

MARSHFIELD TOWN PLAN

Adopted
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A SENSE OF PLACE IN MARSHFIELD

EARLY HISTORY

The independent Republic of Vermont chartered the Town of Marshfield in 1790 and named it for Isaac Marsh, one year before Vermont became the 14th state to join the United States of America. Located in the northeast part of Washington County the 44 square mile Town of Marshfield is wooded, hilly, and bisected by the fertile valley of the Winooski River.

The Abenaki were the aboriginal inhabitants of the land that came to be known as Marshfield. From their seasonal camps, they hunted game, fished and gathered food in the Winooski River Valley and surrounding hills. The forced northern retreat of the Abenaki opened the area to settlement by English families from southern New England.

Land controversies, the French and Indian War, and the onset of the American Revolution had kept the number of actual settlers coming into Vermont low. While their numbers were low, the first Yankee settlers from Connecticut, New Hampshire and Massachusetts, traveled upcountry to this northern frontier to develop small farms in the 1790s. There were only 172 people in 20 families when the first Marshfield Town meeting was organized in 1800. Initially, trees were the land's primary resource and the old-growth rock-laden forests were cleared for four interrelated reasons: farmland, fuelwood, potash and lumber. Today's roads in Marshfield generally follow the same migration trails that were cut from the forest during the settlement period.

THE RIVER AND THE VILLAGE

The Winooski River has been an important factor in the development of Marshfield. The name Winooski derives from the Abenaki word meaning 'onion place' and the river was known in the earliest days of settlement as the Onion River. Several small streams join the winding Winooski River as it flows southwest through the township in a fertile and picturesque valley. Today the course of the river, the floodplain and ecology is a natural resource protected by the Marshfield Town Plan.

A village center evolved where the stagecoach roads to Cabot, Danville, and Montpelier converged with the small industries along the falls of the Winooski River. A network of roads linked the dispersed farms to stores, shops and water-powered mills in the village center. Farmsteads prospered throughout the town early in the 19th century and by 1830 the population had increased to 1271. Marshfield, like the majority of Vermont towns, suffered rural de-population beginning in the 1830s and by 1950 the population had declined to only 830.

AGRICULTURE

The development of Marshfield into a rural agricultural community in the 19th century was caused by the terrain, climate and geographic location that favored small farms. The topography of the land established the historical pattern of growth on the landscape

where agriculture was the predominant occupation throughout the century. In the 1840s farms produced bushels of wheat, barley, oats, rye, buckwheat, corn, and potatoes, as well as hay, wool and maple sugar. A typical livestock inventory in the 1850s included sheep, cattle, dairy cows, hogs, oxen, horses and hens. Additional farm products included cheese, apples and honey. Many significant barns were built for livestock and several have survived in the 21st century.

Agriculture went through three general periods: self-sufficiency, commercial agriculture and decline. With the decline in farming, the forested landscape began to recover. The dairy industry emerged as the most viable enterprise within agriculture and evolved through three phases: cheese, butter and fluid milk. When the cooperative creamery association was organized in 1896, the town boasted 39 dairy cows per square mile.

BUILDINGS AND BRIDGES

The log houses of the first settlers soon gave way to more sophisticated dwellings. Houses of wood frame or brick were built in a variety of architectural styles including Federal, Greek Revival, and French Second Empire. Marshfield Village still has a concentration of historic houses, stores and churches that retain their historic architectural character. Of the many wooden covered bridges that once served travelers, only one covered bridge remains; the 1890 privately-built Martin Bridge that once allowed farm animals to pasture on the east side of the Winooski River. This historic bridge is now owned by the town and is the focus of a restoration project.

CULTURE AND EDUCATION

In the 19th century residents organized churches, civic and fraternal organizations, as well as a town band and orchestra. A bandstand was a focus of community pride on the small town common near the Marshfield Village Store. A circulating library that began shortly before the Civil War moved to the new Jaquith Library near the town common in 1899. As the population grew public one-room schoolhouses were built in eleven districts throughout the township. Gradual consolidation led to the building of a single village high school in 1929. This former school building is now known as the Old Schoolhouse Common and provides offices for the Town Clerk, the Jaquith Library, the Marshfield Historical Society and several small businesses.

THE RAILROAD

The Montpelier and Wells River Railroad came up the Winooski Valley in 1873 and a station was built on Depot Road near the village. All of the commercial and political activities in the state's capitol were now only a short train ride away and two years later a telegraph line was set along the route of the railroad. The railroad continued east to the small community of Lanesboro that was organized in 1883 around a very large sawmill.

THE TWENTIETH CENTURY

In the early twentieth century Marshfield experienced changes in business, communication, industry and transportation. The first telephone and electric service arrived in the village about 1900 and Rural Free Delivery of mail began about 1907. Marshfield Village was incorporated in 1911 where residents constructed a sewage system, street lighting, and a fire station with an organized volunteer fire department.

By 1920 the town's professions included an auctioneer, a beekeeper, a blacksmith, four carpenters, a coal dealer, three horse dealers, a jeweler, two lumber dealers, a milk dealer, two painters and paperhangers, and a shoe repairer. Other occupations included a clergyman, five justices of the peace, and two physicians. Local businesses included agricultural implements, a drug store, two fertilizer dealers, a grain merchant, five general stores, a boarding house, two saw mills, a stables and a stove salesman. The railroad station had an express company and a telegraph company. The town also boasted its own hydroelectric power plant and a large stone dam that contained the Marshfield Reservoir.

The Groton State Forest, established in 1919, is located along the town's eastern border. From 1933 until 1941 the Civilian Conservation Corps built park shelters and hiking trails to provide year round recreational opportunities. The CCC also worked on forestry projects and constructed a permanent road through the forest to the town of Groton.

The old stagecoach road along the Winooski River, known as the River Road, was paved in 1932 between Plainfield and Marshfield and given the designation U. S. Route 2. Automobile travelers vacationed overnight at five private tourist cabin locations along the highway. Electric lines reached local houses and barns in the late 1930s and in the early 1950s bulk milk tanks were introduced to the dairy farms. The bulk tank led to the demise of many marginal farms that could not afford the new technology.

The fires of 1905 and 1909 destroyed many buildings in the village, the devastating flood of the Winooski River in 1927 and the national depression of the 1930s made it difficult for the town to recover economically. Later in the 1960s, the population began to increase with a back-to-the-land movement that attracted new residents from urban and suburban living to Marshfield's countryside.

MARSHFIELD NOW

In 1970 the town population grew to 1033 and Marshfield joined the neighboring town of Plainfield in building a public school. The mission of the Twinfield Union School community is to educate all students to become responsible, productive, critical-thinking, life-long learning citizens in a safe, nurturing environment of mutual respect, high standards, creativity and academic excellence.

The Marshfield landscape represents the accumulated total of the decisions and compromises made by generations over time. Houses, roads and hills all have their stories. Today's landscape was created by a decline in agriculture, the return of the forests, a growth in population and the introduction of conservation zoning and land-protection programs. Also significant has been the increasing conversion of the town into

a bedroom community of residents who commute to employment opportunities in larger towns. This has led to the building of houses in forests and fields, fragmenting the landscape for agriculture, forestry and wildlife.

Marshfield has evolved over time from an almost self-sufficient agricultural and small manufacturing economy to a more complex mixture of economic activity. In the 2000 Census there were 1496 people in Marshfield. The Town introduced zoning and planning to encourage responsible growth while maintaining the historic rural character of the community. Our Town Plan recognizes that Marshfield is, and through the planning process can remain, a small, rural, primarily residential community characterized by a population that is both economically and demographically diverse.

Living in the hills that form the watershed of the Winooski River provides an opportunity to build a healthy and sustainable community where a diverse group of people live together in ways that create a sense of common interest in a common landscape. The economic, scenic and wildlife values of the natural environment, in combination with the historic values of the built environment, provide a distinctive 'sense of place' in the Town of Marshfield. This 'sense of place' is preserved and enhanced when concerned citizens take action locally to protect and conserve the heritage and natural resources of our rural community.

© "*A Sense of Place in Marshfield*", researched and written by John P. Johnson, President of the Marshfield Historical Society, November 2, 2004.

CHAPTER 1

INTRODUCTION

I. PURPOSE

This Town Plan provides guidelines and recommendations for how Marshfield will accommodate growth, development and opportunities for improvement without losing its rural character.

This Plan recognizes the Town is, and through the planning process should remain, a small, rural, primarily residential community which has an economically and demographically diverse population.

This Plan is designed as a guide to:

- Promote the health, safety, and welfare of Marshfield residents;
- Prevent overcrowding of land and foster its wise and sound use;
- Manage concentrations of buildings, commercial activity, and small scale industry;
- Provide transportation, water, waste disposal, schools, recreational opportunities and other public needs while making adequate provisions for protection of the environment.

II. COMMUNITY VALUES AND PRIORITIES

As a result of the response to the community-wide survey conducted by the Marshfield Planning Commission in the summer of 2004, this plan seeks to honor the expressed desire of the people in Marshfield to retain the traditional character of the village and the rural nature of the Town. A summary of the results of the survey (Appendix A) and public meetings on this plan are on file in the office of the Marshfield Town Clerk.

III. IMPLEMENTATION

The Town of Marshfield will implement the goals, objectives, and strategies of this Plan in the following ways:

- By using this document as the foundation for future land use regulations (i.e., zoning and/or subdivision) that the voters of the Town can amend or authorize over the life of the Plan;
- By using this Plan as a guide in all relevant local government decision-making processes;
- By reviewing the plans and activities of State agencies to ensure that they

are consistent with this document (and taking appropriate action if they are not);

- By promoting the philosophy of this Plan with neighboring towns and at the regional level through continued participation in regional organizations such as the Central Vermont Regional Planning Commission;
- Through the Town's participation in the VT Act 250 process as a "statutory party," particularly under criterion 10 (conformance with the local plan).

IV. BASIC GOALS AND PRINCIPLES OF THE MARSHFIELD TOWN PLAN

1. To protect and preserve the integrity and function of Marshfield's important natural resources, environmentally sensitive areas, and historic features. (Chapter 3)
2. To realize an efficient system of public facilities, services and schools to meet future needs. (Chapter 4)
3. To create a transportation system which is safe and efficient for vehicles and pedestrians, promotes the economic vitality of village areas, and preserves the quality of Marshfield's environment. (Chapter 5)
4. To promote awareness of the opportunities for renewable energy sources, and the conservation of energy resources. (Chapter 6)
5. To encourage housing development/redevelopment consistent with the Town's desire that residents have a safe and affordable place to live. (Chapter 7)
6. To stimulate appropriate economic development and provide opportunities for individuals to establish locally-based business ventures, while maintaining high environmental standards. (Chapter 8)
7. To maintain the rural character of the community as defined by its traditional village areas, open spaces and forested hills, as well as the human activities thereon. (Chapter 9)
8. To maintain and enhance recreational opportunities.
9. To present a Land Use Plan and proposed zoning regulations which will help to achieve the goals within this plan while using language that is clearly understandable.

V. COMPATIBILITY STATEMENT

According to Vermont statute, a municipal plan is considered to be "compatible" with the plans of its neighboring towns and the region if it "will not significantly reduce the desired effect" of the same. By virtue of its geography and planning goals, Marshfield's potential for inter-municipal land use conflicts is limited.

This Plan's basic focus is to preserve the Town's rural character while accommodating reasonable growth and development; this plan does not appear to threaten or obstruct the planning goals of any neighboring community or the Central Vermont Regional Planning Commission.

CHAPTER 2

A STATISTICAL PROFILE OF MARSHFIELD

I. MARSHFIELD IS STILL RURAL, BUT GROWING QUICKLY

Marshfield is one of the more rural towns in the Central Vermont Region. However, on a percentage basis, its population has been growing rapidly for several decades. In fact, between 1990 and 2000, Marshfield grew at a rate two times faster than the rest of the Central Vermont region and nearly one and one half times faster than the rest of the State, exceeding its projected population for the year 2000. Given recent trends, continued growth is likely. Still, despite its recent growth Marshfield's population remains below the historical high it reached in the 1800's.

Table 1			
Population Growth 1970-2000			
Population:	Marshfield	Central VT	Vermont
1970	1,033	50,688	444,732
1980	1,267	56,284	511,456
1990	1,331	59,619	562,758
2000	1,496	63,276	608,827
% Change 1970-00	45%	25%	37%
% Change 1990-00	12%	6%	8%

Source: U.S. Census, Vermont Department of Health

Table 2			
Age Distribution 2000			
	Marshfield		CV Region
	Number	% Population	% Population
Under 5 yrs.	109	7%	7%
5 - 18	331	22%	18%
19 - 65	917	62%	62%
Over 65	139	9%	13%

Source: U.S. Census

Not only has Marshfield grown faster than the rest of the region, but its growth has been of a different character, as well. In Marshfield one third of the growth between 1990 and 2000 was attributable to in-migration. Elsewhere in Central Vermont in-migration accounted for only one quarter of all new population growth. Since Marshfield's land area has not changed, its population density continues to increase.

	1970	1980	2000
Marshfield	23.6	30.0	34.7
Central Vt.	67.4	74.8	79.4
State	48.1	55.3	65.8

Source: Extrapolated from U.S. Census and VT. Dept of Health.

As these statistics suggest, Marshfield's population growth has been accompanied by new residential development. Even without experiencing the pressure of large subdivisions or large-scale residential developments, the Town is presently among the fastest growing in the Region in terms of new housing units. In fact, Marshfield's housing growth has been even more rapid than its population growth. The number of housing units in Town increased by eighty percent during the past thirty years: from 378 in 1970 to 686 in 2000 (see Table 4). Over forty percent of the current housing stock has been built since 1970. A portion of the Town's housing boom can be attributed to the trend toward fewer people living in each house (requiring more housing for the same amount of people) (see Table 5).

	1970	1980	2000	% Change ('70 - '00)
Marshfield	378	494	686	81%
Region	17,208	23,634	29,912	74%

Source: U.S. Census, VT, Dept. of Health

	1970 #	Average Size	1990 #	Average Size	2000 #	Average Size
Marshfield	307	3.36	480	2.77	572	2.61
Region	14,960	3.39	22625	2.64	25,681	2.46

Source: U.S. Census

Continued population and housing growth in Marshfield presents planners with several challenges. Demands for municipal services are certain to increase as are impacts on the Town's natural resources. *It will take wise and careful planning for Marshfield to continue to accommodate the future while retaining its rural character and identity.*

II. MARSHFIELD IS A "BEDROOM COMMUNITY"

In earlier times, Marshfield's economy placed greater emphasis on the use of its natural resources. Until the second half of the 20th century, agriculture, water-powered manufacturing, quarrying, and forestry, were the Town's employment mainstays and most

residents made their living in town. Several retail establishments catered to the population drawn by such industry. Now, with few Marshfield residents working in Town, only a small number of retail establishments, and no large employers, Marshfield has clearly evolved into a "bedroom community."

Based on the 2000 census Marshfield represents 2.4% of the total population of the Central Vermont Region, yet supplies only 198 jobs (.6 percent of the Region's total) distributed among 26 employers. Marshfield residents occupy approximately 150 of these positions, and there are 120 self-employed individuals living in the community. There are 504 members of the workforce employed outside of the town, mostly in Montpelier, Barre and St. Johnsbury.

Table 6			
Place of Work, 2000			
	Marshfield	Region	State
Resident workforce	783	33,680	317,134
% Residents working outside community	64.4%	64.0%	54.8%

Source: U.S. Census

Table 7				
Employment by Industry, 2000				
	Marshfield		Wash. Cty	State
	#	%	%	%
Agri., mining, forest	21	2.7	2.1	3.0
Information	38	4.9	3.3	2.4
Manufacturing	87	11.1	10.3	15.1
Construction	41	5.2	6.4	6.7
Transportation	27	3.4	2.7	3.7
Wholesale Trade	27	3.4	3.2	3.1
Retail Trade	92	11.7	11.1	12.0
Finance, RE, Ins.	47	6.0	6.9	4.7
Bus & Rep. Svcs.	46	5.9	7.3	7.1
Pers, Rec, Entertain	43	5.5	8.1	8.6
Ed & Health Svcs.	201	25.7	23.3	24.1
Public Admin.	76	9.7	10.1	4.6
Other Prof. Svcs.	37	4.7	5.1	4.7
Total	783			

Source: U.S. Census

With Marshfield's continuing transition from a resource-based economy to a commuter economy, the land has declined as a source of significant economic activity. Marshfield, like most Vermont towns, has lost much of its agricultural base, and now trails the State average of residents employed in agriculture, quarrying and forestry (see Table 7). Overall job mix is now much like the region and the state.

As Table 8 suggests, self-employment plays a significant role in Marshfield's economy. Home employment is important too, and probably growing with the emergence of "telecommuting." As of 2000, almost 15 percent of Marshfield's workforce was based out of the home.

Table 8				
Employment by Organizational Category, 2000				
	Marshfield		State	
	#	%	#	%
Private Wage & Salary	507	64.8	238,678	75.3
Government Workers	156	19.9	45,010	14.2
Self Employed	120	15.3	33,446	10.5

Source: U.S. Census

III. MARSHFIELD IS NOT A WEALTHY TOWN

For decades Marshfield has displayed statistics which reflect a degree of economic distress. This trend appears to have reversed since 1990. Poverty levels, which began to decline in the 1980's, continue to decline and now the poverty level in Town is below that of the State level (see Table 10). Income levels, while still below average, have improved at a rate somewhat above the rest of the region. Marshfield now has a number of households in all of the 16 U.S. Census household income categories.

Table 9			
Median Family Income 1990, 2000			
	1990	2000	% Change
Marshfield	\$29,107	\$44,063	51%
Washington County	\$35,395	\$51,075	44%

Source: U.S. Census

Table 10				
Persons Below Poverty Level 1990 and 2000				
(Percent Total Population)				
	1990		2000	
	#	%	#	%
Marshfield	154	11.5%	135	9.1%
State	53,369	9.0%	55,506	9.4%

Source: U. S. Census

However, while the outlook appears to be improving, it should be noted that poverty statistics are often criticized as outdated and deceiving, especially for cold-climate, rural

communities where factors such as fuel and transportation costs are not considered. Accordingly, more communities are adopting "livable wage" criteria as their economic indicators and goals.

The economic hardships of Marshfield's residents may, for instance, be more accurately reflected in its housing costs. Housing values have increased rapidly in Marshfield in recent years. Rents are actually higher in Marshfield than in the rest of the region (see Table 12).

Table 11			
Median Housing Unit Value 1990, 2000			
	1990	2000	% Change
Marshfield	\$68,077	\$92,100	135%
County	\$86,422	\$105,200	121%

Source: U.S. Census

Table 12			
Median Contract Rent 1990, 2000			
	1990	2000	% Change
Marshfield	\$406	\$546	34%
Wash. County	\$349	\$519	49%

Source: U.S. Census

The education levels have risen considerably over the past two decades. In 1980 seventy three percent of town residents completed twelve or more years of formal education, the most recent census records that over ninety percent of town residents have completed 12 or more years of formal education – a twenty percent increase. This change in the education pattern in Town has contributed to the improving economic picture.

Table 13						
Highest Grade Achieved for persons 25+ Years of Age						
	K-8	9-11	12th Grade	1-3 yrs. College	4+ yrs College	Total
Marshfield #	43	48	368	194	328	981
% of total (2000)	4.4%	4.9%	37.5%	19.8%	33.4%	
% of total (1990)	9.5%	8.3%	37.1%	21.1%	24.0%	
Region #	1,996	3,218	14,039	10,418	13,036	42,707
% of total (2000)	4.6%	7.5%	32.9%	24.4%	30.6%	
State #	20,769	34,127	130,804	99,498	119,025	404,223
% of total (2000)	5.1%	8.4%	32.4%	24.6%	29.5%	

Source: U.S. Census

CHAPTER 3

THE LAND AND ITS RESOURCES

I. OVERVIEW

The landscape is the stage and source for all human activity. In Marshfield, natural features have determined the character of the community in its settlement patterns and have served as a source of livelihood and beauty to Town residents over the last two centuries. These resources continue to provide both opportunities and constraints to development.

However, as recent decades have demonstrated, the resources and frontiers that the land can provide are finite and vulnerable to abuse. This is particularly true during periods of rapid growth and development. It will be in Marshfield's long-term best interest therefore, to use land and its resources efficiently and wisely so that they may continue to provide opportunities for human endeavor and growth.

This chapter describes:

- The physical landscape of Marshfield; its geology, topography and soils.
- The resource production lands.
- The resource protection lands and waters.
- The land based cultural resources.
- The goals, objectives, and strategies designed to maintain a harmonious and mutually beneficial balance between people and the land.

II. PHYSICAL GEOGRAPHY

The Town of Marshfield is located in Washington County in Northeastern Vermont. It is bounded by the Towns of Plainfield, Groton, Peacham, East Montpelier, Calais, and Cabot, and contains approximately 27,904 acres of land. It is about 76 percent forested, with only about 2.5 percent of its land area developed. Approximately 11 percent of Marshfield's land area is cropland, pasture, or open land and another 6 percent is formerly open land in the process of reverting to forest. Wetlands and surface waters comprise about 4 percent of the Town's total area (See Table 14).

Category	1999		2005	
	Acreage	% Total	Acreage	% Total
Forest Land	21,172	75.9	20,675	73.9
Ag/Open Land	3,127	11.2	3,263	11.7
Scrub/Shrub	1,782	6.4	1793	6.4
Wetlands	831	3.0	844	3.0
Developed Land	710	2.5	727	2.6
Surface Water	287	1.0	692	2.4

Source: CVRPC _ LULC Data

A. GEOLOGY

The Winooski River is the approximate boundary between the granite rock of the Knox Mountain Pluton to the east, and the calcareous quartz-mica schist of the Waits river and Gile Mountain rock to the west. The valley and the land to the west is the best agricultural area, and has historically been the location of the most productive farms, and intensive settlement. Parts of the granite rock are plastered with alluvium and glacial outwash, such as Maple Hill, the Nasmith Brook drainage, and along the New Discovery road, and good farms have been located in these areas. The outwash has produced small pockets of sand and gravel in these areas, such as the field on the old John Fowler farm, and the town sand pit on the Nasmith Brook road. Where it is lacking the alluvium and outwash the granite has weathered to produce a thin, acidic soil that is unsuitable for agriculture or development, and the early attempts at settlement in these areas have been abandoned

The schists are about 350 million years old, deposited as muds in a shallow warm sea, and the granite arrived as red hot magma that pushed up under the schists a few million years later. The over lying schists were slowly eroded away by water and thousands of years of glaciation to expose the under-lying granite and the topography we see today, with the many visible reminders of the sedimentation, volcanism, glaciation, and weathering of our stormy past.

B. TOPOGRAPHY

Topography, the lay of the land, is defined by elevation and slope. Both of these are natural features that influence past and future settlement patterns and uses of the land. With just over 1,500 feet of topographic relief inside its boundaries, Marshfield is rugged and picturesque. Hilly, but not mountainous, it is part of physiographic region known as the Vermont Piedmont - a plateau that has been dissected by streams and subdued by glaciation. Generally, slopes are moderately steep. From a minimum elevation of just about 730 feet along the Winooski River at the Plainfield border, the terrain climbs to over 2,000 feet in many places. Hardwood Mountain at 2,445 feet, is one of the highest points in Town. The highest point is an unnamed mountain on the south side of Pigeon Pond, nearly 2,300 feet in height. Another higher peak is in the New Discovery area near Lanesboro.

The Winooski River divides the Town into two clearly different portions, while the river's flood plain provides the flat areas of Town. East of the river there are a number of distinct hills and mountains with significant slopes and high elevations. On the western side of the Winooski River, are a series of hills including Hollister Hill, Gritt Hill, Knob Hill, which form a north-south upland plateau of lower elevation than the peaks on the eastern portion of Town. Steep slopes in the east portion of Town exist because the land rises quickly on either side of the Winooski River and in the area adjacent to the several brooks which run generally southeast into the river.

The steepness of the land as determined by slope can restrict the viability of septic tank systems, building locations, utility and safety service, and road building. Elevation is also important in evaluating the fragility of landforms, as soils are thinner, erosion more extensive, vegetative cover more sparse, and climatic conditions more severe as elevation increases, especially above 2,000 feet.

Slope is a factor taken into consideration when determining where development is permitted. Generally, proposed development on land with slopes greater than 15 percent require more detailed design, construction criteria, and consideration of soil parameters, thereby increasing development costs and potential environmental damage due to erosion and runoff. With slopes of greater than 20 percent the likelihood of environmental damage due to erosion and runoff is almost assured.

B. SOILS

Soil is the layer of earth that lies directly over the bedrock. It is the layer through which rain and nutrients filter, upon which crops and trees grow, and where wildlife and humans create their lives and homes. The type of soil that develops in an area is dependent on its parent material (bedrock and glacial deposits), vegetation, topography, climate and time. Understanding the characteristics and capabilities of these soils is important for planning the types, locations, and intensities of future land uses. Soils information can be an important guide for reviewing individual development proposals.

Scientists of the USDA Soils Conservation Service (SCS) have mapped the soils in Marshfield and the data has been transferred to GIS mapping. A soil interpretation sheet for each soil type is available which describes the soil and evaluates its capability for certain uses. Information on slope, texture, density, permeability, depth to bedrock, flood hazard, frost action, depth to seasonal high water table, and other characteristics is available. Soils are evaluated for their suitability for construction, septic systems, water supply, recreation, farming, woodland management, wildlife and resource material uses. In general, unfavorable soil types for development typically contain excessive slopes, shallow depth to bedrock or hardpan, wet soils, excessively drained soils, unstable soils, and erodible soils.

The majority of soils identified in the survey of Marshfield by the Soil Conservation Service have severe limitations for septic tank absorption due to depth to rock, wetness, slow percolation, flooding, and/or poor filtering. Those soils with slight or moderate limitations for septic tank absorption fields are limited to those existing on 3-

8 percent slopes are not greatly in evidence. In many of the soils that have moderate or even severe limitations for septic absorption, it may be possible to install special systems that lower the seasonal water table or to increase the size of the absorption field so that satisfactory performance is achieved.

III. RESOURCE PRODUCTION LANDS

Resource production lands benefit society on many levels - economic, aesthetic, recreational, and environmental. They provide habitat for wildlife, undeveloped sites for flood storage and watershed protection, scenic vistas, open spaces for a variety of outdoor pursuits, and increased utilization of local sources of food and wood products.

Few would argue against the need to protect and maintain these important and traditional uses of our land. However, the land is subject to development pressures, poor practices and a variety of economic forces. Agricultural lands are particularly vulnerable to encroachment and conversion as they are often level, cleared and on good building soils.

A. AGRICULTURAL LAND

Although Marshfield, with its rugged landscape and narrow valleys, may not fit the image of an agricultural community, it does contain some good farmland soils. Prime agricultural soils in Marshfield are located primarily along the Winooski River Valley, the New Discovery Road, Town Highways 8, 11, 23, 24, and along the Hollister Hill road on the western Town boundary. Agricultural soils are most significantly concentrated on Gritt, Hollister and Maple Hills in the southern portion of Town. These soils are extremely important for agriculture because they are prime soils on land that remains open and in active agricultural use. Especially in the southern portions of Town and along Route 2 where significant views, open space, active farms and prime agricultural soils combine with important historic landscapes and buildings, conservation of these areas becomes more important.

Some of this agricultural land is enrolled in Vermont's Use Value program. Through this program landowner's property taxes are assessed on the basis of the land's current use (as opposed to its development potential). In return, the landowner pledges to abide by a management plan for the parcel. Some of Marshfield's agricultural landowners are not full-time farmers. Still, the open spaces they provide play an important role in defining the character of this rural community.

The SCS has classified Vermont's soils into four categories with respect to their potential for agriculture: Highest, Good, Low and Limited. SCS recommends that the Highest and Good categories qualify as primary agricultural soils as defined in Act 250. These only consider physical and chemical soil properties, without assessing size, location, accessibility and current land use. Some communities have used locally developed and implemented LESA programs (Land Evaluation and Site Assessment) to identify locally important agricultural lands. LESA can establish a quantified ranking system for farmland using a broader set of criteria designed to be more reflective of community values which may incorporate both objective and subjective data.

B. FOREST LAND

Critically important to Marshfield's identity are the vast forestlands within its borders. In addition to providing intangible benefits, many of Marshfield's large, managed parcels are important sources of lumber and cordwood. The bounty of Marshfield's forestland and the extent to which its resources are harvested probably accounts, in part, for the fact that Marshfield residents heat their homes with wood at more than twice the rate of the rest of the region (40 percent vs. 18 percent).

About 3,800 acres of the Town's forestlands are protected and managed within the boundaries of Groton State Forest. The State Forest is managed for multiple uses. Consequently, timber harvesting is allowed and occurs in many locations.

The majority of Marshfield's forests are privately owned. With the recent initiation of the U.S. Forestry Service's "Forest Legacy" program, forest landowners may have another option and incentive for the voluntary conservation of their land (provided funding is continued). Under this program, federal funding is available for the purchase of conservation easements on eligible, privately owned forestlands.

The USDA Soil Conservation Service has recently rated the forestry potential for soils in Vermont. Rated on a scale of 1 to 7, those with the best potential (1-3) were used to define good potential forestland in Marshfield. For a listing of soil types found in Marshfield which have good forestry potential (see Appendix B - maps).

Given the desire of the Town to conserve forestland, soils with good forestry potential should be considered in development proposals. However, USDA ratings only reflect physical and chemical compositions of the soils and do not consider location, current land use, parcel size, or other relevant factors. A FLESA program (similar to LESA but geared specifically to productive forestland) study could include other criteria for determining the conservation potential of important forestland in Town. When prime forestlands are thus identified, the Town could take steps to ensure the land remains productive. If large parcels of forest are fragmented through subdivision, the natural and economic value of the forest decreases.

C. EARTH RESOURCES

Another type of resource-based production that should not be overlooked, is that of earth materials extraction. Gravel deposits in Marshfield are glacial in origin and like human residences, agricultural operations, and groundwater supplies, generally follow the courses of streams and rivers. While these deposits may yield important and needed materials for road and building construction, Marshfield's coincidental development patterns render their extraction a matter of some sensitivity. There is one rock quarry and crushing operation in Town.

It is vital that care be taken in the siting and operation of future extraction operations in order to avoid land use conflicts and environmental damage.

IV. RESOURCE PROTECTION LANDS

A. NATURAL AREAS

A natural area is defined by the State as "an area of land or water that, in contrast to the normally encountered landscape of a region, retains or has reestablished its natural character and retains unusual or significant flora, fauna, geological features or similar features of scientific interest." Such places, often remote, quiet and beautiful, are of great, but unquantifiable value to local residents and visitors alike. Generally included under this definition are areas above 2,500 feet in elevation, "Fragile Areas" as identified by the Vermont Agency of Natural Resources, and ANR Natural Heritage Program sites (which locate rare or threatened species).

Perhaps the most significant natural area in Marshfield is the 25 acre stand of old growth forest on the west side of Lords Hill in Groton State Forest. Several other sites recognized for rare or fragile areas are scattered throughout the Town and include a peregrine falcon nesting area on Turtlehead Pond, a site on the Groton line east of Hardwood Mountain, a site on Maple Hill, a site on King Brook, a site on Beaver Meadow, a site just southeast of Beaver Meadow on Hollister Hill, two sites on the Calais line and one site on the south side of the pond reached by Town Highway 11. These areas should be protected in ordinances developed from this plan.

Two waterfalls in Town are recognized in the Vermont Agency of Natural Resources inventory entitled "Waterfalls, Cascades and Gorges." Molly's Falls on Molly's Brook are described as "one of the two or three highest woodland falls in Vermont, and probably the tallest continuous falls of any kind in the State."

B. CRITICAL WILDLIFE HABITAT

Marshfield boasts considerable wildlife habitat for a variety of species, including many associated with wilderness or near - wilderness settings (e.g. moose, bear, fisher, bobcat, etc). Residents value native wildlife for a variety of reasons - hunting, wildlife viewing, and indirect income.

Our most critical wildlife species are generally thought of as those which yield significant economic returns, provide for sport and subsistence hunting, are symbolic of wilderness values, or face the threat of extirpation or extinction. We know that viable habitat is the single most important survival need for most of these species, yet for many, habitat loss or fragmentation is a real and present threat.

Critical habitats are defined as: those habitats that provide a critical source of food, water, shelter, space, or travel that is decisive to the survival of a species including, but not limited to, deer wintering areas, wetlands, bear feeding areas and travel corridors, habitats of threatened and endangered species, and rare and irreplaceable natural areas.

Winter deer ranges are generally located in south-facing coniferous stands offering food and relief from icy winds and deep snows. Such areas are often desirable sites for human activities as well. Marshfield possesses an abundant winter deer range.

Areas designated as winter deer range on the map are located generally on the western half of the Town and on Maple Hill.

Much of the entire eastern half of Town is mapped as "bear production habitat" by the State. Such areas support relatively high densities of cub-producing females and as such are important to the survival of the species. Beech stands and wetlands within these zones are particularly important fall and spring feeding areas.

Trees and other vegetation along streams, rivers, and lake shores serve to:

- Protect property from floods and ice jams.
- Prevent bank erosion and enhance aesthetic appeal.
- Maintain the oxygen level of the water for fish habitat and effluent assimilation capacity.

C. SURFACE WATERS

Marshfield's water resources are a large, interconnected hydrologic system of aquifers, lakes, ponds, streams, rivers and wetlands. The quantity and quality of water is affected by natural factors such as precipitation, run-off, soils, geology, and vegetation. Because of the manner in which precipitation flows from the land into drainage networks, there is a direct relationship between land use and surface water quality. Development in watersheds may disturb the natural balance between ground and surface water resources and result in flooding, erosion and sedimentation. Loss of aquatic habitat, decreased aquifer recharge, irregular stream flows and water pollution are all possible impacts of watershed development. The quality of water resources in Marshfield is important for public health and safety, recreation, diversity of wildlife, environmental quality, and scenic beauty and requires special consideration in land use planning.

The Vermont Water Resources Board has established a water quality classification system which specifies (1) water quality goals to be attained where actual water quality is lower than the standard, or (2) the minimum standard to be maintained where actual water quality is higher. Most of the surface waters in Marshfield have been classified as Class B. By definition, streams so classified should "consistently exhibit good aesthetic value and provide high quality habitat for aquatic biota, fish and wildlife." They should also be suitable for drinking with filtration and disinfection; irrigation and other agricultural uses; swimming and recreation. The Winooski River is classified as a mixing zone from the town line above Marshfield Village south to where the brook next to Town Highway 34 from Knob Hill joins the river. Mixing zone waters are not suitable for water contact recreation. The remaining portions of the river are Class B until it flows below Plainfield Village and is considered suitable for recreation and fish habitat. Ordinances resulting from this plan should preserve and improve the quality of the water resources identified and utilize principles set forth in the Act 250 criteria (10 VSA sec. 6086(a)).

It is State policy to maintain the quality of its surface waters at their designated standards. The Agency of Natural Resources (ANR), Department of Water Resources and Environmental Engineering has received the charge of river management with respect to the above classification system.

Shore lands are lands surrounding lakes, ponds, reservoirs, rivers and streams. Title 10 V.S.A., Chapter 49, defines shore lands as "lands being between the normal mean water mark of a lake, pond or impoundment exceeding 20 acres and a line not less than 500 feet nor more than 1,000 feet from such mean water mark." These shore lands are valuable because they can prevent water pollution, preserve wetlands and aquatic wildlife habitats, provide open space and scenic beauty, minimize erosion and provide public access to public waters.

Surface waters greater than 20 acres in Marshfield include Marshfield Pond (68 acres) and Kettle Pond (55 acres). Smaller, but still significant waters include Knob Hill Pond (17 acres), Richards Pond (14 acres), Bailey Pond (15 acres), and Laird Pond (9 acres).

D. WETLANDS

Wetlands are swampy or marshy areas which are not quite water and not quite earth, but some mix of both or, more technically, "those areas that are inundated by surface or groundwater with a frequency sufficient to support significant vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction." They are inhabited by a unique variety of plants and animals and help make our environment more livable by purifying surface and underground water supplies, storing flood waters during wet periods and replenishing water supplies in dry weather, and providing for productive and diverse biological communities. Wetlands may be threatened or destroyed by building and other human activity.

Marshfield contains numerous wetlands, totaling approximately 844 acres, which are listed on the National Wetlands Inventory. Many of these occur amid or adjacent to surface waters. The National Wetlands Inventory (NWI) includes all wetlands one acre or more in size. Vermont also has "Vermont Wetland Rules" adopted by the Water Resources Board that considers other areas as wetlands that are not included on present maps. Upon request, the Dept. of Environmental Conservation may informally determine wetland boundaries through field investigation. The rules establish three classes of wetlands that are used to determine the level of protection under these rules. Class One and Two wetlands are "significant wetlands" and therefore are protected under the rules. Class Three wetlands should be assumed to have public value and merit protection by other federal, state or local regulations. Most wetlands shown on the NWI maps and those wetlands that are contiguous to mapped wetlands are Class Two wetlands. A 50-foot buffer zone is designated contiguous to all Class Two wetlands and a 100-foot buffer zone is designated contiguous to all Class One wetlands. There are allowed and conditional uses specified. The Wetland Rules point out that local planning commissions are responsible for undertaking studies, making recommendations on wetland protection, and indicating those areas proposed for wetland protection in the land use plans. No municipality may grant a zoning permit

for the development of a wetland prior to the expiration of a period of thirty days following the submission of a report to the Agency of Natural Resources, describing the proposed use, the location requested and an evaluation of the effect of such proposed use on the Town Plan and Regional Plan. The present zoning ordinance does not designate or protect these areas.

E. FLOOD HAZARD AREAS

The 100-year flood (i.e., a flood of a magnitude that has a statistical recurrence interval of once every 100 years) has been adopted by the Federal Insurance Administration as the base flood for flood hazard area management.

Marshfield's principal flood hazard zones occur along the Winooski River. However, some of the smaller tributary streams are subject to flash flooding and are capable of causing property damage as well. These areas have been identified on the Flood Insurance Rate Maps prepared by the Federal Insurance Administration. The Town's ordinance has a "Flood Hazard and Water Conservation" District which uses the federal designation and makes allowances for determination of the flood hazard limits if there is any question.

The most frequent flooding occurs in early spring as a result of snow melt and heavy rains, but flooding has historically occurred in every season. Flooding has also occurred as a result of ice jams and debris collection.

Encroachment by development on floodways and flood hazard areas reduces their water storage potential, increasing flood heights and thus the potential for damage to downstream areas.

In addition, development in flood hazard areas can have an effect on flood hazard mechanics which disrupts river ecology. Finally, the economic benefit of locating a structure in a flood hazard area must be carefully weighed against the economic risks of damage to or destruction of such structures. In Marshfield, prime farmland and flood prone areas are often the same.

F. GROUNDWATER

The importance of groundwater to the residents of Marshfield cannot be overstated. So dependent is the community on underground sources for domestic water supply, that pollution or significant depletion of its aquifers would spell hardship for many years to come. Marshfield, therefore, must consider the protection of groundwater resources in planning for its future.

Vital to the protection of groundwater sources is an awareness of their "recharge" areas. Aquifer recharge areas are zones that contribute to subsurface supplies. A recharge area consists not only of the land area directly above the aquifer through which precipitation percolates, but also of upland areas from which runoff drains towards the aquifer. Uses of these lands, which may have the potential for spills of toxic or dangerous substances, also have the potential to pollute the aquifer. Uses

which render the land impermeable (e.g. parking lots, buildings, etc.) will deplete the groundwater supply. Also, as there is exchange between surface and ground waters, land uses which pollute upstream waters may in time damage downstream aquifers. Obviously, the regulation of potentially hazardous land uses is a vital part of aquifer protection.

Recognizing this fact, the Agency of Natural Resources (ANR) has designated several wellhead protection areas (WHPA's) for public water supplies within the Town of Marshfield. Four of these are located in the northeast quadrant of Town. The northeast four Wellhead Protection Areas range from two located northeast of the Village and southeast of Route 2 and two farther south nearer to the central portion of Town east of the Winooski River. Another in the south center portion of Town is near the Plainfield line and east of Route 2 on the east side of Maple Hill. Another recharge area is located in Plainfield Village and extends north into Marshfield, with a large interim Wellhead Protection Area delineated.

Vermont's groundwater protection law (10 VSA, Chapter 48) sets forth general policies for WHPA's and ANR's Water Supply Division has published recommended land use guidelines for WHPA's.

V. LAND-BASED CULTURAL RESOURCES

The special way in which people have interacted with the natural environment over time has resulted in a complex and rich heritage in Marshfield. The resulting cultural environment - the historic buildings, sites, landscapes and scenic vistas - work together to evoke a "sense of place" that gives Marshfield its identity. The identification of these vulnerable cultural elements that comprise community character is necessary before taking measures to plan for change, to influence the scale of change, and mitigate the nature of the impact of change on the character of Marshfield.

A. HISTORIC AND ARCHEOLOGICAL RESOURCES

Many of Marshfield's historic buildings and other features are listed in the Vermont Division for Historic Preservation's "Inventory of Historic Sites and Structures." The Division categorizes Marshfield Village as an historic district. Most of the structures listed in the inventory are private residences, although a few public and semi-public buildings are listed as well. A listing in the inventory affords no specific protection for a structure or benefits for its owner; it is merely intended to catalogue historic resources to facilitate owner-initiated or local protection efforts.

The State inventory reveals that, in the outlying farming districts, the majority of the houses and barns appear to have been built between 1830 and 1860, a period when the Greek Revival style was popular. One outstanding exception is the Theodore Wood House on Hollister Hill, which is a rare example of the French Second Empire style. Many of these individual architectural resources, when combined with the important surviving farms, create rural districts suitable for inclusion on the National Register of Historic Places. The most outstanding of these districts which should be targeted for protection in local ordinances and National Register listing is that northwest of

Plainfield Village on Hollister and Gritt Hills, extending to Town Highway 55 and Route 2 on the east, and to the intersection of Town Highways 42 and 46 on the west. Two farmhouses of outstanding architectural detail, the Tibbitts and Smith Farms are situated near the Hollister Hill Schoolhouse and the Rich-Hollister Cemetery. The Eaton cemetery, the Wood home, and Hollister Hill Farm are also located in this area. All of the resources are of outstanding historic/cultural value with a common agricultural theme.

The map of Marshfield from Beers Atlas of 1873, when compared with existing development, is valuable in identifying historical archaeological sites. Industrial archaeological sites along the rivers and streams in the eastern part of Town have not been surveyed. Archaeologically sensitive lands are important and should be given consideration during project planning because they are likely to contain either Native American and/or historic archaeological sites.

B. SCENIC RESOURCES

The visual character of Town is of great value to residents: it helps give a sense of identity to Marshfield. This identity depends on the Town's natural landscape (hills, rivers, forests, etc.) as well as its cultural landscape (farms, houses, roads, and villages). Development which is insensitive to aesthetic resources will diminish the quality of life of Town residents.

Some of the most outstanding scenic views in Marshfield are from its roads. Scenic roads provide enjoyment of Marshfield's unique beauty. They are part of the Town's heritage and are worthy of protection. The Scenic Road Law was enacted in 1977 by the State of Vermont due to concern that these roads were disappearing throughout the state because of reconstruction and changing land development patterns. Guidelines have been developed to assist with the inventory, analysis, and designation of certain roads as scenic. The guidelines are available in a field guide entitled Designating Scenic Roads which can be procured from the Agency of Transportation. After official designation by the Selectboard, the roads must be managed according to standards set by the State Transportation Board which preserve such characteristics as width, alignment, and grade of surface, with minimal adjustments to ensure safety.

VI. LAND RESOURCE GOALS, OBJECTIVES, AND STRATEGIES

GOAL: To protect and preserve the integrity and function of Marshfield's important natural resources and environmentally sensitive areas.

OBJECTIVES:

1. To encourage and strengthen the agricultural and forest industries.
2. The fragmentation and use conversion of important agricultural and timberland should be discouraged.

3. To provide for the wise and efficient use of Marshfield's productive resources and to facilitate the appropriate extraction of earth resources and the proper restoration and preservation of the aesthetic qualities of the area.
4. To provide the organizational and policy framework necessary to oversee and implement Marshfield's natural resource protection goals.
5. To protect environmentally sensitive or unique areas.
6. To maintain and enhance the quality and quantity of soil and water resources and the benefits they provide.
7. To identify and protect critical wildlife habitat.
8. To identify and preserve Marshfield's historic and archeological heritage.
9. To preserve Marshfield's scenic beauty.

ISSUE SPECIFIC STRATEGIES:

Strengthen the agricultural and forest industries:

- a. Enhance the Town's web site by making available information concerning local, state and federal incentives to retain and enhance farm and forest industries.
- b. Enhance the Town's web site by providing educational material concerning the manufacture and marketing of value-added agricultural and forest products.
- c. Enhance the Town's web site by providing a directory of local businesses and the products they produce and make available to other business owners.
- d. Recognize the right of pre-existing resource production landowners to continue current environmentally sound and legal operations and management practices.

Retention of important agricultural and timberland :

- a. Encourage the protection of important agricultural and forest land by promoting concentrated settlement patterns, site-sensitive development (i.e., "clustering" or "open space development"), the voluntary purchase of development rights, use-value taxation policies, and other appropriate measures. Development that does occur on such lands should be situated so as to leave the most productive portions of the site available for continued use.
- b. The Selectboard will target public investment, including the construction or expansion of infrastructure, for the Village or other growth area so as to minimize development pressure on important agricultural and timber lands.

Promote the wise and efficient use of Marshfield's productive resources:

- a. Planning Commission to create earth excavation regulations to ensure that gravel extraction, like other commercial/industrial uses, is compatible with their surroundings and with surrounding land uses.

Implementation of Marshfield's natural resource protection goals:

- a. Planning Commission to work with the Central Vermont Regional Planning Commission and others to identify important natural resources and features and economically valuable resources. The Planning Commission will arrange for a Land Evaluation and Site Assessment (LESA/FLESA) of the Town in order to identify and study the most important resource lands, in order for the Commission to make regulatory and non-regulatory recommendations for the maintenance and protection of these resource lands.
- b. Selectboard will consider the acquisition of natural resource lands as deemed appropriate.
- c. Planning Commission to review the management plans from the State Agency of Natural Resources for Groton State Forest.
- d. Create a Town Conservation Commission under 24 VSA Chapter 118.

Maintain and enhance the quality and quantity of soil and water resources:

- a. Ensure zoning regulations protect against erosion by, regulating development on slopes.
- b. Restrict potentially polluting land uses from Marshfield's Wellhead Protection Areas and wetlands.
- c. Zoning regulations are compatible with the requirements, but may be more restrictive than, those of the Federal Emergency Management Agent's Federal Flood Insurance Program.

Identify and protect critical wildlife habitat:

- a. Protect deer wintering areas, black bear production zones, and habitats critical to the survival of rare or endangered species from development.

Maintain and preserve Marshfield's historic and archeological heritage:

- a. Town Historical Society will develop an inventory and study historic resources.
- b. Selectboard will promote historic preservation through public participation and education.
- c. The Planning Commission in consultation with the Historical Society will explore strategies and incentives for encouraging historic preservation.

Preserve Marshfield's scenic beauty for current and future generations:

- a. Ensure that the scale and siting of new structures is in keeping with the surrounding landscape and architecture.
- b. Encourage developers, through design and siting of structures, to preserve access to and enjoyment of scenic views for the public.
- c. Discourage ridgeline development or conspicuous development on locally prominent landscape features unless it is effectively screened or clearly in the best interest of the general public.

CHAPTER 4

UTILITIES, FACILITIES, MUNICIPAL PROPERTY AND SERVICES

I. OVERVIEW

Public and private utilities, facilities and services play a critical role in providing for the health, safety and welfare of Marshfield residents. The location, timing and capacity of such infrastructure can also have a profound influence on growth and development within a community.

Through thoughtful infrastructure planning and maintenance, Marshfield may encourage growth where it is most suitable and least expensive to the community.

A. SEWAGE TREATMENT

The Marshfield Wastewater Treatment Facility, located near the Schoolhouse Common, serves over 100 residences, 5 commercial establishments, and 6 "other" users in the Village of Marshfield. It has a design capacity of .45 mgd (million gallons per day), an average daily flow of .214 mgd, a committed reserve of .018 mgd, and an uncommitted reserve of .218 mgd. With an uncommitted reserve exceeding its current flow, the system appears to have the capacity to accommodate a significant amount of new development. The land application of sludge is cited as an operational difficulty. About 5.1 dry ton are produced each year. Marshfield supports an ecologically and fiscally sound solution to the sludge disposal problem.

The Plainfield Sewage Treatment Facility serves users within the Town of Marshfield. It has a design capacity of 1.0 mgd, an average daily flow of .776 mgd. With an uncommitted reserve of .0224 mgd, the system has the potential to accommodate some new growth. The average single family home requires a flow of 450 gpd - about one fiftieth of the total reserve.

Facility	Permitted Capacity (mgd)	Avg. Daily Flow '92	Avg. Daily Flow '98	% Change
Marshfield	.45	.20	.214	7.0
Plainfield	1.00	.61	.776	27.2

Almost 70 percent of Marshfield households depend on on-site treatment of septic wastes. On-site systems require specific soil and site characteristics to enable effective treatment. Where soils are impermeable, too permeable, shallow, or wet, or where slopes are steep, conventional septic systems are problematic and potentially hazardous. Accordingly, areas displaying such site limitations are generally not suitable for development. Restricting such areas however, intensifies development pressures on soils that can accommodate septic systems, including most prime agricultural soils.

The proper treatment of septic waste is essential to a clean, healthy environment. Faulty on-site septic systems can pollute soils, surface waters and groundwater and endanger public health. As Marshfield's population grows, sanitary disposal will become even more critical. It is important then, that the Town require the safe and efficient treatment of sewage, for current and future residents alike.

B. WATER SUPPLY

Marshfield Village has a municipal water supply dependent on a spring on Depot Hill and on a well on Folsom Hill. The well, however, is contaminated with high levels of uranium, requiring that residents served by the well not drink the water. The Village provides these residents with bottled water for drinking. The Village Trustees are pursuing a plan to abandon the well and to further develop the Depot Hill spring and to pipe that spring water to the Folsom Hill Reservoir, so that all Village residents can be provided with potable water. Dependent on availability of funding, it is anticipated that this project will be completed by December 2005.

Residents near the Plainfield line are connected to Plainfield Village water system. This has adequate water supply.

As mentioned in the previous chapter, wellhead protection areas (WHPA's) delineating recharge zones for public water supply aquifers have been prepared by the State. The Town must be vigilant regarding land use within the zones if it is to avoid costly and inconvenient problems in the future.

C. ELECTRICITY

Marshfield residents along the Route 2 corridor receive their power from Green Mountain Power Corporation (GMP), while those in the hills are supplied by the Washington Electric Cooperative (WEC). GMP is the region's largest utility. WEC is a member-owned utility managed by an elected, nine-member board.

Electricity is a vital component of modern life, but one not without costs. Its generation, distribution and transmission raise issues of environmental protection, public health, land use, aesthetics, and consumer affordability.

D. SOLID WASTE

Marshfield is a member of the Central Vermont Solid Waste Management District which is a cooperative effort among Central Vermont cities and towns to ensure cost-effective and environmentally sound waste management programs.

E. TELECOMMUNICATIONS

Telephone service for the 426 exchange is provided by Fairpoint New England. Verizon provides service for the 454 exchange. Cellular access is also becoming widely available. However, with the increasing demand for cellular capabilities comes an

increasing demand for cellular towers. It will be important to balance aesthetics, signal quality, health, business and personal needs when deciding whether, and where, to build additional telecommunication towers.

F. HEALTH AND EMERGENCY SERVICES

The Fire Station was constructed in 1990 in the Village almost directly across US Route 2 from the former station now in private ownership. The Fire Department has one pumper (1991) and one tanker (1997). The fire-fighters are volunteers, with mutual aid among the towns of Cabot, Plainfield, Walden and East Montpelier.

Ambulance service is provided by Cabot Emergency Ambulance Service and the Plainfield FAST squad. The service also responds to calls from Cabot, Walden and Plainfield.

Marshfield is now part of the Statewide E-911 program. All roads have received official names and all residences a number to allow emergency service providers to find callers even if they are unable to give their location. The state police are also relied upon to provide services and Washington County sheriffs provide speed control on Route 2.

The Plainfield Health Center is widely used by Town residents. The Health Center maintains a growing staff of health care professionals and provides comprehensive medical care, dental care, psychological services, medications, laboratory services, physical rehabilitation and health education/community services. Central Vermont Medical Center in Berlin is the nearest acute care hospital.

G. COMMUNITY SERVICES

Various area agencies and other organizations serve special groups in Marshfield. These include: Washington County Youth Services Bureau, Central Vermont Council on Aging, Vermont Center for Independent Living, Retired Senior Volunteer Program, Central Vermont Community Action Council, Community Capital of Central Vermont, Battered Woman Services, Central Vermont Home Health Agency, Inc., Sexual Assault Crisis Team, Vermont Green-Up, Inc., and Central Vermont Regional Planning Commission.

H. EDUCATION

Planning decisions on the location, type and amount of growth can have significant implications for educational services. The Town of Marshfield is fortunate to be located within easy commuting distance to several institutions of higher education: Goddard College in Plainfield, and Vermont Community and Woodbury Colleges and the New England Culinary Institute in Montpelier.

Public education in Marshfield from preschool to grade 12 is provided by Twinfield Union School in the Washington NE Supervisory Union. Expenses are shared with the Town of Plainfield. High quality education for all children in Marshfield is one of the most significant and basic services that the Town must provide.

Twinfield Union School began to serve students in 1970. In the past five years, enrollment has dropped from 547 in 1999-00 to 491 in 2003-2004. Based on projections for the next ten years, the student enrollment from the two towns will continue to decline. Barring unforeseen changes, there is no need for expansion in the future. Over the past five years, grades K-4 have had an average of 35 students per grade; in grades 5-8 an average of 42 students per grade and in grades 9-12, an average of 41 students per grade.

I. CULTURAL FACILITIES

The Jaquith Public Library in Marshfield Village celebrated its 100 anniversary in 1999. Its current location is in the Old Schoolhouse Common building. It currently serves well over 500 cardholders and owns over 8,000 volumes. In addition, it provides computer and Internet access as well as audio and video tapes. The library offers a free home delivery service to members of the community who are homebound. It also sponsors many free programs and events throughout the year, including a weekly story hour, book discussions, reading series, craft workshop, musical programs and literacy workshops. Over 2,000 people attended such events in 2004. The library depends in part on the services of community volunteers.

Marshfield residents depend on the Twinfield Union School, the Marshfield Historical Society, and facilities in larger surrounding communities for cultural enrichment as well.

J. RECREATION

Perhaps Marshfield's greatest recreational resource is its outdoor environment. For those who seek it, the landscape offers excellent opportunities for outdoor recreation.

Marshfield possesses ample public lands in which residents and visitors alike may pursue a variety of recreational offerings. Most notable among these is Groton State Forest. About 3,800 acres of this 15,000-acre plus tract of forests, lakes, and mountains is located in Marshfield. The Forest is managed for multiple uses and provides opportunities for swimming, boating, hiking, nature study, cross-country skiing, snowmobiling, hunting, horseback riding, fishing, bicycling, and more. It is an invaluable resource to the community and the State.

While Marshfield has abundant public lands, it is important to note that private lands are still an integral part of the Town's recreation picture. They too support a great variety of recreational uses thanks to the generosity of landowners.

The Recreation Committee has made possible a number of activities over the years. With the goal to fulfill the recreational needs of varied age groups in the community, programs have been organized and conducted with a seasonal perspective. The committee hosts a summer swimming program, an Easter egg hunt, a spring fishing derby, a Halloween party with entertainment and refreshments and an "Afternoon with Santa." Holiday parties and breakfasts are regularly held. The committee also maintains and cleans the area around the Schoolhouse Common.

A ball field, walking path, skating rink, playground, and gazebo, where evening concerts take place during the summer, have been built near the Old Schoolhouse Common. Trails and playing fields also exist on the grounds of Twinfield Union School.

A local snowmobile club, the Twinfield Snow Travelers, maintains trails and uses the old railroad right-of-way. Parts of the railroad bed are also used for cross-country skiing and bicycling and there is interest in its use in the creation of a Cross Vermont Trail.

II. MUNICIPAL PROPERTY

The Town owns several properties. The properties were acquired by purchase, bequests from legal owners, legal process (tax sale), and eminent domain.

The Selectboard has overall responsibility for property maintenance and management and makes recommendations on the disposition of town owned real property. Voters make the final decision on such recommendations.

PROPERTY CLASSIFICATIONS

Town owned property is classified into four primary categories:

- Municipal buildings and adjoining land
- Cemeteries
- Natural and scenic areas
- Other properties

A. MUNICIPAL BUILDINGS AND ADJOURNING LAND

PHYSICAL CHARACTERISTICS AND BOUNDARIES

Municipal buildings are the Old Schoolhouse Common, the Town Garage, the Water Treatment Facility, and the Fire Station. The first three of these buildings and the adjoining land consist of approximately fifteen acres and are located within the Village District. The land is bordered on the north and west by the Winooski River, the east by School Street, and the south by Marshfield Brook. The fire station is located at the east end of the Village.

CURRENT USES

The municipal offices are housed with the Old Schoolhouse Common. Other tenants include the library, historical society, local food shelf, and local businesses. The building also is used for meetings by various organizations, indoor recreation, and is the polling place for elections.

This area provides a variety of recreation uses which include a ball field, basketball court, play ground, walking path, winter ice rink, and a gazebo.

The Fire Station and Town Garage provide facilities for workers and storage of equipment and materials (road sand and salt). The water treatment facility is discussed earlier in this chapter.

DESIRED CONDITIONS

The town is well served by these buildings and the surrounding land, and the parcel should be retained.

The land is available to meet future needs for additional municipal buildings and recreational opportunities.

B. CEMETERIES

PHYSICAL CHARACTERISTICS

The town owns several modest sized cemeteries which are widely located. Historically these properties were named after a family, geographic location, or adjoining road.

The town cemeteries and their locations are as follows:

Table 16 Cemetery Name and Location	
Dwinell	Beaver Meadow Road
Eaton-Davis	Eaton Cemetery Road
New Discovery	Groton State Forest Road
Rich-Hollister	Hollister Hill Road
Maple Hill	Holt Road
Nasmith	Holt Road
Jaquith/Wooster	US Route 2 Marshfield Village
Pike	Pike Road
Hudson	English Cemetery Road
Bolles	Maple Hill near junction w/Pigeon Pond
Loveland	US Route 2

CURRENT USES

Several of the Town cemeteries are no longer active and provide a place of historic value and quiet repose.

DESIRED FUTURE CONDITIONS

The need for additional cemetery space will continue and expanding the present cemeteries should be considered. The Town should consider approaching adjoining landowners to obtain options or rights of first refusal for the purpose of expanding the cemeteries.

C. NATURAL AND SCENIC AREAS

The town owns a forest consisting of 50 acres located just outside the Village District on Folsom Hill Road, and a 120 acre meadow located along the U.S. route 2 corridor, across the Winooski River, where the Martin Covered Bridge is located.

C1. TOWN FOREST

The 50 acre forest provides year round unstructured recreational opportunities. The forest should be evaluated again for potential harvesting opportunities if it is needed for the better health of the forest. If logging is prescribed then recreational trail development should be considered as part of this. Other trail connectors should be evaluated to help provide more access to this town resource.

C2. MARTIN COVERED BRIDGE

The 120 acre meadow contains a significant historical town asset - the Martin Covered Bridge. It is the only remaining farm bridge and the last covered bridge in Marshfield, and one of only two covered bridges remaining on the Winooski River; consequently it is a treasured asset of the town and has significant historic value.

The town is currently raising money to restore the bridge and create a town park with parking and access with the bridge as the focal point.

It is the Town's desire to implement the following improvements over time as funding permits:

- Restoration of the bridge and abutments
- Stabilization of eroded stream banks
- Improved access from US Route 2 including new curb cut and parking
- Signage, canoe launch, picnic area(s)
- Trail development including nature trails and access to the Cross Vermont Trail
- Preservation of seasonal wetlands
- Preservation of endangered species (mussels)
- Haying or bush hogging of fields to preserve open space and views
- Development of forest management/use plan

For any of these projects related to town properties, the Town should actively seek grants from the State and other sources.

DESIRED FUTURE CONDITIONS

The area around the Martin Bridge will continue to be of interest and have long term value. Removing the barriers to accessing this area is important and should continue to be pursued.

D. OTHER TOWN OWNED PROPERTY

The town owns a four acre gravel pit, located on Nasmith Brook Road and the old railroad depot property, located at the top of Depot Hill.

CURRENT USES

The gravel pit is a source for road maintenance materials. The railroad depot property and all other parcels consist of raw land.

DESIRED CONDITIONS

The former Montpelier to Wells River railroad bed is being considered for addition to the Cross Vermont Trail. The town is positioned to aid this recreational opportunity and potentially benefit the retail establishments in the Village.

The gravel pit is adjacent to the railroad bed which is now a snowmobile trail maintained by VAST. A portion of the rail bed in this area is privately owned, and unavailable for recreational use. Recreational opportunities would be enhanced if the town would develop a connector between the gravel pit and the rail bed.

The railroad depot parcel should be retained and its use reevaluated after the decisions on the Cross Vermont Trail are made.

The Selectboard should continue their current process to evaluate town owned property making recommendations in the best interest of residents.

III. GOVERNMENTAL AND ADMINISTRATIVE SERVICES

The Town of Marshfield provides administrative services for its residents. Administrative services are provided by a elected Town Clerk, an assistant town clerk, and other Town officers. The Old Schoolhouse Common has housed the Town Offices since 1993.

The Selectboard oversees the management of Town affairs, the condition of the Town's roads and facilities and various boards and commissions. The Village Trustees manage the affairs of the Village. There are several other appointed and elected Town boards, including the Planning Commission and the Development Review Board. The contributed services of board officials are an important asset to the Town's management.

The Town Clerk's position involves maintaining Town records as well as handling license and record search requests.

The Public Works Department presently has a Town Garage on Depot Street.

IV. UTILITIES, FACILITIES, MUNICIPAL PROPERTY AND SERVICES GOALS, OBJECTIVES AND STRATEGIES

GOALS: To realize an efficient system of public utilities, facilities and services to meet future needs.

Continue to evaluate highest and best use of town owned property.

OBJECTIVES:

1. Selectboard should adopt a Capital Budget and Plan to ensure that the rate of growth does not exceed the ability of the community to provide facilities and services. The purpose of the capital budget is to aid the budget committee in their consideration of the annual budget and avoid any large unanticipated expenses.
2. Selectboard and Village Trustees, working together should conduct a study of the need for expansion, extension, or upgrading of infrastructure within the designated Village growth center (see Chapter 9), to insure that this area can be appropriately developed.
3. Plans for future development shall include provisions which will clearly demonstrate that planned development does not unnecessarily encroach upon designated prime agricultural or forest soils unless the development serves a compelling public need.
4. Selectboard should consider the possibility of instituting development impact fees. In this way, developers would be required to pay their share of the impact of new developments on Town services.
5. Support adherence to environmentally sound utility maintenance practices and diversity in the Region's future power supply so as to establish flexibility and avoid reliance on any single source, and endorse the concept of "demand side management" to conserve power and contain costs.
6. Encourage recycling, source reduction, and composting as ways to reduce the volume and toxicity of solid waste and continue participation in the Central Vermont Solid Waste District.
7. Promote access to a wide range of recreation experiences to all sectors of the population.
8. Marshfield will support future legislation to alleviate landowners of unreasonable liability burdens from individuals crossing their land.
9. Support current and future recreational uses of Town owned property
10. Study need for additional cemetery space
11. Engage in the planning of the Cross Vermont Trail through or in close proximity to Marshfield

ISSUE SPECIFIC STRATEGIES:**Sewage Treatment and Disposal:**

- a. The Selectboard should continually evaluate the current systems with respect to their ability to accommodate the land use goals of this Plan.
- b. Planning Commission should consider the benefit of adopting zoning regulations which mandate the use of community septic systems in clustered development.
- c. The Selectboard will ensure that land application of septage and sludge is undertaken in such a manner as to minimize conflicts and environmental degradation and, at the same time, encourage sustainable use.
- d. The Development Review Board will work cooperatively with the appropriate officials in the Town of Plainfield to ensure appropriate consideration is given to the capacity in the Town of Plainfield Sewage Treatment system when considering development applications which, if approved, are likely to impact the Plainfield system.

Water Supply:

- a. The Village Trustees should continue to work to solve the water supply problems in Marshfield Village, in particular to develop a source of water that meets state and federal standards in regard to levels of uranium, realizing that capacity sufficient to support the Village as a growth center may not be feasible.
- b. Planning Commission will ensure zoning regulations for aquifer (wellhead) protection areas are compatible with State and Federal guidelines and severely restrict and or prohibit development in such areas.

Electric Power:

- a. Town policy is to promote transmission and distributions lines which are designed to minimize negative impacts on natural and scenic resources.

Solid Waste:

- a. Enhance the Town's web site by making available information on the benefits of recycling, source reduction, and composting as ways to reduce the volume and toxicity of solid waste
- b. Enhance the Town's web site by explaining the benefits of participation in the Central Vermont Solid Waste District (CVSWD), and provide a link to the CVSWD web site.
- c. The Planning Commission will consider the CVSWD regulations, when they become available.

Telecommunications:

- a. Town policy is to promote and require that proposed commercial satellite dishes, radio towers, antennae, and other transmission and receiving equipment are sited,

designed, maintained and operated so as to minimize negative impacts on natural and scenic resources.

Emergency/Health Services:

- a. The Selectboard should engage in planning activities with local and regional health care providers as settlement patterns and population distribution changes.
- b. Planning Commission should ensure that zoning ordinances provide adequate access to emergency vehicles.

Education:

- a. The Selectboard should engage in planning activities with the administration at Twinfield Union School to continually plan for providing access to high quality educational and vocational opportunities.

Recreation:

- a. The Selectboard discourages development which threatens to substantially erode recreational opportunities.
- b. The Development Review Board will ensure, where appropriate, the dedication of land for recreational easements and public access before new development is approved.
- c. The Selectboard should establish a commission to participate in and make a recommendation on the feasibility of connecting the Town's planned or existing transportation/recreation paths, including the old railroad bed, to those of other communities in the region.
- d. The Selectboard should work closely with the State Agency responsible for the management of Groton State Forest to ensure that the forest provides the maximum recreational opportunities for the citizens of Marshfield.
- e. Enhance the Town's web site by making available information on the various types of public recreational opportunities available locally.

Municipal Property:

- a. Selectboard will continue to provide funding for present and future development of recreational opportunities on town owned property.
- b. Planning Commission will consider the implications of cemeteries on zoning regulations.
- c. Selectboard to explore the possibility of acquiring additional land abutting present active cemeteries.
- d. Selectboard to continue to monitor the activities to create a Cross Vermont Trail and if appropriate to form a sub-committee to participate in the development of the initiative.

Government Services:

- a. The Selectboard ensures adequate and reliable government services are available to Marshfield residents at reasonable costs.

CHAPTER 5

TRANSPORTATION

I. OVERVIEW:

Transportation facilities available to residents in the future will be a major factor in defining quality of life, and the pattern and type of development in Marshfield. The Town must maintain a transportation infrastructure that enables safe and efficient travel for commuters, tourists, freight transport and agricultural vehicles and encourages economic vitality, while preserving Marshfield's environmental quality and small town rural character.

Public transportation is limited. The nearest airport, Knapp in Berlin, is approximately 20 miles away, and currently supports private and charter flights. Vermont Transit Lines travel only major highways, its closest stop to Marshfield is Montpelier. Vermont Agency of Transportation coordinates Rideshare Vermont, offering carpool contacts and interest free loans for van pooling. Various community service organizations coordinate volunteer drivers for transportation for local populations without access to any other form of transport.

The automobile will continue to be the dominant mode of transportation in Marshfield for the foreseeable future. Therefore, Marshfield's road network dominates consideration of the Town's transportation infrastructure.

Marshfield Citizens encourage the use of the old rail bed for recreational purposes (including the Cross Vermont Trail) provided that issues of maintenance, access and privacy can be addressed to the satisfaction of affected property owners.

II. ROAD NETWORK: FUNCTIONAL CLASSIFICATIONS

Marshfield's road crew maintains approximately 51.80 miles of local roads.

Class 2 town highways are the most important highways in town; they are trunk lines of improved highway between towns, and to places which by nature have more than a 'normal' amount of traffic. The Vermont Agency of Transportation and the Selectboard determine Class 2 highways. Class 3 highways are defined for the purposes of state aid, and must be negotiable under normal conditions all seasons of the year by a standard passenger car. Class 4 roads are designated by the Selectboard.

III. ROAD NETWORK: TRENDS, ISSUES, AND CONFLICTS

Table 17			
Road Miles by Type in Marshfield			
Managed by	Highway Type	Mileage	% Total
Town			
	Class 2	6.04	9.38
	Class 3	39.55	61.42
	Class 4	6.23	9.68
	Total Town Maintained	51.82	80.48
State			
	Route 14	nil	
	Route 232	4.36	6.77
	Route 2	8.21	12.75
	Total State Maintained	12.57	19.52
	Total Maintained Roads	64.39	100.00
<i>Source: Central Vermont Regional Planning Commission</i>			

While local traffic causes problems on back roads, Route 2 has felt the strain of largely external pressures. Its status as the only major east-west highway in northern New England has resulted in a steadily growing traffic stream, an increasingly large volume of commercial trucking as well as long distance and high speed driving. This brings inherent conflicts all along Route 2 as this traffic enters and passes through village areas. Marshfield Village is no exception to this problem.

It is important to acknowledge that different classes of highways are compatible with different land use and travel patterns. That is, major arterials are not compatible with residential neighborhoods or with intensive non-residential areas where frequent road access is required. Local land use and transportation decisions need to be considered in the context of any regional network, at the same time local highway improvements are considered in a regional context. These relationships are crucial as Marshfield plans for future development.

IV. ROAD MAINTENANCE

Keeping the local road network safe in a cost effective manner is currently the most important aspect of any transportation plan. At present the road crew is three full-time employees who maintain the roads and the town's inventory of road equipment. Major transportation improvements (new roads, major reconstruction and/or capacity expanding of existing roads) have a direct relationship to land use. Road improvements, in general, result in changes in land use, increases of land value, and may result in congestion due to traffic. It is important to make the most of the system in place, which necessitates an efficient road maintenance program and complementary improvements to the existing system. The size of the road crew and the inventory of equipment should reflect the direction the town will take on road maintenance and improvements in the future.

Trails shall not be considered highways and the town shall not be responsible for any maintenance including culverts and bridges.

V. ACCESS MANAGEMENT

Curb cuts and the location of points of access directly affect the safety and efficiency of all town roads. Design of curb cuts is important with regard to road maintenance and drainage. Some access management methods are appropriate to residential development, some to non-residential development, and some equally to both. Specific standards for improving access management, cited in the Central Vermont Regional Transportation Plan, include:

- Minimum sight distances at a driveway or road intersection
- Maximum number of driveways per lot
- Mandatory shared driveways
- Optimal corner turning radius
- Maximum width of curb cuts
- Minimum and maximum driveway lengths
- Minimum or maximum on-site parking, shared parking, and parking design

These measures may be incorporated in zoning regulations, road policies and ordinances, as well as curb cut permits.

Access management requires consistent and comprehensive policies to balance the needs of motorists, pedestrians, bicyclists, and other users of the road system and improve safety and highway efficiency.

VI. TRANSPORTATION GOALS, OBJECTIVES, AND STRATEGIES

GOAL: Coordinate transportation and land-use planning to assure access to services while judiciously limiting new road development.

New roads shall be constructed to Class 3 standards at the expense of the builder/developer.

Objectives:

1. Encourage development of local public transportation with public participation in planning, including when appropriate, neighboring/adjacent towns.
2. Plan and maintain a safe and adequate network of roads that respect the integrity of the natural environment.
3. Maximize safety on town roads with reasonable access for pedestrians, bicyclists, landowners.

4. Encourage development of paths for non-motorized traffic.
5. Encourage and promote cost effective energy efficiency and the benefits of alternative modes of transportation.
6. Continue to work cooperatively with Central Vermont Regional Planning Commission and state agencies to coordinate transportation plans and projects, especially changes to Route 2.
7. New roads or private driveways must meet minimum design and safety standards, including site distances at intersections and accessibility for emergency vehicles.

Issue Specific Strategies:

- a. Selectboard policies for construction and maintenance of roads shall continue to focus on safety, adequacy, and access, and to complement goals of this plan.
- b. Planning Commission will draft zoning regulations which establish clear design and safety standards for new private roads and shared private driveways.
- c. Selectboard cooperate with Marshfield Village Trustees for improvements around the Village Store to provide better access and aesthetics, as well as simplified parking and circulation.
- d. Planning Commission should institutionalize in zoning regulations the sharing of curb cuts for new development along arterial roads (especially the Route 2 corridor).
- e. Planning Commission will seek grant funds to identify alternate emergency transportation routes for inaccessible areas.
- f. Planning Commission draft zoning regulations which require new business/commercial development to include a parking plan for employees and customers.
- g. Selectboard to support development of a park and ride lot as discussed on page 185 of the Central Vermont Regional Transportation Plan.
- h. Planning Commission to research the potential benefits that may be available from The Vermont Scenic By-way Program.

CHAPTER 6

ENERGY

I. OVERVIEW

Energy is a pervasive influence in our lives. We use energy to heat homes and offices, power industry, and to transport people, goods and services from place to place. Energy costs are a major line item in government, business, and personal budgets. Still, too often, we take the availability and current cost of our energy supplies for granted and ignore the impacts of our energy consumption entirely.

In Vermont, fossil fuels are the primary source of our energy, accounting for 75 percent of all energy use. Our reliance on fossil fuels contributes to our dependency on foreign countries, the accumulation of "greenhouse gases" in the atmosphere, acid precipitation, and human health hazards resulting from declining air quality. Continued dependency on fossil fuels over the long term will ultimately create severe environmental problems and the potential for economic hardship when supplies dwindle or are cut off.

Common sense dictates that we attempt to decrease our overall energy demands, use our current supplies more efficiently, and begin to shift some of what demand remains to renewable sources such as hydropower, wind, solar, and biomass. While these alternatives are not completely benign in their impacts, they are generally less harmful than fossil fuels and are available in perpetuity at more stable costs.

On an individual level, renewable energy sources are often cost-effective when compared to their non-renewable counterparts. Renewable energy resources are found locally while non-renewable energy resources are found almost exclusively outside of the state. The heavy reliance on non-renewable energy sources results in a drain on the local economy in terms of incomes and employment. In contrast, for every dollar spent on locally harvested wood, has a positive economic benefit in the community. Another consideration is that these local renewable energy resources add to the self-reliance of the Town as they are not subject to politically induced shortages or price-hikes.

Land use policies are important in facilitating energy conservation and the development of renewable energy resources. Land use planning can save energy that would otherwise be lost through inefficient site designs and settlement patterns. Standards to consider include encouraging building development on southern slopes, in areas sheltered from the wind, use of vegetation as wind blocks and shade, and flexible lot layouts encouraging planned unit developments with the above considerations according to topography, soils and aesthetic considerations. Directing new growth toward areas with existing infrastructure and services can also reduce energy demands.

Although the energy picture often appears abstract and beyond the influence of individual communities, local planning can play a positive and effective role in guiding energy decisions. By promoting efficient land use patterns, participating in energy development decisions, facilitating alternative transportation options, and encouraging energy

conservation strategies, even small towns like Marshfield can do much to bring about a sustainable energy future.

The three main sources of energy consumption in Marshfield are household heating, private vehicles, and electricity.

II. HEATING

Marshfield residents are making less use of locally available and renewable energy for home heating. During the period between the 1990 and 2000 census the use of wood as a primary heating source has declined by nearly 50%. Despite the decline in the use of wood as a primary heating source Marshfield residents still employ wood at a rate well above the county average.

The popularity of wood as a heating fuel keeps money in the local economy and argues for the long term maintenance of Marshfield's productive forestlands (as does growing interest of using wood in the generation of electricity).

	Marshfield 1990	Marshfield 2000	Washington County 2000
Utility Gas	0.0	0.5	1.2
Bottled, Tank, or LP Gas	15.8	19.0	18.7
Electricity	1.9	0.0	6.9
Fuel Oil, Kerosene, Alcohol	40.9	54.6	62.9
Coke or coal	1.0	1.7	0.2
Wood	40.5	23.5	9.6
Solar	0.0	0.0	0.0
Other Fuel	0.0	0.0	0.3
No Fuel Used	0.0	0.7	0.1

Source: U.S. Census

Home heating costs and energy use can be dramatically reduced through auxiliary solar systems, passive solar design, and building orientation. In addition, proper insulation/weatherization of both new and existing structures yields returns far greater than the investment required over the life of most buildings.

The use of highly efficient wind towers is being explored in Vermont. The Planning Commission will continue to monitor the development of wind tower technology.

II. TRANSPORTATION

Transportation accounts for sizable percent of Vermont's total energy demand and the State's fossil fuel use. Marshfield's status as a "bedroom community", and its distance

from regional job centers, suggest that transportation accounts for a greater percentage of the Town's overall use of fossil fuel.

With only about 15 percent of employed residents working in Town, and a limited array of goods and services within the community, travel is an almost daily necessity for most Marshfield residents. Many of these commuters have the same general destination, and almost 74 percent make their trip alone in a private vehicle. About 10 percent carpool, while 16 percent work at home or walk to work.

IV. ENERGY GOALS, OBJECTIVES AND STRATEGIES

GOAL Encourage energy conservation and the development of local, renewable energy resources.

Objectives:

1. Promote community education and action to improve energy efficiency.
2. Promote reduction of transportation energy costs.
3. Promote land use policies that encourage energy conservation, and the use of renewable energy resources.

Issue Specific Strategies:

Community education and action to improve energy efficiency:

- a. The Town website can be enhanced by adding links to home weatherization information and programs.
- b. The Town website can be enhanced by adding links to other web sites which encourage and promote the benefit of using renewable energy use such as wood, hydroelectric, wind, and solar power.
- c. The Town supports demand side conservation programs.
- d. The Selectboard shall take the lead in supporting demand side conservation programs by:
 - Conducting energy audits of Town buildings as part of Capital Budget and Plan.
 - Considering the cost of energy over the life of equipment as one of the town's criteria in the purchase decision.

Reduce transportation energy costs:

- a. The town website can be enhanced by adding links and other information about car pool programs and public transportation.
- b. The Selectboard will publicly encourage non-motorized travel through better accommodating bicycles and pedestrians, ride sharing, and van pooling.
- c. The Selectboard will seek State funds for the development of a commuter parking area along the U.S. Route 2 corridor.

Encourage energy conservation, and the use of renewable energy resources:

- a. The Planning Commission will consider new zoning regulations to encourage concentrated settlement patterns which minimize infrastructure and transportation related energy costs.
- b. The Planning Commission will consider developing zoning regulations which will allow for development of small-scale hydroelectric facilities and wind generation.
- c. The Town website can be enhanced to provide links to other web sites which promote the use of practical energy conservation measures in the siting of new development and in the orientation, design, construction, function, and maintenance of new or renovated buildings.

CHAPTER 7

HOUSING

I. OVERVIEW

Shelter is among the most basic of human needs. The availability, affordability and location of housing within a community can have far-reaching implications. These factors can affect land use, employment, and transportation patterns, and the social and economic mix in any given Town. One of the most difficult challenges facing communities in Vermont is how to provide an adequate supply of decent and affordable housing for all residents without compromising community character or overburdening physical infrastructure.

II. GROWTH

As discussed in Chapter 2, even without experiencing the pressure of large subdivisions or large scale residential developments, Marshfield is presently among the faster growing Town's in the Region. This is probably due to the Town's desirable location with respect to regional job centers, combined with its rural character. Population growth between 1990 and 2000 has been at twice the rate of the Central Vermont Region. It is going to be challenging for Marshfield to retain its identity as a small, rural community.

Marshfield's household unit growth of 20 percent between 1990 and 2000 (86% since 1970) along with the continued decline in the average size per household strongly suggests community municipal services will be tested in the future.

III. AFFORDABILITY

In spite of the great number of relatively new dwelling units in Marshfield, and dramatic increases in the cost of a home, (135 percent between 1990 and 2000) the value of housing here continues to lag regional averages (\$92,100 vs. \$105,200 - or 14 percent less).

According to the 2000 census, average median monthly owner costs are \$760 in Marshfield, compared with \$1,008 for Washington County (32 percent less). The above statistic does not tell the whole story, however. It is important to note that median household income figures for Marshfield are substantially lower than those for Washington County (\$44,063 vs. \$51,075 - 16 percent less). As a result, less expensive housing may not be more affordable housing. Still, applying the standard definition of "affordability" (total housing costs should consume no more than 30 percent of household income), it appears that the average household in Marshfield can afford the average house in Marshfield.

This does not mean that there is no housing affordability problem in Marshfield. It is the rental market where problems are evident. Median monthly cash outlay for renters is somewhat higher here than in the county as a whole (\$546 vs. \$519 - 5 percent more).

IV. AVAILABILITY

There is reason to expect that demand for housing in Marshfield will continue. The occupancy rate in Marshfield is 95%, comparable with the occupancy rate in Central Vermont. The availability of rental units reversed a negative trend, and increased dramatically since 1990.

	Renter Occupied Yr-End Units 1990	% Total Year- End Housing Rented 1990	Renter Occupied Yr-End Units 2000	% Total Year- End Housing Rented 2000	% Change 1990-00
Marshfield	77	12%	111	16%	44.0%
Region	6,829	31%	7,441	27%	+16.0%

Source: U.S. Census

V. OTHER ISSUES

In addition to affordable housing, several other housing issues exist within the community. The aging housing stock in Marshfield Village will need an increasingly larger number of repairs and renovations to continue to be safe and adequate. The large number of historic buildings in Marshfield as identified in the plan will require a balance between economical and sensitive rehabilitation in order to preserve the historic/architectural integrity and consequent higher resale value of this housing stock. The preservation of community character, a priority for residents, depends upon renovations and new construction that respect the integrity of the existing historic homes and the accompanying historic cultural landscape. As new residences have joined the Marshfield community and taken ownership of some of these older houses, there has been a revived effort to make improvements to these important older houses.

VI. HOUSING GOALS, POLICIES AND RECOMMENDATIONS

GOAL To encourage housing development/redevelopment consistent with the Town's desire that all current and future residents have a safe and affordable place to live.

Objectives:

1. Explore strategies for the provision of affordable housing.
2. Allow for the continued use of houses that are non-conforming uses.
3. Future housing development/redevelopment should reinforce the land use goals of this Plan.

Issue Specific Strategies:

Explore strategies for the provision of affordable housing:

- a. Planning Commission will ensure that zoning regulations encourage concentrated settlement patterns and creative site designs, including clustering, as a means to reduce the cost of infrastructure and land, and thereby promote affordability.
- b. Selectboard will actively pursue partnerships with housing development non-profit agencies, including community land trusts and the Vermont Housing and Conservation Trust Fund, to provide assistance in financing affordable housing projects.
- c. The Planning Commission will examine the Town bylaws and report the findings of regulatory barriers to the provision of affordable housing to the Selectboard.
- d. Development Review Board will consider requiring an affordable housing component for permitted large residential subdivisions.

Allow for the continued use of houses that are non-conforming uses:

- a. The Planning Commission will conduct an inventory of non-conforming structures, uses and lots.
- b. The Planning Commission will develop new regulations for non-conforming uses, structures, and lots as specified by 24 VSA § 4412 (7).

Future housing development/redevelopment should reinforce the land use goals of this Plan:

- a. Encourage housing development that reinforces and compliments existing and future neighborhoods. High density and multi-family housing will be encouraged in Village and other desirable areas.
- b. Selectboard will form a task force to develop a process for community facilities planning specifically to ensure that infrastructural needs and capacity planning is occurring on a regular basis.

CHAPTER 8

ECONOMIC DEVELOPMENT

I. OVERVIEW

A healthy economy is essential to maintaining Marshfield's quality of life. A diversified, dynamic, and sustainable economy provides employment, stimulates social and cultural interaction, and provides the resources for the provision of community services, education and infrastructure. On the individual level, a diversified economy offers greater opportunity for people to engage in satisfying and meaningful pursuits. Economic vitality is a balance between human, natural and capital resources and it is the interaction of these factors which determines the scale and intensity of growth and development.

Marshfield is a rural community with modest commercial and industrial activity. Like the rest of Vermont, Marshfield has evolved from an almost self-sufficient agricultural/manufacturing economy to a more complex mixture and pattern of economic activity. It is now, by all standards, a "bedroom community" - that is to say much of its resident workforce holds jobs in other cities and towns (64 percent). As seen in the 2000 Census data, residents tend to be occupied in trade, construction, seasonal business, home occupations, or professional pursuits outside of the community. The number of people working in their homes (i.e., in home offices) appears to be growing dramatically. In addition, as discussed in Chapter 2, Marshfield appears to be in the process of reversing the decades old trend of economic distress, as incomes have increased at levels above the Central Vermont Region, and poverty levels are below the regional and state averages.

Planning efforts in Marshfield must continue to take the Town's overall economic well being into account.

The results of a Town survey conducted in the summer of 2004 (16 percent response rate) provide a glimpse at some of the economic issues on the minds of Town residents (see Appendix A).

The residents do not wish to sacrifice the rural character of Marshfield for economic growth. Instead, economic development in Marshfield should conform with the desires expressed by Marshfield residents for the retention of the rural character of the Town and the maintenance of the quality of life provided by a landscape dominated by forests, farming, and many opportunities for outdoor recreation, while supporting the harvesting of forest products and other land based economic development.

In keeping with this philosophy, traditional economic growth should be encouraged in areas where infrastructure already exists or may be easily extended in order to minimize environmental degradation and costs to the taxpayer and developer. Both Marshfield and Plainfield Villages are serviced by municipal water and sewer systems. Community facility planning must address possible infrastructure limitations in order to target these village areas as logical traditional growth centers. Further growth center analysis is required in Town.

Encouraging business activities in the villages/growth centers also helps to reduce the likelihood of strip development along Route 2. Strip development leads to traffic, safety and environmental concerns, contributes to declining economic activity in the villages, and works to destroy the rural character of the Town.

Non-traditional economic growth, supported by use of the internet, is taking place in Marshfield. An increasing number of residents, many with home based businesses, are using the internet to sell products, services, or in-lieu of driving to the traditional place of work. Such economic growth is highly desirable because it is “clean” and generally provides a higher wage. The success of these non-traditional businesses is highly dependent upon the use of technology, particularly high speed reasonably priced internet access.

II. CHILD CARE

Ensuring accessible, affordable, quality childcare is important to sound economic development. Recognizing the reality that most families lead lives that require full or at least part-time childcare outside of their homes, childcare is seen as a community need.

Accessible, affordable and quality of child care in the area affects parents’ ability to enter the workforce, be productive while at work, and remain employed. In addition, the child care industry itself contributes to the local economy, through the jobs it sustains, the revenues childcare workers take in, and the taxes they pay.

With 37% of the population of Marshfield of childbearing age and 64% of workforce working outside of the home, it is important to assure that quality childcare is available for working families with children within the town of Marshfield. Current childcare programs fulfill some of the need for after-school day care, but there remains a strong need for full-day, year-round childcare programs for children of all ages.

Presently in Marshfield, childcare services are provided by two (2) registered or licensed Family Child Care Homes or Day Care Facilities, and other non-registered facilities. After-school services are provided for children in K – 6, whenever school is in session.

It is the interest of the town of Marshfield to encourage and support the creation of additional registered or licensed childcare facilities that meet the diverse work requirements of its working population.

III. ECONOMIC DEVELOPMENT GOALS, OBJECTIVES AND STRATEGIES

GOAL To stimulate appropriate economic development and provide opportunity for individuals to establish locally based business ventures.

Objectives:

1. To see that all working residents can earn a "livable wage".
2. Economic Development should reinforce traditional settlement patterns, protect rural character and revitalize village and growth centers.
3. To provide accessible, affordable and quality daycare facilities for the children of Marshfield.

Issue Specific Strategies:

Working residents can earn a "livable wage":

- a. Continue to develop an economic development strategy for the town that identifies and encourages development around the villages and growth centers, and explores other opportunities for creating jobs that require the skills and experience of town residents.
- b. The Planning Commission will ensure that Town zoning regulations do not impose any unnecessary or inappropriate impediments to reasonable business/industrial activity or development.
- c. The Planning Commission will continue to track and report economic/employment statistics and trends in Marshfield in order to chart progress.
- d. Seek financial support from state, federal and private sources to support community development programs that includes housing, employment, and public facilities development and coordination.
- e. Continue to participate in the Central Vermont Economic Development Council (CVEDC).

Economic Development should reinforce traditional settlement patterns:

- a. To provide the infrastructure (including automobile and pedestrian facilities) necessary if new growth and development is to be directed to Village and growth centers.
- b. To support land use policies that would avoid strip development, maintain open space, and promote "in-fill" development.
- c. To encourage adaptive use of existing structures in the Town (for example, the Old Schoolhouse Common project).
- d. Consider providing financial and tax incentives for development in village and growth centers.
- e. Encourage the creation and expansion of locally based industries that utilize the region's natural resources and raw materials, with particular emphasis on value-added processing of agricultural and wood products.
- f. Use GIS information to assess the development capacity of potential commercial and industrial sites and delineate growth areas.

Provide accessible affordable and quality daycare facilities:

- a. The Planning Commission should assure that zoning regulations meet the Statutory Provisions of 24 V.S. A. Section 4409 (f). The purpose of this section is to “protect and promote day care facilities against exclusionary zoning”.
- b. The Development Review Board should work with developers of businesses or housing, to review the impact of their development on the childcare needs of the town.
- c. Encourage the Selectboard to appoint a committee of interested residents to study the childcare needs of Marshfield and make recommendations so accessible, affordable, and quality childcare is available to parents.

Topics to be addressed by the committee:

- i. Conduct a survey of parents to find out their needs for childcare.
- ii. Support present childcare providers by listening to their needs for funding, training and facilities.
- iii. Supply information to parents concerning what subsidies are available to them for childcare services.
- iv. Research and apply for state, federal, and other financial resources that are available for childcare.
- v. Research possibilities in existing town buildings for childcare facilities. (I.e. Schoolhouse Common, school, etc.)
- vi. Encourage childcare providers to use available training opportunities.
- vii. Encourage the school to stimulate interest in early education careers through community service and apprenticeship programs.
- viii. Encourage present business owners with business expertise to work with childcare providers to help them with the business aspects of their childcare services.

CHAPTER 9

LAND USE PLAN

I. OVERVIEW

Historically in Marshfield, as in many Vermont towns, the villages have been the focal point of commerce, industry, social and civic life. Accordingly, infrastructure and population have been concentrated in these areas. The surrounding countryside and forests supplied the raw materials (e.g., lumber, wool, grains, milk, vegetables, etc) needed by the people and industries of the villages. The village and countryside were physically distinct and served distinctly different functions. This pattern of development helps to create a landscape, culture and lifestyle still treasured by residents and visitors alike. The use of land is inextricably linked to "rural character." In survey after survey, Marshfield residents have expressed their desire to retain the Town's rural character.

The past several decades have witnessed changes in the pattern of growth and development in Marshfield. The freedom and mobility afforded by private automobiles now makes it easy for those who do not work the land for their livelihood, to enjoy living in the countryside while maintaining access to the jobs and services of the cities and villages. Consequently, Marshfield has, over the past thirty or forty years, evolved into a "bedroom community" with much of its new residential growth occurring outside of the villages and away from public infrastructure. This new growth pattern could ultimately result in a loss of rural character, less vibrant villages, the waste and/or destruction of natural resources, greater public costs, and the suburbanization of Marshfield.

While it is not legal or desirable to stop new growth, it is in the community's declared best interest to see that new development occurs in a manner that does not change the basic land use patterns, and consequently the character of the Town. Therefore, the villages and growth centers should be the focus for mixed-use, higher intensity development and new growth. Outlying areas should be designed and managed so as not to compromise the Marshfield rural character or its important natural resources.

The land use goals for the town must be achieved in a manner that affords landowners reasonable options for the use of their property and provides local regulators with the flexibility to allow for non-traditional and more site sensitive development proposals. Hence, this Land Use Plan encourages the planning commission to consider changes to the existing zoning regulations

II. LAND USE DISTRICTS

Four identifiable land use districts are described below. These districts generally represent present land use patterns. Future development should be limited to densities and types which preserve the identity of these districts, and limited to a scale which is in keeping with the nature of the various districts.

In establishing the land use districts, the following conditions were taken into consideration:

- Current and historic settlement and land use patterns.
- The need to accommodate a reasonable level of growth and development for the foreseeable future.
- Existing infrastructure and the reasonable future expansion thereof (including proximity to present and prospective Town and community services).
- Soil, slope, and elevations.
- Flood hazard areas.
- The location of important natural resource lands and resource production lands.
- Present and prospective access by improved public roads and public utilities.
- The rights of landowners to the reasonable economic use of their property.
- Future needs and desires of the Town of Marshfield as discussed elsewhere in this Plan.

Based on these considerations, the following land use districts were established.

VILLAGE DISTRICT

A. PHYSICAL CHARACTERISTICS AND BOUNDARIES

The Village District includes all land within both Marshfield and Plainfield villages, plus some areas now served, or capable of being served by public water and/or sewer. Land within the district lies in the valley of the Winooski River, generally on soils and terrain suitable for development, although some flood-prone areas may occur along the River. Those areas within the 100-year flood hazard area are not part of the Village District.

B. CURRENT LAND USES, TRENDS, CHALLENGES/ISSUES

This District currently contains mixed uses at higher densities than the surrounding countryside. It is also home to many civic/public buildings and resources (i.e., library, post office, town offices, etc.)

Not much new development is occurring here (especially residential). In-fill development and expansion may be limited by infrastructure problems, flood hazard areas, water quality issues and individual choices/desires. However, wastewater treatment facilities in the village of Marshfield and Plainfield appear to have excess

capacity to accommodate significant growth (see Chapter 4). Traffic/pedestrian safety, functional and aesthetic issues along Route 2 (as identified in Chapter 5) significantly impede land use in this District.

C. DESIRED FUTURE CONDITIONS:

In keeping with the desire to encourage new growth to the Village District, Marshfield would like Marshfield Village to exhibit the following characteristics for the foreseeable future.

- High density, mixed-use development.
- Village remains the hub of Town's commercial and civic activity.
- Expanded/improved infrastructure to accommodate new growth (as necessary).
- A safe and attractive Route 2 corridor for pedestrians and vehicles alike.
- New development is consistent with village character.
- Affordable housing is available (especially rental housing).
- Alternative/public modes of transportation are available.

D. GROWTH CENTER

The Town of Marshfield designated the Village of Marshfield as a growth center. This designation will make the Town more competitive with respect to state and federal funding opportunities designed to encourage development in downtown areas.

AGRICULTURAL AND RURAL RESIDENTIAL DISTRICT

A. PHYSICAL CHARACTERISTICS AND BOUNDARIES

The Agricultural/Rural Residential District includes all land within 600 feet of Town and State maintained highways (with some exceptions designed to include farmland and exclude wellhead protection areas), as well as significant tracks of land identified on the Town Zoning Map as prime agricultural land. The district is characterized, generally, by a mix of residential uses, agricultural and open land, and forested land.

B. CURRENT LAND USES, TRENDS, CHALLENGES/ISSUES

While this District contains most of the Town's actively used farmland, it is also where most new residential development is occurring (due to pleasing surroundings, generally favorable soils and terrain, and accessibility). These land uses may conflict with each other and result in the loss of good farmland. In addition, residential "strip

development" can place pressure on roads and other infrastructure, and diminish the rural character that attracted residential growth in the first place.

C. DESIRED FUTURE CONDITIONS

In keeping with desire to accommodate new development while protecting important resources within this District, Marshfield would like this zone to exhibit the following characteristics for the foreseeable future:

- The rural character and landscape is maintained. New development is generally residential in nature and sited so as to maintain the productive capacity and visual integrity of the landscape.
- The District will accommodate some portion of new residential growth.
- Curb cuts and strip development along rural sections of Route 2 are effectively controlled.
- New development does not overburden capacity of existing road network or place undue stress on Town's ability to provide public services.
- The regulatory framework is conducive to thriving yet compatible home occupations.

FORESTRY AND CONSERVATION DISTRICT

A. PHYSICAL CHARACTERISTICS AND BOUNDARIES

The Forestry and Conservation District is all the land in the Town of Marshfield not included in other districts. This district is the most unsettled part of Marshfield. It is distinguished by rugged topography, mountaintops and ridges, swamps, wetlands, and streams. The steep terrain, shallow soils and lack of public access have preserved the district in a largely undisturbed and natural condition. It includes all State Forest lands and most land along Class 4 roads.

This district is comprised of many woodland areas, productive and unproductive fields, uplands, steep slopes, and wetlands. The district provides vital wildlife habitat and significant opportunities for outdoor recreation. Disturbance of the land in this district must be done with the utmost care in order to prevent soil erosion, contamination to waters, or the destruction of wildlife habitat and other resources, as well as visual blight.

B. CURRENT LAND USES, TRENDS, PROBLEMS/ISSUES

This district contains the most important forestry resources and some of the most important natural areas in the town. The district remains largely undeveloped. Because of the many natural/ecological resources (including wildlife habitat, wetlands,

wellhead protection areas and other unique and fragile areas) and physical limitations (soils, slope and topography) within this district, even small scale, limited development can be problematic. Widespread development in the district could prove costly from a public services and environmental perspective. Consequently, new development in this zone should be considered with great care, limited in scope, and closely monitored.

C. DESIRED FUTURE CONDITIONS:

- District is devoted primarily to resource production, recreational and ecological uses. The vast majority of the District remains undeveloped.
- Prominent landscape features (i.e., ridgelines, hilltops) remain free, or nearly free, of visible development.
- Class 4 roads and legal trails should not be “thrown up” nor legally upgraded to higher levels.

FLOOD HAZARD AND WATER CONSERVATION DISTRICT

A. PHYSICAL CHARACTERISTICS AND BOUNDARIES

This District includes land within the 100-year flood hazard area, as well as the shorelines of significant surface waters. Much of the Winooski River's flood hazard area is agriculturally productive land.

B. CURRENT LAND USES, TRENDS, PROBLEMS/ISSUES

Shoreline areas, floodways, and flood hazard areas perform many valuable ecological functions which should not be compromised by development. How land is used within these areas can profoundly influence water quality, aquatic habitats, and landscape aesthetics. In addition, undeveloped floodways and flood hazard areas serve to store floodwaters, reducing the severity of downstream flooding and avoiding property damage.

C. DESIRED FUTURE CONDITIONS

- The Winooski River Floodway remains undeveloped and the various ecological, agricultural and flood storage functions of the flood hazard area be preserved.
- Surface waters are clean and attractive and continue to be protected by development setbacks and vegetative buffers.

III. LAND USE GOALS, OBJECTIVES AND STRATEGIES

GOAL Provide landowners reasonable options for the use of their property and provide local regulators with the flexibility to allow for non-traditional and more site sensitive development proposals.

OBJECTIVES:

1. Continue to develop clearly written zoning regulations that inform the citizens of Marshfield of their rights and responsibilities, and the process they must follow to achieve their development goals.
2. Expansion of the Village District Zone around Marshfield Village.
3. Clarify lot size requirements in the Village District and growth centers - state clearly in the zoning regulations that each lot size minimum applies to each residential unit, commercial or industrial structure proposed on a parcel, except as may be provided in Planned Unit Development Regulations.
4. Require residential developments of four or more units and all mixed-use development within the Agricultural/Rural Residential District to be developed according to Planned Unit Development (PUD) standards in order to conserve natural resources and protect important landscape features.
5. Ensure zoning regulations meet the minimum requirements of Federal Emergency Management Agency and the National Flood Insurance Program.

ISSUE SPECIFIC STRATEGIES:

Village District

- a. Consider existing infrastructure and review physical locations to consider providing for higher density, mixed use development, contiguous to currently built-up areas and serviceable (now or in the future) by public infrastructure.
- b. Planning Commission to consider re-development within the Village District through higher density by reviewing the existing density of the district and comparing to current zoning regulations to determine if the regulations are overly restricting infill development.
- c. The Planning commission is encouraged to explore the possibilities of expanding District Boundaries as defined in the Land Use Map.
- d. The Planning commission is encouraged to reconsider current density and setback requirements and allowable uses within the Town's Zoning Bylaws.
- e. The Selectboard is encouraged to direct future municipal construction projects such as civic buildings to the Village District.
- f. The Selectboard is encouraged to obtain formal designation of the Village District as a growth center through the Central Vermont Regional Planning Commission.
- g. The Village Trustees are encouraged to commission a study of the village's infrastructural capacities/requirements and develop a strategy for expanding the

village's capacity consistent with the character of the zoning district and the goals of the plan

- h. The Selectboard might consider providing financial/tax incentives for development within the Village District.

Agricultural and Rural Residential District

- a. The Planning Commission will consider revising PUD criteria and requirements to make sure they clearly provide the appropriate protections, incentives, and review process.
- b. The Development Review Board when considering development proposals should seek to minimize development impacts on municipal services, limit fragmentation of land, and protect the Town's important natural resources.
- c. The Planning Commission will seek grant funds to assist with "build-out" analyses under current zoning and/or proposed Land Use Plan to determine if Town interests would in fact be protected if Marshfield were to be fully developed in accordance with applicable regulations.
- d. The Planning Commission will seek grant funds to assist with and assessment of and recommendations to address the "residential strip development" that is happening along the rural roads in Marshfield vs. other alternatives.
- e. The Planning Commission will work with the CVRPC to identify potential future growth centers in Marshfield.
- f. The Planning Commission will seek grant funds to help identify important agricultural/resource lands through LESA/FLESA programs to help set Town priorities for non-regulatory action (i.e. tax programs, purchase of development rights, etc.).

Forestry and Conservation District

- a. Address non-conforming uses that exist in the Forestry and Conservation district by developing new regulations as specified in 24 VSA § 4412 (7).

Flood Hazard and Water Conservation District

- a. Maintain basic requirements of the Town's flood hazard regulations while updating them to comply with changes in the requirements of FEMA and the National Federal Flood Insurance Program.

APPENDIX A

Results of the survey of Town residents conducted during the summer of 2004.

Every five years Marshfield must review its Town Plan. The plan sets forth Marshfield's vision and guides the community's growth and development of land, including public facilities and services, while protecting its natural environment. The survey was designed to enable citizen involvement in the drafting of a revised plan for Marshfield. There were approximately 750 questionnaires mailed and a total of 117 responses. Several respondents completed only a portion of the survey, consequently the summary that follows is based solely on the actual number of responses to each question. The results are broken into three sections; Demographics (who responded), Questionnaire (ranking responses), Other Matters / Comments (ranking opinions).

DEMOGRAPHICS:

Respondents are, on average, middle aged home and land owners with a long history in the community.

- 86% live in the zoning districts classified as rural residential or forest and conservation
- 92% are over the age of 35, within this figure 27% are over 65
- 79% attended college, 31% graduated with a 4 (four) year degree, and an additional 29% have a post graduate degree
- 70% have lived in Marshfield for more than 10 (ten) years
- 100% own a home or undeveloped land in town.
- 55% use oil or kerosene as a primary heat source: 26% heat primarily with wood

QUESTIONNAIRE:

Residents were asked to respond to five questions related to Town Planning, protection of natural resources, affordable housing, and recreational and business activities. Each question was subdivided into a number of specific issues within the topic, a total of 60 issues were covered. Respondents were asked to rate the importance of each issue on a five point scale – high, medium, low, no, not sure. Please consider the demographic information when drawing your conclusions from the survey results.

Results:

Each question appears below. Each issue receiving a High or Medium response on 80% or a Low or No response on 40% of the returned surveys is also listed.

Summary:

Citizens consider issues related to water quality of the highest importance. Our long time residents appreciate and have a desire to preserve and protect our rural community with its abundance of natural resources, while the community is willing to encourage local retail and home based businesses.

1. How important is it to address each of the following issues in Town Planning?

High or Medium rating

- | | |
|---|-----|
| a. Protecting water quality | 97% |
| b. Preservation of rural character | 88% |
| c. Property taxes | 88% |
| d. Road maintenance and improvement | 87% |
| e. Protection of farm and forest land | 83% |
| f. Protection of wet lands | 81% |
| g. Preservation of Town's historic assets | 81% |

Low or No rating

- | | |
|--|-----|
| a. Exploring development in the Forest & Conservation district | 62% |
| b. Promoting clustered housing | 43% |
| c. Restricting Residential Development | 41% |

There were 31 written comments to the first question 11 dealt with protection of the Forest and Conservation district, wetlands, and wild life habitat. There was no pattern among the remaining written comments.

2. How important is it to protect these natural resources?

High or Medium rating

- | | |
|--|-----|
| a. Surface water resources (received the most High rating) | 92% |
| b. Prime agricultural lands | 90% |
| c. Public access to public water | 89% |
| d. Wildlife habitat | 86% |
| e. Importance of natural areas (wetlands, forests, hilltops) | 86% |
| f. Historic sites and structures | 84% |
| g. Forest lands | 84% |
| h. Scenic vistas | 82% |

Low or No rating – largest percentage rating was 21%

There were 8 written comments to the second question, but there was no pattern among the comments

3. Indicate the importance of each type of affordable housing to have available

High or Medium rating

- | | |
|----------------------------|-----|
| a. Housing for the elderly | 82% |
|----------------------------|-----|

Low or No or rating

- | | |
|-----------------------------------|-----|
| a. Mobile home parks | 80% |
| b. Low cost condominiums | 58% |
| c. Duplex or multi-family housing | 43% |

There were 9 written comments to the third question, but there was no pattern among the comments.

4. How important are each of the following recreation activities?
High or Medium rating
- | | |
|-------------------------|-----|
| a. Hiking | 90% |
| b. Hunting and fishing | 83% |
| c. Cross country skiing | 83% |
| d. Canoeing | 82% |
- Low or No rating
- | | |
|--------------------|-----|
| a. ATV's | 83% |
| b. Snowmobiling | 53% |
| c. Mountain biking | 42% |

There were 13 written comments to the fourth question, 7 of the comments opposed the use of ATV's.

5. How important is it for Marshfield to encourage the following types of business activities?
High or Medium rating
- | | |
|------------------------------------|-----|
| a. Farming | 95% |
| b. Home based businesses | 93% |
| c. General stores | 92% |
| d. Retail shops | 82% |
| e. Personal, professional services | 82% |

Low or No rating – largest percentage response was 26%

There were 9 written comments to question 5, but there was no pattern among the comments.

OTHER MATTERS / COMMENTS:

Zoning Regulations:

Sixty eight percent (68%) of the respondents said the zoning regulations should remain the same or be revised to be less restrictive. Twenty five percent (25%) of respondents were in favor of making the regulations more restrictive or more enforced.

There were 16 written comments to the question on zoning regulations, but there was no pattern among the comments.

What do residents like most about living in Marshfield?

Eight two percent (82%) prefer the rural character of the Town, and 80% enjoy the like the quiet lifestyle above other choices.

There were 9 written comments to the question on life in Marshfield, but there was no pattern among the comments.

In the next five years what changes should occur in Marshfield?

There were 100 written comments. Eighteen comments addressed a need to change the zoning regulations, and ranged from a need to have few and allow more development to consider rezoning districts and restricting development. Ten comments addressed a need for lower property taxes. Ten others expressed concerns about the school system. Ten also addressed a need for more business and light industry. Nine talked about a need to improve transportation systems, and enforcing posted speed limits on all roads and highways. Eight expressed an interest in monitoring and managing the use or recreational motor vehicles. Six see a need for cell towers, and more affordable housing.

Five envision a more attractive Village area, with activities organized for the benefit of residents.

In the next five years what should be preserved in Marshfield?

There were 94 written comments. Sixty of the comments addressed preserving the rural character of the area – preserving old buildings, quiet scenic beauty, and farms. Thirty one of the comments dealt with preserving nature, forests, open fields, water quality, and similar natural geographical features. Fifteen comments talked about preserving the positive community feeling and opportunity for residents to have input into community activities.

As an adult would you participate in re-training classes or adult education opportunities?

Sixty seven percent of the respondents expressed no interest in such activities. Forty four written comments were received but there was no pattern among the written comments.