber harvesting can also be destructive to archaeological sites, as can road construction and landscaping. Even hiking trails can expose

archaeological sites. In practice, all identified archaeological sites should be avoided during land altering projects.

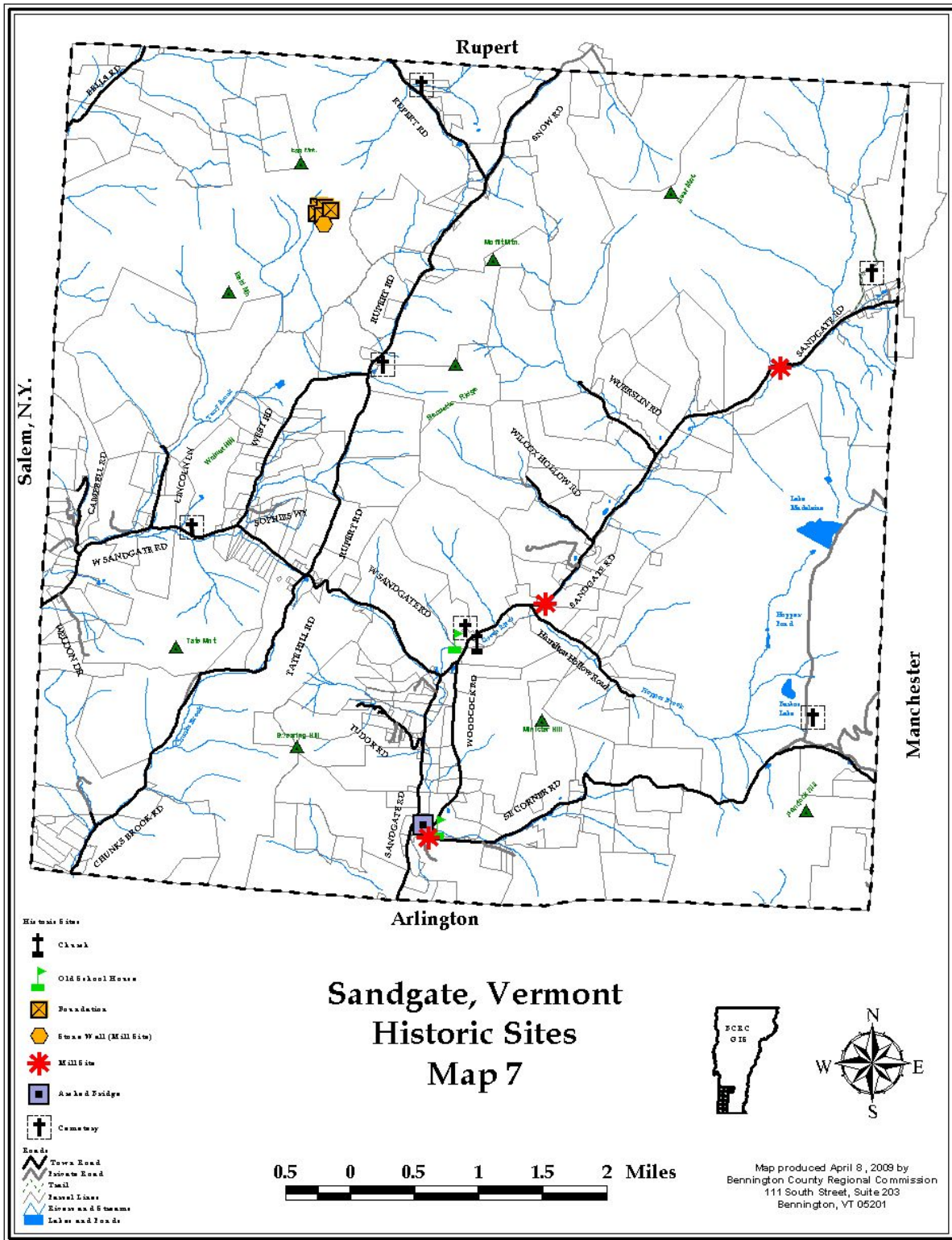
Historic structures and features eligible for inclusion on the National Register should be protected. The National Register criteria are as follows:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

1. That are associated with events that have made a significant contribution to the broad patterns of our history; or
2. That are associated with the lives of persons significant in our past; or
3. That embody the distinctive characteristics of a type, period, or method of construction or that represent a significant and distinguishable entity whose components may lack individual distinction; or
4. That has yielded, or may be likely to yield, information important in prehistory or history.

A series of federal laws, including the Antiquities Act of 1906 and the National Historic Preservation Act of 1966, prevent the use of federal funds for projects that will harm important archaeological sites or historic structures. In addition, these laws protect archaeological sites and National Register eligible buildings (even on private land) from destruction by projects requiring federal funds, permits, or federal licensing. Highway and bridge construction and repair, modifications to wetlands and utility relicensing are all subject to these laws.

In Vermont, such projects are reviewed for their impacts to historic resources at the State Historic Preservation Office in Montpelier, and decisions are based on the Office's inventories of known archaeological sites and historic structures (the State Archaeological Site Register and the State Historic Sites and Structures Register). The Vermont Historic Preservation Act, administered by the same office, protects archaeological sites and historic buildings on state owned land. Vermont's Act 250 provides for a regional and state level review of certain projects. An Act 250 review includes consideration of the impact of the project on historic resources, as well as natural resources. This review is also performed by the Vermont State Historic Preservation Office (the Division for Historic Preservation), and can result in requests for project alterations and archaeological surveys. The Town of Sandgate can be an official party to any Act 250 hearings affecting its area.



Many small projects on private land, however, are not subject to any of these reviews. Some large or important sites, buildings, and districts can be lost piecemeal through the accumulated impact of several small projects. Even when a highway route is redesigned to avoid an important historic site, that site could be lost a few years later through residential construction or some other activity. Incorporating historic preservation criteria in conditional use zoning reviews can help preserve areas of high archaeological sensitivity, around streams and wetlands for example. In archaeologically sensitive areas, as determined from experience in nearby towns, land surface altering changes should be held to 100 feet from normal shorelines.

Vermont has enabling legislation for local historic district designation and a local review process. Sandgate should consider the feasibility of protecting its historic areas with such local designations and review. The Town should consider, as a certified local government, requesting funds for an architectural survey of all of Sandgate's historic structures, including bridges, houses and outbuildings as well as cabins and camps. The Vermont Division for Historic Preservation grants such surveys. Adding eligible structures to the State and National Register is the first step in preserving them.

Finally, acquiring historic preservation easements from current landowners will improve the chances of a sites' continued preservation through succeeding ownership changes. Local and state preservation groups, or the Town itself, could hold these easements.

#### 5.1 General Policies for Historic Preservation

1. Discourage any development, alterations or additions that encroach upon or threaten any historic feature, building, or site possessing architectural, archaeological or historic merit.
2. Buildings and sites of historical or architectural merit shall be preserved, whenever possible, and new developments shall be compatible with existing historic buildings and development patterns.
3. Encourage the renovation and adaptive re-use of historic structures that might otherwise be lost to deterioration.
4. Developers should consider historic sites near proposed developments into their plans and provide compatible architectural designs and/or screening and buffers, as appropriate.
5. Work with the State of Vermont Preservation Trust and other preservation organizations, where indicated, to identify and acquire rights, easements or ownership of historic resources.
6. To preserve the historic fabric and integrity of historic sites in Sandgate this Plan encourages inclusion of major sites in the National and State Register of Historic Sites and Structures.

#### SECTION 6: LAND USE

The town's land use plan (Map 8), as implemented by the municipal zoning and subdivision regulations, will determine the future development pattern for the Town of Sandgate. The land use plan should be reviewed periodically to assess whether or not full implementation of the plan is an accurate representation of the community's vision for its future. This chapter will discuss the factors that are important to land use planning in Sandgate, and will identify policies

and recommendations that will result in future development that is both economically efficient and environmentally sound.

### 6.1 Current Zoning and Factors Affecting Land Use

The discussion of Sandgate's physiography (Section 4.1) pointed out that there are relatively few places in Sandgate that are well-suited to development. These areas are located in valleys where moderate slopes, deep soils, and adequate ground water supplies make development relatively easy. The highest concentrations of existing development are found in these areas, which are served by the two principal roadways in Sandgate: Sandgate Road and West Sandgate Road. Much of the land along these roads has been placed in the "Rural Residential" zoning district, which provides for the densest development -- two acres per dwelling unit -- in town (Map 8). According to the zoning bylaw, the Rural Residential district is intended to encourage development near existing roads, thereby minimizing future public infrastructure costs.

There are several other areas in town, either adjacent to the Rural Residential zones or along secondary town roads, where physical conditions and access do not present severe obstacles to development. Such areas are included in the "Forest #1" zoning district, a district intended to provide for development where it can be efficiently served by public roads and utilities while protecting important natural resources that are present. The minimum lot size in the Forest #1 district is five acres per dwelling unit.

Both the Rural Residential and Forest #1 district also provide for certain limited commercial and public or institutional uses. Commercial uses are restricted to those that are appropriate given the town's remoteness and environmental constraints: agriculture and forestry, home occupations, and outdoor recreational facilities, for example. Some of the larger facilities that are permitted are classified as conditional uses and must meet specific requirements to ensure that impacts on the natural environment and quality of life in Sandgate are minimized.

The great majority of land in Sandgate does not fit into either the Rural Residential or Forest #1 categories. Most areas in Sandgate are remote from town roads and are characterized by steep slopes and shallow soils. There are, however, numerous individual sites scattered throughout the hills and hollows that are capable of supporting some type of development. The type, intensity, and location of land uses that occur in these backcountry areas is very important to the town. Development in these areas, zoned "Forest #2," could potentially have profound impacts on both environmental quality and municipal budgets.

The Forest #2 district is meant to protect important natural resources, recreational opportunities, and forest-related industries. The zoning bylaw notes that excessive development in these areas could damage sensitive environmental resources and lead to the inefficient development of roads and utilities. Consequently, permitted land uses are limited to agriculture, forestry, and recreational uses, with camps and year-round residences restricted to lots of not less than 25 acres per unit. No permanent residences are permitted above 1,600 feet in elevation. Applications for new houses in F2 are subject to conditional use to ensure that the environment is protected and that municipal facilities and services can accommodate the development.

### 6.2 Recent Development, Budget Growth, and Property Taxes

The town, highway, and school budgets have all shown steady growth since 1990 (Table 6.1). Average residential property taxes have also climbed steadily during this period.



Table 6.1

Public budgets, number of resident school children, new housing units, and average residential property tax rate in Sandgate, 2007-2014

Year	Town and Highway Budget (\$)	School Budget (\$)	Total Budget (\$)	School Children	New Housing Units	Residential Tax Rate/\$100*
2007	304,202	776,860	1,081,062	62	3	1.8019
2008	297,996	829,688	1,127,684	55	5	1.9465
2009	317,044	833,815	1,204,859	57	1	1.3074
2010	297,941	899,272	1,197,213	51	2	1.8943
2011	302,090	936,274	1,238,364	48	1	1.9040
2012	287,021	945,362	1,232,383	49	0	1.0904
2013	247,184	979,359	1,226,543	48	0	1.9394
2014	375,238	979,003	1,354,241	47	2	2.0171

Source: Sandgate Town Reports \* Non-residential tax rates differ.

The first thing that is evident from Table 6.1 is that Sandgate's total budget has grown steadily. While both the town/highway and school budgets have grown considerably during this period, the growth in the school budget has been most dramatic. Also evident from Table 6.1 is that development (new home construction) occurred at a slow, but steady rate throughout this timeframe.

### 6.3 Land Use Planning Recommendations

There does not appear to be any reason for Sandgate to alter the land use policies that have been espoused by the town over the past several years. The type, intensity, and location of development that is permitted under the municipal zoning and subdivision bylaws is appropriate to the town's environmental limitations and remote, rural character. An increase in the rate or intensity of development in backcountry areas of Sandgate most likely would lead to additional costs to the town, and could have deleterious impacts on the natural environment. Future growth should, therefore, be directed to areas along existing town roads where topographic and soil conditions can best support such growth. The existing Rural Residential and Forest #1 zoning districts should be retained to support such growth. The Forest #2 district should remain an area where the wise use of natural resources, recreation, and environmental protection are emphasized, and limited development is permitted with proper controls, such as lot dimensions and shapes.

The municipal zoning regulations are written to ensure that they reflect these general land use policies. In addition to the use and dimensional requirements for each zoning district, the regulations contain provisions designed to protect important resources such as streams, ponds, and green spaces. "Cluster subdivisions" should be permitted in Sandgate as a way to promote efficient development patterns and protect important resources. In a cluster subdivision, individual lot sizes in a new development may be reduced (to not less than one acre), thereby allowing the preservation of open fields or other important resources. An additional benefit of this type of development is that economic efficiency is promoted since the length of roads and other infrastructure is reduced. The municipal planning commission should encourage developers to utilize clustering or other creative techniques to achieve the objectives of this plan: provision of attractive, efficient new development while protecting important natural resources.

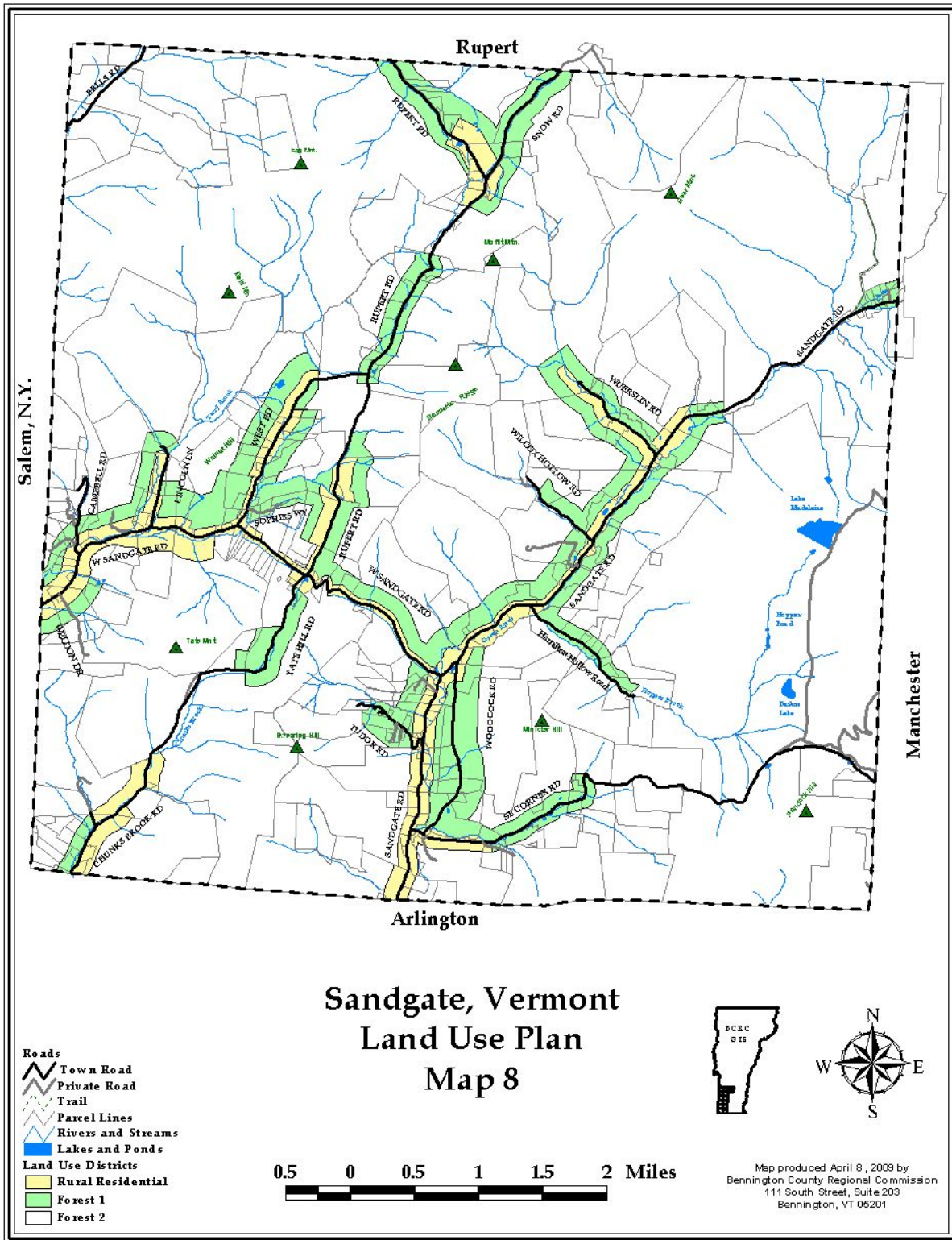
One area of special interest to the town is the "town center," located in the vicinity of the Town Hall. This area has been identified as a potential site for a future school or other community facilities. The town should consider acquiring suitable land in this area, and should promote private development that will reinforce its traditional appearance as a rural New England hamlet.

#### 6.4 Planning for Affordable Housing

The town's existing land use policies do not discourage the development of affordable housing. The zoning bylaw even allows some added flexibility in the development of affordable housing by permitting the construction of a second dwelling unit on a lot that may be occupied by a (non-paying) relative or guest of the owner of the property. The town may wish to consider additional means of encouraging affordable housing, especially if rising real estate costs begin to make it difficult for Sandgate residents and their children to remain in town. One technique available to a rural town like Sandgate is to permit a "density bonus" for new subdivisions, provided that the additional lots/units are offered at prices that are deemed "affordable" by the town.

#### 6.5 Policies and Recommendations

1. The amount of land available for residential development should be sufficient to meet the needs of anticipated population growth. New development should ideally be located along or near existing roads.
2. Residential growth in the Forest #2 district should be limited to those areas where new development will not result in excessive damage to the environment or costs to the town.
3. Permanent development in F2 rugged backcountry areas with poor access is discouraged. Such areas should generally be reserved for forestry and recreational uses.
4. The town should encourage land uses and development patterns that will protect important natural resources, green spaces, and scenic views.
5. Sandgate's rural character should be maintained; a special effort should be made to preserve important scenic and historic resources.
6. Commercial and institutional uses should be limited to those that are identified in the zoning bylaw, and should be of a scale and design consistent with the town's rural character.
7. The following specific policies apply to new development:



- The density of development must not exceed the amount that the land is physically capable of supporting. For example, development must be carefully planned in areas where natural land slopes exceed 15 percent.
- During construction, all necessary measures should be taken to minimize soil erosion.

## SECTION 7: TRANSPORTATION

### 7.1 Introduction

As a small rural town, Sandgate's transportation infrastructure is quite limited. Sandgate is the only town in the Bennington Region that is not traversed by a single state highway. However, there are nearly 30 miles of town highways within the municipal limits (Table 7.1). These highways must be adequately maintained to provide safe, convenient, and economical transportation routes for Sandgate residents.

Table 7.1

Sandgate, Vermont – Town Highway Mileage\*

Highway Type	Miles
Class 1	0.00
Class 2	7.58
Class 3	21.99
Total	29.57

\*Sandgate also contains 4.05 miles of Class 4 (not maintained) town highways.

Three roads in Sandgate provide through routes and collect traffic from smaller side roads (Map 9). Sandgate Road follows the valley of the Green River from Route 313 in Arlington to Beartown. West Sandgate Road, running from the Green River through the Notch to West Sandgate and Salem, New York, is the only road connecting the east and west sides of the town. West Rupert and Route 153 can be reached by following the Rupert Road north from West Sandgate Road near the Notch. Twelve smaller roads provide access to homes and camps located in stream valleys, hollows, and other areas where some development has occurred.

### 7.2 Town Roads

The maintenance of the network of town roads, bridges, culverts, and drainage systems involves considerable work and expense. The underlying factor exacerbating many of Sandgate's road maintenance problems is the lack of a good road base. The town's road crew is able to keep the roads in good condition with day-to-day maintenance, but during mud season several roads frequently become impassable for many vehicles. Periodic high traffic volumes on certain roads (Rupert Road during hunting season, for example) also result in rapid deterioration of surface conditions. Significant effort has been directed recently toward upgrading culverts at key locations around town.



**Figure 17: Mud season.**

Because significant increases in traffic can be expected to adversely affect the condition of many roads, the probable impact on town roads of any new major subdivision should be determined. If substantial upgrades of town roads or bridges will be necessary as a result of such a development, the developer should share in the cost of the construction work.

New developments also frequently involve the construction of new roadways to serve individual lots. New private subdivision roads are subject to review by the Planning Commission under the municipal subdivision regulations. The Planning Commission should consult with the road foreman before approving new roads. New roads and driveways accessing onto town roads must also receive an access permit from the town; these permits are important to ensure that access points are safe and that drainage does not damage town infrastructure. These new driveways and roads should take into consideration specific standards recommended by emergency providers. Of course, the town should not take over private roads unless they are improved to conform to municipal road specifications.

One issue that should be addressed by the town is the need for access to all residential areas by emergency vehicles. Fire companies and rescue squads from surrounding towns serve the town, and access by their larger vehicles over certain narrow roads and two 16,000 pound limit bridges (Hamilton Hollow Road and Wuerslin Road) may present a problem. The town should work cooperatively with the fire department to assess the seriousness of any problem, and identify appropriate remedial actions. Such an assessment would also benefit the town in the event that any new development occurs in these areas.

The level of development in remote areas, not readily accessible from good town roads, has been a concern in Sandgate for some time. Development in remote backcountry areas generally requires the construction of new roads which, even if originally built as private roads, may be taken over by the town at some future time. Therefore all new private roads and driveways should be held to the standards that local fire departments publish. The maintenance of town roads and the provision of other public services in these remote areas are costly. The town land use plan (Section 6.3) also reflects this concern over growing municipal expenses by directing new growth to areas along existing town roads.

the current level of growth and development, the town highway department's equipment and staffing should be adequate for the next several years. Equipment will need to be replaced periodically; the town maintains a fund for the acquisition of new equipment. Coordinated capital planning could help the town ensure that adequate funds will be available when makpr new acquisitions become necessary. The town should continue to pursue grants.

Expenditures on the town's transportation infrastructure have remained fairly constant, but have increased slightly in the last couple of years (Table 7.2). Significant fluctuations can occur from year to year as the need for major repairs does not occur on a regular schedule. The town can control fluctuations in capital expenditures through long-range planning for equipment replacement, town garage, and similar items. This process does occur now in Sandgate, but might be improved by developing and annually updating a more formal capital budget. Costs to the town for roadway expenses are also moderated through receipt of state highway aid. The town should participate in the regional transportation planning process (developed in response to the state and federal initiatives) with the BCRC and other towns in the region to ensure that important qualifying local projects receive funding.

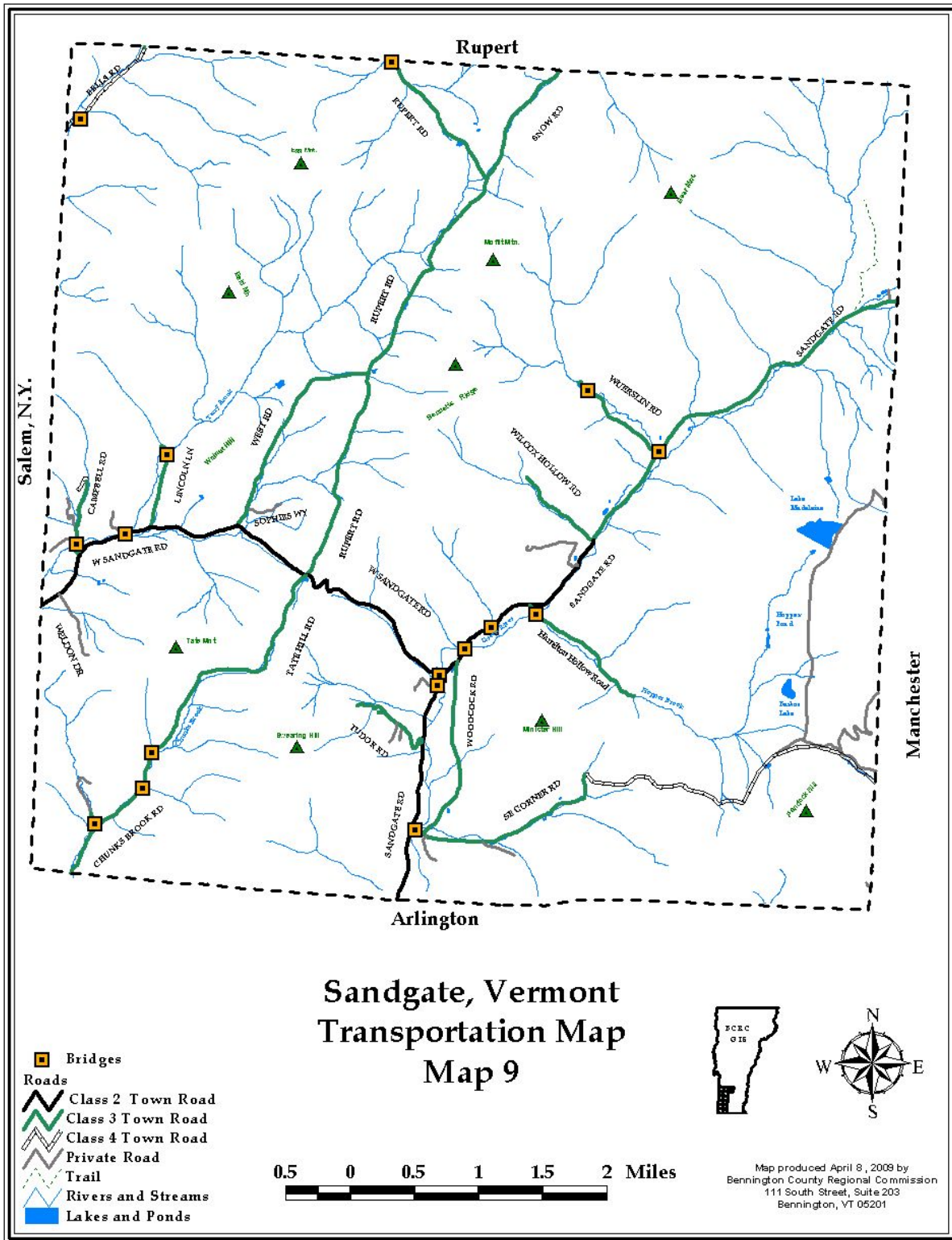
Table 7.2

Sandgate Town Highway Expenditures

Year	Highway Expenditures (\$)
2007	186,286
2008	279,385
2009	239,880
2010	255,008
2011	278,327
2012	251,216
2013	178,548
2014	253,169
2015	361,383

7.3 Public Transit

The need for some form of public transportation in Sandgate is most likely to be felt by elderly persons. Access to transportation for health care purposes, for shopping and personal business and for social or recreational purposes is particularly important to elderly residents. While many of these needs are met through the community, there are some programs offered by area health and human service organizations that can also benefit these individuals. The regional public transit provider, the Green Mountain Community Network and other service organizations



currently offer transportation services for health-related trips and handicap accessible transportation services for seniors and disabled persons.

#### 7.4 Bicycle, Pedestrian and Equestrian Travel

In recent years, there has been a marked increase in the number of bicycles touring through the town. Many Sandgate residents and visitors to the town also enjoy walking and horseback riding along the town's quiet roads. These recreational uses have not presented any problems to date, but if vehicular traffic increases substantially on certain roads (particularly roads such as Sandgate Road), consideration should be given to maintaining the 35 MPH maximum speed limit. While undertaking regular road reconstruction and maintenance activities, use of these roads by bicycles and pedestrians should be considered.

#### 7.5 Policies and Recommendations

1. New roads, driveways, and drainage systems should be designed, constructed, and maintained in accordance with the municipal zoning and subdivision regulations.
2. Additions and improvements to the road network should be designed to minimize impacts on important natural resources.
3. Major transportation improvements and investments should be prioritized as part of a long term capital plan.
4. All new road construction should be consistent with limitations imposed by topographical conditions, natural areas, and areas having special resource value.
5. Scenic roads should be maintained for their scenic value while providing safe access for residents. Road construction and maintenance should be consistent with scenic values (width, alignment, roadside vegetation, etc.).
6. The town should carefully plan for large transportation related costs to avoid excessive budget growth in any one year. The town should also avoid taking responsibility for private roads that would present a financial burden to the town.
7. Sandgate should participate in regional transportation planning activities and make use of available state funds.

### SECTION 8: RECREATION

Residents of Sandgate are fortunate to have ready access to a wealth of recreational opportunities. Although there is no public recreation park in Sandgate, the town's location among the mountains and forests of the Taconic Range provides numerous opportunities for year-round outdoor recreational activities. Maintenance of the quality of these recreational resources is an important goal of this Town Plan.

#### 8.1 Natural Resources

The forests that blanket Sandgate's hillsides and hollows are an integral part of the area's natural ecosystem and support large and diverse populations of indigenous flora and fauna. These resources provide numerous opportunities for nature appreciation and study, and also make Sandgate one of the most popular hunting destinations in the area. The remoteness of Sandgate's forests is certainly one factor that makes the area attractive to residents, camp owners, hunters, and others who visit the town. Municipal land use policies and actions should include efforts to preserve the remote rural character of upland forest areas.



Miles of trails traverse the thousands of acres of unbroken land in Sandgate. Many of these trails were originally laid out and used as town roads, farm roads, or logging roads and trails. After years of disuse, most of these traveled ways became overgrown and impassable. A number of them, however, continued to be used. With the exception of three Class 4 town roads (the upper portion of Southeast Corner Road, the northern end of West Rd. Tate Hill and Bell's Road) and one town trail (Moffitt Hollow road near Beartown), all of these trails are privately owned. Consequently, public access is possible only by virtue of acquiescence on the part of landowners. Recreational use of trails should not disturb wildlife, cause erosion, or result in any other type of environmental damage.

Sandgate's streams are also important recreational resources. The Green River, Terry Brook, Chunks Brook, Pruddy Brook and numerous other streams contain popular fishing and swimming holes, and provide an outstanding environment for hiking, picnicking, and other activities. With the exception of bridge crossings and stream segments that lie immediately adjacent to public roads, access to these streams involves crossing private property. As in the case of trails and forests, the town should encourage efforts to maintain public access to important streams.



**Figure 18: Green River Brook Trout.**

## 8.2 Recreational Resources Outside Sandgate

Just as many people who live elsewhere recreate in Sandgate, residents of Sandgate have access to nearby recreational resources in other towns. The Green River empties into the Batten Kill in Arlington. The Batten Kill is one of the premier recreational resources in the region, and Sandgate residents are among the many people who use the river for fishing, swimming, canoeing, and tubing. Similarly, many of Sandgate's trails extend into neighboring towns and the forests and wildlife populations of the Taconic Range are enjoyed by residents without regard to municipal boundaries.

There is also a very complete and well-run recreation park in Arlington; many Sandgate residents participate in activities at the park. In addition, since children from Sandgate attend schools in other towns, the scholastic recreational facilities and programs in those communities are important to Sandgate residents.

Because of this interdependence with other towns, it is important for Sandgate to communicate and cooperate with its neighbors. The town should remain active in regional planning through participation in the Bennington County Regional Commission. The Sandgate planning commission should solicit input from neighboring towns on local issues that might affect recreational uses or users in those towns. The Planning Commission should also attempt to stay informed of related issues in neighboring towns and should take advantage of opportunities to offer input in the planning processes in those towns.

## 8.3 Future Public Recreational Facilities

At the present time there is no organized public recreational facility in Sandgate. It is not likely, moreover, that such a facility will be needed or built in the next few years. It is probable,

however, that at some future time there will be a need for additional community facilities, including a small recreation park, near the center of town. The town should, therefore, consider acquisition of an amount of land adequate for such facilities in the Green River valley near the existing Town Hall.

#### 8.4 Policies and Recommendations

1. Rugged and poorly accessible mountain and forest areas should remain free from development, reserved for forestry and recreational uses consistent with their wilderness character. Every effort should be made to maintain the pristine quality of our ridgelines.
2. The town should participate in regional or inter-town planning activities which involve important recreational resources.
3. The town should consider the question of whether additional land will be needed, at some future time, for community facilities that may include a small park. If such a need is likely to exist, the town should develop a plan for acquiring suitable land.

### SECTION 9: PUBLIC FACILITIES AND SERVICES

#### 9.1 Educational Facilities and Services

Sandgate closed its last school in 1956 and the size of the town does not warrant consideration of a school. Sandgate (along with Arlington) belongs to the Batten Kill Valley Supervisory Union. Most Sandgate students attend the nearby Arlington schools, although some students are enrolled in schools in surrounding towns. The Arlington elementary and secondary schools have been designated "primary" schools for Sandgate; the local school district will pay full tuition for students attending Arlington public schools and up to the state average tuition for students attending other schools, including private and independent schools.

The town also benefits from the presence of the Arlington Area Childcare, Inc., a nonprofit publicly supported organization dedicated to quality, affordable childcare for the Arlington, Sandgate, and Sunderland area. This organization offers a playschool for children three to five years of age and an afterschool program for older children. Both of these programs are very important to Sandgate residents and should continue to receive support from the town.

#### 9.2 Town Buildings and Land

The Town of Sandgate real estate assets include: the Town Offices and the small lot it sits on; School House #2 and the small lot it sits on; and the town garage located on a 17 acre parcel. The Town Offices have been improved to provide an adequate vault and to meet federal accessibility requirements. Any new development or major modifications of Town property and



**Figure 19: Sandgate Town Office.**



**Figure 20: Sandgate Town Garage.**

buildings should take into consideration the intent of the Town Plan, should follow all state and local regulations and obtain all required permits.

### 9.3 Emergency Services and Law Enforcement

Sandgate is served by the Arlington Volunteer Fire Department and Fire Departments of surrounding towns and the Arlington Rescue Squad. A fire station, located near the intersection of Berwal Road and Route 313, serves the West Arlington and Sandgate areas. The town should continue its financial support of the fire department. Service by the Arlington Fire Department in Sandgate has generally been excellent, although it would be wise for the town to discuss the adequacy of narrow roads and weight-restricted bridges with the Department and determine if any improvements should be planned. One other issue of note is the fact that residents of West Sandgate must pay higher insurance premiums because of their remoteness from a fire station, although the situation has certainly improved with the establishment of the fire station in West Arlington.

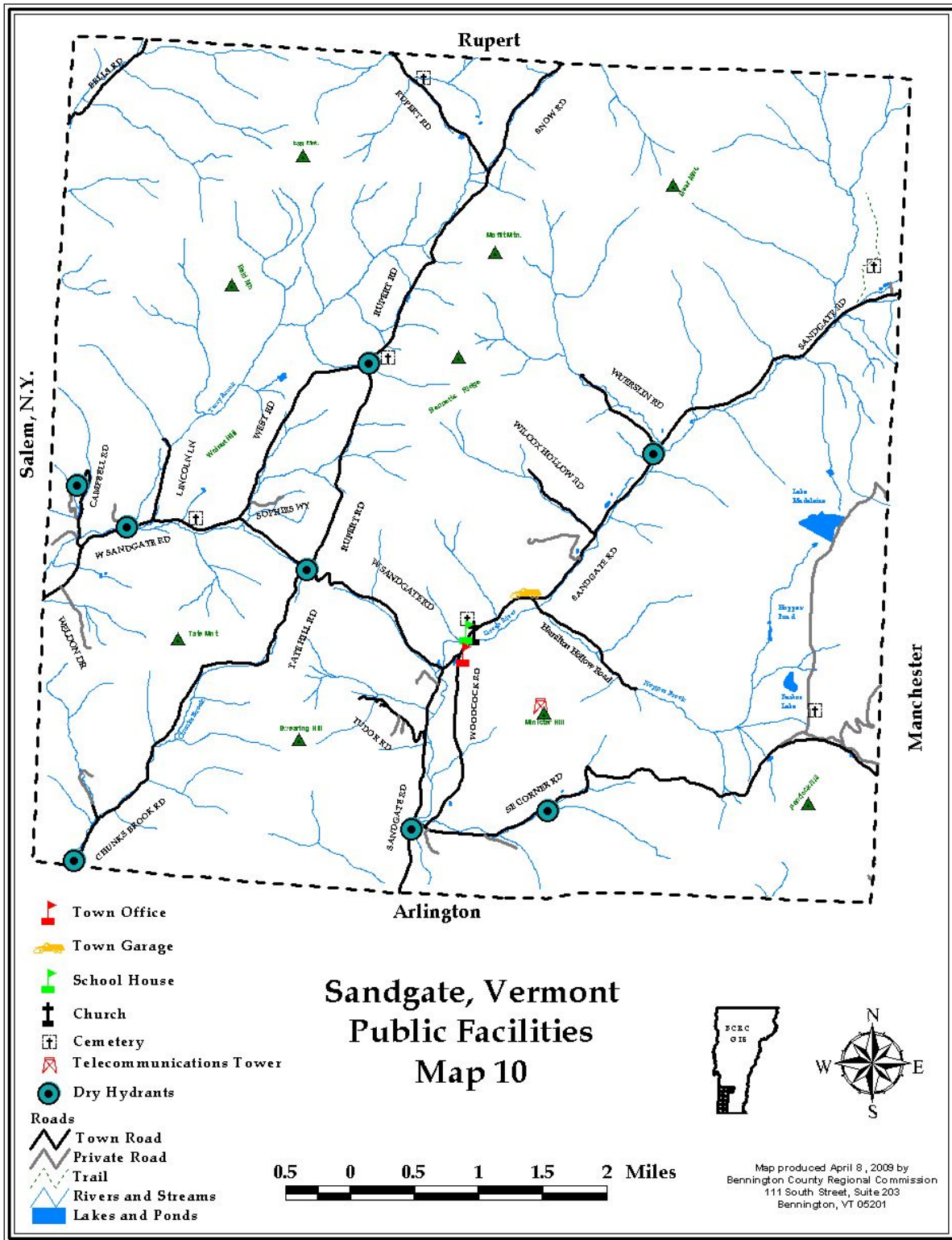
Dry hydrants are especially important for a town with no central public water distribution system and scattered residential development. Through partnership with the George D. Aiken RC&D, the Arlington Fire Department, and the Sandgate Road Crew, the Town of Sandgate has a very successful dry hydrant program. Tax-deductible donations, earmarked for the Sandgate dry hydrant program, will be accepted by the Arlington Fire Department. Residents who have or are planning on creating ponds are encouraged to contact the Town Clerk for more information on dry hydrants.



**Figure 22: Green River dry hydrant.**

The Arlington Rescue Squad responds to a number of emergency calls every year in the Town of Sandgate. Sandgate residents should recognize the importance and economy of this service and support it with their time and/or financial contributions.

The Emergency 911 system in Sandgate has been established and contributes significantly to improved public safety. Residents should be sure to follow guidelines for posting their address numbers along the roadway. A town constable provides local law enforcement and patrol services. The constable also communicates with the State Police and game wardens.



The Town budgets a small amount of money each year to support the services of the constable. Sandgate is fortunate that, for at least the next several years, current law enforcement services will suffice.

The land use policies of this plan discourage development in F2 zones, and steep slopes. One good reason for these policies is the significant costs associated with expanding emergency services that would be necessitated if development were allowed to spread to remote areas.

#### 9.4 Electricity and Telecommunications

Sandgate receives its electrical service via 7200V transmission lines owned by the Green Mountain Power Corporation. Telephone service is provided by Fairpoint Communications. Both electric and landline telephone services are adequate to meet existing demands and to accommodate reasonable future growth.

Telecommunication facilities and related infrastructure require careful consideration. These structures tend to be located in highly visible locations on mountaintops and ridgelines. The federal Telecommunications Act of 1996 placed certain limitations over municipal control of these structures; however, within those confines, Sandgate should act to protect its historic character, rural nature and aesthetic beauty. Toward that end, the zoning by-laws should incorporate specific provisions to guide and govern the placement of antennas and tower structures. Among other issues that may arise, the town is concerned about aesthetics, ridgeline protection, environmental protection and co-location of facilities.

Although current cell phone and internet services in town are inadequate, recent technological advances have allowed homeowners to establish small, residential scale wi-fi zones. While somewhat limited in its ability, the town should continue to seek solutions and work with providers who can improve the situation.

#### 9.5 Cemeteries

Two cemeteries, West Side and Sandgate Center, are overseen by an elected three-member Cemetery Commission. In addition to regular maintenance activities, the Cemetery Commission should investigate a restoration program where needed to improve and protect the appearance and integrity of the cemeteries and individual gravestones. The town should continue to appropriate funds to continue this program. At some time in the future additional land may be needed for burials. The several historical cemeteries in Sandgate located on private land are also important to the town and should be protected.

#### 9.6 Library

Financial support is provided to the Martha Canfield Library in Arlington, a facility used by many Sandgate residents. The library contains a good selection of books and videos and also offers a number of informative programs throughout the year, internet service and important other services such as the Russell Collection. The town should continue to support this facility with annual appropriations.

#### 9.7 Solid Waste

The Universal Recycling Law or Act 148 was passed by the Vermont Legislature in 2012. The primary purpose of this law was to significantly reduce the amount of material going into landfills. Over the past decade 30 to 36% of materials have been diverted from landfills. At the same time, the average amount of material each Vermonter generates has increased. This means that many useful and recyclable materials still end up in those landfills, which are

gradually becoming full. The Universal Recycling Law seeks to provide more choices and convenience for Vermont residents, businesses and institutions to make it easier for them to recycle. The law is being phased in over time to allow for the creation of the systems for managing materials.

The towns of Arlington, Bennington, Dorset, Glazenbury, Manchester, Pownal, Rupert, Sandgate, Searsburg, Shaftsbury, Stamford, Sunderland and Woodford have worked together to develop a Solid Waste Implementation Plan or "SWIP" consistent with the Universal Recycling Law. This plan will supersede previous plans. The SWIP describes a series of actions that the Alliance will implement between 2015 and 2020 to increase recycling of plastics, glass, metals, textiles and other materials banned from landfills, management of organics through composting, anaerobic digesters or other means, the proper disposal of household hazardous waste, the disposal of construction and demolition debris, and the proper management of biosolids. As part of the planning process, the towns formed the Bennington County Solid Waste Alliance (BCSWA) through an interlocal contract, pursuant to 24 V.S.A. Chapter 24, to implement the plan.

Individual households can save a considerable amount of money, through waste reduction, recycling, and composting. Individuals should take advantage of the free (town subsidized) recycling center at the Sunderland transfer station; paper, cardboard, glass, and several types of metal and plastic can be recycled. Consumers should also be careful to purchase products which are packaged in recyclable materials whenever possible. Finally, backyard composting of certain organic wastes can help reduce the volume of waste which must be landfilled or incinerated. The town should continue to discourage backyard burning of household waste which is against Vermont State Law.

#### 9.8 Water Supply and Wastewater Disposal

There is no area in Sandgate with sufficient population density to warrant construction of any type of a public wastewater disposal facility. Town residents will continue to rely on individual on-site septic systems. Likewise, there will be no central public water supply system in Sandgate in the foreseeable future. The presence of individual wells and septic systems in residential areas makes it imperative that the state's sewage disposal regulations are strictly enforced.

#### 9.9 Policies and Recommendations

1. Sandgate residents should continue to have the ability to choose the school that their children will attend.
2. The town should continue its support for important emergency service providers and public facilities that are used by Sandgate residents. The town should ensure that new developments are designed to facilitate emergency access and adequate water supplies for fire services.
3. Careful and coordinated financial planning for public facilities is very important. The town should consider developing a capital budget and program for any facilities that will be funded using Sandgate tax dollars.
4. Public investments in utilities, facilities, and services should support development in areas designated for growth, and not in outlying areas.

### SECTION 10: ENERGY

## 10.1 Issues

Energy is a scarce resource that should be considered in any comprehensive land use planning process. Homes and businesses use a variety of energy sources for heating -- wood, fuel oil, gas, electricity, and coal. With a heating season that generally lasts seven months, it is evident that home and business energy consumption is a significant issue for everyone in the area. Substantial economic savings can be realized through energy conservation. Of course, a reduction in energy usage also reduces the production of environmental pollutants. Energy conservation can be facilitated through effective land use planning, building standards and design, and improved transportation efficiency.

The siting, design, and construction of buildings strongly influences the amount of energy required for heating and cooling, as well as the amount of electricity needed for lighting. Proper subdivision design, building orientation, construction, and landscaping provide opportunities for passive solar space and domestic hot water heating, natural lighting, and photovoltaic electricity production. Additional energy and cost savings can be realized by retrofitting existing buildings with insulation, weather-stripping, compact fluorescent lights, and efficient appliances.

The most obvious and important renewable energy resource available to Sandgate residents is wood that is obtained from the town's extensive forest lands. Many residents rely on wood as a primary fuel for heating their homes.

The recent success of wind energy projects has led to searches for sites that might be suitable for commercial scale (10 to 20 MW / 20 to 60 turbines) wind energy facilities. Sandgate's high ridges and remote location make it potentially suitable as a site for the development of a wind-driven electric generating facility (See Map11). Although a number of these ridges are not appropriate because of environmental impacts, access and aesthetics, efforts to locate a suitable site and develop a commercial wind energy facility should be considered. The municipal zoning bylaw regulations should provide specific standards for wind energy facilities in Sandgate.

Sandgate's abundant water resources offer opportunities for the development of small hydroelectric facilities. The town should support efforts to research and develop these and other alternative energy resources.

The town should consider energy conservation and new technologies in the operation of the town hall and municipal vehicles. When evaluating energy options, the town should consider a number of factors: capital cost, operating and maintenance costs, safety, dependability, expected life of the technology, and environmental concerns. The town should consider an energy audit of town facilities.

In summary, the town and its residents should be mindful of energy conservation, and should objectively consider all available options for energy use. Because energy costs and technologies change frequently, the best energy strategy for Sandgate is likely to involve an intelligent and flexible mix of many energy sources.

## 10.2 Policies and Recommendations

1. The town should make an effort to minimize its energy consumption by using appropriate energy conservation and efficiency practices; the town should support programs that are designed to increase public awareness of energy issues and to encourage homeowners to conserve energy.

2. Major development proposals should address energy conservation and efficiency concerns.
3. Land use planning should take energy efficiency into consideration.
4. Renewable energy resources should be protected; Sandgate's productive forest land is an important energy resource.
5. Car pooling should be encouraged.

## SECTION 11: MUNICIPAL FINANCE

### 11.1 Budget and Tax Issues

The fact that town, and especially school, costs have risen steadily over the past ten years was documented in Section 6.2. The largest portions of the budget are the school tuition and town highway expenditures. The large increases in these items, especially the school tuition costs, have been primarily responsible for a total budget that has almost doubled in ten years.

Predictably, taxes paid by individuals owning property in Sandgate have risen significantly over this same time period. The residential property tax rate has increased from 1.20 in 1990 to 1.77 in 2003 (Table 6.1). Such increases in property taxes have not been uncommon in Vermont communities in recent years, and have led to a number of proposals for tax reform. If the magnitude of the local property tax continues to increase, the burden on the average household's income will become excessive. Efforts to control our growing reliance on property taxes, through fair and equitable reform programs should be supported.

The town can also improve its ability to handle significant large expenditures through careful capital budgeting and planning. The town should ask questions like: "Which projects should be undertaken?" "When should they be implemented?" and "How should they be paid for?" By answering these questions, the Town can develop a simple capital budget that can help to smooth out a fluctuating tax rate, anticipate problems before crisis conditions develop, coordinate related projects and activities, and assess alternative solutions.

### 11.2 Policies and Recommendations

1. The town should continue to carefully develop annual budgets in an effort to minimize the burden on local taxpayers and consider implementation of a long-range capital budgeting process.

## SECTION 12: HAZARD MITIGATION PLANNING

### 12.1 Introduction

Hazard mitigation planning is intended to reduce potential losses from future disasters. Hazard mitigation plans identify potential natural hazards that could affect a community and the projects and actions that a jurisdiction can undertake to reduce risks and damage from natural hazards such as flooding, landslides, wildland fire, and similar events. The Federal Emergency Management Agency, within the U.S. Department of Homeland Security and the Department of



Vermont Emergency Management both advocate the implementation of hazard mitigation measures to save lives and property and reduce the financial and human costs of disasters.

A Sandgate Hazard Mitigation Planning Committee consisting of The Sandgate Select Board, The Sandgate Emergency Management Director, The Sandgate Road Foreman, The Sandgate Planning Commission and Bennington County Regional Commission staff was formed in July 2014. A draft Sandgate Hazard Mitigation Plan has been submitted to FEMA for review and revisions are underway. The Hazard Mitigation Plan, which is posted on the Town website, is intended to identify, describe and prioritize potential natural hazards that could affect the Town of Sandgate and measures to reduce or avoid those impacts.

The Hazard Mitigation Plan uses local knowledge, existing plans and studies, reports and technical information to analyze the following natural hazards:

- Floods and Flash Floods
- Winter Storms
- High Wind Events
- Hail
- Temperature Extremes
- Drought
- Wildfire
- Landslides and Debris Flow
- Earthquake
- Hazardous Materials Spill
- Infectious Disease Outbreak
- Invasive Species

The plan also reviews current mitigation programs and capabilities, describes a comprehensive set of actions to mitigate the identified hazards and describes how the plan will be maintained and updated. Data references and sources of information including sources for the maps are also provided.

## 12.2 Mitigation Goals

The Sandgate Hazard Mitigation Planning Committee identified the following mitigation goals:

1. Significantly reduce injury and loss of life resulting from natural disasters.
2. Significantly reduce damage to public infrastructure, minimize disruption to the road network and maintain both normal and emergency access.
3. Establish and manage a program to proactively implement mitigation projects for roads, bridges, culverts and other municipal facilities to ensure that community infrastructure is not significantly damaged by natural hazard events.
4. Design and implement mitigation measures so as to minimize impacts to rivers, water bodies and other natural features, historic structures, and neighborhood character.
5. Significantly reduce the economic impacts incurred by municipal, residential, industrial, agricultural and commercial establishments due to disasters.
6. Encourage hazard mitigation planning to be incorporated into other community planning projects, such as Town Plan, Capital Improvement Plan, and Town Basic Emergency Operation Plan

7. Ensure that members of the general public continue to be part of the hazard mitigation planning process.

Based on the above goals and the assessment of hazards, Sandgate identified and prioritized 55 specific hazard mitigation actions. These actions are to be addressed through local plans and regulations, education and awareness, natural system protection, and structural and infrastructure projects.

### SECTION 13: RELATIONSHIP TO ADJACENT TOWNS AND THE REGION

The Bennington Regional Plan recognizes that Sandgate is a mountainous rural community. Residential development and agricultural uses are planned for the valleys, while the rugged upland forest areas -- roughly corresponding to forest zones -- will allow development on large parcels along with forestry and recreational uses. The Regional Plan acknowledges the importance of Sandgate's upland environment: its preservation serves to protect ground water, forest resources, wildlife habitat, and other natural values. The Sandgate Plan and the Regional Plan are thus in accord. Both state that Sandgate will remain a rural community, accommodating new residential and limited commercial growth where zoning and health regulations permit, thereby allowing for growth while preventing environmental degradation.

Similarly, the plans of adjacent towns (principally Rupert, Manchester, and Arlington) do not conflict with Sandgate's Plan as those towns all have extensive forest and low density residential land uses and zoning districts along their boundaries with Sandgate. The Sandgate Plan also identifies a number of issues -- schools, emergency services, recreation, solid waste, etc. -- where intermunicipal cooperation and communication is necessary. Particular attention should be directed toward issues involving roads and trails that run between Sandgate and adjacent towns.

It does not appear that the level of development planned for Sandgate will result in any significant impact in any other town; moreover, Sandgate has planned for the growth pressures it will face as a result of development in the rest of the Northshire. It would be wise, nonetheless, for the town to participate in joint meetings with neighboring towns when issues of common concern arise, and to continue to participate actively in the Bennington County Regional Commission.

### SECTION 14: IMPLEMENTATION PROGRAM - SUMMARY

Most of the sections in this Town Plan contain specific policies and recommended actions designed to implement the goals which were presented in Chapter II. A brief synopsis of principal implementing measures is presented here. Refer to the text of the Plan for a thorough discussion of these items.

1. The Town Plan should serve as a guide to local officials. Boards and commissions should refer to the plan as a regular part of their decision-making process.
2. The Town Plan should be consulted as the Town reviews and comments on the plans of state agencies, the regional planning commission, and neighboring towns. The Planning Commission and Selectboard should also appear at any Act 250 hearings in Sandgate and offer testimony on a proposed development's conformance with the plan.

3. Enforcement of the town's regulations -- especially the zoning, subdivision, and health ordinances -- is necessary to ensure that the objectives of the Town Plan are realized. These regulations should be periodically reviewed and amended as appropriate.
4. The Planning Commission should utilize soil maps, geographic information systems, and other data and technologies that provide valuable information for land use planning.
5. The town should evaluate the need for public facilities and services, giving consideration to development of a capital budget to help plan for such needs.
6. The Selectboard must consider the impact of transfers of private land to the United States Forest Service. The fiscal (tax) impacts must be evaluated together with the value of resources present and the appropriateness or potential for development on the parcel.
7. Sandgate should participate in multi-town or regional planning initiatives dealing with solid waste management, transportation, the Taconic forests, recreation, public services, and other issues that require cooperation among several towns.
8. Important historic and natural resources (including agricultural land) should be inventoried. Programs that are designed to preserve these resources should be supported.

## **SECTION 15: CONSISTENCY WITH STATE PLANNING GOALS**

The Planning and Development Act contains one set of goals that deals with the planning process—24 V.S.A. 4302 (b):

- To establish a coordinated, comprehensive planning process and policy framework;
- To encourage citizen participation;
- To consider the use of resources and the consequences of growth and development;
- To work with other municipalities to develop and implement plans.

Sandgate has a long established planning program, implemented through several municipal boards and commissions, the Town Plan and implementing regulations, part time professional staff, and active participation in the Bennington County Regional Commission (BCRC). Citizen participation is actively encouraged at all stages of the planning process; numerous public meetings and forums are held on a variety of issues and public attendance at planning commission and development review board meetings is somewhat strong. A guiding principle of the town's planning effort is to manage growth so that it is directed to achieve the greatest benefit to residents while avoiding wasteful consumption of land and other resources. Through its active role in the BCRC and various inter-municipal and regional projects and studies, the town works on a regular basis with other towns in the region and has particularly close ties with the neighboring towns of Arlington and Rupert.

Fourteen specific goals (24 V.S.A. 4302(c)) should be reflected in the Town Plan. Those goals are presented below with a discussion of how each is addressed in the Town Plan.

- 1. To plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside.**

The plan puts an emphasis on restrictive zoning as a way of ensuring longevity to the town's land, specifically discouraging development in Forest 2 zones. The town encourages new development to be built in areas close to existing town roads to minimize costs to the town. Development is to be consistent with the town's desire to maintain its rural character while residences are encouraged to use creative clustering techniques in order to have as limited effect on the natural environment as possible.

**2. To provide a strong and diverse economy that provides satisfying and rewarding job opportunities and that maintains high environmental standards, and to expand economic opportunities in areas with high unemployment or low per capita incomes.**

The plan includes current economic characteristics of the town and mentions that the only considerable economic activity comes from forestry, home occupations, and a small amount of agriculture. Many residents, as a result, commute into nearby towns for work. There is little mention of ways in which the town plans develop future economic activity in accordance with their rural values although it is stated that an increase in telecommunications infrastructure could make home occupations a much more viable option.

**3. To broaden access to educational and vocational training opportunities sufficient to ensure the realization of the abilities of all Vermonters.**

The plan touches briefly on current schooling and childcare conditions but little thought is put into funding for future education should the number of local students increase. There is also no plan for increasing adult and post-secondary education.

**4. To provide for safe, convenient, economic, and energy efficient transportation systems that respect the integrity of the natural environment, including public transit options and paths for pedestrians and bicyclers.**

The importance of maintaining town roads is stressed, especially relating to spreading out road expenditures as to avoid excessive one year growth. The plan talks of intentions to talk with local emergency responders to ensure all roads are accessible in case of emergency and to create emergency management routes. The plan does not address the potential an increase in economic activity could have on the town's roads (e.g., increased logging and maple sugaring activity).

**5. To identify, protect, and preserve important natural and historic features of the Vermont landscape.**

The town's natural resources are described in detail and are accompanied by means in which they can be protected through zoning and environmental conscious development. The plan addresses the need to protect waterways including the importance of maintaining riparian zones while still providing water access to residents. The economic and ecological importance of forests is stressed. The Current Use program is mentioned as a way for property owners to maintain healthy and undeveloped lands. The plan recognizes that although there is limited agriculture land, efforts should be made to

ensure that these areas of good soil are maintained even if not currently farmed, realizing in the future farming could be economically important. Numerous historical features are noted including the importance they have to the town. The plan encourages renovation and use of historic buildings as a way of ensuring they are preserved while also adding eligible sites to the National Register of Historic Places.

**6. To maintain and improve the quality of air, water, wildlife, and land resources.**

The plan recognizes that while the air is generally clear and clean an increase in solid waste disposal fees could lead to an increase in backyard burning although a solution to this problem was not discussed. The protection of critical wildlife habitat, both aquatic and terrestrial, is the basis of wildlife protection and the plan describes having this information about habitats available to the public. Maps of wildlife specifically focus on the wintering areas of deer and seasonal bear habitat. Planning for the extraction of land resources puts focus on sustainable extraction practices and ensuring these resources are not made inaccessible by new development.

**7. To encourage the efficient use of energy and the development of renewable energy resources.**

The town also promotes energy conservation and describes the desire to create public awareness campaigns promoting these practices. The plan does not include any incentives for people to make wise energy choices and while the town encourages car pooling, it does not mention any plans to further encourage this through the creation of a park and ride facility or a designated carpool parking area. The plan should also consider what types of renewable energies would have the least ecological consequences to install in a town like Sandgate taking into account the physical geography.

**8. To maintain and enhance recreational opportunities for Vermont residents and visitors.**

The plan recognizes that while the town has many options for recreation, neighboring towns also offer excellent recreational activities. A problem with many recreational areas in the town is that there is no public access without crossing over private property. The town does not address ways in which to create more recreational areas with access to the public. The plan does address the possibility of purchasing land near the center of town with the potential of creating a small recreation park.

**9. To encourage and strengthen agricultural and forest industries.**

The plan includes a map locating the best soils and mentions that some of these soils are still farmed. The plan does not include the potential these soils have either economically or as a food source for the community. There is also little focus on the current logging and maple sugaring industry although it is mentioned that silvicultural practices are encouraged to ensure healthy and sustainable lands. The plan does not include what the current condition of the town's forests are, whether they can sustain an increase in logging and maple sugaring activity, or the economic effects this would have.

**10. To provide for the wise and efficient use of Vermont's natural resources and to facilitate the appropriate extraction of earth resources and the proper restoration**

**and preservation of the aesthetic qualities of the area.**

The plan includes a map of potential gravel and aggregate sites and stressed the importance of ensuring these sites are available for use in the future while also ensuring their extraction has a minimal impact on the environment. There is no discussion of the economic value of these resources.

**11. To ensure the availability of safe and affordable housing for all Vermonters.**

The plan explains there are areas available for building of affordable housing but does not discuss the status of current affordable housing except that the town has flexibility with zoning bylaws allowing for a second dwelling to be built on a lot which houses a non-paying guest of the property owner. Although a “density bonus” is offered for new subdivisions the town should create alternative plans for affordable housing should construction of new subdivisions not be a viable option.

**12. To plan for, finance, and provide an efficient system of public facilities and services to meet future needs.**

The plan does a good job addressing current community facilities and some successful projects, such as the dry hydrant project, but should plan for changes which will likely take place in the near future. The status of cell phone and internet access should be addressed along with what changes the availability of internet service would have. The town should look into creating additional places where internet service is available to the community beside the Town Office and the Martha Canfield Library in Arlington. There is no discussion on planning for an increase in the cost of law enforcement and emergency services should there be an increase need for these services.

**13. To ensure the availability of safe and affordable child care and to integrate child care issues into the planning process, including child care financing, infrastructure, business assistance for child care providers, and child care workforce development.**

Some discussion mentions the continued support of Arlington Area Childcare, Inc. for use by residents.

**14. To encourage flood resilient communities.**

A new flood resilience section has been added to the plan. Topics covered in this chapter are: the Emergency Relief and Assistance Fund, Special Flood Hazard Areas, River Corridors, and the new FEMA Flood Insurance Rate Maps. Structures located in the Special Flood Hazard Area and River Corridors are listed, and strategies for protecting those properties and limiting future losses are covered. The plan references the town’s flood hazard area regulations and the National Flood Insurance Program that provides access to flood insurance. The plan also includes information and recommendations relating to mitigation actions and flood recovery resources.

## Required Elements

1. Statement of Objectives, Policies, and Programs: The plan sets forth a clear set of goals and objectives with policies and recommendations on how best to achieve these through municipal action.
2. Land Use Plan: The plan describes current land use which is further shown through maps while addressing ways in which zoning and policy making will influence future development in accordance with the town's values.
3. Transportation Plan: The plan describes the condition and maintenance of town roads while also outlining the financial and logistical challenges of maintaining roads in a rural area. Also Included is a map showing the different classes of transportation routes within the town.
4. Utility and Facility Plan: The plan contained information on all utilities and facilities needed by the town while also addressing facilities used which are located in neighboring municipalities. A map shows all current facilities in the town and addresses the need for future development to be located in a way which does not increase financial burden on the public.
5. Natural Areas, Scenic and Historic features: The plan describes these features extensively along with their importance to the community. Policies focus on careful development to preserve these areas.
6. Educational Facilities Plan: Only A small section of the plan discusses education since the town does not have any schools within its municipal boundaries. Since the town does not have a school the plan does not have a map of educational facilities.
7. Implementation Plan: Each section of the plan is concluded with a detailed sub-section on policies and recommendations along with the final section of the plan which summarizes the town's overarching implementation plan.
8. Relationship to adjacent towns and the region: Numerous sections state the importance and need of interacting with neighboring municipalities while also maintaining strong connection with the county through the BCRC's regional plan.
9. Energy Plan: The plan contains issues involved with energy usage along with plans for energy conservation and education. The plan also addresses the potential for renewable energy and puts a priority on ensuring future construction is done in the most energy efficient means possible.
10. Housing Element: The plan contains goals on areas best suited for development in order to minimize disturbance to the environment and lessen the need for new infrastructure. Increased planning should go into ways of providing affordable housing for low and middle income residents.
11. Economic Development Plan: The plan includes a description of the economic activity within the town focusing on forestry and home occupations. The plan also acknowledges the importance of the nearby economic centers of Bennington and Manchester which employ a large number of the residents.
12. Flood Resiliency Element: A newly required flood resilience element has been added to the plan. Topics covered in this chapter are: the Emergency Relief and Assistance Fund, Special

Flood Hazard Areas, River Corridors, and the new FEMA Flood Insurance Rate Maps. The plan references the town's flood hazard area regulations and the National Flood Insurance Program that provides access to flood insurance. The plan also includes information and recommendations relating to mitigation actions and flood recovery resources.



**Figure 22: Sandgate-grown flowers**