

WATERFORD TOWN PLAN

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Table of Contents

<i>PURPOSE AND SCOPE</i>	4
Goals and Objectives.....	4
<i>HOUSING PLAN</i>	5
Building and Housing Survey.....	5
<i>COMMUNITY FACILITIES AND SERVICES PLAN</i>	7
Water Supply.....	7
Sewage Disposal.....	8
Solid Waste Disposal.....	8
Education.....	9
Public Buildings.....	11
Public Safety.....	12
Emergency Management.....	12
<i>TRANSPORTATION PLAN</i>	12
Highways.....	13
Functional Classification of Highways - 1990.....	13
Administrative Classification of Highways.....	13
Present Conditions.....	14
Other Transportation Services.....	14
Scenic Roads.....	16
Speed Limits.....	16
Standards.....	16
<i>LAND USE PLAN</i>	17
Introduction.....	17
Factors Determining the Land Use Plan.....	17
Village Residential.....	18
Rural Residential, Seasonal Homes and Existing Subdivisions.....	18
Industrial /Commercial.....	19
Recreational.....	19
Agriculture.....	20
Rural Lands - Primarily Forested.....	20
Physiography.....	20
Soils and Special Land Conditions.....	21
Flood Hazard Areas.....	22
Water Resources.....	22
Goals and Policies of the Land Use Plan.....	22
Recommended Categories of Land Use.....	23
Special Considerations.....	24
<i>IMPLEMENTATION</i>	25
Administrative.....	25
Political.....	26
Fiscal.....	27
<i>POPULATION STUDY</i>	28
Historical Trends.....	28

Current Population	28
Seasonal Population.....	28
Service Population	29
Population Projections	29
<i>ADJACENT TOWNS</i>	30
Barnet	31
Concord	31
Kirby	31
Littleton, NH	31
Monroe, NH.....	32
St Johnsbury	32
Regional Plan	32
Conclusion	32
<i>ENERGY PLAN</i>	33
Resources.....	33
Needs, Scarcities and Problems.....	33
Costs.....	34
Conservation	34
Renewable Energy Resources.....	34
Land Use and Energy Conservation	35

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PURPOSE AND SCOPE

In accordance with 24 VSA Chapter 117, Section 4382, the Planning Commission of the Town of Waterford has revised this comprehensive Municipal Development Plan as part of their duties as policy advisor to the Board of Selectmen. With governmental processes becoming more complex and with town budgets and requests for services increasing, it becomes very important for the town to look to the future and attempt to determine for itself, how it wishes to grow, what its needs and desires are and how it will pay for them, to attempt to protect its irreplaceable assets, and to assure that the public health, safety, welfare, and quality of life will be maintained.

It is recognized that planning for the future is a process which can best be done as a continuing activity, and this Municipal Development Plan is not a final document that should never be altered, but instead is a policy guideline that should change as the needs and desires of the community change.

As previously mentioned, this development plan is intended as a policy guideline only and not a law and does not have the same legal standing as do zoning and subdivision regulations. However, it is considered by the District Environmental Commission and the State Environmental Board in hearings on large developments under Act 250, the development law of the State of Vermont.

Goals and Objectives

1. To remain a rural residential community in character and nature.
2. To retain and promote agriculture and forestry as the prime economic base within the town and to maintain a policy of commuting to other towns for other major sources of employment.
3. To promote small clean industry on a very selective basis.
4. To grow in a slow, fiscally tolerable, ecologically sound, and orderly fashion, so as to protect the public health, safety, and welfare.
5. To encourage a mixed and balanced population within the town, allowing for the desirability as a place to live for young families as well as a retirement and second home community.
6. To adequately consider all residents' needs and to provide services, facilities, and amenities the town can reasonably afford.
7. To protect our natural and economic resources.
8. To preserve our historical heritage.
9. To adequately address response to the Fall 2004 Town Plan Survey.

HOUSING PLAN

Building and Housing Survey

Most of the housing and related structures are relatively evenly dispersed throughout the town along existing roads. Commercial enterprises are located on VT Rt. 18 and Duck Pond Road. Public buildings other than the school and town garage are concentrated in Lower Waterford, the only village type of development existing. There are currently nine approved major subdivisions in Town; one, a primary and second home community on Comerford Reservoir (Waterford Springs), a second off Duck Pond Road is for year-round residences for local residents, a third on Hurlburt Hill, a fourth on Slate Ledge Road and a fifth off of Simpson Brook Road, known as Meadowood. Four potential subdivisions (Hastings Road, High Ridge Road, Old County Road, and Shadow Lake Road) are to be developed. A survey based on external appearance only was conducted. The survey evaluates housing conditions in three distinct categories according to the United States Bureau of Census definitions.

Sound: A sound structure is defined as having only very minor defects, such as lack of paint or weathering of mortar joints, or no defects at all. Since the majority of buildings surveyed were found to be sound, they have not been identified on the accompanying map.

Deteriorated: A deteriorated building is defined as one requiring more repairs than would be provided in the course of regular maintenance. Flaws such as holes, rotted or missing materials over large areas in foundations, walls, floors, or roofs; shaky or unsafe porches, steps or railings; rotted, loose or missing window frames; or any other condition indicating the lack of proper upkeep are sufficient to classify a building as deteriorated.

Dilapidated: A dilapidated building is defined as one being critically defective. Critical defects indicate continued neglect or serious damage to the structure requiring extensive repairs, rebuilding, or demolition. A building may also be considered dilapidated when flaws or defects are perhaps not individually critical, but so numerous that it no longer provides a safe and adequate shelter.

The 2005 Waterford Grand List indicated there was a total of 545 housing units in Waterford. Of these 545 units, 462 are single-family dwellings, 60 are seasonal, 18 are mobile homes occupied year round, and 5 are multiple dwelling units. Purchase costs, especially of older homes, in Waterford are relatively high because of the community's desirability for residential use and second homes.

The following table gives a breakdown of the number and types of structures and their condition:

Table 1: Housing Conditions in Waterford

Housing Type	Sound	Deteriorated	Dilapidated	Total
Year Round	463	2	2	467
Seasonal	52	-	-	52
Hunting Camp	5	-	1	6
Mobile Home	19	1	-	20
Total homes:				545

Goals:

1. Waterford wishes to preserve its stock of older houses and encourage their continued use.
2. Maintain a dispersed low density-housing pattern.
3. Encourage second home development that will not place burdens on the town.

Policy: Waterford wishes to see an adequate standard of housing maintained for all its residents.

Recommendations:

1. Dilapidated houses that are standing vacant should be condemned and removed by public order, as they pose potential problems to public health and safety.
2. Conversion and rehabilitation of vacant houses that are still in reasonably good condition to rental housing units should be encouraged.
3. Mobile and modular homes are recognized as a form of housing and it is intended that provision be made for their use in the Town. Mobile and modular homes will be permitted anywhere in Town that conventional single-family dwellings are permitted. Regulations pertaining to mobile and modular homes should be incorporated into the Zoning Bylaw requiring them to have permanent foundations.
4. Recreational vehicles should not be allowed for use as a dwelling unit for more than 30 days in any calendar year without special approval by the Development Review Board, and recreational vehicles and campgrounds should only be allowed in the Rural Residential District and only after site plan approval by the Development Review Board.
5. Large housing developments (five lots or more) should not be permitted unless they are proven to be completely self-contained in terms of services and facilities open space, new road construction and maintenance, and only upon site plan approval by the Development Review Board.
6. It is the Town's desire to: 1) retain its presently dispersed settlement pattern; 2) retain the pristine quality of environment waters and prevent soil erosion; 3) protect its resources, agricultural and forest land, historic and scenic areas, natural resources; and 4) retain a balance between town revenue and town expenses. These are the reasons why large developments cannot be sustained.

7. Presently, there is no need for publicly assisted housing within the town, as its population is too small to support such a project and there appears to be little interest in this type of project.

COMMUNITY FACILITIES AND SERVICES PLAN

Water Supply

There is presently no municipal water supply system for the Town of Waterford. Water for domestic use is obtained from individual driven wells or ground water. Much of the rural areas rely on springs.

St. Johnsbury's primary water supply source is Stiles Pond, located within the boundaries of Waterford. St. Johnsbury has landholdings of approximately 1,132 acres surrounding the Pond and protecting its immediate watershed. Very careful consideration must be given to the type and density of development of other lands in this watershed as improper development of this area could create pollution problems. The 20" main for St. Johnsbury follows the outlet from Stiles Pond, along Route 18, and through the area served by the I-93/Route 18 interchange. It is possible that development that might require a municipal water supply could locate in this area and tap into the main. This might offer partial compensation for protection of lands in the watershed area.

Ground water favorability maps published by the Vermont Department of Water Resources in 1967 indicate that the area following the course of Chandler Brook is underlain by thick deposits of course-grained stratified glacial drift and has excellent ground-water potential. It is cited as an area suitable for exploration to locate wells that should yield sufficient quantities of water to meet municipal and industrial requirements. Other areas which could yield shallow wells and infiltration galleries that should yield sufficient quantities of water for domestic, commercial and light industrial use are located along Duck Pond Brook and Stiles Pond area, but, as already stated, this area is developed as a public water supply and cannot be overdeveloped. Lesser areas which may have high yield lenses but not sustained storage or recharge capabilities are located all along the Connecticut and Passumpsic Rivers.

Recommendations:

1. Water supply should be continued on an individual basis. There does not appear to be a need for a collective system of water supply in Waterford, until a new study or the Agency of Natural Resources recommends otherwise. State guidelines must be followed.
2. The type and density of development within the Stiles Pond Watershed must be closely monitored in order to protect St. Johnsbury's water supply in addition to meeting State health regulations and Act 250 control.

3. That identified potential water supply areas be protected and that development that would require large supplies be located to best utilize these sources.

Sewage Disposal

Presently there are no municipal or collective sewage systems within the Town of Waterford. Domestic sewage is disposed of individually by means of septic tanks, leaching fields, cesspools, so-called dry wells, and possibly other purely local means. Detailed soil surveys have been completed for many of the developable areas of the Town and should be consulted when development requiring sewage disposal is contemplated.

The Town now has a dispersed settlement pattern which, if continued and concentrations are avoided, there should be no problems for continued individual sewage disposal. Care should especially be exercised in the Stiles Pond Watershed area, as this area would require installation of collective systems sooner than other areas if concentrations of populations developed.

Recommendations:

1. Sewage disposal should be continued on an individual basis until a new study or the Agency of Natural Resources recommends otherwise. State guidelines must be followed.
2. That a dispersed settlement pattern be encouraged in the Town maintaining a rural character and eliminating the need for collective systems.
3. That any major developments in Town be required to develop their own disposal systems which will require no commitment from the Town and not create any pollution problem.
4. That the Town considers the possibility of developing and adopting local health regulations.

Solid Waste Disposal

Presently, arrangements have been made for a solid waste receptacle to be available at the Waterford Town Garage. The receptacle is then hauled to a State approved landfill site. Private contractors collect solid waste for those residents who wish to make use of their services. This system of disposal should be continued as long as it is economical and effective.

The Town of Waterford is a member of the Northeast Kingdom Waste Management District, and works cooperatively with the District to manage the solid and hazardous wastes in accordance with the District's solid waste implementation plan.

Recommendations:

1. The Town of Waterford should remain a member of the Northeast Kingdom Waste Management District, as long as it remains economical and effective.
2. A collection service performed by the Town is not seen as feasible within the foreseeable future.

Education

Waterford operates an elementary school (grades Pre-School to eighth) within the Town and tuitions its high school students to many secondary educational schools including St. Johnsbury Academy, Lyndon Institute, and Concord High School.

Elementary School: In 1957, the Waterford Elementary School was constructed, replacing the remaining four one room schools that were then in use. At that time, there were 91 students in the school. An addition was put on in 1987, and in 2003, the roof, heating system, asbestos abatement, and other necessary repairs were completed. The school now has nine regular classrooms, a library, computer lab, music room, gym, art room, kitchen, administration offices, rest rooms, etc. The building has a capacity of 180 students.

It is situated near the center of Town on an eight-acre lot, which allows room for additional expansion. Through the generosity of the community and parents, the school's playground has a soccer field, baseball diamond, outdoor basketball court, and playground equipment.

Students with special learning needs receive instruction five days a week. Based on the child's needs the school, as required by Vermont and Federal law, will tailor a program for the child.

When the School was originally built, there was an enrollment of 91 students from grades first through eighth and a staff of four teachers. By 1965, the enrollment had slipped to 77, but then increased to 154 elementary students in 1990 and declined to the 1997-1998 enrollments of 145 elementary students. This figure included Kindergarten to eighth grade. The Pre-school Program had 23 students during the 2006-2007 school year. In 2006, the total student population had increased to 154 resident and 14 non-resident students (from towns in the area that do not have an elementary school, such as Kirby). The school receives tuition monies for the non-resident students. In 2006, 15 Waterford students attended the Union Baptist Christian School, Good Shepherd School, or were Home-Schooled.

Waterford School is a member of the Essex-Caledonia Supervisory Union (ECSU). The superintendent and necessary staff are hired on a regional basis through the ECSU; this includes the staff necessary to provide services such as speech, hearing and other special educational needs. The Waterford School works in conjunction with the ECSU when developing a program for a child in need of special education.

Table 2: Total School Enrollment

School	Year	Elementary	Secondary

Waterford School			
	1965	77	43
	1970	103	50
	1975	129	64
	1980	111	59
	1985	141	46
	1990	154	62
	2004	169	80
	2006	186	80
Union Baptist Christian School			
	1990	10	9
	1997	3	2
	2004	7	
	2005	7	
	2006	5	
Home schooling			
	1990	6	-
	1997	3	2
	2004	2	
	2005	1	
	2006	5	
7 th Day			
	1997	3	1
Good Shepherd School			
	2004	10	
	2006	12	

There is presently the equivalent of 17 full time teachers, including a full time principal, plus paraeducators as required for the students' needs. Waterford School also employs one full and one part time custodian. The school serves breakfast and lunch with one full time employee.

Secondary Schooling: After the eighth grade, Waterford children may attend the school of their choice.

The Town pays full tuition to St. Johnsbury Academy or other surrounding town high schools in Vermont, or pays the Vermont State average to any other State approved high school. St. Johnsbury Academy offers an excellent curriculum and has a capacity for additional students, so there is no immediate need for additional facilities there, which might cause increases for Waterford. However, tuition expenses have been escalating rapidly in recent years, from \$490.00 per student in 1965 to about \$1,000.00 per student in 1970 to \$2,960.00 in 1981 to \$3,645.00 in 1986 to \$5,985 in 1990 and finally \$6,890 in 1997. The projected cost for tuition for the 07-08 school year is \$9,820 (K-6) and \$9,692 (7-8) per student. Large increases in high school age students can cause serious problems for the Town.

Recommendations:

1. Based on population and student enrollment projections, development trends, etc., it is anticipated that expansion will not be needed within the next five-year period.
2. The school is an expensive community facility, which is idle much of the time. It is recommended that the Development Review Board, Selectmen, and School Board work out a program for expanded community use. This might include such things as adult education classes, adult and supervised group recreation programs, community meetings, etc.
3. That the outdoor facilities at the school be further developed. Specific projects might include a skating rink and tennis courts. These facilities should be accessible for active community use and would be an integral part of a community recreation program.
4. That the current program level be maintained as is and that the basic system as operated is the best possible solution to the education needs in the Town in the foreseeable future.

Public Buildings

Waterford is very fortunate to have several excellent public buildings.

Davies Memorial Library: Waterford may have the only “honor system” library remaining in Vermont. The physical structure is a fine colonial structure, which has received excellent maintenance. It consists of a large open room that serves all the library functions, some private functions and various public meetings. A second smaller room was converted to the children’s room in 2003. In the same building, the downstairs houses Waterford’s U.S. Post Office, Town Clerk’s and Treasurer’s Office. The library currently holds a collection of approximately 3,000 books, periodicals, movie videos, DVDs and audio books. The Town appropriates \$5900 to the library annually, which is used for maintenance, operation, expenses and salary for the part-time librarian of the library. In addition, the Board of Trustees and Friends of the Library oversee annual fundraisers to supplement the library’s budget.

Recommendation: Davies Memorial Library should be maintained as is over the next five-year period, as a self-serve library and center for meetings and recreation in the town. The current budget is adequate.

Congregational Church: This structure is a fine example of New England Colonial church architecture, very carefully detailed, and in excellent repair. It consists of the main hall and a vestry, which has traditionally served many community activities including church suppers, local meetings and elections, and gatherings.

Waterford Elementary School: This facility has been discussed at length in the preceding section on Education.

Town Garage: The Town garage, located on Duck Pond Road, was constructed in 1970 and houses all the town equipment. It should adequately serve the town's needs for the next five years.

Volunteer Fire Department: Waterford has a volunteer fire department with rescue. At the present time, the fire department has three trucks and a garage in which to keep them. The department has approximately 23 volunteers.

Public Safety

Current police services consist of protection through the State Police and the County Sheriff's Department. The State Police outpost is located just north of the Waterford town line, the County Sheriff's office is located in St. Johnsbury, and thus they are readily available. There is a Town Constable and second Constable, which are quasi-police positions. They are noncommissioned positions and as such have no authority in either civil or criminal matters, only enforcement of town ordinances. The primary duty of this officer is that of tax collector. The only public safety problems expressed centered around security at isolated public buildings and minor traffic and civil problems.

Emergency Management

The town of Waterford has an Emergency Management Plan and a coordinator appointed by the selectmen. There are two designated emergency shelters: the Waterford Elementary School and the Union Baptist Church. The fire department has a mobile generator for emergencies and the firehouse is equipped with a propane-fired generator for use in emergencies as a command center.

TRANSPORTATION PLAN

Transportation needs in Waterford are met almost totally by the private automobile. The only exceptions are privately contracted school bus services. Trucking services are available in St. Johnsbury. The Caledonia County State Airport at Lyndonville serves regional air needs. Northern Vermont Railroad operates a rail freight line through the western corner of the Town.

Highways

There are currently approximately 80 miles of traveled highways within the Town of Waterford. Construction and maintenance costs are shared by the community, State, and Federal governments. The degree of state and federal participation is based on the type of highway and its relative importance in terms of use. Federal programs are administered through the VT Agency of Transportation.

Functional Classification of Highways - 1990

As required, the highways in Waterford have been classified according to projected use in 1990. Under this classification system, roads are presently classified as indicated in Table 3.

Table 3: Functional Classification of Highways - 1990

Classification	Highway
Major Arterials	Interstate 91 Interstate 93
Rural Major Collectors	U.S. Route #5 VT. Route #18
Rural Minor Collectors	Cross Rd (SA #1) Lower Waterford Rd (SA #2) Daniels Farm Rd (SA #4) Duck Pond Rd (SA #3)
Local Roads	All other highways.

Administrative Classification of Highways

Highways in Vermont are classified into one of four administrative classes, which governs the responsibility and level of funding of each unit of government. The following mileages and classifications are located in Waterford.

Interstates - There are 14.398 miles (including 2.243 miles of ramps) of interstate highways in Waterford. This total is made up of 1.608 miles of I-91 and 10.547 miles of I-93.

State Highways – There are 8.713 miles of state highways in Waterford. The Vermont Agency of Transportation has full control and pays the cost of construction and maintenance. These include U.S. Route 5 and State Route 18. The town receives \$0.00 per year per mile for maintenance purposes.

Class 1 – The Town of Waterford does not have any Class 1 town highways.

Class 2 - There are 15.51 miles of Class 2 Town highways. These are referred to as State Aid highways and are part of the State’s secondary system. The Vermont Agency of Transportation

pays \$4004.69 per year per mile for maintenance. Class 2 Town highways are eligible for incentive grants for paving and reconstruction with up to 80% state reimbursement. Class 2 Town highways are also eligible for incentive grants for replacement or rehabilitation of culverts 36" or greater in diameter and bridges.

Class 3 - There are 32.60 miles of Class 3 roads in Waterford. These are town roads and the responsibility for construction is up to the town. The State pays \$1,466.26 per year per mile for maintenance. Class 3 Town highways are eligible for incentive grants for replacement or rehabilitation of culverts 36" or greater in diameter and bridges. It can readily be seen that the majority of highways fall in this category and hence the reason for a substantial highway budget for the Town.

Class 4 - There are 9.07 miles of Class 4 Town highways for which the Town still holds the right-of-way.

Present Conditions

US Routes 5 and VT State Rt. 18 are hard surface asphalt constructed to federal standards and are generally in good condition. Of the Class 2 roads approximately half are gravel surfaced. These are generally in good condition, except for spring months when the combination of wetness and heavy travel cause rutting on the gravel sections. All of the Class 3 roads are gravel surfaced and are in adequate condition or can be kept so with seasonal maintenance.

Traffic is focused on U.S. Route 5 and on State Route 18. Other principal roads that are used heavily are the Daniels Farm Road, Lower Waterford Road and Duck Pond Road (with heavy truck traffic).

Other Transportation Services

Railroad: The Northern Vermont Railroad maintains a rail line through the western corner of the Town, which provides freight service only. Their freight depot is in St. Johnsbury as is a connecting line with the line for east/west transport.

Bus: Rural Community Transportation Inc. services on an as requested basis for low cost local public transportation.

Air: Caledonia County State Airport is the regional airport serving the area and is about 15 miles away, in the Town of Lyndon. Efforts are underway to upgrade services at the airport presently, and to include flight instruction, a fixed base operator, maintenance, and charter freight.

Policy: Orderly growth in Waterford is not dependent on any new road construction or acceptance of roads built by others. Present service is quite adequate and there is plenty of room for growth on existing roads. There are no traffic congestion problems, but the number and concentration of access points should be closely monitored to retain this situation. The Town has no desire to upgrade any roads from their present classification. Should the public good and necessity require the Town to take over any road, it is the Town's desire that those directly

benefiting from this action bear the cost of building or upgrading any such road to State of VT Agency of Transportation standards. The level of maintenance will be related to the classification system and the level, type and intensity of use.

Table 4: Summary of Town Highways

Town Road	<u>Length in Miles</u>		Town Road	<u>Length in Miles</u>	
	Class 3	Class 4		Class 3	Class 4
4	0.78	0.15	25	0.15	0.36
5	0.21		26	0.66	1.28
6			27	1.36	
7	1.05		28	0.86	
8	0.00		29	1.36	
9	0.74		30	0.15	1.25
10	0.96		31	0.08	0.52
11	1.17	0.63	32		0.86
12	0.90		33	0.85	
13	3.14	0.89	34	0.55	0.57
14		0.51	35	2.26	
15	0.34		36	1.41	
16		0.15	37	0.13	
17	0.65		38	3.95	
18	1.30	0.62	39	1.75	
19	2.27		40	0.08	0.22
20		0.77	41	0.02	
21			42	0.00	
22	0.36		43	1.22	
23	0.19		44	0.05	
24	0.54		45	0.35	
			46	0.03	
			47	0.30	
			48	0.00	0.29
			49	0.29	
			50	0.14	

Recommendations:

1. No new construction of roads is necessary.
2. The present classification system should remain as is, and there should not be any up grading of classifications.
3. It is recommended that Route 18 be maintained at its present level as a Class 1 primary highway and not be downgraded.

Scenic Roads

Most roadways in Waterford are scenic in one way or another, but some deserve special attention to preserve their scenic character.

It is requested that the Selectmen and the State of Vermont District Highway Engineer consult with the Development Review Board regarding its recommendations concerning any plans for any reconstruction or major maintenance affecting these designated scenic roads. Scenic roads may be subject to zoning restrictions.

The following are several of the many roads in town with grand views:

The intersection of Hale Road and Valley View Road has views overlooking the Connecticut River Valley and good vistas for 1,000' west along Hale Road, a mile to the south along Valley View Road, and east along Hale Road to Suitor Road.

East Village Road has exceptional views for its entire length from the St. Johnsbury line to its end.

Campbell Road, from Old County Road north through the woods, to its terminus at I-93.

Old County Road with views overlooking the Connecticut River Valley from Mad Brook Road south to the picnic area on the Connecticut River.

High Ridge Road has a variety of views for its full length from Old County Road to the Concord Town Line. (Note: the last $\frac{3}{4}$ mile of this road is a class 4 road with limited maintenance; travel should be with care or by foot).

Shadow Lake Road has grand views from Old County Road to the Concord Town Line, especially to the south overlooking Moore Reservoir.

Speed Limits

All town highways should have a speed limit of not more than 35 miles per hour for gravel-surfaced roads, and not more than 40 miles per hour for paved roads. The White Village Area is 25 miles per hour.

Standards

Upgrading of town roads, especially scenic roads, should conform to the basic standards of the booklet "Vermont Backroad", prepared by Northeastern Environmental Design, of which the town has a copy on file. No right-of-way should be permitted for any new road less than fifty feet in width.

LAND USE PLAN

Introduction

The land use plan represents a broad policy statement of the desired future land uses in Waterford and as such is a summation of all the other surveys, inventories, analyses, and categorical plans which have preceded it. It is also based on surveys of existing conditions and trends and capabilities relative to land use. It is intended to work as a guide to public officials and private citizens in coordinating the future development of the town. It is the document upon which the Town's Zoning Bylaw is based.

Factors Determining the Land Use Plan

1. **Public Opinion Questionnaire:** During the Fall of 2004, a public opinion questionnaire was sent to all taxpayers soliciting their views. The results of the questionnaire were the prime determinants of the form and content of all aspects of this plan and especially the land use plan.
2. **Population Survey:** It was found that Waterford was a relatively "young" town in terms of age distribution and, because of its location and present trends, it was projected to have about a 30% population growth over the next twenty years and about five to eight percent in the next five years. Seasonal population is expected to level off and grow only slightly. Therefore, it is expected that further development of land in most categories in Waterford will occur in order to support this moderate population growth.
3. **Economic Considerations:** Power generation and transmission, construction related industry, farming and small commercial enterprises represent the economic base in Waterford. The major employment center is St. Johnsbury, although there is some employment in Littleton, NH and surrounding towns, the trend being that Waterford is becoming a residential center for these employment centers. Second homes contribute to the tax base in Waterford.
4. **Housing:** Housing is dispersed throughout the town with a major trend of major new home building along roads leading to and relatively near St. Johnsbury. Second homes and retirement homes are primarily concentrated in the southern section of town near the Connecticut River. Existing houses, single detached houses, mobile homes, and minor subdivisions comprise the housing stock. Rural Residential use is expected to grow at a moderate pace over the next five years.
5. **Facilities and Services:** Waterford does not intend to install municipal water and sewer and therefore does not anticipate any major concentrations of populations or intensive land uses. Waterford does not expect to enlarge its education system or plant. Public health and safety services are expected to be maintained at current levels. Access is a consideration in some remote areas that should not be developed. Present community facilities are dispersed throughout the Town.
6. **Planning Coordination:** The plans of the adjacent municipalities have been reviewed and areas of mutual interest have been resolved. One such question of cooperation is very necessary, that being the use of land in the Stiles Pond watershed, which is St. Johnsbury's

water supply. Development must be limited and closely monitored by Waterford and in return, Waterford may be able to use the water supply and future sewage system of East St. Johnsbury to attract industries or commercial enterprises to a potential site in Waterford and thus add to the tax base of the Town. Waterford is depicted as an agricultural and residential community in the regional sketch plan; its aims are not in conflict with the regional document. The State Land Capability Plan and other documents have been consulted and Waterford's plan is in conformance with all appropriate planning documents.

7. **Existing Land Use:** Land uses may be classified into seven general categories. They are: village residential, rural residential (including permanent homes, seasonal and second home residential, and existing subdivisions), industrial, commercial, recreational, agricultural and rural lands - primarily forested. These land uses are interspersed and not concentrated. In fact, Waterford's existing land use can best be described as nearly completely dispersed and rural in nature, other than for the historic village of Lower Waterford.
8. **Capability:** Waterford recognizes that it has certain resources and limitations for development which must be respected and properly utilized if a viable and well-integrated community with a minimum of problems will continue to be realized. Some of these are outlined in the following paragraphs and are factors in determining the proper utilization of lands in Waterford.

Village Residential

Lower Waterford (White Village) is the only remaining village type concentration within the town. Most of the surviving structures were constructed during the early 1800's and remain much as they were then. It was formerly a full scale, self-sufficient village, but most industrial uses have completely vanished, and the only remaining commercial use is the historic colonial Rabbit Hill Inn. The rest of the buildings and surrounding lands are either for public uses or private residences. The White Village has been preserved due to the Village's population decline and the efforts of a former owner of the Rabbit Hill Inn who bought and restored all but two of the houses in the Village area during the 1930's. The result is an historic and classic Vermont scene, which is much photographed and frequented by many vacationers and tourists. It is a fine example of functional historic and scenic preservation as an appropriate land use.

Rural Residential, Seasonal Homes and Existing Subdivisions

Residential uses are dispersed throughout the town, primarily along town highways. There are currently nine approved major subdivisions in Town; one, a primary and second home community on Comerford Reservoir (Waterford Springs), a second off Duck Pond Road is for year-round residences for local residents, a third on Hurlburt Hill, a fourth on Slate Ledge Road, and a fifth off of Simpson Brook Road known as Meadowood. Four potential subdivisions (Hastings Road, High Ridge Road, Old County Road, and Shadow Lake Road) are to be developed.

A trend of retirement and second homes being purchased or built in the southern half of town is being witnessed. Most houses in the town are on large lots and with a good deal of open space

around them thus lending to the rural character of the town. There is an average of about 40 residential building permits issued in the town every year, of which about 30% are for new houses. Thus, there is an established trend for Waterford becoming both a bedroom community and a second-home/retirement home residential center.

Industrial / Commercial

Present industries in the town include a hydroelectric dam on the Connecticut River operated by TransCanada, the Pike Company asphalt plant and rock quarry, Griswold Concrete Plant, and Eddie's Bakery on Duck Pond Road, and Calco, Inc., a precast concrete plant and construction operation. There is also a millwork shop and numerous home industries. These industries are located throughout the town and are not concentrated. There is also potential for commercial growth near the intersection of I-93 and Route 18, which would require changes to existing zoning.

The hydroelectric plant and transmission lines, which cross Waterford and utilize a small amount of land in a linear fashion, generate revenue for the town. There are cable and electric transmission lines throughout the town, which add to the tax base. Another utility, St. Johnsbury's water supply, comprises Stiles Pond and 1,132 acres of its watershed represent a major conservation use of land in Waterford.

The commercial activity in the town is very minimal at this point in time. The Rabbit Hill Inn, Restaurant and Gift Shop at Lower Waterford is a tightly knit group of colonial buildings at the corner of Route 18 and Lower Waterford Road.

The Planning Commission plans to review the present zones and their individual uses to accommodate growth patterns in the town.

Recreational

TransCanada maintains areas of recreational land adjacent to the Moore Dam reservoir in the southeastern corner of the town including picnicking and boating facilities.

Private recreational facilities are a part of the second home development fronting on Comerford reservoir in the southwestern corner of the town and include such elements as tennis courts, beach, and clubhouse.

Waterford school has a public playground. The Union Baptist Church and School has a private playground and ball fields.

The Waterford Ridgerunners Snowmobile Club operates and maintains numerous snowmobile trails throughout the town.

Driving Waterford's back roads and observing its scenic qualities are passive recreational land use activities enjoyed by residents and visitors alike.

Agriculture

There remains substantial acreage in the Town of Waterford that is or could be used for agricultural purposes. Considering the decline of farming in Vermont, this testifies to the fact that farming is still a very viable part of the economy and life of Waterford residents. The continued presence of farming creates and retains the rural atmosphere and open space which makes Waterford appealing and desirable to its residents and visitors. Measures to encourage continued use of land in farming are recommended.

Rural Lands - Primarily Forested

About 10,000 acres, or more than 40% of Waterford's total area, can be classified as totally rural in nature; that is, with no land developments of any kind, with little direct access, and primarily in a forested state.

Much of this land is steep and rocky and was never actively used, while other sections were once farmed, but have since reverted to woods with the decline of the farming population in town.

Most of these areas are periodically logged, are a resource for abundant wildlife, and are used freely for hunting, fishing, and other outdoor recreational pursuits.

Physiography

The town is nearly square in shape except for the irregularity along the Connecticut River and encompassing 23,806 acres. There is very little truly prime developable land in Waterford, perhaps a major reason for its present rural and dispersed land use pattern. The topography is quite rough and in some cases steep with the highest point in the town being Jackman Mountain at slightly over 2,000 feet and several other peaks over 1,500 feet to a low point of 648 feet on the Connecticut River at Comerford Dam. The Passumpsic River passes through the western corner of the town and the Connecticut borders it on the east and south, but neither of these have broad plains adjacent to them. Several minor streams dissect the rough terrain and offer little more than passageways for roads through them.

Soils and Special Land Conditions

Most of the soils of Waterford are developed from glacial material and range from the Lyman/Windsor/Belgrade/Hartland series (10% of land area) in bottom lands, to Lyman/Marlow associations on the high ground (30% of land area) and Peacham/Muck association in several lowland areas (5%), with the majority of the land (45%) and virtually all the land which is truly developable without great difficulty lying on the gentle hillsides and having primarily Peru/Marlow and Paxton/Woodbridge associations. (See Soils Map).

Detailed soils surveys have been developed for about 50% of Waterford and in areas that have generally been used for farming, thus, indicating the prime developable lands. Generally, the soils of Waterford are being used appropriately with no major conflicts or problems being created by misuse.

Based on the soils information available and the Vermont Land Capability Plans, approximately 80% of the land area in Waterford has soils limitations of some kind and to varying degrees, for subsoil sewage disposal and/or foundation construction for buildings. Therefore, soils information should be fully explored when development is considered. Many areas have soils which are 1) shallow to bedrock or hardpan, 2) excessively wet or poorly drained, 3) will not adequately absorb moisture, and 4) unstable, or a combination of these. Any of these pose serious problems.

Other considerations should be given to special land conditions that may cause future problems if developed. These include: 1) lands which are subject to periodic flooding (flood plains or flood hazard areas), 2) lands which have an average slope of greater than 15%, and 3) lands which are at high elevations (over 1,500 feet) and are extremely fragile.

Table 5: Legend for General Soil Map, Town of Waterford

Association Number	Description of Soil Association
1.	Limerick-Winooski Association: Deep, nearly level, poorly drained & moderately well drained, silty soils on bottomlands along rivers. Subject to flooding.
2.	Merrimac-Windsor Association: Deep, excessively drained, nearly level to sloping, sandy & gravelly soils, on old lake beaches & terraces.
3.	Belgrade-Hartland Association: Deep, well drained to moderately well drained, nearly level to steep, silty soils on dissected lakeplains.
4.	Lyman-Marlow-Peru Association: Shallow to bedrock & deep, sloping to steep somewhat excessively drained to moderately well drained, stony, loamy soils of hills & mountains.
6.	Woodstock-Colrain Association: Shallow to bedrock & deep, sloping to steep, somewhat excessively drained & well drained, stony, loamy soils of the hills & mountains. These soils are influenced by outcrops of limestone.

7. Peru-Marlow Association: Deep, gently sloping to moderately steep, moderately well drained & well-drained, loamy & stony soils on mountains & foothills. The soils have a compact layer within three feet.
 8. Paxton-Woodbridge Association: Deep, gently sloping to moderately steep, moderately well drained & well-drained, loamy & stony soils on hills. Both soils have compact material within a depth of three feet.
 9. Colrain-Woodstock Association: Deep & shallow to bedrock, gently sloping to steep, well drained & excessively drained, stony, loamy upland soils influenced by limestone bedrock.
 11. Muck & Peat-Peacham Association: Deep, level, very poorly drained organic & mineral soils in depressions & wet side slopes.
 12. Cabot-Peru Association: Deep, nearly level & gently sloping, stony, loamy soils, of the glacial till depressions.
-

Flood Hazard Areas

Waterford does not have a large extent of land that is subject to flooding but does have several areas where high waters would cause problems if development occurred in them. Primary among these are sections bordering the Moose River in the northern corner of town, the Passumpsic River in the western corner, and to some extent along Simpson Brook, Chandler Brook, Mad Brook, and along the Connecticut River. The FEMA maps and/or the Agency should be consulted prior to development in the flood zones.

Water Resources

The quality and quantity of water resources must be very carefully considered when development is contemplated and since most all (surface and subsurface) water sources and streams in Waterford are presently in near pristine quality (all above Class "B" classification except the Connecticut and Passumpsic Rivers), it is important to protect this valuable resource from pollution. Potential public and/or commercial and industrial water supplies deserve special attention as do water recharge areas.

Areas which indicate enough ground water potential to be significant to the municipality or future industrial uses are located along the Connecticut and Passumpsic Rivers and Chandler and Stiles Pond Brooks, and streams as indicated on the ground water favorability map published in 1967 by the Vermont Department of Water Resources. There have been no further studies done to recommend otherwise. State Guidelines must be followed.

Goals and Policies of the Land Use Plan

1. To maintain a dispersed settlement pattern and retain the rural residential character and nature of Waterford.
2. To maintain the natural and scenic quality of the environment.

3. To provide ample space and appropriate location for all types of land uses and development in Waterford.
4. To protect and preserve our irreplaceable natural and man-made resources.

Recommended Categories of Land Use

The accompanying Land Use Plan Map illustrates a land use arrangement that embodies the major physical conclusions and recommendations made in this report. It shows the special relationship between uses and general extent of the various categories. The following descriptions indicate the purpose and intent of the major elements of this plan.

Rural Residential: The town currently has a dispersed settlement pattern of relatively low density, and this is seen as a highly desirable aspect of the quality of life in Waterford and to the provision of necessary public services. Generally, poor soils and land conditions, the preservation of resources and the maintenance of environmental quality also indicate that a dispersed and rural settlement pattern is highly desirable. This area should encompass the greater part of the town and all areas that are not included in other specific categories of land use.

Industrial/Commercial: It is highly desirable to have areas set aside where it is appropriate for industrial or commercial ventures to locate. These ventures will be more likely to locate in Waterford, if they know that they will not have difficulty with acceptance within the community and will not have to go through lengthy processes of re-zoning, etc. It generally makes it easier for ventures to locate here and protects the town's best interests at the same time. Thus, the purpose of delineating these areas is to attract small ventures that are appropriate and in keeping with the rural character of Waterford and which will add to the tax base of the town and offer employment opportunities to area residents.

Large lot sizes are advocated so that these activities may be conveniently located with plenty of buffer area and surrounding open space and provisions for parking and deliveries. Performance standards for these types of development and operations should be developed and adopted to insure that present environmental quality, character of the area, and other considerations are in conformance with the Town's desires.

Village Residential: The Lower Waterford Village is unique and distinct. It is Waterford's link with the past, and it functions as a residential community yet today. However, it does not have typical village public utilities such as water supply and sewage disposal; it does not have the capability for handling additional traffic and parking. Thus, it should remain a compact residential village that preserves its historic quality and integrity. Uses that would be appropriate anywhere else in the town would not be so here and the type and density should be closely regulated.

Rural Lands/Forestry: These are lands that are remote in every sense of the word. They are remote from access to existing roadways, from any kind of public services and are characterized by poor soils and land conditions, higher elevations, and steep slopes. They are important for

timber and other resources, and as wildlife habitat and scenic beauty and recreation. These areas should have a low density of development.

Special Considerations

In a land use plan, there are certain considerations that should receive special treatment regardless of the district in which they might be located. These should be considered in the Town of Waterford with certain basic standards established for their use and the necessary regulations provided in any Zoning Bylaw that might be prepared. This will assure that these special considerations are recognized and the use of them will become an asset, rather than a detriment to the community.

1. **Site Plan Review:** Generally, new residential development is an attractive asset to a community. However, some commercial and industrial development and redevelopment and, in rare cases, multi-family dwellings do not become an asset to the area in which they are located. For this reason, the state enabling legislation makes provisions for the Development Review Board to give a site plan review of all new development or redevelopment of structures and land uses except for one and two family dwellings and agricultural uses. It is hoped that such a public review will result in higher standards and greater care in development.
2. **Signs:** The State of Vermont has one of the most stringent regulations for off-premise signs in the built-up portions. It is recommended that special provisions be put in for sign control such as controlling the height, setback, number, size, and off-premise limitations of business signs to directional signs only.
3. **Wetlands:** Due to the concentration of wetlands within the town and their relative lack of usability for any kind of development, and in some cases even forestry practices, these lands are recommended to be subject to state and federal regulations. Since they are wildlife habitats and potential water aquifer and recharge areas, they should be disturbed as little as possible. It is also recommended that tax considerations be given owners of these properties.
4. **Flood Hazard Areas:** The Passumpsic River passes through the western corner of the town and floods almost annually. Several smaller streams overflow and can cause extensive damage in the town. These include Simpson Brook, Chandler Brook, and Mad Brook. A separate Zoning Bylaw, or a section devoted to flood hazard areas in Waterford's regular Zoning Bylaw should be enacted regulating all land development in these areas in a manner that is acceptable to the state and federal agencies.
5. **Stream Banks:** For aesthetic reasons, land development and acceptable management practice for forestry are subject to state and federal regulations. Also, these measures are necessary to protect the quality of surface water and to prevent erosion and sedimentation problems, as well as other pollution sources having effect on public health and welfare.

Streams should be left free running. Performance standards should be instituted to achieve these ends.

IMPLEMENTATION

Having a plan and carrying it out are two completely different things. Every planning program should be written with the intent of accomplishing something. A plan is no more than an idea unless it can be carried out.

For a plan to mature beyond the idea level it must be economically and politically feasible. These two general prerequisites may be broken down into three areas of concern, all of which are essential to the implementation of a given planning program. Each is interrelated with the other two. These areas of concern may be described as administrative, political, and fiscal.

Administrative

This aspect of implementation primarily involves the use of various development tools in a community in order to fulfill the goals or purposes of a planning program. These tools are the regulatory devices or “house rules” by which a community agrees to live. They may be described as the “do’s and do nots” and should be regarded as the minimum standards of performance adaptable in the community.

The most important of these tools, in planning terms, consist of zoning and subdivision regulations. There are numerous other codes and ordinances dealing with the public health, welfare, and safety, but these two are really the backbone of standards for community development.

This program has placed considerable emphasis on the need for such development regulations because, without them, not even the simplest plan or policy can be executed. It is of the highest priority, therefore, that Waterford adopts these simple devices in order to maintain quality of development and preserve the community and environmental character. Basically, they may be described as securing on a community basis a quality of life that could not otherwise be provided by individuals.

Under the State’s land development control law, “Act 250”, all commercial and industrial development on lots of size fitting Act 250 criteria and subdivisions with 10 or more lots each must conform to duly adopted municipal development plans before a State development permit can be issued. This is particularly useful in excluding large developments that can drastically change the overall character of the town. The Chairman of the Selectmen and the Chairman of the Development Review Board receive copies of all Act 250 development applications proposed in the town. When it is found that a proposed land development plan does not conform to the municipal development plan, then the Selectmen or the Development Review Board should notify the District #7 Environmental Commission, 1229 Portland St., Ste. 201, St. Johnsbury, VT, indicating that the town wishes to request a hearing on the land development application.

The town will then be notified when and where they can appear in person or writing to present facts to the District Environmental Commission relating to the proposed development's non-compliance with the town plan.

Planning is a continuing function. The preparation of a policy document such as this merely initiates the process. It is a beginning rather than an end. The Planning Board has the responsibility for keeping the process alive. There never was a community that did not change and, therefore, the local boards must be alert to the signs of change and, more importantly, the consequences.

A prime function of the local Planning Board, therefore, is to periodically review this planning policy settlement and change it as need be. In changing or modifying policy, the commission will find it necessary to also update or amend the above-mentioned tools. Oftentimes, the tools themselves are changed as a result of requests from within the community, and these changes sometimes go unrecognized as the changes in development policy that they actually represent.

The Planning Board must completely review this policy every five years, in order to make necessary changes to the regulatory tools. If there is an ongoing planning program in the community, however, it will be found that major reviews are no burden because most items would have been kept up-to-date.

The Planning Board should meet regularly and not simply because an item appears on the agenda. The commission should also maintain a close working relationship with the governing bodies to which they are responsible as an advisory group. All too often the failure of different official boards to maintain a good working relationship results in animosity, duplication of effort and a general holding back of the intelligent resolution of important issues. By working closely much can be accomplished for the town.

Political

This leads into a most important area of concern. For a plan to be politically feasible, it must be acceptable by the community as a reasonable expression of development policy. It is important, therefore, that the planning policy be presented and explained publicly often. Only in this way can the policy be tested and, if necessary, adjusted to reflect the wishes of those who have the final say as to whether or not it will be implemented.

Public relations and public education are seen as fundamentally important if the standards and goals of the planning policy are to be met. Every opportunity should be taken by the Planning Board to involve the citizens of the community. Use should be made of the press, radio, service clubs, and many other local groups and interested citizens to create a dialogue of community interest versus a dull and questionable monologue which is surely representative of a "plan" which will never be carried out.

The Planning Board is an advisory group and, therefore, it must have these relationships established if it is to properly fulfill its role. This program provides it with a good base for operation.

Fiscal

The local development plan also provides a broad base for fiscal planning in the community. It should be used to objectively set community priorities and projects. Communities without a policy tend to set priorities in a hit or miss method and suffer the consequences of erratic spending, heat of the minute decision, and a general lack of order to development.

A community with a plan, however, at least has the advantage of seeing the whole picture and can better assess what the real priorities are. These will, of course, be subject to budget debate and will sometimes be reshuffled. This is to be expected from time to time and should be regarded as part of the process of continuing planning rather than a disruption.

The fiscal area of implementation is most frequently called capital improvement programming and budgeting. In simple terms, it involves taking from the plan those elements that involve capital improvements, putting them in an order of priority, and then spreading them over a period of time to suit the financial capability of the community. Ordinarily this is a five-year period.

The Town of Waterford Select Board does budget planning on an annual basis. The one exception is the Town highway department. All budget planning for rolling stock is accomplished based on life expectancy. The sand/gravel stockpiles are budgeted on a one/two year basis, based on need. There are separate funds established to replace the rolling stock and stockpiles. The funds are replenished by charging for the use of all rolling stock and stockpiles at a rate equivalent to what is required to afford replacement. All road resurfacing is budgeted on a two-year basis. Work performed on an annual basis is determined by the availability of State Aid. True Capital expenditures, such as new buildings, etc., are felt to be the responsibility of the current Select Board. It is considered illegal for the sitting Select Board to obligate a future Select Board to perform a future project.

This process is the community's best chance to exercise the principle of continuing planning. It should involve all the town's departments and interest groups in the planning process. The prime responsibility for setting up the program is the Planning Board's, since it has the best overall or comprehensive knowledge of community needs. This setting up, however, should not supplant the close involvement of all other groups in the shuffling of priorities, which may be necessary.

POPULATION STUDY

Historical Trends

The Town of Waterford, organized in 1780, had reported a population of 63 in 1791, and 565 in 1800. Table 6 indicates continual growth to 1,412 persons in 1850, then a continual decrease due to out-migration to 460 in 1960, with the exception of a temporary rise in 1930 due to the Comerford Power Dam Project. However, between 1960 and 1970 the population increased by 27% from 460 to 582. This growth, attributed to a natural increase of 31 persons and in-migration of 95 persons, represents residential commuters to the St. Johnsbury area, retirees, and second home conversions. Between 1970 and 1980, the population of Waterford increased by 296 persons (50.5%). The natural increase that occurred during this period accounts for 46 persons; the remaining 250 persons are immigrants. Between 1980 and 1990 Waterford's population increased by 308 persons (+34.9%). This was the 2nd largest increase in Waterford's population in the Town's history of population records. Table 6 depicts Waterford's population trends graphically.

Current Population

The 1990 Census had determined Waterford's population to be 1,190 persons, and the 2000 census was 1,104 persons; this reflects a 7.2% decrease since the 1990 Census. However, between the Census 2000 count and the calculation of the 2003-estimated population the Town's population has rebounded with the 2003 estimated population being only 11 persons below the 1990 Census population. Table 7 graphically depicts Waterford's annual population growth between 1990 and 2003. The estimates were calculated by the State Health Department.

Seasonal Population

At present, there are approximately 60 seasonal homes in Waterford.

Table 6: Population Trends

Year	Waterford	Caledonia County	Northeast Kingdom	Vermont
1800	565	7,100		154,465
1810	1,289	13,650		217,895
1820	1,247	15,256		235,981

1830	1,358	18,599		289,652
1840	1,388	20,198		291,248
1850	1,412	23,595		314,120
1860	1,171	21,698		315,098
1870	879	22,235		330,551
1880	815	23,607		332,286
1890	734	23,436	55,048	332,422
1900	705	24,381	54,461	343,641
1910	629	26,631	56,752	352,956
1920	574	25,762	57,049	352,428
1930	712	27,253	57,356	359,611
1940	498	24,320	52,528	359,231
1950	468	24,049	51,496	377,747
1960	460	22,786	48,912	389,881
1970	586	22,789	48,358	444,732
1980	882	25,808	55,561	511,456
1990	1,190	27,846	58,304	562,758
2000	1,104	29,702	62,438	608,827

Table 7: Population Change, 1970 - 1990

Year	Population
1970 - Census	586
1980 - Census	882
1990 - Census	1,190
2000 - Census	1,104

Service Population

By adding the current Census (2000) population (91.8%) and the current estimated seasonal population (8.2%), a current population of 1,203 persons is obtained for the Town of Waterford.

Population Projections

If it's assumed that the Northeast Kingdom's population increases as projected, then Waterford's population increase between 2000 and 2010 will represent 4.2% of the County's population increase and 2.1% of the Northeast Kingdom's population increase.

Table 8: Population Projections

Year	Caledonia County	Northeast Kingdom
2005	30,455	63,957
2010	31,121	65,285
2015	31,816	66,673
2020	32,550	68,093

Source: Vermont Population Projections 1990-2015; Vermont Health Care Authority; April 2004.

Waterford can expect strong growth pressures in the future due to (1) its proximity to Interstates 91 and 93; (2) its proximity to St. Johnsbury, the major employment center of the region; and (3) continued second home and retirement growth.

Table 9: Resident Population Projections

Year	Population
2005	1,143
2010	1,163
2015	1,179
2020	1,199

Source: See source note in Table 8.

ADJACENT TOWNS

Waterford is surrounded by a total of six towns. These include Barnet, Concord, Kirby, Littleton, NH, Monroe, NH, and St Johnsbury. All but two of these towns, Littleton, NH and St Johnsbury, are small and rural like Waterford. Littleton, NH and St Johnsbury are much larger towns with more urban-like environments. This section of the Waterford Town Plan presents an analysis of the town plans, where available, for the surrounding towns to determine compatibility of development along the town lines separating Waterford from the surrounding towns. This section

has also taken a look at the regional plan as well to see how Waterford fits into the scheme of the proposed development for the region as a whole.

Barnet

The Barnet Town Plan calls for the preservation of the Town's villages, agricultural and open land, and scenic vistas, and for orderly residential and commercial growth in or on the edges of the village areas. In addition, with the exception of the Passumpsic Village area, the Plan does not call for any development along the Waterford/Barnet town line that would be incompatible with the proposed land use for the town line area in Waterford.

Concord

Concord's most recent town plan did not anticipate or encourage development right along town lines. In fact, both the Concord Town Plan and Zoning Bylaw, which is in effect at this time, require future development to occur along Concord's town roads. Development in areas away from town roads is restricted to fairly large lots. Concord's plan and bylaw encourage/require more intensive development, such as commercial development, in areas that are removed from the town lines and such development should not have a major impact on Waterford. Residential and seasonal development along the roads that run from Concord into Waterford could have an impact on Waterford's roads, and the residents who live on those roads; however, unless the development pressures are severe, any impact on Waterford should be slight at most.

Kirby

Kirby and Waterford abut at a point rather than along a line like most of Waterford's surrounding towns. One of the primary goals of the Kirby Town Plan is to maintain the character of the town. The southern end of Kirby is either undeveloped or developed at a very low density. Kirby's Town Plan proposes the south end of town as a forestry district.

Littleton, NH

Littleton's Town Plan could not be obtained for review for inclusion in this section of the Waterford Town Plan. However, it should be obvious that Littleton, a town with an urban-like environment and a booming economy, could have an impact on Waterford. This impact could be caused by development in Littleton that is several miles from Waterford. As this development brings new people to the area, they may decide to live in the towns surrounding Littleton. If these people decide to live in Waterford such development in Littleton will increase Waterford's role as a bedroom community. Development along Rt. 135 south of the intersection of Rt. 18 and Rt. 135 could have a visual impact on Waterford. However, the Connecticut River, Moore Reservoir, lands owned by the owners of Moore Dam, and existing vegetation could act as a buffer to any visual impacts that development in the adjoining areas of Littleton could have on Waterford.

Monroe, NH

As with Littleton's Town Plan, Monroe's Town Plan was also not available for this analysis. However, just like Kirby, Waterford and Monroe abut at a point. However, this point, rather than being in the middle of a forest, is in the middle of the reservoir for Comerford Dam! This plan does not anticipate that development in Monroe will have any significant impact on Waterford.

St. Johnsbury

Waterford also serves as a bedroom community for St. Johnsbury. Therefore, development in St. Johnsbury can have an impact on development in Waterford and every aspect of Waterford's municipal infrastructure. With regard to development along the Waterford/St. Johnsbury town line, St. Johnsbury is sensitive to the impact of development in this area on Waterford in that St. Johnsbury's Town Plan and Zoning Bylaw calls for development that is compatible with development in Waterford. The greatest area of concern would be along the road that connects Rt. 18 to the upper end of Concord Avenue near the WSTJ radio station. Approximately half of the length of this road is on or very close to the town line and there has been some development pressure in this area over the last few years. While much of this area is presently in agricultural production, it would not take much to convert these lands to building lots.

Regional Plan

The Regional Plan for the Northeast Kingdom designates the village of Lower Waterford as a village center. Village centers are areas with residential homes that are served by public water systems and perhaps public sewer systems as well. Such areas are also defined as having businesses such as bed and breakfasts and/or general stores. Finally, village centers must have adequate access via state highways to the principal and secondary activity centers that are defined in the regional plan. The remaining areas in Waterford are designated as rural agricultural/forest areas. For these areas the regional plan calls for little development other than the rural agricultural and forestry type unless the local plan and zoning provides for it. There is little doubt that the planned development for Waterford fits well with the scenario set forth in the regional plan.

Conclusion

While Waterford's Town Plan and development trends do appear to be reasonably consistent with the town plans and development trends for the surrounding towns and the region, this is a situation that should be monitored. Development in one town can impact an adjoining town even when that development is not on or near the town line. This is especially true for Waterford, as Waterford serves as a bedroom community for two of its neighboring towns.

Development in Waterford can also impact the surrounding towns. The greatest possible impact would be on the Town of St. Johnsbury. Stiles Pond, which lies adjacent to Rte. 18 in Waterford, is St. Johnsbury's public water supply. While St. Johnsbury does own a considerable area of land around this pond, it is unlikely that St. Johnsbury owns the entire watershed that feeds Stiles Pond. This plan, therefore, needs to be sensitive to the protection of this watershed. Other possible impacts on St. Johnsbury could occur due to future development in the areas of the Rt. 18 and I-93 interchange and along Rte. 5. Development along Rte.5 could also impact the Town of Barnet. These areas need to be carefully monitored to prevent any possible adverse impacts on the surrounding towns.

ENERGY PLAN

Resources

As in many of the towns in Vermont, Waterford uses a number of different forms of energy, which come from a variety of sources. Electricity is supplied by two different utilities. Central Vermont Public Service serves most of the Town of Waterford while Green Mountain Power serves the area surrounding the village of Lower Waterford. Petroleum-based fuels are available from several suppliers most of which are located in St Johnsbury and Littleton. Finally, wood is locally and regionally available from many sources.

Needs, Scarcities and Problems

At the time of the writing of this energy plan, the energy sources described above seem more than ample to meet the needs of the populace of Waterford. Therefore, there are no scarcities of any of the energy resources used in Waterford. However, the availability of these energy resources is subject to shortages or distribution difficulties due to weather conditions and global political events. Such problems the Town of Waterford has little or no control over.

Rising energy costs could be a very real problem for some families. If energy suppliers are not already doing so, the Town of Waterford encourages them to do as much as possible to either keep costs down , or to reduce the rate at which costs are increasing. In addition, if energy suppliers are not already doing so, the Town of Waterford would also encourage these businesses to establish budget payment plans that spread energy costs out over the year.

The Waterford Fire Department has observed an energy-related problem that the Town may very well have some control over. The firemen have observed that the number of chimney fires is relative to the cost of heating oil. As the cost of heating oil goes up the fire department finds that it is responding to more chimney fires. This problem could perhaps be addressed through a workshop held by the fire department on the safe use of wood as an energy resource for space heating.

Costs

There's no doubt about it: energy is expensive. However, the Town of Waterford is doing everything it can to keep energy costs as low as possible. Many energy conservation projects have been undertaken and completed in Waterford. These projects have been discussed in the Conservation section below. Waterford has also been pre-buying its heating oil for the Town's buildings. This practice enables the Town to get the lowest possible price for its heating oil. In addition, diesel fuel for the highway department's trucks and gasoline for the Town's school buses are purchased in bulk. This is another practice that keeps energy costs down.

Conservation

The Town of Waterford has been very proactive over the years where energy conservation is concerned. The Town's actions have had two positive impacts in that they have reduced the Town's energy usage as well as reducing the cost of energy to the taxpayers.

Over the past 10 years the Town of Waterford has made improvements to the Waterford School and Town Clerk's office that have made them more energy efficient. Energy related projects at the school have included the replacement of the heating plant, lighting and, in the gymnasium, the replacement of windows. In addition, when the school addition was built in 1988, it was done so with materials that would make it energy efficient. At the Town Clerk's office the lighting was replaced with energy efficient lighting. In order to make the Town's buildings more energy efficient, if possible, the Town of Waterford recommends that an energy audit be conducted in all town owned buildings. Then the necessary improvements should be made to these buildings to make them more energy efficient. Finally, with the purchase of a diesel-powered pickup truck, the Town now has a fleet of trucks, all of which are diesel-powered. The conversion to diesel power was made because diesel-powered vehicles are more energy efficient.

The Town of Waterford strongly advocates the conservation of energy. This plan recommends the use of energy saving products such as insulation, efficient appliances, and, when necessary, the use of winter weatherization products such as weather stripping, window plastic, and water heater wraps. New construction and the replacement of old appliances, doors, and/or windows should always be done with energy efficient products. In addition, energy efficient behavior (shutting lights off when leaving the room, turning the thermostat down at night, etc.) should be taught and used at school, at home and in the workplace.

Renewable Energy Resources

Renewable energy resources are energy sources that are either never depleted or are quickly regenerated. These would include energy resources such as solar, wind, water, and wood. All of these energy sources are available in Waterford.

With much of the Town's area forested, local supplies of firewood are more than adequate, and many buildings use wood as either their primary or secondary source of heat. Some residents have installed equipment to utilize solar energy to produce on-site electricity and hot water, and some buildings may be designed to maximize solar heat. Given Waterford's elevation and topography, there is potential in some areas for wind generation; in fact, wind energy is being used on a limited basis. There are presently two active wind turbines in Waterford.

To reduce our dependence on outside energy resources and their costs, the Town encourages the expanded development and use of renewable energy resources and energy conservation measures that reduce the overall need for energy. Renewable energy that is produced locally improves the local economy and the general environment, and also increases our independence from energy resources far beyond our control. Any review of proposed renewable energy developments in Town should take into consideration these benefits.

Land Use and Energy Conservation

There are several development techniques that are likely to result in the conservation of energy. Earth sheltered homes and homes built on south facing slopes are generally less expensive to heat. Homes that are clustered require shorter networks of streets and utilities. Shorter streets and electrical lines require less energy to build and maintain. In addition, with shorter electrical lines there is less line loss. This alone can result in a significant savings of money and energy.