

*Town of Pembroke,
New Hampshire*



**Master Plan
2004**



Suncook River from the Route 3 double-decker bridge on a clear fall day

Developed by the Pembroke Planning Board
With assistance from the Central NH Regional Planning Commission
Adopted October 12, 2004

*Town of Pembroke,
New Hampshire*



Master Plan 2004

Adopted October 12, 2004

Produced by the:
Pembroke Planning Board and its
Master Plan Subcommittees
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ACKNOWLEDGEMENTS

The Pembroke Planning Board would like to thank all of the entities and individuals, both public and private, who volunteered time, information and energy toward making this Master Plan a success. Especially noteworthy were the contributions offered by the members of the project's numerous subcommittees, the administrators of, and individuals within, the Town's several Departments, including the Town Hall crew, administrative personnel at the School Department, and the members of Pembroke's Boards and Commissions.

The Smart Growth sessions which were held in 2002-03 provided a foundational start to this latest Master Planning process and the Planning Board would like to acknowledge the early financial and staff assistance provided by the New Hampshire Department of Transportation and the Office of Energy and Planning who, together, provided the Planning Board with much of the support needed to carry out the several 2002-03 Smart Growth sessions. The Planning Board also recognizes the contribution made by all of the many Pembroke citizens who attended the Smart Growth long-range envisioning sessions. Their thoughtful and sincere feedback and willingness to say what was on their mind allowed the Board to clearly understand the range of planning issues that needed to be addressed during the Master Plan update process. We are also appreciative of the help given to us by the school administrators at the Three Rivers School who opened their doors, provided the Planning Board with key personnel and facility support and also allowed us to use their public address equipment during the time they hosted the Smart Growth sessions.

The Planning Board would also like to extend their appreciation to all of the 780 town residents who filled out and submitted Master Plan surveys. The opinionated responses gathered from the 40 questions listed in the survey provided the Board with an exceptional informational base upon which to carry out the rest of its Master Plan work.

We would lastly extend our thanks to all of the staff at the Central New Hampshire Regional Planning Commission who provided continuing assistance to the Planning Board during the development of this latest version of the Pembroke Master Plan. Their guidance, leadership, hard work and patience have been most gratefully appreciated.

Along with funds from Town of Pembroke, many additional financial contributors made the development of several Chapters of this Master Plan possible:

Funding for the **REGIONAL CONCERNS CHAPTER** was provided by the Central NH Regional Planning Commission (CNHRPC).



Funding for the **TRANSPORTATION CHAPTER** was provided in by the NH Department of Transportation through its annual agreement with the Central New Hampshire Regional Planning Commission (CNHRPC) to undertake local and regional planning transportation planning activities.



Funding for a portion of the **DEMOGRAPHICS CHAPTER** was provided by the NH Office of Energy and Planning (formerly the Office of State Planning) through its Targeted Block Grant agreement with the CNHRPC. Much of the statistical data in the Plan originated from NH OEP/NH OSP publications.



Funding for a portion of the Natural Resources Chapter was provided by the NH Department of Environmental Services through its Regional Environmental Planning Program (REPP) agreement with the CNHRPC.



Most digital data for the maps of the Master Plan was made available through the NH GRANIT system before its modification to fit the needs of this Plan. Land use GIS data was provided by Pembroke volunteers, and tax map data was provided by the Town.

Housing, Demographics, Community Facilities
January 27, 2004

History and Culture
June 8, 2004

Economic Development
June 8, 2004

Natural Resources, Transportation
July 13, 2004

Introduction, Goals & Objectives, Community Facilities (#2),
Schools, Land Use, Regional Concerns, Implementation, Appendix
October 12, 2004

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Chapter I INTRODUCTION AND COMMUNITY VISION

PURPOSE OF A MASTER PLAN

The purpose of a municipal Master Plan, as stated in the New Hampshire Revised Statutes Annotated (RSA) 674:2, is to describe the “Planning Board’s recommendations for the desirable development” of the Town. The information compiled for the Master Plan should include sections on a general statement of the intentions of the Master Plan, land use, housing, transportation, utilities, community facilities, recreation, conservation and preservation, and construction materials. The public is invited by the Planning Board to participate in the process. A Master Plan is typically updated every five to seven years. The Town’s Master Plan is the basis upon which the Zoning Ordinance, Site Plan Review Regulations, and Subdivision Regulations are written and revised.

PEMBROKE’S MASTER PLAN HISTORY

A Master Plan should be a guide to what citizens want their Town to be like in the future as well as be a guide for the townspeople and Town Officials to determine which measures should be taken to accomplish goals outlined within these Chapters. Development of land and the Town’s population will both expand over the coming years in order to meet increasing demands. To protect at the same time the character of a small, rural town as preferred by the majority of townspeople requires the ability to plan and regulate these demands before such uncontrolled changes have occurred.

Pembroke has an extensive Master Plan history spanning 40 years. As Pembroke has grown, many of the same issues have been revisited with each edition.

1963 Master Plan Report

The 1963 Master Plan, prepared by Economic Development Associates Inc through a grant from the US Urban Planning Assistance Program in cooperation with the US Housing and Home Finance Agency, the NH Department of Resources and Economic Development, and the Pembroke Planning Board. It contained Chapters on Population, Existing Land Use, Circulation (transportation), Community Facilities, Water System, Sewerage, and Future Land Use. More of a report on the conditions in Pembroke than a plan for its future, although there were no goals stated, a few recommendations were interspersed within the document.

1981 Master Plan

Because of the 20-year timespan between the 1963 version and the 1981 Master Plan, this new Plan was a complete rewrite. It was developed by the Planning Board with assistance from the Central NH Regional Planning Commission. The Chapters were: Population and Housing, Economic Conditions, Land Use, Town Services and Facilities, and Natural Limitations. Goals and objectives were stated, as well as narrative recommendations for improvement. Four maps, Existing Town Services and Facilities, Natural Limitations, Existing Land Use, and Generalized Future Land Use Plan 2000 were included.

1987 Master Plan

The 1987 Master Plan contained Chapters on Resources (Land Characteristics and Population & Housing), Economic Conditions, and Town Services and Facilities. Goals, objectives, and recommendations were stated. The maps of the Plan were Existing Services and Facilities, Zoning Districts, and Generalized Future Land Use Plan 2010.

1993 Master Plan

In 1993, the Planning Board adopted a revised and enhanced Master Plan from the 1987 version. The Plan utilized input from a 1991 Community Survey mailed to each household in Town. Of 2,541 surveys mailed, 466 were returned (20% response rate). The results were used, in conjunction with the Chapter findings, to update the 1987 general goals of the Town and to develop broad policy statements on the rate, type, and manner of Pembroke's future growth and development. The 1993 Chapters were Resources (Land Characteristics and Land Use), Population and Housing, Economic Factors, Town Services and Facilities, Transportation, and Schools. Maps of Community Facilities, Development Constraints, and Proposed Land Use Plan were developed.

2004 MASTER PLAN

The Town of Pembroke contacted with the Central NH Regional Planning Commission in December 2002 to completely redevelop the Town's Master Plan in several different phases. A Community Survey was undertaken in March 2003 to ascertain the opinions of property owners in town and out-of-town landowners. Next, subcommittees for the Housing, Demographics, and Community and Recreational Facilities with Utilities Chapters began to meet and completed their respective Chapters which were adopted in January 2004. The Existing and Future Land Use Subcommittee drafted their Chapter concurrently. The Transportation, Historic and Cultural Resources, Natural Resources, and Economic Development Subcommittees met and completed their Chapters, which were adopted in June and July 2004. The Schools Chapter was developed independently with input from the School District.

The remaining Chapters, Introduction and Community Vision, Goals and Objectives, Regional Concerns, Implementation, and Appendix were developed with input from the Planning Board/Steering Committee for adoption in October 2004.

March 2003 Community Survey

The Survey was developed by the Steering Committee/Planning Board with the Central NH Regional Planning Commission in order to obtain the opinions of Pembroke residents and landowners. The questions were carefully and objectively phrased to obtain answers which would impart useful information in developing the Master Plan.

The Pembroke M&Ms (Moving & Motivated) seniors group provided volunteer support for packaging and sorting the community surveys. The surveys were mailed first class to the Pembroke property listing, both in-town and out-of-town. A postage free business reply envelope was provided for ease of reply. The survey was electronically placed on the Pembroke Master Plan website so respondents had the opportunity to reply instantaneously. The added benefit to the Town of online response was the lack of the cost of return postage.

A total of 2,956 surveys were distributed, with 780 replies, representing a 26.4% response rate. The March 2003 Community Survey, all calculated results, and extensive citizen comments are found in the APPENDIX CHAPTER. Following are answers to a few general questions posed to respondents:

Table I-1
Are you a...

| Are you a: | Number | Percent |
|--|--------|---------|
| Legal Resident of the Town of Pembroke | 722 | 95.9% |
| Legal resident of another NH City/Town | 16 | 2.1% |
| Legal resident of another State | 6 | 0.8% |
| Business | 9 | 1.2% |
| Total | 753 | 100.0% |

For the above residency question in Table I-1, nearly 96% of people responding to the survey replied as legal residents. Business respondents represented 1.2% of replies.

Table I-2
Question 1:

What general area do you consider yourself a resident of?

| Area | Number | Percent |
|-----------------------|--------|---------|
| Pembroke Street Area | 264 | 35.8% |
| Pembroke Village Area | 154 | 20.9% |
| Buck Street Area | 124 | 16.8% |
| Upland Area | 195 | 26.5% |
| Total | 737 | 100.0% |

In Table I-2, the location where people who responded to the survey lived was highest in the Pembroke Street Area (35.8%), while the lowest number of respondents live in the Buck Street Area (16.8%). A map of the locations is available in the APPENDIX CHAPTER.

Table I-3
Question 2:

How long have you lived in Pembroke?

| Time Span | Number | Percent |
|------------------|--------|---------|
| Less than 1 year | 41 | 5.6% |
| 1-5 years | 98 | 13.3% |
| 6-10 years | 103 | 14.0% |
| 11-20 years | 147 | 19.9% |
| 21-30 years | 158 | 21.4% |
| over 30 years | 191 | 25.9% |
| Total | 738 | 100.0% |

In Table I-3, of those who answered the survey, 67% have lived in Pembroke at least 11 years. Nearly 19% of those replying have lived in Town for less than five years.

Master Plan Development Process

This Master Plan fulfills two purposes. The first purpose is to paint a broad picture of what Pembroke is, what it has to offer, what it looks like, and who the people are who live here. This perspective, this "inventory" of the Town, allows townspeople to then create the second purpose, a series of goals, objectives, and recommendations for the Town to accomplish. These recommendations have been based on the data collected, including from the Community Survey and on statistical data. The goals and objectives for Pembroke are discussed in **GOALS AND OBJECTIVES CHAPTER**. The recommendations, or action items, are listed at the beginning of each Chapter.

The Planning Board formed the basis for the Steering Committee to guide the development of the 2004 Master Plan, beginning with the Community Survey development in December 2002. A website was developed at www.pembrokemasterplan.net to chronicle the meetings, events, announcements, and written materials produced for the Master Plan. The Planning Board/Steering Committee met on a monthly basis at the regularly scheduled Planning Board Work Session on the second Tuesday of the month to break out into Subcommittees or to discuss broad Master Plan issues, to review Chapters, and to hold public hearings on the Chapters.

The public was invited to attend all of the duly noticed meetings. Those people from the Community Survey who had expressed an interest in volunteering were contacted to join the Steering Committee and Subcommittees. Individuals in Pembroke who were known to hold specific knowledge about or interest in the content of particular Chapters were invited to join the respective Subcommittees. Representatives from other Boards or Commissions and Town staff were invited to, and did, participate in the Chapter development process. With assistance from the Central NH Regional Planning Commission, the Chapters were developed and written between May 2003 and September 2004. They are illustrated in Figure I-1.

Figure I-1
Chapters of the 2004 Master Plan

| | |
|------|--|
| I | Introduction and Community Vision |
| II | Goals and Objectives |
| III | Historic and Cultural Resources |
| IV | Demographics |
| V | Economic Development |
| VI | Housing |
| VII | Natural Resources |
| VIII | Community and Recreational Facilities with Utilities |
| IX | Schools |
| X | Transportation |
| XI | Existing and Future Land Use |
| XII | Regional Concerns |
| XIII | Implementation |
| XIV | Appendix |

In addition to the narrative analysis undertaken, graphical depiction of many of the features inventoried was essential. A series of 27 maps was generated to assist with future planning and to illustrate many of sites discussed within the Chapters.

All of these maps, listed in Figure I-2 below, have been reproduced on color 11x17 pages and have been included with the appropriate Chapters within this document. In addition, the 27 maps have been produced as full-sized 24x36 color display maps that are available for public viewing at the Town Hall.

For the preparation of the maps for this Plan, the primary source of data was from the NH GRANIT (Geographically Referenced Analysis Information and Transfer) system, which was then modified by CNHRPC. Other data layers or information were obtained from the NH Department of Environmental Services, the NH Department of Transportation, Society for the Protection of NH Forests, from Cartographic Associates, Inc (tax maps) or digitized by the CNHRPC into maps.

Figure I-2
Maps of the 2004 Master Plan

Introduction and Community Vision Chapter

- Base Map

Historic and Cultural Resources Chapter

- Historical Features Map
- Suncook Village Historical Features Map

Demographics Chapter

- 2000 Population (Census Block) Map

Economic Development Chapter

- Business Locations Map
- Business Locations, Inset 1 – Route 106 Corridor Map
- Business Locations, Inset 2 – Route 3 Corridor Map
- Business Locations, Inset 3 – Suncook Village Map

Housing Chapter

- Residential Building Permits Issued 1998-2003 Map

Natural Resources Chapter

- Geological Resources Map
- Potential Threats to Water Resources Map
- Water Resources Map
- Topography and Wetlands Map
- Conservation and Public Lands Map
- Agricultural Soils Map
- Forestry Soils Map

Community and Recreational Facilities with Utilities Chapter

- Community Facilities Map
- Recreational Facilities Map
- Utilities Map

Transportation Chapter

- Functional Highway Classification Map
- Accident Locations, Traffic Count Locations, and Bicycle and Pedestrian Infrastructure Map
- Private, Gravel, Class V, and Scenic Roads with Bridges Map

Existing and Future Land Use Chapter

- Existing Land Use Map
- Zoning Map
- Development Constraints Map
- Future Land Use Map

Regional Concerns Chapter

- Regional Context Map

Public Participation

Active participation in the Master Plan process included developing and packaging the Community Survey, attendance at Steering Committee meetings or Subcommittee Meetings, and contributing information for Chapters. Without all of these important volunteers, this Master Plan would not have been possible. Additionally, citizens responding to the Community Survey or attending a meeting to hear about a Master Plan Chapter of their interest are also important to the process and to the overall goals of public information and education and should be heartily thanked.

The Pembroke Master Plan Website, www.pembrokmasterplan.net, was updated approximately monthly with new meeting dates, summaries, announcements, and draft documents so the public could be kept informed of Master Plan happenings. The website address was prominently displayed on the Community Survey and all public materials relating to the Master Plan.

The Planning Board regularly and duly posted notices of each Work Session meeting, Subcommittee Meeting, and Public Hearing.

Chapter II GOALS AND OBJECTIVES

2004 MASTER PLAN GOALS

The definition of a “goal”, for Master Planning purposes, is the general target to be reached through completing a series of tasks. These tasks are called “objectives” which are designed to meet the goal. Specific “recommendations” are made which accomplish the objective. Historically, the terms are used interchangeably and this Chapter attempts to synthesize the old material, where applicable, into an appropriate designation for ease of understanding and comparison.

The goals of a Master Plan not only direct the focus of the actual Master Plan preparation, they are also the basis for regulation changes, for capital improvements program funding, and for future planning priorities. In order to move forward with new recommendations for the Town, it is necessary to examine the past efforts and outcomes of previous Master Plan and community endeavors.

From looking at the past, we can help gauge our present and guide ourselves into the future. The answers to the 2003 Community Survey gave the Planning Board/Steering Committee more insight into what the priorities and concerns of the public are. From there, from the previous findings, and from knowledge gained by collecting new statistical data about the Town, a set of 2004 Master Plan Goals are being recommended as the culmination of this Plan in Figure II-1. In order to meet these goals, the Recommendations in the **IMPLEMENTATION CHAPTER** should be implemented.

Figure II-1
2004 Master Plan Goals

History Goal

1. Guide future Town development by identifying historic sites and resources to retain the visual quality and character of the landscape of Pembroke.

Economic Development Goal

2. Attract new businesses into Pembroke and work with existing businesses to expand the non-residential taxable property valuation.

Housing Goal

3. Maintain and increase the diversity of housing types and settings in Town.

Natural Resources Goals

4. Identify and protect land parcels for future conservation-related acquisitions or easements and identify and mitigate both point and non-point pollution sources and other threats to the Town's water resources.
5. Identify and classify wetland areas and wildlife habitat throughout the Town to understand which environments are most valuable and/or at risk.

Community and Recreational Facilities with Utilities Goal

6. Maintain a high level of quality service and continue to update services.

Schools Goal

7. Deliver the highest quality education for Pembroke students while continually monitoring the need to modify the curriculum, staffing, and facilities based upon student population and budgetary considerations.

Transportation Goal

8. Provide a highway and streets system that allows for the safe and efficient movement of people and goods throughout Pembroke and address development concerns on Class VI roads.

Existing and Future Land Use Goal

9. Use the *Existing Land Use*, *Natural Resources*, *Development Constraints* and *Transportation* maps and other informational materials to examine the existing pattern of undeveloped land throughout the town in order to identify those areas of town which should be preserved for agricultural, timber and rural lands conservation uses and to also identify those areas of town in which limited or no development would be promoted in order to balance out pro-growth related residential and commercial land use objectives.

Regional Concerns Goal

10. Take proactive action on regional issues which affect Pembroke, including partnering with neighboring communities and becoming involved with State and regional groups.

2004 MASTER PLAN CHAPTER-SPECIFIC OBJECTIVES

Each Chapter of this Master Plan lists a series of Recommendations in order to meet the following Objectives set forth in the beginning of each Chapter. For reference only, the Objectives are listed with an a,b,c, sequence; therefore, no specific order should be implied.

Chapter III – Historic and Cultural Resources

- a) To appropriately guide future Town development by identifying historic sites and resources that are integral to the community and character of Pembroke.
- b) To develop measures for retaining the visual quality and character of the landscape of Pembroke.
- c) To raise the awareness of the historic resources of the community.

Chapter IV - Demographics

- a) To analyze growth trends (total growth, population, housing density) and its relationship to the trends of the surrounding area.
- b) To analyze changing socioeconomic characteristics such as family size, age, income, education, and profession.
- c) To change the perception of Pembroke as a “bedroom community” to create a positive commercial image and increase the tax base.

Chapter V – Economic Development

- a) To bring more businesses, and the jobs they create, to Pembroke.
- b) To assist existing businesses in Pembroke with their growth.
- c) To expand the non-residential taxable property valuation of the Town of Pembroke such that the town can sustain quality municipal and educational services at a reasonable tax rate.
- d) To explore potential changes to the zoning and building code to allow more opportunities for business development.
- e) To focus business growth along Route 106, Route 3, and in Suncook Village.

Chapter VI - Housing

- a) To maintain and increase the diversity of housing types and settings in Town.
- b) To encourage affordable senior housing to locate to Pembroke.

Chapter VII – Natural Resources

- a) To preserve a variety of natural areas within the Town.
- b) To identify land parcels for future conservation-related acquisitions or easements.
- c) To identify and protect surface (ponds, rivers, streams) and subsurface (aquifers) water resources.
- d) To identify and mitigate both point and non-point pollution sources and other threats to the Town's water resources.
- e) To identify and classify wetland areas by their ecological significance so that they may be generally protected and so that the most important, or prime, wetlands and their riparian buffer areas may be targeted for heightened conservation.
- f) To develop alliances and provide educational opportunities which protect the town's natural resources and promote a heightened awareness of their important values.
- g) To provide long-term protection to the town's core rural areas by identifying and safeguarding the town's prime forestlands and agricultural areas.
- h) To identify and analyze wildlife habitat throughout the town to understand which environments are most valuable and/or at-risk, and establish a preservation/conservation program for those habitat areas deemed most in need of protection.
- i) To identify existing and former sand and gravel excavation sites as well as all areas in town containing stratified drift earth materials with the aim of defining a smaller, more appropriately sized, earth excavation zone than currently exists.

Chapter VIII - Community and Recreational Facilities with Utilities

- a) To inventory the present condition of the Town's community facilities, equipment, and services.
- b) To maintain a high level of quality service and continue to update services.
- c) To ensure that community services continue to meet the needs of the community into the future.

Chapter IX – Schools

- a) To deliver the highest quality education for Pembroke Village School students while continually monitoring the need to modify the curriculum, staffing, and facilities based upon student population and budgetary considerations.
- b) To deliver the highest quality education for Pembroke Hill School students while continually monitoring the need to modify the curriculum, staffing, and facilities based upon student population and budgetary considerations.
- c) To deliver the highest quality education for Three Rivers School students while continually monitoring the need to modify the curriculum, staffing, and facilities based upon student population and budgetary considerations.
- d) To deliver the highest quality education for Pembroke Academy students while continually monitoring the need to modify the curriculum, staffing, and facilities based upon student population and budgetary considerations.

Chapter X - Transportation

- a) To provide a highway and streets system that allows for the safe and efficient movement of people and goods throughout Pembroke.
- b) To protect the village and historic character along Pembroke's local and major roads while maintaining their viability as travel corridors.
- c) To address safety and development concerns on Class VI roads on a priority basis.
- d) To evaluate the transportation impact of any proposed development that requires subdivision or site plan review and recommend action in a timely manner.
- e) To sustain and enhance the opportunities for safe pedestrian activities throughout Pembroke.

Chapter XI - Existing and Future Land Use

- a) To thoroughly review Pembroke's historic and existing land use patterns and present a land use oriented vision of Pembroke's future in order to provide guidance for Pembroke's Boards.
- b) To use the *Existing Land Use, Development Constraints* and *Transportation* maps and other informational materials to examine the existing patterns of residential development throughout the town in order to identify those areas which are most suitable for future residential use.
- c) To use the *Existing Land Use, Development Constraints* and *Transportation* maps and other informational materials to examine the existing patterns of business and commercial development throughout the town in order to identify those areas which are most suitable for future commercial use.
- d) To use the *Existing Land Use, Natural Resources, Development Constraints* and *Transportation* maps and other informational materials to examine the existing pattern of undeveloped land throughout the town in order to identify those areas of town which should be preserved for agricultural, timber and rural lands conservation uses and to also identify those areas of town in which limited or no development would be promoted in order to balance out pro-growth related residential and commercial land use objectives.

Chapter XII - Regional Concerns

- a) To partner with neighboring communities and local groups to enable Pembroke to improve the quality of life for its residents and be better able to respond to issues which affect the Town.
- b) To become involved with state or regional groups, organizations, and agencies to form relationships and to take advantage of free or low cost services and information.
- c) To take proactive action on regional issues which affect Pembroke.

Objectives without specific Recommendations on how to accomplish them do not offer a means for achievement. At the beginning of each of the Chapters, a comprehensive list of Recommendations for each Objective is given. These Recommendations are the product of the data that was collected and its interpretation by the Subcommittee of each Chapter.

PRIOR COMMUNITY GOALS: THE ADOPTED 1993 MASTER PLAN**1993 Master Plan**

The previous Master Plan was produced by the Pembroke Planning Board in 1993. A 1991 citizen survey offered public insight to many of the planning issues at hand. The Master Plan included Chapters on Resources, Population and Housing, Economic Factors, Town Services and Facilities, Transportation, and Schools. An historical summary was also written. The appendix included Natural Resources, Earth Excavation Registration Letters, Town Owned Properties, and three maps: Community Facilities, Development Constraints, and Proposed Land Use Plan.

The specific objectives and recommendations in the 1993 Master Plan were based upon the following goals:

Figure II-2
1993 Master Plan Goals

- To continue to maintain the rural character of Pembroke.
- To attract clean commercial and light industrial activities in those areas of town appropriate for their development.
- While recognizing that it must accept its fair share of the region's growth, Pembroke seeks to oversee its future residential growth so that necessary services and facilities can be provided efficiently and economically.
- To encourage a lower density of development in those areas removed from town services.
- To continue to reserve and protect those areas of town that are inappropriate for, or incapable of, sustaining development.
- Encourage reserving lands in remote areas for passive recreation today but allow for the flexibility of more active uses as growth and need occur.

The 1993 goals broadly represent similar themes that the 2004 goals today, 11 years later, exhibit. The 2004 goals target more specific areas in town planning and echo the findings of the individual Master Plan Chapters.

SUMMARY

Measures to implement the Recommendations should be taken as an immediate first step after the completion and adoption of this Master Plan by the Planning Board. Modifications to regulations and the zoning ordinance are proposed within the document. While the Planning Board can amend its subdivision and site plan review regulations with duly noticed public hearings, zoning ordinance changes can occur only through a vote at Town Meeting. Cooperation and delegation are essential for the new Master Plan to make a difference to Pembroke. The Board of Selectmen, Planning Board, Zoning Board of Adjustment, and Town Departments, Committees, and staff all need to play a role in ensuring the success of this Master Plan and its Recommendations through their weekly or monthly activities.

Chapter III HISTORIC AND CULTURAL RESOURCES

INTRODUCTION

Pembroke has a long and interesting history. Formally chartered in 1759, Pembroke was an industrial center for much of the nineteenth and early twentieth centuries. Evidence of Pembroke's past exists in its historic homes, churches, village center, and even in the rural outskirts of town. The structures and sites that tell the story of Pembroke's history and culture are irreplaceable and need to be preserved as Pembroke grows and changes. This Chapter will identify Pembroke's historical and cultural resources and discuss how they can be preserved for the enjoyment and appreciation of future generations.

This Chapter was produced by a Subcommittee that researched the history of Pembroke, identified key sites and structures, and ultimately outlined steps that can be taken to preserve Pembroke's historic character. The Subcommittee examined when different parts of Pembroke were built and explored the cultural trends that influenced how and why various structures were built. The Chapter contains lists of historic resources, including significant buildings, mills, dams, and cemeteries. In addition, the Chapter lists important references such as books and maps that detail Pembroke's history.

Many of Pembroke's residents have lived in town all their lives (47% of respondents to the 2003 Community Survey have lived in town for 21 years or more) and want to see the Town retain its historic charm (when asked about desirability of historic preservation, the majority of survey respondents considered it desirable). Unfortunately, preserving a town's history and character is not an easy task. As individual properties are developed or redeveloped, it is difficult to track what historic resources may be lost. Often people find it easier to demolish historic sites and structures to make way for future uses than to preserve them. Historic structures can also be costly to maintain. So, while retaining the overall historic character of a town is generally supported by the community, the responsibility of doing so often comes down to individual property owners. For this reason, it is key to raise awareness about the importance of Pembroke's historic features and create incentives and guidelines for the preservation of them.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These Objectives were developed as a result of Subcommittee analysis and interpretation of the data contained within the following chapter and from concerns raised from Pembroke residents and landowners from the Community Survey. They are listed in the beginning to give the reader the opportunity to view the results without reading through the entire Chapter.

- To appropriately guide future Town development by identifying historic sites and resources that are integral to the community and character of Pembroke.
 - Require that developers contact the NH Division of Historical Resources to ascertain if any known archaeological sites are within the vicinity of new development.
 - Encourage developers and landowners to consider preserving the historic and cultural resources found upon the landscape by promotion and education.
 - Require within the Site Plan Review and Subdivision Regulations that developers identify the historic and cultural resources of the property, possibly including photographs for posterity.
 - Encourage legislation to introduce an incentive for preservation of archaeological and historic resources on private property.
- To develop measures for retaining the visual quality and character of the landscape of Pembroke.
 - Preserve existing range roads as Class VI roads or as Class B trails, or upgrade only if necessary while preserving the historical integrity of the roadway.
 - Identify and designate scenic roads within the community to protect shade trees and stonewalls and other cultural landscape features.
 - Protect and preserve stone walls along range roads and encourage landowners to consider retaining or rebuilding stone walls during alteration or development.
 - Develop architectural design guidelines to enhance the aesthetics, character, and existing design of residences and businesses in the Suncook Village area.
 - Improve the language of the Architectural Overlay District to stipulate aesthetic guidelines which are appropriate for preserving existing historic architecture and encouraging the adherence of the guidelines by new development.
 - Encourage the granting of discretionary preservation easements as authorized under RSA 79-D.

- To raise the awareness of the historic resources of the community.
 - Improve the exhibits of town artifacts and make them more accessible to the public.
 - Encourage town administration to distribute materials to property owners and builders relating to historic and cultural resources and grant opportunities for preserving these features.
 - Communicate with the NH Division of Historical Resources on a regular basis to obtain current information on resource preservation that can be disseminated to the public.
 - Study the establishment of a Pembroke Heritage Commission
 - Plan for a town-wide survey of historic structures.
 - Cooperate with other towns in seeking legislation to authorize towns to adopt comprehensive policies for managing Class VI roads.

COMMUNITY SURVEY RESULTS

Although there was no specific section within the March 2003 Community Survey dedicated to historical resources or a sense of community, a number of questions had components that are relevant to this Chapter. The full survey results are found within the APPENDIX CHAPTER.

What general area to do you consider yourself a resident of?

The majority of respondents indicated they lived within the Pembroke Street area (35.8%), followed by the Upland Area (26.5%). Additional responses were in the Pembroke Village Area (20.9%) and the Buck Street Area (16.8%).

How long have you lived in Pembroke?

Over 47% of respondents have resided in Town 21 or more years. Another 33% have resided in Pembroke between six to 20 years. The last 20% who responded to the survey have lived in Town from zero to five years.

What do you consider the desirable features of the Town of Pembroke?

This question spanned many different topics. With respect to history and culture, respondents felt that People/Community Spirit were highly desirable (37.5%) and of medium desirability (47.4%). People also felt that Historical Character was highly desirable at 32.5% and was of medium desirability at 42.3%. In comparison to all of the other topics, these history and culture items fell within the medium range of importance.

Please indicate which of the following you would like the Town to develop and/or improve.

This question also offered a list of various topics in Pembroke. The responses to Preservation of Historic Sites and Buildings were 45.9% at high desirability and 38.7% at medium desirability. Expansion or New Town Cemeteries, the other topic referencing Pembroke's history and culture, was of low desirability at 63.3%. In comparison to all other topics, the Preservation question scored within the higher range of importance and the Cemetery question was the single most lowest priority in importance.

In order to help Town Officials better direct their efforts, please rate the following municipal services. Historic Preservation activities were considered Good (27.9%) and Fair (36.7%). In comparison to all other services, it ranked within the medium range of satisfaction.

BRIEF HISTORICAL PROFILE OF PEMBROKE

Pembroke's history begins in 1725 when Captain John Lovewell (sometimes spelled "Lovell") and his intrepid band of Indian fighters recruited from the towns around Dunstable (Mass.), decided to drive the Indians out of what is now New Hampshire." Lovewell died in a bitterly contested fight with Native American Indians near Conway, NH; while this battle was somewhat inconclusive as to its victors, the Indians retreated to Quebec and European settlement began.

In 1728, the Legislature of the Province of Massachusetts granted to survivors of Lovewell's band, and heirs of nonsurvivors, the land forming present-day Pembroke. "Lovewell's Township" soon changed its name to "Suncook." However, a year earlier the New Hampshire government had granted the some of the same land as the Town of Bow. This kind of controversy was not uncommon during the early days of settlement in central New Hampshire and, in Pembroke's case, the situation was settled amicably.

Intra-town tension developed as early as 1733 when the settlers from Massachusetts built a Congregational meeting house. It stood "at the northeast corner of the graveyard, on Main Street, not far from the Meeting-house brook, to which it gave the name". In 1736 the Congregationalists chose Rev. Aaron Whittemore to be pastor. Tension arose from the fact that there were almost as many Presbyterians in the settlement as Congregationalists. The Presbyterians objected to being taxed for support of the Congregational minister (a requirement for all citizens regardless of church affiliation). Sometime near the period of incorporation, the Presbyterians built their own meeting house "on a little knoll covered with pine grove on the west side of Pembroke." (see map item #59) This controversy faded with the building of the Presbyterian meeting house. In subsequent years, it faded even more; eventually, the Congregational and Presbyterian churches were united in Pembroke.

It was not until 1759 that the Town of Pembroke was formally chartered under its present name and defined as the area of land that "took in part of Bow east of the Merrimack River and south of the Soucook River". It also included "a place called Buck Street". Governor Benning Wentworth named this area "Pembroke" in honor of the Earl of Pembroke who had been one of his supporters. With this act, "Suncook, as a township, became no more. However, it lived on in the common use of the day as a village partly within the Town of Pembroke". Since that time, "Suncook Village" has been the most populous part of Pembroke.

The first census, taken in Pembroke in the year 1767, is as follows: 49 unmarried and 85 married men between 16 and 60 years of age; 16 men over 60; 134 boys under 16; 97 married and 169 unmarried females; five (5) widows, and two (2) slaves. The total population was 557 people.

The Revolutionary War found men from Pembroke fighting in the Bunker Hill Campaign, the Quebec Campaign, and the Battle of Bennington.

Pembroke's cotton spinning and weaving industry began with the establishment of the Pembroke Cotton Factory Company, under the management of Caleb Stark, at the lower falls of the Suncook River in 1811. Brick-making was carried out by many individuals who used clay from along the riverbank to produce the product. Brick-making was a large source of local employment throughout the 19th century in Pembroke.

The formation of Pembroke Academy in 1818 was one of the 19th century's most significant events in Pembroke. Dr. Abel Blanchard was the school's founder and benefactor, having left provision in his will for the establishment of a "public school or academy". Fire destroyed earlier Academy buildings, but the Academy continues to be a vital institution in Pembroke.

Railroads and electric trolley lines played an important part in the history of Pembroke. In 1852, the Portsmouth to Concord Railroad passed through the southern part of town, with a station in Suncook Village. The Suncook Valley Railroad, extending northward to Pittsfield and Barnstead, was completed in 1869. Later, in the 20th century, the junction of Pembroke Street and Whittemore Road was known as Hobbs Corner. Hobbs Corner was the turn-off for the trolley running from Pembroke Street onto Whittemore Road, across the Merrimack River and on to Concord. The trolley serviced Concord and towns south to Manchester from about 1902 until 1927 at which time buses took over.

After 1860, Pembroke saw the arrival of French-Canadians who were recruited to work in the textile mills. On January 11, 1885, French-Canadians formed an association, "Le Cercle Dramatique et Litteraire", for mutual instruction and amusement. They produced plays and fostered artistic awareness. On September 9, 1888, they started a library to include French and English works and eventually holding about 600 volumes. The Franco-American presence in Pembroke enriched the town culturally and helped to make it a unique place in which to live in central New Hampshire.

HISTORIC AND CULTURAL RESOURCES

Many of the historical and cultural sites noted in this section are depicted on the *Historic and Cultural Resources Map*. On the map the sites are given an index number. The index number is listed next to the site name in the text below for cross referencing purposes.

National Register of Historic Places

The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program that coordinates and supports public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The National Register is administered by the National Park Service, which is part of the US Department of the Interior.

In order to promote places of historic importance through National Historic Register designation, a research and writing effort is required of townspeople or consultants. Once a property is listed, the benefits are: recognition that a property is of significance to the Nation, the State, or the community; consideration in the planning for Federal or federally assisted projects; eligibility for Federal tax benefits; and qualification for Federal assistance for historic preservation, when funds are available.

Table III-1 lists the National Register sites in Pembroke. In April 2004 a Determination of Eligibility (DOE) was submitted to the NH Division of Historical Resources for eligibility of the commercial center of Suncook Village to the National Register of Historic Places. This application was completed by the *Meet Me in Suncook* committee with the help of a consultant. The application will be reviewed by state staff and then edited as needed. The State Historical Resources Council was planning to review the application in August 2004. It will then be sent on to the National Park Service. The listing should become official in Fall, 2004.

Table III-1
National Register of Historic Site Locations in Pembroke

| National Register Entry | Date Listed | Location |
|-------------------------------|-------------|---|
| Noyes Block (two buildings) | 02/27/86 | 48 Glass Street |
| Pembroke Mill (Emerson Mill) | 09/12/85 | 100 Main Street, Corner of Front & Main |
| Suncook Village Core District | in progress | Suncook Village |

Source: National Register of Historic Places Database, 03/04

State of New Hampshire Markers

New Hampshire's state highway historical marker program is administered by the NH Division of Historical Resources (NHDHR). Marker requests are reviewed by the State Historic Preservation Officer; costs of the markers are borne either by the Transportation Fund or the sponsoring municipality/organization. Requests for markers must include draft text for the marker, research and justification, and a petition signed by at least 20 persons. There are two state historical markers in Town.

Table III-2
State Historical Markers in Pembroke

| State Historical Marker | Date Erected | Location |
|-------------------------------|--------------|---|
| First Church and Meetinghouse | 1982 | US Route 3 adjacent to Whittemore Homestead |
| Suncook Village | 2003 | Corner of Main and Union Streets |

Source: Subcommittee Input; NH Division of Historical Resources archives

The text marker of the First Church and Meetinghouse reads: "Site of the First Meetinghouse built on The Suncook Grant. Built in 1733, it was moved, rebuilt and enlarged several times. Its timbers were finally used in the red barn northwest of the site. The Christian community it nurtured still exists and flourishes as The First Congregational Church of Pembroke, United Church of Christ."

The marker of Suncook Village reads: “The waters of Suncook River were harnessed in the 1730s, eventually powering saw and grist mills, forge shops, and paper mills. The first cotton factory, owned by Major Caleb Stark, was built here in 1811. By 1900, Pembroke Mill, Webster Mill, and China Mill employed more than 1,500 workers, mostly recruited from the Province of Quebec, to make 35 million yards of cotton cloth each year (see map index #V6, #V18, and #V4). Suncook's commercial center, built of native brick and granite, attained its present appearance by 1887. It is one of the best-preserved small manufacturing villages in New Hampshire.”

Local Markers

Local markers are erected by townspeople to celebrate the uniqueness of the community and its heritage. Twenty-four such local markers are known to exist in Pembroke. These are listed in Table III-3 below. Most of these sites are also shown on the *Historic and Cultural Resources Map*. The style of and information on each marker varies.

Table III-3
Local Historical Markers in Pembroke

| Local Historical Marker | Date Erected | Location | Type of Marker |
|--|--------------|---|-----------------------------------|
| A Symbol of Freedom-Dedicated to all Veterans of World War II | 1994 | Main Street & Glass Street at Legion Square | Plaque on anti-aircraft cannon |
| Burial site of Hermon Fife, Inventor of the Revolver | | Old North Pembroke Cemetery, 1/2 mile south of Cross Country Road | White marble obelisk grave marker |
| Dedicated to Jacob Chase, retired from Pembroke Fire Dept. over 47 years | 1987 | Pembroke Street (US 3) in front of fire station | Inscribed granite |
| Dedicated to Veterans of Pembroke Who Served in All Wars | | Main Street & Broadway at Lamiette Square | Carved granite |
| George M. Lamiette Square | | Broadway at Main Street | Town marker |
| In Memory of all Veterans of WW I, WW II, Korean War, Vietnam War | | Pembroke Street (US 3) and Broadway | Inscribed granite block |
| In Memory of Kay Fuller, 1921-1985, District 5 American Legion | | Broadway and Main Street at Veterans Park (Lamiette Square) | Carved granite |
| In Memory of Our Departed Members-J J Maguire Post 28 American Legion | | Main Street and Glass Street at Legion Square | Carved granite |
| In Memory of Shawn Noel, 1968-1993 Persian Gulf Veteran | 1994 | Main Street and Broadway at Veterans Park (Lamiette Square) | Inscribed granite block |
| Kimball Tavern (First House in Town with Double Walls) | | Pembroke Street (US 3) 500 feet north of Dearborn Road | Sign on post |
| Lafayette's Tour | | Main Street on facade of #121 | Plaque on building |
| Marker denoting northern boundary of Massachusetts Bay Colony | | Brush Road, approximately 1/4 mile east of Fourth Range Road | Stone boundary marker |
| Memory of Soldiers & Sailors Served in War 1776, 1812, 1846, 1861, 1898 | | Pembroke Street (US 3) and Broadway at Pembroke Park | Carved granite with statue |
| Milestone, 1793 ("1793, 19 to CMH, 35 M to H, 6 M to C, Pembroke, DK") | 1793 | Pembroke Street (US 3) 500 feet north of Dearborn Road | Carved granite tablet |
| Pembroke Fire Department, 100th Anniversary | 1969 | Pembroke Street (US 3) at Pembroke Fire Station | Plaque on stone |

| Local Historical Marker (continued) | Date Erected | Location | Type of Marker |
|--|--------------|---|-------------------------|
| Sally Cochran Burial Site, Murdered by Mr. Abraham Prescott | 1833 | Old North Pembroke Cemetery, 1/2 mile south of Cross Country Rd | Grave marker |
| Site of Hermon Fife House, inventor of revolver | | Cross Country Road at Junction with Sixth Range Road | Stone foundation |
| Site of Josie A. Langmaid Murder, Pembroke Academy student killed on way to school, 1875 | | Academy Road, 3/4 mile east of US 3 | Granite shaft |
| Site of Sally Cochran murder | 1833 | Off North Pembroke Road, 1/4 mile into woods near Ames Brook | 1 x 1x 3 granite post |
| SP4 Ernest Ulric Gamelin Park | 1976 | Memorial Field at west end of Pleasant Street | Inscribed granite |
| To Those Who Served, from the Citizens of Pembroke and Allenstown | 1985 | Buck Street at entrance to Evergreen Cemetery | Inscribed granite block |
| To Those Who Served, from the Citizens of Pembroke and Allenstown | 1985 | Buck Street at entrance to Buck Street Cemetery | Inscribed granite block |
| To Those Who Served, from the Citizens of Pembroke and Allenstown | 1984 | Pembroke Street (US 3) at entrance to Pembroke Street Cemetery | Inscribed granite block |
| Whittemore Memorial Stone | | Pembroke Street (US 3) just north of Pembroke Street Cemetery | Plaque on boulder |
| World War II antiaircraft gun | 1994 | Main Street and Glass Street at Legion Square | Cannon on base |

Sources: Subcommittee Input; NH DOT Database (provided by NH DHR)

Significant Historic Sites and Structures

Many sites and structures document early community of Pembroke. They are listed here in Table III-4, and many are depicted on the *Historic and Cultural Resources Map*.

Table III-4
Significant Historical Sites Structures in Pembroke

| Historic Structure or Site | Location |
|---|--|
| Clock Tower | 116 Main Street |
| China Mill | Downstream and across from Pembroke Mill |
| Congregational Church | 310 Pembroke Street |
| Downtown Suncook Village Area | Suncook Village |
| Kimball's Tavern | 223 Pembroke Street |
| Langmaid Monument | Academy Road |
| Old Buck Street Schoolhouse/Historical Society | 311 Pembroke Street |
| Pembroke Academy | 209 Pembroke Road |
| Pembroke Mill & Dam | Main and Front Streets |
| Pembroke Water Works | 212 Main Street |
| Pembroke Town Pound | Pembroke Hill Road |
| Town Hall | 311 Pembroke Street |
| Whittemore Homestead & Barn (First Meeting House) | 374 Pembroke Street |

Sources: 2004 Hazard Mitigation Plan; Subcommittee Input; Pembroke Town History

Archaeological Sites and Resources

Much of Pembroke's history and prehistory lie unseen beneath the soil or in overlooked cellar holes and foundations. These sites trace the story of human occupancy of the land that is now Pembroke over thousands of years, from the arrival of Native American Indians following the withdrawal of glacial ice, down to the first European settlements, and on through the ages of agricultural and industrial prosperity.

Pembroke is fortunate in being bounded by three rivers: the Soucook on the west, the Merrimack on the southwest, and the Suncook on the southeast. These waters made the area attractive to human occupancy in all periods.

Deliberately or inadvertently, all human beings leave behind them a trail of discarded or lost items and abandoned structures. All these artifacts embody evidence of their date of production and the technologies that shaped them. The trained eye can extract this information, interpreting for current generations the lives, occupations, skills, and aesthetic language of generations who lived decades, centuries, or millennia ago.

When interpreted by trained individuals, archaeological resources have the ability to broaden our perspectives by freeing us from the limitations of our own time and place. These resources can sharpen our perception of change, and can document the long-term causes and effects of human activity. They can teach us lessons of human ecology, illustrating both successful and unsuccessful patterns of interaction between human beings and their environment.

The archaeological record of any community is valuable yet fragile. To yield its greatest potential of information, an archaeological site must remain undisturbed until circumstances may require its investigation by trained specialists. A number of archaeological resources in New Hampshire have been greatly diminished in value, or virtually destroyed, through disturbance by looters or treasure hunters. For this reason, state and federal laws protect sites that lie under public lands or waters. The same laws protect archaeological resources that may lie on private property but are affected by state or federal funding, activities, licenses, or permits.

A private property owner who does not employ government funding, or who does not need a government permit to carry out a given activity, is of course free to decide how to treat archaeological resources on his own land. But once an archaeological site is interfered with or destroyed through exploration or excavation, some or all of the information that is inherent in that site is lost forever. Archaeological resources are non-renewable resources.

For this reason, archaeologists and historians universally urge all private property owners to refrain from investigating known or suspected archaeological sites except under the guidance of a trained archaeologist. The best protection for archaeological resources is almost always to leave them alone until a genuine need, either for information or for changes to the land, arises at some future time. If such sites are discovered by accident and need to be evaluated and returned to a secure condition, landowners are asked to contact the New Hampshire State Archaeologist at the New Hampshire Division of Historical Resources, 19 Pillsbury Street, P. O. Box 2043, Concord, NH 03302-2043; tel.: (603) 271-3483.

Private landowners who may wish to learn more about archaeology, or to receive training in responsible methods of researching archaeological resources, are encouraged to join one of several archaeological summer field schools that are offered in New Hampshire each year, or to contact SCRAP (the State Conservation and Rescue Archaeology Program) at the address or telephone number given above, or at the New Hampshire State Government website, under “Historical Resources.” SCRAP provides training through its summer field schools, offers opportunities to work in archaeological curation, and also, through a total of fourteen workshop offerings, provides certification for avocational archaeologists.

Pembroke’s Prehistoric Archaeological Resources

At every cultural period from nearly 14,000 years ago down to the time of contact with European immigrants in the 1600s, Native American Indian activity focused on flowing streams and wetlands, especially the former. Research has demonstrated that native occupation of sites along streams, especially just below natural rapids or waterfalls, persisted over thousands of years. The intensity and duration of the use of such sites show that New Hampshire’s aboriginal population derived much nourishment from the fish and eels that could be caught at these natural river barriers. Especially important were the anadromous fish that left the ocean each year to migrate upstream to spawn at the place of their birth. Both Native Americans and early Europeans congregated at rapids and the confluence of rivers and tributaries at about the time the shad bush blooms in May, gathering huge harvests of these migrating species.

Throughout their long history on the land that is now Pembroke, Native American Indians typically occupied sites near these falls, rapids, or stream junctures. Extensive archaeological testing along the Merrimack Valley has shown that these people tended to establish themselves on natural river terraces located at a modest elevation above the streams. Most identified sites of long-term Native American occupancy are located half a mile or less from the Merrimack, on flat terraces that stand less than one hundred feet above the present-day water elevation of the river.¹

With its extensive Merrimack River frontage downstream from Garvin’s Falls, and with its two other boundary streams, Pembroke clearly offers a high potential for prehistoric archaeological sites. A number of potential locations for such sites have been subjected to potentially damaging activities over the years, and many such sites have probably been destroyed. The building and rebuilding of Suncook Village in the eighteenth and nineteenth centuries, clay excavation for brick manufacturing along the Merrimack frontage in the nineteenth century, the grading of Memorial Field and the landscaping of Plausawa Country Club in recent years, and ongoing sand and gravel mining along both the Merrimack and the Soucook Rivers have undoubtedly destroyed many prehistoric sites and deprived posterity of the information they might have offered.

¹ Victoria B. Kenyon, “Prehistoric Archaeology in the Merrimack River Valley,” *Man in the Northeast* 25 (Spring 1983): 1-5; Kenyon and Patricia F. McDowell, “Environmental Setting of Merrimack River Valley Prehistoric Sites,” *ibid.*: 7-23.

Pembroke's Historic Archaeological Resources

The land area of Pembroke is rich in the archaeology of historic settlement. As noted in the section of this chapter that deals with architecture in Pembroke, certain areas of town have historically seen greater concentrations of settlement and activity than have others. These intensively occupied areas will naturally have a higher archaeological potential than will areas that served only agricultural uses, perhaps followed by eventual abandonment and reforestation. On the other hand, the constant building and rebuilding of places like Suncook Village may have left that district with a lesser degree of archaeological integrity than might be found at some long-abandoned farmstead.

Pembroke is especially fortunate in having a reliable guide to those historic sites that date before 1895. That guide is offered by the *History of Pembroke, N. H., 1730-1895*, written by the Rev. N. F. Carter and Hon. Trueworthy L. Fowler. The latter, a lifelong resident of North Pembroke, held many town offices and was a devoted local historian. Two maps and map keys were included in the *History*, one depicting the entire township and the other documenting Suncook Village. The map keys describe not only the buildings that occupied each site in 1895, but outline the land titles of each parcel and mention earlier buildings that had stood on the same spot. Further, the maps describe sites that had already been abandoned, and their buildings lost, by 1895. Thus, the two maps and their descriptive keys offer a comprehensive guide to nearly every site that had been occupied in town down to the end of the nineteenth century, including those that had already been transformed through abandonment into archaeological sites.

Until the mid-to-late twentieth century, threats to historic archaeological sites were traditionally few, at least in the rural parts of town. Occasionally, a well or a cellar hole might have been filled to reduce a hazard. But generally, the progressive abandonment of agriculture and the slow reforestation of former fields and pastures permitted old cellar holes, foundations, wells, and stone walls to lie unmolested and largely forgotten and unseen except by hunters and explorers.

In recent decades, however, the rapid construction of new homes in formerly undisturbed areas has posed a threat to old sites. Heavy earth-moving equipment is commonly used in the excavation of basements, the creation of improved roads and driveways, and the reshaping of natural land contours. Large-scale construction of new homes by these means has already resulted in the loss of archaeological sites and stone ruins, as has the creation of graded lawns around new houses. As a single example, the high split stone foundation walls of the furniture shop (map #311½) of Jeremiah Fife (1779-1852) on Cross Country Road disappeared soon after the construction of new houses in the neighborhood.²

² For information on Fife, see D. Hamilton Hurd, ed., *History of Belknap and Merrimack Counties, New Hampshire* (Philadelphia: J. W. Lewis and Company, 1885), p. 584.

Archaeological Research

Because it has been the site of a number of federally-funded highway and bridge projects or of housing projects that have required federal permits, and because its river frontage has been transected by a gas transmission pipeline, Pembroke has been the focus of a number of archaeological investigations. Reports of most of these investigations, numbering over twenty as of 2004, are on file at the New Hampshire Division of Historical Resources, 19 Pillsbury Street, Concord, NH 03302-2043. Many of these site reports were written or co-authored by Victoria Bunker Kenyon. Published articles relating to Pembroke's archaeology, several of them by Ms. Kenyon, are cited in the *Historical Documents or Studies* section.

Range Roads in Pembroke

Newcomers to Pembroke quickly encounter the term "range road." Most of the town's principal roads retain designations like "Third Range Road" or "Fourth Range Road." Even the road commonly known as "North Pembroke Road" bears the alternate name of "Eighth Range Road."

Range roads are defined as parallel highways that provide (or once provided) access to rows or ranges of farm lots of generally regular size. To connect these parallel highways, other roads were laid out at right angles, as needed. These right-angle connectors are often called "cross range roads." Examples of cross range roads in Pembroke are Brickett Hill Road, Cross Country Road, and Pembroke Hill Road. Together, Pembroke's range roads, cross range roads, and farm lots superimpose a grid on the land. This grid is a clue to the planning rationale that governed the granting of the town's lands beginning in 1730.

Pembroke has one of the earliest, most regular, and best-preserved systems of range roads and cross range roads to survive anywhere in New Hampshire. In some cases, these roads survive only as nearly abandoned lanes between parallel stone walls, more frequented by hunters or loggers than by ordinary travelers. In other cases, the range roads are our principal routes of automobile travel and of access to homes and businesses.

The planners of most New Hampshire towns repudiated the older New England ideal, seen in Massachusetts and Connecticut during the 1600s, of keeping all settlers together in a village of tiny house lots. In such older communities, most of the land was held in common. Outlying common lands were parceled out as private property over time, but only after the town's population had outgrown the central lands, near the village. These older towns, based on an English model, are called "nucleated townships."

By contrast, most New Hampshire towns are of a type called "range townships."³ In the fully developed range township, all land was granted to private shareholders or "proprietors" before settlement began. Maps were drawn, superimposing a grid of uniform-sized farmsteads across the town's territory. Surveyors marked out the corners of each lot. Between the rows or ranges of lots, the surveyors reserved rangeways or range roads to provide access to each lot.

³ For a history of the development of the range township in New Hampshire, see James L. Garvin, "The Range Township in Eighteenth-Century New Hampshire," *New England Prospect: Maps Place Names, and the Historical Landscape: Volume 5 of The Dublin Seminar for New England Folklife Annual Proceedings*, 1980, pp. 47-68.

Often two or four rods in width (a rod is 16.5 feet), these range roads were mapped as perfectly straight corridors of land. As actually built, range roads frequently found their ideal straightness defeated by New Hampshire's topography of hills, ledges, and bogs. Even in Pembroke, with its strong adherence to the ideal of rectilinear town layout, the range roads sometimes veer from a straight line to avoid difficult terrain.

Experiments with the range township began in New Hampshire when the provincial government began to lay out a tier of grants beyond the western limits of the original coastal communities. In May, 1722, the province issued charters to Chester, Nottingham, Barrington, and Rochester. Although Chester and Nottingham were planned with central villages, the majority of their lands were parceled out in ranges of large farmsteads. Barrington and Rochester dispensed with village lots altogether, simply laying out ranges of large farms.

At this period, Massachusetts claimed all the land that lay west of a line drawn three miles to the north and east of the Merrimack River. Thus, Massachusetts granted most of the land that became present-day Pembroke, and the first proprietors and settlers were mostly from Massachusetts.⁴ In 1728, the Massachusetts House of Representatives responded to a petition from surviving soldiers who had fought Indians in two skirmishes in present-day Wakefield, New Hampshire, and Fryeburg, Maine, in 1725. These soldiers asked for the grant of land just downriver from the already granted township of Pennycook, later Concord. The Massachusetts House of Representatives confirmed the grant, which was known by the names of Suncook or Lovewell's Town. The latter name commemorates Captain John Lovewell of Dunstable, the commander of the two expeditions against the Indians.

In 1730, the grantees of Suncook employed surveyors Stephen Hosmer and Jonas Houghton to lay out lots in part of the area that would become Pembroke.⁵ Their "first division" of lots was laid out in four straight ranges, extending as far northeasterly from the Merrimack River as today's Fourth Range Road. Additional ranges, extending toward the Chichester town line, were laid out by surveyor Samuel Chandler in 1736.⁶ The proprietors of Suncook may have been influenced by similar road and lot arrangements in towns like Barrington and Rochester. In common with those towns, the surveyors of Suncook created a road system that is one of the most visibly rectilinear in all of New Hampshire.

⁴ Rev. N. F. Carter and Trueworthy L. Fowler, *History of Pembroke, N. H., 1730-1895* (Concord, N. H.: Republican Press Association, 1895; reprinted by the Allenstown-Pembroke Bicentennial Committee, 1976), pp. 3-71; New Hampshire Provincial and State Papers, Vol. 24, *Town Charters, Including Grants of Territory within the Present Limits of New Hampshire made by the Government of Massachusetts, and a Portion of the Grants and Charters Issued by the Government of New Hampshire* (Concord, N. H.: Edward N. Pearson, 1894), pp. 233-249; *Ibid.*, Vol. 25, *Town Charters Granted Within the Limits of New Hampshire* (Concord, N. H.: Edward N. Pearson, 1895), pp. 422-423.

⁵ Carter and Fowler, *History of Pembroke*, p. 25.

⁶ Carter and Fowler, *History of Pembroke*, p. 34.

The territory of the Suncook grant fell under the jurisdiction of the Province of New Hampshire when George II established the present-day boundary between New Hampshire and Massachusetts in 1740. Acting on the petition of those who had cleared and settled the land, the Province of New Hampshire incorporated the Town of Pembroke in 1759. The greater part of the territory of Pembroke, as it was incorporated, was the land of the old township of Suncook. The road system of Pembroke retained the old Suncook layout of the 1730s, and that plan persists today.⁷ The system of parallel roads is thus a visible reflection of Pembroke's earliest years of settlement. The careful preservation of that system, both for highway and for trail uses, should be a conscious tribute by present and future generations to the first planners and settlers of the land that became Pembroke.

Stone Walls in Pembroke

Pembroke has some of the finest stone walls in the Merrimack Valley. The impressiveness of these structures is enhanced by the fact that many of them border the straight roads and rectangular fields that were dictated by Pembroke's range township layout (see "Pembroke Range Roads"). The walls thus became a stone grid that makes the rectilinear town plan visible across our landscape.

In 1822, at a time when settlers were still clearing new land in New Hampshire, a writer for the journal of the State Board of Agriculture admonished farmers to build for the ages, replacing the temporary wooden fences they had thrown up while cutting trees. "Almost all farms have stone enough to make a wall for every necessary division and enclosure. . . . Labor used in this way answers a double purpose; it secures the fields from the ravages of stock, and improves them by removing rocks which are not only useless, but inconvenient and injurious in their natural situation. A farmer ought to consider it his proper business, as he has means and opportunity, to secure his lands by stone walls."⁸

Pembroke farmers heeded these words, as did all others in the rock-strewn post-glacial Northeast. The collective work of these hard-working settlers, intent on wresting farms from forested land, was one of the great feats of American civilization. By one estimate made in 1871, when most wall building had ceased and marginal farms were beginning to be abandoned, there were 252,539

⁷ As noted in the Carter and Fowler's *History of Pembroke*, p. 71, the first four ranges of lots and roads followed the old Suncook plan. The northern section of Pembroke, as it was incorporated in 1759, had never been included within the original Suncook grant of Massachusetts. This section of Pembroke was part of the territory of a large township called Bow, granted by the Province of New Hampshire in 1727. (The present-day town of Bow embraces a portion of the much larger original township.) As a competing grant, the New Hampshire township of Bow was superimposed over much of the territory of the two Massachusetts grants of Pennycook and Suncook, as well as embracing land outside those two grants. When Pembroke was incorporated in 1759, its upper ranges retained the roads and lots that had been laid out independently by the Bow proprietors beyond the limits of the Suncook grant. For information on the surveying of the upper ranges of today's Pembroke by Samuel Lane of Stratham, see David A. Bundy, *One Hundred Acres More or Less: The History of the Land and People of Bow, New Hampshire* (Canaan, N. H.: Phoenix Publishing, 1975), pp. 27-63; and Jerald E. Brown, *The Years of the Life of Samuel Lane, 1718-1806* (Hanover, N. H.: University Press of New England, 2000), pp. 88-104.

⁸ *The New-Hampshire Agricultural Repository, Published by the State Board of Agriculture under the Patronage of the Legislature of the State of New-Hampshire, No. 1* (Concord, N. H.: Hill and Moore, 1822), p. 48.

miles of stone wall in New England and New York. One researcher has estimated that building these walls consumed three billion man-hours.⁹

Pembroke has varied examples of stone walls. Some are a single stone in thickness, yet rise to a surprising height for structures that seem so unstable and have received so little maintenance for so many decades. Others are built with two separate faces of stone, with the two- or three-foot gap between these structures filled with thousands of smaller stones and pebbles turned up by the plow during decades of tillage.

While most walls in Pembroke are built from the glacially-rounded fieldstones that are found everywhere in central New Hampshire, some of our finest walls were constructed from split granite along the roadway frontages of such early burying grounds as Pembroke Street Cemetery (see index #1 on map), Old North Pembroke Cemetery (see index #6 on map), New North Pembroke Cemetery (see index #5 on map), and Pembroke Hill Cemetery (see index #3 on map).

Pembroke also has a rare stone structure in its surviving town animal pound. Built in 1813, this high, rectangular fieldstone enclosure stands on Pembroke Hill Road near its juncture with Fourth Range Road. Built to hold stray livestock until the animals could be claimed by their owners, the Pembroke town pound is one of relatively few structures of its type to survive in the Merrimack River Valley.

As New Hampshire farms were progressively abandoned after the Civil War and throughout the twentieth century, the stone wall began to be seen as a symbol of the virtues of New England's settlers and a sad reminder of the irrevocable end of the farming way of life. Lost in deep second-growth forest, the stone wall became an icon of times past, of labor lost.

Today, stone walls are venerated as a reminder of the traditional New Hampshire farming culture and the patient and hard-working character of New Hampshire people. The lichen-covered wall is valued both as an evocative symbol and as a feature of beauty in the landscape. Stone walls have inspired a myriad of newspaper and magazine articles, and a number of books.

Literature on stone wall building received its first substantial American contributions with the publication of Curtis Fields' *The Forgotten Art of Building a Stone Wall* in 1971, and John Vivian's *Building Stone Walls* in 1976. These were followed by a more general account, Susan Allport's *Sermons in Stone: The Stone Walls of New England and New York* in 1990. More recently, Kristine and Robert Thorson wrote a children's book, *Stone Wall Secrets*, in 1998. The year 2001 saw the publication of *The Granite Kiss: Traditions and Techniques of Building New England Stone Walls*, by Kevin Gardner of Hopkinton, a member of an extended family of wall builders. Robert Thorson's *Stone by Stone, the Magnificent History in New England's Stone Walls* was published in 2002.

⁹ Robert M. Thorson, *Stone by Stone: The Magnificent History in New England's Stone Walls* (New York: Walker & Co., 2002).

Cellar holes, stone bridge abutments and culverts, stone dams, stone-lined wells, and stone boundary markers are also valuable and fragile elements in New England's legacy of stone. Recognizing the need for stewardship of these features, the Vermont Agency of Forests, Parks, and Recreation published *Stonewalls and Cellarholes: A Guide for Landowners on Historic Features and Landscapes in Vermont's Forests* in 1994. Now in its second (1995) printing, this booklet has been much used in New Hampshire.

The stone wall is not an indelible mark in the New Hampshire landscape. The very beauty of the lichen-covered fieldstones, so different from the appearance of recently excavated stone, has created a lucrative market for weathered rocks that have taken on the patina of two centuries or more. Every few weeks, state officials receive an anguished call from someone who sees a neighbor's ancient wall being loaded into trucks for use as landscaping stone. Other calls come from people who see a wall being bulldozed into a gully in order to smooth a site for a new house, or being undermined or buried by a town road agent.

New Hampshire law does not prevent the sale and removal of walls that lie on private property. While it has long been illegal to remove a wall that serves as a boundary between two properties without the consent of both owners, a wall that lies within a single land parcel is the property of the owner of the land. However grievous the removal of a privately-owned wall may be to neighbors who have grown accustomed to its presence, a stone wall on private land may be sold in the same manner as timber or gravel might be sold from that land.

In 1990, the State of New Hampshire afforded a measure of protection for walls that border state highways. Governor Judd Gregg asked the New Hampshire Department of Transportation to institute a stone wall protection policy. Developed in consultation with the New Hampshire Division of Historical Resources and the Federal Highway Administration, this policy remains in effect. A committee evaluates the walls along each state-funded highway project, assessing the character of the wall, the highway, the adjacent buildings and land uses, and the interest of owners or local citizens in preserving the walls. Evaluation includes both aesthetic and technical criteria, and may result in the protection of all walls in a project, the selective preservation of the best examples, or the sacrifice of insignificant walls. Preserved walls are rebuilt on the new right-of-way line as part of the project.

No state law provides comparable evaluation and protection for stone walls that border town roads or that lie on private property, although Scenic Roads legislation (RSA 231:157-8) does provide that municipal road work, or work by utilities companies, on roads that have been designated as scenic "shall not involve the . . . tearing down or destruction of stone walls, or portions thereof, except with the prior written consent of the planning board" following a public hearing.

Towns are authorized to adopt local ordinances, and some New Hampshire communities have enacted ordinances and taken other actions that protect walls bordering town-owned roads. Dublin passed a stone wall protection ordinance years ago. An example of such an ordinance might read: "No person shall deface, alter the location of, or remove any stone wall which was made for the purpose of marking a boundary along, or which borders, any road in the town of Pembroke, except on written consent of the Planning Board and the Board of Selectmen."

Adoption of such a local ordinance would strengthen the validity (and defensibility) of decisions made by municipal boards with the intention of protecting or preserving stone walls.

The Planning Board might also adopt detailed guidelines for retaining and protecting stone walls, other stone features, and archaeological sites as parts of Pembroke's subdivision and site review regulations.

Some towns have used funding from their Capital Improvements Program (CIP) for the maintenance and repair of municipally owned stone walls. The Newington Historic District Commission, for example, has used CIP funds to rebuild long-destroyed stone walls within its locally designated Newington Center Historic District. The Marlborough Heritage Commission is planning the restoration of the town pound, and is advocating the eventual establishment of a regional institute to promote the craft of stone wall building and the preservation of stone structures. The Hillsborough Historical Society has a special initiative on the study and preservation of the town's stone walls, cellar holes, and arched stone bridges. In response to these many local initiatives, more New Hampshire artisans now practice the art of stone wall building than at any time since the nineteenth century.

Cemeteries

As do many other small central NH region towns, Pembroke has a rich heritage and a strong connection to its past. Cemeteries are an important and personal link. A law was passed several years ago that allows municipalities to maintain any or all private cemeteries. In Pembroke there are eight cemeteries that are owned by the Town and two private cemeteries.

Table III-5
Public and Private Cemeteries

| Cemetery | Owner | Location |
|-----------------------------|---------|----------------------------|
| Pembroke Street Cemetery | Town | Pembroke Street |
| Abbott Cemetery | Town | Borough Road |
| Buck Street Cemetery | Town | Buck Street |
| Old North Pembroke Cemetery | Town | North Pembroke Road |
| New North Pembroke Cemetery | Town | North Pembroke Road |
| Evergreen Cemetery | Town | Buck Street |
| French Family Cemetery | Private | North Pembroke Road |
| Pembroke Hill Cemetery | Town | 4 th Range Road |
| French-Dearborn Cemetery | Private | Off Borough Road |
| Richardson Cemetery | Town | Cross Country Road |

Source: 2004 Hazard Mitigation Plan; Community Facilities Chapter; Subcommittee Input

Historic Mill Sites

Pembroke has a rich mill history due to its location on the Merrimack, Suncook, and Soucook Rivers.

Table III-6
Historic Mill Site Remnants

| Name | Location |
|--------------------------------|---|
| Webster Mill Site | Just upstream from the Main Street Bridge; archaeological site, now partially occupied by apartment buildings |
| Osgood's Mill Site | Just upstream from the double-deck bridge on Route 3 |
| Pembroke Mill | Just downstream from the Main Street Bridge; now called "Emerson Mill Apartments" |
| Buck Street Dam (former mills) | On and near the island in the Suncook River immediately west of the Route 28 bridge at the Pembroke-Allenstown town line; archaeological site |

Source: Subcommittee Input; NH DHR Suncook Village DOE Application, April 2001

Historic Dams

Dams historically were a source of power for mills and industry. The availability of water-based power permitted dense settlement patterns and encouraged the development of industries. Many dams and dam remnants today provide both insights into past influences on town development. Many have also become part of the river environment providing a microenvironment for warm water fish.

Table III-7
Historic Dams

| Name and Description | Location |
|--|---|
| Buck Street Dam (1923) | Across the Suncook River immediately west of the Route 28 Bridge at the Pembroke-Allenstown line. |
| Osgood's Sawmill Dam (1890) Removed except for abutments and gate house | Across the Suncook River just upstream from the double-deck bridge |
| Webster Mill Dam (1865) Rebuilt in concrete just downstream from original dam circa 1917. Gatehouse is dated 1921. | Across the Suncook River behind the Post Office on Glass Street |
| Pembroke Mill Dam (1860) | Across the Suncook River immediately downstream from the Main Street Bridge. |
| China Mill Dam (1868) Rebuilt in concrete circa 1926. Gatehouse is dated 1922. | Across the Suncook River south of the intersection of Front Street and Bridge Street. |

Source: Subcommittee Input; NH DHR Suncook Village DOE Application, April 2001

COMMUNITY CHARACTER

The Town of Pembroke is roughly separated into four areas which comprise the majority of its history and development. Suncook Village, the southern populous section of Pembroke along the Merrimack and Suncook Rivers, has its own unique history as does the Pembroke Street area, Buck Street area, and Uplands area of the community.

Suncook Village

There was a time when three mills were operating in Suncook Village, two of which were in Pembroke. This generated many jobs which were filled by Suncook residents and a large influx of people from Canada. The success of the mills helped to make Suncook village the “hub” of Pembroke. Services such as grocery stores, bakeries, restaurants, bars, a 5&10¢ store, and barbershops all prospered. Many of the mill workers were from Canada. Along with the Canadian workers and their families, came the use of the French language. Suncook quickly became a bilingual community. In fact, there was a time when Suncook residents spoke primarily French. English was strictly a second language.

With the destruction of Webster Mill by fire in 1983, and the close of Pembroke or Emerson Mill, there now remains only one working mill (actually located in Allenstown). The Emerson Mill building, as it is known now, is an apartment complex. Suncook is no longer the thriving industrial and commercial center of its past. From photos, it appears that the streets of the village were narrow and lined with large shady trees. As the streets have been widened, many of the trees have disappeared, leaving the streets uncovered and bare.

Many grandchildren of original mill workers are still living in town but are employed in nearby cities such as Concord and Manchester. This has forced the once booming Village businesses to close or relocate to other more congested areas. Although it is refreshing to hear the French language spoken periodically by some of the elderly residents, with the influx of non-French-speaking residents, the once-prevalent language is slowly disappearing.

Pride and the love of the downtown area still remain in Suncook Village today. With revitalization efforts by volunteer groups such as *Meet Me In Suncook*, many of the present residents are now learning about Suncook’s history through the many walking tours provided yearly to the public. Also efforts by some teachers in the Allenstown and Pembroke public schools to include the history of Suncook as part of their studies, has also provided young children with knowledge of the community, especially the village area.

The Town of Pembroke, in cooperation with *Meet Me In Suncook*, recently refurbished the much-loved Town Clock to its original glory. It nests high atop one of Main Street’s buildings. The Town also created a municipal parking lot to be used by the public, which plays a vital role to the remaining businesses in the village.

Many of the homes which surround Suncook Village were built in the late 1800s. These large homes, which once housed business owners and their families, were also frequently used as businesses. At the present time, many of these grand homes have become multi-family homes.

It is the desire of the Economic Development Committee to once again encourage combined use (business/residential) in the surrounding areas of Main Street (known as B1 and B2 districts) in order to bring about the rejuvenation of some of these homes and to provide support businesses for the already existing Main Street businesses.

Pembroke Street

This was a major traveled way connecting Concord to areas in southern New Hampshire and it also served as the main route for travel by the town's residents conducting activities within the town. Until the mid 1900's this route was a picturesque scene with an archway or canopy of elm trees lining the roadway and large houses with attached barns on each side of the street. Recollection has about 15 operating farms at that time, mostly field crops but several operating dairy farms. Delivery to homes, as well as roadside vegetable stands, allowed residents to purchase local products.

Only one church, Congregationalist, was operational in the mid 1900's. However, a Presbyterian meeting house had been located in the area prior to this time, and a Methodist Church had stood north of Pembroke Street on Pembroke Hill, at the intersection of Fourth Range and Brickett Hill Roads, since 1836 (see map item #13). Wood framed houses and barns were most prevalent along this route; however, brick housing is also observed and can be attributed to the brickyards that operated along the Merrimack River. Brick is most prevalent in the Suncook village of both Pembroke and Allenstown and is ideal for areas of close structures. The availability of suitable clay in the Pembroke Street Area made the use of bricks feasible.

Gravel operations, gasoline stations, scrap vehicle deposit area, child care facilities, golf course, churches and the area high school were and are the non residential usage of the Pembroke Street area. In the mid to late 1900's, many single family homes were built along or close proximity to Pembroke Street.

North Pembroke Road

North Pembroke Road was a connector between Concord and Epsom as well as a collector road for development in the North Pembroke area. Stone walls were and still are prevalent along this route. Wooded areas are prevalent along this road as old farming fields have given way to tree growth.

Fire was the prime cause of the loss of farming through the 1800's as evidenced by the number of old cellar holes found along North Pembroke Road. This was a result of no central heat in most buildings; therefore, wood burning was the means to heat and cook and the possibility of structural fires was prevalent. Only 10 operating farms existed in the 1900's.

The implementing of Class VI road designation curtailed housing growth for this area. Commerce, farms and housing needed legal frontage on an open town road to permit building. Only lumbering and field crop businesses were left to function in the area. Road building and improvements did create a need for suitable materials such as gravel which was available in the area primarily along the Soucook River.

Buck Street

The predominance of cattle farms primarily for milk production is the remembrance of this area in the early 1900's. Milk was exported from this area to Manchester, NH by railroad; a milk platform, where local farmers could leave off their milk cans each day, was located in Allenstown near the present entrance to Bear Brook State Park. The Suncook River forked at this location and therefore two bridges were constructed to afford access to the railroad. Farms along Buck Street include the Richards, the Grimes, Veroneau, Miller, Hillman and Batchelder.

Few trees were visible as most of the land was cleared for farming usage, with many stonewalls along the right of way.

A cider mill provided an opportunity for neighbors to gather and consume the cider fresh from the press. One story is that kids of the area thought it great that they could drink all they wanted until a natural effect of cider occurred.

Strawberries were another farm product along Buck Street. A unique three-acre onion field existed in this area primarily for marketing as three acres produced more onions than could be used by the nearby residents.

Buck Street and Suncook Village were served by a public water system flowing through wood piping from Pleasant Pond in Allenstown.

ARCHITECTURAL EVOLUTION OF THE COMMUNITY

Like many small New Hampshire communities, Pembroke's architecture has evolved with the decades as development, settlement patterns, available materials, and trends dictated the need and desire for different building styles.

Locations of Early Buildings

Except in Suncook Village, Pembroke has not yet benefited from a regular survey of its historical architecture. For this reason, the descriptions provided below are based on subjective observation rather than on a full array of survey data supported by thorough research. Because Pembroke's architectural legacy is one of the town's character-defining attributes, early buildings deserve identification and some degree of protection against ill-advised remodeling, or even demolition. The town should therefore extend its architectural survey efforts beyond Suncook Village, with a focus on those nodes of early activity described below and on the isolated farmhouses that display outstanding architectural character or significant construction materials or techniques.

Due to rapid suburban expansion and subdivision in Pembroke during the latter decades of the twentieth century, the town has become increasingly populated by dwellings and other buildings of modern design and construction. These structures have been built with a random distribution throughout the town, as farm or forest land has been converted to housing. The only areas thus far exempt from this type of automobile-dependent residential development have been certain large holdings where owners have protected land from development, or where development is precluded by lack of access to tracts except over Class VI roads. The latter are usually the ancient range roads that typified Pembroke's eighteenth-century highway layout and are shown on the earliest maps of the township.¹⁰ Because the modern dwellings built after World War II now outnumber the town's older houses, this chapter will concentrate on defining the traditional architecture of Pembroke, most of it built by local craftsmen from locally-obtained materials.

Prior to the advent of modern suburban development, the majority of land in Pembroke was in agricultural or forestry use. The original proprietors' lots were arrayed in regular patterns along the grid of range roads noted above. Because these lots were mostly forty or more acres in extent, the upland areas of Pembroke were populated by a multitude of fairly large farmsteads. The dwellings pertaining to these holdings were spaced somewhat regularly, but at some distance from one another, along the range roads. Pembroke's former agricultural uplands, which typify some 90% of the township's area, will therefore be found to retain widely-separated examples of architecture dating from the late eighteenth century through the first half of the nineteenth, the era of greatest agricultural activity in the township. Such buildings are more fully described below. Interspersed among these older buildings are scattered examples of late-nineteenth- and early-twentieth-century domestic architecture and agricultural outbuildings. Many of these later

¹⁰ Pembroke's system of range roads is one of the best-defined examples of this type of town planning to be found in New Hampshire. The town's rectilinear grid of ancient highways provides the matrix upon which much of Pembroke's architecture is located. For a context on range roads, see James L. Garvin, "The Range Township in Eighteenth-Century New Hampshire," *New England Prospect: Maps, Place Names, and the Historical Landscape: Volume 5* of the Dublin Seminar for New England Folklife Proceedings, 1980, pp. 47-68.

buildings were probably constructed when older ones burned or were regarded by their owners as obsolete.¹¹

Pembroke has long had a few nodes of more concentrated population and activity. In these areas are to be found relatively dense groups of early buildings, sometimes of a domestic nature, sometimes industrial or commercial, and sometimes, as in Suncook Village, combining more than one function and architectural attribute. Suncook Village, the focus of water-powered manufacturing since the 1730s, supported sawmills, grist mills, forge shops, paper mills, a glass factory, and a number of fulling and textile mills throughout its long history of industrial production. Suncook Village is the single district in Pembroke that displays an urban character, combining many architectural styles, a variety of building materials, blocks of contiguous structures separated by party walls, and diverse building functions, all concentrated within one small geographical area of dense construction. Suncook Village is one of the best preserved small manufacturing centers in New Hampshire, but also retains a number of detached houses that predate its expansive growth as a center for manufacturing cotton cloth after 1860.¹²

The second area of architectural concentration and diversity is Pembroke Street, which is, in fact, one of the many parallel range roads that characterize the town's early highway plan. As a wide and straight thoroughfare, Pembroke Street eventually assumed the attributes of an early New England planning mode that has been described as a "highway village."¹³ In such a layout, larger farmsteads along the principal street are subdivided or supplanted by smaller house lots. Homesteads are built along the street in fairly close proximity to one another. Because of the concentration of population along such a street, one or more religious or educational buildings typically come to share the thoroughfare with the dwellings.

Along Pembroke Street, such institutional structures included the Congregational meeting house (1746; now the Whittemore barn), which was eventually replaced by the Congregational Church (1836, see map index #60); Pembroke Academy (founded 1818, see map index #54 for location); the People's Literary Institute and Gymnasium (founded in 1840; purchased for use as town hall in 1865, and burned in the twentieth century); and several district schoolhouses, including Schoolhouse No. 1, a brick building constructed in 1851 across the road from the Congregational Church to replace earlier school buildings on the same site.

¹¹ For the location and a description of the ownership of most of the formerly occupied sites in the township, see the Rev. N. F. Carter and Trueworthy L. Fowler, *History of Pembroke, N. H., 1730-1895* (Concord, N. H.: Republican Press Association, 1895; reprinted by the Allenstown-Pembroke Bicentennial Committee, 1976), map of Pembroke, 1894, with a key to the map, pp. 396-416.

¹² For the location and a description of the ownership of most of the formerly occupied sites in the Pembroke portion of Suncook Village, see map of Suncook Village, 1894, facing page 391, with a key to the map, pp. 390-396. For a narrative of the industrial history of Suncook Village, see Carter and Fowler, pp. 349-356. For additional information on Suncook Village industries, people, and buildings, see Frank Levi Aldrich, "Suncook To-Day," *Granite Monthly* 29 (July 1900): 3-93.

¹³ Edna Scofield, "The Origin of Settlement Patterns in Rural New England," *Geographical Review* 28 (1938): 652-63.

Pembroke Street was given additional stature when it became a link in the Chester Turnpike, incorporated in 1804 to build an improved toll road between Chester Street and Pembroke Street. As Suncook Village is one of New Hampshire's best preserved small manufacturing centers, so is Pembroke Street one of the state's most recognizable "highway villages." While the Street has suffered from a greater degree of modern infill than have the comparable Canaan Street, Chester Street, or King Street in Boscawen, it has not undergone the complete transformation seen in its original counterpart, Main Street in Concord.

A third area of concentrated activity and population was East Pembroke, at the Buck Street Bridge over the Suncook River. Here several sawmills stood from the 1760s until after 1900, giving rise to a small village that eventually included a number of dwellings, a nearby schoolhouse, a blacksmith shop, several stores, and a post office. In addition to the several sawmills that stood at the Buck Street dam, East Pembroke included grist mills, an axe handle factory, a bedstead factory, a twine mill, a fulling mill, a spoke shop, and a sash, door, blind and box shop at various periods.¹⁴

A major conflagration in East Pembroke in 1900 erased much of the industrial architecture of that village forever, and other buildings, such as a blacksmith shop and stores that clustered near the bridge over the Suncook River, have since disappeared. Yet East Pembroke retains some early houses, including the David Clark House of circa 1825, a center-chimney dwelling with stenciling attributed to the well-known itinerant decorator, Moses Eaton. The village also retains a number of houses dating from the mid-to-late 1800s. These buildings reflect economic activity and prosperity that characterized the hamlet after the Civil War, most of it generated by the water power of the Suncook River and the presence of Buck Street Bridge as a transportation link.

Other areas of Pembroke that were once recognizable as distinct hamlets have since lost so many of their early structures, or have been so overwhelmed by new construction, that their visual coherence as local centers has been diluted. One such hamlet is North Pembroke, located about midway between the Davis Bridge (first built 1841) over the Soucook River, and the former Bombay or Lovejoy's Bridge (1823, 1844) over the Suncook. After construction of the middle or Free Bridge across the Merrimack River in Concord in 1839, North Pembroke Road became a significant thoroughfare across the northern part of town, linking parts of Deerfield, Allenstown and East Pembroke with Concord. North Pembroke became a minor trading center, supporting a brick store run by local merchant Bailey Parker, a brick schoolhouse, and a number of other buildings. Of the brick structures, only one, Bailey Parker's brick dwelling of circa 1830, survives as a reminder of the thriving hamlet that once occupied the height of land between the Suncook and Soucook Rivers.

¹⁴ For the location and a description of the ownership of most of the manufacturing sites in the Buck Street section of East Pembroke, see Buck Street Bridge inset on map of Pembroke, 1894, with a key to the map, pp. 390-396. For a narrative of the industrial history of Buck Street, see Carter and Fowler, pp. 356-361. For additional information on some of the Buck Street industries, see Frank Levi Aldrich, "Suncook To-Day," *Granite Monthly* 29 (July 1900): 66-69; and Carol A. Martel, *The History of East Allenstown, New Hampshire and Bear Brook State Park* (Allenstown, N. H.: Catamount Publishing, 2003), pp. 25-28.

A similar district extended along Fourth Range Road between Brickett Hill and Cross Country Roads on the northwest, and Pembroke Hill Road on the southeast. During much of the nineteenth century, this district was served by two schoolhouses: District No. 4 (Pembroke Hill School) at the intersection of Fourth Range Road and Cross Country Road, and District No. 5 (Town Pound or Robinson School) on Pembroke Hill Road near its intersection with Fourth Range Road. There were other public structures in the district. The town hall was built at the intersection of Fourth Range Road and Pembroke Hill Road in 1811, superseding earlier meeting houses on Pembroke Street as the site of town meetings until the town purchased the site of the present town hall on Pembroke Street in 1865 (see map index #55). When the town hall was built at this intersection in 1811, Suncook Village was just poised to grow into the center of population and industry it became later in the nineteenth century. At that time, before the phenomenal growth of the village, a town committee determined that the juncture of Fourth Range Road and Pembroke Hill Road was “the center of money and travel” in Pembroke.¹⁵

The town animal pound was rebuilt of stone close to the town house and the Pound Schoolhouse in 1813, and remains on that site. Toward the northwestern end of the district, the Methodist Episcopal Church built a stately structure at the corner of Brickett Hill Road in 1837, and a store stood close to the church. With the exception of some early dwellings and the stone town pound (see map index #32), however, few structures remain to suggest that Fourth Range Road was once a major thoroughfare and focus of town life.

Building Materials

To an unusual degree, Pembroke and neighboring Allenstown abound in the materials from which traditional New Hampshire architecture has been constructed. As suggested in preceding references to the many sawmills that occupied sites along the Suncook River in Suncook Village, and upstream at Buck Street Bridge or East Pembroke, there was ample available waterpower, at least in the eastern part of town. A series of dams harnessed the power of the Suncook River beginning in the 1730s, powering the reciprocating sawmills that were necessary to convert the local forests of conifers to merchantable boards and timber.

The soil of Pembroke supports three softwood tree species that were mainstays of New Hampshire’s wooden architecture. The most important is eastern white pine (*Pinus strobus*), a tree that was widely used for framing of houses and barns, for the production of boards, and for finish joinery or interior and exterior woodwork. It thrives in sandy soils, and abounds in Pembroke—and, even more, in the Bear Brook State Park section of adjacent Allenstown. The second most useful species is eastern hemlock (*Tsuga canadensis*), long used for framing of houses, barns, and mills. The third species, which is found in lesser quantities, is the native red (or “Norway”) pine (*Pinus resinosa*), a hard pine that was useful both for framing and for long-wearing floor boards. A fourth pine species, the pitch pine (*Pinus rigida*), is found in great profusion in the western part of town, along the sandy plains of the Soucook River, where it represents the eastern portion of the

¹⁵ Carter and Fowler, *History of Pembroke, N. H., 1730-1895* (Concord, N. H.: Republican Press Association, 1895; reprinted by the Allenstown-Pembroke Bicentennial Committee, 1976), pp. 166,296-300; John N. McClintock, *History of Pembroke, New Hampshire* (bound with Carter and Fowler, *History of Pembroke, N. H., 1730-1895* as reprinted by the Allenstown-Pembroke Bicentennial Committee, 1976), p. 174.

noted “pine barrens” or “Dark Plain” that once covered the land between the Soucook and Merrimack Rivers. Although it was not much used in architecture, pitch pine may sometimes have been sawn for floor boards and used as diagonal braces in framing.

Although native hardwoods were not much used in local building, red oak (*Quercus rubra*) was the standard material for the diagonal braces that stiffen wooden house and barn frames. Red oak was also used frequently for the vertical posts of massive buildings such as meeting houses. The species grows plentifully in the uplands of Pembroke.

A good example of the result of a juxtaposition of softwood resources and a water-powered sawmill is seen in the David Clark House of circa 1825 in East Pembroke, just below the Buck Street Bridge and dam. In 1824, Clark received a warrantee deed of the sawmill “on the southeast side of Suncook river on Buck Street with all the privileges belonging thereto.”¹⁶ Clark kept both a sawmill and a gristmill at this site, selling both his mills and his house in 1829.

The two-story, center chimney house that Clark built was initially finished only on the first floor, with the second story finished by later owners in a more modern style. The house has a frame of pine. Although some of the longer timbers of the frame are hewn, an unusual percentage of the frame was sawn on a reciprocating saw, as might be expected in a dwelling built by a mill owner adjacent to his mill. Posts, braces, attic floor joists, rafters, and purlins are all sawn, representing many more sawn elements than are seen in the average New Hampshire house of 1825—a testament to the productivity of the adjacent mill.

Just as Pembroke abounded in softwood timber for framing and boarding, it also abounded in excellent clay and sand for making bricks. Bricks were necessary for building chimneys in wooden houses. After about 1830, buildings constructed wholly of brick became more common in town, especially along Pembroke Street and in Suncook Village, but also in North Pembroke. Between the Civil War and about 1890, the center of Suncook Village was largely rebuilt in brick.

Under the impetus of this local market, and the still greater markets offered by growing cities like Manchester, brick making eventually became a major industry along the Merrimack River, not only in Pembroke but also in adjacent Concord and Hooksett. This portion of the Merrimack Valley had been inundated by a glacial lake that had permitted the slow deposition of clay at the end of the ice age. Glaciers also deposited much sand in the area. The manufacture of bricks requires the mixing of native glacial clay, which is thick and viscous, with enough sand to make the clay sufficiently plastic to be pressed into wooden molds.

The beginnings of the industry are recorded in the account book of Sterling Sargent of Pembroke and Allenstown, which documents Sargent’s activities during the period between 1813 and the 1850s.¹⁷ Sargent worked at brick making only sporadically, mostly during the spring and fall months, and on a small scale, burning perhaps 50,000 or 55,000 bricks at one time.

¹⁶ Carter and Fowler, *History of Pembroke, N. H., 1730-1895* (Concord, N. H.: Republican Press Association, 1895; reprinted by the Allenstown-Pembroke Bicentennial Committee, 1976), p. 358.

¹⁷ Sterling Sargent, account book, 1813-1857, New Hampshire Historical Society, Concord.

Sargent was the father of two sons, Philip and Warren, who continued the trade of brick manufacturing into the era when the arrival of the railroad encouraged production on a much larger scale and permitted the creation of a brick village like Suncook, whose buildings consumed millions of bricks. By 1832, as the first brick dwellings were appearing in Pembroke, local production in the Pembroke-Allenstown-Hooksett area was a respectable 1,271,000 bricks per year. But by 1878, after the advent of the railroad in Pembroke and adjacent Hooksett, six brick manufacturers in Hooksett, Suncook Village, and the banks of the Merrimack in Pembroke were employing sixty men in making bricks. Each local yard averaged about 80,000 bricks per year per man employed, for a total of about 4.8 million bricks.¹⁸ By 1895, maps in Carter and Fowler's *History of Pembroke* and Hurd's New Hampshire atlas indicate brickyards owned by Henry T. Simpson (Simpson owned two yards, and his showpiece brick house stands at 422 Pembroke Street.), Edmund Elliott, the Whittemore family, F. S. Whitehouse, and G. N. Simpson. These yards were placed at intervals along the Merrimack River between the Concord border (Soucook River) on the north and the Allenstown border (Suncook River) on the south (see map item #56, #57, and #62). An additional brickyard, owned by Martin H. Cochran and Isaac G. Russ, operated on Buck Street near McDaniel's Brook (map #121 in Carter and Fowler's *History*). Since bricks were too heavy to be transported by land over great distances, the former concentration of brick buildings in North Pembroke suggest that a brickyard may once have operated in that area as well.

Just as the mineral wealth embodied in the clay beds of the banks of the Merrimack allowed an impressive production of bricks of high quality, nearby ledges ensured the availability of granite in inexhaustible quantities. Although Rattlesnake Hill in Concord, New Hampshire, some ten miles from Suncook Village, had been noted for its production of fine, white granite since the early 1800s, another source of comparable stone lay still closer to the growing village. The granite ledges of Allenstown, located less than two miles away, produce a stone that is comparable to that of Rattlesnake Hill, but located at a lower elevation. The modest gradient between Suncook Village and the quarries of Allenstown eventually permitted construction of a railroad spur directly into the quarries.

The granite that was employed as underpinning for Pembroke's many wooden dwellings beginning around 1800 was probably quarried mostly from surface boulders. Such glacial erratics abound across the township except in the alluvial deposits of the river valleys. Quarrying from large boulders was commonplace before the advent of more effective stone splitting techniques around 1830 permitted the splitting of large blocks of stone directly from ledges.¹⁹

The same exploitation of surface boulders probably persisted during construction of most of Pembroke's early brick buildings, beginning in the 1820s and 1830s. Such buildings require not only granite underpinning to protect the brick walls from rising damp, but also, typically, granite window and door sills and lintels.

¹⁸ James L. Garvin, "Small-Scale Brickmaking in New Hampshire," *IA: The Journal of the Society for Industrial Archaeology* 20 (1994): 19-31. This article illustrates one of the Simpson brickyards.

¹⁹ For early splitting techniques, see Donna-Belle Garvin, "The Granite Quarries of Rattlesnake Hill: The Concord, New Hampshire, 'Gold Mine,'" *IA: The Journal of the Society for Industrial Archaeology* 20 (1994): 50-68.

Suncook Village was transformed from a collection of wooden stores, taverns, and public halls into a concentration of contiguous masonry buildings as a result of a series of devastating fires, the three most serious occurring in 1876, 1878, and 1886. By this period, a larger quarry, operating on a commercial scale, had been opened in Allenstown. Bailey's Granite Works opened in 1874. By 1900, the quarry was owned by Charles A. Bailey and extended over some twenty-five acres. It provided constant employment for 125 men from April to December, and in 1900 shipped 2,200 carloads of granite via its own rail spur.²⁰

Pembroke was unusual in having a local supply of window glass for more than ten years after the opening of the Chelmsford Glass Company on Glass Street in Suncook Village in 1839 (see map item #V17). The company built a substantial glasshouse and continued in operation until about 1850, although the factory was still indicated on the 1859 Merrimack County map, and its buildings were photographed in good condition circa 1860. The company made window glass by the cylinder method, but was forced to bring sand from as far away as New Jersey after nearby sources proved unsuitable for making clear glass.²¹ Local tradition identifies certain houses in Suncook Village as retaining Suncook glass in their windows.

One building commodity that Pembroke lacked, in common with most New Hampshire towns, was lime for making plaster and mortar. With no native deposits of limestone except in a few restricted locations in the Connecticut River valley, New Hampshire was dependent upon supplies from afar, and was forced to ship casks of lime from sources such as the kilns at Thomaston and Rockport, Maine. Between the time that the Merrimack River was made navigable about 1812 and the advent of the railroad in Suncook Village in 1852, it may be supposed that lime for local construction was shipped in some quantities by canal boats. The Pembroke Cotton Factory Company maintained a landing and warehouse near the confluence of the Suncook and Merrimack Rivers, where such commodities could have been offloaded and stored for local sale.

Types of Dwellings

Houses may be typified by such characteristics as construction materials (log, frame, brick), floor plan, or architectural style. The same style may be manifest in houses of differing construction materials and floor plans, and a preference for a certain floor plan or construction material may persist over more than one stylistic period. Pembroke has, for example, brick houses that display characteristics of the federal style, the Greek Revival style, the Italianate style, and various romantic styles.

Because these three attributes of houses may blend with one another, this section will follow a chronological classification that will describe periods and styles of construction, and will mention construction materials and floor plans that are often associated with each period.²²

²⁰Frank Levi Aldrich, "Suncook To-Day," *Granite Monthly* 29 (July 1900): 11-13; Carol A. Martel, *The History of East Allenstown, New Hampshire and Bear Brook State Park* (Allenstown, N. H.: Catamount Publishing, 2003), pp. 27-28.

²¹Kenneth N. Wilson, *New England Glass and Glassmaking*. New York: Thomas Y. Crowell and Company, 1972, pp. 89-93.

²²For more information on architectural styles and construction materials, see James L. Garvin, *A Building History of Northern New England* (Hanover, N. H.: University Press of New England, 2001).

Early Settlement Until the Post-Revolutionary Period, Circa 1730-Circa 1790; the Georgian Style

Little is known about this era of building in Pembroke. Carter and Fowler's *The History of Pembroke* identifies the Whittemore barn on Pembroke Street as one of the earliest surviving structures in town: the re-used Congregational meeting house that was built near its present location in 1746.²³ Although a few surviving dwellings have traditionally been dated within this period, these structures have not been examined to verify their popularly accepted dates of construction. One such house is the 1½-story center chimney "Cape Cod" house located at 503 Fourth Range Road near its intersection with Cross Country Road. The *History of Pembroke* notes that John White, the builder of the dwelling, "received a deed of the land from John Knox in 1749." Despite the fact that the *History* goes on to say that "it is not known when he [White] settled here," the date "1749" has long been painted on the large chimney.

Another dwelling that has long been identified as an early house stands at 379 Pembroke Street. The authors of *The History of Pembroke* say of this small house, which stands just north of Meetinghouse Brook, that it "is probably as old as any in town, if not the oldest one." They trace its land title to 1764.

Although most surviving early dwellings in all New Hampshire towns are of framed construction, research has shown that many settlements initially included houses built of hewn or sawn "logs," rectangular in cross-section, or of round "poles" in the manner of the typical American "log cabin."²⁴ No standing building of such construction has yet been identified in Pembroke. But the town's first meeting house, built adjacent to Pembroke Street Cemetery (see index #1 and #64 on map), was a log structure. The town records for 1733 recorded a vote that "a meeting House of Twenty four feet wide & Thirty feet Long be Built as soon as may be and set upon a Lott of Land in said Township bearing number Three or near To it[.] The said House To be made of Good Hewn Loggs Ten or Eleven feet stud[,] The Roof to be Covered with Long shingles well Layed and nail^d and one Door well made and Hung y^e ends of y^e House to be Closed with good Clapboards or Boards all to be done sufficiently and workman like by the Last Day of June next . . ." ²⁵

While construction of the principal building in Pembroke of hewn logs in the 1730s does not imply that dwelling houses were constructed similarly, the likelihood exists that Pembroke, in common with many other new settlements on the New Hampshire frontier, had some log dwellings. The *History of Pembroke* asserts that the dwelling of the first permanent settler in town, Francis Doyen, was a "log hut" built circa 1730, but it is not clear whether this statement is based on real knowledge or the authors' assumptions.²⁶ The first house built in North Pembroke by settler John Parker is said to have been built of logs as late as 1780.²⁷

²³ Carter and Fowler, *History of Pembroke, N. H., 1730-1895*, p. 57.

²⁴ *Ibid.*, pp. 5-8.

²⁵ Carter and Fowler, *History of Pembroke, N. H., 1730-1895* (Concord, N. H.: Republican Press Association, 1895; reprinted by the Allenstown-Pembroke Bicentennial Committee, 1976), p. 29.

²⁶ Carter and Fowler, *History of Pembroke, N. H., 1730-1895*, p. 20.

²⁷ *Ibid.*, p. 412.

The possibility that log houses were built by some early settlers is strengthened by the early presence of sawmills on Meetinghouse Brook and the Suncook River. Sawn logs were even more common than hewn logs in the “garrison” houses of the New Hampshire and Maine seacoast, so the presence of mills could have offered some economy of labor and thereby encouraged the construction of log houses. Those who have an opportunity to examine Pembroke’s early houses in the future should be alert to the possibility of log construction, especially in ells attached to later, substantial houses or in outbuildings. Such secondary structures are sometimes found to be the pioneering dwelling, reused by later generations for reasons of sentiment or economy.²⁸

Some of the framed houses described below are described as architectural representatives of the federal period (1790-1830). For the most part, these buildings have not been examined. Some may prove, upon examination, to date before circa 1790 and to fall within the Georgian architectural style period.

The Federal Period, Circa 1790 to Circa 1830

The earliest Pembroke houses, that have thus far been examined and dated by their stylistic attributes, fall into this period. This era is marked by distinctive architectural features, including new molding profiles, new styles of doors and window muntin profiles, and an increasing use of mantelpieces around fireplaces. Federal period buildings also embody such technological advances as the use of machine-made nails, split granite underpinning and doorsteps, and the first widespread use of bricks as an alternative to traditional framed construction.²⁹

Pembroke houses built during the Federal era assume many sizes, shapes, and construction techniques, but are unified in their seeming diversity by the attributes of style and technology mentioned above. Although we may assume that many small Pembroke houses of this era await identification, some of Pembroke’s first large dwellings also belong to this era.

Probably the grandest of these, and one that may have set the standard for other houses in more rural eras, was the large dwelling of Major Caleb Stark, built on Main Street in Suncook Village about 1812, when Stark assumed control of the fledgling Pembroke Cotton Factory Company. Although this house has long disappeared, two early manuscript maps of the village suggest that it was a three-story mansion with a hipped roof, duplicating the merchants’ dwellings of the same period in New Hampshire’s seacoast region.³⁰

²⁸ The sketch of Captain William Fife in D. Hamilton Hurd, ed., *History of Belknap and Merrimack Counties, New Hampshire* (Philadelphia: J. W. Lewis and Company, 1885), pp. 583-584, asserts that William Fife, an immigrant ancestor of Captain Fife, built a log house in North Pembroke shortly after 1772.

²⁹ For more information on this and other architectural styles discussed in this chapter, see James L. Garvin, *A Building History of Northern New England* (Hanover, N. H.: University Press of New England, 2001).

³⁰ New Hampshire Historical Society map collections, Pembroke 912.778b/P396 su, and Pembroke 912.778b/P396 su¹.

Other large Pembroke houses, two stories high and two rooms deep, apparently date from this era but await detailed examination and research. These dwellings, the largest of the town's surviving early houses, are to be found as rare examples in Suncook Village, along Pembroke Street, and scattered within the agricultural uplands. This small group of dwellings is typified by having two massive chimneys and a broad central stairhall. This floor plan can be traced back to the early 1700s in the New Hampshire seacoast, where such dwellings were called "double" houses.

Among the "double" houses that may be cited as examples of the type are the David Kimball tavern at 223 Pembroke Street (see map index #33), near the head of Broadway; the Aaron Whittemore homestead or tavern at 374 Pembroke Street, north of Pembroke Street Cemetery (see index #1 on map); the Cochran House on Buck Street at its intersection with Academy Road (see map index #66); the Richardson House at 441 Sixth Range Road (see map index #67), east of Cross Country Road and the Richardson Cemetery (see index #14 on map); and the Daniel Knox House at the intersection of Dudley Hill Road and Fifth Range Road.

Some of these houses, including the Kimball tavern (see map index #33), have traditionally been ascribed to dates prior to the advent of the Federal period in the 1790s, but closer dating of purported earlier examples must await careful examination of these houses. On the other hand, the double house at 179 Main Street in Suncook Village, said to have been built by selectman and postmaster Stephen Bates after 1833, seems to show that this eighteenth-century house type might persist in Pembroke even after the Federal style was giving way to the Greek Revival style.

Somewhat smaller than these "double" houses are central chimney houses, two rooms in depth, like the David Clark House of circa 1825 in East Pembroke, described above under "Building materials." Although most of Pembroke's examples of these classic New Hampshire farm dwellings appear to date from the Federal period, a few may prove upon examination to fall into the earlier Georgian period. This house type has been traced back to circa 1725 in Hampton and other towns in New Hampshire's coastal region. A number of examples may be seen along Pembroke Street and Buck Street. A few survive in Suncook Village, as seen in the house at 197 Main Street, built circa 1815 by William Kimball; Kimball also built the saw and grist mills later known as Osgood's Mills, on the Suncook River near the Turnpike and Double-Deck bridges.

Similar two-story central-chimney houses, one room deep instead of two, are also found throughout town. Good examples may be seen along Pembroke Street.

Other house types that are distinctly associated with the Federal style and period also appear in Pembroke at this time. One of these is the inappropriately named "I-House," a two story, one-room-deep dwelling with a central stairhall and chimneys placed against its end or its rear walls. Several wooden examples of this house type may be seen along Pembroke Street. A brick example, with the one-story kitchen ell that is often attached to these houses, is the Bailey Parker House of circa 1830 at 470 North Pembroke Road (see map index #68).

Brick began to emerge as a favored building material during the Federal period. One of the finest examples of an early brick dwelling is the two-story, L-shaped Doe House at 262 Pembroke Street (see map index #69). According to the town history, this is the first brick dwelling ever built in Pembroke. Its walls are laid in Flemish bond rather than the common bond that became standard after about 1830. It appears to date from circa 1825. It was followed by other Federal and Greek Revival brick houses, including the two-story Bailey Parker House (c. 1830) at 470 North Pembroke Road and the 1½-story Jonathan Kimball House (c. 1840) at 429 Fourth Range Road.

Greek Revival Period, Circa 1830 to Circa 1850

Pembroke has a number of houses built during this era, but few of them exhibit the classic gable-front temple form that is the ultimate expression of this style in other places. Rather, most houses of the Greek Revival period in Pembroke tend to display their style in their details, some of these features being inspired by architectural guidebooks like Asher Benjamin's *The Practical House Carpenter* (1830) and *The Practice of Architecture* (1833). It was left to now-lost institutional buildings such as the People's Literary Institute and Gymnasium (1840) on Pembroke Street (later the town hall), or the Methodist Church on Church Street in Suncook Village (1849), to express the Greek Revival style in its more classic form. Similarly, a number of the lost wooden commercial buildings that stood on Main Street in Suncook Village before the fires of 1876 and 1878 displayed broad gable fronts, especially those structures that provided meeting halls on their second or third stories. A number of the tenement houses that stand along Glass Street in the village once exhibited distinct Greek Revival features, but repeated remodelings have generally erased this character.

One house type that is strongly associated with the vernacular Greek Revival is the side-hall dwelling. Such houses are oriented with their narrow ends and roof gables treated as the façade. Rather than having their main entries placed in the center of this elevation, these houses have the doorway at one side, with the interior stairs running to the second story along the exterior side wall of the house. A 1½-story house of this floor plan may be seen at 722 Cross Country Road, and a 2½-story version at 225 Pembroke Street.

Romantic Styles

The period after 1850 saw the proliferation of a number of architectural styles. The architectural eclecticism of this era may be traced in large part to the writings of Andrew Jackson Downing, who published *Cottage Residences* in 1842 and *The Architecture of Country Houses* in 1850. *Cottage Residences* was the first American book to discuss domestic architecture in terms that were understandable and appealing to the householder; it was all the more revolutionary for its frequent discussion of household affairs and arrangements that were of special interest to women. *Cottage Residences* was the first publication to discuss, in essay form, the purposes, arrangement, and aesthetics of dwelling houses. It was of revolutionary importance because it introduced and advocated a wide range of romantic building designs, repudiating the spare classicism of the Greek Revival.

Downing recommended several house types in preference to the rectangular, gable-front house so strongly associated with the Greek Revival. Among his favorites, for both small cottages and grander country houses, were dwellings based on English precedent. The smaller of these are symmetrical; the larger tend to be asymmetrical but balanced in composition. Most have deeply overhanging roofs, some have bracketed eaves, and some have Gothic or Italianate detailing. One of Downing's maxims was that a house ought to express the personality of its owner.

It is not to be expected that a farming community like Pembroke, or a small manufacturing center like Suncook Village, would indulge in the construction of many houses of deliberate intellectual allusion, especially when farming prosperity was probably diminishing in Pembroke's agricultural uplands after 1850 and when Suncook Village was still a cluster of wooden stores and taverns. Few of Downing's designs were, in fact, copied literally anywhere in New Hampshire.

Nevertheless, many of the attributes that Downing illustrated began to pervade local architecture after the mid-century. Among these were preferences for bracketed eaves, often with pronounced overhang; central roof gables, sometimes with jerkin-head roofs, to intersect and break up the expanse of the plane of the main roof; and the appearance for the first time of bay windows and open porches. *Cottage Residences* appeared in many editions, and the fifth of these, appearing in 1873, included added designs that are reminiscent of several houses that survive in Suncook Village.

Pembroke has several significant examples of Downing's influence. One house that is clearly inspired by Downing, perhaps his "Irregular Villa in the Italian Style, Bracketed" in *Cottage Residences*, is the Captain William Fife House at 386 Pembroke Street near Meetinghouse Brook (see map index #70). Although the house lacks the sophistication of some Italianate houses built in cities like Concord and Manchester, the asymmetrical dwelling is marked by a tall square tower or belvedere, proclaiming, in Downing's interpretation, its builder's stature in the community. Its first owner was a carpenter and contractor who is said to have built the house as early as 1847.³¹

Among the Suncook dwellings that relate to the later edition of *Cottage Residences*, and to comparable architectural books of the last quarter of the nineteenth century, are the Eleazer Baker House at 8 Prospect Street, circa 1871; the Natt Bartlett Emery House at 164 Main Street, at the corner of Broadway, circa 1875; and the David Austin brick house at 27 Broadway, circa 1870.

At 287 Pembroke Street is the George P. Little House (circa 1868), designed by architect George Williams of New York (see map index #71). Although the basic dwelling is a simple rectangle with a three-bay façade, the front of the house is marked by a full-width piazza and by a second-story central porch capped by a fanciful gable that is embellished with an eclectic combination of stickwork and fretsawn vertical slats. A tall, faceted tower rises almost to the height of the roof's ridge at one rear corner of the building. With its adjoining farmstead of 175 acres, the Little

³¹ Bryant F. Tolles, Jr., and Carolyn K. Tolles, *New Hampshire Architecture: An Illustrated Guide* (Hanover, N. H.: University Press of New England, 1979), p. 220; for a biographical sketch of Captain William Fife, see D. Hamilton Hurd, ed., *History of Belknap and Merrimack Counties, New Hampshire* (Philadelphia: J. W. Lewis and Company, 1885), pp. 583-584.

House was one of relatively few Pembroke farmhouses that displayed sophisticated architectural ideals in an agricultural setting.

Houses that were inspired by the writings of Andrew Jackson Downing tend toward asymmetry and imaginative ornamentation. Beginning about the time of the Civil War, a more severe and massive style of house began to gain favor. The larger of these dwellings usually have a three-bay façade, two full stories, and a Mansard roof. Because such houses were inspired by a dominant urban fashion in the Paris of Napoleon III, their style is referred to as the French Second Empire. Perhaps because the French Second Empire style began as urban architecture, American houses of this type are most often seen in villages or cities. True to form, most Pembroke examples are found in Suncook Village, where the style appears in both large and small dwellings. One row of smaller specimens is seen along the east side of Broadway. These houses were probably identical when they were built as worker housing, but have been altered in varying ways. A still smaller one-and-a-half-story example, well preserved and displaying careful exterior detailing, is the house of local furniture dealer and undertaker Charles P. Morse at 9 Maple Street in Suncook Village. A large, two-family brick version of the style is seen at 12 Broadway. The roof style of all these houses is echoed in the Mansard roof of the village clocktower of 1879.

Late Victorian Styles

The many house styles that appeared under the influence of Downing, and those writers who followed him, began to give way to a few dominant styles by the late 1800s. Chief among these was the so-called “Queen Anne” style. The Queen Anne is characterized by an irregular floor plan with a multitude of projecting bays; by varied roof planes, often with a tower capped by a pyramidal or conical roof at one corner of the house; by varied wall coverings, most often combining patterned wooden shingles on one story and clapboards on another; and often by open porches with elaborately detailed columns linked below the porch roof by friezes of turned spindles.

Among the best examples of the Queen Anne style in Pembroke is the Eleazer Franklin (E. Frank) Baker House at 3 Prospect Street. This elegant and well-maintained house was constructed in 1894 from plans by Concord architect George W. Cunningham, who designed a second house, with a mirror-image floor plan, on South State Street in Concord. A less complex example is the George E. Gordon House at 178 Main Street, built about 1885 by the owner of a drug store that occupied one of the brick blocks on the east side of Main Street.

The colonial revival style became popular at the end of the nineteenth century, a few years after the Queen Anne. The colonial revival is characterized by classical detailing that often combines attributes of the American Georgian style of the 1700s with those of the Federal style of the early 1800s. Colonial Revival houses are often, though not always, symmetrical in plan. One of the best examples of an asymmetrical colonial revival style dwelling is the Jacob Chickering House of circa 1900 at 167 Main Street (now the Petit Funeral Home), opposite the foot of Broadway. Chickering was a jeweler with a store in a brick block on the east side of Main Street, near the corner of Glass Street. The house has lost certain original details, including balustrades that originally capped its faceted corner tower and the flat deck at the center of its hipped roof.

Mail-order House Plans

By the late 1870s, as Suncook Village was beginning to assume its present-day appearance, certain entrepreneurs were developing a new method of purveying architectural ideas to the American public. Mail-order house plans were offered by architects, or associations of architects, through books or catalogues that illustrated perspective renderings and floor plans of houses of various sizes, styles, and costs. Detailed working drawings, sometimes with lists of all materials required for construction, or even with suggested painting schemes shown in chromolithography, could be ordered through the mail.

Such services were especially valuable to people who lived in rural areas, far from an architect's office, but who wanted a house of more sophisticated style than could be supplied by a country builder. In New Hampshire, many houses built from mail-order plans are to be found in country settings, although most are seen in small villages where they often represent some of the most elaborate and imposing dwellings in a neighborhood.

The leading pioneers of the mail-order house plan business, in the late 1870s and early 1880s, were the partnership of George and Charles Palliser of Bridgeport, Connecticut, and the Cooperative Building Plan Association of New York, founded by Robert W. Shoppell. They were joined in the late 1880s by George F. Barber of Knoxville, Tennessee, whose fanciful Queen Anne designs found favor in several New Hampshire towns.³²

Suncook Village has at least three houses that were built from a single set of plans, almost certainly a mail-order design. The least altered of these houses is that of Josiah Frederick Baker at 6 Prospect Street, a thoroughfare that was laid out in 1876 past the already standing house of Eleazer Baker, the father of Josiah Frederick. A second copy from the same plan stands at 3 Exchange Street, with its floor plan reversed, creating a mirror image of the Baker House. A third copy, more severely altered than the first two, is at 16 Broadway. Yet another example, somewhat modified, is to be seen on Pembroke Street northwest of the intersection with Pembroke Hill Road. The source of this much-used plan has not yet been identified.

Early Twentieth Century House Styles

Early residential neighborhoods of Suncook Village, surrounding the central core of brick commercial buildings, are to be found on upper Main Street, with its mixture of early nineteenth-century houses and its infill of late-nineteenth century dwellings, and along a series of other streets that were laid out in the late 1800s as new house lots were needed. Broadway was laid out in 1868, Pleasant Street in 1871, and Prospect Street, Maple Street, and Pine Street in 1876. All of these new streets began to fill with houses in various late-nineteenth-century styles soon after the thoroughfares were opened, creating concentric zones of new building around the old village core and the old highway, Main Street. Still later, newer houses appeared on upper Broadway and the streets leading from it, as well as on upper Main Street, near and upon the Chester Turnpike. It is in these later neighborhoods, still farther removed from the village core, that one finds the majority of houses from the early twentieth century.

³² James L. Garvin, "Mail-Order House Plans and American Victorian Architecture," *Winterthur Portfolio* 16 (Winter 1981): 309-334.

The early twentieth century saw the introduction of a number of house styles that were especially adapted to the small, middle class dwelling of three or four bedrooms. Among the most popular was the one-and-a-half-story or two-story “Dutch colonial” house, a dwelling with a broad gambrel roof, often pierced by a wide shed dormer that admitted ample light into the bedchambers. Although such houses tended toward symmetrical designs, they were often varied by the addition of an expansive brick chimney that rises against the exterior wall at one end of the house. Many have a one-story glazed sun porch or screened porch attached to one of the gable ends. A good Pembroke example can be seen at 207 Pembroke Street. Other examples stand at 10 and 55 Broadway.

Another very popular small house was the bungalow. Most bungalows are one and a half stories high, with broad roof planes that shelter an open front porch and offer constricted but adequate bedroom space above the first story. Roofs project well beyond wood-shingled or stuccoed walls. Rafter tails are exposed and painted, and triangular wooden brackets may support the projecting eaves. Examples of bungalows can be seen at 90 and 100 Broadway and at 34 Pleasant Street.

Beginning in the 1920s, a variety of “Tudor” or “English” cottages became popular. Often characterized by asymmetrical front gables with steeply-pitched, low-sweeping roofs that enveloped the bottom of broad fireplace chimneys, these cottages sometimes had clipped end gables that were meant to suggest the soft lines of thatched roofs. An example may be seen at 76 Broadway.

While these tend to be the most popular house types of the early twentieth century, many others are found. This was an era when the late-nineteenth-century idea of issuing mail-order house catalogues was made still more accessible by large firms, mostly in the Midwest, that employed scores of architects to issue books of plans showing houses of every imaginable style, size, and price. These books were made available to local lumber companies, and people in the market for a new house were able to choose from a wide array of designs to match their taste and budget.

Commercial and Industrial Buildings

One of the richest portions of Pembroke’s architectural legacy is the center of Suncook Village. Here, in a constrained area a few blocks in extent, is one of the finest concentrations of masonry commercial, residential, and manufacturing buildings to be found in New Hampshire. These structures exhibit excellent design and detailing, displaying a highly skillful use of locally manufactured bricks and locally quarried granite.

Because its buildings, formerly of wood, were reconstructed following several fires, lower Main Street in Suncook is largely composed of structures that were built within a ten-year period, between 1876 and 1886. This district therefore displays great coherence of design, materials, and workmanship. These qualities have induced the Town of Pembroke and a local revitalization committee, *Meet Me in Suncook*, to contract for the preparation of a nomination of the commercial district to the National Register of Historic Places. This nomination is expected to be completed in 2004. The district is described and interpreted in a brief flier that *Meet Me in Suncook* prepared as a self-guided walking tour of the center of the village.

The builder of many of the commercial blocks constructed along Main Street in Suncook Village after the fires of 1876, 1878, and 1886, was Samuel S. Ordway (c. 1834-1909). Ordway practiced as an architect-builder in Manchester in the late 1870s. From 1879 through 1890, he was also listed as a carpenter and builder in Suncook. An example of Ordway's skill is the clocktower building. In announcing the proposed construction of this structure, the *Suncook Journal* of March 29, 1879, stated that "Charles Williams and J. L. Hosmer have purchased the land on which Nos. 1 and 2 Pembroke corporation building now stands, whereon they will erect, the coming season, a three-story brick block covering about 65x65 feet, fronting on Main street. The structure will be of modern style architecture, and over the corner of Main and Front streets there will be a tower 80 feet high, in which it is proposed to put a town clock. A plan of the Main st. elevation, drawn by Mr. S. S. Ordway, contractor and builder, of this village, shows a frontage of exceeding beauty. There are to be three capacious stores on the ground floor; the second story will be arranged for offices, while in the third story it is hinted that there *may* be a Masonic hall."

Central Suncook Village has suffered several losses, mostly from fire, that have somewhat diminished an even more impressive downtown area. While the district retains Pembroke Mill (1860; now Emerson Mill Apartments) and its adjacent company office (now Town Line Printing), fire claimed the second, nearby Webster Mill (1865) in 1983 (see map item #V6 and V18). Similarly, fire damaged one of a pair of long, brick boarding houses that were built by Pembroke Manufacturing Company; with its second story removed, this building has been occupied by the Veterans of Foreign Wars since about 1930. The second, similar boarding house on the opposite side of Crescent Street was removed to provide a municipal parking lot.

Still earlier, in 1914, fire caused the removal of a third story, containing an Odd Fellows' hall, from Addison Osgood's block at 132-138 Main Street. In 1937, fire destroyed the brick Eleazer Baker's Block at 11-15 Glass Street. Built in 1886, this impressive building had contained a department store, the town library, the village post office, and several other businesses. The site is now a parking lot.

Despite such losses, the commercial and manufacturing center of Suncook Village retains a level of architectural coherence and excellent craftsmanship that are seldom equaled even in New Hampshire's larger cities. In addition to its contiguous commercial blocks, most of them intended for residential space or meeting halls on the upper floors, the area includes specialized structures like the former police station, a detached brick building built at 43 Front Street in 1870 (see map item #V10), or the former fire station (later police station) built at 4 Union Street in 1934.

School Buildings

Pembroke retains a number of early school buildings that provide a physical record of the evolution of education in the community from the mid-nineteenth century. These buildings may be separated into three groups: district or one-room schoolhouses; consolidated or multi-room school buildings; and Pembroke Academy (see map index #54), which served the town as a high school from 1818.

Until after the Civil War, all elementary education in Pembroke was provided in district schoolhouses that were located throughout the township at sites that were convenient for the children of various neighborhoods. Under a series of New Hampshire laws passed in 1805, 1808, 1825, 1827, 1842, and later, the construction, repair, and staffing of the district schools were the responsibility of the individual school districts to which each building belonged. These districts were required to choose their own clerks and keep their own records independently of the town selectmen or town clerk. This makes it difficult to carry out detailed research on the earlier schoolhouses of Pembroke.

The State of New Hampshire began to take an official interest in public education and in schoolhouse architecture in the 1840s. The legislature established the position of State Commissioner of Common Schools in 1846. In his first annual report, published in 1847, the newly-appointed commissioner placed strong emphasis on the defects of many of the schoolhouses that then served local school districts throughout the state. He lamented “the multitudes of [school]houses, in the State, [that are] not only inconveniently located, and awkwardly planned, but absolutely dangerous to health and morals . . .” He noted, however, that “if the architecture is neat, and the grounds tastefully laid out . . . not only will the [school]house answer the essential purpose of health and comfort, but prove a material auxiliary in elevating the minds and correcting the habits of those who receive their education in it.”³³

Subsequent commissioner’s reports illustrated model school buildings selected from throughout the state, or reproduced illustrations and text from Henry Barnard’s *School Architecture; or, Contributions to the Improvement of School-Houses in the United States* (1848). In June, 1849, to encourage the improvement of district schoolhouses across New Hampshire, the legislature authorized the distribution of a copy of Barnard’s influential volume to the board of selectmen in each town.

The effect of this architectural reform movement seems to have been felt immediately in District No. 1 in Pembroke, the location of the Pembroke Street schoolhouse. A new brick Pembroke Street school building was built in the summer of 1851 to replace an older brick building that had fallen into disrepair. The building stands nearly unchanged on the exterior, and serves as the Grange and Odd Fellows’ hall. Its design was closely patterned on that of the brick schoolhouse of the Northern District in Greenland, built in 1847 and illustrated in the *Third Annual Report of the Commissioner of Common Schools* (1849). The report of the Superintending School Committee in the 1851 Pembroke Town Report called the new brick building “a beautiful, commodious, and well arranged school-house; a model for the town.”

In similar response to these progressive architectural ideals, other changes and improvements were made around 1860 to the District No. 3 (Buck Street) schoolhouse, which had been built around 1830 and was moved by the Pembroke Historical Society to a site behind the town hall in 1997.

³³ *Report of the Commissioner of Common Schools to the Legislature of New Hampshire, June Session, 1847* (Hanover, N. H.: Dartmouth Press, 1847), pp. 13-14.

After passage of new statewide legislation in 1885, the construction, maintenance, and staffing of town schools became the responsibility of a single town-wide school district in each town, rather than of the separate neighborhood districts, as before. This change equalized the availability of school funding throughout an entire town, but did not make school administration the direct responsibility of town government.³⁴

The State Board of Education issued new rules for schoolhouse facilities in 1919. These called for the provision of sanitary drinking water, and for facilities for washing the hands, in all schools. These changes were reflected in changes Pembroke's district schoolhouses.³⁵ By that time, Pembroke had six districts: Pembroke Street (District No. 1), Brickett Hill (District No. 2), Buck Street (District No. 3), Pembroke Hill (District No. 4), North Pembroke (District No. 6) and Borough School (District No. 7). A seventh rural school, in the Town Pound or Robinson district (District No. 5), burned in 1896. Throughout the nineteenth century, there had been as many as eight rural districts in addition to the Suncook Village school.

Of these rural district school buildings, two (Pembroke Street Schoolhouse and the relocated Buck Street Schoolhouse) survive in little-changed condition. Two others (North Pembroke and Borough Schoolhouses) have been converted to dwellings.

The rapid growth of Suncook Village after 1860 increased the need for a village school. The first consolidated or graded village school was built on the crest of the hill at the junction of Main Street and the Chester Turnpike in 1872 (see map item #V15). This large brick building (the property of the Pembroke Water Works since 1951) followed a well-recognized urban model of the period; a very similar building, now the Allenstown Town Hall, was built in 1877 on the Allenstown side of Suncook Village. The Suncook graded school was remodeled for use as a gymnasium and community building after construction of the new Village School in 1908, and was further remodeled on its first story for offices, garage space, and equipment storage by the Pembroke Water Works after 1951.³⁶ Despite these changes, the building is a landmark in the educational history of Pembroke and a now-rare survivor of an early consolidated school house. Its remaining architectural character should be preserved.

Overcrowding of the relatively small village graded school was acute by the early twentieth century. School authorities were concerned that the building did not afford playground space (being located close to the street and having a rocky ravine behind it), and that children were exposed to the danger of electric trolley cars that passed up and down the adjacent Main Street.

³⁴ Chapter 43, Laws of 1885.

³⁵ James L. Garvin, "Report on the Buck Street Community House (District Number 3 Schoolhouse), Thompson Road, Pembroke, New Hampshire," November 11, 1997; updated to May 3, 1998, New Hampshire Division of Historical Resources, Concord, N. H. For commentary by the State Commissioner of Education on the status of Pembroke's rural schools at this time, see the Pembroke Annual Report for 1920, pp. 39-40.

³⁶ For a photograph of the building in original condition, see Frank Levi Aldrich, "Suncook To-Day," *Granite Monthly* 29 (July 1900): 6.

In 1907, the town appointed a building committee to construct a modern school in Suncook Village. The committee obtained a lot of nearly four acres at the western end of High Street from the Concord and Montreal Railroad and hired Chase R. Whitcher (1876-1940) as architect of the new building. One of the most experienced and prolific New Hampshire architects of the early twentieth century, Whitcher specialized in institutional buildings, especially schools, municipal buildings, hospitals, business blocks, and hotels. For some years, he was designated the “state architect,” and designed many structures for state government.³⁷

The new Village School at 30 High Street, which is still in use, was built for \$20,000 (see map item #V19). It is a classic educational building of the early twentieth century, with a projecting central pavilion entered through a massive brick arch, banks of large windows for ample classroom illumination, and a tall hipped roof with chimney-like roof ventilators. It was constructed of bricks fired at the local brickyard of George N. Simpson and of granite quarried by Charles A. Bailey in Allenstown.³⁸ As a substantial educational building designed by one of the most important New Hampshire architects of any period, the Village School is one of Pembroke’s most significant municipal properties.

Education at the high school level in Pembroke has been provided since 1819 by Pembroke Academy (see map index #54). The first academy building was a brick structure that was dedicated in May, 1819, and remodeled in 1841 in the Greek Revival style. This building burned on June 21, 1900, and was replaced in 1904 by a brick structure that was comparable in size and appearance to the Village School. The 1904 building, in turn, was gutted by fire in 1936. It was then remodeled within its brick walls and enlarged at the rear, assuming the appearance of a typical high school building of that era. As then remodeled, this building remains in use, but it has been surrounded by a number of other structures that have accompanied the dramatic growth of the student population from Pembroke and neighboring towns.

Barns

Some of the most vulnerable structures within Pembroke’s architectural inheritance are barns and other agricultural outbuildings. Among the largest structures in Pembroke when they were first erected to hold tons of hay and to shelter livestock, these wooden monuments to the town’s agricultural age have become less useful as the few working farms that survive have adopted new methods of storing provender and sheltering cattle. On former farms that are now used solely as residences, barns continue to exist only through the sufferance of owners who are sometimes motivated to maintain the buildings by sentiment or a sense of responsibility for the past. Examination of sources from around 1900 reveals that many of Pembroke’s largest and finest barns disappeared during the twentieth century.

³⁷ Obituary of Chase R. Whitcher, *Manchester Union Leader*, August 26, 1940; William Whitcher, *Descendants of Chase Whitcher of Warren, N. H.* (Woodsville, N. H.: News Book and Job Print, 1907).

³⁸ Pembroke Annual Report, 1908, pp. 48-51.

The loss of old barns is not just a New Hampshire or a New England issue; it is now recognized as a national preservation problem. In response, the National Trust for Historic Preservation launched its *Barn Again!* program in 1987, offering cash awards to farmers who kept old barns in active use, and publishing a guide to the rehabilitation of older farm buildings. In 1989, the National Park Service published *Preservation Brief 20: The Preservation of Historic Barns* (available from the New Hampshire Division of Historical Resources in Concord or on-line at <http://www.cr.nps.gov/hps/tps/briefs/brief20.htm>) to encourage the understanding and preservation of these often neglected structures. In New Hampshire, John C. Porter and Francis Gilman of the University of New Hampshire Cooperative Extension published their practical guide, *Preserving Old Barns: Preventing the Loss of a Valuable Resource*, in 2001.

Depending on available funding, the New Hampshire Division of Historical Resources and the non-profit New Hampshire Preservation Alliance have intermittently been able to offer modest grants for the evaluation and the actual repair of historic barns. The New Hampshire legislature created a permanent tool for barn preservation in 2002, when it passed a law (RSA 79-D) that encouraged the preservation of historic barns and other agricultural buildings. This law authorizes municipalities to grant property tax relief to owners whose agricultural buildings provide an aesthetic or historical benefit to the public, and who agree to continue to maintain their structures throughout the duration of a ten-year discretionary easement held by the town.

The preservation of Pembroke's barns and other agricultural structures is hampered by lack of a town-wide inventory of such buildings. Pembroke residents are urged to participate in New Hampshire's statewide barn survey, which is conducted and maintained by the New Hampshire Division of Historical Resources in Concord. Survey forms may be obtained from the Division, or on-line at <http://www.state.nh.us/nhdhr/barnsurveyproject.html>.

The following typology of Pembroke's barns is based on general observation, not on complete data.³⁹

Like kindred structures elsewhere in northern New England, Pembroke's barns evolved over time and today display several forms. The earliest and smallest are the so-called "English" barns. English barns are 1½-story gable-roofed structures with their main entrances on one or both of the long elevations, beneath the eaves of their roofs. These buildings typically measure about thirty by forty feet. They were the standard barn type from the era of first settlement until about 1850. English barns are divided internally into three sections, each defined by the principal framing bents of the structure. Running through the center is a driveway or threshing floor. Stables for cows and/or horses are provided on one side of the driveway, with a low hayloft above the stables for warmth. A haymow fills the opposite side, extending from the floor (or from the cellar in the case of side-hill barns) to the rafters overhead. Above the central threshing floor is often an impermanent upper scaffold of saplings or light boards laid over the tie beams of the roof. This upper scaffold was used for additional hay or grain storage.

³⁹ For a more complete and analytical discussion of the barns and other agricultural buildings of the region, see Thomas Durant Visser, *Field Guide to New England Barns and Farm Buildings* (Hanover, N. H.: University Press of New England, 1997). For information on the care of barns, see John C. Porter and Francis E. Gilman, *Preserving Old Barns: Preventing the Loss of a Valuable Resource* (Durham, N. H.: University of New Hampshire Cooperative Extension, 2001).

English barns were often built into the side of a hill or declivity to provide a cellar for manure beneath the main floor. An example of a side-hill English barn dating from about 1830 may be seen attached to the brick Bailey Parker House at 470 North Pembroke Road (see map index #68).

Between about 1810 and 1830, the more prosperous farmers adopted a new form of barn that was capable of being extended indefinitely in length. This was the gable-front barn, sometimes called the "Yankee" barn. Like the smaller English barns, gable front barns are approximately forty feet in width. In length or depth, however, these buildings may extend for one hundred or more feet with the addition of as many framing bents or bays as were needed. Such barns also lent themselves to being lengthened over time by the addition of additional framing bents as the farm prospered. While older framing bents may be constructed of hewn timber, added bents in a lengthened barn are often fashioned from sawn stock, and the difference in technology provides visible evidence of the enlargement.

Like an English barn, a gable-front barn has a central driveway or threshing floor, often with doors at both ends of the structure to permit wagons to exit the barn after unloading without backing the horses. On one side of the driveway are stalls and stables, with a hayloft overhead to provide warmth in the winter. The opposite side of the barn is usually given over fully to hay storage, and the barn may be designed asymmetrically, with the driveway offset toward the stable side to give the haymow side greater storage capacity.

Again like an English barn, a gable-front barn might be built on a flat grade with a simple foundation of fieldstone or split granite posts. More advantageously, such a barn might be built on a hillside or embankment, with a high foundation on one side providing access to a cellar for manure storage. Such a barn is termed a gable-front bank barn.

Once it superseded the English barn by about 1850, the gable-front barn remained the norm throughout the agricultural era. Over time, such barns were often decorated with architectural embellishments that reflected the stylistic eras in which they were built or remodeled: the Greek Revival, Romantic, or late Victorian periods. These barns also evolved slowly over time to reflect changing theories of animal husbandry. Many gable-front barns were equipped with large ventilating cupolas at the centers of their ridgepoles, for example, after it was discovered that shingling or clapboarding their walls for warmth had the unintended consequence of trapping moisture in the building and causing unhealthful wintertime condensation.

Large gable-front barns were built in Pembroke's agricultural uplands, and few were also built on the larger farms that once operated along Pembroke Street. Many of these have been lost to neglect or fire. Among the few large barns that remain are those of the Emery-Langmaid Farm at 530 Buck Street, the Knox Farm at 615-17 Buck Street, the Isaac G. Russ Farm at 626 Buck Street, and the Abbott Farm at 423 North Pembroke Road. The Bachelder Farm at 710 Bachelder Road (Old Buck Street), next to the Buck Street Cemetery (see index #2 on map), retains not only a large barn but also an impressive collection of other agricultural outbuildings.

Some large barns were converted to hen houses during the early twentieth century, when the poultry industry became a source of prosperity in the region. An example of such conversion, which entailed inserting many windows for light and ventilation, may be seen in the barn at 471 Pembroke Street. The emergence of the Suncook Valley as a leading poultry region in the 1920s saw the construction of new hen houses of considerable scale. Most of these have disappeared, but a surviving example may be seen at 426 Buck Street.

Stables

In contrast to large barns for storing tons of hay and sheltering many animals, smaller farms and village houses required only small stables for sheltering a horse, and perhaps a cow, together with an appropriate volume of hay for their sustenance. These small stable buildings were often treated with architectural detailing comparable to that of the accompanying house. Examples of elaborate stables may be seen in Suncook Village behind the George E. Gordon House at 178 Main Street, and behind the remodeled George E. Miller House at 11 Maple Street.

Agricultural Outbuildings

Lack of survey data makes it impossible to predict the range and variety of agricultural outbuildings that may survive in Pembroke. Such buildings might include privies, hen houses or poultry barns, potato barns, sugar houses, greenhouses, cider mills, farm blacksmith or carpenter shops, shoe shops, creameries, icehouses, well or spring houses, windmills, woodsheds, wagon sheds, corn cribs, and silos. An example of the kind of agricultural rarity that may survive is the small brick smokehouse on the Noyes Farm, just south of the Pembroke Town Hall on Pembroke Street. This building was used to smoke meat, a task usually accomplished in New Hampshire in brick smoke chambers attached to the chimneys of houses.

HISTORICAL AND CULTURAL ACTIVITIES IN PEMBROKE

Pembroke is host to a number of programs and organizations which serve to educate or better the community as well as provide a venue for gathering. All organizations, most of which require intense volunteer support, are important to support and promote. The Town should endeavor to assist in any way possible to keep these community-focused groups fully functional.

Table III-8
Historical and Cultural Organizations or Activities

| Type | Organization or Activity | Building or Activity Location |
|-----------------------------|---|--------------------------------------|
| Historical Organizations | Historical Society | 311 Pembroke Street |
| | Pembroke Old Home Day Committee | 50 Glass Street |
| | Meet Me in Suncook | 160 Main Street |
| Community Gathering Places | Pembroke Town Library | 315 Pembroke Street |
| | Memorial Field | 45 Pleasant Street |
| | White Sands Conservation Area | White Sands Road |
| | Town Hall | 311 Pembroke Street |
| | Pembroke Academy | 209 Academy Road |
| Activities for Young Adults | Boy Scouts & Cub Scouts | 310 Pembroke Street |
| | Girl Scouts & Brownies | Varies |
| | 4-H | Varies |
| | Tennis Program (youth and adults) | 209 Academy Road |
| | Swimming Program (grades 2-8) | Southern NH University, Hooksett, NH |
| | Suncook Youth Basketball (boys and girls, grades 4-6) | All Pembroke School Gymnasiums |
| | Summer Recreation Program (grades 2-8) | 45 Pleasant Street |
| | Adult Open Gym | 243 Academy Road |
| | Suncook Babe Ruth (baseball/boys 13-15) | 45 Pleasant Street |
| | Suncook Little League (baseball/boys & softball/girls 5-18) | 45 Pleasant Street |
| | Suncook Sharks (co-ed soccer 8-14) | 45 Pleasant Street |
| | Suncook Youth soccer (co-ed 4-18) | 45 Pleasant Street |
| Activities for Seniors | Moving and Motivated Senior's Group | 311 Pembroke Street |
| Church Organizations | Hillside Baptist Church | 547 Pembroke Street |
| | First Congregational Church, UCC | 310 Pembroke Street |
| | Grace Capital Church | 209 Pembroke Street |
| | Suncook United Methodist Church | 160 Main Street |
| Service Clubs | Veterans of Foreign Wars (VFW) | 43 Church Street |
| | Masonic Lodge | 144 Main Street |
| | American Legion Post 28 | 3 Glass Street |

Source: 2004 Hazard Mitigation Plan; Subcommittee Input

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SUMMARY

The inclusion of Historic and Cultural Resources as a part of Pembroke's Master Plan serves two main goals. The first is to respond to the town survey done in 2003 where 67% of the respondents wanted Pembroke's history kept alive for our future residents to comprehend. The second is to serve as a guide to all private and governmental developments and improvements that occur here in Pembroke.

The intent here is not to repeat the town history but rather to give a synopsis of what and where to seek guidance. The appendix pages III-46 through III-49 lists available publications pertinent to Pembroke. "A Pembroke History" by Charles Whittemore, "Old Suncook Revitalization" by N H Historic Society, "Pembroke Town History" by Pembroke Historical Society and Pembroke Bicentennial Commemorative Booklet are good initial reference resources. "A History of Pembroke" by Cater/McClintock has listed locations for historical information of the town.

A look at the Carter/ McClintock a “History of Pembroke” shows that three major main roadways, Route 3, Buck Street and North Pembroke Road, were the major travel usage of our history. Travel throughout the town by Pembroke’s residents will be over the same major highways of the past and present where much of the cultural and historic resources exist. Care has to be taken to identify and preserve these resources, as the need for travel improvements is required. The importance of rivers in our past and the potential they present for the future should also be remembered. These are concerns that need attention as any improvements are planned and implemented.

Town commissions, officials, agencies, boards, as well as private developers need to direct their concerns as to where we have been and where we are proceeding.

The immediate need is to create and detail the task of a heritage committee or maybe the authority of a commission so as to direct on an advisory status to town and private agencies ways and means to preserve our historical and cultural background.

Page III-2 and page III-3 lists Chapter Objectives and Recommendations and divides them into three categories, guide, retain and a third awareness. Enactment of ordinances or regulations can be accomplished after thoughtful input by town inhabitants, town boards, town committees, town commissions, developers and various state agencies. Task completions where cultural and historic features of Pembroke are identified will be necessary to begin preservation of our past. Verbal and written communication with actual facts, town needs and stated purposes will be essential to achieve the recommended objectives. The Subcommittee’s designation of priority and logical lead agency is a best idea and should be reviewed periodically as new and changed activities occur in the Town of Pembroke.

- Respectfully Submitted, George Fryer, Historic and Cultural Resources Subcommittee Chair

Chapter IV DEMOGRAPHICS

INTRODUCTION

This Chapter focuses on the various facets and segments of the population of Pembroke, including migration patterns, historical trends, demographics, as well as projections for future growth. The information in this Chapter is presented so that it may be compared with other municipalities in the Central New Hampshire Region, Merrimack County, and the State. Information presented in this chapter has been derived from the Office of Energy and Planning (formerly the Office of State Planning), United States Bureau of Census, the New Hampshire Bureau of Vital Statistics, and the New Hampshire Bureau of Employment Security.

The 2000 US Census data was supplemented by estimates from the NH Office of Energy and Planning for the recent years in between the decennial Census. In addition, the Community Survey results, representing % of households and out-of-town property owners in Pembroke, yielded interesting numbers for comparison purposes.

The findings in the DEMOGRAPHICS CHAPTER in particular, of all those in the Master Plan, have a profound effect on the rest of the Chapters because it becomes the basis upon which all others are written. Population growth creates pressure on Town services and facilities, the building of new homes, and the reduction of open space. Although the Recommendations stated in this Chapter are specific only to this Chapter, they have a direct influence on each of the remaining Chapters of the 2004 Master Plan.

In order to grow in an economically practical manner and preserve the rural character of the Upland area desired by Pembroke residents, the promotion of smart growth is the key facet in this Chapter of the 2004 Master Plan.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These Objectives were developed as a result of Subcommittee analysis and interpretation of the data contained within the following chapter and from concerns raised from Pembroke residents and landowners from the Community Survey. They are listed in the beginning to give the reader the opportunity to view the results without reading through the entire Chapter.

- To analyze growth trends (total growth, population, housing density) and its relationship to the trends of the surrounding area.
 - Utilize the Demographics Chapter to develop the Growth Management Ordinance.
 - Revise the Impact Fee Ordinance using the data within the Demographics Chapter.
 - Utilize the Demographics Chapter for Zoning Ordinance revisions, including those relative to density and location.

- To analyze changing socioeconomic characteristics such as family size, age, income, education, and profession.
 - Compile factual information for the purposes of predicting future development and impact to Town infrastructure.
 - Partner with local businesses and the school to encourage students to complete high school and obtain further career training and education.

- To change the perception of Pembroke as a “bedroom community” to create a positive commercial image and increase the tax base.
 - Make the business area more sound and attractive to business ventures by revising the addressing and zip codes.
 - Work with the Economic Development Committee to promote increased business investments in the community.

COMMUNITY SURVEY RESULTS

The March 2003 Community Survey yielded 780 replies from 2956 surveys distributed, which equals a 26.4% return rate. The following questions were pertinent to the DEMOGRAPHICS CHAPTER. The full survey results are displayed in the APPENDIX CHAPTER.

How long have you lived in Pembroke?

Over 60% of the survey respondents have lived in Pembroke for more than 10 years. Approximately 6% lived in Pembroke less than a year.

What type of schooling do children (pre-K through grade 12) in your household attend?

The majority of respondents, 82%, checked that their children attended public school.

Please write the number of adults in your household for each age group.

The majority of adults, greater than 60%, were between the ages of 35 and 64. Approximately 17% of the adults in the households were over the age of 65.

Please write in the number of people employed in your household for each person 16 years old and older next to the appropriate professions.

The highest percentage of respondents, 11%, worked as professionals. Retail, health care, and government had the next highest percentages of employees between 9% and 10%.

POPULATION SECTION

The primary sources of information used for this segment of the Chapter were from the US Census, Town Reports, and the NH Office of Energy and Planning (formerly the Office of State Planning). It is critical to know how many people have resided in Pembroke, how many are presently residents, and to have an understanding for how the Town may grow in the future. In short, over the last ten years between 1990 and 2000, the population of Pembroke grew 8% according to the 2000 Census. This level of growth is among the lowest in the Central New Hampshire Region.

POPULATION TRENDS

An analysis of the actual population numbers from Pembroke from past to present will show trends of growth and decline. The trends are indicative of recent economic booms or recessions, or in the early years of Pembroke, of industrialization, war, and disease. Historical and current data assist in making predictions for future population counts.

Historical Trends

Table IV-1 shows the population figures and comparative rates of growth in Pembroke, Merrimack County, and the State of New Hampshire since 1767.

Table IV-1
Historical Population Trends 1767-2000

| Year | Town of Pembroke | | Merrimack County | | State of New Hampshire | |
|------|------------------|----------|------------------|----------|------------------------|----------|
| | Population | % change | Population | % change | Population | % change |
| 1767 | 557 | -- | 3,477 | -- | 52,672 | -- |
| 1773 | 666 | 19.6% | 6,715 | 93.1% | 73,097 | 38.8% |
| 1783 | 744 | 11.7% | 7,337 | 9.3% | 64,994 | -11.1% |
| 1790 | 956 | 28.5% | 17,869 | 143.5% | 141,885 | 118.3% |
| 1800 | 982 | 2.7% | 24,319 | 36.1% | 183,858 | 29.6% |
| 1810 | 1,153 | 17.4% | 29,032 | 19.4% | 214,460 | 16.6% |
| 1820 | 1,256 | 8.9% | 34,281 | 18.1% | 244,161 | 13.8% |
| 1830 | 1,312 | 4.5% | 36,490 | 6.4% | 269,328 | 10.3% |
| 1840 | 1,336 | 1.8% | 38,052 | 4.3% | 284,574 | 5.7% |
| 1850 | 1,733 | 29.7% | 42,225 | 11.0% | 317,976 | 11.7% |
| 1860 | 1,313 | -24.2% | 43,273 | 2.5% | 326,073 | 2.5% |
| 1870 | 2,518 | 91.8% | 42,947 | -0.8% | 318,300 | -2.4% |
| 1880 | 2,797 | 11.1% | 46,300 | 7.8% | 346,991 | 9.0% |
| 1890 | 3,172 | 13.4% | 49,435 | 6.8% | 376,530 | 8.5% |
| 1900 | 3,183 | 0.3% | 52,430 | 6.1% | 411,588 | 9.3% |
| 1910 | 3,062 | -3.8% | 53,335 | 1.7% | 430,572 | 4.6% |
| 1920 | 2,563 | -16.3% | 51,770 | -2.9% | 443,083 | 2.9% |
| 1930 | 2,792 | 8.9% | 56,152 | 8.5% | 465,293 | 5.0% |
| 1940 | 2,769 | -0.8% | 60,710 | 8.1% | 491,524 | 5.6% |
| 1950 | 3,094 | 11.7% | 63,022 | 3.8% | 533,242 | 8.5% |
| 1960 | 3,515 | 13.6% | 67,785 | 7.6% | 606,921 | 13.8% |
| 1970 | 4,261 | 21.2% | 80,925 | 19.4% | 737,681 | 21.5% |
| 1980 | 4,861 | 14.1% | 98,302 | 21.5% | 920,610 | 24.8% |
| 1990 | 6,561 | 35.0% | 120,005 | 22.1% | 1,109,252 | 20.5% |
| 2000 | 6,897 | 5.1% | 136,225 | 13.5% | 1,235,786 | 11.4% |

Sources: Historical US Census Data and Population Counts from Historical Record, NH Office of Energy and Planning

In the year 1800, 982 people resided in Pembroke while the entire population of Merrimack County reached 24,319. In that year, the Town experienced merely a 2.7% growth from the previous decade while Merrimack County experienced 36.1% and the State as a whole experienced 29.6% growth.

In the year 1900, 3,183 people lived in Pembroke and 52,430 lived in Merrimack County. Pembroke experienced only a 0.3% rate of growth since 1890 while Merrimack County had a 6.1% increase and the State's population increased 9.3%. Between most measured years between 1767 and 1920, Pembroke's rate of growth was comparatively slower than that of the County and the State. One marked exception is 1870, where Pembroke grew 91.8% compared to the County (a decline of 0.8%) and the State (a decline of 2.4%).

As shown in Table IV-1, in the year 2000, Pembroke's total population reached 6,897, yielding a 5.1% increase from the previous decade. Over that same period, the County's population increased comparatively 13.5% and the State by 11.4%. It is reasonable to state that Pembroke's population growth rate has been below that of Merrimack County and the State of New Hampshire since records have been kept with the exceptions of the historical figures of 1850, 1870, 1880, 1890 and the recent history of 1930, 1950, 1960, 1970, and 1990.

Table IV-2
Relative Shares of Population, 1767-2000

| Year | Pembroke Population | Pembroke as % of County | Pembroke as % of State |
|------|------------------------|----------------------------|---------------------------|
| 1767 | 557 | 16.0% | 1.1% |
| 1773 | 666 | 9.9% | 0.9% |
| 1783 | 744 | 10.1% | 1.1% |
| 1790 | 956 | 5.4% | 0.7% |
| 1800 | 982 | 4.0% | 0.5% |
| 1810 | 1,153 | 4.0% | 0.5% |
| 1820 | 1,256 | 3.7% | 0.5% |
| 1830 | 1,312 | 3.6% | 0.5% |
| 1840 | 1,336 | 3.5% | 0.5% |
| 1850 | 1,733 | 4.1% | 0.5% |
| 1860 | 1,313 | 3.0% | 0.4% |
| 1870 | 2,518 | 5.9% | 0.8% |
| 1880 | 2,797 | 6.0% | 0.8% |
| 1890 | 3,172 | 6.4% | 0.8% |
| 1900 | 3,183 | 6.1% | 0.8% |
| 1910 | 3,062 | 5.7% | 0.7% |
| 1920 | 2,563 | 5.0% | 0.6% |
| 1930 | 2,792 | 5.0% | 0.6% |
| 1940 | 2,769 | 4.6% | 0.6% |
| 1950 | 3,094 | 4.9% | 0.6% |
| 1960 | 3,515 | 5.2% | 0.6% |
| 1970 | 4,261 | 5.3% | 0.6% |
| 1980 | 4,861 | 4.9% | 0.5% |
| 1990 | 6,561 | 5.5% | 0.6% |
| 2000 | 6,897 | 5.1% | 0.6% |

Source: Historical US Census Data and Population Counts from Historical Records,
NH Office of State Planning and US Census 2000, April 2001

In the 1700s Pembroke bore a larger proportion of the County and State population than in later years. Another period, in the late 1880's, Pembroke's share peaked once again at 6.4% in 1880. In the present day, Pembroke has consistently bore around 5% of the relative share of the County's population. Since 1800, Pembroke's share of the State population has hovered consistently between 0.4% and 0.8%.

Table IV-3
Overall Population and Housing Growth Trends, 1970 - 2000

| Growth | Population | Net Change | | Total Housing Units | Net Change | |
|-------------------------------|------------|------------|-------|---------------------|------------|-------|
| | | # | % | | # | % |
| 1970 * | 4,261 | NA | NA | 1,386 | NA | NA |
| 1980 | 4,861 | 600 | 14.1% | 1,828 | 442 | 31.9% |
| 1990 | 6,561 | 1,700 | 35.0% | 2,536 | 708 | 38.7% |
| 2000 | 6,897 | 336 | 5.1% | 2,734 | 198 | 7.8% |
| Total Change from 1970 - 2000 | | 2,636 | 61.9% | | 1,348 | 97.3% |

Sources: 1970 and 1990 US Census CPH-2-31 Table 9 Population and Housing Unit Counts; US Census 2000 Data
*1970 Housing Units figure does not include seasonal and migratory units

Between 1970 and 2000, Pembroke's population increased 61.9% although in the last decade (1990 and 2000), population rose only 5.1%. The high jump over the last forty years can be attributed to an outstanding 35.0% increase in the 1980s. Although the number of housing units has increased 97.3% since 1970, the last decade saw the smallest growth in homes (7.8%) versus the 31.9% from 1970 and 1980 and the 38.7% in the 1980s. It is reasonable to state that the proportion of growth in Pembroke has slowed over the past decade since 1990.

Current Trends

Table IV-4 shows current population trends in Pembroke and the communities that border it. All areas have experienced different degrees of population growth in the last decade.

Table IV-4
Current Population Trends, 1970-2000
Pembroke and Abutting Communities

| | 1970 | 1980 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Allenstown | 2,732 | 4,398 | 4,649 | 4,606 | 4,601 | 4,631 | 4,712 | 4,742 | 4,839 | 4,823 | 4,850 | 4,992 | 4,843 |
| Bow | 2,479 | 4,015 | 5,500 | 5,550 | 5,586 | 5,681 | 5,817 | 5,919 | 6,093 | 6,406 | 6,503 | 6,633 | 7,138 |
| Chichester | 1,083 | 1,492 | 1,942 | 1,955 | 1,972 | 1,992 | 2,010 | 2,021 | 2,046 | 2,072 | 2,115 | 2,159 | 2,236 |
| Concord | 30,022 | 30,400 | 36,006 | 36,059 | 36,364 | 36,762 | 37,010 | 37,290 | 37,850 | 37,925 | 38,180 | 38,318 | 40,687 |
| Epsom | 1,469 | 2,743 | 3,591 | 3,613 | 3,645 | 3,702 | 3,763 | 3,742 | 3,834 | 3,866 | 3,896 | 3,971 | 4,021 |
| Loudon | 1,707 | 2,454 | 4,114 | 4,239 | 4,246 | 4,300 | 4,340 | 4,358 | 4,437 | 4,504 | 4,553 | 4,635 | 4,481 |
| Pembroke | 4,261 | 4,861 | 6,561 | 6,533 | 6,542 | 6,600 | 6,619 | 6,636 | 6,688 | 6,724 | 6,733 | 6,777 | 6,897 |

Source: NH Office of State Planning 1991-1999 Population Estimates of NH Cities and Towns;
1990 US Census STF1A (P1); 2000 US Census

The numbers for the decades in Table IV-4 were from the actual US Census figures while the 1991 through 1999 numbers were taken from population estimates from the NH Office of Energy and Planning. Pembroke is not the only town in the immediate area which experienced large population growth since 1970; Bow nearly tripled in size from 2,479 persons in 1970 to 7,138 in 2000.

Table IV-5 displays the rate of population growth Pembroke experienced between 1990 and 2000 as compared to abutting communities.

Table IV-5
Population Increase, 1990-2000

| Pembroke and Abutting Communities | % Increase, 1990-2000 |
|-----------------------------------|-----------------------|
| Allenstown | 4.2% |
| Bow | 29.8% |
| Chichester | 15.1% |
| Concord | 13.0% |
| Epsom | 12% |
| Loudon | 8.9% |
| Pembroke | 5.1% |

Source: 1990 US Census & 2000 US Census

Although the growth rates have tapered off for all communities in the decade between 1990 and 2000, nonetheless several communities in the area experienced significant population growth. Bow experienced the high of 29.8% while Allenstown's population increased the lowest in the area at 4.2%. Pembroke grew the second slowest in the area at 5.1% in the 1990s.

Another measure of population growth can be measured vis-a-vis the capacity of a municipality's land area as population density.

Table IV-6
Population Density in Pembroke and Abutting Communities, 1960-2000

| Community | 2000 Population | Area in Square Miles (excluding water) | Persons per square mile | | | |
|-----------------|-----------------|--|-------------------------|------------|------------|------------|
| | | | 1970 | 1980 | 1990 | 2000 |
| Allenstown | 4,843 | 20.5 | 133 | 215 | 227 | 236 |
| w/o BBSP | 4,843 | 10.0 | 273 | 440 | 465 | 484 |
| Bow | 7,138 | 28.2 | 88 | 142 | 195 | 253 |
| Chichester | 2,236 | 21.2 | 51 | 70 | 92 | 106 |
| Concord | 40,687 | 64.0 | 469 | 475 | 563 | 636 |
| Epsom | 4,021 | 34.5 | 43 | 80 | 104 | 117 |
| Loudon | 4,481 | 46.0 | 37 | 53 | 89 | 97 |
| Pembroke | 6,897 | 22.6 | 189 | 215 | 290 | 305 |

Sources 2000 US Census; NH Office of State Planning 1970-1999 Population Estimates of NH Cities and Towns; 2000 NH OSP Total Land Area Figures for NH Cities and Towns (figures are rounded)

*Allenstown's second density is portrayed when Bear Brook State Park's acreage is factored out of the total land area for the Town

In Table VI-6, the greatest population density found in the area is in Concord at 636 persons per square mile in 2000. The second most dense town is Pembroke at 305 persons per square mile. Pembroke is the third smallest town in the area at only 22.6 square miles. If the land acreage of Bear Brook State Park were removed from Allenstown's livable area, the Town would be the second most dense town at 484 persons per square mile.

Table IV-7
Births and Deaths, 1960-2002

| Year | Births | Deaths | Natural Increase | Year | Births | Deaths | Natural Increase | Year | Births | Deaths | Natural Increase |
|------|--------|--------|------------------|------|--------|--------|------------------|------|--------|--------|------------------|
| 1960 | 66 | 33 | 33 | 1975 | 58 | 40 | 18 | 1990 | 81 | 28 | 53 |
| 1961 | 79 | 52 | 27 | 1976 | 53 | 45 | 8 | 1991 | 81 | 28 | 53 |
| 1962 | 87 | 32 | 55 | 1977 | 52 | 44 | 8 | 1992 | 75 | 26 | 49 |
| 1963 | 67 | 28 | 39 | 1978 | 55 | 28 | 27 | 1993 | 73 | 34 | 39 |
| 1964 | 84 | 40 | 44 | 1979 | 50 | 29 | 21 | 1994 | 67 | 30 | 37 |
| 1965 | 75 | 40 | 35 | 1980 | 77 | 39 | 38 | 1995 | 71 | 38 | 33 |
| 1966 | 72 | 33 | 39 | 1981 | 61 | 40 | 21 | 1996 | 82 | 36 | 46 |
| 1967 | 79 | 45 | 34 | 1982 | 64 | 36 | 28 | 1997 | 62 | 31 | 31 |
| 1968 | 62 | 40 | 22 | 1983 | 59 | 29 | 30 | 1998 | 63 | 29 | 34 |
| 1969 | 72 | 44 | 28 | 1984 | 63 | 42 | 21 | 1999 | 55 | 48 | 7 |
| 1970 | 76 | 54 | 22 | 1985 | 86 | 30 | 56 | 2000 | 55 | 39 | 16 |
| 1971 | 67 | 35 | 32 | 1986 | 87 | 47 | 40 | 2001 | 60 | 34 | 26 |
| 1972 | 72 | 36 | 36 | 1987 | 92 | 35 | 57 | 2002 | 61 | 31 | 30 |
| 1973 | 72 | 43 | 29 | 1988 | 86 | 34 | 52 | | | | |
| 1974 | 59 | 42 | 17 | 1989 | 81 | 33 | 48 | | | | |

Source: Town Reports

Not only does in-migration account for a large proportion of population growth, but the natural increase in a Town's population affects the number of people living in any particular Town. From Table IV-7, between 1960 and 2002, Pembroke experienced a total natural increase of 1,419 people. This averages to 33 persons per year by natural increase. Since the total population of Pembroke rose from 3,515 in 1960 (Table IV-2) to 6,897 in 2000, the total growth is 3,382 persons. Of this number, 1,363 were born in the Town of Pembroke through 2000, thus the migration of new people into the Town was 2,019 people between 1960 and 2000.

Population Projections

While it is important for any community to plan ahead for an anticipated increase in population, which in turn increases pressure on community services and facilities, this section should be taken lightly as new population projections have not been produced by the Office of Energy and Planning since the 2000 Census of population was released. Old figures, which are the numbers most currently available, were used in the creation of these comparisons.

In Table IV-8, projected future population growth was calculated based upon the community's historical share of the County's population. It shows the projected population for Pembroke and abutting communities. Nevertheless, as Pembroke grows, provisions need to be made for the increased demand on Town services and infrastructure.

Table IV-8
Population Projections, 2005-2025

| Pembroke and Abutting Communities | | | | |
|-----------------------------------|--------------|--------------|--------------|--------------|
| Towns | 2005 | 2010 | 2015 | 2020 |
| Allenstown | 5,130 | 5,420 | 5,680 | 5,950 |
| Bow | 7,890 | 8,720 | 9,590 | 10,450 |
| Chichester | 2,430 | 2,600 | 2,760 | 2,920 |
| Concord | 42,780 | 45,230 | 47,550 | 49,870 |
| Epsom | 4,360 | 4,630 | 4,900 | 5,160 |
| Loudon | 4,810 | 5,110 | 5,410 | 5,710 |
| Pembroke | 7,290 | 7,750 | 8,210 | 8,670 |

Source: NH Office of State Planning Municipal Population Projections 2005-2025, March 2003

All projections should be reviewed with care, as no methodology is perfect enough to predict what an actual future count would be. It should be noted that the projections were developed before the 2000 Census was available. For instance, Bow's 2005 population is around 600 persons less than it was determined through the 2000 Census. Tables IV-9 and IV-10 share similar inherent problems where projections into 2010 and 2020 are given.

According to Table IV-8, Pembroke's projected population could reach 8,000 residents between 2010 and 2015. By 2020, Concord should have nearly 50,000 people living in the City. The other area communities are projected to continue growing as well.

Table IV-9
Actual Population Growth and Projections, 1960-2020

| Year | Town of Pembroke | | Merrimack County | | State of New Hampshire | |
|------|------------------|----------|------------------|----------|------------------------|----------|
| | Population | % change | Population | % change | Population | % change |
| 1960 | 3,515 | ~ | 67,785 | 7.6% | 606,921 | 13.8% |
| 1970 | 4,261 | 21.2% | 80,925 | 19.4% | 737,681 | 21.5% |
| 1980 | 4,861 | 14.1% | 98,302 | 21.5% | 920,610 | 24.8% |
| 1990 | 6,561 | 35.0% | 120,005 | 22.1% | 1,109,252 | 20.5% |
| 2000 | 6,897 | 5.1% | 136,225 | 13.5% | 1,235,786 | 11.4% |
| 2010 | 7,750 | 12.4% | 145,510 | 3.7% | 1,385,210 | 12.1% |
| 2020 | 8,670 | 11.9% | 155,280 | 10.5% | 1,523,680 | 10.0% |

Sources: 1960-1990 US Census STF1A (P1); US Census 2000, DP-1;
NH Office of State Planning Municipal Population Projections 2005-2025, March 2003

The projections depicted in Table IV-9 indicate that Pembroke may grow proportionately more quickly than Merrimack County and the State. Between 2000 and 2010, Pembroke is projected to grow 12.4% while the County should grow more slowly at 3.7%. This projected trend is the opposite of which was found in the relative shares of historical population in Table IV-2.

Table IV-10
Projected Population Density, 2000-2020
 Pembroke and Abutting Communities

| Towns | Square Miles (excluding water) | Persons per Square Mile | | | | |
|-----------------|--------------------------------------|-------------------------------|------------|------------|------------|------------|
| | | Projected (*Actual 2000 Data) | | | | |
| | | 2000 | 2005 | 2010 | 2015 | 2020 |
| Allenstown | 20.5 | 236 | 250 | 264 | 277 | 290 |
| w/o BBSP* | 10.0 | 484 | 513 | 542 | 568 | 595 |
| Bow | 28.2 | 253 | 280 | 309 | 340 | 371 |
| Chichester | 21.2 | 106 | 115 | 123 | 130 | 138 |
| Concord | 64.0 | 636 | 668 | 707 | 743 | 779 |
| Epsom | 34.5 | 117 | 126 | 134 | 142 | 150 |
| Loudon | 46.0 | 97 | 105 | 111 | 118 | 124 |
| Pembroke | 22.6 | 305 | 323 | 343 | 363 | 384 |

*Sources: Source: NH Office of State Planning Municipal Population Projections 2005-2025, March 2003;
 US Census 2000 *Bear Brook State Park*

In Table IV-10, the densities for all area towns, including Pembroke, are anticipated to increase. By the year 2020, Pembroke's density is projected to increase from 305 persons per square mile to 384, a 25.9% increase. Bow's density is expected to increase 46.6%, the highest in the area, while Concord's density will increase by the lowest percentage in the area at 22.5%.

POPULATION CHARACTERISTICS

Knowing not only the numbers of people living in Pembroke but also the characteristics of the residents is the key to adequately planning for Pembroke's future needs. These needs will include recreational opportunities, Town services, education, and support services.

Population by Age

The age of a population group is important in determining if sufficient means for daycare, schooling, housing, employment, and senior services exist within a community. Tables IV-11 and IV-12 were derived from the Community Survey Results.

Table IV-11
Ages of Children in Survey Households (from Community Survey)

| Ages | Number | Percent |
|------------------|--------|---------|
| Less than 1 year | 16 | 3.1% |
| 1-2 years | 51 | 10.0% |
| 3-4 years | 46 | 9.0% |
| 5-6 years | 45 | 8.8% |
| 7-8 years | 59 | 11.6% |
| 9-10 years | 66 | 13.0% |
| 11-12 years | 57 | 11.2% |
| 13-14 years | 68 | 13.4% |
| 15-16 years | 62 | 12.2% |
| 17-18 years | 39 | 7.7% |
| Total | 509 | 100.0% |

Source: Community Survey Results

As shown in Table IV-11 and IV-12, the proportion of children under the age of 20 (509) to adults over the age of 20 (1033) is nearly 1:2. This could be attributed to the number of middle-aged people with children completing the Community Surveys, as indicated by the high numbers of 239 35-44 year olds and 250 45-54 year olds in Table IV-12.

Table IV-12
Ages of Adults in Survey Households (from Community Survey)

| Ages | Number | Percent |
|------------------------|--------|---------|
| 20-24 years old | 71 | 6.9% |
| 25-34 years old | 135 | 13.1% |
| 35-44 years old | 239 | 23.1% |
| 45-54 years old | 250 | 24.2% |
| 55-64 years old | 164 | 15.9% |
| 65-74 years old | 96 | 9.3% |
| 75-84 years old | 66 | 6.4% |
| 85 years old and older | 12 | 1.2% |
| Total | 1033 | 100.0% |

Source: Community Survey Results

The percentages of ages for each cohort, or group, in the 2000 Census do not correlate well to the findings of the Community Survey (Tables IV-11 and IV-12), as indicated in Table IV-13. This is attributed to the percentage of ages of children and ages of adults as opposed to percentage of ages of the entire population.

Table IV-13
Pembroke Population by Age

| Age Group | Number of Persons by Age and % of Age Group | | | | | | | |
|-----------|---|-------|-------|--------|-------|--------|-------|--------|
| | 1970 | % | 1980 | % | 1990 | % | 2000 | % |
| 0 to 4 | 414 | 9.7% | 325 | 6.7% | 522 | 8.0% | 383 | 5.6% |
| 5 to 14 | 886 | 20.8% | 825 | 17.0% | 1,022 | 15.6% | 1,017 | 14.7% |
| 15 to 24 | 652 | 15.3% | 796 | 16.4% | 812 | 12.4% | 996 | 14.4% |
| 25 to 34 | 529 | 12.4% | 888 | 18.3% | 1,385 | 21.1% | 630 | 9.1% |
| 35 to 44 | 524 | 12.3% | 570 | 11.7% | 1,127 | 17.2% | 954 | 13.8% |
| 45 to 54 | 460 | 10.8% | 512 | 10.5% | 648 | 9.9% | 1,201 | 17.4% |
| 55 to 64 | 403 | 9.5% | 448 | 9.2% | 492 | 7.5% | 787 | 11.4% |
| 65 to 74 | 256 | 6.0% | 334 | 6.9% | 336 | 5.1% | 482 | 7.0% |
| 75+ | 137 | 3.2% | 163 | 3.4% | 217 | 3.3% | 447 | 6.5% |
| Total | 4,261 | 100% | 4,861 | 100.0% | 6,561 | 100.0% | 6,897 | 100.0% |

Source: OSP Comparison Binder of 70-80; 1970-90 US Census STF1A (P11 and P12)
1990 Census Binder and 2000 Census DP-1

The largest age group in Pembroke in the year 2000 was 45-54 (17.4%), followed closely by children 5 to 14 (14.7%) and young adults 15 to 24 (14.4%). When examining the 1990 figures, the largest cohorts were 25 to 34 (21.1%) with 35 to 44 (17.2%) following. These indicate a continuation of the aging population. Since 1970, the population in Pembroke has clearly been aging as better health care has become available and longevity rates have been increasing. The number of 5 to 14 year old children has been slowly decreasing from 1970 at a high of 20.8% to a low in 2000 of 14.7%.

Table IV-14
Percentage of Population by Age Group, 2000

| Age Group | Census 2000 6,897 people |
|-----------|-----------------------------|
| under 19 | 28.2% |
| 20 to 34 | 15.6% |
| 35 to 44 | 13.8% |
| 45 to 64 | 28.8% |
| 65+ | 13.5% |
| Total | 100.0% |

Source: 2000 US Census DP-1; numbers have been rounded

Table IV-14 portrays the simple percentage of population for each of the main cohorts. Adults aged 45 to 64 (28.8%) form the largest group of Pembroke residents while children under 19 are the second largest group (28.2%). Seniors comprise 13.5% percent of Pembroke's population, and that number is sure to rise over the coming decade.

Total population in Pembroke per Census block is illustrated on the *2000 Population (Census Block) Map* utilizing 2000 data in a gradation pattern. The Census blocks, determined by the US Census Bureau, divide the Town into over 120 different areas to collect and display demographic data. The largest concentrations of people, depicted in the darkest colors, are found between Pembroke Street and the Merrimack River (between Bow Lane and the Suncook River), and between Brickett Hill Lane and Pembroke Hill Road. The lightest concentrations are located between 3rd and 4th Range Roads between Pembroke Hill Road and Church Road and along Route 28 north of Buck Street.

K-8 School Enrollment (Pembroke School District)

One of the largest population groups to plan for is school-age children. The kindergarten through grade eight ages of children roughly encompasses the 5 to 14 age cohort. In Table IV-13, there were 1,017 children in this age group. According to Table IV-15 above, 843 children were enrolled in K-8 classes in Pembroke.

Table IV-15
Elementary School 2002-2003 Enrollment

| School and Grade | Enrollment 2002-2003 | Enrollment 2003-2004 | School Board Maximum Capacity | % of Maximum Capacity |
|-------------------------|-------------------------|-------------------------|-------------------------------------|-----------------------------|
| Pembroke Village School | --- | 168 | 198 | 85% |
| Pembroke Hill School | --- | 305 | 330 | 93% |
| Pre-K | n/a | --- | --- | --- |
| K | 82 | --- | --- | --- |
| 1 | 93 | --- | --- | --- |
| 2 | 101 | --- | --- | --- |
| 3 | 84 | --- | --- | --- |
| 4 | 81 | --- | --- | --- |
| <i>Subtotal</i> | <i>441</i> | <i>473</i> | <i>528</i> | <i>---</i> |
| Three Rivers School | --- | 388 | 475 | 82% |
| 5 | 100 | --- | --- | --- |
| 6 | 99 | --- | --- | --- |
| 7 | 103 | --- | --- | --- |
| 8 | 100 | --- | --- | --- |
| <i>Subtotal</i> | <i>402</i> | <i>388</i> | <i>---</i> | <i>---</i> |
| Total | 843 | 861 | 1,003 | 86% |

Source: Pembroke School District; Growth Management Report 2003

Within Table IV-15, maximum capacities of students per school as determined by the School Board are displayed. Recommended capacities are near or are above 100%, and the Department of Education's maximums fall within a 70% to 82% range. However, in Table IV-16, the trends seem to indicate a reduction in the number of students over the last few years.

Table IV-16
Pembroke K-8 School Growth Trends, 1997-2002

| Year | Town Population | Growth % | Enrollment | Growth % | Pop per Pupil % |
|--------------|-----------------|----------|------------|----------|-----------------|
| 1997 | 6,724 | n/a | 887 | n/a | 13.2% |
| 1998 | 6,733 | 0.1% | 848 | -4.4% | 12.6% |
| 1999 | 6,777 | 0.7% | 818 | -3.5% | 12.1% |
| 2000 | 6,897 | 1.8% | 824 | 0.7% | 11.9% |
| 2001 | 6,989 | 1.3% | 845 | 2.6% | 12.1% |
| 2002 | n/a | n/a | 843 | -0.2% | n/a |
| Total Growth | 265 | 3.9% | -44 | -5.0% | |

Sources: School Reports in Town Reports;
NH Office of State Planning 1991-1999 Population Estimates of NH Cities and Towns

In the year 2000, 824 students were enrolled from a total population of 6,897, yielding a population per pupil percentage of 11.9%. Since 1997, enrollment has made an overall drop from a high of 887 students in 1997 to 843 students in 2002, resulting in an overall growth over the six-year period of -5.0%. Since area towns send their young students to their own schools, these numbers are not affected by tuition students. Table VI-13 displayed a continuing drop in the number of children ages 5 to 14 since 1970. If this trend is continued, fewer young children will be attending kindergarten through eighth grade in Pembroke.

Household Size

The number of persons per household is indicative of sprawl patterns, social constructs, and economic circumstances. After a 1970 boom, the trend since 1980 seems to indicate that the number of persons per household in Pembroke is remaining relatively constant.

Table IV-17
Average Household Size

| | 1970 | 1980 | 1990 | 2000 |
|-----------------------|------|------|------|------|
| Persons per household | 3.2 | 2.5 | 3.1 | 2.6 |

Source: 1980, 1990, 2000 US Census; NH Association of Regional Planning Commissions website

Table IV-17 illustrates that 2.6 persons lived in Pembroke households in 2000. While the number of housing units in town has increased by 198 (Table IV-3) and the population by 336 (Table IV-3), the decrease in the number of people per household between 1990 and 2000 is indicative of smaller families and more singles and elderly couples living in Pembroke than in 1990.

Living in Pembroke

The Community Survey yielded interesting information about where people live and how long they have resided in Pembroke. Table IV-18 does not represent the geographic distribution of Pembroke residents but does illustrate the area that people who responded to the Community Survey live in.

Table IV-18
Area of Residency (from Community Survey)

| Area | Number of Households | Percent |
|-----------------------|----------------------|---------|
| Pembroke Street Area | 264 | 35.8% |
| Pembroke Village Area | 154 | 20.9% |
| Buck Street Area | 124 | 16.8% |
| Upland Area | 195 | 26.5% |
| Total | 737 | 100.0% |

Source: Community Survey Results

Table IV-18 displays that the majority of people answering as Pembroke residents live in the vicinity of Pembroke Street (35.8%), followed by those living in the upland area (26.5%). As shown in Table IV-19, over 45% of respondents have lived in Pembroke 21 or more years. According to Table IV-20, this group represents approximately 25% of the total population.

Table IV-19
Length of Time Living in Town (from Community Survey)

| Time Span | Number of Households | Percent |
|------------------|----------------------|---------|
| Less than 1 year | 41 | 5.6% |
| 1-5 years | 98 | 13.3% |
| 6-10 years | 103 | 14.0% |
| 11-20 years | 147 | 19.9% |
| 21-30 years | 158 | 21.4% |
| over 30 years | 191 | 25.9% |
| Total | 738 | 100.0% |

Source: Community Survey Results

Table IV-20
Length of Time Living in Town (US Census)

| Time Span | Number of Households | Percent |
|------------------|----------------------|---------|
| Less than 1 year | 328 | 12.3% |
| 1-5 years | 741 | 27.8% |
| 6-10 years | 421 | 15.8% |
| 11-20 years | 695 | 26.1% |
| 21-30 years | 226 | 8.5% |
| over 30 years | 250 | 9.4% |
| Total | 2,661 | 100% |

Source: 2000 US Census data

From Table IV-20, nearly 56% of households have resided in Pembroke for less than 10 years. Even though the homes in which people are residing may not be new, the number of people moving into Pembroke has been increasing tremendously.

Educational Attainment

Table IV-21 illustrates the educational attainment of Pembroke residents, residents of the communities that surround Pembroke, as well as the County totals.

Table IV-21
Educational Attainment, 2000
(Based on the population 25 years of age and above)*

| | Population* | less than 9th grade | | 9th-12th grade (no diploma) | | H.S. diploma or GED | |
|---------------------|--------------|---------------------|-------------|--------------------------------|-------------|---------------------|--------------|
| | | number | percent | Number | percent | number | percent |
| Allenstown | 3,202 | 323 | 10.1% | 323 | 10.1% | 1,283 | 40.1% |
| Bow | 4,556 | 54 | 1.2% | 194 | 4.3% | 945 | 20.7% |
| Chichester | 1,538 | 29 | 1.9% | 119 | 7.7% | 549 | 35.7% |
| Concord | 27,940 | 1,64 | 3.8% | 2,121 | 7.6% | 7,845 | 28.1% |
| Epsom | 2,822 | 87 | 3.1% | 245 | 8.7% | 967 | 34.3% |
| Loudon | 2,952 | 80 | 2.7% | 189 | 6.4% | 1,041 | 35.3% |
| Pembroke | 4,523 | 234 | 5.2% | 349 | 7.7% | 1,562 | 34.5% |
| Merrimack County | 91,278 | 3,611 | 4.0% | 7,198 | 7.9% | 27,044 | 29.6% |

| | Some College (no degree) | | Associate's Degree | | Bachelor's Degree | | Graduate Degree | |
|---------------------|-----------------------------|--------------|--------------------|--------------|----------------------|--------------|-----------------|-------------|
| | number | percent | number | percent | number | percent | number | percent |
| Allenstown | 755 | 23.6% | 207 | 6.5% | 219 | 6.8% | 92 | 2.9% |
| Bow | 873 | 19.2% | 420 | 9.2% | 1,378 | 30.2% | 692 | 15.2% |
| Chichester | 275 | 17.9% | 179 | 11.6% | 244 | 15.9% | 143 | 9.3% |
| Concord | 6,151 | 22.0% | 2,182 | 7.8% | 5,090 | 18.2% | 3,487 | 12.5% |
| Epsom | 548 | 19.4% | 342 | 12.1% | 493 | 17.5% | 140 | 5.0% |
| Loudon | 699 | 23.7% | 285 | 9.7% | 416 | 14.1% | 242 | 8.2% |
| Pembroke | 933 | 20.6% | 481 | 10.6% | 689 | 15.2% | 275 | 6.1% |
| Merrimack County | 18,823 | 20.6% | 8,029 | 8.8% | 17,126 | 18.8% | 9,447 | 10.3% |

Source: 2000 Census data

The Census question asked households to indicate the highest level of education each household member aged 25 and above had attained. Thirty-five percent (35%) of residents living in Pembroke stopped their education with a high school diploma or GED, a rate higher than that of the average for Merrimack County (29.6%). The percentage of Pembroke residents in possession of a Bachelor's or graduate degree (21.3%) was the second lowest of area towns, with Allenstown at a low of 9.7% and Bow at a high of 45.4%.

Table IV-23
Occupation of Employed Individuals over Age Sixteen, 1989 & 1999

| | 1989 | | 1999 | |
|---|--------|---------|--------|---------|
| | Number | Percent | Number | Percent |
| Employed individuals over age 16 | 3,687 | --- | 3,926 | --- |
| Managerial, professional, and related occupations | 1,109 | 30.1% | 1,202 | 30.6% |
| Sales and office occupations | 1,216 | 33.0% | 1,284 | 32.7% |
| Service occupations | 419 | 11.4% | 454 | 11.6% |
| Agriculture, forestry, fishing and hunting, and mining | 29 | 0.8% | 0 | 0.0% |
| Construction, extraction, and maintenance occupations | 364 | 9.9% | 420 | 10.7% |
| Production, transportation, and material moving occupations | 550 | 15.0% | 566 | 14.4% |

Source: 1990 & 2000 US Census; 1990 US Census Binder

The US Census also tracks the professions of residents. In Table IV-23, in 1999 32.7% of the Pembroke work force was employed in “sales and office” jobs. The next highest category was “managerial, professions, and related” occupations at 30.6%. The Census categories are more inclusive and less distinct, and are thus not directly comparable to the Community Survey results.

Commuting Patterns

The distance to employers has an effect on the ability of residents to travel to their place of employment. The greater the distance, the greater the hardship on residents. This hardship, which may manifest in the form of lower income or greater unemployment, can be reduced by shared transportation or by the availability of closer employment.

Table IV-24
Location of Work for Pembroke Residents

| Location of Work (over 10) | Number | Percent |
|----------------------------|--------|---------|
| Pembroke or Suncook | 123 | 11.4% |
| Allenstown | 35 | 3.2% |
| Bedford | 20 | 1.9% |
| Bow | 14 | 1.3% |
| Concord or Penacook | 393 | 36.4% |
| Hooksett | 65 | 6.0% |
| Londonderry | 12 | 1.1% |
| Manchester | 176 | 16.3% |
| Merrimack | 12 | 1.1% |
| Other NH Town | 133 | 12.3% |
| More than One NH Town | 47 | 4.3% |
| Other State | 41 | 3.8% |
| Boston, MA | 10 | 0.9% |
| Total | 1,081 | 100.0% |

Source: Community Survey Results

In Table IV-24, results from the Community Survey indicate that the highest percentage of Pembroke residents work in Concord or Penacook (36.4%). Manchester is the second highest single town (16.3%), although 12.3% travel to other towns which are not listed but which have less than 10 responses each. An astounding 11.4% work in Pembroke or Suncook, which is overall the third highest percentage to a single location. Still, 4.7% of Pembroke residents travel to another State or to Boston for employment.

Table IV-25
Pembroke Residents' Commuting Patterns, 1990

| | Number |
|--|--------|
| Estimated Residents Working (population 16 years and over 4,896) | 3,687 |
| Residents Commuting to Another Town | 3,616 |

Sources: 1990 Census Social & Economic Characteristics (CP-2-31) Tables 198 and 199

According to the 1990 Census (the 2000 numbers have not yet been released for this table), of the 3,687 Pembroke workers, 2% worked in Pembroke. The total population of 4,896 resulted in 75.3% of its residents working in 1990.

Table IV-26
Commuting Time for Area Residents, 1990 - 2000

| | Mean Travel Time to Work (minutes) | |
|------------------|------------------------------------|-------------|
| | 1990 | 2000 |
| Allenstown | 25.6 | 27.6 |
| Bow | 20.9 | 25.3 |
| Chichester | n/a | 25.9 |
| Concord | 17.8 | 20.5 |
| Epsom | 28.4 | 27.0 |
| Loudon | 25.5 | 25.1 |
| Pembroke | 22.3 | 24.3 |
| Merrimack County | 21.5 | 24.3 |

Source: 1990 Census Table 2, Social & Economic Characteristics and 2000 US Census, Selected Economic Characteristics

Between 1990 and 2000, the average commuting times for each area municipality increased. In Table IV-26, Concord residents both in 1990 (17.8 minutes) and in 2000 (20.5 minutes) had the shortest commute time. In 1990 and 2000, Allenstown had the longest commute time (25.6 minutes and 27.6 minutes, respectively). Pembroke residents added an additional two minutes to their commute over the last decade, from 22.3 minutes in 1990 to 24.3 minutes in 2000.

Employment in Pembroke

Of the entire population of the towns in the area, only a percentage of them are in the civilian employment labor force. Non-military professions are tabulated by the NH Department of Employment Security to track trends for employment taxes, worker's compensation, and unemployment compensation.

Table IV-27
Number of Civilians in the Labor Force, 1990 - 2002

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | % Change from '90-'02 |
|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|
| Allenstown | 2,530 | 2,370 | 2,280 | 2,330 | 2,360 | 2,420 | 2,370 | 2,530 | 2,540 | 2,590 | 2,700 | 2,730 | 2,740 | 8.3% |
| Bow | 2,778 | 3,154 | 3,204 | 3,347 | 3,685 | 3,781 | 3,728 | 3,855 | 4,043 | 4,082 | 4,236 | 4,243 | 4,440 | 59.8% |
| Chichester | 1,000 | 1,090 | 1,080 | 1,100 | 1,220 | 1,250 | 1,230 | 1,330 | 1,380 | 1,400 | 1,460 | 1,500 | 1,520 | 52.0% |
| Concord | 16,430 | 18,000 | 17,940 | 18,450 | 19,820 | 20,340 | 20,060 | 20,420 | 20,880 | 21,080 | 22,080 | 22,600 | 22,950 | 39.7% |
| Epsom | 1,560 | 1,660 | 1,690 | 1,700 | 1,870 | 1,920 | 1,890 | 2,040 | 2,110 | 2,130 | 2,230 | 2,290 | 2,320 | 48.7% |
| Loudon | 2,220 | 2,490 | 2,490 | 2,560 | 2,900 | 2,980 | 2,940 | 2,890 | 2,990 | 3,020 | 3,160 | 3,240 | 3,290 | 48.2% |
| Pembroke | 3,410 | 3,760 | 3,790 | 3,940 | 4,170 | 4,280 | 4,220 | 4,080 | 4,160 | 4,200 | 4,400 | 4,510 | 4,580 | 34.3% |

Source: NH Department of Employment Security – Nnetwork

Table IV-27 documents the number of civilians in the labor force. Since 1990, Pembroke's labor force has increased 34.3% from 3,410 to 4,580. It is the third lowest increase in the area, with Allenstown at the lowest increase (8.3%) and Bow the highest increase at 59.3%. Compared to the population increases during the 1990s, these findings roughly follow the same pattern. Allenstown had a 4.2% increase (the lowest), Bow had a 29.8% increase (the highest), and Pembroke had a 5.1% population increase (the second lowest) in the area between 1990 and 2000 (Table IV-5). These comparisons show that labor force is continuing to grow faster than the rate of population.

Unemployment

The unemployment figures are collected and made available by the NH Department of Employment Security. The baseline data from which the unemployment figures are calculated are the number of civilians in the labor force (Table IV-27).

Table IV-28
Unemployment Rate Trends, 1990 to 2000

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | % Change from '90-'00 |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|
| Allenstown | 5.9% | 7.4% | 9.2% | 6.8% | 4.9% | 4.5% | 4.7% | 3.0% | 3.2% | 2.8% | 2.6% | -3.3% |
| Bow | 3.0% | 3.8% | 3.8% | 3.1% | 2.0% | 1.6% | 1.9% | 2.0% | 1.9% | 1.6% | 1.8% | -1.2% |
| Chichester | 3.8% | 4.5% | 4.3% | 2.7% | 2.5% | 2.1% | 3.1% | 1.6% | 1.9% | 1.6% | 1.5% | -2.3% |
| Concord | 5.4% | 7.0% | 6.5% | 4.7% | 3.2% | 2.7% | 2.8% | 2.4% | 2.3% | 1.9% | 2.0% | -3.4% |
| Epsom | 5.3% | 8.7% | 7.7% | 5.5% | 3.6% | 3.3% | 4.1% | 3.3% | 3.2% | 2.8% | 3.3% | -2.0% |
| Loudon | 2.7% | 4.3% | 3.9% | 3.0% | 1.7% | 1.9% | 2.6% | 2.1% | 1.8% | 1.7% | 1.7% | -1.0% |
| Pembroke | 7.5% | 8.8% | 8.1% | 6.1% | 3.8% | 2.5% | 2.9% | 2.6% | 2.4% | 2.3% | 2.5% | -5.0% |

Source: NH Department of Employment Security – Nnetwork

In 1990, Pembroke had the largest unemployment rate of all area towns (7.5%), followed by Concord at 5.4%. In the year 2000, this unemployment rate has fallen dramatically to 2.5%, which is the third highest in the area with Epsom the highest at 3.3% and Chichester the lowest at 1.5%. Pembroke has seen the greatest positive change in unemployment rates, with a net change of -5.0%.

INCOME CHARACTERISTICS

Income is directly related to educational attainment (Table IV-21), and proximity to employment. Wages, per capita income, and household income of Pembroke residents as compared to area towns will portray the ability of Pembroke residents to make an adequate living and compete in the job market.

Wage Comparisons

The average weekly wage per worker and the number of available jobs in NH towns is published retroactively by the NH Department of Employment Security. These figures allow for the direct comparison of wages and the number of jobs one community has over a number years and additionally permits similar comparisons to conditions in abutting towns. It is important to differentiate the number of jobs available within the towns in Table IV-29 as opposed to how many residents of these towns are employed (Table IV-27).

Table IV-29
Average Annual Weekly Wage - Private Industries and Government, 1999 - 2001

| Town | Number of Jobs | 1999 Wage | Number of Jobs | 2000 Wage | Number of Jobs | 2001 Wage | Job % Change, 1999-2001 | Wage % Change, 1999-2001 |
|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|-------------------------|--------------------------|
| Allenstown | 542 | \$414.69 | 548 | \$469.75 | 567 | \$458.23 | 4.6% | 10.5% |
| Bow | 3,435 | \$703.58 | 3,372 | \$751.27 | 3,245 | \$729.04 | -5.5% | 3.6% |
| Chichester | 374 | \$552.44 | n/a | n/a | 460 | \$585.84 | 23.0% | 6.1% |
| Concord | 37,901 | \$586.73 | n/a | n/a | 40,212 | \$644.68 | 6.1% | 9.9% |
| Epsom | 959 | \$436.02 | 873 | \$505.92 | 958 | \$543.06 | -0.1% | 25.6% |
| Loudon | 1,299 | \$341.01 | n/a | n/a | 1,373 | \$441.97 | 5.7% | 29.6% |
| Pembroke | 1,800 | \$562.73 | 1,901 | \$578.31 | 1,995 | \$645.39 | 10.8% | 14.7% |

Source: 1999, 2000, and 2001 County Profile, Employment and Wage Data, NH Department of Employment Security

Within Pembroke in 2001, 1,995 jobs were available through Pembroke employers, who paid an average of \$645.39 per week to their employees. Concord employers paid a similar weekly wage in 2001 (\$644.68). The highest paying town was Bow, with employers paying an average wage of \$729.04 in 2001, with Loudon employers paying the least at \$441.97. From 1999 to 2001, the number of jobs available in Pembroke has increased 10.8% and the wages have increased from \$562.73 to \$645.39 (a 14.7% increase). Larger increases have occurred in Loudon (29.6%) and in Epsom (25.6%), but these two towns had among the lowest weekly wages in 1999 (\$341.01 and \$436.02 respectively). The wages which have increased the least over the three-year span were from Bow (3.6%).

Household and Per Capita Income Comparisons

The US Census takes detailed records of the household income of town residents. Although the household incomes are gathered on an honor basis, they provided a reasonable account of the state of income levels in a municipality.

Table IV-30
Yearly Household Income, 1999

| | Number of households | Percent of total |
|---------------------|----------------------|------------------|
| less than \$10,000 | 208 | 7.8% |
| \$10,000-\$14,999 | 83 | 3.1% |
| \$15,000-\$24,999 | 239 | 9.0% |
| \$25,000-\$34,999 | 364 | 13.7% |
| \$35,000-\$49,999 | 452 | 17.0% |
| \$50,000-\$74,999 | 652 | 24.5% |
| \$75,000-\$99,999 | 455 | 17.1% |
| more than \$100,000 | 207 | 7.7% |
| Total households | 2,660 | --- |
| Median income | \$49,494 | --- |
| Mean income | \$53,971 | --- |

Source: 2000 US Census

In Table IV-30, within Pembroke, the 49.3% of households reported a total income of over \$50,000 per year. Nineteen point nine percent (19.9%) of households made less than \$25,000 per year. The average (mean) household income was \$53,971 in the tax year 1999.

Table IV-31
Per Capita Income

| Town | 1989 | 1999 | Change % |
|-----------------|---------------|---------------|--------------|
| Allenstown | 13,420 | 18,851 | 40.5% |
| Bow | 19,752 | 29,557 | 49.6% |
| Chichester | 15,295 | 24,115 | 57.7% |
| Concord | 15,981 | 21,976 | 37.5% |
| Epsom | 14,415 | 22,026 | 52.8% |
| Loudon | 13,873 | 24,673 | 77.9% |
| Pembroke | 15,811 | 20,800 | 31.6% |

Sources: US 1990 and 2000 Census

Per capita income is a measurement of personal annual wealth. It applies equally to children, adults, and seniors. In 1999, Pembroke residents had a per capita income of \$20,800 per year, an increase of 31.6% from 1989, yet the second lowest in the area. Allenstown had the lowest per capita income in 1999 at \$18,851 while Bow had the highest at \$29,557. The greatest increase over the last decade was found in Loudon, which experienced a 77.9% increase to \$24,673. Pembroke's increase of 31.6% was the lowest per income gain among all area communities.

TOWN TAX RATES

Although a thorough examination of how Pembroke's tax rates are broken down is undertaken in the HOUSING CHAPTER, property taxes can be another measure of the wealth, economic health, and school system of a town and its residents.

Table IV-32
Breakdown of Pembroke Tax Rates, 1997-2002

| Year | Municipal Rate Per \$1000 | County Rate Per \$1000 | Local Education Rate Per \$1000 | State Education Rate per \$1000 | Effective Total Rate | Full Value Tax Rate |
|------|------------------------------|---------------------------|------------------------------------|------------------------------------|-------------------------|------------------------|
| 1997 | \$7.98 | \$2.04 | \$26.17 | -- | \$36.19 | n/a |
| 1998 | \$8.73 | \$2.21 | \$27.89 | -- | \$38.83 | \$36.29 |
| 1999 | \$9.72 | \$2.20 | \$14.20 | \$7.03 | \$33.15 | \$28.75 |
| 2000 | \$9.45 | \$2.39 | \$17.16 | \$6.76 | \$35.76 | \$28.03 |
| 2001 | \$9.96 | \$2.94 | \$19.05 | \$7.21 | \$39.16 | \$26.00 |
| 2002 | \$9.10 | \$3.19 | \$21.12 | \$6.91 | \$40.32 | \$24.76 |

Source: NH Department of Revenue Administration website

In Table IV-32, Pembroke's recent tax history is displayed. The municipal rate has remained relatively constant since 1999, ranging from \$9.10 to \$9.96 per \$1,000 of valuation. Between 1999 and 2001, the County tax rate also remained relatively constant until it rose in 2002 to \$3.19. Although in 1999, the local education tax rate dropped dramatically from \$27.89 to a low of \$14.20 the following year, this was caused by the implementation of the State School tax rate. The effective tax rate for Pembroke residents in 2002 was \$40.32 per \$1,000 of valuation, although the equalized tax rate (also known as the full value tax rate) was \$24.76 in 2002.

SUMMARY

When discussing the population and economics of the Town of Pembroke, there are a few issues that seem to concern most of its residents:

- Expanding the tax base and lessening the tax rate of Pembroke;
- Promoting commercial and light industrial growth within the Town;
- Limiting residential growth;
- School capacities; and
- Improving the level of education and diversity of skills of Pembroke residents.

We recognize that a difference between Planning Decisions, Inc's housing growth projections and the NH Office of Energy and Planning's housing growth projections exists. This situation will be monitored by the Planning Board.

Over the last ten years, Pembroke has enjoyed a slow and steady population growth. This can be best reflected when examining the historical population trends of the Town as detailed in this Chapter. These trends might best be preserved by drafting a Growth Management Ordinance as well as other zoning ordinances and regulations that preserve the historical pattern. Some suggested examples of these ordinances and regulations are as follows:

- A) Continue yearly updated Capital Improvements Plan;
- B) Revised impact fees;
- C) Maintain and strengthen ordinances and regulations that promote senior housing and good cluster development for the future of Pembroke;
- D) Preserve open space through ordinances and land purchases; and
- E) Provide incentives to commercial businesses.

- Respectfully Submitted, Cindy Lewis, Demographics Subcommittee Chair

Chapter V ECONOMIC DEVELOPMENT

INTRODUCTION

Located approximately seven miles from Concord and twelve miles from Manchester, Pembroke is part of a regional economy, but it also is an economic center onto itself. Many people travel between Pembroke, Concord, and Manchester for jobs and services, but Pembroke also has its own commercial center, Suncook Village. In addition, Route 106, located between Concord and Pembroke, is lined with industrial uses. Pembroke also has a number of small businesses scattered throughout town. This chapter will outline the state of Pembroke's economy and its relationship to surrounding towns. It will also explore ways that the Town can increase its economic vitality by supporting existing and new businesses.

In 1993 the Town of Pembroke established an Economic Development Committee. This committee was charged with two primary goals: to create and retain jobs in the Pembroke and to expand the nonresidential tax base of the Town. To achieve these goals, the committee was directed to pursue activities related to education and outreach, data collection, and policy development. It is the committee's role to represent the interests of the business community to local and state government and to represent the Town, where specifically designated by the Board of Selectmen, on matters relating economic growth. The Economic Development Committee served as a subcommittee of the Planning Board in the development of this chapter of the master plan. Two Planning Board members also participated in the subcommittee.

The Economic Development Committee currently has the benefit of promoting a local economy that is in strong form. Unemployment in Pembroke in 2003 was only 2.9%, a down slightly from 2002 and down dramatically from the early 1990s. The number of people in the labor force in Pembroke is up 22% from a decade ago, and the number jobs in Pembroke increase by 10% between 1999 and 2002. In 2001, the average weekly wage of for someone who worked in Pembroke was \$645.39. This was slightly higher than wages in nearby towns with the exception of Bow.

Of the people who live in Pembroke and are employed, 14.2% or 549 people work in Pembroke, according to the 2000 US Census. The New Hampshire Economic and Labor Market Information Bureau reports that in 2002 on average there were 1,985 jobs in Pembroke. These jobs are filled by both Pembroke residents and by people who commute from nearby towns and cities to Pembroke. This reinforces the notion that Pembroke is part of a regional economy but is also a separate economic center. However, the majority of Pembroke residents do commute to Manchester and Concord for work (14.4% and 34.3% of Pembroke residents respectively). Most of Pembroke residents work in sales/office and managerial/professional occupations.

Even though the economy of Pembroke appears to be healthy, the Economic Development Committee and the whole of the Town of Pembroke are not without concerns. Pembroke had both the highest effective tax rate (\$40.32) and the highest full value tax rate (\$24.76) in the area in 2002 as well as in 2001. This can make attracting new businesses more difficult, which is especially problematic since the Town would like to increase the amount of tax revenue that comes from commercial and industrial land uses in order to lessen the burden on residential uses. Currently 8.3% of Pembroke's land is used for commercial or industrial activity, and commercial and industrial land uses make up 17.9% of Pembroke's total tax valuation. In March 2003, the Town of Pembroke sent out a Community Survey. When residents were asked how the Town can encourage existing businesses to stay in Pembroke and bring new businesses to town, lowering taxes was a very common response.

A key concern of the residents of the town is how to attract new businesses while still maintaining the town's traditional, and somewhat rural character. One question in the survey asked what kinds of services residents would like. The top three answers were professional office park, light industry park, and health/medical park. However, another survey question asked what feature(s) of the town people found desirable, and rural character was the number one answer.

The issue of how to preserve character while attracting new business can be addressed through land use designations and regulations. Responses to the Community Survey indicate that many people are in support of expanding the commercial zone and encouraging mixed-use in the downtown district. However, a related concern expressed by the Economic Development Committee is that too many regulations can limit the ability of businesses to expand and prosper. These issues, along with a review of economic indicators, will be explored in this chapter.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These Objectives were developed as a result of Subcommittee analysis and interpretation of the data contained within the following Chapter and from concerns raised from Pembroke residents and landowners in the Community Survey. They are listed in the beginning to give the reader the opportunity to view the results without reading through the entire Chapter.

- To bring more businesses, and the jobs they create, to Pembroke.
 - Build an image for Pembroke that expresses that Pembroke is pro-business.
 - Enhance the Town's web site with items of interest to businesses such as statistics, important contacts, and links to other business related sites.
 - Make tax maps and zoning regulations available on-line.
 - Reach out to business consultants, commercial realtors, developers and associated professions.

- To assist existing businesses in Pembroke with their growth.
 - Identify a town staff person, who with help from the Economic Development Committee, will reach out to and advocate for local businesses on a regular basis.
 - Develop a better strategy for communicating with businesses to understand their concerns and relay information.
 - Educate the Selectmen and Town staff about the impact of regulations on business.

- To expand the non-residential taxable property valuation of the Town of Pembroke such that the town can sustain quality municipal and educational services at a reasonable tax rate.
 - Provide and promote locations for businesses.
 - Expand the Commercial Zone.
 - Encourage more mixed use development and renovation.

- To explore potential changes to the zoning and building code to allow more opportunities for business development.
 - Make economic development a main responsibility of the new Town Planner position.
 - Address business concerns by increasing communication between boards and committees by sharing agendas, notifying each other of issues, and attending meetings of other groups.
 - Conduct a proactive analysis of what regulations can be eased rather than waiting for a situation to occur.
 - Ensure that regulations and agreements are clear and fully implemented from the initial planning of a project through the completion of construction.

- To focus business growth along Route 106, Route 3, and in Suncook Village.
 - Advertise available parcels.
 - Promote office uses in the Village area because this provides a market for existing establishments.

COMMUNITY SURVEY RESULTS

The March 2003 Community Survey yielded 780 replies from 2956 surveys distributed, which equals a 26.4% return rate. The following questions were pertinent to the ECONOMIC DEVELOPMENT CHAPTER. The full survey results are displayed in the APPENDIX CHAPTER.

Please write in the number of people employed in your household for each person 16 years old or older next to the appropriate professions.

The total number of people employed listed for this question was 1,134. The largest percentage of people, 11.6% or 131 people, classified themselves as “Professional”. “Government” was second (9.6%), followed closely by “Retail” (9.5%) and “Health Care” (9.4%) employees. Six point nine percent (6.9%) classified themselves as self-employed. None of these numbers reflect, however, whether individuals work in Pembroke or work in another town.

Are you a business owner? If so, is your business located in Pembroke?

Sixteen point five percent (16.5%) of the 735 people who answered this question responded that they are business owners. Of those, 55.1%, or 70 people, owned businesses within Pembroke.

Which of the following enterprises and/or services would you like to see in Pembroke?

Of the enterprises or services listed (office park, light and heavy industry parks, restaurants, agricultural businesses, and tourism related businesses to name a few), the top three choices were professional office park (with 48.0%), light industry park (40.8%), and health/medical park (38.7%).

Are you in favor of expanding the commercial zone?

Of the 747 people who responded to this question, the majority (51.9%) supported the expansion of the commercial zone

Are you in favor of allowing multiple uses (business and residential) in the downtown B1 District?

Of the 754 people who responded to this question, the majority (70.8%) expressed support for allowing multiple uses.

What do you consider the desirable features of the Town of Pembroke?

It is interesting to note that majority of people (74.5%) ranked location as the most desirable feature, followed closely by rural atmosphere (73.3%) and commuting distance (65.3%).

What can the Town do to encourage existing businesses to stay in Pembroke?

Since this was an open ended question, answers varied and are difficult to quantify. However, comments related to lowering taxes were most common. Many residents also suggested relaxing regulations.

What can the Town do to attract businesses to Pembroke?

As with the question above, answers to this question varied. Many people suggested lower taxes. Being proactive and advertising Pembroke were also common answers.

EMPLOYMENT CHARACTERISTICS**Labor Force and Unemployment Statistics**

Of the entire population of the towns in the area, only a percentage of them are in the civilian employment labor force. Non-military professions are tabulated by the NH Department of Employment Security to track trends for employment taxes, worker's compensation, and unemployment compensation.

Table V-1
Number of Civilians in the Labor Force, 1993 - 2003

| | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | % Change from '93-'03 |
|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------------------|
| Allenstown | 2,330 | 2,360 | 2,420 | 2,370 | 2,530 | 2,540 | 2,590 | 2,700 | 2,730 | 2,740 | 2,987 | 28.2% |
| Bow | 3,347 | 3,685 | 3,781 | 3,728 | 3,855 | 4,043 | 4,082 | 4,236 | 4,243 | 4,440 | 4,639 | 38.6% |
| Chichester | 1,100 | 1,220 | 1,250 | 1,230 | 1,330 | 1,380 | 1,400 | 1,460 | 1,500 | 1,520 | 1,598 | 45.3% |
| Concord | 18,450 | 19,820 | 20,340 | 20,060 | 20,420 | 20,880 | 21,080 | 22,080 | 22,600 | 22,950 | 24,207 | 31.2% |
| Epsom | 1,700 | 1,870 | 1,920 | 1,890 | 2,040 | 2,110 | 2,130 | 2,230 | 2,290 | 2,320 | 2,456 | 44.5% |
| Loudon | 2,560 | 2,900 | 2,980 | 2,940 | 2,890 | 2,990 | 3,020 | 3,160 | 3,240 | 3,290 | 3,457 | 35.0% |
| Pembroke | 3,940 | 4,170 | 4,280 | 4,220 | 4,080 | 4,160 | 4,200 | 4,400 | 4,510 | 4,580 | 4,824 | 22.4% |

Source: NH Department of Employment Security - Nnetwork

Table V-1, excerpted from the DEMOGRAPHICS CHAPTER, documents the number of civilians in the labor force. In 2003 there were 4,824 people in Pembroke of age to be in the labor force. This represents a 22.4% increase over the number ten years earlier.

Unemployment

The unemployment figures are collected and made available by the NH Department of Employment Security. The baseline data from which the unemployment figures are calculated are the number of civilians in the labor force. Table V-2, also shown in the DEMOGRAPHICS CHAPTER, shows unemployment rates for Pembroke and surrounding towns over the last decade.

Table V-2
Unemployment Rate Trends, 1993 to 2003

| | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | % Change from '93-'03 |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------|
| Allenstown | 6.8% | 4.9% | 4.5% | 4.7% | 3.0% | 3.2% | 2.8% | 2.6% | 3.0% | 4.3% | 4.7% | -2.1% |
| Bow | 3.1% | 2.0% | 1.6% | 1.9% | 2.0% | 1.9% | 1.6% | 1.8% | 2.3% | 2.6% | 1.9% | -1.2% |
| Chichester | 2.7% | 2.5% | 2.1% | 3.1% | 1.6% | 1.9% | 1.6% | 1.5% | 1.7% | 2.0% | 2.8% | -0.1% |
| Concord | 4.7% | 3.2% | 2.7% | 2.8% | 2.4% | 2.3% | 1.9% | 2.0% | 2.4% | 2.7% | 3.0% | -1.7% |
| Epsom | 5.5% | 3.6% | 3.3% | 4.1% | 3.3% | 3.2% | 2.8% | 3.3% | 3.0% | 4.6% | 3.3% | -2.2% |
| Loudon | 3.0% | 1.7% | 1.9% | 2.6% | 2.1% | 1.8% | 1.7% | 1.7% | 2.0% | 2.0% | 2.6% | -0.4% |
| Pembroke | 6.1% | 3.8% | 2.5% | 2.9% | 2.6% | 2.4% | 2.3% | 2.5% | 2.6% | 3.1% | 2.9% | -3.2% |

Source: NH Department of Employment Security - Nnetwork

In 2003 the unemployment rate in Pembroke was 2.9%. Unemployment has dropped significantly since the early 1990s but had increased slightly in the last few years. In 1993 the unemployment rate was at 6.1%. It dropped to a low of 2.3% in 1999, increased to 3.1% in 2002, and dropped again to 2.95 in 2003. It is important to note that the unemployment rate has dropped even as the number of people in the labor force has increased.

Labor Force

The labor force figures above indicate the number of people who are of working age in Pembroke, but those people do not all work in Pembroke. Many of them commute to other locations. The New Hampshire Department of Employment Security calculates that in 2002 on average there were 1,985 people working in Pembroke.

Table V-3
Employment in Pembroke in 1999-2002

| Employment Category | Average Weekly Employment 1999 | Average Weekly Employment 2000 | Average Weekly Employment 2001 | Average Weekly Employment 2002 |
|------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Total Private Industry | NA | NA | 1,598 | 1,554 |
| Government | NA | NA | 397 | 432 |
| Total | 1,800 | 1,901 | 1,995 | 1,985 |

Source: *Community and County Profiles, Economic and Labor Market Information Bureau, New Hampshire Employment Security*

Commuting Patterns

Commuting patterns can shed more light on how many people live and work in Pembroke versus the number that commute to a different town or city for work. Table V-4, which shows results from the Community Survey and is also featured in the **DEMOGRAPHICS CHAPTER**, indicates that the highest percentage of Pembroke residents work in Concord or Penacook (36.4%). Manchester is the second highest single town that people commute to (16.3%), although 12.3% travel to other towns that are not listed but which have less than 10 responses each. The survey respondents that live and work in Pembroke or Suncook make up 11.4% of the total, which is overall the third highest percentage to a single location. Four point seven percent (4.7%) of Pembroke residents travel to another State or to Boston for employment. This could indicate that people who work in Massachusetts are moving to Pembroke in search of lower housing costs.

Table V-4
Location of Work for Pembroke Residents According to Community Survey

| Location of Work (over 10) | Number | Percent |
|----------------------------|--------|---------|
| Pembroke or Suncook | 123 | 11.4% |
| Allenstown | 35 | 3.2% |
| Bedford | 20 | 1.9% |
| Bow | 14 | 1.3% |
| Concord or Penacook | 393 | 36.4% |
| Hooksett | 65 | 6.0% |
| Londonderry | 12 | 1.1% |
| Manchester | 176 | 16.3% |
| Merrimack | 12 | 1.1% |
| Other NH Town | 133 | 12.3% |
| More than One NH Town | 47 | 4.3% |
| Other State | 41 | 3.8% |
| Boston, MA | 10 | 0.9% |
| Total | 1,081 | 100.0% |

Source: Community Survey Results

The US Census also tracks where people commute. Table V- 5 shows the Census figures for commuting from Pembroke. The findings of the Census are basically in keeping with those of the Community Survey. Both indicate that the majority of Pembroke residents travel to Concord for work, and the percentage of Pembroke residents who stay in Pembroke to work is similar in both assessments (11.4% of survey respondents and 14.2% of the population according to the Census). The Census does not specifically identify as many nearby New Hampshire towns as the Community Survey did. So, the number of people who travel to another New Hampshire town or city (other than Pembroke, Concord, or Manchester) is a larger number (32.5%) than shown in the Community Survey results.

Table V-5
Commuting Destinations for Pembroke Residents According to the Census

| Destination | Number | Percent |
|-------------------------------|--------|---------|
| Pembroke | 549 | 14.2% |
| Concord | 1,325 | 34.3% |
| Manchester | 558 | 14.4% |
| Other NH town or city | 1,258 | 32.5% |
| Town or city in Massachusetts | 150 | 3.9% |
| State other than MA and NH | 26 | 0.7% |
| Total | 3,866 | 100% |

Source: US Census (www.census.gov/population/www/cen2000/mcdworkerflow.html)

Increased commuting time can be a result of increased traffic or the need to travel farther to get a job. Thus, it can indicate a loss of good jobs in a town if the commuting distance for residents in increases significantly. As shown in Table V-6, which is also featured in the **DEMOGRAPHICS CHAPTER**, the commuting time in Pembroke has increased over the last decade from 22.3 to 24.3 minutes. However, since this is not a sharp increase and commuting time for residents of other towns has also increased, it is likely that the cause is increased traffic, not the pursuit of better jobs.

Table V-6
Commuting Time for Area Residents, 1990 - 2000

| | Mean Travel Time to Work (minutes) | |
|------------------|------------------------------------|-------------|
| | 1990 | 2000 |
| Allenstown | 25.6 | 27.6 |
| Bow | 20.9 | 25.3 |
| Chichester | n/a | 25.9 |
| Concord | 17.8 | 20.5 |
| Epsom | 28.4 | 27.0 |
| Loudon | 25.5 | 25.1 |
| Pembroke | 22.3 | 24.3 |
| Merrimack County | 21.5 | 24.3 |

Source: 1990 Census Table 2, Social & Economic Characteristics and 2000 US Census, Selected Economic Characteristics

Occupations from Survey and Census

In addition to understanding where jobs are located, it is important to have a sense of the professions in which a town’s residents are employed. This can be an indicator of education level and income in a town. To have a healthy local economy a town must have a population that works in a diversity of fields and earns adequate wages.

Table V-7
Professions of Adults in Household

| Profession | Number | Percent |
|----------------------|-------------|---------------|
| Agriculture/Forestry | 15 | 1.3% |
| Construction | 66 | 5.8% |
| Retail | 108 | 9.5% |
| Finance | 33 | 2.9% |
| Real Estate | 9 | 0.8% |
| Professional | 131 | 11.6% |
| Self-Employed | 78 | 6.9% |
| Retired | 99 | 8.7% |
| Health Care | 107 | 9.4% |
| Manufacturing | 65 | 5.7% |
| Education | 79 | 7.0% |
| Computers/High Tech | 55 | 4.9% |
| Government | 109 | 9.6% |
| Non-Profit | 26 | 2.3% |
| Unemployed | 23 | 2.0% |
| Other | 131 | 11.6% |
| Total | 1134 | 100.0% |

Other Professions

| Additional Professions | Number | Percent |
|--------------------------|------------|---------------|
| Transportation | 19 | 15.4% |
| Food/Hospitality | 12 | 9.8% |
| College | 6 | 4.9% |
| Sales/Insurance | 18 | 14.6% |
| Law Enforcement/Security | 7 | 5.7% |
| Construction & Utilities | 9 | 7.3% |
| Engineering | 5 | 4.1% |
| Other | 47 | 38.2% |
| Total | 123 | 100.0% |

Source: Community Survey Results

As shown in Table V-7, which is also found in the **DEMOGRAPHICS CHAPTER**, the majority of people classified themselves as “Professional” (11.6%) and “Government” (9.6%) employees, followed closely by “Retail” (9.5%) and “Health Care” (9.4%) employees. Six point nine percent (6.9%) classified themselves as self-employed. None of these numbers reflect, however, whether individuals work in Pembroke or work in another town, so these numbers can not be used to assess the types of work places in Pembroke.

The US Census also tracks the professions of residents. Table V- 8, which is excerpted from the **DEMOGRAPHICS CHAPTER**, shows that in 1999, 32.7% of the Pembroke work force was employed in “sales and office” jobs. The next highest category was “managerial, professions, and related” occupations at 30.6%. The Census categories are more inclusive and less distinct, and are thus not directly comparable to the Community Survey results. However, in each assessment it is apparent that the majority of Pembroke residents are employed in office or retail settings as opposed to manufacturing, construction, or agricultural jobs.

Table V-8
Occupation of Employed Individuals over Age Sixteen, 1989 & 1999

| | 1989 | | 1999 | |
|---|--------|---------|--------|---------|
| | Number | Percent | Number | Percent |
| Managerial, professional, and related occupations | 1,109 | 30.1% | 1,202 | 30.6% |
| Sales and office occupations | 1,216 | 33.0% | 1,284 | 32.7% |
| Service occupations | 419 | 11.4% | 454 | 11.6% |
| Agriculture, forestry, fishing and hunting, and mining | 29 | 0.8% | 0 | 0.0% |
| Construction, extraction, and maintenance occupations | 364 | 9.9% | 420 | 10.7% |
| Production, transportation, and material moving occupations | 550 | 15.0% | 566 | 14.4% |
| Employed individuals over age 16 | 3,687 | --- | 3,926 | ---- |

Source: 1990 & 2000 US Census; 1990 US Census Binder

The US Census also categorizes residents by class of worker. Table V-9 shows that 80.1% of the employed individuals in Pembroke are private wage and salaried workers. Another 13.5% are government workers. It is interesting to note that 6.3% of employed individuals in Pembroke are self-employed in unincorporated businesses. These findings seem in keeping with the types of professions listed above.

Table V-9
Class of Worker in Pembroke, 2000

| Class of Work | Number | Percent |
|--|--------|---------|
| Private wage and salary workers | 3,146 | 80.1% |
| Government workers | 531 | 13.5% |
| Self-employed workers in own not incorporated business | 249 | 6.3% |
| Unpaid family workers | 0 | 0.0% |
| Total | 3,926 | 100% |

Source: 2000 US Census

Pembroke Employers

Pembroke is home to a variety of employers ranging from small businesses to large corporations. According to the New Hampshire Employment Security's Economic and Labor Market Information Bureau, there are eight major employers located in Pembroke. As show in Table V-10, these businesses employed a total of 420 people in June of 2003. The two largest employers at that time were Epoch Corp (133 employees) and Precision Technology (100 employees). The other major employers provide less than half that many jobs. Even though most of the major employers have less than 100 employees, the loss of any one of these companies could have an impact on Pembroke's economy. If one or more of these businesses were to leave Pembroke or go out of business the impact could be quite large.

Table V-10
Major Employers in Pembroke

| Business | Produce/Service | Employees |
|-----------------------|---------------------------|------------|
| Epoch Corp | Prefabricated homes | 133 |
| Precision Technology | Printing/finishing | 100 |
| Town of Pembroke | Municipal services | 45 |
| Mastermatic | Food processing equipment | 44 |
| Bank of New Hampshire | Banking | 32 |
| Grappone Industrial | Equipment sales, service | 28 |
| A&B Lumber | Lumber sales, service | 25 |
| Merriam Graves | Industry supplies | 13 |
| Total | | 420 |

Source: Economic & Labor Market Information Bureau, NH Employment Security (Community Profile June 2003)

Businesses, particularly small ones, sometimes go out of business or relocate, so it is important to document the number and type of businesses in Pembroke at any one time. Table V-11 lists the businesses in Pembroke in 2003. The list is made up of 191 businesses and comes from a business directory created by the Economic Development Committee.

Table V-11
Businesses in the Town of Pembroke, 2003

| Business | Location | Business | Location |
|--------------------------------|------------------------|---|------------------------|
| 106 Commerce Park Mini Storage | 318 Commerce Way | Imagine Tours NH | 348 Academy Road |
| 603 Technology Services, LLC | 155 Main St | iMarc, Inc. | 15 Glass St, Suite 201 |
| A Change of Place | 11 No. Browning Court | Industrial Controls & Labeling, Inc. | 236 Pembroke St |
| A&B Lumber Co., LLC | 129 Sheep Davis Road | Institute for Learning | 367 Pembroke St |
| ABC Moving & Storage Company | 701 Riverwood Drive | Interior Department - USGS | 331 Commerce Way |
| Abrasives & Tools of NH, Inc. | 49 Sheep Davis Road | International Science & Technology Inc. | PO Box 3790 |
| AJ Consulting | 8 Savage Court | Irving Oil | 388 Pembroke St |
| Allgeyer Management Company | 15 Glass St, Suite 102 | Jacques Fine European Pastries | 128 Main St |
| Animation Station | 91 Sheep Davis Road | JBI Helicopter Services | 720 Clough Mill Road |
| Architectural Link | 40 Sheep Davis Road | JHF Recycling & Light Hauling | 459 Carrie Avenue |
| Ayles Insurance Agency Inc. | 385 Pembroke St | Jordan Equipment Co. | 744 Clough Mill Road |
| Banc North Investment Planning | 50 Glass St | Joseph Portinari Upholstery Co. | 334 Pembroke St |
| Bank of New Hampshire-Suncook | 50 Glass St | JRL Business Resources | 562 Pembroke St |
| Baxter and Crafts Services | 406 Deerpath Lane | K&G Floor Sanding | 411 Deerpath Lane |

| Business (continued) | Location | Business (continued) | Location |
|--|------------------------|---|------------------------|
| Bidwell Holistic Therapies | 607 Buck St | Keeler Family Realtors | 567 Pembroke St |
| Bill's RV Service | 706 Keith Avenue | Kelsea Construction | 866 Plausawa Hill Road |
| BJI Inc | 720 Clough Mill Road | Kimball's Market & Sub Shop | 351 Pembroke St |
| Blazon Construction | 112 Pembroke St | Kitty Companions | 4 Melissa Drive |
| Bob's Electric Tool Service, Inc. | 6 Pheasant Run | Kruger Construction | 743 Clough Mill Road |
| Boudette Specialized Turf Services | 217 Church Road | Lang's Ice Cream | 510 Pembroke St |
| Brickett Hill Landscaping | 345 Brickett Hill Road | Lavallee Oil Co. | 49 Glass St |
| Brookside Renovations | 379 Pembroke St | LDG Corp. Mechanical Contractors | 181 Evergreen Lane |
| Byrne's Berry Fields | 336 Pembroke Hill Road | Linda Snow, CPA | 570 Pembroke St |
| C&L Pool Service | 19 Melissa Drive | Lynette Blain, Ind. Avon Rep. | 135 Smith Avenue |
| C.G. Labs, Inc. | PO Box 231 | M.Z. Clark Welding & Repair, LLC | 322 Pembroke Hill Road |
| Cannoneer Antiques | 138 Main St | Mastermatic Heat & Control | 339 Commerce Way |
| Carlucci Mechanical Contracting, Inc. | 8A Prospect St | Merriam-Graves Industrial | 121 Sheep Davis Road |
| Carol F. Hogan | 11 Winchester Court | Michaud Electrical | 340 Beacon Hill Road |
| Chases Garage | 116 Pembroke St | Mike Gove Automotive | 40 Sheep Davis Road |
| Cherry Hill Homes Real Estate Stop | 559 Pembroke St | Montminy's Store | 808 Route 28 |
| Cherry Wind Technologies, Inc. | 515 Fourth Range Road | Morgan Recreational Supply | 706 Keith Avenue |
| Children's Center of Attention Daycare | 146 Sheep Davis Road | Myracom, LLC | PO Box 49 |
| Chip-N-Nail Remodeling | 482 Pembroke St | N.S. McFall Realtors | 206 Dearborn Road |
| Collectibles of Auto Racing | 743 Clough Mill Road | NeighborCare | 331 Commerce Way |
| College Bound Movers | 707 Riverwood Drive | New England Plumbing & Heating | 22 Prospect St |
| Company C | 319 Commerce Way | New Hampshire Tile Distributors | 95 Sheep Davis Road |
| Concord Bingo Center | 60 Sheep Davis Road | North East Athletic Club, LLC | 326 Buck St |
| Concord Sand and Gravel | PO Box 1133 | Northeast Innovations, Inc. | PO Box 1330 |
| Contromatics | 319 Commerce Way | Northland Barn Builders | 27 Broadway |
| Copeland Companies | 5 Sheep Davis Road | Nortrax Equipment, LLC | 98 Sheep Davis Road |
| Crossroads Chiropractic | 5 Sheep Davis Road | P.H. Precision Products Corp. | 340 Commerce Way |
| D&N Family Security | 408 Third Range Road | Partylite Candles and Crafts | 416 Buck St |
| D.Tangles - Hair, Tanning & Nails | 15 Glass St, Suite 101 | Paul R. Fournier & Associates | 107 Sheep Davis Road |
| D'Agnese, Keeler & Co. PLLC | 556 Pembroke St | Pembroke Animal Hospital | 13 Sheep Davis Road |
| Dandy Automotive | 279 Pembroke St | Pembroke Electric | 496 Fourth Range Road |
| Daneault Contract Flooring | 145 Main St | Pembroke Excavation & Landscaping, Inc. | 624 Cross Country Road |
| Dean's Barber Shop | 159 Main St | Pembroke Mobil | 530 Pembroke St |
| Del Lauren's Styling Salon | 123 Main St | Pembroke Perennials | 654 Route 28 |
| Dennison Cabinets | 619 Sand Road | Pembroke Regional Development Council | P. O. Box 168 |
| Diane's Beauty Boutique | 148 Main St | Pembroke Sand & Gravel | 619 Sand Road |
| Di-Mar Imaging and Design | 6 Colonial Drive | Pembroke Towing Inc. | 40 Sheep Davis Road |
| Dobbins Construction | 631 Cross Country Road | Pembroke Upholstering, Co. Inc. | 6 High St |
| Donaghey Tree Farm | 359 Fourth Range Road | Pembroke Wellness Center | 48 Glass St |
| Donnelly Plumbing & Heating | 557 Pembroke St | Petit Funeral Home | 167 Main St |
| Dr. Vincent E. Greco Family Practice | 210 Pembroke St | Phillips Bros. Electrical Contractors | 734 Route 28 |
| Earle Phair's Painting | 179 Main St | Plausawa Valley Country Club | 42 Whittemore Road |
| Emerson Mill Apartments | 100 Main St | Precision Technology | 39 Sheep Davis Road |
| Emery & Son Masonry | 43 Broadway | Pritchard Contracting | 131 Tina Drive |
| Encompass Mechanical Services | 321 Commerce Way | R.A. Lavoie, Inc. | 38 Sheep Davis Road |
| Energy Improvements, Inc. | 157 Sheep Davis Road | Rainville Shoe Store | 131 Main St |
| Epoch Corporation | 107 Sheep Davis Road | RCR Computer Systems | 637 Borough Road |
| Erik Williams Construction | 608 Cross Country Road | RE/Max Signature | 110 Sheep Davis Road |

| Business (continued) | Location | Business (continued) | Location |
|-----------------------------------|------------------------|--------------------------------------|--------------------------------|
| Fairhaven Associates | P. O. Box 544 | Richard F. Therrien Esq. | 412 Buck St |
| Fairway Real Estate, LLC | 566 Pembroke St | Robert C. Kuepper, DDS | 5 Sheep Davis Road |
| Family Physicians of Pembroke | 121 Pembroke St | Robinson Homestead, Inc. | 373 4 th Range Road |
| Famous Village Pizza | 116 Main St | Ron Stewart General Carpentry | 132 Tina Drive |
| First Choice for Children, Inc. | 304 Pembroke St | Route 3 Getty Service Center, Inc. | 219 Pembroke St |
| Forestview Associates | 237 Fourth Range Road | Rumford Stone | 95A Sheep Davis Road |
| Foster Concrete Forms, Inc. | 743 Borough Road | Rymes Heating Oil, Inc. | 802 Soucook Lane |
| Franklin Plumbing & Heating | 229 Pembroke Hill Road | Sawyer & Son | 411 Pembroke St |
| Frontier Adjusters | 27 Mason Avenue | Schroth Bros. | 806 Bachelder Road |
| G. Paulsen Co. Inc. | 27 Sheep Davis Road | Second Home Cycles | 122 Glass St |
| Gagne Plumbing, Heating & AC | 935 Borough Road | Small System Solutions | 4 Remington Court |
| Garden of Weedin | 433 Borough Road | Soap Bubble Laundromat | 15 Mill Falls |
| Gelinas Farm | 471 Fourth Range Road | Stampin' Up | 135 Smith Ave |
| Gendreau Microsystems | 519 Pembroke St | Stanhurst Farms | 530 Buck St |
| Gino's Variety Store | 122 Main St | Steeplegate Self Storage | PO Box 160 |
| Gladu Floor Sanding | 214 Pembroke Hill Road | Stop N Store It | 26 Sheep Davis Road |
| Golden Jade | 115 Main St | Suncook Family Dentistry | 119 Pembroke St |
| Great Northern Video | 702 Riverwood Drive | Suncook House of Pizza | 139 Main St |
| Green Gold Farm | Buck St | T & T Power Equipment, Inc. | 149 Sheep Davis Road |
| Green Mountain Consultant Group | 287 Pembroke St | Tech Ed Concepts, Inc. | 550 Pembroke St |
| Harkins Building & Remodeling | 39 Donna Drive | The Copeland Companies | 5 Sheep Davis Road |
| Hartley Transportation, LLC | 110 Sheep Davis Road | The Green Hand, Inc. | 344 North Pembroke Rd. |
| Herve Verville Painting | 10 Fairview Avenue | The Kennel at Hemlock Hill Farm | 527 Fourth Range Road |
| Historic Properties | 422 Pembroke St | The O'Brien Dance Studio | 219 Dearborn Road |
| Hodges Development Company | 201 Loudon Road | The Tyree Organization | 110 Sheep Davis Road |
| Home Computer Services | 67 Broadway | Town Line Printing | 102 Main St |
| Homecraft Contractors | 164 Buck St | Townsend's Training Farm, Inc. | 533 Fourth Range Road |
| Hometeam Corp./Alouette Home Team | 851 Dover Road | Tranquility Springs Wellness Spa | 23 Sheep Davis Road |
| Howard P. Fairfield Inc. | 94 Sheep Davis Road | Trapper Brown Corporation | RFD #3 Box 199C |
| Hubcap House | 246 Pembroke St | Turning Pointe Center of Dance | 371 Pembroke St |
| Hurney Day Care | 4 Colonial Drive | USA Automotive Repair | 141 Pembroke St |
| Hyster New England, Inc. | 52 Sheep Davis Road | Vic Martin & Sons Plumbing & Heating | 509 Buck St |
| Wallflowers, Etc. | 135 Main St | Village Barber | 144 Main St |
| | | Wright Communications | 711 Riverwood Drive |

Source: 2003 Business Directory

The *Business Locations Map*, with separate inset maps of the *Route 106 Corridor*, *Route 3 Corridor*, and *Suncook Village*, displays many of the major businesses listed in Table V-11.

Wage Comparisons

As mentioned earlier, the economic health of a community is affected by the wages that residents earn. The average weekly wage per worker and the number of available jobs in New Hampshire towns is published retroactively by the NH Department of Employment Security. These figures allow for the direct comparison of wages and the number of jobs over a number years and additionally permits similar comparisons to conditions in abutting towns. Table V-12, which can also be found in the **DEMOGRAPHICS CHAPTER**, outlines the number of jobs and the weekly wages of private and governmental jobs in Pembroke and neighboring communities.

Table V-12
Average Annual Weekly Wage - Private Industries and Government, 1999 - 2001

| Town | Number of Jobs | 1999 Wage | Number of Jobs | 2000 Wage | Number of Jobs | 2001 Wage | Job % Change, 1999-2001 | Wage % Change, 1999-2001 |
|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|-------------------------|--------------------------|
| Allenstown | 542 | \$414.69 | 548 | \$469.75 | 567 | \$458.23 | 4.6% | 10.5% |
| Bow | 3,435 | \$703.58 | 3,372 | \$751.27 | 3,245 | \$729.04 | -5.5% | 3.6% |
| Chichester | 374 | \$552.44 | n/a | n/a | 460 | \$585.84 | 23.0% | 6.1% |
| Concord | 37,901 | \$586.73 | n/a | n/a | 40,212 | \$644.68 | 6.1% | 9.9% |
| Epsom | 959 | \$436.02 | 873 | \$505.92 | 958 | \$543.06 | -0.1% | 25.6% |
| Loudon | 1,299 | \$341.01 | n/a | n/a | 1,373 | \$441.97 | 5.7% | 29.6% |
| Pembroke | 1,800 | \$562.73 | 1,901 | \$578.31 | 1,995 | \$645.39 | 10.8% | 14.7% |

Source: 1999, 2000, and 2001 County Profile, Employment and Wage Data, NH Department of Employment Security

Within Pembroke in 2001, 1,995 jobs were available through Pembroke employers, who paid an average of \$645.39 per week to their employees. From 1999 to 2001, the number of jobs available in Pembroke increased 10.8% and the wages increased from \$562.73 to \$645.39 (a 14.7% increase). Excluding Concord, which is a major city, Pembroke had the second highest number of jobs in 2001 when compared to neighboring communities. Pembroke had a weekly wage almost equal to Concord's in 2001, only Bow's was higher.

Tax Characteristics

A thorough examination of Pembroke's tax rates is undertaken in the **HOUSING CHAPTER**, but tax rates are mentioned here because property taxes can be another measure of the economic health of a town. Higher property values indicate that a town is a desirable place to live. On the other hand, tax rates that are too high can be a deterrent to business growth. In the community survey, when residents were asked what the Town can do to encourage existing businesses to stay in Pembroke, lowering taxes was an extremely common response.

Pembroke has high tax rate when compared to neighboring communities. Table V-13, which is also contained in the **HOUSING CHAPTER**, compares Pembroke's tax rates, before and after equalization, with the abutting communities. The net valuations displayed here have not been equalized.

Table V-13
Tax Rates of Pembroke and Abutting Communities, 2001 – 2002

| Community | Net Valuation | | Effective Tax Rate Per \$1000 | | Equalization Ratio | | Full Value Tax Rate Per \$1000 | |
|--------------------------|----------------------|----------------------|----------------------------------|----------------|--------------------|------------|-----------------------------------|----------------|
| | 2001** | 2002* | 2001** | 2002* | 2001** | 2002* | 2001** | 2002* |
| Allenstown | \$163,516,693 | \$183,241,933 | \$26.28 | \$24.06 | 93% | 92% | \$24.38 | \$22.04 |
| Bow | \$651,415,245 | \$838,300,562 | \$29.09 | \$23.15 | 62% | 89% | \$21.64 | \$20.70 |
| Chichester | \$106,466,928 | \$110,332,191 | \$28.62 | \$32.99 | 68% | 72% | \$19.58 | \$23.88 |
| Concord (Union) | \$1,345,514,100 | \$1,422,226,800 | \$27.34 | \$26.40 | 88% | 83% | \$24.06 | \$21.89 |
| Concord (Merr Valley) | \$897,009,849 | \$948,151,674 | \$27.83 | \$29.15 | 88% | 83% | \$24.49 | \$24.17 |
| Epsom | \$166,208,735 | \$170,923,822 | \$25.15 | \$37.94 | 69% | 60% | \$17.16 | \$16.65 |
| Hooksett | \$760,194,546 | \$774,533,306 | \$25.27 | \$25.20 | 78% | 66% | \$19.17 | \$16.56 |
| Loudon | \$255,298,969 | \$264,042,587 | \$22.86 | \$24.80 | 83% | 71% | \$18.77 | \$17.66 |
| Pembroke | \$246,619,471 | \$255,701,458 | \$39.16 | \$40.32 | 67% | 61% | \$26.00 | \$24.76 |

Source: *NH Department of Revenue Administration website, Table – 2002 Property Tax Rates, 01/28/03 update

**Comparison of Effective Rate of Taxation Based on Full Value of Property with Local Tax Rate – Tax Year 2001

In terms of tax rate, Pembroke had both the highest effective tax rate (\$40.32) and the highest full value tax rate (\$24.76) in the area in 2002 as well as in 2001. This is not directly attributable to the equalization ratio since Bow's is lower at 62% and Chichester (68%) and Epsom (69%) are at nearly the same level as Pembroke (67%). Within the State, Pembroke ranks 200th of 227 towns (ranking from lowest to highest) in terms of the full-value tax rate according to the NH Department of Revenue Administration (NH DRA).

In Table V-14, Pembroke's recent tax history is displayed. The municipal rate has remained relatively constant since 1999, ranging from \$9.10 to \$9.96 per \$1,000 of valuation. Between 1999 and 2001, the County tax rate also remained relatively constant until it rose in 2002 to \$3.19. Although in 1999, the local education tax rate dropped dramatically from \$27.89 to a low of \$14.20 the following year, this was caused by the implementation of the State School tax rate. The effective tax rate for Pembroke residents in 2002 was \$40.32 per \$1,000 of valuation, although the equalized tax rate (also known as the full value tax rate) was \$24.76 in 2002.

Table V-14
Breakdown of Pembroke Tax Rates, 1997-2002

| Year | Municipal Rate Per \$1000 | County Rate Per \$1000 | Local Education Rate Per \$1000 | State Education Rate per \$1000 | Effective Total Rate | Full Value Tax Rate |
|------|------------------------------|---------------------------|------------------------------------|------------------------------------|-------------------------|------------------------|
| 1997 | \$7.98 | \$2.04 | \$26.17 | ~ | \$36.19 | n/a |
| 1998 | \$8.73 | \$2.21 | \$27.89 | ~ | \$38.83 | \$36.29 |
| 1999 | \$9.72 | \$2.20 | \$14.20 | \$7.03 | \$33.15 | \$28.75 |
| 2000 | \$9.45 | \$2.39 | \$17.16 | \$6.76 | \$35.76 | \$28.03 |
| 2001 | \$9.96 | \$2.94 | \$19.05 | \$7.21 | \$39.16 | \$26.00 |
| 2002 | \$9.10 | \$3.19 | \$21.12 | \$6.91 | \$40.32 | \$24.76 |

Source: NH Department of Revenue Administration website

The fact that commercial and industrial property values are increasing and that Pembroke's tax rate is relatively high present problems for attracting new businesses. The Town would like to increase the amount of tax revenue that comes from business uses to off set the tax burden on residents. As shown in Table V-15, commercial and industrial uses currently make up 17.9% of the total valuation for the town.

Table V-15
Commercial/Industrial Valuation in Pembroke and Abutting Communities, 2002

| Community | Net Valuation | Commercial/ Industrial Buildings | % of Valuation | Commercial/ Industrial Land | % of Valuation | Total Comm/Ind. Valuation % |
|-----------------|----------------------|--|-------------------|-----------------------------------|-------------------|-----------------------------------|
| Allenstown | \$183,241,933 | \$10,325,100 | 5.6% | \$15,380,170 | 8.4 | 14.0% |
| Bow | \$838,300,562 | \$59,330,925 | 7.1% | \$21,812,275 | 2.6 | 9.7% |
| Chichester | \$110,332,191 | \$7,707,100 | 7.0% | \$4,045,900 | 3.7 | 10.7% |
| Concord* | \$2,370,378,000 | \$567,646,400 | 23.9% | \$237,540,200 | 10.0 | 34.0% |
| Epsom | \$170,923,822 | \$14,839,150 | 8.7% | \$12,020,150 | 7.0 | 15.7% |
| Hooksett | \$774,533,306 | \$112,648,200 | 14.5% | \$102,313,000 | 13.2 | 27.8% |
| Loudon | \$264,042,587 | \$34,539,655 | 13.1% | \$29,524,100 | 11.2 | 24.3% |
| Pembroke | \$255,701,458 | \$33,942,770 | 13.3% | \$11,951,450 | 4.7 | 17.9% |

Source: NH Department of Revenue Administration: Table - Property Tax Publications, 2002, Tables by County

*Concord's Tax Rate is an average between Concord Union (\$26.40) and Merrimack Valley (\$29.15)

COMMERCIAL LAND AND ZONING

Pembroke Land Use

In order to understand the potential for new business development in Pembroke, it is important to understand how much land is currently developed for commercial or industrial use and how much land is available for new businesses. Table V-16, which can also be found in the EXISTING AND FUTURE LAND USE CHAPTER, shows the amount of land that various uses take up in Pembroke.

Table V-16
Land Use, 2003

| Land Use | Acres | % of Town |
|-------------------------|-----------------|---------------|
| Agricultural | 751.0 | 5.4% |
| Agricultural-Equestrian | 130.0 | 0.9% |
| Conservation | 398.0 | 2.9% |
| Residential | 5,441.9 | 39.0% |
| Commercial | 1,075.2 | 7.7% |
| Utility | 21.7 | 0.2% |
| Industrial | 79.9 | 0.6% |
| Public/Institutional | 294.0 | 2.1% |
| Rights-of-Way | 13.4 | 0.1% |
| Undeveloped | 5,754.9 | 41.2% |
| Total | 13,960.0 | 100.0% |

Source: Digital Tax Maps 2001 (total acres may differ slightly due to rounding); Subcommittee Input

The majority of land in Pembroke is undeveloped, at 41.2%. Residential parcels follow closely at 39%. The remaining land uses together total 20%, where commercial is the highest at 7.7% and agriculture (combined) is 6.3%. Conservation land accounts for 2.9%, public parcels at 2.1%, and utility, industrial, and rights-of-way accounting for a combined 0.9%.

Current Zoning Districts

The amount of land currently developed for a certain use is not typically equal to the amount of land zoned for that particular use. For example, approximately seven percent (7.7%) of the land in Pembroke is currently used for commercial development, but approximately eleven percent (11.1%) of the land is in zones that allow businesses development.

The *Zoning Map* depicts all of the zones currently in Pembroke. As shown in Table V-17, which is pulled from the EXISTING AND FUTURE LAND USE CHAPTER, 68.5% of the Town is zoned R3 (Rural/Agricultural), while 20.3% is zoned R1 (Medium Density Residential). The smallest zoning district is B2 (Central Business), which comprises 0.2% of the Town.

Table V-17
2001 Zoning District Land Acreage

| Zone | Acres | % of Town |
|---------------------------------------|----------|-----------|
| Medium Density - Residential (R1) | 2,924.9 | 20.3% |
| Rural/Agricultural - Residential (R3) | 9,861.0 | 68.5% |
| Business/Residential (B1) | 78.6 | 0.5% |
| Central Business (B2) | 23.1 | 0.2% |
| Commercial/Light Industrial (C1) | 995.5 | 6.9% |
| Limited Office (LO) | 279.1 | 1.9% |
| Soucook River District (SRDD) | 228.0 | 1.6% |
| Total | 14,390.0 | 100.0% |

Source: Digital Tax Maps 2003
(total acres differ slightly due to rounding)

A full explanation of the various zones can be found in the EXISTING AND FUTURE LAND USE CHAPTER. That Chapter will address the zoning classifications that have the largest bearing on business development. Businesses area allowed in the following zones:

Medium Density - Residential (R1) Zone

The main use in this zone is residential with some home-based and small office/professional businesses.

Business/Residential (B1) Zone

This district covers the most compact section of Pembroke and extends into Suncook Village. It consists mostly of high density residential land uses with many multi-family apartment houses and home-based and other small businesses.

Central Business (B2) Zone

The B2 zone is roughly ¼ mile in diameter and is completely bounded by the Suncook River and the B1 zone in an area which has been traditionally known as Suncook Village. This is a classic mixed use zoning district which allows and encourages traditional village settlement.

Commercial/Light Industrial (C1) Zone

The C1 zone is located in two areas of Pembroke. The largest C1 area is bounded by the Soucook River and is situated along Routes 3 and 106. The smaller of the two areas making up the C1 zone is located at the northernmost tip of Pembroke along Interstate I-393. The major land uses in the C1 zone are commercial and industrial businesses. Epoch Corporation, Precision Technology, T&T Power, Nortrax Equipment, Howard P. Fairfield, Wright Communications, Great Northern Video, NH Tile and Rumford Stone are just a few of the businesses that are located in this zone.

Limited Office (LO) Zone

This is a transition zone between the C1 and the Soucook River Development District and the R1 zones. This area is currently transitioning from single family homes to professional offices for accountants, realtors and computer software companies.

Soucook River Development District (SRDD)

The Soucook River Development District is the newest zoning district in Pembroke. It is designed to allow for more creative commercial land uses through performance zoning standards. The town's hope is that over a five to ten year period the sand and gravel extraction projects which are located in the SRDD will be ended and the land reclaimed and converted into an attractive, valuable area thriving with new businesses.

Overlay Zoning Districts

Overlay zones can also affect business development decisions. These districts are, in essence, draped over, or "overlay", the base zoning districts which lay beneath them and, as such, their purpose is to provide additional protection for the natural or built environments in which they are situated. The following are brief descriptions of Pembroke's overlay zones that may be applicable to the development of a commercial or industrial use, depending on the location of that use.

(a) Architectural Design District (AD)

The Architectural Design overlay district is intended to protect the traditional architectural integrity and character of Pembroke Street (US Route 3). Its boundaries are 500 feet from the center line of Pembroke Street from the Suncook River to the Soucook River and they include the entire Limited Office District which runs along Pembroke Street. The intent of the district is to require that all site plans be reviewed by the Planning Board to ensure that the proposed development will be harmonious with the existing character of the area.

(b) Aquifer Conservation District (AC)

The Aquifer Conservation overlay district is designed to protect, preserve and maintain the existing and potential groundwater supplies and their recharge areas within the town of Pembroke from adverse development, land uses or depletion by limiting which land uses which are permitted within the AC overlay district. Unless a special exception is granted by the Zoning Board of Adjustment and a special use permit is granted by the Planning Board, no aquifer threatening land use such as disposal of solid, hazardous or industrial waste, automotive shops, junkyards and excavations of sand and gravel may be located within the AC.

(c) Floodplain Development District (FD)

The Floodplain Development overlay district is intended to protect people and property from the flood hazard dangers associated with locating residential, commercial and industrial development within the floodplains of the Suncook, Soucook and Merrimack Rivers. All developments proposed to be located within a designated floodplain, including new or replacement water and sewer systems, must be specially designed and constructed so that potential flood damage is minimized and any proposals to carry out building alterations or locate manufactured homes in floodplain areas must be reviewed and approved by the NH Department of Environmental Services. Often, property insurance is not available for development activities which are proposed to be located in recognized floodplains.

(d) Home Business Overlay District (HB)

The Home Business overlay district is designed to permit certain types of residentially based businesses along Pembroke Street (US Route 3). The boundaries of the district buffer Pembroke Street by 500 feet from the center line from the Suncook to the Soucook River.

Special Conditions/Office Conversions

The Pembroke Zoning Code also includes special provisions for home businesses. These provisions outline the number of outside employees, signage, and other aspects of a home business' operations that could affect neighboring properties. The special conditions also establish a zone for office conversions. The purpose of this zone is to allow for the conversion of residential units into office space. The boundaries of the Office Conversion Zone are 500' of either side of the center line of Pembroke Street beginning at the boundary of the Limited Office District (LO) and running to the boundary of the Business/Residential District (B1).

Commercial and Industrial Areas

There are four main areas where the Town encourages commercial and industrial development. These are along Route 106, Route 4, and Route 3 and in the Suncook Village. The Route 106 corridor is already home to many large businesses. Land is available and zoned for a variety of uses including office, commercial, and industrial. There are three industrial parks in the 106 area. The Route 4 commercial area is located in north Pembroke at the intersection of I-393 and Routes 4, 9, and 202. This area is the second largest of the Town's commercial areas, and its least developed. Approximately 7% of the area, 11.8 acres, are currently develop for commercial use, while approximately 110 acres, or 69% of the area, are available for development. Route 3 is primarily zoned for limited office development. The Limited Office District was developed to encourage the conversion of the many large homes along Route 3 into office uses. The last area where the town encourages commercial development is the Suncook Village, or central business district. This is the town's historic center. Today the Village contains a number of small commercial businesses, several restaurants, the Town's main banking facility, a number of social clubs, and the Post Office.

The Town is considering expanding the Commercial/Light Industrial District (C1) up Route 106. Residents were asked about the expansion of the commercial district in the Community Survey, and 51.9% of respondents supported the concept. For a more detailed discussion of the expansion of the commercial zone see the **EXISTING AND FUTURE LAND USE CHAPTER**.

INFRASTRUCTURE CHARACTERISTICS

The availability of utilities drives where businesses locate. In addition to basic infrastructure such as roads, water and sewer, the availability of cell phone and high speed Internet access can affect businesses development in a town. A full description of the condition of Pembroke's infrastructure can be found in the **COMMUNITY AND RECREATIONAL FACILITIES WITH UTILITIES CHAPTER**. This section will address only infrastructure issues that have the potential to affect economic development.

Roads

The primary road in Pembroke is Route 3/Pembroke Road. This road connects Suncook Village to downtown Concord and I-93. Since there are no other direct alternative routes, Pembroke Road is heavy traveled, making it a prime location for businesses that need to be highly visible. Route 106 is the heart of Pembroke's industrial district. It connects Route 3/Pembroke Road to Loudon Road in Concord, which is the center of a large retail area. Commercial uses are also centered in Suncook Village where a typical downtown road network exists. The road infrastructure in Pembroke is generally in good condition and is not generally a hindrance to business development.

Pembroke Water Works

The Pembroke Water Works provides water for the most densely settled portions of Pembroke, Allenstown, and a small portion of Hooksett. Connecting to the town water system is not usually a problem for commercial or industrial developers. Most of Pembroke's wells are located in existing commercial areas. The bigger water issue for commercial and industrial development is the aquifer, which is located under much of the commercial zoning district. The aquifer protection ordinance, described above, limits the type of uses and the amount of paving areas above the aquifer.

Pembroke Sewer Commission

Pembroke's sewer service is an inter-municipal operation with the Town of Allenstown. Pembroke pays an average of 57% of the cost of the operation and maintenance of the Suncook Wastewater Treatment Plant located on Ferry Street in Allenstown. The areas in Pembroke which presently have sewer service are: Pembroke Street, the adjacent areas to Pembroke Street, Route 106 (Sheep Davis Road), residential areas up to Third Range Road, and the Village area.

The sewer system has reached a capacity of 80% and the Towns of Pembroke and Allenstown must have State approval for any new connections to the system. The Town of Allenstown Sewer Commission is studying how it can increase capacity of the system. The cost to upgrade the plant may be as much as \$3 million dollars. Once plans are complete, an inter-municipal agreement will be formulated. Until Pembroke and Allenstown Sewer Commissions reach an agreement, the Town of Pembroke Sewer Commissioners no longer have a say in the management of the treatment plant. This situation is a hindrance to new commercial development.

Electricity

Electricity in Pembroke is primarily provided by Public Service Company of New Hampshire. The electrical system in Pembroke is largely adequate and able to accommodate future growth along the major thoroughfares.

Natural Gas

Currently, KeySpan Energy Delivery serves approximately 1,060 residential and commercial customers in the Town of Pembroke. KeySpan Energy delivery has existing mains in Pembroke Street that extend to the intersection of Peasley Drive on the southern end and to the intersection of Sheep Davis Road on the northern end. Future plans for expansion would be to connect the two extensions (approximately two miles) in Pembroke Street to improve the reliability of the distribution system in this area as well as add more customers along the route.

Telephone Service

Today telephone service is a necessity of everyday life. For businesses this necessity goes beyond basic phone service. The availability of Asymmetric Digital Subscriber Line (ADSL) service or Internet supportive phone features can influence where a business chooses to locate. On great advantage in Pembroke is that calls to both Concord and Manchester are considered local calls.

Pembroke is served by two Verizon telephone exchanges, Suncook and Concord. In general, telephone facilities are added as necessary to meet growth. In addition to Verizon, Comcast also provides long distance and regular telephone service to residents. AT&T offers long distance as well.

Asymmetric Digital Subscriber Line (ADSL) service is being expanded to become available in two areas of Pembroke. ADSL is a technology for transmitting digital information at a high bandwidth on existing phone lines to homes and businesses. Unlike regular dialup phone service, ADSL provides continuously available "always on connection." Equipment is being added to provide ADSL from Concord along North Pembroke Road and to the area surrounding the intersection of Route 106 and Borough Road.

Another main service offered is T-Carrier. T-Carrier was the first technology available to support digitized voice transmission through wires. The T-1 line is most commonly used by internet Provider Services to connect you to the internet over phone lines. This service is currently available along the Route 3 and Sheep Davis Road corridors and the Suncook Village area.

Cellular Phone Service

The use of cellular phones is becoming a part of every day business. There are currently six cell towers and one radio tower in Pembroke. The cell towers are located on Plausawa Hill Road. AT&T will soon be erecting a tower on Buck Street.

Internet

The internet revolution is changing the way people communicate with the world and even small communities such as Pembroke are affected. Comcast is the primary local internet provider in Pembroke. Residents and businesses can choose their own providers, including nation-wide carriers. For a dial-up internet connection, residents can also use Verizon and AT&T.

ECONOMIC DEVELOPMENT PLANNING TOOLS

Commercial Real Estate Analysis, 2001

The EXISTING AND FUTURE LAND USE CHAPTER provides a full summary of the Commercial Real Estate Analysis that was prepared by TF Moran and Coldstream Real Estate Advisors (CREA) for the Town of Pembroke in 2001.

This study, which was commissioned by the Economic Development Committee, was focused on analyzing the potential for commercial development in Pembroke. It included a real estate market analysis of Pembroke and surrounding communities and also involved a charrette, at which residents and town leaders outlined ways to improve the town.

The study concluded with several specific recommendations related to economic development. These included:

- Creating a “performance zone” to the west of Pembroke Street in the vicinity of the Soucook River. This zone would encourage mixed-use development and flexibility in design.
- Considering “transfer of development rights” (or TDR’s) to discourage residential development away from low-growth areas of town to other parts of town more suitable for such growth.
- Developing and “entry node” at the junction of Routes 3 and 106. This area could include office/retail development, a hotel, and a small grocery store.
- Expanding industrial uses along Route 106.
- Requiring more substantial landscape buffers for new developments.

The charrette also recommended that a new north-south by-pass road be created parallel to Pembroke Street to ease traffic congestion on Pembroke Street.

The study also focused on improving Pembroke’s image to attract more business. Related recommendations included:

- Promoting Pembroke’s proximity to Concord.
- Establishing welcome signs at the edges of town.
- Duplicating existing design features in new development to preserve the town’s character.
- Establishing landscape standards.
- Encouraging mixed use not only within one zone, but also within one structure.
- Developing materials to be used in marketing Pembroke to industry.

Pembroke Subdivision and Site Plan Regulations

Some of the recommendations from the 2001 Charrette can be addressed through Pembroke's subdivision and site plan regulations. These regulations are fully described in the **EXISTING AND FUTURE LAND USE CHAPTER**.

Subdivision regulations ensure that land is subdivided in a logical fashion. The subdivision regulations also contain design standards for road construction, grading, drainage, frontage requirements, and curb and sidewalk design. The site plan regulations, which are applicable to new commercial and industrial construction as well as business expansions, outline requirements for streets, preservation of natural features, drainage, parking and signage among other things. While subdivision and site plan regulations are sometimes perceived as a burden to developers, they are key to ensuring that the town is developed in orderly way and that construction meets certain standards. Site plan review regulations in particular allow a Town to influence what development looks like. Generally speaking, people and businesses like to locate in places that are attractive and well designed. Pembroke's subdivision and site plan review regulations should not hinder development, but rather promote development that can better the community.

Code Enforcement and Building Inspection

The Town's code enforcement and building inspection staff is charged with enforcing the building and life safety codes. Frequently businesses owners find codes to be problematic when a building is being constructed or upgraded. However, since codes and ordinances are based on the need to protect public safety, it is important to find a balance that empowers businesses to make improvements but also protects the public. In an older town like Pembroke, modern codes are often hard to meet in older buildings. In some case, exceptions to the code can be made and in some case they can not, depending on the issue. Since this is a topic that is of concern to town boards, town staff, and developers, it seems appropriate that a consensus should be built related to how codes can insure safety, but not limit development opportunities.

Economic Development Committee

Many of the recommendations of the 2001 Commercial Real Estate Analysis are still priorities for the Economic Development Committee. This committee, which was described in detail earlier in this Chapter, plans to continue efforts to promote Pembroke and advocate for businesses. The committee, which has several new members, hopes to rejuvenate past efforts to reach out to existing businesses. Once a new town planner is hired, the committee plans to work that person to promote Pembroke as a whole and to market individual properties. Finally, the committee intends to continue to act as a catalyst between the business community and the Town government.

SUMMARY

The goal of the Subcommittee for the ECONOMIC DEVELOPMENT CHAPTER was to review the quantities and types of businesses in Pembroke as shown in this Chapter. The information is based on the 2000 Census and other records. The concern from citizen input was to increase commercial properties to offset tax increases for residential properties in Pembroke. The information shows Pembroke as the fifth lowest in overall commercial tax base for our area, proving we need to encourage and search for businesses willing to locate in our B-1, B-2 and C-1 zoning districts.

The objectives of this Chapter are to increase commercial development, enlarge C-1 zoning district, encourage businesses to locate in Pembroke, flexible codes for existing buildings, and support existing businesses for future growth.

- Respectfully submitted, Cindy Lewis, Economic Development Subcommittee Chair

Chapter VI HOUSING

INTRODUCTION

The purpose of the Housing Chapter in this Master Plan is to identify Pembroke's current housing inventory, short-term housing needs, and to develop long-range plans for single family, multi-family, manufactured homes, and senior housing.

Safe, quality, and sanitary housing that reflects the rural atmosphere of the community is important to the long-term future of Pembroke. The housing character of any community is perhaps the most obvious indication of the quality of life in the community. Pembroke's housing stock consists largely of detached, single-family homes. Over 32% of housing units are multi-family, and an additional 5% are manufactured homes. The Town has five manufactured housing parks.

The vision for this chapter is to consider the character of the community and natural resources when planning for the future housing needs of a growing population. The uplands area of Town are relatively undisturbed, criss-crossed by Class VI range roads with travelways of Borough Road, Cross Country Road, and North Pembroke Road. Recent development has been seen in the uplands area along both Cross Country Road and North Pembroke Road. Other recent housing development has occurred along Whittemore Road, along Pembroke Street, and along Brittany Circle.

The March 2003 Survey Results indicated that residents wanted to see conservation subdivisions (also known as cluster development) and elderly housing. Over half of the respondents felt that Pembroke was growing too quickly. Additionally, 60% felt that new residential growth should be concentrated in the uplands area.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These Objectives were developed as a result of Subcommittee analysis and interpretation of the data contained within the following Chapter and from concerns raised from Pembroke residents and landowners from the Community Survey. They are listed in the beginning to give the reader the opportunity to view the results without reading through the entire Chapter.

- To maintain and increase the diversity of housing types and settings in Town.
 - Retain the residential character of Route 3 by encouraging additional businesses to use the existing structures as is by revising regulations.
 - Promote cluster development in all areas of Town.
 - Encourage mixed use in the Village area by increasing parking availability and proximity to housing units.
 - Encourage mixed building types in new developments, including single-family, duplex, townhouse, and condominium homes by revising regulations.

- To encourage affordable senior housing to locate to Pembroke.
 - Continue discussions with the Concord Area Trust for Community Housing (CATCH) and the Community Action Program (CAP) for locating senior housing in Town.
 - Develop a list of parcels within the Town suitable for a senior housing development.

COMMUNITY SURVEY RESULTS

The March 2003 Community Survey yielded 780 replies from 2956 surveys distributed, which equals a 26.4% return rate. The following questions were pertinent to the **HOUSING CHAPTER**. The full survey results are displayed in the **APPENDIX CHAPTER**.

What type of housing would you like to see the Town of Pembroke encourage?

Single family, elderly housing, and conservation subdivision (homes are on small lots with remaining land as protected open space) were the top three types of housing survey respondents checked as having high or medium priority. Multi-family (3-4 units), Multi-family (5+ units), and manufactured housing on individual lots (including modular and mobile homes) were rated as having the lowest priority.

In your opinion, which statement best characterizes Pembroke's rate of residential growth?

Over 50% of the survey respondents checked that Pembroke was growing too fast. Approximately 34% checked that Pembroke was growing at an appropriate rate.

If growth continues to occur, to what one area should future residential development be directed?

More than 60% of the respondents checked that future residential development should be directed to the Upland Area of Pembroke.

Do you support smaller lot sizes in your neighborhood area if other land in Town is protected from development?

Approximately 65% of respondents did not support smaller lot sizes in their neighborhoods. Just under 20% of respondents did support the smaller lot sizes. The remaining 15% were either unsure or undecided.

GENERAL HOUSING CHARACTERISTICS

Housing Stock and Supply

The amount and types of housing a community contains will influence property values, land use, and population growth. Trends can be charted that give direction to how a municipality should be handling its own unique housing situation.

Table VI-1
Pembroke Housing Supply by Type 1990-2000

| Total # of Housing Units by Type | 1990 | 2000 | Percent |
|----------------------------------|-------|-------|---------|
| Single Family | 1,472 | 1,710 | 62.5% |
| Multi-Family | 948 | 878 | 32.1% |
| Manufactured | 116 | 146 | 5.3% |
| Total | 2,536 | 2,734 | 100.0% |

Sources: 1990, 2000 US Census

Tracking the ages of homes within a community can contribute information on the community character, tax base, and housing supply and opportunities. Historic homes that are well-kept are both economic and historic assets to a town.

Table VI-2
Age of Houses in Pembroke, 2000

| Age of House | Number of Houses |
|--------------------|------------------|
| 10 years and under | 150 |
| 11 to 20 years | 638 |
| 21 to 40 years | 781 |
| 41 to 60 years | 305 |
| more than 60 years | 860 |

Source: 2000 US Census

The largest proportion of homes are older than 60 years (31.5%), followed closely by homes aged 21 to 40 (28.6%). New homes under 10 years are the lowest proportion (5.5%), giving a rough approximation of the number of new residential building permits that have been issued within the last decade. As of the 2000 Census, there were a total of 2,734 housing units in Pembroke.

Housing Density

Housing density is calculated by dividing the number of housing units by the square mileage of the area. It is a measure of how thickly settled an area is.

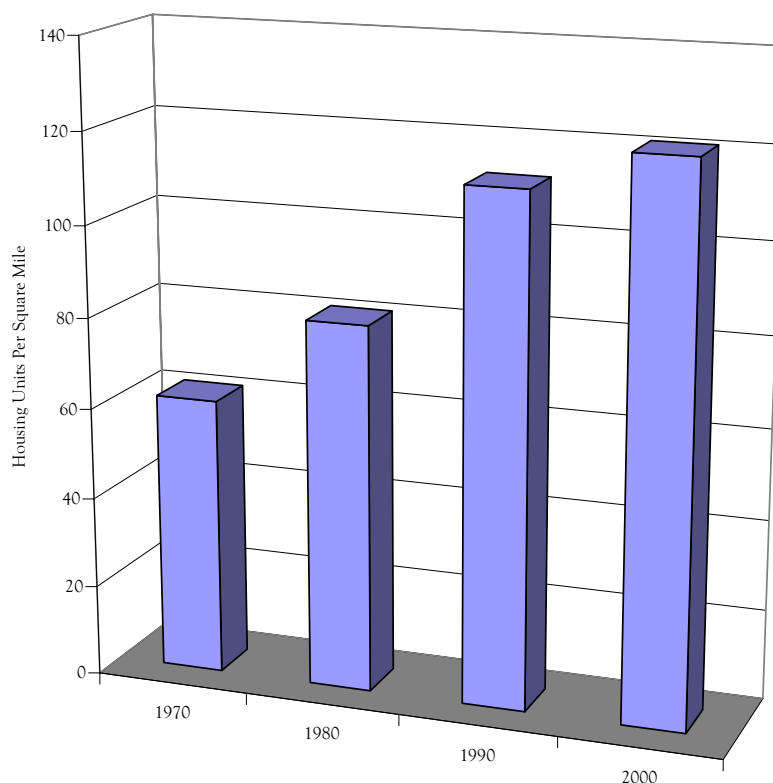
Table VI-3
Change in Housing Density, 1970-2000

| Year | Units | Density per Square Mile | % Change from Previous Decade | % Change from 1970 |
|-------|-------|-------------------------|-------------------------------|--------------------|
| 1970* | 1,386 | 61.3 | ~ | ~ |
| 1980 | 1,828 | 81 | 32.1% | 32.1% |
| 1990 | 2,536 | 112.2 | 38.5% | 83.0% |
| 2000 | 2,734 | 121 | 7.8% | 97.4% |

Sources: 1970-2000 US Census *1970 figure does not include seasonal and migratory units

As illustrated in Figure VI-1 below, a steady increase in Pembroke's housing density (housing units per square mile) has been occurring since 1970. A more pronounced leap occurred from in the 1980's (38.5%) which is consistent with the growth boom that New Hampshire, and Pembroke, experienced at that time. Between 1990 and 2000, a smaller increase (7.8%) indicated a leveling off of new homes as compared to previous decades.

Figure VI-1
Change in Housing Density, 1970-2000



Sources: 1970-2000 US Census *1970 figure does not include seasonal and migratory units

Table VI-4 illustrates the changing density of abutting communities in the 1990's. Pembroke, while with the third highest number of dwelling units per square mile (121), had the fourth lowest density change (7.8%) between 1990 and 2000. Within the area, Bow experienced the highest change in density at 25.2% while Allenstown experienced the lowest change at 5.1%.

Table VI-4
Change in Housing Density in Pembroke and Abutting Communities, 1990-2000

| | Land Area (Sq. Miles) | # of Dwelling Units, 1990 | Dwelling Units / Sq. Mile, 1990 | # of Dwelling Units, 2000 | Dwelling Units / Sq. Mile, 2000 | Change in Density, 1990-2000 | % Change, 1990-2000 |
|-----------------|-----------------------|---------------------------|---------------------------------|---------------------------|---------------------------------|------------------------------|---------------------|
| Allenstown | 20.5 | 1,868 | 91.1 | 1,962 | 95.7 | 4.6 | 5.1% |
| w/o BBSP* | 10.0 | 1,868 | 186.8 | 1,962 | 196.2 | 9.4 | 5.0% |
| Bow | 28.2 | 1,860 | 66 | 2,330 | 82.6 | 16.6 | 25.2% |
| Chichester | 21.2 | 724 | 34.2 | 849 | 40.1 | 5.9 | 17.3% |
| Concord | 64.0 | 15,697 | 245.3 | 16,881 | 263.8 | 18.5 | 7.5% |
| Epsom | 34.5 | 1,396 | 40.5 | 1,592 | 46.2 | 5.7 | 14.1% |
| Loudon | 46.0 | 1,476 | 32.1 | 1,684 | 36.6 | 4.5 | 14.0% |
| Pembroke | 22.6 | 2,536 | 112.2 | 2,734 | 121 | 8.8 | 7.8% |

Sources: 1990-2000 US Census Data; Community Information, NHARPC web site

*Allenstown's second density is portrayed when Bear Brook State Park's acreage is factored out of the total land area for the Town

Population Increase

Any discussion about housing increases also needs to consider the rise in population that occurs as a result of additional homes. While the majority of population information is located in the DEMOGRAPHICS CHAPTER, a brief examination of the comparisons between Pembroke’s population increase in the last decade and those of abutting communities will continue to offer insight into these relationships.

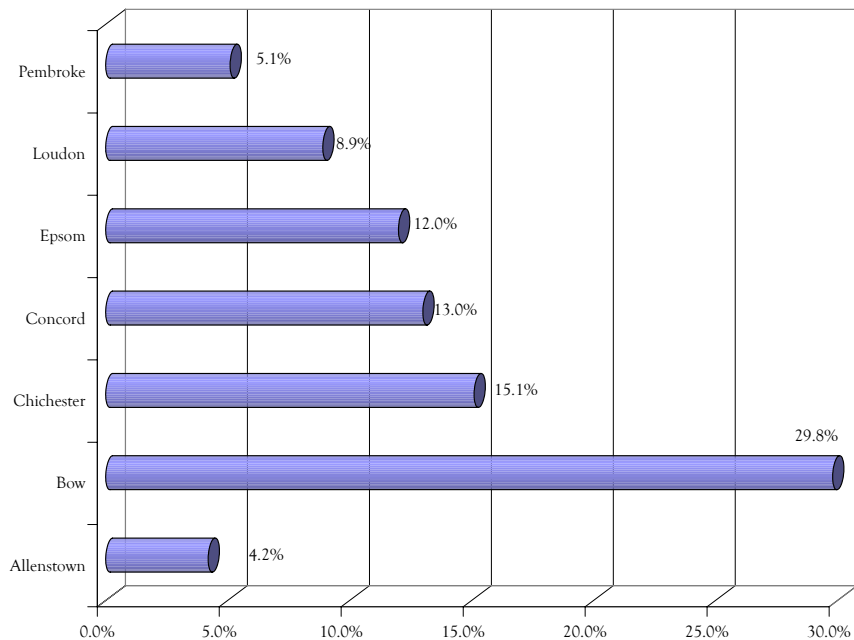
Table VI-5
Population Increase, 1990-2000
Pembroke and Abutting Communities

| | % Increase, 1990-2000 |
|-----------------|--------------------------|
| Allenstown | 4.2% |
| Bow | 29.8% |
| Chichester | 15.1% |
| Concord | 13.0% |
| Epsom | 12% |
| Loudon | 8.9% |
| Pembroke | 5.1% |

Sources: 1990 US Census & 2000 US Census

Table VI-5 above and Figure VI-2 below illustrate that Pembroke has experienced a minimal increase in population (5.1%) in the 1990’s. The town with the highest proportion of population growth is Bow at 29.8%, while Allenstown had the lowest amount of growth (4.2%). These findings are consistent with the housing density changes discussed in the previous section.

Figure VI-2
Population Increase, 1990-2000, Pembroke and Abutting Communities



Sources: 1990 US Census & 2000 US Census

COST OF HOUSING IN PEMBROKE

This section examines the costs of housing in Pembroke from both a rental and an ownership perspective. When the term *contract rent* is used, it indicates the price paid monthly by the tenant to the landlord. Contract rent is the advertised cost of the unit, and the utilities included in this payment vary from unit to unit. *Gross rent* indicates the sum of the contract rent and the prices of the utilities the tenant uses. Housing costs have increased dramatically since the 2000 Census.

Rental Costs Versus Home Ownership Costs

Rental and ownership costs include rent (or mortgage) and utilities. The median is defined as the middle value when numbers are arranged in increasing (or decreasing) order. In the following tables, median values were taken directly from Census or other records.

Table VI-6
Pembroke's Monthly Gross Rent or Mortgage Payments
and Relationship to Income, 1999

| | Renter Occupied | Owner Occupied | |
|-------------------------------|-----------------|----------------|------------------|
| | | With Mortgage | Without Mortgage |
| Median Cost per Month | \$562 | \$1153 | \$465 |
| Payment as Percent of Income* | 13.6% | 28.0% | 11.3% |

Source: 2000 US Census Digital SF-3 Table DP-3, DP-4,

*Based on 1999 Median Household Income - \$49,494

The US Department of Housing defines affordable housing as that which does not exceed 30% of annual household income and which includes all expenses related to housing, including utilities and taxes (see Page 16 for further detail). Using this definition, as indicated by the figures in Table VI-6, both renters and owners in Pembroke are living affordably although taxes and utilities are not taken into consideration in these figures.

Table VI-7
Value of Owner-Occupied
Housing Units, 2000

| | Median |
|-----------------|------------------|
| Allenstown | \$97,900 |
| Bow | \$169,400 |
| Chichester | \$120,000 |
| Concord | \$112,300 |
| Epsom | \$115,400 |
| Loudon | \$114,800 |
| Pembroke | \$112,500 |

Source: 2000 US Census

Compared to abutting communities, Pembroke's home values are within the lower range. In Table VI-7, the average, or mean, of the seven communities' value of owner-occupied housing units is \$120,300.

Table VI-8
Median Contract Rent for
Renter-Occupied Housing Units, 2000

| | Median Contract Rent |
|-----------------|-------------------------|
| Allenstown | \$516 |
| Bow | \$541 |
| Chichester | \$520 |
| Concord | \$577 |
| Epsom | \$520 |
| Loudon | \$521 |
| Pembroke | \$492 |

Source: 2000 US Census Digital SF-3 Table QT-H12

Contract rent is the amount paid to a landlord monthly basis. In Table VI-8, Pembroke's rental housing units rented at the lowest range compared to abutting communities, with \$492 as Pembroke's median rent in 2000. The contract rent does not include utilities. The highest community's rent, Concord, is \$577 and the mean, or average, of all area rents is \$527.

Rental Housing Costs

The costs of renting an apartment or rental house in Pembroke, with utilities, are discussed in this section. Table VI-9 depicts the median rent that people in Pembroke and surrounding towns pay. Pembroke falls in the lowest range of housing costs, according to the US Census:

Table VI-9
Median Gross Rent for
Pembroke and Abutting Towns, 2000

| | Median Gross Rent |
|-----------------|----------------------|
| Allenstown | \$597 |
| Bow | \$720 |
| Chichester | \$575 |
| Concord | \$647 |
| Epsom | \$594 |
| Loudon | \$588 |
| Pembroke | \$562 |

Source: 2000 US Census Digital SF-3 Table QT-H12

From Table VI-9, the highest gross rent paid is \$647 in Concord, while Pembroke is \$562. The mean, or average of the surrounding communities' gross rents is \$612. Pembroke appears to be more affordable for people seeking rental housing and may in the future see more competition for apartments.

The Town of Pembroke keeps its own records for the contract rents available in Town. In Table VI-10, the rents range from \$540 for a one-bedroom apartment to \$625 for a three-bedroom unit. These costs are much lower than the medians for Merrimack County (\$639 and \$900, respectively), as displayed below in Table VI-11. Manufactured housing park rent is approximately \$250, in addition to the cost of renting the manufactured home if it is not owned by the occupant.

Table VI-10
Average Welfare Rental Housing Costs in Pembroke by Housing Type, 2003

| | Utilities Included in Cost | Monthly Cost |
|-------------------------|-------------------------------|-----------------|
| Efficiency Apartment | No | ~~~~ |
| 1 Bedroom | No | \$540 |
| 2 Bedroom | No | \$585 |
| 2 Bedroom Townhouse | No | ~~~~ |
| 3 Bedroom | No | \$625 |
| Park Rent (Mobile Home) | No | \$250 |

Source: Pembroke Welfare Director

The monthly housing costs displayed in Table VI-10 reflect the full cost of tracked rents in Pembroke by people seeking welfare assistance and are not the subsidized portions paid by people requiring assistance.

Table VI-11 lists the median gross and contract rents by unit size for a 2002 sample of rental units in Merrimack County. No data specific to Pembroke was available. Where sample sizes were smaller than 20, the sample was not of sufficient size to provide a reliable calculation, and therefore the medians were not reported. However, the data for units in samples smaller than 20 were used in the calculation of medians for all units.

Table VI-11
Median Contract Rents for Merrimack County, 2002

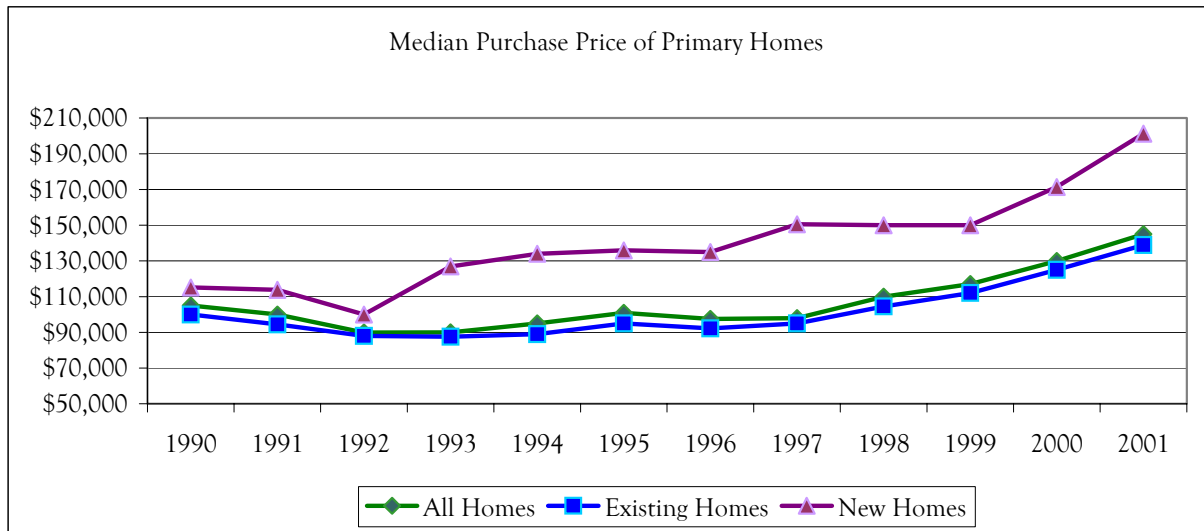
| Unit Size (Bedrooms) | Sample Size | Median Contract Rent | Rent Range |
|-------------------------|----------------|-------------------------|-----------------|
| 0 | 52 | \$520 | \$328 - \$697 |
| 1 | 412 | \$639 | \$375 - \$1,200 |
| 2 | 675 | \$868 | \$450 - \$1,631 |
| 3 | 63 | \$900 | \$632 - \$1,891 |
| 4+ | 11 | ~~~~ | \$796 - \$1,265 |
| All | 1,213 | \$789 | \$328 - \$1,891 |

Source: New Hampshire Housing Finance Authority, 2002 Residential Rental Cost Survey (p. 5)

Merrimack County and State Home Purchase Prices, 1990–2001

The following two Figures depict averages of Merrimack County and State home purchase prices between 1990 and 2001. The numbers within Figures V-3 and V-4 are low compared to the average price for homes being sold in Pembroke in 2003 in Table VI-13.

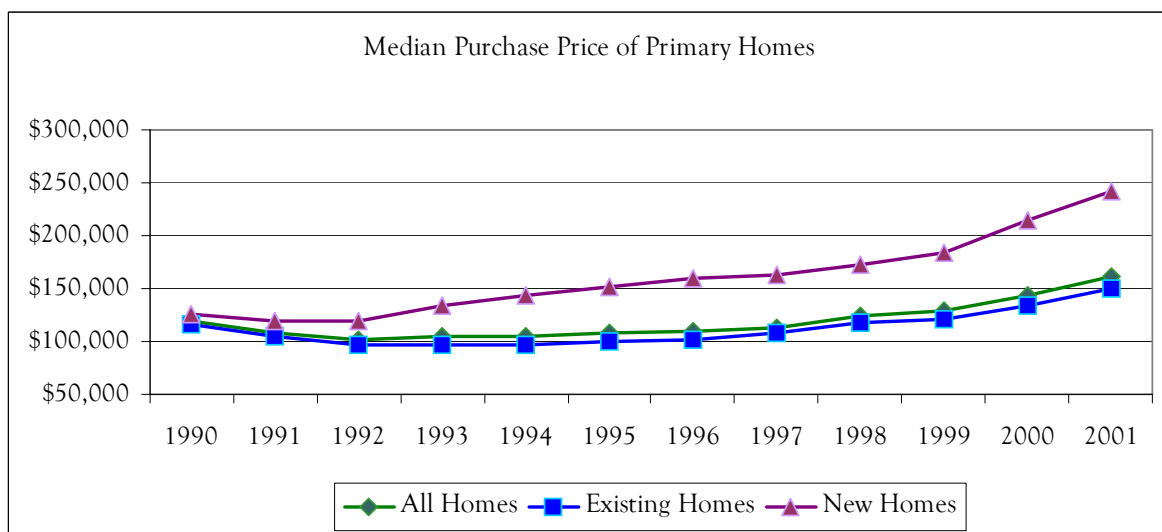
Figure VI-3
Average Home Purchase Prices in Merrimack County, 1990-2001



Source: NH Housing Finance Authority Purchase Price Database, 2002

In Merrimack County, the average home price in 1990 was around \$105,000, while in 2001, that price soared to nearly \$150,000. New homes sold at considerably more, for about \$50,000 additional per home in 2001. In 1990, new homes were sold for only \$10,000 more.

Figure VI-4
Average Home Purchase Prices in New Hampshire, 1990-2001



Source: NH Housing Finance Authority Purchase Price Database, 2002

The average home in New Hampshire was sold for about \$120,000 in 1990, while in 2001 the average home sold for approximately \$160,000. New home prices in 2001 increased to about \$240,000. The average for New Hampshire (\$160,000) was only slightly higher than that of the average for Merrimack County (\$150,000).

Current Asking Prices of Homes in Pembroke

A “snapshot” can be taken of the current housing market conditions found in Pembroke. The Northern New England Real Estate Network provided information, via public access on the Internet, on those homes which are being sold in Pembroke through commercial selling agencies. The average selling price of a manufactured home, as of June 2003, was \$28,000 as indicated by the single manufactured home for sale in Pembroke.

Table VI-12
Asking Price of Manufactured Homes in Pembroke

| Home Style | Bedrooms | Baths | Number of Homes for Sale | List Price |
|----------------------|----------|-------|--------------------------|------------|
| Single- Wide | 2 | 1 | 1 | \$28,000 |
| Average Asking Price | | | | \$28,000 |

Source: June 2003 Northern New England Real Estate Network

Single family homes dominated the housing market in June 2003. The Northern New England Real Estate Network, a carrier of the multiple listing service, listed 45 homes for sale at that time. The average asking price for all homes was \$230,485, with a low of a two-bedroom home at \$159,950 and a high of a four-bedroom home at \$288,200.

Table VI-13
Asking Price of Traditional Single-Family Homes in Pembroke

| Home Style | Bedrooms | Baths | Number of Homes for Sale | Average List Price |
|----------------------|----------|--------|--------------------------|--------------------|
| Single Family | 2 | 1 | 2 | \$159,950 |
| Single Family | 3 | 1 | 4 | \$179,575 |
| Single Family | 3 | 1 ½ | 18 | \$234,987 |
| Single Family | 3 | 2 | 6 | \$217,433 |
| Single Family | 3 | 2 ½ | 5 | \$242,600 |
| Single Family | 4 | 1 or ½ | 6 | \$228,257 |
| Single Family | 4 | 2+ | 4 | \$288,200 |
| Average Asking Price | | | | \$230,485 |

Source: June 2003 Northern New England Real Estate Network

Compared to the 2001 Merrimack County average of \$150,000 in Figure VI-3, Pembroke homes are selling much higher. The most likely cause is the recent jump in overall home prices around the State and in the County over the last 18 months.

Table VI-14
Asking Price of Multi-Family Homes in Pembroke

| Units | Lot Size | List Price |
|----------------------|----------|------------|
| 2 | 4,791 | \$139,900 |
| 2 | 9,147 | \$155,000 |
| 4 | n/a | \$175,500 |
| 2 | 34,848 | \$219,900 |
| 2 | 32,670 | \$279,900 |
| Average Asking Price | | \$194,040 |

Source: June 2003 Northern New England Real Estate Network

Multi-family and condominium units are also available for sale in Pembroke. Five multi-family homes, containing between two and four units apiece, were for sale in June 2003. The two-unit homes with large lots are selling for considerably more than those with smaller lot sizes. The average asking price for a multi-family home is \$194,040 as shown in Table VI-14. Depicted in Table VI-15, only three condominium units were listed, with an average asking price of \$137,900.

Table VI-15
Asking Price of Condominium Units in Pembroke

| Bedrooms | Baths | List Price |
|----------------------|-------|------------|
| 1 | 1 ½ | \$143,900 |
| 2 | 1 ½ | \$134,900 |
| 2 | 1 ½ | \$134,900 |
| Average Asking Price | | \$137,900 |

Source: August 2002 Northern New England Real Estate Network

HOUSING GROWTH TRENDS

Pace of community growth can be gauged by both population and by the number of households the community contains. Household size and the number of new residential building permits issued gives important information that directly relates to the capacity of Town services and provides information for future land use considerations.

Household Size

Household size statistics were gathered from a number of different sources. Despite differing methodologies in calculating the figures, it appears that the average number of people declined after 1970 and has remained constant since that time. In 2000, an average of 2.6 persons lived in each housing unit.

Table VI-16
Average Household Size

| | 1970 | 1980 | 1990 | 2000 |
|-----------------------|------|------|------|------|
| Persons per household | 3.2 | 2.5 | 3.1 | 2.6 |

Source: 1980, 1990, 2000 US Census; NHARPC Website

The number of people in each housing unit is further clarified in Table VI-17. The total number of occupied units (2,661) differs from the number of total housing units (2,734) as indicated in Table VI-1. In households occupied by owners, the average household size increases to 2.8 persons; the number of renters in households is only 2.2 persons.

Table VI-17
Population per Occupied Unit, 2000

| Unit Types | Number of Units | Average Household Size |
|-----------------------|-----------------|------------------------|
| Total Occupied Units | 2,661 | 2.59 |
| Owner-Occupied Units | 1,808 | 2.8 |
| Renter-Occupied Units | 854 | 2.16 |

Source: 2000 US Census SF-1 Table DP-1

New Residential Building Permits

The number of building permits issued has been recorded by the Building Inspector. The figures below in Table VI-18 include replacement manufactured homes. The locations of building permits issued between 1998 and 2003 are depicted on the *Residential Building Permits Issued 1998-2003 Map*.

Table VI-18
Residential Building Permits Issued by Housing Type, 1990 - 2002

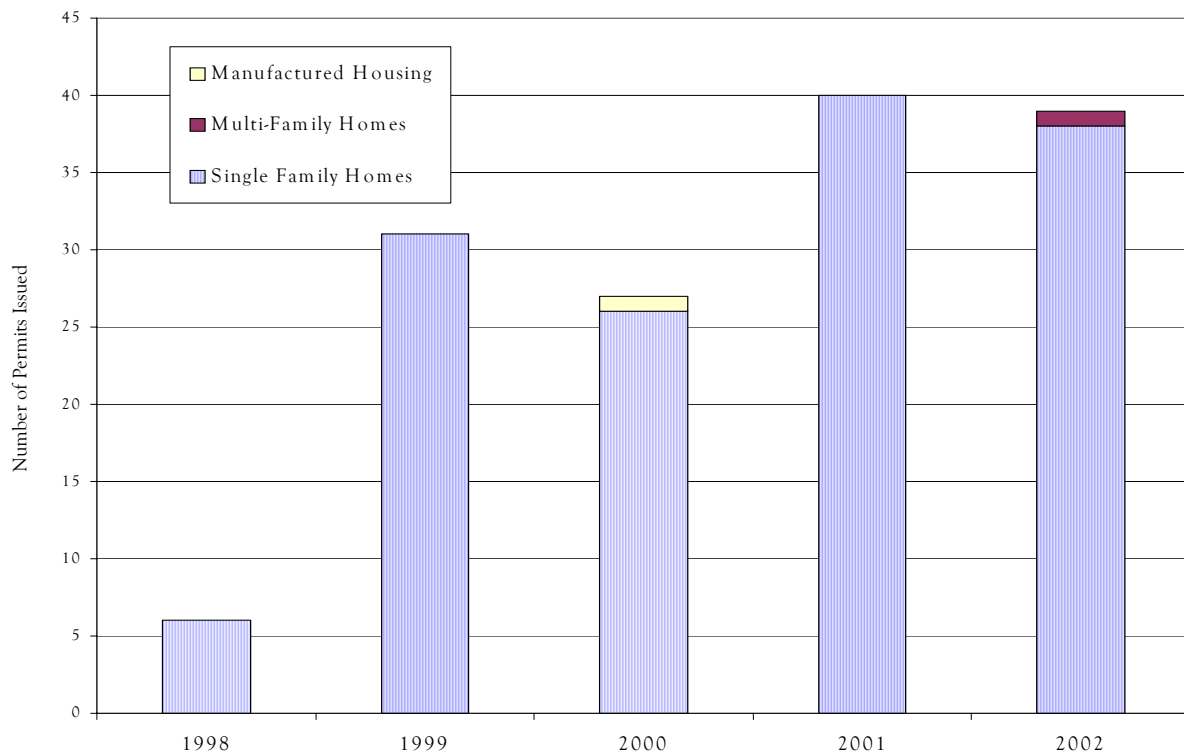
| Housing Type | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 13-Year Total |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|
| Single Family Homes | 7 | 8 | 7 | 7 | 11 | 9 | 9 | 10 | 12 | 31 | 26 | 40 | 44 | 221 |
| Multi-Family Homes | 0 | 0 | 0 | -1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| Manufactured Homes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Yearly Totals | 7 | 8 | 7 | 6 | 11 | 9 | 10 | 10 | 12 | 31 | 27 | 40 | 45 | 224 |

Source: Pembroke Town Offices

As shown in Table VI-18 and in Figure VI-5, the number of building permits has raised from a mere seven (7) in 1990 to 44 in 2002. As total figures are not yet available for 2003, they are not depicted although it appears the number will be somewhat less than the 2002 figure of 45 permits. Over the five-year span shown, only one (1) permit for a manufactured home and two (2) permits for a multi-family home were granted. Of the 224 total residential building permits issued between 1990 and 2002 for new construction, only three (3) were not single-family homes.

Prior to 1998, the number of permits issued for homes ranged from seven to twelve on a yearly basis. In 1999, however, 31 permits were issued. Between 1999 and 2000, the permit range has spanned from 27 to 45. Taking the high of 12 in 1998 and comparing it to the total of 2002 (45), the number of building permits issued in Pembroke has increased 275%.

Figure VI-5
Residential Building Permits Issued by Housing Type, 1998 – 2002



Source: Pembroke Town Offices

Projected Housing Growth

According to the study conducted by Planning Decisions, Inc. June, 2002, "A Smart Growth Future for Pembroke," Pembroke is likely to experience an additional 1,500 new housing units built over the next twenty years. This is a projected 50% increase in the current housing stock resulting from on-going growth and the effects of widening of Interstate 93. According to the jump identified in Figure VI-5 above, building permits have already increased substantially.

A remarkable increase in subdivision plans have been introduced to the Planning Board even within the last year. In fall of 2003 the Board approved a 72-unit townhouse cluster subdivision and recently denied a 120 single family subdivision, with 48 elderly units and an additional 48 multi-family units, because the application was incomplete. The introduction of new and revised plans is expected to continue, particularly as discussions about the I-93 widening proceed further.

An additional influence on the growth of housing in Pembroke will be the Growth Management Ordinance recently adopted by the Planning Board. The ordinance, which is reviewed annually by the Planning Board and sunsets on March 31, 2008, allows the issuance of permits equivalent to 2% of the previous year's total dwelling units. Unused permits are rolled over into the following year, but are given out only after the regular yearly allocation has been utilized and expire if not used within that next year.

AFFORDABLE HOUSING

The Department of Housing and Urban Development (HUD) defines affordable housing as that which does not cost more than 30 percent of the annual household income, including mortgage payments, taxes, and utility costs. Affordable housing is a problem for renters and homeowners, young families and the elderly alike. In 1999, 45% of renters across New Hampshire could not afford the fair market rents in their area (*Feeling the Pinch*, The New Hampshire Housing Forum).

Any household spending more than 30% of its income on housing is considered cost-burdened. A homeowner with a mortgage and taxes of \$1,200 per month needs an annual income of \$47,950 (\$23.98 per hour), while a renter with rent of \$868 per month (the median cost of a 2 bedroom unit in 2002) needs an income of \$34,690 (\$17.34 per hour) to remain at or below 30%. An estimated 30% of all households (renter and owner) in New Hampshire paid more than 30% of their income for housing in 2000. The standard does oversimplify reality in that some families find it harder to pay 30% of their income for housing than others, depending on total family income: low-income families are hit hardest. Thus, this oversimplification actually understates the housing problems of low-income families.

Affordable housing is an issue that is considered by all levels of government. The federal government has long been promoting affordable housing through various programs administered by the Department of Housing and Urban Development. State government has promoted affordable housing through passage of several laws requiring communities to provide affordable housing. Furthermore, the State has also created several commissions and departments, such as the New Hampshire Housing Finance Authority, to examine and foster the development of affordable housing opportunities.

As a result of growing concern over access to affordable housing, all regional planning commissions in the State have been charged by State law to develop affordable housing needs assessments for each community within their region every five (5) years.

Pembroke's Theoretical Share of the Regional Affordable Housing Stock

Based on the affordable housing need assessment conducted by the Central New Hampshire Regional Planning Commission (CNHRPC), Pembroke has three times the number of its theoretical fair share of affordable housing:

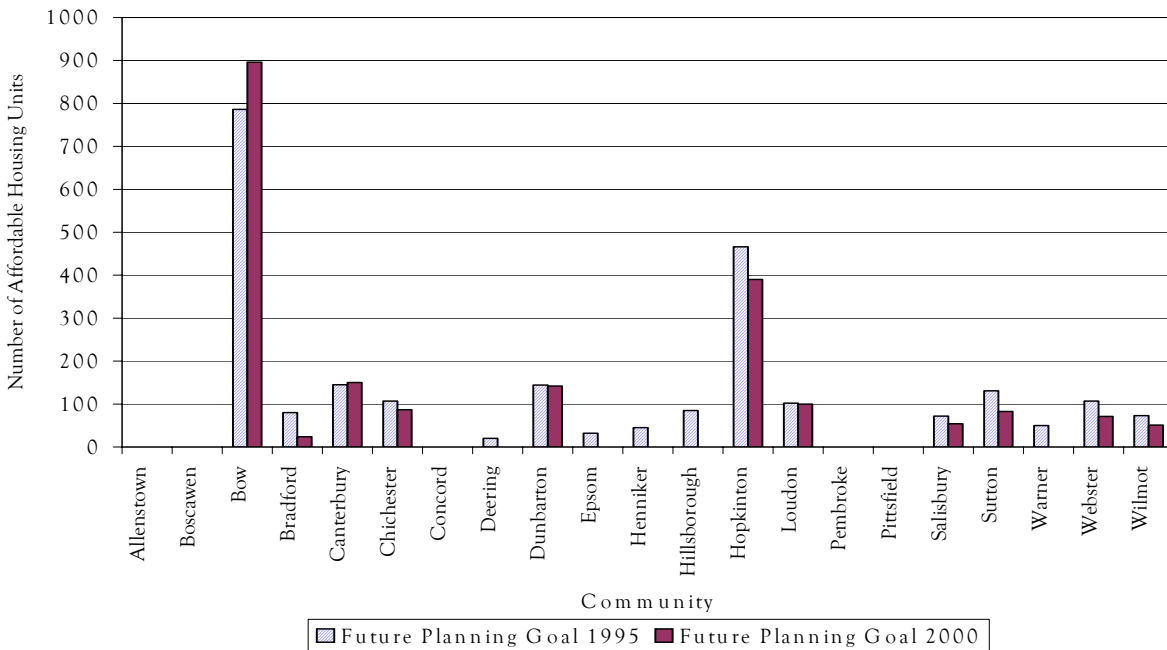
Table VI-19
Summary of Affordable Housing Needs for the Central New Hampshire Region

| | Theoretical Community Share of Regional Affordable Housing Stock | Total Number of Existing Affordable Housing Units | Future Planning Goal (Number of Units Community Should Develop) |
|-----------------|---|--|--|
| Allenstown | 392 | 1,054 | 0 |
| Boscawen | 308 | 490 | 0 |
| Bow | 1,072 | 176 | 896 |
| Bradford | 171 | 147 | 24 |
| Canterbury | 225 | 75 | 150 |
| Chichester | 236 | 149 | 87 |
| Concord | 6,150 | 8,849 | 0 |
| Deering | 167 | 192 | 0 |
| Dunbarton | 245 | 103 | 142 |
| Epsom | 415 | 448 | 0 |
| Henniker | 493 | 557 | 0 |
| Hillsborough | 563 | 648 | 0 |
| Hopkinton | 805 | 416 | 390 |
| Loudon | 502 | 402 | 100 |
| Pembroke | 735 | 996 | 0 |
| Pittsfield | 374 | 772 | 0 |
| Salisbury | 122 | 69 | 54 |
| Sutton | 190 | 107 | 83 |
| Warner | 310 | 317 | 0 |

Source: CNHRPC Affordable Housing Needs Assessment, 2000

Many communities in the CNHRPC Region should look to increase the number of affordable units available in their Town, particularly in light of substantial rent increases and lack of housing availability over the past few years. According to Table VI-19, Pembroke has no need to specifically develop opportunities for further affordable housing. Approximately one-third of housing in the community is considered affordable. If other municipalities in the Region better accommodated their theoretical “fair share” of affordable housing, individuals and families requiring low-cost housing could locate to communities other than Pembroke, Allenstown, Boscawen, Concord, Deering, Epsom, Henniker, Hillsborough, Pittsfield, or Warner.

Figure VI-6
 Comparison of Affordable Housing Goals for Communities in the
 Central New Hampshire Region, 1995 vs. 2000



Source: CNHRPC Affordable Housing Needs Assessment, 2000

Many communities in the CNHRPC Region should look to increase the number of affordable units available in their Town, particularly in light of substantial rent increases and lack of housing availability over the past few years. According to Table VI-19 and Figure VI-6, Pembroke does not need to encourage more affordable housing, although the need and desire for senior housing should warrant the attraction of new senior housing options.

Manufactured Housing

For some of those priced out of the expensive home purchase market, the only viable option is manufactured housing ("manufactured housing" includes both single-family mobile homes and prefabricated homes set on permanent foundations, either of which having been transported to the home site in one or more sections). Manufactured housing can be organized in three types of locations - individually owned lots, investor-owned parks, and cooperatively-owned parks.

NH RSA 674:32 stipulates that all communities that have adopted land use regulations shall allow manufactured housing as an allowed use. Of the total land area zoned for residential use, manufactured housing must be permitted on a majority of that land area. The State has provided communities with two options for the development of manufactured housing. First, communities may permit the development of manufactured housing on individual lots. No special exception requirement is allowed for this type of development pattern, unless a special exception is required for the construction of traditional dwelling units on individual lots, or traditional subdivisions. Secondly, communities may encourage the development of manufactured housing in a park atmosphere. The law requires that reasonable densities and expansion potential must be permitted to these types of development. Communities need to ensure that no undue barriers to the development of affordable housing have been created by reviewing all special requirements of manufactured housing.

Table VI-20
Manufactured Housing Parks in Pembroke

| Name | Location | Number of Lots |
|-------------------------|----------------|----------------|
| Tanglewood | Sheep Davis Rd | 21 |
| Ashley Park Cooperative | Dearborn Rd | 12 |
| Sun Briar Knoll | Mass Ave | 5 |
| Sheetz Park | Thompson Rd | 4 |
| Silver Fox Estates | Friendship Ave | 19 |

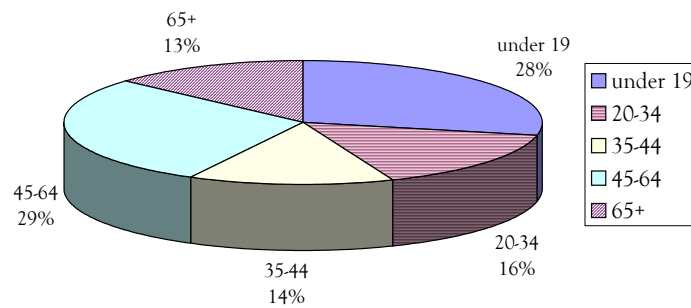
Source: Town of Pembroke

In Pembroke are a total of five (5) manufactured housing parks as illustrated in Table VI-20. They are located throughout the Town. The number of lots in the parks total 61. As the total number of manufactured homes in Pembroke is 146 (see Table VI-1), the remainder of manufactured homes are situated on individual lots.

Senior Housing

Like many other small towns in New Hampshire, Pembroke has a growing number of senior citizens. Housing for seniors is crucial for those who cannot take care of themselves, afford taxes, or have the resources to upkeep their homes. Senior activities are important within any community for both social and practical purposes. Pembroke's seniors require transportation to reach essential services such as the grocery store and for health care. They typically rely on others to transport them to these services.

Figure VI-7
Percentage of Population by Age Group, 2000



Seniors now comprise almost 15% of the total population of the Town. Within the next ten years, that number should be expected to double. According to Figure VI-7, within ten to twenty years, there will be a boom of elderly people requiring housing. Senior housing also has an additional benefit that is attractive to many municipalities. Over 55 housing communities pay a fair, although sometimes discounted, tax rate yet do not contribute children to the public school system. Additionally, non-profit organizations such as the Community Action Program (CAP) can be sought to purchase, implement, and manage a senior housing development. Pembroke should develop a plan to accommodate its seniors within the next decade and enlist the assistance of non-profits.

RESIDENTIAL TAXATION

Comments about residential taxes were among the most common write-in responses of the Community Survey results. A discussion about housing in general is not complete without addressing taxes, which influence the number of people selling their homes to move out of Town or buying homes to move into Pembroke. As taxes increase, fewer elderly residents will be able to remain in their homes and may be forced to look elsewhere for housing.

Tax Comparisons

Equalized valuation, or equalization, is an adjustment of the town's local assessed values, either upward or downward, in order to approximate the full value of the town's property. Each year, the NH Department of Revenue Administration (NH DRA) equalizes the property values for every city and town. This process is due to an imbalance caused by varying local assessment levels. Adjusting these values among towns is the only way for statewide consistency. The total value of all property in town is adjusted based upon the comparison of recent property sales with local property assessments. Once property values have been equalized, public taxes and state revenues shared by towns and cities may be fairly apportioned among them. This includes state education property taxes and county taxes.

As generated statistics, equalization ratios are used when revaluation companies are planning their work and are used by assessing officials to periodically check the validity of assessments. Ratios are computed using properties that have sold during the period: the prices the properties actually sold for are compared to the values listed on the assessment cards. The median ratio in a listing of properties is selected to represent the equalization ratio in a town because it gives equal weight to all properties regardless of selling price. The ratio can help towns judge when revaluation should occur and how the town compares with other towns or cities.

The full value tax rate is the equalized tax rate for a town. Contrary to popular belief, the town's equalization ratio cannot be applied directly to the local assessed rate to equal the full value tax rate since other variables are involved. This full value tax rate permits comparisons to other towns in the state for apportionment purposes.

Revaluation in Pembroke is performed annually, with 25% of homes, structures, and businesses being reassessed. Every four years, a full revaluation of the Town is complete and the cycle continues.

Table VI-21 below compares Pembroke's tax rates, before and after equalization, with the abutting communities. The net valuations displayed here have not been equalized.

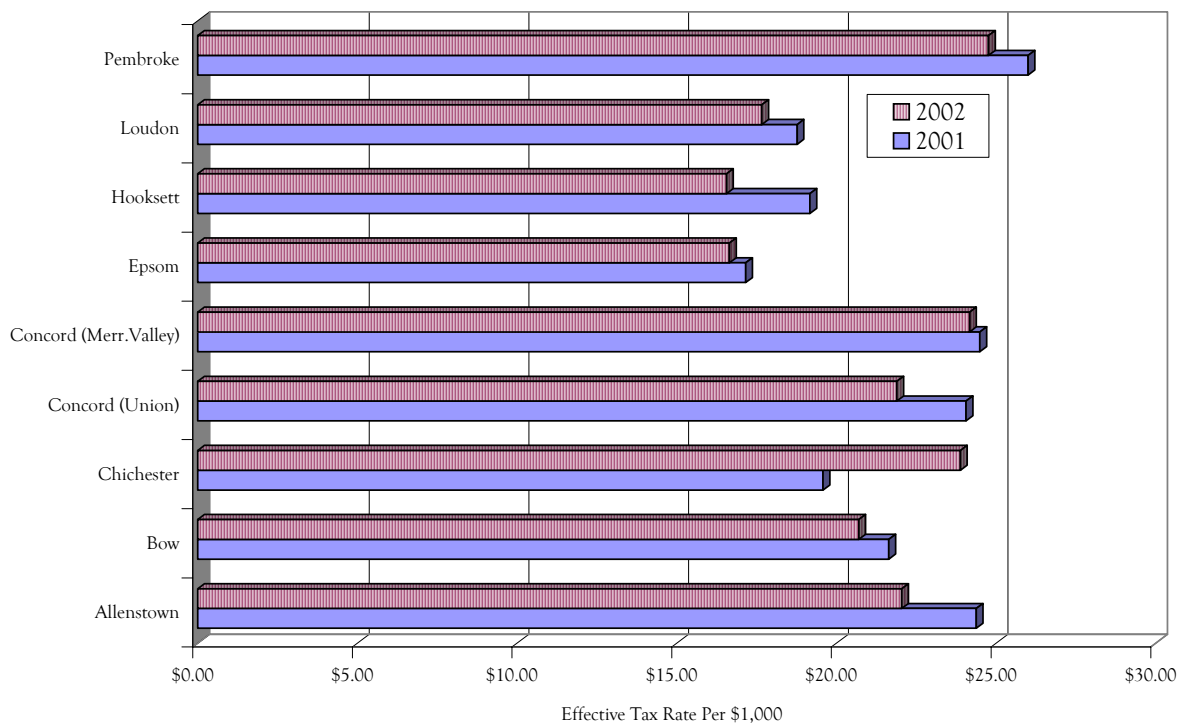
Table VI-21
Tax Rates of Pembroke and Abutting Communities, 2001 - 2002

| Community | Net Valuation | | Effective Tax Rate Per \$1000 | | Equalization Ratio | | Full Value Tax Rate Per \$1000 | |
|-----------------------|----------------------|----------------------|-------------------------------|----------------|--------------------|------------|--------------------------------|----------------|
| | 2001** | 2002* | 2001** | 2002* | 2001** | 2002* | 2001** | 2002* |
| Allenstown | \$163,516,693 | \$183,241,933 | \$26.28 | \$24.06 | 93% | 92% | \$24.38 | \$22.04 |
| Bow | \$651,415,245 | \$838,300,562 | \$29.09 | \$23.15 | 62% | 89% | \$21.64 | \$20.70 |
| Chichester | \$106,466,928 | \$110,332,191 | \$28.62 | \$32.99 | 68% | 72% | \$19.58 | \$23.88 |
| Concord (Union) | \$1,345,514,100 | \$1,422,226,800 | \$27.34 | \$26.40 | 88% | 83% | \$24.06 | \$21.89 |
| Concord (Merr Valley) | \$897,009,849 | \$948,151,674 | \$27.83 | \$29.15 | 88% | 83% | \$24.49 | \$24.17 |
| Epsom | \$166,208,735 | \$170,923,822 | \$25.15 | \$37.94 | 69% | 60% | \$17.16 | \$16.65 |
| Hooksett | \$760,194,546 | \$774,533,306 | \$25.27 | \$25.20 | 78% | 66% | \$19.17 | \$16.56 |
| Loudon | \$255,298,969 | \$264,042,587 | \$22.86 | \$24.80 | 83% | 71% | \$18.77 | \$17.66 |
| Pembroke | \$246,619,471 | \$255,701,458 | \$39.16 | \$40.32 | 67% | 61% | \$26.00 | \$24.76 |

Source: *NH Department of Revenue Administration website, Table – 2002 Property Tax Rates, 01/28/03 update
 **Comparison of Effective Rate of Taxation Based on Full Value of Property with Local Tax Rate – Tax Year 2001

In terms of tax rate, Pembroke had both the highest effective tax rate (\$40.32) and the highest full value tax rate (\$24.76) in the area in 2002 as well as in 2001. This is not directly attributable to the equalization ratio since Bow’s is lower at 62% and Chichester (68%) and Epsom (69%) are at nearly the same level as Pembroke (67%). Figure VI-8 graphically illustrates the effective tax rate in 2002 of Pembroke and surrounding communities as shown in Table VI-21 above.

Figure VI-8
Effective Tax Rates of Pembroke and Abutting Communities, 2002



Source: *NH Department of Revenue Administration website, Table – 2002 Property Tax Rates, 01/28/03 update

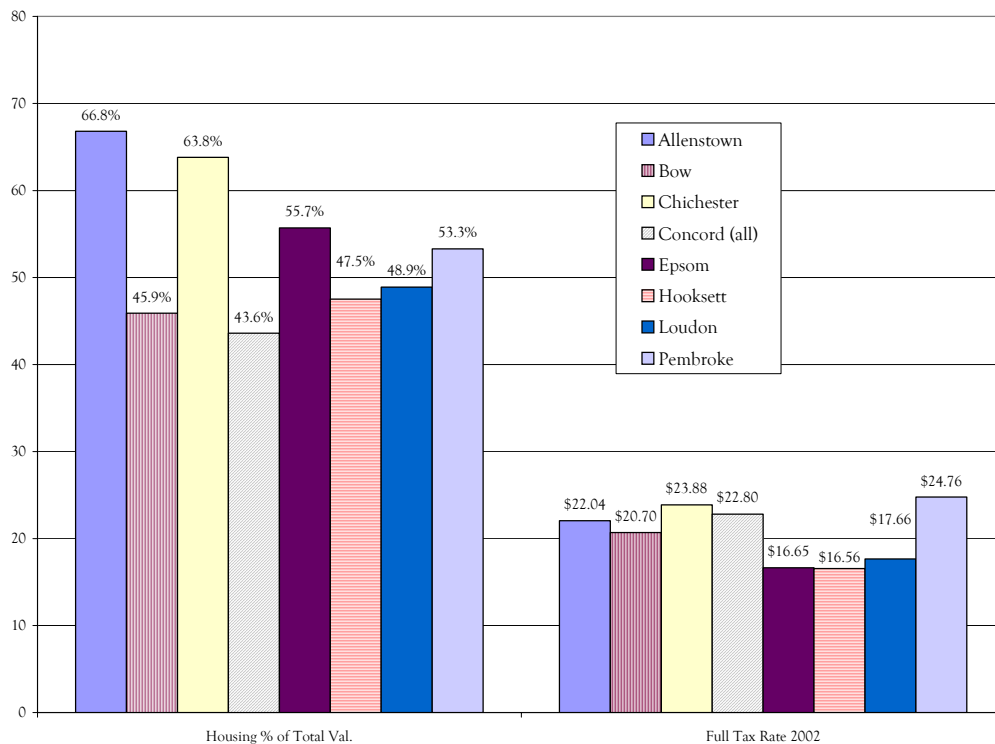
To better place the tax rates in Table VI-21 into perspective, comparisons of residential values to manufactured home values are displayed in Table VI-22 to show total housing valuation.

Table VI-22
Residential Building Valuation of Pembroke and Abutting Communities, 2002

| Community | Net Valuation | Residential Buildings | % of Valuation | Manufactured Housing Buildings | % of Valuation | Total Housing Valuation % |
|-----------------|----------------------|-----------------------|----------------|--------------------------------|----------------|---------------------------|
| Allenstown | \$183,241,933 | \$106,483,400 | 58.1% | \$15,893,300 | 8.7% | 66.8% |
| Bow | \$838,300,562 | \$384,784,275 | 45.9% | \$0 | 0.0% | 45.9% |
| Chichester | \$110,332,191 | \$68,491,200 | 62.1% | \$1,935,800 | 1.8% | 63.8% |
| Concord* | \$2,370,378,000 | \$1,030,916,500 | 43.5% | \$2,155,300 | 0.1% | 43.6% |
| Epsom | \$170,923,822 | \$86,161,550 | 50.4% | \$9,077,450 | 5.3% | 55.7% |
| Hooksett | \$774,533,306 | \$359,136,300 | 46.4% | \$8,572,800 | 1.1% | 47.5% |
| Loudon | \$264,042,587 | \$119,608,200 | 45.3% | \$9,545,900 | 3.6% | 48.9% |
| Pembroke | \$255,701,458 | \$134,862,900 | 52.7% | \$1,452,600 | 0.6% | 53.3% |

Source: NH Department of Revenue Administration: Table – Property Tax Publications, 2002, Tables by County
*Concord’s Tax Rate is an average between Concord Union (\$26.40) and Merrimack Valley (\$29.15)

Figure VI-9
Residential Valuation and Full Value Tax Rate of Pembroke and Abutting Communities, 2002



Source: NH Department of Revenue Administration: Table – Property Tax Publications, 2002, Tables by County
*Concord’s Tax Rate is an average between Concord Union (\$26.40) and Merrimack Valley (\$29.15)

Table VI-22 indicates that Pembroke's manufactured housing valuation is the second lowest (0.6%) of all area towns with manufactured housing, and total housing valuation accounts for 53.3% of Pembroke's valuation. The highest percentage of housing valuation is Allentown (66.8%), while Concord (43.6%) has the lowest percentage, as shown in Figure VI-9.

Within the State, Pembroke ranks 200th of 227 towns (ranking lowest to highest) in terms of full-value tax rate according to the NH Department of Revenue Administration (NH DRA).

Table VI-23
Pembroke Assessed Land Valuation, 2002

| Community | Current Use | Conservation Restriction | Discretionary Easement | Residential | Commercial / Industrial |
|-----------------|------------------|--------------------------|------------------------|---------------------|-------------------------|
| Allentown | \$273,977 | \$0 | \$0 | \$32,018,150 | \$15,380,170 |
| Bow | \$602,460 | \$0 | \$0 | \$167,279,125 | \$21,812,275 |
| Chichester | \$714,711 | \$0 | \$0 | \$25,090,100 | \$4,045,900 |
| Concord* | \$1,303,600 | \$0 | \$0 | \$449,676,300 | \$237,540,200 |
| Epsom | \$902,588 | \$0 | \$0 | \$46,978,900 | \$12,020,150 |
| Hooksett | \$364,050 | \$0 | \$0 | \$176,731,956 | \$102,313,000 |
| Loudon | \$1,899,200 | \$0 | \$0 | \$63,982,000 | \$29,524,100 |
| Pembroke | \$943,600 | \$950 | \$46,788 | \$66,212,850 | \$11,951,450 |

Source: NH Department of Revenue Administration: Table – Property Tax Publications, 2002, Tables by County

*Concord's Tax Rate is an average between Concord Union (\$26.40) and Merrimack Valley (\$29.15)

As depicted in Table VI-23, Pembroke's residential land valuation is over \$66 million. The average for Merrimack County is over \$78 million, while the average for communities surrounding Pembroke, excluding Concord, is over \$72 million. While Pembroke's assessed residential land valuation is modest and the commercial land valuation is the second lowest of abutting towns, the high tax rate and its impact to property owners should be reexamined.

SUMMARY

The goal of the Subcommittee for the HOUSING CHAPTER was to discover the quantity and types of housing in Pembroke. The information is based on the 2000 Census and other records. The concerns from citizen input were the rapid residential growth in Pembroke, high taxes, and leaving Pembroke Street unchanged. The data shows Pembroke as the second lowest in residential growth for our area, but with the increasing number of surrounding towns implementing Growth Management Ordinances, we are starting to feel the pressure of development.

We recognize that a difference between Planning Decisions, Inc's housing growth projections and the NH Office of Energy and Planning's housing growth projections exists. This situation will be monitored by the Planning Board.

The objectives of this Chapter are to increase senior housing, encourage zoning changes to the cluster and mixed use ordinances, implement a growth management ordinance to accommodate the future housing projections, revise regulations to retain the residential feel of Pembroke Street while still allowing commercial use, and encourage commercial businesses to help offset the high tax rate.

- Respectfully Submitted, Cindy Lewis, Housing Subcommittee Chair

Chapter VII NATURAL RESOURCES

INTRODUCTION

With a variety of forestry, farm, and soils types, numerous plants and wildlife species, and three of the five major rivers in the Central New Hampshire Region forming its borders, Pembroke's 14,528 acres of land is rich in natural resources. Currently, there are 285.85 acres of land in conservation and approximately 9,000 acres of land in current use. Wetlands are found scattered throughout the town, and many tracts of land remain undeveloped. Two hills exist in the Town, and three types of bedrock geology underlay Pembroke. The presence of the Merrimack River along its western border with Bow and the Suncook River along its southeastern border with Allenstown has helped shape the Town's development patterns. This rich diversity is one of the reasons people have been attracted to Pembroke throughout its history.

The Natural Resource section of the 1993 Master Plan, amended in 1998, addressed basic data about the town's resources. It included information about water features, topography, agriculture, soils and restrictive development constraints associated with the presence of certain natural resources. Some of the key natural resource goals of the 1993 Master Plan were to discourage growth in environmentally sensitive areas, explore innovative land use controls to maintain an appropriate level of open space and to identify and conserve areas of agricultural or natural significance. In 2001, the Town of Pembroke worked with Central New Hampshire Regional Planning Commission to develop an Open Space Trails System Plan. This plan, briefly discussed in this Chapter, further addresses some of the goals set forth in the 1993 Master Plan.

The March 2003 Community Survey indicates that the people of Pembroke view local natural resources as playing an important role in the town's quality of life with over 73% of responding residents indicating that the town's rural character, in which natural resources plays a role in defining, is an important contributing factor for living in Pembroke. Approximately 75% of survey respondents considered agriculture and forestry land uses to be important objectives of the Master Plan and 50% of the respondents wanted to discourage development along rivers. Taken as a whole, these survey results suggest that the need for the Planning Board to identify and to then to carry out strategies to appropriately conserve the town's key natural resources.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These Objectives were developed as a result of Subcommittee analysis and interpretation of the data contained within the following Chapter and from concerns raised from concerns raised from Pembroke residents and landowners in the Community Survey. They are listed in the beginning to give the reader the opportunity to view the results without reading through the entire Chapter. The following Objectives protect and enhance environmentally sensitive and important natural resources and natural areas within the Town.

- To preserve a variety of natural areas within the Town.
 - Identify all natural resources/areas in Town, according to their type (i.e. Conservation lands, forest types, recreation areas). Also, identify the issues that could threaten or enhance each area.

- To identify land parcels for future conservation-related acquisitions or easements.
 - Develop and implement a classification system to rank parcels for future land acquisition, including steps to acquire lands of importance.

- To identify and protect surface (ponds, rivers, streams) and subsurface (aquifers) water resources.
 - Accurately map aquifers as a beginning point in developing measures to assure adequate protection of this resource.
 - Examine the provisions of the Aquifer Conservation District for potential changes that would enhance the effectiveness of this District.

- To identify and mitigate both point and non-point pollution sources and other threats to the Town's water resources.
 - Continue to provide the Town with "Hazardous Waste Disposal" opportunities.
 - Work in conjunction with the NH Department of Environmental Services to locate and monitor known and potential sources of point source pollution.
 - Examine existing land uses to identify known and potential point and non-point source pollution.
 - Develop a water quality monitoring program to test water throughout the Town of Pembroke.

- To identify and classify wetland areas by their ecological significance so that they may be generally protected and so that the most important, or prime, wetlands and their riparian buffer areas may be targeted for heightened conservation.
 - Explore minimum setback regulations from wetlands and follow through with appropriate measures.
 - Explore the range of existing wetlands to determine whether any wetland areas should be designated as “prime wetlands”.

- To develop alliances and provide educational opportunities which protect the town’s natural resources and promote a heightened awareness of their important values.
 - Promote alliances with a variety of public and private groups (i.e. Boy Scouts, ATV user groups, local schools, etc.) to assist the town in carrying out environmentally related educational activities.
 - Establish a practical interpretive signage educational program which promotes an understanding of the town’s most noteworthy natural resource sites.
 - Establish, maintain and publicize a “clean-up program” to keep roadsides, trails and river banks free from refuse.

- To provide long-term protection to the town’s core rural areas by identifying and safeguarding the town’s prime forestlands and agricultural areas.
 - Update the zoning ordinance to more strongly protect, promote and enhance the town’s long-established timber conservation and silviculture areas by establishing large minimum lot-size standards within one or more appropriately situated newly created Timber Conservation Districts.
 - Update the zoning ordinance to more strongly protect, promote and enhance the town’s traditional agricultural areas by establishing large minimum lot-size standards within appropriately situated newly created Agricultural Conservation Districts.

- To identify and analyze wildlife habitat throughout the town to understand which environments are most valuable and/or at-risk, and establish a preservation/conservation program for those habitat areas deemed most in need of protection.
 - Establish criteria and procedures for identifying the town's most important wildlife habitat areas and habitat-connective corridors and, for study and educational purposes, show these areas on appropriate maps.
 - Develop a mitigation strategy using best management practices to protect those wildlife habitats and connective corridors deemed most "at risk".

- To identify existing and former sand and gravel excavation sites as well as all areas in town containing stratified drift earth materials with the aim of defining a smaller, more appropriately sized, earth excavation zone than currently exists.
 - Map existing stratified drift earth material areas.
 - Develop one or more appropriately sized earth excavation zoning districts.
 - Carry out and enforce current reclamation regulations.

- To identify the Town's scenic resources such as scenic roads, vistas and other viewscapes.
 - Locate and map existing scenic resources for study and educational purposes.
 - Develop a program to enhance existing scenic areas throughout the town.

COMMUNITY SURVEY RESULTS

The March 2003 Community Survey yielded 780 replies from 2956 surveys distributed, which equals a 26.4% return rate. The following questions were pertinent to the NATURAL RESOURCES CHAPTER. The full survey results are displayed in the APPENDIX CHAPTER.

What do you consider the desirable features of the Town of Pembroke?

Approximately 73% of respondents considered the rural atmosphere of the town to be a desirable feature. Location was considered desirable by 74.5% of the respondents. Conservation of natural resources was considered to be a "low" desired feature by just over 16 % of the respondents, indicating that approximately 84% of the respondents may feel that conservation of natural resources was a desired feature.

Please indicate which of the following recreational opportunities you would like the Town to develop and/or improve.

Approximately 50% of respondents want to see walking trails on Town property developed or improved, while 42.3% of the respondents want bike paths within the town developed and improved.

Should development along rivers be encouraged or discouraged?

51% of respondents discouraged development along rivers while 25½% wanted to promote development in this area.

Are agriculture and forestry land uses important objective of the Master Plan?

Approximately 75% of respondents considered agriculture and forestry land uses to be important objectives to the Master Plan.

Should the Town acquire undeveloped land for protection?

58% of respondents felt that the Town should work at acquiring undeveloped lands for preservation.

If Pembroke were to expand trails, how would this be done?

34.3% of respondents felt that this should be accomplished through landowner permission to use the land. Town purchase of land, transfer of development rights, Town purchase of easements, subdivision requirements and private organization purchase of land were all ranked favorably by 9%-19% of survey respondents.

Please indicate which of the following you would like the Town to develop and/or improve?

Protection of groundwater and surface water ranked highest with 70.3% of respondents indicating that this was a high priority of for development or improvement. Also ranking high are protection of forests at 59.6%, protection of wetlands at 53.3% and protection of wildlife habitat at 50.8%.

INVENTORY OF NATURAL RESOURCES

A mapped inventory of many of Pembroke's natural features was performed as part of this Master Plan Chapter in order to allow the Planning Board to identify and manage the town's varied natural resources. A majority of the resource information came from the 1999 Central New Hampshire Regional Planning Commission *Natural, Cultural and Historical Resources Inventory* and the 2001, *Town of Pembroke Open Space Trail System Plan*. Additional information was also gathered from the Pembroke Conservation Commission, Town of Pembroke maps and records, and other mapping sources.

Geological Resources

Surficial and Bedrock Geology

United States Geological Services (USGS) is responsible for identifying and mapping the types and location of bedrock in the United States. Bedrock is defined as the solid rock that is found underneath the loose rock, soil, and vegetation. The *Geological Resources Map* shows the types and locations of the bedrock found in the Town of Pembroke. Descriptions of the types of bedrock found in Pembroke are provided below:

- “Dc1m” Concord Granite (Late Devonian) – Gray two – mica granite, locally grading to tonalite. Dc1m underlays 2477.9 acres (16.98%) of Pembroke's land area, the largest area of which occurs along the Merrimack River on the town's western border with Bow. Another small area occurs to the east along the Suncook River.
- “Sru” Upper part of Rangeley Formation – Rusty-weathering, pelitic schist, metasandstone and local coarse-grained metasandstone lentils; calc-silicate pods common; minor coticule. Probably equivalent to member C of Rangeley Formation of Maine. Sru accounts for the highest percentage of underlying acres in Pembroke at 74.9%. This bedrock type occurs in a large contiguous tract, from north to south, running down the middle of the town.
- “Srl” Lower part of Rangeley Formation – Gray, thinly laminated (5-25 mm) metapelite containing local lentils of turbidites and thin quartz conglomerates in western New Hampshire. Sparce calc-silicate pods and coticule. Probably equivalent to member B of Rangeley Formation of Maine. Srl accounts for 8.1% of the town's underlying bedrock geology and the only area this is located is the eastern border of Pembroke along the Chichester town line.

While the United States Geological Survey (USGS) continues to research and map bedrock geology to better understand the impact of bedrock on all other natural resources, several issues have already been identified. One of the greatest impacts of bedrock geology is reflected in the overall layout of the land. The locations of many natural resources such as aquifers, ponds, hills, mountains and sand deposits are directly linked to the types and locations of bedrock that are found in a given area. In addition, bedrock can impact water quality (i.e. radon contamination), surface and sub-surface water flow, and can dictate the locations for public and private wells as a result of groundwater's tendency to collect in the fractures found in the underlying bedrock.

Hills and Mountains

Except for riparian and relatively flat plains areas which are situated in the immediate vicinity of several of Pembroke's major rivers and streams, the town's topology (or "lay of the land") is primarily characterized by the presence of a series of moderately sloping small-to-mid sized ridge areas which are arranged primarily in a north-south direction throughout the central and western areas of the town. With its low-laying peak situated on the Pembroke/Chichester Town boundary, the 1,000 feet elevation (above sea level) of Plausawa Hill is the town's highest point of land. Pembroke Hill, which is found near the top of Brickett Hill Road, is the town's second tallest hill reaching an elevation of 680 feet.

Steep Slopes

Steep slopes greater than 15% can be found at any elevation in all parts of town. These areas are known to hinder development because they are notably more susceptible to erosion and instability than more moderately sloped areas. Most commonly, they are associated with hills and mountains, found along roadways and surrounding water bodies. The majority of steep slopes in Pembroke are found along the banks of the Merrimack River and Soucook River. Another sizeable area of steep slopes occurs in the north part of town in the vicinity around Plausawa Hill.

Excavation Materials

As they are listed in the following Table, Pembroke currently has eight active gravel excavation operations accounting for approximately 550 acres of land. All of the excavation sites occur along the Soucook River over the main aquifer for the Town. The location of the excavation sites can be seen on the *Potential Threats to Water Resources Map*. A table of the excavation sites is provided below.

Table VII-1
Excavation Operations

| Name | Status | Map and Lot | Location | Description |
|--|----------------------------------|------------------------------------|---|--|
| Concord Sand & Gravel | Grandfathered | Map 256 Lot 22 | Ricker Road | Operating conditions from Special Exception granted in 1986 |
| Concord Sand & Gravel | Grandfathered; may need a permit | Map 256 Lot 25 | Ricker Road | Subject to 1986 operating conditions |
| Concord Sand & Gravel | Grandfathered | Map 256 Lots, 22-3, 22-1, and 26-2 | Ricker Road | Subject to 1986 operating conditions; Reclaimed; Asphalt plant permitted in 1999 |
| Concord Sand & Gravel | Permit granted in 1985 | Map 559 Lot 6 | North Pembroke Road | Permit issued by Special Exception and Site Plan |
| Silver Hill Development Corp | Grandfathered | Map 559, Lot 12 | North Pembroke Road | 3 acres (total w/Silver Hill) excavated as of 7/91; excavation began in 1930s |
| Manchester Sand & Gravel | Grandfathered | Map 634, Lot 41 | West side of Route 3, Pembroke Street, ¼ mi south of Rte 106 intersection | Excavation began in 1940s |
| D'Agnese & Keeler | Permitted | Map 634 Lot 43-2 | West side of Route 3 adjacent to Manchester Sand & Gravel pit | 26 acre excavation began 1996; reclamation scheduled for fall 2003 |
| Plourde Sand and Gravel / Plausawa Valley Country Club Pit | Grandfathered | Map 634, Lot 2 | Along Soucook River south of the ninth hole | Excavation began in 1963; gravel rights expired May 14, 2003; rights renewed |

Sources: 1993 Master Plan; 2002 Digital tax maps; Subcommittee Input

Water Resources

The *Water Resources Map* depicts the location of the most known water features within the Town. Included on this map are ponds, rivers, streams, wetlands, water supplies and water-bearing sand and gravel aquifers. A detailed description of each resource type follows.

Water Supply

Pembroke contains many private well sites along with several public water supply sites. These locations can be seen on the *Water Resources Map*. Presently, Pembroke has a total of 10 public water supply sites serving the Towns of Allenstown and Pembroke as well as the City of Concord. As defined by NH Department of Environmental Services, public water systems “are systems that serve at least 25 people or 15 service connections for at least 60 days each year”. Pembroke’s public water supply system is fed through five well sites; three of these wells are located in close proximity to the Soucook River and two are sited near the Suncook River. The wells located near the Soucook River each pump approximately 600 gallons per minute while the wells located near the Suncook River each pump approximately 300 gallons per minute. These five public water wells serve the downtown area, Buck Street and properties along Route 3 and Route 106.

Currently, approximately 6,000 Pembroke residents are connected to the public water system (this figure does not include residents served in Allenstown or Concord). Table VII-2 provides a list of public water supply sites in Pembroke.

Table VII-2
Public Water Supply Sites

| Map Index | Name | Address | Map-Lot | Owner |
|-----------|------------------------------|---------------------|---------|----------|
| 1 | Concord Dept/Water Resources | 125 Hall Street | 559-8 | Concord |
| 2 | Concord Dept/Water Resources | 125 Hall Street | 559-8 | Concord |
| 3 | Concord Dept/Water Resources | 125 Hall Street | 559-8 | Concord |
| 4 | Concord Dept/Water Resources | 125 Hall Street | 559-8 | Concord |
| 5 | Pembroke Well | Route 106 | 632-17 | Pembroke |
| 6 | Pembroke Water Works | Route 3 | 632-3 | Pembroke |
| 7 | Pembroke Water Works | Route 3 | 632-3 | Pembroke |
| 8 | Meeting House Water Company | Woodlawn Ridge Road | 634-14 | Pembroke |
| 9 | Maple Grove Park | Rte 28 | 870-20 | Pembroke |
| 10 | Plausawa Valley Club House | Whittemore Road | 634-23 | Pembroke |

Source: NH DES Public Water Supplies GIS Layer supplied to NH GRANIT, 1998

The remainder of the Town is served by private wells. From 1984 to 2002, the NH Department of Environmental Services has issued approximately 95 permits for installment of private wells in Pembroke. Table VII-3 shows an approximate break-down of these private water wells as they occur along particular Pembroke roadways. It is important to note that this list of private wells is not 100% complete in that a few private well installations may not have been reported to the NH Department of Environmental Services as is required, and data for wells installed before 1984 were not collected by state or local agencies.

Table VII-3
New Residential Wells Installed
By Road Occurrence, 1984-2002

| Road Name | # Wells 1984-2002 |
|---------------------|----------------------|
| Beacon Road | 10 |
| Belfry Court | 1 |
| Bombay Bridge Road | 1 |
| Borough Road | 5 |
| Brickett Hill Road | 2 |
| Buck Street | 1 |
| Church Road | 9 |
| Cross Country Road | 18 |
| Deer Path Lane | 3 |
| East Meadow Lane | 1 |
| 8th Range Road | 1 |
| 4th Range Road | 15 |
| North Pembroke Road | 7 |
| Pembroke Hill Road | 2 |
| Pheasant Run Road | 1 |
| Plausawa Hill Road | 2 |
| Rosedale Lane | 7 |
| Route 106 | 1 |
| Route 28 | 2 |
| Route 9 | 1 |
| 6th Range Road | 1 |
| 3rd Range Road | 4 |
| Total | 95 |

Sources: NH DES Well Inventory, 2003

Wellhead Protection Areas

In order to minimize potential opportunities for contamination of public water supplies, the NH Department of Environmental Services has implemented a regulatory strategy of limiting the types of land use activities which can occur in the vicinity of wellhead locations. This geographic area of limited land uses is known as a wellhead protection area. A typical wellhead protection area in New Hampshire is normally denoted by a 4000 foot radius around a public well location although it is not unusual for a wellhead protection area to have variable radii to suitably cover site specific local conditions. As may be seen on the *Potential Threats to Water Resources Map*, for example, most of the state-assigned protection areas for wells located in Pembroke have variable radii.

Ponds and Lakes

The 5-acre Bragfield Pond is the one named pond that exists in the Town of Pembroke. Located between Brickett Hill and Beacon Hill Roads, the land around this water body is owned by the Town and managed by the Conservation Commission. In addition to Bragfield Pond, several smaller unnamed ponds can be found in other areas of Pembroke. Several of these appear to have been caused by beavers resulting in “beaver ponds.”

Rivers

Pembroke is bordered by three rivers that travel through the Central New Hampshire Region. Much of the development in the Town has occurred along these river corridors. This is in part due to the historical dependence on the rivers for drinking water, their use as irrigation for farmland and as travel ways. A brief description of the three rivers bordering Pembroke follows.

The Soucook River acts as Pembroke’s western border with the City of Concord. Though its banks are largely undeveloped, most of the land bordering the Soucook is currently zoned for commercial use and it is estimated that significant areas of this commercially zoned land will face development pressure in the near future.

The Suncook River forms Pembroke’s southeastern boundary with Allenstown. In the *History of Barnstead* (Jewett, 1872), an early writer observed that the Suncook River had drainage so complete that it left no bogs or meadows along its banks and, perceiving the early settlement uses of the land, concluded that the environs of the Suncook River were a wonderful location for community-building and development. Because the river’s significant fall in elevation in the vicinity of Suncook Village produced great water generated power, that area of Town saw the development of important commercial and industrial activities throughout the settlement period through the 1800’s such as saw and grist mills, and cotton and wool spinning mills. Historically important to the Town of Pembroke, the presence of the Suncook River is central to the development and identity of Suncook Village, an unincorporated area uniquely shared by Pembroke and Allenstown. Jewett (1872) notes that the word “Suncook” is believed to be a Native American word meaning “the place where the wild goose rested.”

Forming Pembroke’s southwestern border with Bow, the Merrimack River acts to drain the entire central and south areas of the State of New Hampshire. Both the Soucook and Suncook Rivers empty into the Merrimack River.

Brooks

The 5.8 mile long *Ames Brook* begins its flow on the southeastern flank of Plausawa Hill in the northeast corner of Pembroke and is ultimately joined by four intermittent tributary streams before it empties into the Suncook River. Leaving the area south of Plausawa Hill Road, the brook shortly passes beneath North Pembroke Road and flows about 0.9 before it crosses beneath Cross Country Road. In another 1.2 miles it passes below Hardy Road. Continuing southeasterly in the low area between North Pembroke and Seventh Range Roads, Ames Brook passes through a small portion of the neighboring town of Epsom before coursing beneath Route 28 about 3.2 miles from Hardy Road. Shortly thereafter, the brook enters the Suncook River just south of the intersection of North Pembroke Road and Buck Street Extension (Old Route 28) dropping about 400 feet in elevation from its origin.

Pettingill Brook is composed of nine tributary streams which enter the main branch at regularly interspersed intervals along its 6.8 mile length. Pettingill Brook initially flows in a south direction starting about 0.3 miles west of Cross Country Road between the Sixth and Seventh Range Roads. About 0.3 miles to the southeast of this point, it crosses beneath Sixth Range Road and meanders to the southwest for about 1.3 miles until it passes beneath Kimball Road between Sixth and Seventh Range Roads. Continuing in the same general southeasterly direction, Pettingill Brook crosses beneath Sixth Range Road about 1.0 further downstream. In another 0.5 miles, it flows below Buck Street just to the north of Ryan Drive and shortly thereafter veers in a southwesterly direction after which it soon flows beneath Ryan Drive and enters the Suncook River about 0.7 miles south of Buck Street.

Hartford Brook begins in the environs of Pembroke Hill and Fourth Range Roads where two unnamed intermittent tributary streams unite to form the Hartford Brook mainstem. The 2.9 mile long Hartford Brook flows southeasterly beneath Church Road and Academy Road, ultimately crossing beneath Buck Street between Academy and Dearborn Roads, before entering the Suncook River shortly thereafter.

The 3.0 mile long *French's Brook* originates from the intermingling of two unnamed intermittent streams which flow a short distance westerly off the lower southern flank of Plausawa Hill in the vicinity between North Pembroke and Seventh Range Roads. A short distance further west, French's Brook picks up the flow of two more unnamed intermittent streams which originate on the west side of Plausawa Hill and eventually enter the north side of French's Brook to the east of Borough Road. French's Brook continues meandering westerly near the south side of North Pembroke Road for another 1.6 miles until it enters the Suncook River below Route 106 just south of Concord's Steeplegate Mall.

The 1.8 mile *Meetinghouse Brook* begins in the boggy wetland area surrounding Church Road between Pembroke Street and Cross Road. It is fed by several intermittent tributary streams as it flows generally northwesterly before reaching Pembroke Street (just south of Bow Lane). The brook thereafter continues in a westerly direction through the gully which is situated between Bow Lane and Donna Drive after which it flows beneath Nadine Road (just south of Donna Drive) before emptying into the Merrimack River just south of White Sands Recreation Area.

Watersheds

Pembroke is made up of three minor watersheds which are all contained within the larger Merrimack River Watershed. The eastern half of the town is located in the Lower Suncook River Watershed, accounting for approximately 7,365 acres of Pembroke's total land area. The Lower Suncook River Watershed encompasses the Suncook River and some of its tributaries such as Hartford Brook, Pettingill Brook and Ames Brook. The Soucook River Watershed accounts for 5,120 acres and is situated in the northwestern portion of Pembroke. Included in this watershed is French's Brook. A small area located in the southwestern area of town drains into the Merrimack River. This area is known as the Concord Tributaries Watershed and it accounts for 2,113 acres of land. Meetinghouse Brook is included in this watershed.

Because all surface water within a particular watershed drains as a unified hydrolic system, separate from any other neighboring watershed area, knowledge of watershed locations and how their drainage system works, combined with knowledge about under-lying water-bearing aquifers, plays a big role in helping town planners locate and protect town wells and regulate those surface land uses which could contaminate water resources.

Aquifers

The *Water Resources Map* shows the location of Pembroke's three stratified drift aquifers (or sand and gravel deposits which hold significant amounts of water) as identified by the United State Geological Service. All three local aquifers are directly linked to the three rivers that border the Town. As may be seen on the map, the largest aquifer occurs along the Soucook River. These aquifers provide a valuable resource as sources for public and private drinking water. In addition, most of the excavation of sand and gravel occurs in the stratified drift aggregate deposits which are located directly over the aquifers. These sand and gravel aggregate deposits are known to play an important role in filtering rain water as it passes through to the aquifer deposit below.

Wetlands

The National Wetlands Inventory (or NWI), performed by the United States Fish and Wildlife Service between 1986 and 1990, identified prime wetlands in the State of New Hampshire. The *Topography and Wetlands Map* shows the location of these wetlands in Pembroke. The highest concentration of wetlands occurs in the northeast section of town along Sixth Range Road and Borough Road.

Wetlands serve many ecological and environmental roles such as a source of wildlife habitat, recharge areas for aquifers, water purification and act as natural buffers for lakes and ponds. Due to the many benefits of wetlands this natural feature is viewed as a sensitive natural resource. The classification used by the National Wetlands Inventory is based on soil type, vegetative cover, and soil saturation and, taken together they form about 3.7% of all land cover in Pembroke. The NWI wetland categories are as follows:

Lacustrine

This is any lake or pond that exceeds twenty acres in size, or has a water depth of greater than 6.6 ft at its low water level. No lacustrine wetlands occur in Pembroke.

Palustrine

This category includes most vegetated wetlands. This includes all wetlands with a total area that is vegetated at a percentage greater to or equal to 30%. Palustrine wetlands account for approximately 72%, or 391.37 acres, of the total wetland area in the Town.

Riverine

This category includes all rivers, and streams and their associated saturated soils. Pembroke contains 150.53 acres of riverine wetlands.

Table VII-4
Wetland Acreage by Type

| Type of Wetland | Acres |
|-----------------|-------|
| Palustrine | 391.4 |
| Riverine | 150.5 |
| Total | 541.9 |

Source: National Wetlands Inventory

Hydric Soils

According to the draft 2003 Merrimack County Soils Survey conducted by Natural Resource Conservation Services (NRCS), 12.3% (1791.15 acres) of Pembroke’s total land area is comprised of hydric soils. The *Water Resources Map* shows the location of the hydric soils for Pembroke. As may be seen, these soils are closely tied to the brooks and streams that run through the Town. The hydric soils-based wetland categories are as follows:

Table VII-5
Hydric Soil Type by Acreage in Pembroke

| Soil Type | Hydric | Acreage | Soil Type | Hydric | Acreage |
|------------------------------|--------|---------|--------------------------------|--------|---------|
| Chocorua Mucky Peat | A | 351.31 | Pipestone Sand | B | 119.502 |
| Greenwood Mucky Peat | A | 11.159 | Ridgebury Fine Sandy Loam | B | 169.685 |
| Ossipee Mucky Peat | A | 12.494 | Ridgebury Very Fine Sandy Loam | B | 186.238 |
| Saco Mucky Silt Loam | A | 76.306 | Rippowam Fine Sandy Loam | B | 77.356 |
| Scarboro Muck | A | 110.209 | Walpole Very Fine Sandy Loam | B | 593.282 |
| Greenwood And Ossipee Soils | A | 68.716 | Lyme And Moosilauke Soils | B | 14.891 |
| <i>Subtotal</i> | | 630.194 | <i>Subtotal</i> | | 1160.95 |
| Total Acreage of Hydric Soil | | | 1791.15 | | |

Source: Natural Resource Conservation Services

Very Poorly Drained Soils (Hydric A)

Hydric A soils are those soil types in which water percolates downward so slowly that the water table remains at or on the ground surface for the greater part of the surface for the greater part of the time (9-10 months of the year). Very poorly drained soils occupy level or depressed sites, are frequently ponded, commonly have a thick, dark colored surface layer and have gray subsoil. Very poorly drained soils are comprised of muck, peat and ponded borohemists.

Poorly Drained Soils (Hydric B)

Hydric B soils are those soil types in which water percolates down-ward so slowly that the water table remains at or near the ground surface for a large part of the time (6-9 months of the year). These soils occupy nearly level to sloping sites, are ponded for short periods in some places, have a dark colored surface layer and have grayish colored subsoil which is mottled in most places. In Pembroke, different types of loams comprise the poorly drained soils.

Dams

There are 15 dams found in Pembroke according to the NH Department of Environmental Services. Table VII-6 provides a list of the dams found in Pembroke. The hazard classification shows the safety level for each of the dams listed. The classification is as follows:

Class AA

Failure would not threaten life or property. There are seven dams classified in this category.

Class A

Failure would result in a low hazard potential. There three dams classified in this category.

Class B

Failure would result in a significant hazard potential. There is one dam in this category the Webster Mill Dam.

Table VII-6
Dams in Pembroke

| Map Index | Hazard Class | Name | River | Type | Status | Ownership |
|-----------|--------------|-----------------------------|----------------------|-------------|-----------|-----------|
| A | | Suncook River Dam | Soucook River | Stone/earth | Ruins | Private |
| B | AA | Recreation Pond Dam | Unnamed Brook | Earth | Active | Private |
| C | | Rousseau Dam | Unnamed Stream | Earth | Exempt | Private |
| D | AA | Farm Pond | State Game Farm Pond | Earth | Active | Private |
| E | AA | Plausawa Country Club Pond | Natural Swale | Earth | Active | Private |
| F | A | Buck Street West Dam | Suncook River | Earth | Active | State |
| G | AA | Wildlife Pond Dam | Hartford Brook | Concrete | Active | Private |
| H | | Farm Pond Dam | Unnamed Brook | Earth | Exempt | Private |
| I | AA | Wildlife Pond Dam | Unnamed Brook | Earth | Active | Private |
| J | | Farm Pond Dam | Unnamed Brook | Earth | Not Built | Private |
| K | AA | Rugged Acres Detention Pond | Runoff | Earth | Active | Town |
| L | AA | Sawmill Dam | Suncook River | Concrete | Active | Private |
| M | A | Pembroke Dam | Suncook River | Concrete | Active | Private |
| N | A | China Mill Dam | Suncook River | Concrete | Active | Private |
| O | B | Webster Mill Dam | Suncook River | Concrete | Active | Private |

Source: NH Department of Environmental Services, 2003

Potential Threats to Water Resources

Because a large portion of Pembroke receives water from public water supplies the need to identify and mitigate potential threats to these water resources is very important. As discussed elsewhere in this Chapter, Pembroke's public water supply is drawn from aquifers underlying the town's land surface (see Table VII-2), while non-public water users make use of private wells (see Table VII-3). Also, surface water is used for a wide variety of recreational purposes and also provides habitat and a drinking water supply for natural fauna and is an important food supply for plant and vegetative life.

Threats to water supplies may stem from many different potential contaminant sources and each pollutant threat may affect water at a different stage of its movement from being water vapor in the atmosphere to being liquid groundwater. Simply put, water is not static or stays in a single place; it collects in the atmosphere and may be released to the ground as rain or fog after which it is either absorbed into the ground, collected by plants or begins to move across the ground surface until it is collected into a water body.

Ultimately, water flowing across the earth's surface becomes absorbed into underground aquifers or settles into rivers, streams and ponds where, if it is not impounded for a local purpose, will continue downstream eventually winding up in the ocean. Rainwater which reaches underground aquifer catchment areas may be pumped to the surface by public or private wells for use as a public water supply resource. Surface water may also be converted back to water vapor either by a process of evaporation or released from plants by a process of plant transpiration. In this way, through these "evapotranspiration" processes, ground water is returned to the atmosphere.

Water in the atmosphere or collected on the earth's surface often has many opportunities to encounter a large variety of potential contamination sources which could dramatically affect its quality. Mercury and other air-borne pollutants emitted into the atmosphere by coal-fired power plants may affect water vapor collected in clouds and be widely scattered, fertilizer runoff from agricultural fields can run into nearby streams, fecal material released from nonfunctional septic systems and gasoline or other chemicals spilled from commercial and industrial sites can leach into aquifer recharge and filtration areas and eventually reach and contaminate ground water. Thus, there is an essential need to identify, analyze, monitor and appropriately control potential point and non-point water pollution sources throughout the Town of Pembroke. Part of this identification and control process is currently being carried out by the New Hampshire Department of Environmental Services (NHDES) who are presently responsible for monitoring all public water supplies. There are, however, no regulations which scrutinize private water wells or the quality private well water. Thus, this chapter was developed in part to provide guidance so that the Town may have an accurate record of where local water resources are located, how these resources may be threatened, and what actions and programs should be put into place which will remove or mitigate the perceived sources of pollution.

Protection from Point Pollution Sources

A point pollution source is one where a particular pollutant is emitted into the atmosphere from a single, narrowly defined, place or point. Examples of point pollution sources may include sewer overflow pipes, leaking underground fuel tanks, above ground storage tanks, junkyards and hazardous spills. Also, if they are not properly maintained, public sewer or septic systems have the potential to become sources of point pollution.

Obviously, identification and control of point pollution sources is important in maintaining overall water quality for both surface water and ground water. Continued efforts should be made to identify and correct potential point source pollution generators in Pembroke. At the present time, NHDES has identified a list of 20 potential or known point pollution sites within Pembroke. They include above ground storage tanks, excavation sites, leaking underground storage tanks, and hazardous spills. Table VII-7 shows a list of the sites that have been documented and these points have been mapped and may be seen on the *Potential Threats to Water Resources Map*. It is important to note that there is potential for undocumented sites to exist within Pembroke.

Table VII-7
Known Locations of Point Source Pollution

| Hazard Type | Location |
|---|---|
| Above Ground Storage Tank | Rymes Heating Oils, Inc. |
| Above Ground Storage Tank | Pleasant View Gardens |
| Above Ground Storage Tank | Plourde Sand And Gravel |
| Exiting Landfill or Landfill Closure | Pembroke Landfill |
| Initial Response Spill | Donald Phipps |
| Isolated Groundwater Sample | Town Of Pembroke Water Works |
| Leaking Underground Storage Tank | Kimballs Country Store |
| Leaking Underground Storage Tank | S&B Auto. Serv.Inc./Pembroke Power Test |
| Leaking Underground Storage Tank | Pembroke Highway Garage |
| Leaking Underground Storage Tank | Gap Auto Parts |
| Oil Spills or Releases | Webster Mills Condominiums |
| On-Premise Use Facility Containing Fuel Oil | Pembroke Congregational Church |
| On-Premise Use Facility Containing Fuel Oil | Tirrell(Federal Home Loan Corp) |
| On-Premise Use Facility Containing Fuel Oil | Lemieux Residence |
| Underground Injection Control | Penn-Hampshire Lubricants |
| Underground Injection Control | Halvorsen Kennels |
| Underground Injection Control | P H Precision Products Corp |
| Underground Injection Control | Hyster New England Inc. |
| Underground Injection Control | The Kennel At Hemlock Hill Farms |
| Underground Injection Control | S&B Auto. Serv.Inc./Pembroke Power Test |
| Underground Storage Tank | Hyster New England Inc. |

Source: NH Department of Environmental Services

Protection from Non-Point Pollution Sources

Because of an inability to identify the source of a contaminant, non-point pollution events are typically more difficult to control than point pollution sources. Non-point pollution usually occurs when water running over the ground surface becomes contaminated after picking up various pollutants. Sources of non-point contamination tend to be related to human activities such as farming, forestry and development that results in the creation of impervious surfaces such as paved roads and parking lots. One of the greatest known sources of non-point pollution is improper application of road salt. In most instances, potential non-point pollution sources may be mitigated by preventing the contaminated water source from being more widely dispersed. By controlling the location and amount of salt placed on the roads, for example, the potential for salt contamination can be minimized. And earthen berms erected between fertilized agricultural fields and abutting surface water resources such as rivers and streams may significantly lessen the potential of pollutants from entering the water supply.

Land Resources

Recent calculations indicate that, despite the fact that Pembroke has several highly visible and densely developed areas such as the Suncook Village district and its surrounding neighborhoods – which stretch out to the vicinity of Dearborn and Academy Roads – and the Route 3 (Pembroke Street) and Route 106 transportation corridors, approximately 41% of Pembroke’s land still remains significantly undeveloped. These undeveloped rural areas, which are located away from the built-up sections of town where community infrastructure is located, are, for the most part, geographically situated within the central, north and northeastern parts of town which are surrounded by the perimeter Range Road system – a significantly intact rural environment typified by sparsely settled forested areas which contain many large-sized (50 acre+) parcels of land. Significantly, only 2% of Pembroke’s undeveloped land has been permanently conserved.

One conclusion which can be drawn from this reality is that Pembroke’s long-term plan to concentrate its primary community infrastructure (major roadways, water and sewer lines, police, fire, schools, etc.) along the Route 3 and Route 106 transportation corridors has succeeded as an inducement or stimulus in attracting into its immediate vicinity much of the town’s recent commercial and residential development activity – thus keeping a significant amount of that development expansion from locating in the more rural areas of Pembroke where it would fragment the landscape and fill in the existing open spaces.

A second conclusion which can be drawn is that, because the Zoning Ordinance allows relatively small 1.8-acre minimum lot sizes in the R-3 district which comprises the rural areas of Pembroke, and because only a tiny portion (2%) of Pembroke’s undeveloped land is protected from development, it is only a matter of time before subdivision of the town’s many large-sized rural parcels takes place. This assessment is based on the knowledge that the recent heavy influx of population into the southern New Hampshire and Greater Concord area, which has been well noted to have contributed greatly to land fragmentation and loss of undeveloped open spaces throughout the region via the suburban sprawl process, will not likely bypass Pembroke if current zoning rules are maintained. This looming suburbanization threat to Pembroke’s largely undeveloped rural areas is being taken seriously by local planners who understand that the town’s rural character and nature is being threatened; at present, however, Pembroke remains, geographically speaking, an essentially rural town containing significant amounts of undeveloped, wooded, open spaces where typical lot sizes are quite large.

Conservation Lands

The *Conservation and Public Lands Map* shows the location of all known conservation lands in Pembroke which, when combined together, have a total of 285.8 acres of land in permanent conservation. As noted above, this amounts to 2% of Pembroke's total land mass. A list of these parcels can be seen in Table VII-8.

Table VII-8
Conservation Lands in Pembroke

| Name | Type | Map Lot # | Acres | Management | Public Uses |
|---|-----------------------|-----------|-------|------------------|-----------------------------|
| Belfry Court Conservation Easement | Conservation Easement | 264-37-2 | 4.33 | Town of Pembroke | Passive |
| Trebor Conservation Easement | Conservation Easement | 565-257-4 | 3.5 | Town of Pembroke | None |
| Scripture Easement | Conservation Easement | 260-33 | 10 | Town of Pembroke | None |
| Bragfield Pond Conservation Area | Conservation Easement | 563-22 | 26.62 | Town of Pembroke | Camping |
| Butterfield Tract | Conservation Easement | 563-94 | 28.48 | Town of Pembroke | General |
| Suncook River Property | Conservation Easement | 266-171 | 0.24 | Town of Pembroke | General |
| Schuett Conservation Area | Conservation Easement | 264-32-1 | 7.29 | Town of Pembroke | General |
| Town of Pembroke Conservation Parcels | Conservation Easement | 567-1-1 | 2.95 | Town of Pembroke | Subject to Town Restriction |
| White Sands Conservation Area | Conservation Easement | 565-81-A | 0.64 | Town of Pembroke | Subject to Town Restriction |
| White Sands Conservation Area | Conservation Easement | 565-81-B | 32.5 | Town of Pembroke | Subject to Town Restriction |
| White Sands Conservation Area | Conservation Easement | 565-81-C | 34.3 | Town of Pembroke | Subject to Town Restriction |
| Whittemore Conservation and Recreation Area | Conservation Easement | 939-67 | 135 | Town of Pembroke | Subject to Town Restriction |
| Total Acres | | | 285.9 | | |

Source: 2001 Open Space Trail System Plan for the Town of Pembroke

Lands Of Additional Importance

In addition to parcels which are permanently designated for conservation, Pembroke has an additional 772.2 acres of land which, because of their nature and use, provides open space and recreational opportunities to the town even though they are not permanently designated as conservation lands. This list includes all parcels locally owned by the federal and state governments as well as the Town of Pembroke. Also included in this list are a few parcels owned by utility companies and private entities (see Table VII-9). In addition to these lands there are other undeveloped parcels in Pembroke which are not listed in Table VII-9 which may provide temporary conservation benefits; an example of this last type would be lands enrolled in the current use program.

Utility Parcels

These parcels are used for providing services to a town and they include power line corridors, public water supply sites and public sewer sites. Though these lands may be developed, they are often limited to confined areas where they may provide opportunities for the maintenance of open space. In some cases, the town may be able to utilize these lands for recreational purposes. Ownership of these parcels includes Public Service Company of New Hampshire (PSNH), the Pembroke Water Commission, Pembroke Hydro, and the City of Concord.

Private Owned Lands

There are several privately-owned parcels of land which have a history of maintaining open space and may provide recreational opportunities the most significant of these privately-owned lands is the Plausawa Valley Country Club, an 18-hole golf course which provides a combination of forested and open areas for wildlife.

State Owned Lands

The State owns eleven parcels of land in Pembroke many of which are utilized for varying purposes. These parcels range from .23 acres to 4.97 acres in size.

Town Owned Lands

The Town of Pembroke owns a number of parcels of land which are mostly small in size and developed. However, it does own a few larger sized parcels which, though partially developed, do contain open spaces. Included in this last category are the school lands and Memorial Field.

Table VII-9
Lands of Additional Importance

| Name | Type | Map-Lot | Acres | Management | Public Uses |
|--------------------------------|------------------|---------|--------|-----------------------|-------------------------|
| Concord Wellfield | Utility Parcel | 559-8 | 50.00 | City of Concord | None |
| Pembroke Water Commission | Utility Parcel | 632-3 | 11.00 | Town of Pembroke | None |
| Pembroke Water Commission | Utility Parcel | 632-18 | 14.94 | Town of Pembroke | None |
| Pembroke Water Commission | Utility Parcel | 563-39 | 0.92 | Town of Pembroke | None |
| PSNH Parcel | Utility Parcel | 632-1 | 2.50 | PSNH | None |
| PSNH Parcel | Utility Parcel | 567-2 | 3.50 | PSNH | None |
| PSNH Parcel | Utility Parcel | 632-2 | 8.00 | PSNH | None |
| PSNH Parcel | Utility Parcel | 632-2 | 10.40 | PSNH | None |
| PSNH Parcel | Utility Parcel | 634-24 | 0.46 | PSNH | None |
| PSNH Parcel | Utility Parcel | 565-59 | 0.60 | PSNH | None |
| Pembroke Hydro/Algonquin Power | Utility Parcel | VE-179 | 0.06 | Pembroke Hydro | None |
| Pembroke Hydro/Algonquin Power | Utility Parcel | VE-185 | 1.06 | Pembroke Hydro | None |
| Pembroke Hydro/Algonquin Power | Utility Parcel | VW-242 | 1.11 | Pembroke Hydro | None |
| Pembroke Hydro/Algonquin Power | Utility Parcel | VW-243 | 0.19 | Pembroke Hydro | None |
| Plausawa Valley Country Club | Private | 634-2 | 141.80 | Country Club | None |
| Plausawa Valley Country Club | Private | 634-23 | 73.00 | Country Club | None |
| Plourde Sand & Gravel | Private | 634-3 | 12.50 | Plourde Sand & Gravel | None |
| Plourde Sand & Gravel | Private | 634-41 | 54.04 | Plourde Sand & Gravel | None |
| Outdoor World | Private | 632-8 | 20.00 | Outdorr World | None |
| Suncook River Access | State of NH | 870-19 | 2.00 | NH Fish & Game | Unknown |
| State of NH Parcel | State of NH | 256-16 | 4.04 | State of NH | Unknown |
| State of NH Parcel | State of NH | 256-17 | 0.72 | State of NH | Unknown |
| State of NH Parcel | State of NH | 256-18 | 0.35 | State of NH | Unknown |
| State of NH Parcel | State of NH | 256-19 | 4.97 | State of NH | Unknown |
| State of NH Parcel | State of NH | 256-20 | 1.86 | State of NH | Unknown |
| State of NH Parcel | State of NH | 256-26 | 0.35 | State of NH | Unknown |
| State of NH Parcel | State of NH | 563-5 | 0.34 | State of NH | Unknown |
| State of NH Parcel | State of NH | 563-99 | 0.00 | State of NH | Unknown |
| State of NH Parcel | State of NH | 870-15 | 0.23 | State of NH | Unknown |
| State of NH Parcel | State of NH | 870-17 | 2.00 | State of NH | Unknown |
| State of NH Parcel | State of NH | 870-23 | 1.80 | State of NH | Unknown |
| Town of Pembroke Parcel | Town of Pembroke | 262-23 | 17.50 | Town of Pembroke | Unknown |
| Pembroke Academy | Town of Pembroke | 264-46 | 42.00 | Town of Pembroke | High School |
| Pembroke Hill School | Town of Pembroke | 264-69 | 41.00 | Town of Pembroke | Elementary School |
| Pembroke School District Land | Town of Pembroke | 266-42 | 25.00 | Town of Pembroke | Athletic Fields |
| Town of Pembroke Parcel | Town of Pembroke | 559-13 | 4.00 | Town of Pembroke | Open Space |
| Town of Pembroke Parcel | Town of Pembroke | 561-34 | 9.00 | Town of Pembroke | Unknown |
| Pembroke Grange Hall | Town of Pembroke | 565-2 | 0.31 | Town of Pembroke | Unknown |
| Town Hall | Town of Pembroke | 565-256 | 2.99 | Town of Pembroke | Town Offices |
| Lamiette Park | Town of Pembroke | VE-1 | 0.12 | Town of Pembroke | Park |
| Pembroke Village School | Town of Pembroke | VW-187 | 10.12 | Town of Pembroke | Pembroke Village School |
| Memorial Field | Town of Pembroke | VW-188 | 197.70 | Town of Pembroke | Recreation Fields |
| Pembroke Town Garage | Town of Pembroke | VW-189 | 4.35 | Town of Pembroke | Town Garage |
| Total Acres | | | 778.83 | | |

Source: 2001 Open Space Trail System Plan for the Town of Pembroke

Current Use

As of 2004, Pembroke private property owners have enrolled 9,022 acres – or 65% of all land in town– into the “current use” system, a property tax reduction program which allows owners of large lots (10+ acres in size) to significantly reduce their property taxes by shifting their the assessed valuation of their land from its “highest and best (or current market) value” to its “current use value”. This “current use value” is the assessed valuation per acre of open space land based upon that land’s current income-producing capability. This valuation is determined by the Town’s assessor in accordance with the range of values established by the state Current Use Board and in agreement with the class, type, grade and location of a particular piece of land. The following types of private property are eligible for entry into the current use program:

“Farm land” – which means any cleared land which is devoted to, or which is capable of, agricultural or horticultural use as determined and classified by criteria developed by the Commissioner of Agriculture, Markets and Food and adopted by the Current Use Board.

“Forest land” – which means any land growing trees as determined and classified by criteria developed by the State Forester and adopted by the Current Use Board. For the purposes of this paragraph, the Current Use Board recognizes the cost of responsible land stewardship in determining assessment ranges.

“Open space land” – which means any or all farm land, forest land or unproductive lands as defined by this section. However, “open space land” shall not include any property held by a city, town or district in another city or town for the purpose of a water supply or flood control and for which a payment is made in place of taxes in accordance with RSA 72:11.

“Unproductive land” – means land, including wetlands, which by its nature is incapable of producing agricultural or forest products due to poor soil or site characteristics, or the location of which renders it inaccessible or impractical to harvest agricultural or forest products, as determined and classified by criteria developed by the Current Use Board. The Board has developed only one category for all unproductive land setting its current use value equal to that of the lowest current use value established by the Current Use Board for any other category.

“Wetlands” – means those areas of farm, forest and unproductive land that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Any “current use” lands which are developed or otherwise included in calculations for determining developable lands are required by statute to be taken out of the Current Use Program, in which case the Town is allowed to assess the owner of that land a Current Use Change Tax. Under state law, this tax may be assessed at up to 10% of the fair market value for that land. Acting from a concern that more local lands need to be permanently preserved from development, the 2002 Pembroke Town Meeting voted to place all future monies collected from Current Use Change Taxes into the town’s Conservation Fund where it may then be used by the Conservation Commission to acquire and preserve land for open space and conservation purposes. Since that time, the Conservation Commission has begun a Land and Easement Acquisition Program which will target the most appropriate lands for preservation. In 2002, the total amount of money collected by the Town in Current Use Change Taxes was \$97,600.

In 2003, the Town’s Current Use program included 8,605.49 acres of land, or 60.9% of all land in Pembroke. Data for that year’s Current Use program breaks down as follows:

Table VII-10
Land Use Change Tax Collected, 2000-2003

| Category | Acres |
|-------------------|----------|
| Farmland | 1,103.35 |
| Forest Land | 7,355.51 |
| Unproductive Land | 136.43 |
| Wet Land | 10.2 |
| Total | 8,605.49 |

Table VII-10A shows the Land Use Change Tax collected for land removed from Current Use for the four year period between 2000 to 2003. Although the monies collected have not been consistent, this does provide a source of income to the Town.

Table VII-10A
Land Use Change Tax Collected, 2000-2003

| Year | Land Use Change Tax |
|------|---------------------|
| 2000 | \$21,752 |
| 2001 | \$100,617 |
| 2002 | \$158,230 |
| 2003 | \$50,340 |

Source: Pembroke Annual Reports

Agricultural Resources

Soils which qualify as farmland soils in Merrimack County are sorted into three categories by type: prime farmland soils, soils of statewide importance and soils of local importance to Merrimack County. These soils have been geographically located and digitally rendered by scientists at the County Natural Resources Conservation Service (NRCS) and are shown on the *Agricultural Soils Map*. The soils information has also been broadly described by type in Table VII-11.

Table VII-11
Farmland Class by Acreage

| Type | Acreage |
|----------------------------------|---------|
| Prime Farmland | 650.0 |
| Farmland of Statewide Importance | 231.8 |
| Farmland of Local Importance | 1,105.1 |
| Total | 2,046.9 |

Source: Natural Resources Conservation Services

The three farmland soils types are typically described as follows:

Prime Farmland Soils

These soils are considered to be the highest quality farming soils and are considered to have national importance because they have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops.

Farmland Soils of Statewide Importance

These soils have properties that exclude them from the nationally important prime farmland list. They are, however, considered to be good agricultural soils which have significant importance to the State of New Hampshire; they are known to produce fair to good crop yields when properly treated and managed. As a general rule, erosion control and irrigation practices are required for these soil types to produce high-yield crops.

Farmland Soils of Local Importance

These soils are identified by the individual County agencies within the State of New Hampshire. Like prime farmland soils and farmland soils of statewide importance, these soils support the production of food, feed, fiber, forage and oilseed crops but they only produce fair to good crops when managed properly.

The following table provides a list of active farms in Pembroke. As of 2004, Pembroke has only two known active farms. The Green Gold Farm, a relatively small dairy operation, and the Grimes Farm; they are both located on Buck Street.

Table VII-12
Active Farms in Pembroke (by parcels)

| Name | Map Lot | Acreage | Use |
|-----------------|----------|---------|-------|
| Green Gold Farm | 266-144 | | Crops |
| Green Gold Farm | 941-44 | | Crops |
| Grimes Farm | 939-24 | | Dairy |
| Grimes Farm | 939-17 | | Dairy |
| Grimes Farm | 939-17-1 | | Dairy |

Source: Subcommittee input

Forest Resources

There are a number of factors that determine the type of tree cover which occurs through-out Pembroke's abundant forested land areas and the chief of these factors is the soil type. As they have done with respect to identifying agricultural soils, the Natural Resources Conservation Services (NRCS) has developed an interpretation-based forestry soil type classification map for the entire state of New Hampshire and the locations of these soil types, which have been combined and sorted into soil groupings, are illustrated on the *Forestry Soils Map*. A description of each group class, as defined by NRCS, follows:

Soil Group IA

This group consists of the deeper, loamy textured, moderately well, and well-drained soils. Generally, these soils are more fertile and have the most favorable soil moisture relationships. The successional trends on these soils are toward stands of shade tolerant hardwood, i.e., beech and sugar maple. Successional stands frequently contain a variety of hardwoods such as beech, sugar maple, red maple, white birch, yellow birch, aspen, white ash and northern red oak in varying combinations with red and white spruce, balsam fir, hemlock and occasionally white pine. Hardwood competition is severe on these soils. Softwood regeneration is usually dependent upon persistent hardwood control efforts.

Soil Group IB

The soils in this group are generally sandy or loamy over sandy textures and slightly less fertile than those in group IA. These soils are moderately well and well drained. Soil moisture is adequate for good tree growth, but may not be quite as abundant as in group IA soils. Soils in this group have successional trends toward a climax of tolerant hardwoods, predominantly beech. Successional stands, especially those which are heavily cutover, are commonly composed of a variety of hardwood species such as red maple, aspen, paper birch, yellow birch, sugar maple and beech, in combinations with red spruce, balsam fir and hemlock. Hardwood competition is moderate to severe on these soils. Successful softwood regeneration is dependent upon hardwood control.

Soil Group IC

The soils in this group are outwash sands and gravels. Soil drainage is somewhat excessively to excessively drained and moderately well drained. Soil moisture is adequate for good softwood growth, but is limited for hardwoods. Successional trends on these coarse textured, somewhat droughty and less fertile, soils are toward stands of shade tolerant softwoods, i.e., red spruce and hemlock. Balsam fir is a persistent component in many stands, but is shorter lived than red spruce and hemlock. White pine, red maple, aspen, and paper birch are common in early and mid-successional stands and hardwood competition is moderate to slight on these soils. Due to less hardwood competition, these soils are ideally suited for softwood production and, with modest levels of management, white pine can be well maintained and reproduced. Because they are highly responsive to softwood production, especially white pine, these soils are ideally suited for forest management.

Soil Group IIA

This diverse group includes many of the same soils as in groups IA and IB. However, these mapping units have been separated because of physical limitations which make forest management more difficult and costly, i.e., steep slopes, bedrock outcrops, erosive textures, surface boulders and extreme rockiness. Usually, productivity of these soils is not greatly affected by their physical limitations. However, management activities such as tree planting, thinning and harvesting are more difficult and more costly. Due to the diverse nature of this group, it is not possible to generalize about successional trends or to identify special management opportunities.

Soil Group IIB

The soils in this group are poorly drained with the seasonal high water table generally within 12 inches of the surface. Productivity of these poorly drained soils is generally less than soils in other groups. Successional trends are toward climax stands of shade tolerant softwoods, i.e., spruce in the north and hemlock further south. Balsam fir is a persistent component in stands in northern New Hampshire and red maple is common on these soils further south. Due to abundant natural reproduction in northern New Hampshire, these soils are generally desirable for production of spruce and balsam fir, especially pulpwood. Red maple cordwood stands or slow-growing hemlock saw timbers are common in more southerly areas. However, due to poor soil drainage, forest management is somewhat limited. Severe wind throw hazard limits partial cutting, frost action threatens survival of planted seedlings, and harvesting is generally restricted to periods when the ground is frozen.

Town Forests

Pembroke has a number of parcels of Town owned land, some of which are used to house or otherwise accommodate various community facilities and schools. Additional Town-owned lands have been set aside for conservation purposes or for recreational and forestry uses. Although many parcels in the latter category are utilized for timber harvesting practices, the assessors' database only lists one Town forest in Pembroke, the Butterfield Tract, which accounts for 28.48 acres of land. Other forestlands owned by the Town include the Bragfield Pond Conservation Area, the Whittemore Conservation and Recreation Area and the White Sands Recreational Area which are not officially considered Town forests though there is potential for the Town to use them as such. The White Sands Recreational Area, for example, was subjected in 2003 to a selected timber cut.

Timber Harvesting

Timber harvesting occurs throughout the Town, although primarily this practice occurs in the large unfragmented tracts of land to the north, around the Range Roads, and along the Soucook River. Though the Timber Tax Revenue varies greatly from year to year, as seen in Table VII-13, this income can be beneficial to the Town as a source of income. In addition, when harvesting of timber is done correctly, the practice can continue without negative effects on the forest ecosystem.

Table VII-13
Timber Tax Revenue 1996 - 2003

| Year | Timber (Yield) Tax Collected |
|------|---------------------------------|
| 1996 | \$9,431 |
| 1997 | \$11,575 |
| 1998 | \$7,532 |
| 1999 | \$11,906 |
| 2000 | \$9,684 |
| 2001 | \$2,622 |
| 2002 | \$22,792 |
| 2003 | NA |

Source: Pembroke Town Reports

Tree Farms

One method that has been implemented to assure good timber management practice is the development of the Tree Farm Program. The American Tree Farm System® (ATFS) is a program of the American Forest Society aimed at educating landowners how to manage their forests for multiple uses. Since 1941, members of the Tree Farm program have been educated on topics such as wildlife habitat, watersheds, soil conservation, and forest resources.

The ATFS indicates that to qualify for the program, landowners must:

- Dedicate at least 10 acres to growing and harvesting forest products;
- Have a written plan for the future management of their forest;
- Follow management recommendations prescribed by a licensed forester; and
- Demonstrate a commitment to stewardship of their forest for multiple values.

Though not mandatory, programs like this one may assure continued conservation of Pembroke's forests while providing for a consistent source of revenue.

Ecological Resources

Wildlife Corridors

Wildlife corridors, which play an important role in the conservation and preservation of wildlife species, are normally made up of unfragmented or minimally developed stretches of land which serve to provide animal species with safe travel and sustenance as they move from one location to another. Quite often, such a corridor will be water based such as when wildlife uses the riparian edge of a river or stream as a passage for travel. Though never surveyed as such, it is fair to say that Pembroke has many miles of flowing water resources whose immediate environs have the natural capacity to be used as a dependable travel corridor by a wide range of indigenous wildlife.

With respect to their long-term conservation, these water-based wildlife corridors face a wide variety of threats which are primarily related to disruptive land-development activities. We would note that these corridors may be preserved for the long term if the town considers adopting strategies to mitigate the established threats to these corridors. This could be possibly find broad community favor given that approximately 50% of community attitude survey respondents indicating their preference to discourage development along rivers.

In addition to undeveloped land and water-based wildlife corridors, Pembroke also has several human-made corridors which can be used for animal movement. Perhaps the most noted of these human-constructed passageways are the town's various power line and utility right-of-ways which can often provide a safe travel corridor for many animal species. The minimal development allowed within many of these normally narrow protected areas often provide good refuge for migrating wildlife.

Exemplary Natural Communities

The Natural Heritage Inventory identifies a single natural community within the Town of Pembroke - a "Terrestrial Community" which is made up of New England Pine Pitch and Scrub Oak Barrens. Other unexplored or defined areas may exist in the Town but they have yet to be identified.

Plant and Wildlife Species

Pembroke contains a rich diversity of plant and wildlife species which, in order to thrive, rely upon the amount, and number of different types, of available habitat in a given area. As a rule, a large-sized undeveloped and unstressed environment will attract and foster a wider and richer range of plant and wildlife species than will a developed, fragmented environment. Large tracts of open spaces are especially important for the proliferation of large wildlife species such as deer and black bear. Such tracts in Pembroke are primarily located in the central, northern and eastern sections of town.

Natural Heritage Inventory

Native species of flora and fauna have gradually decreased their numbers in the face of ever escalating development pressure which threatens their traditional habitat. Concerned about this situation, Pembroke's town planners regularly consider whether there are any threatened or endangered species or other natural communities present on or near an affected site whenever they review proposals to develop land. To acquire this information, they turn to *The New Hampshire Natural Heritage Bureau*, which is part of the State of New Hampshire Division of Forests & Lands. *The New Hampshire Natural Heritage Bureau* is responsible for finding, tracking and recording the rare plants, animals and natural communities in New Hampshire. To accomplish this, the *Bureau* works in conjunction with the New Hampshire Fish & Game Department's Nongame & Endangered Wildlife Program. The result of this state-level collaboration is the establishment of a document entitled the Natural Heritage Inventory, which is a list of all the rare plant, natural communities and rare wildlife species which are found in the State of New Hampshire. This list was last updated in June of 2003.

Table VII-14 identifies all flora and fauna identified by the Natural Heritage Inventory for the Town of Pembroke. As may be seen, each listed species is given a rank of importance which is based upon the distribution of that species within New Hampshire and within the entirety of its known range outside the state. The less frequent the species, the higher ranking that is given. The classifications are as follows: Highest Importance (HI) indicates species that are rare to nonexistent in New Hampshire and within its known range. Extremely High Importance (EH) are species that are rare in New Hampshire and in its entire range, though they are slightly more numerous than those in the HI category. Very High Importance (VH) species are rare within New Hampshire but may be more common throughout the entirety of its range. High Importance (H) species are rare to infrequent within the state though they may be somewhat more numerous outside the state in other areas of its range. The No Importance category indicates that although the species may be listed as endangered within New Hampshire, the species is not so threatened in other areas of its known range.

The Natural Heritage Inventory presently identifies only two endangered plants that, until a few years ago, were found in Pembroke though only one of these plant species, the Wild Lupine, is still known to exist in town. With respect to endangered wildlife, the Inventory lists eleven animal species as existing within the Town, of which three have been classified as “Threatened” within the State of New Hampshire. They include the Grasshopper Sparrow, the Pine Barrens Zanclognatha Moth and the Eastern Hognose Snake. One of the animal species, the Bald Eagle, is listed as Endangered at both the State and federal level. Of the fourteen listings of endangered species in Pembroke only one relates to a Natural Community – more specifically, the terrestrial natural community. This is the New England Pine Pitch/Scrub Oak Barrens which is ranked in the Highest Importance category. In all, ten of the fourteen Natural Heritage Inventory listings for Pembroke are considered to be of Very High Importance.

Due to their high level of sensitivity and to protect their exact location, these endangered species and natural communities are not point located on any maps provided by *The New Hampshire Natural Heritage Bureau*. What the town receives instead is a high-scale map which only approximately locates the species or community type as a broad, 1-mile wide, buffered area. Nonetheless, most of the endangered wildlife species which are listed in the Natural Heritage Inventory for Pembroke are generally found along the Route 106 corridor and further north along the western border of Pembroke.

Table VII-14
Natural Heritage Inventory, 2003

| Type | Species or Community Type | Scientific Name or Community Name | Listed | | # Reported in the Last 20 Years | | Importance |
|---------------------|--------------------------------|--|---------|-------|---------------------------------|-------|------------|
| | | | Federal | State | Town | State | |
| Plants | Wild Lupine | Lupinus perennis | - | T | 5 | 38 | VH |
| Plants | Golden-Heather | Hudsonia ericoides | - | T | Historical | 12 | |
| Birds | Bald Eagle | Haliaeetus leucocephalus | T | E | 1 | 14 | VH |
| Birds | Common Nighthawk | Chordeiles minor | - | T | 1 | 10 | VH |
| Birds | Grasshopper Sparrow | Ammodramus savannarum | - | T | 1 | 10 | VH |
| Insects | A Geometrid Moth | Eumacaria latiferrugata | - | - | 2 | 3 | VH |
| Insects | Apantesis carlotta | Apantesis carlotta | - | - | 1 | 1 | VH |
| Insects | Barrens Xylotype | Xylotype capax | - | - | 1 | 5 | VH |
| Insects | Pine Barrens Zanclognatha Moth | Zanclognatha martha | - | T | 1 | 5 | VH |
| Insects | Southern Pine Sphinx | Lapara Coniferarum | - | - | 1 | 2 | VH |
| Insects | A Noctuid Moth | Platyperigea meralis | - | - | 1 | 2 | |
| Reptiles | Eastern Hognose Snake | Heterodon platirhinos | - | T | 1 | 15 | VH |
| Reptiles | Spotted Turtle | Clemmys guttata | - | - | 1 | 39 | VH |
| Reptiles | Blanding's Turtle | Emydoidea blandingii | - | - | Historical | 61 | |
| Natural Communities | Terrestrial | New England Pine Pitch/Scrub Oak Barrens | - | - | 2 | 16 | HI |

Codes: T - Threatened E - Endangered HI - Highest Importance VH - Very High Importance

Source: NH National Heritage Bureau, July 2003

“Importance” categories:

- HI = Highest Importance - species that are rare to nonexistent in New Hampshire and within its known range.
EH = Extremely High Importance - species that are rare in New Hampshire and throughout its natural range, though slightly more frequent than HI.
VH = Very High Importance - species that are rare in New Hampshire but may be more common throughout its entire range.
H = High Importance - species that are rare to infrequent in New Hampshire but which are frequent in other areas of its natural range.

No entry = No specified importance indicates that although the species is not endangered in other areas of its known range though it is considered to be endangered within the State of New Hampshire.

Viewsheds

Currently, the Town has not identified any viewsheds. However, an objective of this chapter will be to accurately identify and map these locations.

2001 Open Space Trails System Plan for the Town of Pembroke

Developed by the Pembroke Conservation Commission and the Trails Steering Committee, with assistance from the Central New Hampshire Regional Planning Commission, this goal of this plan is to develop a private/public trails system for the enjoyment of residents and visitors. The plan's specific goals are as follows:

1. Inventory existing public lands, easements, rights-of-way, and trails;
2. Determine where linkages to existing public lands and trails should be obtained; and
3. Provide recommendations on (a) how to acquire or otherwise obtain the needed linkages and (b) how to maintain a public trail system.

With just under 50% of the Community Survey respondents wanting improved walking trails and 42.3% of respondents wanting improved bike trails, the development and utilization of the Open Space Trails System Plan should prove to be a valuable tool in achieving this goal.

NATURAL RESOURCE CONCERNS

Some of the most important natural resource concerns facing Pembroke involve the need to fully identify existing natural resources, developing and putting into action appropriate management plans to use or conserve those resources, and also educating the public about those resources. Many of the goals associated with this Chapter aim at satisfying these concerns.

Contamination of Water Resources

Although much of the town relies on public water supply for drinking water, there is an overall concern for maintaining high water quality throughout the town - and this concern includes private wells. A goal of this Chapter is to identify present and potential sources of pollution that may affect any surface and ground water resource in town. Though point pollution sources are easier to identify and mitigate, the desire to identify and alleviate non-point pollution source is also an important goal. Practical steps such as implementing local water testing programs, continuing hazardous waste days and "roadside" trash clean-up days as all tactics which helps to decrease potential pollution of water resources.

Development Sprawl

The concept of sprawl, as it applies to the southern New Hampshire region, refers to haphazard and widespread, automobile-dependent, low-density land development which occurs beyond the edge of traditional service and employment areas. Sprawl's noted effects on natural resources typically includes fragmentation of the landscape, increased potential for water contamination, permanent loss of traditional agricultural land and forested areas, and increased local property taxes to fund new community infrastructure which is needed to accommodate the needs of sprawl development. It is the goal of the Pembroke Planning Board to avoid this situation by channeling future development away from the town's most important rural areas where agriculture and forestry-related land uses have been deemed important and toward those areas of town which are medium to high density residential in nature and which already contain high capacity transportation corridors and a built up primary community infrastructure which is capable of handling new development.

Loss of Open Space

As discussed elsewhere in this Chapter, Pembroke's existing open spaces serve a number of important roles. For example, they act as critical wildlife habitat, they provide room for recreational fields and other leisure activities, and to the extent in which the wooded and exposed open spaces can be maintained and fostered into the future, they act to sustain the town's remaining rural character and quality of life. With this in mind, a goal of this Chapter is to identify those areas of town that are considered to have the most valuable open space resources and develop a conservation plan which would preserve into the future those open spaces that are deemed most important.

REGULATORY PRESERVATION TECHNIQUES

Pembroke currently employs many regulatory techniques that can aid in the conservation of its natural resources. By reviewing its existing regulations while also considering added regulatory measures, the Town can provide supplementary methods of natural resource conservation.

Open Space Conservation Zoning

Area: Town-wide, focused between 4th and 5th Range Roads and extending north of 4th Range Road between Flagg Road and Borough Road.

The intent of Open Space Conservation zoning would be to minimize the widespread development of new small-sized lots (2-acres or less minimum lot size) in areas of town where a traditional rural quality of life has been deemed important. Such zoning would be put into place as a response to the threat of suburban sprawl and the possible onset of large-sized “cookie cutter” subdivisions and for the purpose of maintaining Pembroke’s longstanding rural character and improving the town’s tax base. Areas designated for Open Space Zoning would typically feature minimum lot sizes in the range of 5-acres.

Timber and Agriculture Conservation Zoning

Area: Area surrounding Range Roads from Flagg Road to Buck Street and East of Buck Street

The purpose for Timber and Agricultural Conservation zoning would be to preserve Pembroke’s last remaining agricultural fields and forested silvicultural areas from small lot-size building development through the creation of new land use zones in targeted agricultural and timber areas which would feature large-sized minimum lot sizes (between 5-50 acres).

Overlay Districts

Area: As appropriate for districts

The creation of overlay zoning districts is a technique which is already widely used by the Town of Pembroke to protect existing natural, historical and architectural resources. Typically, overlay zoning involves the targeting (or “overlying”) of certain resources in a geographical area with added land use or design protections to achieve a positive social good. An example of this would be the protection of important wetlands from destruction or the prevention of buildings and structures being constructed in known flood hazard areas).

Pembroke currently maintains the following six overlay districts:

| | |
|---------------------------------|-------------------------------|
| Architectural Design District | Aquifer Conservation District |
| Floodplain Development District | Home Business District |
| Shoreland Protection District | Wetlands Protection District |

Aesthetics-Based Land Use Regulations

Area: Town-wide

These types of planning regulations may be established whenever there is an important need to address aesthetic design issues within the community. Typical aesthetics-based land use policies can be used to regulate the visual look, feel and placement of new buildings and roadways, the design consequence of lot fragmentation that takes place during the subdivision process, judge the design and placement of signage and lighting, and regulate design changes which are proposed for historic residential and commercial structures. The Pembroke Planning Board currently employs a variety of aesthetics-based rules throughout its land use ordinances and regulations. In particular, aesthetically-based rules are currently found in the provisions of the Architectural Overlay District for Pembroke Street, the Cluster Subdivision Zoning provisions and the Site Plan Review regulations, all of which provide the Planning Board with the capacity to regulate appropriate aesthetic concerns.

Flexible Zoning

Area: Suncook Village Area

Flexible Zoning techniques typically provides the Planning Board with great flexibility in the application of land use and design regulations in order to assist in the positive design and building of a new development project. This type of zoning is an established feature within the zoning rules associated with the Soucook River Development District. Flexible zoning regulations should also be explored for the Suncook Village area due to the close proximity throughout that vicinity of commercial and residential land uses.

Phased Growth Plan

Area: Town-wide

New Hampshire towns may adopt phased growth-related regulations whose purpose is to control the rate at which a development project is constructed. In certain rapid growth situations, a town's capacity to slow the speed at which certain developments are constructed (by spacing, for example, the construction of a large project over a multi-year period) could provide the time needed for the town to adequately cope with the impact which that development would have on the town. Pembroke's Subdivision Regulations have provisions which allow the Planning Board to okay phased growth plans for approved subdivisions.

Growth Management Regulations - Limitations to the Number of Building Permits

Area: Town-wide

One way for a community to cope with unusual circumstances requiring prompt attention and for the purpose of developing or altering a growth management process under RSA 674:22, or a master plan or capital improvement program, is to adopt a growth management ordinance. One effect of such an ordinance could be to limit the number of new building permits that will be allowed in any given year until such a time that the goals of the ordinance are satisfied or the ordinance expires. The Town of Pembroke adopted such a plan in 2004 for the purpose of preventing large-scale subdivision activity during the period of time the Planning Board is updating its Master Plan. Typically, the number of building permits which are annually allowed under a growth management ordinance must be rationally correlated to the rate at which subdivision growth is occurring and building permits are being issued in the community.

NON-REGULATORY PRESERVATION TECHNIQUES

Conservation Easements

Area: Town-wide

A conservation easement is a permanent, legally binding, agreement that ensures that certain uses will never be allowed on that property. Typically conservation easements prevent development of land uses such as construction, subdivision and mining while at the same time promoting uses such as agriculture, forestry, wildlife habitat, scenic views, watershed protection and education. A conservation easement typically exists between a willing landowner and a qualified recipient, which can be the Town or State government or an appropriate conservation organization. Each such easement is tailored to the interests of the landowner, the receiving entity and the unique characteristics of the property. Land affected by a conservation easement can be sold or deeded by the original owner and subsequent owners but the easement is binding on all future owners.

Management Agreement

Area: Town-wide

Management agreements primarily focus on a particular feature of open space administration and such an agreement can be custom tailored to any specific situation, such as the following:

Right-of-Way for Trails

The Town may protect open spaces along a recreational trail corridor through the use of this type of management agreement. The right-of-way could be arranged and exist as a legal agreement between the Town or nonprofit organization and the owner(s) of the land where the trail is located.

Wildlife Corridors

Local private and public management plans which strive to protect open spaces associated with the natural movement and migration of wildlife is another practical use for management agreements. Typically, a management agreement for the protection or administration of a recognized wildlife corridor seeks to regulate how land in that corridor is used.

Buffers Between Uses

Written agreements which relate to the establishment and maintenance of buffer areas between incompatible land uses can be used to ensure that issues related to development and growth do not have a negative impact on the rural and scenic qualities that are valued by the Town.

SUMMARY

Pembroke has an abundance of natural resources deserving of preservation. Together, the Conservation Commission and Planning Board have an opportunity to conserve and manage these resources for the present and future generations of the community.

Chapter VIII
COMMUNITY and RECREATIONAL FACILITIES with UTILITIES

INTRODUCTION

The purpose of this Chapter is to evaluate Pembroke's community facilities, recreational facilities, and utilities. Providing and maintaining the essential services of community and recreational facilities and utilities are jointly one of the primary functions of government. As the population and demographics of the community grow and change over time, it is important that the community make adjustments in its delivery of services to meet the needs of the changing community.

Historically, rural communities in New Hampshire have provided very limited community facilities and services. In many cases, community facilities were limited to only a Town Hall and later, public school. However, as the population of the State increased, more services have been required to meet the needs of the citizenry. Today, modern communities are expected to provide full-time police protection, fire protection, as well as highway crews, recreational facilities, and professional administrators to manage daily operations of Town government.

For community facilities, this Chapter will inventory and assess current Town facilities, identify publicly sponsored programs, identify and assess the adequacy of existing equipment, and also identify current and long-term staffing needs. In addition, recommendations on how to meet some of these needs are provided in the beginning and throughout the Chapter. Town Department heads were interviewed for a report on the status of their department's facilities, staffing, and equipment. They were also asked to provide an assessment of their current and anticipated future needs.

An important component to a high quality of life, recreation provides a much-needed means of stress reduction and physical well-being. Recreational facilities also provide residents with a place to interact and create a sense of community that is beneficial to people of all ages. In recent years, numerous studies have identified that recreational facilities and programs also give children and teenagers a place to go, thereby reducing delinquent activity by those sectors of the population.

Utilities inventoried within the Town of Pembroke include electrical distribution, telephone, cable and wireless service, municipal water and public sewer. Utilities are the backbone of everyday life in small and large towns alike, and recommendations are proposed in order to enhance or expand their delivery.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These Objectives were developed as a result of Subcommittee analysis and interpretation of the data contained within the following chapter and from concerns raised from Pembroke residents and landowners from the Community Survey. They are listed in the beginning to give the reader the opportunity to view the results without reading through the entire Chapter.

- To inventory the present condition of the Town's community facilities, equipment, and services.
 - Replace equipment as scheduled in the 2004 Capital Improvements Program (CIP).
 - Provide overflow parking for the Town Hall/Library area.
 - Evaluate sites for the location of a transfer station.

- To maintain a high level of quality service and continue to update services.
 - Expand recycling at the transfer station.
 - Continue to provide timely road maintenance.
 - Extend the Town Hall's hours.

- To ensure that community services continue to meet the needs of the community into the future.
 - Identify more property for cemetery expansion or clear trees and test for suitability at the existing Evergreen Cemetery site.
 - Identify town-owned land and land for potential acquisition by the Town to locate future community facilities, including more recreation areas.
 - Purchase land for the potential location of future community facilities.
 - Maintain services to sustain the current quality of life enjoyed by the residents of Pembroke as the community grows.
 - Seek grants for community development and improvements.

COMMUNITY SURVEY RESULTS

The following community survey responses offer a number of suggestions and issues of concern to residents and property owners in Pembroke.

Please indicate which of the following you would like the Town to develop and/or improve.

There were several services that the respondents indicated they would like developed or improved. The top three choices were protection of ground surface water, protection of forests, and preservation of historic sites and buildings. The other services that received high scores for development and improvement were protection of wildlife habitat, protection of wetlands, operation of parks and recreational facilities, and paramedic services. The services that respondents indicated were of low priority were obtain open space with town funds, expand the water system with town funds (i.e. commercial area), additional fire sub-station, expand/new town cemeteries, and expand the sewer system with town funds.

In your opinion, what is the general year-round condition of the roads you travel on in Pembroke?

Approximately 87% of survey respondents indicated that the general year-round road conditions were good or fair, with 46.4% of respondents checking good and 41% checking fair.

Would you support an extension of the Concord Area Transit bus service into Pembroke?

Over half of the respondents, 55.5%, indicated that they would support an extension of the Concord Area Transit bus service into Pembroke. Another 17.2% indicated that they would not support such an extension and 18.2% indicated that they were unsure.

Should the following services, town sewer, town drinking water supply, and natural gas be expanded, stay the same, or no opinion.

Approximately 43% of the respondents indicated that town sewer should remain the same, while about 39% indicated that they had no opinion. Only 18% checked that the town sewer should be expanded. Approximately 44% of respondents indicated that the town drinking water supply should remain the same, while about 40% had no opinion. About 16% checked that the town drinking water supply should be expanded. The overwhelming majority of respondents, 100%, indicated that natural gas should be expanded in Pembroke.

If school expansion becomes necessary, how should this expansion take place?

Over half of the survey respondents, 53.4%, indicated that should school expansion become necessary, expanding the existing schools to a larger capacity was preferable. 26.4% of the respondents indicated that double sessions was the next preferable option.

What type of alternative trash disposal service(s) would you like to see?

Approximately 40% of the respondents indicated that they would like to see recycling in Pembroke. About 26% indicated that they would like to see curbside (private) trash disposal in Pembroke.

How often do you go to or call the town offices?

The majority of respondents, approximately 82%, called the town offices occasionally. About 10% never called the offices.

What types of Town services would you like to conduct over the web?

The top two services respondents would like to conduct on the web are renewing auto registrations, 23%, and viewing tax maps, 21%. Respondents, 19%, would also like to be able to view assessing data on the web.

In order to help Town officials better direct their efforts, please rate the following municipal services.

Greater than 70% of the respondents gave the following services good or fair ratings: trash collection, police protection/enforcement, fire protection, snow removal, school system, road maintenance, rescue squad, and the library. Approximately 20 to 23% of the respondents indicated that town administration and the budget committee needed improvement.

In order to maintain, improve, and/or expand the services listed immediately above in Question 38, would you support annual tax increases of:

Forty-two percent (42%) of the respondents indicated that they would support a tax increase of 0% in order to maintain, improve, and/or expand the services in Question 38. Approximately 40% indicated that they would support a tax increase of less than 3% in order to maintain, improve, and/or expand the above services. The last 6% checked that they would pay whatever is necessary for the above services.

DISCUSSION OF POPULATION TRENDS

When examining the community facilities, recreational facilities, and utilities of a municipality, it is essential to know if the population is being adequately served. This can be gauged by a number of measures, including the tracking of population trends and projections. Communities need to be able to adequately service the needs of their residents and estimate what changes will be needed for future years.

Historic Trends

Pembroke's population has historically increased, with growth peaking in the 1980s. From 1980 to 1990, the Town grew by 35%, adding almost 1,700 during that decade. Between 1990 and 2000, per the US Census, the population grew only 5%. The number of housing units also increased the most during the 1980s. From 1980 to 1990, housing units increased by 38.7%, adding 708 units during that decade.

Table VIII-1
Overall Population and Housing Growth Trends, 1970-2000

| Growth | Population | Net Change | | Housing Units | Net Change | |
|-------------------------------|------------|------------|-----|---------------|------------|-------|
| | | # | % | | # | % |
| 1970 (US Census) | 4,261 | --- | --- | 1,386 | --- | --- |
| 1980 (US Census) | 4,861 | 600 | 14% | 1,828 | 442 | 31.9% |
| 1990 (US Census) | 6,561 | 1,700 | 35% | 2,536 | 708 | 38.7% |
| 42000 (US Census) | 6,897 | 336 | 5% | 2,734 | 198 | 8% |
| Total Change from 1970 - 2000 | 2,636 | --- | --- | 1,348 | --- | --- |

Sources: 1970-1990 US Census CPH-2-31 Table 9 Population and Housing Unit Counts;
US Census 2000 Data

Current Trends

Table VIII-2 shows current population trends in Pembroke and the communities that border it. All areas have experienced growth within the last decade.

Table VIII-2
Current Population Trends, 1990-2000
Pembroke and Abutting Communities

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Allenstown | 4,649 | 4,606 | 4,601 | 4,631 | 4,712 | 4,742 | 4,839 | 4,823 | 4,850 | 4,992 | 4,843 |
| Bow | 5,500 | 5,550 | 5,586 | 5,681 | 5,817 | 5,919 | 6,093 | 6,406 | 6,503 | 6,633 | 7,138 |
| Chichester | 1,942 | 1,955 | 1,972 | 1,992 | 2,010 | 2,021 | 2,046 | 2,072 | 2,115 | 2,159 | 2,236 |
| Concord | 36,006 | 36,059 | 36,364 | 36,762 | 37,010 | 37,290 | 37,850 | 37,925 | 38,180 | 38,318 | 40,687 |
| Epsom | 3,591 | 3,613 | 3,645 | 3,702 | 3,763 | 3,742 | 3,834 | 3,866 | 3,896 | 3,971 | 4,021 |
| Loudon | 4,114 | 4,239 | 4,246 | 4,300 | 4,340 | 4,358 | 4,437 | 4,504 | 4,553 | 4,635 | 4,481 |
| Pembroke | 6,561 | 6,533 | 6,542 | 6,600 | 6,619 | 6,636 | 6,688 | 6,724 | 6,733 | 6,777 | 6,897 |

Source: NH Office of State Planning 1991-1999 Population Estimates of NH Cities and Towns;
1990 US Census STF1A (P1); 2000 US Census

Although Table VIII-2 illustrates the raw population figures over the last decade, Table VIII-3 more accurately depicts the increases each community has experienced. Allenstown is by far the slowest growing community in the area; Pembroke comes in a close second.

Table VIII-3
Population Increase, 1990-2000
Pembroke and Abutting Communities

| Town | % Increase, 1990-2000 |
|-----------------|--------------------------|
| Allenstown | 4.2% |
| Bow | 29.8% |
| Chichester | 15.1% |
| Concord | 13.0% |
| Epsom | 12% |
| Loudon | 8.9% |
| Pembroke | 5.1% |

Source: 1990 US Census & 2000 US Census

Table VIII-4 shows the Census population figures broken down into age groups. This reference is useful for determining the immediate needs of certain age groups, such as children and the elderly.

Table VIII-4
Pembroke Population by Age

| Age Group | Number of Persons by Age and % of Age Group | | | | | | | |
|-----------|---|-------|-------|--------|-------|--------|-------|--------|
| | 1970 | % | 1980 | % | 1990 | % | 2000 | % |
| 0 to 4 | 414 | 9.7% | 325 | 6.7% | 522 | 8.0% | 383 | 5.6% |
| 5 to 14 | 886 | 20.8% | 825 | 17.0% | 1,022 | 15.6% | 1017 | 14.7% |
| 15 to 24 | 652 | 15.3% | 796 | 16.4% | 812 | 12.4% | 996 | 14.4% |
| 25 to 34 | 529 | 12.4% | 888 | 18.3% | 1,385 | 21.1% | 630 | 9.1% |
| 35 to 44 | 524 | 12.3% | 570 | 11.7% | 1,127 | 17.2% | 954 | 13.8% |
| 45 to 54 | 460 | 10.8% | 512 | 10.5% | 648 | 9.9% | 1201 | 17.4% |
| 55 to 64 | 403 | 9.5% | 448 | 9.2% | 492 | 7.5% | 787 | 11.4% |
| 65 to 74 | 256 | 6.0% | 334 | 6.9% | 336 | 5.1% | 482 | 7.0% |
| 75+ | 137 | 3.2% | 163 | 3.4% | 217 | 3.3% | 447 | 6.5% |
| Total | 4,261 | 100% | 4,861 | 100.0% | 6,561 | 100.0% | 6,897 | 100.0% |

Source: OSP Comparison Binder of 70-80; 1970-90 US Census STF1A (P11 and P12)
1990 Census Binder and 2000 Census DP-1

Table VIII-5 depicts a more condensed view of the percentage of population by common cohort age group. The slim majority of residents are aged 45-64 (28.8%) while the under 19 category (28.2%) quickly follows. Nearly 14% (13.5%) of Pembroke's population is over the age of 65.

Table VIII-5
Percentage of Population by Age Group, 2000

| Age Group | Census 2000 6,897 people |
|-----------|-----------------------------|
| under 19 | 28.2% |
| 20-34 | 15.6% |
| 35-44 | 13.8% |
| 45-64 | 28.8% |
| 65+ | 13.5% |
| Total | 100% |

Source: 2000 US Census DP-1;
numbers may not add exactly to 100% due to rounding

Future Projections

While it is important for any community to plan ahead for an anticipated increase in population, which in turn increases pressure on community services and facilities, this section should be taken lightly as new population projections have not been produced by the Office of Energy and Planning (formerly the Office of State Planning) since the 2000 Census of population was released. Old figures, which are the numbers most currently available, were used in the creation of these comparisons.

Excerpted from the **DEMOGRAPHICS CHAPTER**, Table VIII-6, projected future population growth, was calculated based upon the community's historical share of the County's population. It depicts the projected population for Pembroke and abutting communities.

Table VIII-6
Population Projections, 2005-2020

| Pembroke and Abutting Communities | | | | |
|-----------------------------------|--------------|--------------|--------------|--------------|
| | 2005 | 2010 | 2015 | 2020 |
| Allenstown | 5,236 | 5,378 | 5,678 | 5,900 |
| Bow | 6,597 | 6,787 | 7,127 | 7,501 |
| Chichester | 2,430 | 2,600 | 2,760 | 2,920 |
| Concord | 42,780 | 45,230 | 47,550 | 49,870 |
| Epsom | 4,184 | 4,321 | 4,312 | 4,795 |
| Loudon | 4,810 | 5,110 | 5,410 | 5,710 |
| Pembroke | 7,250 | 7,450 | 7,801 | 8,187 |

Source: NH Office of State Planning Municipal Population Projections 2000-2020

All projections should be reviewed with care as no methodology is perfect enough to predict what an actual future count would be. The **DEMOGRAPHICS CHAPTER** of the Master Plan also adheres to taking these projections lightly until more reliable data is acquired.

COMMUNITY FACILITIES

An examination of each of the departments in Pembroke which serves the population will be undertaken in this section. Each department will be inventoried for its statistics, equipment, and staffing and facilities needs. A series of long- and short-term recommendations will be determined based upon the information compiled. A new Capital Reserve Fund (CRF), the Municipal Facilities CRF, is recommended to be established in 2004 with an initial amount of \$50,000 deposited. This fund will be used to fund all community facility buildings and repairs. (In 2004, Priority High)

Town Hall

The Administrative offices of the town are located in the Town Hall at 311 Pembroke Street. The Town Hall was built in 1988, on the site of the old Town Hall that was destroyed by fire in 1964. Presently (2003) the building houses five municipal departments: Town Administration, Town Clerk, Tax Collector, Planning and Land Use, and Welfare. Most Town boards, committees and commissions hold their meetings in either of the two meeting rooms in the Town Hall.

Equipment Inventory and Future Needs

The Town upgraded its computer system, purchasing a new server and new personal computers in 2003. It is recommended that the Town set up and fund a reserve fund to replace outdated computer equipment as needed.

Table VIII-7
Town Office Equipment

| Name of Equipment (* from CIP 2004) | Type of Equipment | Condition | Year Acquired | Replacement Year | Replacement Cost | Priority (* from CIP 2004) |
|---|-------------------|---------------|---------------|--|---------------------------|----------------------------|
| Town Hall Computer System / Accounting Updates* | Technology | Some outdated | | Capital reserve fund could be established and funded in 2004 | \$30,000 to start in 2004 | High* |

Source: 2004-2009 CIP

Present Staffing and Future Needs

The Town Offices provides space for numerous Town employees. They include the Town Administration, Town Clerk, Tax Collector, Planning and Land Use, and Welfare departments.

The Town Hall provides space for nine full-time and two part-time employees in the Town Administration, Planning and Land Use and Welfare Departments, and Town Clerk and Tax Collector's Offices. It is anticipated that additional financial staff may be required in the Town Administration Department due to newly instituted fiscal reporting requirements. According to the Town's FY-02 audit, "the added oversight responsibility of all financial records for all departments and the implementation of GASB #34 (the General Accounting Standards Board rule #34 which requires an extensive inventory) require that the Town ensure that there is adequate, financially trained staff."

Facility Assessment and Future Needs

The current facility is fully utilized. Office space encompasses 2,648 square feet. Meeting space covers 1,529 square feet. The current building is anticipated to meet the Town office space needs for the next 10-12 years. Added services and space needs could be accomplished by renovating existing space to accommodate all anticipated usage. The smaller, second floor meeting room could be converted into office space if the meeting room in the adjacent Library was used to accommodate some of the community groups that currently meet at the Town Hall. In addition, expansion of the existing Town Hall is a potential option if necessary to accommodate the Town's needs.

It is anticipated that the Town Hall will need to have the roof re-shingled by 2009. Within the 2004 CIP, \$20,000 is expected to be expended from the Municipal Facilities Capital Reserve Fund for the task. Additionally, one half of the parking lot that was not rehabilitated during the construction of the adjacent Town Library will need to be pulverized and a new base and surface coat of asphalt installed within the next 3 years due to cracking and some heaving.

Town Hall Summary

Short-term Needs (2004 to 2008)

- Resurface the half of the parking lot not rehabilitated during construction of the Town Library.
- Set up and fund a reserve fund to replace outdated computer equipment and technology as needed. (In CIP 2004, Priority High)
- Hire additional Town Administration staff to meet the demands of financial reporting.

Long-term Needs (2008 to 2013)

- Re-shingle the Town Hall's Office roof. (In CIP 2004, Priority unset for 2004)
- Convert one of the second floor meeting rooms for more office space.

Recommendations for the Town Offices/Town Hall

- Construct additional parking space behind the Historic 1890 Schoolhouse.
- Use the adjoining library for meeting space and convert one of the two meeting rooms into office space upstairs.
- Set up and fund a reserve fund to replace outdated computer equipment and technology as needed. (In CIP 2004, Priority High)

Public Works Department/Solid Waste Facility

The Public Works Department is responsible for the maintenance of approximately 58 miles of Town streets (an additional 12 miles are State roadways), highways and sidewalks, including snow removal, trimming, street sweeping, and building and maintaining catch basins. In addition, the Department is responsible for cleaning, repairing, removing snow, and the general upkeep of all town buildings, including parking areas. It also provides the maintenance of the vehicles and equipment for all other Town departments (trucks, cruisers, fire apparatus, tractors, mowers, etc.). The Department is located on 8 Exchange Street.

The Public Works Department is also responsible for solid waste collection and provides curbside residential waste pick-up as well as the operation and maintenance of a solid waste facility. All household and commercial refuse generated in the Town is transported to the Concord Regional Solid Waste/Resource Recovery Cooperative facility located in Penacook. The Town joined the cooperative in 1985 and signed an agreement that will provide access to the facility until the year 2009. Commercial property owners must make arrangements with a private hauler, licensed by the Town, to transport their waste to the CRSW/RRC facility.

The Town's Solid Waste Transfer Facility is located at 8 Exchange Street, adjacent to the Highway Department Garage. The facility is open to residential users on Tuesdays and Saturdays, from 7:30 a.m. to 3:30 p.m., and for commercial users on Tuesdays, from 7:30 p.m. to 3:30 p.m. Both classes of users must first obtain and display a facility permit prior to using the facility. Household waste, yard waste, tires, household appliances, non-appliance metals and demolition and construction debris are accepted at the Transfer Station. Limited recyclables are also taken.

The Department annually conducts a Household Hazardous Collection Day in the fall. Town residents are allowed to dispose of up to 10 gallons of acceptable household hazardous waste. Latex paint is not accepted. This program is reimbursed by NH Department of Environmental Services at a rate of \$.25 per capita, but the Town must pay the balance, which is around \$1.00-\$1.25 per capita. In 2003, it was removed from the Town Budget and a collection was not held.

Equipment Inventory and Future Needs

The 2004 CIP Committee recommended placing \$100,000 in 2004 into a reserve fund, increasing nearly each year to 2009, to offset the anticipated costs of replacing equipment and to have funds available for an emergency repair or replacement.

It has been Department policy to expect a six or seven year use out of most vehicles. The increased storage space in the new facility has increased the effective life of the equipment.

Table VIII-8
Existing Public Works Department Equipment

| Name of Equipment (* from CIP 2004) | Type of Equipment | Condition | Number of Miles or Hours | Year Acquired | Anticipated Replacement Year | Estimated Replacement Cost | Priority (* from CIP 2004) |
|--|-----------------------------------|--|--------------------------|---------------|---|----------------------------|----------------------------|
| One Ton Dodge #1* | Heavy equipment | Very Poor | 95,097 miles | 1997 | 2004 | \$63,000 | High* |
| One Ton Ford F150 (replacement of #1)* | Heavy equipment | n/a | n/a | 2004 | 2009 | \$90,750 | Unset* |
| International #3 Dump/Plow* | Heavy equipment | Good | 1,756 hours | 2000 | 2010 | \$161,700 | Unset* |
| International #4 Dump/Plow/Sander* | Heavy equipment | Fair | 5,200 hours | 1993 | 2005 | \$138,500 | Unset* |
| International #5 Dump/Plow/Sander* | Heavy equipment | Good | 3,558 hours | 1994 | 2006 | \$115,000 | Unset* |
| International #6 Dump/Plow/Sander* | Heavy equipment | Good | 3,458 hours | 1995 | 2008 | \$147,000 | Unset* |
| 1 Ton Dodge #7 Dump/Plow/Sander* | Heavy equipment | Good | 61,445 miles | 1999 | 2005 | \$65,000 | Unset* |
| 1 Ton Dodge # 7 (replacement of #7)* | Heavy equipment | n/a | n/a | 2005 | 2010 | \$97,500 | Unset* |
| Trackless Sidewalk Plow & Equipment* | Mowing and snow blowing equipment | Fair to Poor | 2,864 hours | 1994 | 2004 | \$66,690 | High* |
| Peterbilt Packet* | Heavy equipment | | 10,290 hours | 1997 | 2006 | \$150,500 | Unset* |
| Stirling Packer* | Heavy equipment | Good | 1,295 hours | 2002 | 2009 | \$225,800 | Unset* |
| John Deere Loader* | Heavy equipment | Fair | 8,719 hours | 1988 | 2007 | \$200,000 | Unset* |
| Brush/Wood Chipper* | Heavy Equipment | Good | 759 hours | 1991 | 2008 | \$39,200 | Unset* |
| Fuel Tanks at Public Works Facility* | Fuel tanks | Probably will not pass next inspection in 2005 | | | 2005 | \$45,000 | Unset* |
| Salt Shed* | Storage | n/a | | | 2004 | \$30,000 | High* |
| Construct Transfer Station* | Solid waste disposal | | | | 2007 | \$450,000 | Unset* |
| Tractor #120 | Heavy equipment | Good | 1,945 hours | 1988 | 2010 | \$45,000 | Low |
| Crown Victoria | Vehicle | | | 1996 | | | |
| Packer 97 | Heavy equipment | Poor | 10,185 hours | 1998 | 2006 | \$120,000 | High |
| Backhoe 580L | Heavy equipment | Good | 1,434 hours | 2000 | | | |
| Dirt Road Rake | Heavy equipment | Poor | | | | | |
| Flail Mower | Heavy equipment | Good | | 1994 | | | |
| 4 Ton Trailer | Heavy equipment | Fair | | 1988 | | | |
| 18 Ton Trailer | Heavy equipment | Fair | | 1988 | | | |
| Can Recycling Trailer | Heavy equipment | Poor | | 1990 | | | |
| Solid Waste Facility Closure | Solid Waste | | | | State law mandates that the Town close solid waste facility | \$210,000 | |

Source: 2003 Town of Pembroke Casualty Sheet, Vehicle, Mobile Equipment, and Property Listing; 2004-2009 CIP

Present Staffing and Future Needs

Currently, the Department has twelve full time and one part time employees. It has seven employees certified for operation of a solid waste facility from the State. It is anticipated that an additional two full time employees will be needed.

The Department is run by a Public Works Director and is made up of five divisions: Administration, Highway, Building and Grounds, Fleet Maintenance, and Solid Waste.

Facility Assessment and Future Needs

The Public Work's Department's facility is located on Exchange Street, in the village area of town. The 4.0 acre site was originally part of the railroad right-of-way which ran along the Merrimack River. The new garage facility was built in 2000 and was attached to the 1959 three-bay maintenance facility. The new facility is able to store all of the equipment inside the four large bays along with the use of the bays of the old facility. The facility has a meeting room and three offices. Currently, one office is shared with the Sewer Department and one of the bays in the old facility is leased to the Water Works. The maintenance garage is 11,700 square feet. It is anticipated within the next five to ten years that an additional 1,000 square feet will be needed to accommodate the Public Work's Department's needs.

A Committee has been formed to look at potential sites for a new transfer station, which is anticipated to be built in 2007 according to the 2004 CIP. One option is the current site, which is primarily an open-type dump that could potentially be closed with dirt after testing. A more up-to-date transfer station that accepts more recyclables would improve the recycling opportunities in Town.

Table VIII-9
Public Works Department Comparisons with Abutting Towns

| | Population, 2000 | Miles of Town Owned Road, 2000 (Class V and VI combined) | Total Highway Expenditures, 2002 | Highway Department Expenditures per Mile, 2002 | Number of FTE Highway Department Employees, 2002 | Number of Miles per Highway Department Employee, 2002 |
|-----------------|---------------------|--|--|---|---|--|
| Allenstown | 4,843 | 29.1 | \$488,480 | \$16,809 | 5 | 5.8 |
| Bow | 7,138 | 84.6 | \$1,258,504 | \$14,881 | 11 | 7.7 |
| Chichester | 2,236 | 41.6 | \$254,587 | \$6,115 | N/A | N/A |
| Concord* | 40,687 | 69.0 | \$1,674,809 | \$24,279 | 37 | 1.8 |
| Epsom | 4,021 | 57.3 | \$502,710 | \$8,778 | 2.5 | 22.9 |
| Loudon | 4,481 | 85.7 | \$295,463 | \$3,500 | 8 | 10.7 |
| Pembroke | 6,897 | 57.7 | \$1,244,193 | \$21,567 | 12 | 4.8 |

Sources: Town Annual Reports; NH DOT Roadway Mileage by Classification, January 2002;
Calls to Highway Department; *2000 figures

Table VIII-10
Comparison of Transfer Station Budget per Capita, 2002

| | Population, 2000 | Total Budget Expended, 2002 | Budget per Capita |
|-----------------|---------------------|--------------------------------|----------------------|
| Allenstown | 4,843 | Not available | Not available |
| Bow | 7,138 | \$453,504 | \$63.53 |
| Chichester | 2,236 | \$92,178 | \$41.22 |
| Concord | 40,687 | Not available | Not available |
| Epsom | 4,021 | \$165,764 | \$41.22 |
| Loudon | 4,481 | \$227,805 | \$50.84 |
| Pembroke | 6,897 | \$365,127 | \$52.94 |

Sources: 2002 Town Reports, Town Highway Departments

Public Works Department Summary

Short-term Needs (2004 to 2008)

- Evaluate sites for the location of a new transfer station.
- Replace fuel tanks at the Public Works Facility. Investigate eliminating the need for fuel on site, and instead institute a credit card system with a local fuel company. (In 2004 CIP, unset Priority for 2004)
- Replace the One Ton #1, which is currently in poor condition, according to the 2004 CIP. (In 2004 CIP, Priority High)
- Replace the Trackless Sidewalk Plow and Equipment. With a useful life of 9-10 years, by 2004, it will need replacement (In 2004 CIP, Priority High).
- Replace the International #5 dump truck with a 10- wheeled truck and a larger capacity spreader in 2006. This will increase load capacity and endurance resulting in fewer trips back to the Public Works Facility to upload material, thus saving time and resources during winter operations. (In CIP 2004, unset Priority for 2004)

Long-term Needs (2008 to 2013)

- Construct a more up-to-date Transfer Station. (In 2004 CIP, unset Priority for 2004)
- Provide an additional 1,000 square feet in the maintenance garage to plan for future storage needs.

Recommendations for the Public Works Department

- Construct a Transfer Station with full recycling capabilities. (In 2004 CIP, unset Priority for 2004)
- Make all equipment replacements needed to keep equipment as up-to date and efficient as possible.
- Expand the facility to accommodate future storage needs.

Cemeteries

The Pembroke Cemetery Commission was re-formed in 1982 and serves as an advisory board to the Board of Selectmen. The Commission devotes much of its time to assessing the needs for repairs, mainly to monuments and headstones, in the cemeteries as well as planning for cemetery improvements.

Currently, the town has nine cemeteries comprising 16.25 acres. There is also one known private cemetery in Town, although anecdotal information would suggest that more would be found upon inspection.

The Cemetery Commission has gridded empty areas of each cemetery into four foot by 10 foot lots with four-foot pathways between rows of lots. These established lots plus the undeveloped portion of the Evergreen Cemetery will meet the space needs of the town for the immediate years to come (estimated through year 2010 based on 2 acres per 1000 population.) The Commission plans to improve and landscape the undeveloped portion of the Evergreen Cemetery for use as burial plots. In addition, the wall at Evergreen Cemetery needs to be replaced as mandated by State law. The 2004 CIP recommends \$10,000 per year from 2004-2006 to assist with funding the project.

Funding for the Cemetery Commission is from burial fees and Trust Funds, which limits the ability for expansion, improvements and upkeep of the cemeteries. The Commission solicits contributions and bequests to the Cemetery Improvement Fund as a method to keep the towns historic burial places a source of pride and beauty for the community.

Equipment Inventory and Future Needs

The Public Works Department provides administration services for cemeteries, including grave openings and closings. The Cemetery Commission contracts out routine maintenance work on cemeteries.

Locations of Cemeteries

Nine public cemeteries and one known private cemetery were located in Pembroke. Undoubtedly, there are also a number of private family cemeteries which also exist in Town. Tables VIII-11 and VIII-12 display the known cemeteries in Pembroke:

Table VIII-11
Public Cemeteries

| Cemetery | Map/ Lot | Area | Location |
|-----------------------------|-----------|-------|--|
| Buck Street Cemetery | 868/CM-1 | 2.72 | Corner of Buck & Route 28 |
| Evergreen Cemetery | 266/CM-2 | 9.56 | Approximately ½ mile beyond Route 3 bridge, on Buck Street |
| Pembroke Street Cemetery | 565/CM-3 | 2.36 | Next to Whittemore homestead, on Pembroke Street |
| Pembroke Hill Cemetery | 262/CM-4 | 0.45 | 4 th Range Road by McGinnis (Vet) |
| Old North Pembroke Cemetery | 935/CM-5 | 0.375 | 8 th Range Road (No. Pembroke Road) |
| New North Pembroke Cemetery | 937/CM-6 | 0.698 | 8 th Range Road (Blueberry Hill/Cross Country Road) |
| Abbott Cemetery | 561/CM-7 | 0.022 | Borough Road west of Eley Lane |
| Richardson Cemetery | 260/CM-8 | 0.07 | Corner of 6 th Range/Cross Country Road |
| French-Dearborn Cemetery | 258/CM-10 | NA | On former Vera Maroney land, on Borough Road |

Source: Cemetery Trustees

Table VIII-12
Private Cemeteries

| Cemetery | Map/Lot | Area | Location |
|-----------------|----------|------|---------------------|
| French Cemetery | 258/CM-9 | NA | North Pembroke Road |

Source: Cemetery Trustees

Cemetery Commission Summary

Short-term Needs (2004 to 2008)

- The wall at Evergreen Cemetery needs to be replaced. (In 2004 CIP, Priority Low)

Long-term Needs (2008 to 2013)

- Additional land area of six (6) acres will be required before the year 2020 to meet the community's needs for burial space. This assumption is based on a recommendation of two acres per 1,000 population that is estimated for the year 2020.

Recommendations for Cemeteries

- Acquire additional six (6) acres before the year 2020.
- Replace Evergreen Cemetery Wall. (In 2004 CIP, Priority Low)

Fire Department

The Pembroke Fire Department is an on-call department entirely run by volunteers who make time for this serious commitment. Located on Route 3, it will be the site for the new Safety Complex.

Department equipment is comprised of a fleet of modern apparatus including three pumpers, one aerial tower and a host of other support vehicles.

Equipment Inventory and Future Needs

The majority of the Fire Department apparatus was purchased in the 1980s. Many are not scheduled for replacement until after 2010. In 2004, \$75,246 is scheduled to be placed into the Major Fire Equipment Capital Reserve Fund (CRF). (In 2004 CIP, Priority High) No deposits are scheduled to be made in 2004 to the Small Fire Equipment CRF. (In 2004 CIP, \$0 funding)

Table VIII-13
Existing Fire Department Equipment

| Name of Equipment (* from CIP 2004) | Type of Equipment | Year | Anticipated Replacement Year | Estimated Replacement Cost | Priority (* from CIP 2004) |
|--|----------------------|------|------------------------------------|----------------------------------|----------------------------------|
| 62M1 Pumper/Attack Truck* | Vehicle | 1980 | 2006 | \$344,596 | Unset* |
| 75' Aerialscope | Vehicle | 1980 | 2014 | \$801,811 | |
| Forestry Truck | Vehicle | 1983 | 2018 | \$27,504 | |
| Pumper | Vehicle | 1988 | 2013 | \$509,125 | |
| Tanker/Pumper | Vehicle | 1998 | 2023 | \$595,841 | |
| Rescue/Fire Truck | Vehicle | 1999 | 2019 | \$432,488 | |
| Pickup/Utility | Vehicle | 2003 | 2023 | Not applicable | |

Source: 2003 Casualty Sheet, Vehicle, Mobile Equipment, and Property Listing, Fire Department; 2004-2009 CIP

Facility Assessment and Future Needs

The 7,594 square foot station was constructed in 1976 and will receive a 3,109 square foot addition when the Safety Complex is completed. Construction on the new facility began in 2003. The Fire Department will share 5,692 square feet of common space with the Police Department.

The Safety Complex will greatly enhance the Town's emergency response capability. It will also house an emergency operations center that will unify communications between departments during an emergency.

Calls for Service

In 2002, the Department responded to 359 calls for service. The station's location on Route 3 provides the Department with easy access to the major north-south route, providing quick response times both to the downtown village and to the northern industrial and residential areas of Town.

The average response time is eight minutes. As response time to emergency calls increases, the likelihood of increased property damage or loss of life increases. It should remain a priority of the Fire Department to keep their response time as low as possible. The mutual aid agreement that the Fire Department belongs to helps to ensure that response time in different areas of town remains low.

In 2003, the National Fire Protection Association (NFPA) abandoned plans to adopt minimum national fire response time standards. One public sector interest organization said it is impossible for uniform standards to address the wide range of conditions that exist in the nation's diverse fire services. These include critical differences in local geography—the key factor in fire response times—as well as huge variations in setting (rural and urban), staffing (paid and volunteer), and equipment.

Table VIII-14
Fire Department Calls, 1990-2002

| 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| N/A | 225 | 225 | 245 | 253 | 284 | NA | NA | 303 | 333 | 325 | 363 | 359 |

Source: Pembroke Annual Town Reports

Table VIII-15
Comparison of Fire Department Budget per Capita, 2002

| | Population, 2000 | Total Budget Expended, 2002 | Budget per Capita |
|------------|---------------------|--------------------------------|----------------------|
| Allenstown | 4,843 | \$207,181 | \$42.77 |
| Bow | 7,138 | \$300,242 | \$42.06 |
| Chichester | 2,236 | \$72,186 | \$32.28 |
| Concord | 40,687 | \$7,039,653 | \$173.02 |
| Epsom | 4,021 | \$308,525 | \$76.73 |
| Loudon | 4,481 | \$113,663 | \$25.36 |
| Pembroke | 6,897 | \$209,101 | \$30.31 |

Sources: 2002 Town Reports; US Census 2000

Present Staffing and Future Needs

Department personnel consists of the Fire Chief, Assistant Chief, two Deputy Chiefs, two Captains, three Lieutenants, and 35 active volunteer firefighters and 10 additional volunteers that provide support. In addition, the department is a member of the Concord Regional Mutual Aid Compact, a group of towns, along with the City of Concord, who have agreed to assist each other in times of major fires, or to watch over the station if the Town's force is at a fire.

Future staff needs are expected to require two to four (2-4) full time people if the Fire Department assumes EMS (Ambulance) responsibilities.

Table VIII-16
Fire/Rescue Department Wage Comparisons with Area Towns

| Town | Starting Wage | Notes |
|-----------------|---------------|--|
| Allenstown | \$9.56 | No volunteer fire fighters; 2 F/T, 23 P/T at \$9.56 - \$15.00 per hour |
| Bow | \$12.51 | Two F/T fire fighters, various paid call personnel from 7.98 to 10.22 per hour |
| Chichester | NA | |
| Concord | NA | |
| Epsom | \$10.50 | No volunteer fire fighters; 4 F/T, 20 P/T at \$10.00 per hr |
| Loudon | NA | |
| Pembroke | \$8.75 | 45 on-call, no permanent positions |

Source: Area Fire Departments, 2001

Safety and efficiency are the two primary factors when trying to determine an appropriate level of staffing for a fire department. Unfortunately, no national or state standard has been developed for the staffing of paid or volunteer fire departments. However, in 1987, the National Fire Protection Association (NFPA) developed a recommended minimum staffing level of 4 to 6 fire fighters per Engine/Ladder Company. Because Pembroke is served by a largely volunteer staff, it is difficult to apply staffing standards in evaluating the needs of the department.

Fire Department Summary

Short-term Needs (2004 to 2008)

- Replace the 1980 pumper truck. According the CIP, the replacement is scheduled for 2006, when the unit is 256 years old. (In 2004 CIP, unset Priority for 2004)

Long-term Needs (2008 to 2013)

- Investigate the impacts that proposed large-scale developments may have on fire protection.

Recommendations for the Fire Department

- Replace equipment as scheduled in the 2004 CIP.
- To ensure the best service into the future, investigate the impacts that proposed large-scale developments may have on fire protection.

Tri-Town Ambulance Service

Tri-Town Ambulance service is a volunteer organization created in 1972 that serves Pembroke, Allenstown, and Hooksett. It is a service independent of the Town. The Town appropriates \$35,067 towards the service on an annual basis. Tri-Town serves an area of approximately 100 square miles with a population of over 21,000.

One ambulance is stationed in Hooksett 10 hours per day. In Pembroke an ambulance is stationed at 2 Central Street at a small garage owned by the VFW. The Fire Department also houses a vehicle for Tri-Town Ambulance.

Equipment Inventory and Future Needs

Tri-Town currently has three ambulances, which meet the current needs. Plans are in motion to replace the two oldest ambulances which date back to 1994 and 1995. A need for a second 24-hour truck is projected by 2005.

Table VIII-17
Existing Tri-Town Ambulance Equipment

| Name of Equipment | Type of Equipment | Condition | Number of Miles or Hours | Year Acquired | Anticipated Replacement Year | Estimated Replacement Cost | Priority |
|-------------------|-------------------|--------------|--------------------------|---------------|------------------------------|----------------------------|----------|
| Ambulance 79A1 | ambulance | Not supplied | 98,000 | 1995 | 2003 | \$90,000 | High |
| Ambulance 79A2 | ambulance | Not supplied | 96,000 | 1994 | | \$90,000 | High |
| Ambulance 79A3 | ambulance | Not supplied | 104,000 | 1998 | | \$95,000 | High |

Source: Tri-Town Ambulance

Present Staffing and Future Needs

Tri-Town has 3 full time paramedics and 2 full time EMT-intermediates. In addition to full time employees, Tri-Town employs 9 per diem Paramedics and has a staff of 20 volunteer attendants to cover 24 hours a day, seven days a week. Tri-Town has no plans to add additional employees at this time.

In 2002, Tri-Town responded to 1,692 calls from Pembroke, Allenstown, and Hooksett with 458 (27%) of those calls coming from Pembroke. The average response time is 6.8 minutes.

Table VIII-18
Tri-Town Ambulance Calls in Pembroke 1990-2002

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Total Calls | 1012 | 1023 | 1044 | 1101 | NA | 1141 | 1289 | 1333 | 1256 | 1345 | 1586 | 1682 | 1692 |

Source: Tri-Town Ambulance

Tri-Town Ambulance Summary

Short-term Needs (2004 to 2008)

- A new ambulance in 2003
- A new ambulance in 2005
- A new ambulance in 2007

Long-term Needs (2008 to 2013)

- A new facility

Recommendations for the Tri-Town Ambulance Service

- Continue to monitor the ambulance services provided to Pembroke to ensure continued, adequate service to residents.
- Study the ongoing issues surrounding Pembroke's relationship with Tri-Town Ambulance Service so that long-term, uninterrupted ambulance service to Pembroke is guaranteed.

Police Department

The Police Department is responsible for enforcing all laws and ordinances and is committed to preserving peace, order and safety. The Department is located at 4 Union Street. The station is a three-story brick and wood frame structure built in the 1930s. The building was originally constructed and used as a Fire Station and was converted in the 1970s for use as a Police Station. In 1976, a two-story addition was constructed in the rear of the existing building. Construction of a new Safety Center has begun and the department will soon be moving in with the existing Fire Department at 247 Pembroke Street. A new Police Cruiser Replacement Capital Reserve Fund is anticipated to be created in 2004, with \$45,000 deposited to start. (In CIP 2004, Priority High)

Equipment Inventory and Future Needs

Sworn officer are clothed and equipped with town owned and issued property, which includes the following items: uniforms; leather gear; footgear; bullet resistant vests; outer garments; hats; sidearm weapon and extra magazines; handcuffs; flashlight; cap-stun; and expandable asp. The uniform replacement is handled via a quartermaster system. This means when old and worn uniforms and equipment are turned in, new uniforms and equipment are issued. Other officer equipment issued includes; portable radios, and traffic gloves. Portable defibrillators, first responder chemical-biological protective kits, tactical vest and water rescue equipment are stored in each patrol cruiser for emergencies. Other equipment such as cameras, night scopes, a thermal image camera, and evidence gathering equipment is kept at the police station and issued as needed.

Currently, the department has six Police cruisers in their fleet and one 4X4 Utility Vehicle. Police cruisers are being purchased each year and two every other year. When patrol vehicles have more than 100,000 miles, replacement becomes a priority.

In 2003, the Department purchased a four-wheel ATV along with three lap top computers. The three lap top computers have been installed in the three main patrol vehicles. These lap top computers will allow officers to write and file reports while on patrol, increasing productivity and keeping officers on patrol in the community for a greater police presence.

In addition to the lap top computers, new computer software was purchased in 2003, as requested during the 2003 budget process. The new software is especially designed for police applications and has the ability to integrate with the Bow Police Department who provides Pembroke's dispatch service. This new software will greatly increase the ability to completely automate the department, create crime analysis mapping, and exchange police information between departments.

Table VIII-19
Existing Police Department Equipment

| Name of Equipment (* from CIP 2004) | Type of Equipment | Condition | Number Of Miles Or Hours | Year Acquired | Anticipated Replacement Year | Estimated Replacement Cost | Priority (* from CIP 2004) |
|--|-------------------|-----------|--------------------------|---------------|------------------------------|----------------------------|----------------------------|
| Crown Victoria* | Vehicle | Good | 57,191 | 2001 | 2004 | \$27,000 | High* |
| Ballistic and Tactical Vest Replacement* | Small Equipment | Fair | | 2000 | 2004 | \$18,500 | High* |
| Crown Victoria | Vehicle | New | 1,024 | 2003 | 2007 | \$36,000 | High |
| Crown Victoria | Vehicle | New | 1,685 | 2003 | 2006 | \$34,000 | High |
| Crown Victoria | Vehicle | Good | 25,155 | 2003 | 2005 | \$32,000 | High |
| Crown Victoria | Vehicle | Good | 49,855 | 1999 | 2005 | \$32,000 | High |
| Crown Victoria | Vehicle | Good | 19,174 | 2000 | 2007 | \$36,000 | High |
| Ford Explorer | Vehicle | Good | 17,345 | 2002 | 2009 | \$40,000 | High |
| 1977 Dodge D.A.R.E. Vehicle | Vehicle | Poor | 139,000 | 1994 | | | |
| Yamaha | ATV | New | 8 Hours | 2003 | | | |
| Computer System | Technology | New | | 2003 | | | |
| Cruiser Lap Top | Technology | New | | 2003 | | | |
| Weapons/Officers | Small Equip | Good | | 1996 | 2011 | \$15,000 | High |

Source: Police Department, Vehicle, Mobile Equipment, and Property Listing, 2004-2009 CIP

A second new proposed fund, the Small Equipment Replacement Capital Reserve Fund, is scheduled to be created in 2004 with an initial deposit of \$8,000. This fund is to be used for the purchase of large ticket items, weapons, and other protective equipment. (In 2004 CIP, Priority High)

Summary of Calls for Service

A call for service is any activity warranting police attention, whether an arrest, theft and burglary investigation, or a dog complaint. In 2002, the Department responded to a total of 5,062 calls for service. Over the past twelve years, the number of calls for service have increased from 2,272 to 5,062 calls, or by 45 percent. In Pembroke, calls for service do not include motor vehicle summons or warnings. The average response time to a call for service is 5 minutes.

Table VIII-20
Police Department Calls for Service, 1990-2002*

| | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|------|------|------|------|------|------|-------|-------|
| 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 2,272 | 3,332 | 3,356 | 4,430 | 5,596 | NA | NA | NA | NA | NA | 5219 | 5,119 | 5,062 |

Source: Police Station

*Does not include motor vehicle summons or warnings issued

Table VIII-21
Police Department Costs per Call for Service, 2002

| | Total Number of Calls, 2002 | Total Budget Expended, 2002 | Cost per Call |
|-----------------|-----------------------------|-----------------------------|-----------------|
| Allenstown | 16,337 | \$458,085 | \$28.04 |
| Bow | 24,585 | \$976,350 | \$39.72 |
| Chichester | *931 | \$129,340 | \$138.93 |
| Concord | 45,039 | \$5,828,000 | \$129.40 |
| Epsom | 2,678 | \$330,000 | \$123.22 |
| Loudon | *2,275 | \$346,124 | \$152.14 |
| Pembroke | *5,062 | \$719,307 | \$142.09 |

Sources: 2002 Town Reports; Police Departments

*Does not include motor vehicle summons or warnings issued

Table VIII-22
Police Department Calls for Service per Capita, 2002

| | Population, 2000 | Total Number of Calls, 2002 | Calls per Capita |
|-----------------|------------------|-----------------------------|------------------|
| Allenstown | 4,843 | 16,337 | 3.4 |
| Bow | 7,138 | 24,585 | 3.4 |
| Chichester | 2,236 | 931 | 2.4 |
| Concord | 40,687 | 45,039 | 1.1 |
| Epsom | 4,021 | 2,678 | 0.67 |
| Loudon | 4,481 | 2,275* | 0.51 |
| Pembroke | 6,897 | 5,062* | 0.73 |

Sources: 2002 Town Reports; Police Departments

*Does not include motor vehicle summons or warnings issued

In 2002, the Department made 164 arrests and 39 juvenile arrests.

Present Staffing and Future Needs

The Department is staffed 24 hours a day 7 days a week by 13 full time employees, including a chief, one lieutenant, two sergeants, one detective, six full-time officers, administrative secretary and receptionist/secretary. A volunteer chaplain also provides support. The Police Department participates in programs offered through the Pembroke School District, such as Drug Abuse Resistance Education, (DARE) which has been active in Pembroke Schools since 1994. Other programs include the Eddie Eagle Gun Safety Education Program.

As of 2002, the Department is not planning to add any more officers. In the future it is anticipated that more officers will be needed to accommodate the growing population and the increase in calls for service that will follow.

Table VIII-23
Police Department Budget Comparison per Capita, 2002

| | Population, 2000 | Total Budget Expended, 2002 | Budget per Capita |
|-----------------|---------------------|--------------------------------|----------------------|
| Allenstown | 4,843 | \$458,085 | \$94.59 |
| Bow | 7,138 | \$976,350 | \$136.78 |
| Chichester | 2,236 | \$129,340 | \$57.85 |
| Concord | 40,687 | \$5,828,000 | \$143.24 |
| Epsom | 4,021 | \$292,513 | \$72.75 |
| Loudon | 4,481 | \$346,124 | \$77.24 |
| Pembroke | 6,897 | \$620,107 | \$89.90 |

Sources: 2002 Town Reports; Police Departments

Facility Assessment and Future Needs

The Police Department's current facility at 4 Union Street was found to be inadequate. After a two and a half year study by the Pembroke Safety Center Building Committee a new \$2,000,000 Safety Center proposal was introduced to voters and approved by Pembroke residents at the 2003 Town Meeting. This new facility is replacing the 60 year old station that did not meet many legal requirements, including the requirements of the Americans with Disabilities Act. A proposal for a Safety Center was approved at the 2003 Town Meeting. This new facility will house both the fire and police departments and will be located at the site of the existing Fire Station. It will also include an Emergency Operations Center, which will allow police officer and firefighters to work together in the event of a disaster. Both departments and the community will mutually benefit from the construction of the Safety Center.

The construction of the new Safety Center began in the summer of 2003. The new Safety Center will provide additional space for both the Fire and Police Departments. The new police area will encompass 8,807 square feet. A common area will encompass 5,692 square feet and 1,952 square feet have been set aside for storage and future needs.

Police Department Summary

Short-term Needs (2004 to 2008)

- Replace Ballistic Protection Vests (Threat Level II) for all police officers. All Ballistic Vests are required to be replaced every five years. (In 2004 CIP, Priority High)
- Replace all Tactical Ballistic Protection Vests (Threat Level III) for each patrol cruiser in the event that higher ballistic protection is needed. Rifles and other high velocity weapon systems can supercede Ballistic Protection Vest (Threat Level II) normally worn by officers. (In 2004 CIP, Priority High)
- Replace Cruisers as scheduled in the 2004 CIP. (In 2004 CIP, Priority High)
- Provide in service training at least once a month for all officers for training related to state mandates and other required recertifications like CPR, Firearms Training, First Aid, etc. This would not include officer career development or other outside agency training.
- Begin the NH Police Standards and Training Council Voluntary Accreditation Program. There are four individual levels of professional accomplishment, NH Recognition, CALEA Recognition, NH Accreditation and Commission on Accreditation for Law Enforcement Agencies (CALEA) Accreditation. The first step would be the NH State Accreditation Level 1 and then Level II. The department has already begun to work towards Level I, which creates a quality set of policies and procedures. The overall purpose of the accreditation program is to improve delivery of law enforcement service by offering a body of standards, developed by law enforcement practitioners, covering a wide range of up-to-date law enforcement topics. It inspires trust and confidence among residents knowing their police department has met rigid guidelines designed to ensure quality customer service.

Long-term Needs (2008 to 2013)

- Provide training and career development opportunities for officers to help them better serve the community. Specialized seminars in such areas as firearms, background investigations, supervisory development, and interviewing and interrogation development have and will continue to augment the growth of the department. In addition, there are inherent liability issues if there is a failure to provide training in accordance with Federal and State mandates.
- Replace firearms to ensure officer safety. Officers were last issued new firearms in 1996 when they transferred from revolvers to semi auto pistols. Each year these weapons are firing hundreds of rounds during firearms training exercises. Due to their constant use, these firearms in time start to loose accuracy due to the wearing of the inside of the barrels and other moving parts of the weapon, and replacement become necessary.
- Continue the State Accreditation Process. The accreditation process is a commitment and not an achievement. The process will demand we continue to meet the standards on an ongoing basis by reviewing and up dating polices and procedures for the department.

Recommendations for the Police Department

- Replace cruisers as outlined in the 2004 CIP. (In 2004 CIP, Priority High)
- Provide training and career development opportunities for officers.
- Replace equipment to ensure officer safety, especially firearms and Ballistic/Tactical Protection Vests. (In 2004 CIP, Priority High)
- Seek State Accreditation.
- Continue to monitor the Town's growth and impacts of proposed developments that increase the demand for police service.

Public Library

The library relocated in the spring of 2003 to a new building on Pembroke Street next to the Pembroke Town Hall. The new building has a community room and children's room. In addition, the New Hampshire room provides a place for historic town records and artifacts to be preserved and safeguarded. Lastly, the Pinegrove Farm Room, which can accommodate 60 people, is available for educational and community events.

The library has an extensive collection. The current estimate is a total of 16,000 books. In addition, magazines, videos, and audios are available to residents. Current usage of the present Library based on the number of materials circulated each day is approximately 90 books and magazines.

The following table highlights the circulation of library materials by patron type and material type, as tracked by the computer system.

Table VIII-24
Circulation, 2002

| 2002 Circulation by Patron Type | |
|---|--------|
| Adult Circulation | 7,295 |
| Juvenile Circulation | 7,383 |
| Total Circulation | 14,678 |
| 2002 Circulation by Material Type | |
| Printed Matter Circulation | 11,307 |
| Audio Circulation | 810 |
| Video Circulation | 2,561 |
| Total Circulation | 14,678 |
| Total of Registered Card Holder Patrons | 1,872 |

Source: Pembroke Public Library

Table VIII-25
Summary of Library Collection, 2002

| Categories | Number of Items |
|-----------------|-----------------|
| Books | 20,075 |
| Audio Books | 334 |
| Video Cassettes | 457 |
| CD's | 21 |
| Total | 20,887 |

Source: Pembroke Public Library

Table VIII-26
Library Budget, 1997-2002

| | Budget | Per Capita Spending (based on 2000 population) |
|------|-----------|---|
| 1997 | \$64,414 | \$9.34 |
| 1998 | \$75,101 | \$10.88 |
| 1999 | \$88,445 | \$12.82 |
| 2000 | \$106,078 | \$15.38 |
| 2001 | \$106,078 | \$15.38 |
| 2002 | \$79,665 | \$11.55 |

Source: *Pembroke Town Annual Reports*

The adult programs include monthly book discussions and special community events throughout the year. The children's activities include a weekly preschool story hour on Tuesday mornings and occasional evening story times. This library also participates annually in the New Hampshire state summer reading program for children, and we have many young readers ages 5 - 12 "contracting" to read a reasonable number of books during the summer. The library also sponsors educational entertainers for children several times a year; and there are several craft afternoons for young adults.

Equipment Inventory and Future Needs

The Pembroke Library has a public use computer with Windows '95 programs, an active interlibrary loan system, a copier, and a fax machine for its patrons. Currently, there is only one computer available for public use. Adding three personal computers would better meet the community's needs. More demand and use of the library is expected due to the new facility and available parking. In addition, a senior citizens community will adjoin the site in the coming years and is expected to increase library usage.

Table VIII-27
Existing Library Equipment

| Name of Equipment | Type of Equipment | Condition | Year Acquired |
|---------------------------------|------------------------------|-----------|---------------|
| One personal computer | Dell Monitor, RCR generic | | 2002 |
| Active Interlibrary Loan System | Computer | | |
| Copier | Minolta | Poor | |
| Fax Machine | Brother | Fair | |

Source: *Pembroke Public Library*

Present Staffing and Future Needs

The Library staff includes the Director of the Library and the Assistant Librarian.

Facility Assessment and Future Needs

The new facility has 8,900 square feet of useable floor space. Based on projected growth in Town, the building should meet the community's needs for the foreseeable future.

The library site also includes the Town Offices and Pembroke Historical Society. The total parking spaces for the three facilities is 81. Parking could be a concern if all three facilities have activities simultaneously. Additional parking could potentially be added on the Town Hall property behind the historical building.

Public Library Summary

Short-term Needs (2004 to 2008)

- Purchase three additional computers for public use.

Long-term Needs (2008 to 2013)

- None at this time.

Recommendations for the Public Library

- Purchase additional computers for public use.

Pembroke Sewer Commission

The office of the Sewer Commission is located at 261 Pembroke Street in Pembroke. The Sewer Commission, as a utility, is described in the UTILITIES section of the Chapter.

Pembroke Water Works

The office of the Water Works is located at 212 Main Street. Wells and tanks are situated in both Pembroke and Allenstown. The Water Works, as a utility, is described in detail in the UTILITIES section of the Chapter.

RECREATIONAL FACILITIES

An important component to a high quality of life, recreation provides a much-needed means of stress reduction and physical well-being. Recreation facilities also provide residents with a place to interact and create a sense of community that is beneficial to residents of all ages. In recent years, numerous studies have identified that recreational facilities and programs give children and teenagers a place to go, thereby reducing delinquent activity by those sectors of the population. A new Recreational Facilities Capital Reserve Fund for the major repair and maintenance of facilities is scheduled to be created in 2004, with an initial deposit of \$75,000. (In 2004 CIP, Priority High)

Town Recreational Facilities

Pembroke's major recreational area is Memorial Field, located on the plain at the junction of the Suncook and Merrimack Rivers. Memorial Field contains two softball fields, two Little League diamonds, dugouts and bleachers, a covered pavilion, and four buildings that are used by Little League, men's softball, soccer leagues, summer recreation, and the Recreation Commission for storage of maintenance equipment. Bathroom facilities, a storage room, an uncovered barbeque area, and a covered picnic and recreational activity area are located at one of the buildings. Memorial Field also provides river access by means of a boat ramp and a recreation trail along the Merrimack River. Other activities such as horseshoes, boating, basketball and volleyball are also available at Memorial Field. Playground areas are equipped with swings, jungle gym and slides. The White Sands beach area is a Town owned conservation land that is used by residents for recreational activities, like swimming and picnicking. The area is not maintained or operated by the Recreation Commission; the Conservation Commission manages the area because it falls under conservation land. There are minimal amenities onsite, including a few garbage cans, which are picked up by the Public Works Department. Also, there are no lifeguards at the beach area.

The Whittemore Conservation area is a town owned conservation land that includes several walking/biking trails.

Coordination and cooperation with the school system of Pembroke provides additional opportunities for recreational activities for residents of the Town. Pembroke Academy, Three Rivers School, High Street School and Pembroke Hill School have various fields for soccer, softball, football, field hockey, tennis, track, and playground equipment for children. Indoor recreational facilities at the schools include basketball courts at the Pembroke Academy, Hill School, Village School, and Three Rivers School.

Recreation Commission

Recreation opportunities are delivered to residents through a variety of organizations and businesses in the community.

Each year the Recreation Commission supports adult and children's programming, including a soccer league for children (grades K-6), biddy basketball (grades 4-6), Little League baseball and softball, youth field hockey clinic, and tennis lessons for adults and children. In addition, a program for senior citizens, called M & M's (Motivated and Moving), gives people 55 and older the opportunity to attend many events and programs with speakers, potluck luncheons, and special trips throughout the year. During most summers, the Commission offers a summer recreational program and swim program. During the summer of 2002, more than fifty children in grades 2-5 participated in sports activities, arts and crafts, and weekly field trips. Children in grades 6-8 were able to participate in the summer camp offered by the Renaissance project, a federally funded program. The swim program was contracted out and held at Southern NH University. Summer programs were not offered during the summer of 2003 because of financial constraints.

Facilities Inventory

It is important that all segments of the population are afforded the opportunity to participate in a variety of recreational programs and experiences. In an effort to better assist communities in understanding what basic levels of recreational programs and facilities are appropriate, guidelines have been developed by several professional recreation associations and planning organizations throughout the country. Standards used in this Chapter are general guidelines and commonly accepted standards published by recreation and planning professionals throughout New England for a community of a similar population to Pembroke.

The following is a summary of existing recreational facilities in Pembroke as compared with commonly accepted facility standards. Based upon the standards guidelines outlined in Table VIII-28 and input received from the Community Facilities Subcommittee and Recreation Commission, Pembroke should consider developing the following amenities:

Table VIII-28
Outdoor Facilities and Needs, Pembroke NH

| Outdoor Recreational Facility Guidelines | Inventory of Existing Facilities in Pembroke 2003 | Existing Need, 2003 |
|--|---|---|
| Community Recreation Facility, 12 - 25 acres in size, in a centralized location with ball fields | Memorial Field | |
| Community Park, 100 + acres, largely undeveloped with walking & cross country ski trails | Some trails in Town | May want to develop a park in the North Pembroke area |
| Baseball Field (90 Ft. Base lines) | Pembroke Academy and Three Rivers | May need additional fields |
| Softball / Little League Fields | Memorial Field | May need additional fields |
| Basketball Courts | Memorial Field | May need more courts |
| Tennis Courts | Pembroke Academy | May need more courts |
| Multi-purpose Field for Soccer, Football, and Field Hockey | At the schools | |
| Ice Skating Facility | | May be a need, especially with the hockey team |
| Play Grounds - Tot Lots (General) | Memorial Field | |
| Horse Shoe Court | Memorial Field | |
| Picnic Area equipped with tables and grills | Memorial Field | |
| Skateboard Park | | May be a need |
| More basketball courts, tennis courts, softball fields | | |

Sources: *Facilities Guidelines, Maine SPO, Office of Comprehensive Land Use Planning, Dept of Economic and Community Development, 1989; Subcommittee Input, Recreation Commission input*

Facility Needs

Pembroke should look into adding additional recreational sites. Walking, hiking, swimming, boating, snowmobiling, fishing and camping have been increasing over the past decade and are expected to continue to increase. Planning for further development of trails is already occurring in Town. A trail along the Merrimack River following the former railroad bed is being looked at as a proposed segment of both the Heritage Trail and the Salem to Concord Bike Pedestrian corridor. Although the town owns a few parcels along the railroad corridor, most are in private ownership, and the Town plans to work on securing private landowner permission for the proposed trail. In addition, the NH Trail Dawgs is working on designating more trails for incorporation into the snowmobile trails network, especially on the range roads.

Although no specific potential sites have been indicated, the Recreational Commission is aware of recreational needs in other areas of Pembroke. For instance, developing an area in North Pembroke as an outdoor facility would provide additional opportunities for residents, particularly in that area of town. A study to evaluate existing and potential recreation sites in Town would assist in planning for future recreational facilities and would preclude developing a Recreation Plan.

Table VIII-29
Recreational Facility Needs

| Name of Facility Need (* from CIP 2004) | Anticipated Building / Maintenance Year | Anticipated Cost | Priority (*from CIP 2004) |
|--|---|---------------------|---------------------------------|
| Pavilion Paving & Memorial Field Parking Area* | 2005 | \$25,000 | Unset* |
| Skating Rink* | 2007 | \$100,000 | Unset* |
| Construction of Baseball & Softball Fields* | 2008 | \$85-90,000 | Unset* |
| Skateboard Park* | 2008 | \$70,000 | Unset* |
| Community Center* | 2009 | Unknown | Unset* |

Source: 2004-2009 CIP

Some specific improvements to the Memorial Field facility include creating additional parking areas and resurfacing the basketball courts. In addition, the basketball and tennis courts at Pembroke Academy need to be resurfaced, according to the 2004 CIP.

Additional indoor basketball courts may be needed in the future to meet the demands of teams and leagues. More softball fields, outdoor basketball courts, and tennis courts may also be needed in the future.

A public skating rink would also enhance the recreational opportunities offered in Town. In the 2004 CIP, the Recreation Commission proposed to build a public ice skating rink. The High Schools has started a boys hockey program and would benefit from a rink. In addition, potentially a girls hockey program will be developed. A skateboard park is another potential future recreational facility.

A Community Center would provide a place for after-school programs, bingo, additional space for indoor sports, and other community activities. Existing town-owned buildings could be looked at for potential sites. If the Village School were to become vacant, it would be a good place to house a Community Center due to its many rooms, cafeteria, gym, and close proximity to Memorial Field.

Equipment Needs

Currently, the fields at Memorial Field are watered using the municipal water system. However, it would be more cost effective if an irrigation system were installed. In addition, according to the 2002 Town Report, the Commission is planning to purchase two sets of bleachers and a set of swings for the playground. In 2003, the Commission purchased a John Deere mower.

Table VIII-30
Recreational Equipment and Maintenance Needs

| Name of Equipment / Maintenance Item (* from CIP 2004) | Anticipated Replacement / Maintenance Year | Anticipated Cost | Priority (*from CIP 2004) |
|---|--|---------------------|---------------------------------|
| Memorial Field Irrigation* | 2005 | \$15,000 | Unset* |
| Memorial Field Bleachers* | 2004 | \$10,000 | High* |
| Resurface Basketball and Tennis Courts* | 2005 | \$126,000 | Unset* |
| Memorial Field Security* | 2007 | \$10,000 | Unset* |

Source: 2004-2009 CIP

Staffing Needs

There are five members of the Recreation Commission, including the Chair of the group. As of the summer of 2003, there are no staff currently working for the Commission. If the summer recreation and swim program were reinstated, a director and assistant director would be needed, as camp counselors, depending on the number of children enrolled. In addition, part-time program specialists are needed on an as needed basis for tennis lessons, men's open gym, and other sports.

Fiscal Resources for Recreation

Over the last 13 years, the amount of funding allocated to the Recreation Committee budget has remained roughly comparable, at an average of 1.14% of the entire Town Budget. In 2002, the allocation dropped to less than 1% (0.95%), which was the third lowest proportionate allocation within that timespan.

Table VIII-31
Recreation Budget Allocations, 1990 - 2002

| Year | Recreation Committee Budget | Total Town Budget | Recreation as % of Total Budget |
|------|--------------------------------|----------------------|------------------------------------|
| 1990 | \$32,912 | NA | NA |
| 1991 | \$47,251 | \$3,504,595 | 1.3% |
| 1992 | \$40,156 | \$3,360,169 | 1.2% |
| 1993 | \$30,286 | \$3,837,396 | 0.89% |
| 1994 | \$54,868 | \$6,803,451 | 0.81% |
| 1995 | \$42,210 | \$3,613,201 | 1.16% |
| 1996 | \$45,474 | \$3,733,846 | 1.21% |
| 1997 | \$44,703 | \$4,035,914 | 1.11% |
| 1998 | \$54,585 | \$4,126,298 | 1.32% |
| 1999 | \$60,644 | \$5,258,361 | 1.15% |
| 2000 | \$68,080 | \$5,215,170 | 1.3% |
| 2001 | \$68,080 | \$5,215,170 | 1.3% |
| 2002 | \$44,348 | \$4,634,002 | 0.95% |

Source: Pembroke Annual Reports, 1990-2000

Based on population, the amount of funds spent per person on recreation rose from \$5.02 spent per person on recreation in 1990 to \$9.87 per person in 2000.

Table VIII-32
Recreation Expenditures per Capita, 1990 vs 2000

| Year | Recreation Department Budget Expended | Population (Census) | Expenditure per Capita |
|------|---------------------------------------|---------------------|------------------------|
| 1990 | \$32,912 | 6,561 | \$5.02 |
| 2000 | \$68,080 | 6,897 | \$9.87 |

Sources: 1990 US Census STF1A (P1); 2000 US Census; Town Reports

Compared to abutting municipalities, Pembroke (\$6.43) spends more than Allenstown, Chichester, and Epsom on recreation per person. Loudon (\$7.06) and Bow (\$51.01) spend more money than Pembroke.

Table VIII-33
Recreation Budget Comparison per Capita, 2002

| | Population, 2000 | Total Budget Expended, 2002 | Budget per Capita |
|-----------------|------------------|-----------------------------|-------------------|
| Allenstown | 4,843 | \$19,380 | \$4.00 |
| Bow | 7,138 | \$364,163 | \$51.01 |
| Chichester | 2,236 | \$5,551 | \$2.48 |
| Concord | 40,687 | N/A | N/A |
| Epsom | 4,021 | \$22,789 | \$5.67 |
| Loudon | 4,481 | \$31,653 | \$7.06 |
| Pembroke | 6,897 | \$44,348 | \$6.43 |

Sources: 2002 Town Reports

Land Requirements for Selected Recreational Facilities

Availability of suitable land is a crucial component for expanding community recreational facilities. Table VIII-34 summarizes land requirements for the construction of selected outdoor recreational facilities. Please note that the minimum lot area does not include land for off-street parking, restrooms, or other facilities commonly associated with outdoor recreational amenities.

Table VIII-34
Land Area Requirements for Selected Outdoor Recreational Facilities

| Type of Facility | Recommended Minimum Lot Area |
|-------------------------------------|--|
| Basketball Court | 5,040 Square Feet |
| Handball Court | 800 Square Feet |
| Tennis Court (Single Court) | 7,200 Square Feet |
| Tennis Court (2 Courts) | 12,240 Square Feet |
| Volleyball Court | 4,000 Square Feet |
| Baseball Diamond (Babe Ruth League) | 3 to 3.85 Acres |
| Horseshoe Pit | 1,400 Square Feet |
| Ice Hockey Rink | 22,000 Square Feet |
| Soccer (Adult) | 1.7 to 2.1 Acres |
| Soccer (Children's) | 0.8 to 1.4 Acres |
| Softball Field | 1.5 to 2 Acres |
| Touch / Flag Football | 41,200 Square Feet |
| Multi-purpose fields | Minimum area determined by type and number of facilities |

Source: NH Office of State Planning, "Design Standards for Recreational Facilities", 1997

Town-Owned Property Suitable for Future Recreational Facilities

Underutilized or vacant municipally-owned property can sometimes be used to expand recreational opportunities for residents of the community. The following Town-owned lands were determined to be large enough in acreage for the development of a recreational facility; however further research into the potential suitability of these lands is needed.

Table VIII-35
Possible Future Recreational Uses of Town-Owned Property

| Map / Lot | Location | Acres | Existing Use | Potential Use |
|-----------|------------------------|-------|--------------|-------------------------------|
| 565-81-C | 444 Pembroke Street | 34.3 | Unknown | Recreational fields/Park area |
| 262-23-1 | 438 Cross Country Road | 17.5 | Unknown | Recreational fields/Park area |
| 262-27 | 543 Cross Country Road | 14 | Unknown | Recreational fields/Park area |

Sources: Subcommittee input, Town Report 2002

The Town should consider "land-banking" these parcels to reserve for potential future recreational use.

Other Recreational Resources

The Green-Gold soccer fields on Buck Street, which are privately owned, are an additional recreational resource to the Town. Also, the Plausawa Valley Golf Course is a recreational resource open to the public.

In addition, there is access to the Merrimack River in Town at a canoe launching area on Route 106 and also on Route 3.

There is an extensive snowmobile trail network throughout Town that is maintained by the NH Trail Dawgs, a local snowmobile club. These trails cross private land where landowner permission has been obtained for snowmobile use. In addition, some of these trails allow horseback riding and biking during the summer months; however allowed uses depend on the wishes of each individual landowner.

A number of private recreational resources available to the public are displayed in Table VIII-36:

Table VIII-36
Non-Profit and For-Profit
Outdoor Recreational Resources in Pembroke

| Type of Resource | Name |
|-----------------------------------|--|
| Fields, Playgrounds, Courts | Memorial Field |
| | Village School football field, baseball field, playground |
| | Three Rivers baseball diamonds, playground, and basketball courts |
| | Hill School baseball diamond and playground, small basketball court |
| | Pembroke Academy track, baseball and softball fields, soccer/football field, and tennis courts |
| | Green-Gold Soccer fields (private) on Buck Street |
| Water | White Sands area, River access on Route 106 and Route 3 |
| Trails | Whittemore Conservation Area walking/biking trails Network of snowmobile trails |
| Golf Course | Plausawa Golf Course |
| Indoor basketball courts | Pembroke Academy, Hill School, Village School, Three Rivers School |

Source: Subcommittee Input

Recreational Facilities Summary

Short-term Needs (2004 to 2008)

- Re-establish summer programming.
- Work with Allenstown to coordinate a shared summer recreation program.
- Provide an irrigation system at Memorial Field. (In 2004 CIP, \$0 funding)
- Increase parking area at Memorial Field. (In 2004 CIP, unset Priority)
- Resurface basketball courts at Memorial Field. (In 2004 CIP, unset Priority)
- Resurface the tennis courts at Pembroke Academy.
- Undertake a study to evaluate existing and needed recreational facilities in Town, as well as potential future sites.
- Provide additional basketball courts.
- Secure landowner permission to cross private land along the proposed Heritage Trail/Salem to Concord Bike Pedestrian Corridor.

Long-term Needs (2008 to 2013)

- Develop and maintain new parks and recreation areas, particularly an area in North Pembroke.
- Increase programming for adults and children.
- Look into potential sites for a Community Center. (In 2004 CIP, unset Priority)
- Construct a skating rink. (In 2004 CIP, unset Priority)
- Construct a skateboard park. (In 2004 CIP, unset Priority)
- Develop the Heritage Trail/Salem to Concord Bike Pedestrian Corridor to provide residents with additional walking and biking opportunities that would also serve to connect Pembroke with other Towns.

Recommendations for Recreational Facilities

- Re-establish Recreation Commission summer programming.
- Make needed improvements to Memorial Field. (In 2004 CIP, some High and some unset Priorities)
- Develop new parks, recreation areas, and facilities, including an area in North Pembroke, a Community Center, skating rink, skateboard park, and additional basketball courts. (In 2004 CIP, unset Priority)
- Develop an after school program for teens.
- Work with Allenstown on summer programming.
- Continue to develop the Heritage Trail/Salem to Concord Bike Pedestrian Corridor.

UTILITIES

Utilities are also essential services that are delivered to residents through private companies. Population, density, and usage are driving forces which determine the level of services a municipality requires. This section will examine the current conditions of the utilities in Pembroke and propose measures to enhance or expand services if necessary. Selected Town utilities are depicted on the *Utilities Map*. The Town of Pembroke has a combined Sewer/Water Capital Reserve Fund for the extension of sewer and water lines as needed to encourage economic development. In 2004, no deposit of additional monies is scheduled. (In 2004 CIP, \$0 funding)

Telephone Service

Basic landline telephone service is an important part of everyday life. It has evolved over the past 60 years from mechanical switching centers and a fragmented network with party lines to digital switching systems and fiber optic networks. Universal service, once a distant vision, is now a reality. Telephone companies now offer wireless services, internet access, satellite television, and digital subscriber services (DSL) to many of their customers.

The 1996 Telecommunications Act has and will continue to have a profound impact on telecommunications services. The long distance service market was the first to be affected by the Telecommunications Act. Competition has reduced the price of long distance calls from twenty cents a minute to less than seven cents a minute. The Federal Communications Commission has been reducing access charges on long distance calls by regional phone companies. Long distance charges have been used in the past to subsidize local telephone line charges. This means that local telephone rates could increase to reflect actual costs as competition drives long distance charges out of the rate base. Regional telephone companies will be allowed to enter both the long distance telephone and cable television markets in the near future. All of these changes seem positive on the surface but the underlying consequences may have an impact on our lives in the next decade.

Verizon Telephone Company

Verizon Telephone Company provides local and long distance service to homes and businesses. Verizon is the newly formed company as a result of the recent Nynex and Bell Atlantic merger. This is the fourth name change for the local telephone company since the break up of AT&T in 1982. Resulting from the merger of Nynex and Bell Atlantic is a more vigorous company, poised to compete with cable television, computer companies, and satellite networks, and is able to deliver increased and better service to New Hampshire and Pembroke residents.

Pembroke is served by two Verizon telephone exchanges, Suncook and Concord. In general, telephone facilities are added as necessary to meet growth. Most of the equipment providing service out of Concord is served by fiber optic cables. Plans for future fiber optic cables and electronic equipment are in place to meet new growth as it develops.

ADSL service is being expanded to become available in two areas of Pembroke. ADSL (Asymmetric Digital Subscriber Line) is a technology for transmitting digital information at a high bandwidth on existing phone lines to homes and businesses. Unlike regular dialup phone service, ADSL provides continuously available “always on “ connection. Equipment is being added to provide ADSL from Concord along North Pembroke Road and to the area surrounding the intersection of Route 106 and Borough Road.

Another main service offered is T-Carrier. T-Carrier was the first technology available to support digitized voice transmission through wires. The T-1 line is most commonly used by Internet Provider Services to connect you to the internet over phone lines. This service is currently available along the Route 3 and Sheep Davis Road corridors and the Suncook Village area.

In addition to Verizon, Comcast also provides long distance and regular telephone service to residents. AT&T offers long distance.

Internet

Comcast is the primary local internet provider in Pembroke. Residents can choose their own providers, including nation-wide carriers. The internet revolution is changing the way people communicate with the world and even small communities such as Pembroke are affected. The Town has a website that helps to educate and inform residents about current activities and for hosting public announcements. Downloads can be made available of the Master Plan, Site Plan Review Regulations, Subdivision Regulations, the Zoning Ordinance, Town Reports, and minutes from meetings, which will lessen the burden on Town Office staff and reduce future printing costs. Additionally, all town departments have access to the Comcast internet connection. For a dial-up internet connection, residents can also use Verizon and AT&T.

Telecommunications

There are currently six cell towers and one radio tower in Town. The cell towers are located on Plausawa Hill Road. AT&T will soon be erecting a tower on Buck Street.

Cable Television

The Town of Pembroke is served by Comcast for its cable television service. The system is a 750 MHz, state of the art coaxial and fiber network. Pembroke subscribers can choose analog and digital programming, in addition to subscribing to high speed Internet access over the cable system. Some outlying roads do not have cable access and cable is only available from satellite dishes.

In addition to video and data, local digital phone service is also available through Comcast, utilizing the same cable as video and data offerings.

Pembroke Water Works

The Water Works services 2,172 water connections or units or about 6,000 users. The Water Works services residential, public, agriculture, business, and commercial users. Cost per residential unit is \$18.75 on the first 9,000 gallons and \$.85 per thousand gallons over the 9,000 gallons used. The rate for commercial users can vary depending on the type of service lines they have. The last increase in water rates was January 1, 1999.

The Pembroke Water Works provides water for the most densely settled portions of Pembroke, Allenstown, and a small portion of Hooksett. The water system is managed by a five member Board of Water Commissioners who employ a Superintendent, a business manager, and two system operators. The water system consists of three well sites. The first site is located near the Soucook River on Route 3 at the Pembroke-Concord town line. This site contains two wells, one pumping 620 gallons per minute and the other pumping at 525 gallons per minute. A second site has one well near the Soucook River on Route 106, which pumps 450 gallons per minute. The third site consists of two wells located along the Suncook River in Bear Brook State Park. Both of the wells pump at about 350 gallons per minute.

Currently, there are two storage tanks both situated at an elevation of about 515 feet. One tank is located on Brickett Hill Road in Pembroke and holds 1,000,000 gallons of water; the other tank is located on Parker Bailey Drive on the Allenstown-Hooksett town line and holds 940,000 gallons. The Water Works Commissioners will begin to look for new well sites starting in the year 2004 as it takes several years to obtain State permission to place a well in operation.

There are over 50 miles of water lines in the Water Works franchise area. Water service extends the length of Pembroke Street, all of Buck Street, State Route 106 (Sheep Davis Road) and there are also branch lines serving subdivisions along these major roadways. All of Academy Road, Dearborn Road and the village area are also served. More than 180 fire hydrants are serviced in Pembroke. Some are in private developments but the majority are on public roadways.

Generally, new water main extensions are considered upon request by developers and subdividers if the project can be served by community water. However, the height of the tanks restricts water service to sites whose elevation would prevent water from attaining a pressure of 20 psi at every tap. This arrangement restricts the future shape of denser development to the present area of service unless a developer is willing to install pumps and water tanks at higher elevations.

Pembroke Sewer Commission

The Sewer Commission, located at 261 Pembroke Street in Pembroke, maintains the public sewer collection system for the Town of Pembroke. Sewer service is an inter-municipal operation with the Town of Allenstown. Pembroke pays an average of 57% of the cost of the operation and maintenance of the Suncook Wastewater Treatment Plant located on Ferry Street in Allenstown. The sewer lines and pumping stations in Pembroke are managed by the Pembroke Sewer Commission, which have an elected body of three people with one part-time employee. The areas in Pembroke which presently have sewer service are: Pembroke Street, the adjacent areas to Pembroke Street, Route 106 (Sheep Davis Road), residential areas up to Third Range Road, and the Village area. Generally, new sewer line extensions are considered upon request by developers and subdividers if the lines can have gravity flow.

The treatment facility was designed in 1972 with a 1,050,000 gallons per day (gpd) capacity. The plant came on line in 1977 and had a 20-year life expectancy. The average daily discharge to the plant is approximately 700,000 gpd. During a rainstorm however, the wastewater flows to the plant have been peaking up to 1.2 million gpd. These storm events require the plant operators to juggle their effluent holding schedules and the timing of treatment.

The sewer system has reached a capacity of 80% and the Towns of Pembroke and Allenstown must have State approval for any new connections to the system. The Town of Allenstown Sewer Commission is studying how it can increase capacity of the system. The cost to upgrade the plant may be as much as \$3 million dollars. Once plans are complete, an inter-municipal agreement will be formulated. Until Pembroke and Allenstown Sewer Commissions reach an agreement, the Town of Pembroke Sewer Commissioners no longer have a say in the management of the treatment plant.

The Sewer Commission is now at a stage where it will need to hire an additional person for safety reasons. The Commission will need to lease or have an office building with garage space built in the near future.

Electricity

Electricity in Pembroke is primarily provided by Public Service Company of New Hampshire.

While the electrical system in Pembroke is largely adequate and able to accommodate future growth along the major thoroughfares downtown, such as along Route 106 and Route 3, the electrical infrastructure in several fairly remote locations will need to be upgraded to accommodate residential growth. The new homes being built are typically larger and consuming more electricity than existing homes. In several locations the system has reached capacity and must be upgraded to carry increased load. The high growth areas include:

- Academy Road – Currently served by a 12.47 KV (12,470 volts) line. PSNH plans to increase the line voltage to 34.5 KV (34,500 volts) for approximately 2.5 miles to the intersection of Buck Street and Route 28 within the next five (5) years if current pace of growth continues. Route 28 toward Epsom may need to be expanded from 12.47 KV to 34.5 KV within 10 or more years.
- Rebecca’s Way – The line serving this area was recently converted from 7.2 KV (7,200 volts) to 19.9 KV (19,900 volts) to better serve this road and new load in the area.
- Borough Road – Step transformers currently serving this area will be changed doubling the current capacity. The line voltage will need to be converted to 19.9 KV within five to 10 years.

PSNH will continue to upgrade its distribution system in the more remote areas and side streets of Pembroke to accommodate residential load growth. Although there are no plans at this time to build a substation in Pembroke, the line upgrades along Academy Road and Buck Street will be a significant project.

Natural Gas

Currently, KeySpan Energy Delivery serves approximately 1,060 residential and commercial customers in the Town of Pembroke. KeySpan Energy delivery has existing mains in Pembroke Street that extend to the intersection of Peasley Drive on the southern end and to the intersection of Sheep Davis Road on the northern end.

Future plans for expansion would be to connect the two extensions (approximately two miles) in Pembroke Street to improve the reliability of the distribution system in this area as well as add more customers along the route. During the past two years, KeySpan Energy Delivery has investigated extending gas mains to two major residential developments off of Pembroke Street (Route 3). The developments include Donna Drive and the adjacent streets as well as Pembroke Hill Road and the adjacent streets, which would be fed by the new main in Pembroke Street.

Utilities Summary

Short-term Needs (2004 to 2008)

- Continue to upgrade electrical distribution system.
- Expand KeySpan gas mains to Pembroke Street between the two former extensions.

Long-term Needs (2008 to 2013)

- Continual expansion of all utilities.

Recommendations for Utilities in Pembroke

- Expand the list of providers to provide utility options for Pembroke residents.
- Assess the need for replacement or repair of existing sewer lines.
- Extend the existing sewer lines as needed. (In 2004 CIP, \$0 funding)
- Extend the existing water lines as needed. (In 2004 CIP, \$0 funding)

SUMMARY

As the Town of Pembroke grows, its need for Town facilities and utilities expands. In order to meet the needs of the community, along with an approved Town Budget, this Master Plan was created to plot out the direction we would like to move in for the next 10 years. The Master Plan and Capital Improvements Program (CIP) are used in forecasting and prioritizing expenditures that the Town must make over the next few years to keep or expand the desired level of service for the community. These include things like equipment which must be replaced due to age (fire apparatus, police cruisers, highway department vehicles, etc.), modernization (Emergency Operations Center, police equipment), and repairs/renovations or expansion of facilities (Town Hall roof and additional office space, water and sewer systems) to continue their usefulness to the community and to the Town staff, and finally to address changes dictated by the State of New Hampshire or by Law (solid waste facility closure).

This Subcommittee has worked to develop appropriate Recommendations to ensure the continued health, safety, and well-being of Pembroke's residents. The data, analysis, and Recommendations from this Community and Recreational Facilities with Utilities Chapter will enable the Town to better plan for the inevitable effects of future growth and development

- Respectfully Submitted, Bob Bourque, Community Facilities Subcommittee

Chapter IX SCHOOLS

INTRODUCTION

The Pembroke School District, SAU #53, holds four schools under its jurisdiction, Pembroke Village School (grades K-1) and Pembroke Hill School (grades 2-4 and preschool), Three Rivers School (grades 5-8), and Pembroke Academy (grades 9-12). The School District Office is located at Pembroke Academy. SAU #53 also serves the school districts of Allenstown, Chichester, Deerfield, and Epsom. Pembroke Academy serves high school students from Allenstown, Chichester and Epsom under an A.R.E.A. contract.

The District has adopted a set of goals for the 2004-2005 school year which include a fiscally responsible budget development and management cycle which will address the educational needs of the district and gain MBC and voter support; Support A.R.E.A. and S.A.U. Program Initiatives; Determine Future Enrollment Trends and Facility Needs within the A.R.E.A. and S.A.U.; Develop and implement action plans to address district maintenance concerns; Improve the maintenance, appearance and functionality of school district grounds and athletic fields; Support implementation of action plans designated through Strategic Planning; Improve the district's k-12 technology program; and Gain School District support for the 2004/07 negotiated agreement.

In September 2003, the School District developed a Capacity and Enrollment Report which compared the School Board recommended, School Board maximum and Department of Education Recommended students per classroom. Illustrated in Table IX-1 is a summary of the findings:

Table IX-1
School Enrollment and Capacity

| | September 2003 Enrollment | School Board Recommended Capacity | School Board Maximum Capacity | Dept of Educ Maximum Recommended |
|-------------------------|---------------------------------|---|-------------------------------------|--|
| Pembroke Village School | 168 | 180 | 198 | 240 |
| Pembroke Hill School | 305 | 290 | 330 | 405 |
| Three Rivers School | 388 | 400 | 475 | 475 |
| Pembroke Academy | 1,037 | 1,060 | ~ | 1,272 |
| Total Enrollment | 1,898 | 1,930 | ~ | 2,392 |

Source: Pembroke School District, 2003

The principals of the four schools submitted the information contained within the SCHOOLS CHAPTER.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

One Objective was written for each of the four schools. These School District Objectives were developed from the materials submitted by Pembroke's school principals.

- To deliver the highest quality education for Pembroke Village School students while continually monitoring the need to modify the curriculum, staffing, and facilities based upon student population and budgetary considerations.
 - Restore the position of librarian to Pembroke Village School. (Short Term)
 - Add technology instruction to the program to Pembroke Village School. (Short Term)
 - Study renovation of the core facility at Pembroke Village School. (Long Term)
 - Renovate playground equipment at Pembroke Village School. (Long Term)
 - Reevaluate the need for additional classrooms at Pembroke Village School. (Long Term)

- To deliver the highest quality education for Pembroke Hill School students while continually monitoring the need to modify the curriculum, staffing, and facilities based upon student population and budgetary considerations.
 - Restore the position of librarian to Pembroke Hill School. (Short Term)
 - Add technology instruction to the program to Pembroke Hill School. (Short Term)
 - Monitor, and rectify if necessary, the parking and traffic flow issues at Pembroke Hill School. (Short Term)
 - Monitor, and repair if necessary, roof sections of Pembroke Hill School. (Short Term)
 - Study renovation of the core facility at Pembroke Hill School. (Long Term)

- To deliver the highest quality education for Three Rivers School students while continually monitoring the need to modify the curriculum, staffing, and facilities based upon student population and budgetary considerations.
 - Expand the music (band and chorus) programs to school day, year-long programs at Three Rivers School. (Short Term)
 - Hire one additional music teacher to teach the expanded music programs at Three Rivers School. (Short Term)
 - Expand the physical education programs, with the addition of fitness activities, to year-long programs at Three Rivers School. (Short Term)
 - Hire one additional physical education teacher to teach the expanded programs at Three Rivers School. (Short Term)
 - Offer world languages to all students as exploratory classes in the lower grades at Three Rivers School. (Long Term)
 - Offer advanced classes to the 8th grade students in Spanish or other languages at Three Rivers School. (Long Term)
 - Hire part time staff to teach alternative world languages at Three Rivers School.. (Long Term)

- To deliver the highest quality education for Pembroke Academy students while continually monitoring the need to modify the curriculum, staffing, and facilities based upon student population and budgetary considerations.
 - Continue to monitor budgetary changes, population growth, and delivery of alternate education services to determine appropriate level of education programs and services at Pembroke Academy. (Short Term)
 - Continue to provide alternative high school programs such as Second Start to students requiring a unique educational setting at Pembroke Academy. (Short Term)
 - Fulfill the current need of a science teacher, nurse's aide, athletic trainer, and outside maintenance worker positions at Pembroke Academy. (Short Term)
 - Hire a School-to Career Coordinator at Pembroke Academy. (Short Term)

- Secure space of two standard classrooms and one smaller space to accommodate alternate education services at Pembroke Academy. (Short Term)
- Develop an additional baseball field and rectangular playing field at Pembroke Academy. (Short Term)
- Build 30-40 more parking spaces to accommodate the present need and reduce overflow (at the Congregational Church) at Pembroke Academy. (Short Term)
- Monitor the need for additional traditional classrooms as the school's population grows. (Short Term)
- Purchase a back-up generator for PA to become an emergency shelter during an emergency. (Short Term)
- Divide the existing Guidance conference room into two or three offices to accommodate specialty (drug counselor, speech therapist) personnel and their student services. (Short Term)
- Reevaluate the methods and traditional timing of educational service delivery at Pembroke Academy. (Long Term)
- Continue to monitor the need for additional traditional classrooms as the school's population grows. (Long Term)
- Monitor the need for air-conditioning in select classrooms if flexible-calendar summer classes are instituted. (Long Term)

COMMUNITY SURVEY RESULTS

The following community survey responses offer a number of suggestions and issues of concern to residents and property owners in Pembroke.

If school expansion becomes necessary, how should this expansion take place?

Over half of the survey respondents, 53.4%, indicated that should school expansion become necessary, expanding the existing schools to a larger capacity was preferable. Over twenty-six percent (26.4%) of the respondents indicated that double sessions was the next preferable option.

In order to help Town officials better direct their efforts, please rate the following municipal services.

Greater than 70% of the respondents gave the following services good or fair ratings: trash collection, police protection/enforcement, fire protection, snow removal, school system, road maintenance, rescue squad, and the library. Approximately 20 to 23% of the respondents indicated that town administration and the budget committee needed improvement.

In order to maintain, improve, and/or expand the services listed immediately above in Question 38, would you support annual tax increases of:

Forty-two percent (42%) of the respondents indicated that they would support a tax increase of 0% in order to maintain, improve, and/or expand the services in Question 38. Approximately 40% indicated that they would support a tax increase of less than 3% in order to maintain, improve, and/or expand the above services. Six percent (6%) checked that they would pay whatever is necessary for the above services.

PEMBROKE VILLAGE SCHOOL

Located at 30 High Street, 168 students were enrolled for the 2003-2004 school year. The Village School provides elementary education for kindergarten and first graders. There is an emphasis on early literacy and early mathematics instruction at this level but all the basic subjects are taught. The Village School also serves the special education needs of the children at the K-1 level.

Expansion of Curricula and Programs

By 2008, there should be a need to expand both the Village and Hill Schools in the following areas. There is a need to restore the position of librarian and add technology instruction to the program.

Depending upon the population, there may be a need to expand the staff's ability to deal with children with challenging and/or violent behaviors. One position is currently shared between the two school buildings that provide student support in this area. Five years ago, there was no need for this type of position but staff has since been assaulted. The Pembroke Hill School has had children who threw furniture and destroyed property, so it is an area to be monitored closely.

Taking the opposing view, if the school continues to face significant budget cuts in the next five years, they will be reducing programs. In addition to those which have already been lost – music, library, and enrichment – the school would also lose physical education, art and guidance or increase class size. To increase class size may seem reasonable if only the numbers are examined. However, if class sizes go up, the incidence of out of district placements and other special education costs usually rise. Children with certain disabilities can be educated in a small group but if the numbers increase significantly, they simply cannot function.

The Village School is currently utilizing all usable classroom spaces as classrooms. If the numbers at those levels increased over the next ten years, this issue would need to be addressed in some way.

Equipment Inventory and Future Needs

No general equipment was identified as exclusively belonging to the Village School. However, there is separate cafeteria equipment at each building. No future equipment needs were identified.

Table IX-2
Existing Pembroke Village School Equipment

| Name of Equipment | Type of Equipment | Condition | Year Acquired | Anticipated Replacement Year | Estimated Replacement Cost |
|-------------------------|-------------------|-----------|---------------|------------------------------|----------------------------|
| Dishwasher* | dishwasher | | 1990 | | \$5,900 plus inflation |
| Freezer (2 doors)* | freezer | | 1990 | | \$6,100 plus inflation |
| Refrigerator (2 doors)* | refrigerator | | 1990 | | \$5,500 plus inflation |

*shared with Pembroke Hill School

Source: School District Office

Present Staffing and Future Needs

Pembroke Village School presently employs 41 people, two of whom are part-time. Twelve certified staff members are shared with Hill School. Future staffing needs are a music teacher, technology instructor, and librarian (shared with Hill School) by 2008.

Table IX-3
Current Pembroke Village School Staffing Levels

| Staff Category | Number |
|------------------------------------|--------|
| Certified Staff (Full-Time) | 26* |
| Paraprofessional Staff (Full-Time) | 10 |
| Support Staff (Full-Time) | 3 |
| Support Staff (Part-Time) | 2 |
| Total | 41 |

*12 are shared with Pembroke Hill School

Source: Pembroke Village School

Facility Assessment and Future Needs

The Village School encompasses approximately 66,000 square feet. The breakdown of footage is illustrated in Table IX-4. The recommendation of the School Board is a total of 180 students whereby 18 students are assigned to each of 10 general purpose classrooms.

Table IX-4
Approximate Pembroke Village School Square Footage

| Areas | Size (sf) |
|------------------|-----------|
| Library | 784 |
| Offices | 1,960 |
| Locker Rooms/Gym | 8,842 |
| Common Areas* | 10,037 |
| Classrooms | 11,602 |
| Total | 33,225 |

*Halls, Stairs, Rest Rooms, Elevator

Source: Pembroke Village School

At both Village and Hill Schools, there is an increasing challenge in regard to meeting the special education needs of children. Special education frequently needs small spaces for tutoring or one on one instruction. In the past, schools did not have those types of spaces. The schools have improvised in those areas and will continue to do so.

At the Village School, there will be a need to renovate the playground equipment within the next ten years.

Pembroke Village School Summary

Short-term needs (2004 to 2008)

- Restore the position of librarian to Pembroke Village School.
- Add technology instruction to the program to Pembroke Village School.

Long-term needs (2008 to 2013)

- Study renovation of the core facility renovation at Pembroke Village School.
- Renovate playground equipment at Pembroke Village School.
- Reevaluate the need for additional classrooms at Pembroke Village School.

PEMBROKE HILL SCHOOL

Located at 300 Belanger Drive, 305 students were enrolled for the 2003-2004 school year. The Hill School provides elementary education for second through fourth grades. At these grades, the transition begins from learning to read to reading to learn. In addition to the ongoing emphasis on reading and math instruction, the content areas of science and social studies take on a larger part of the school program. The school also offers physical education and art within its program. As with the Village School, extensive special education services are provided at Hill School.

Expansion of Curricula and Programs

By 2008, there should be a need to expand both the Village and Hill Schools in the following areas. There is a need to restore the music program, restore the position of librarian, and add technology instruction to the program.

Depending upon the population, there may be a need to expand the staff's ability to deal with children with challenging and/or violent behaviors. One position is currently shared between the two school buildings that provide student support in this area. Five years ago, there was no need for this type of position but staff has since been assaulted. The Pembroke Hill School has had children who threw furniture and destroyed property, so it is an area to be monitored closely.

Taking the opposing view, if the school continues to face significant budget cuts in the next five years, they will be reducing programs. In addition to those which have already been lost – music, library, and enrichment – the school would also lose physical education, art and guidance or increase class size. To increase class size may seem reasonable if only the numbers are examined. However, if class sizes go up, the incidence of out of district placements and other special education costs usually rise. Children with certain disabilities can be educated in a small group but if the numbers increase significantly, they simply cannot function.

By 2013, depending on the growth in the Town, there could be a need for some type of renovation at Hill School. At the Hill School, the issue is more the core facility. If there is a population increase, the multi-purpose room would be inadequate. Any expansion of the breakfast and lunch program cuts into our physical education program. The traffic situation at Hill is also a concern now and for the future. There is no room for additional busses; parking is currently inadequate and the traffic pattern is awkward and at times dangerous.

Equipment Inventory and Future Needs

Pembroke Hill School has identified capital equipment which they currently own or lease. While the electronic pieces (copiers, phones, and projector) have a shorter life span, the appliances, shared with the Village School, will need to be replaced less often. Other than replacing the copiers on a regular basis, no future equipment needs were identified.

Table IX-5
Existing Pembroke Hill School Equipment

| Name of Equipment | Type of Equipment | Condition | Year Acquired | Anticipated Replacement Year | Estimated Replacement Cost |
|-------------------------------|-------------------|-----------|---------------|------------------------------|----------------------------|
| Dishwasher* | dishwasher | | 1990 | | \$5,900 plus inflation |
| Freezer (2 doors)* | freezer | | 1990 | | \$6,100 plus inflation |
| Refrigerator (2 doors)* | refrigerator | | 1990 | | \$5,500 plus inflation |
| Norstar Telephone Modular ICS | telephone system | | 2002 | | \$8,600 |
| LCD Projector | digital projector | | 1995 | | \$5,800 |
| Monitoring | | | 1995 | | \$5,000 |

*shared with Pembroke Village School

Source: School District Office

Present Staffing and Future Needs

Pembroke Hill School presently employs 59 people, three of whom are part-time. Twelve certified staff members are shared with Village School. Future staffing needs are a music teacher, technology instructor, and librarian (shared with Village School) by 2008.

Table IX-6
Current Pembroke Hill School Staffing Levels

| Staff Category | Number |
|------------------------------------|--------|
| Certified Staff (Full-Time) | 34* |
| Paraprofessional Staff (Full-Time) | 18 |
| Support Staff (Full-Time) | 4 |
| Support Staff (Part-Time) | 3 |
| Total | 59 |

*12 are shared with Pembroke Village School

Source: Pembroke Hill School

By 2008, depending on the impact of NCLB (No Child Left Behind), there could be a need for additional teachers or extending the contracts of existing staff to provide tutoring, extended year programming, and other supplemental services.

By 2013, a continuation of the above needs, again because of the NCLB, there could be requirements for preschool education beyond what currently exists. Currently, schools are only required to serve preschoolers with handicapping conditions.

Facility Assessment and Future Needs

The Hill School encompasses approximately 46,000 square feet. The breakdown of footage is illustrated in Table IX-7. The recommendation of the School Board is a total of 290 students whereby 20 students are assigned to each of 13 general purpose classrooms and 15 students are assigned to two general purpose classrooms.

Table IX-7
Approximate Pembroke Hill School Square Footage

| Areas | Size (sf) |
|---------------|-----------|
| Storage | 900 |
| Offices | 1,950 |
| Library | 2,025 |
| Gymnasium | 3,500 |
| Common Areas* | 13,195 |
| Classrooms | 24,430 |
| Total | 46,000 |

*Halls, Stairs, Rest Rooms, Elevator

Source: Pembroke Hill School

At the present time, the traffic flow and parking flow at the Hill School are deficient. They are considered inadequate and dangerous. The roof over one section of the school is also considered to be "at risk". Roofs of the same material have apparently failed, so the situation is monitored.

At both Village and Hill Schools, there is an increasing challenge in regard to meeting the special education needs of children. Special education frequently needs small spaces for tutoring or one on one instruction. In the past, schools did not have those types of spaces. The schools have improvised in those areas and will continue to do so.

Between 2008 and 2013, depending on the population growth, the multi-purpose room of Hill School may become inadequate to handle both physical education and breakfast and lunch. In regard to the building in general, the needs will strictly depend on whether there is an increase in population or not at the elementary level.

Pembroke Hill School Summary

Short-term needs (2004 to 2008)

- Restore the position of librarian to Pembroke Hill School.
- Add technology instruction to the program to Pembroke Hill School.
- Monitor, and rectify if necessary, the parking and traffic flow issues at Pembroke Hill School.
- Monitor, and repair if necessary, roof sections of Pembroke Hill School.

Long-term needs (2008 to 2013)

- Study renovation of the core facility renovation at Pembroke Hill School.

THREE RIVERS SCHOOL

Located at 243 Academy Road, 388 students were enrolled for the 2003-2004 school year. The programs and curricula at Three Rivers School are designed to meet the needs, interests, and abilities of each student. The program addresses not only the intellectual development of the students, but also the social, physical, and emotional development. The students are exposed to a variety of teaching methods to accommodate diverse learning styles. Many teachers focus on developing group skills and hands-on learning while working on interdisciplinary activities.

All students are provided with a core academic program which includes language arts, reading, mathematics, social studies, and science. Our unified arts program offers instruction for all grades in art, music, physical education, health, and computer technology. Students in grades 6-8 also receive instruction in French or Spanish. Select students in 8th grade are offered advanced classes in Algebra and French I.

The extracurricular program provides opportunities for all students to participate in a variety of after-school activities. Currently, students are able to enjoy art club, band, chorus, yearbook club, dance team, intramural sports, cross country running club, drama club, math club, and student council. Upper grade students can participate in interscholastic sports of boys and girls soccer, boys and girls basketball, cheerleading, baseball, and softball.

Expansion of Curricula and Programs

By 2008, the school would like to expand the music program to offer students band or chorus as a year long program during the school day. Vocal and instrumental skills are difficult to develop when they are only taught once a week early in the morning before the start of a school day.

Three Rivers School would like to offer physical education classes to students all year rather than for just one quarter of each year. In addition, the expansion of the physical education program to include more fitness activities would help students develop the habit of lifelong physical activity to maintain their fitness and health through goal setting, weekly planning, and exercise.

Between 2008 to 2013, the school plans to offer additional world languages to all students as exploratory classes in the lower grades and would like to offer advanced classes to the 8th grade students in Spanish or other languages in addition to the French I class.

Equipment Inventory and Future Needs

Three Rivers School has identified capital equipment which they currently own or lease. While the electronic pieces (copiers, phones, and projector) have a shorter life span, the appliances will need to be replaced less often. Other than replacing the copiers on a regular basis, no future equipment needs were identified.

Table IX-8
Existing Three Rivers School Equipment

| Name of Equipment | Type of Equipment | Condition | Year Acquired | Anticipated Replacement Year | Estimated Replacement Cost |
|-------------------------------|-------------------|-----------|---------------|------------------------------|----------------------------|
| Konica 7130 | Copy machine | Excellent | 2003 | 2007 | \$3,500 annual lease |
| Konica 7085 | Copy machine | Excellent | 2003 | 2008 | \$10,000 annual lease |
| Norstar Telephone Modular ICS | Telephone system | | 2002 | | \$19,000 |
| LCD Projector | LCD Projector | | 2002 | | \$5,800 |
| Food Service Freezer | Freezer | | 1990 | | \$6,100 plus inflation |
| Food Service Refrigerator | Refrigerator | | 1990 | | \$5,500 plus inflation |
| Food Service Dishwasher | Dishwasher | | 1990 | | \$5,900 plus inflation |
| Bloggett Convection Oven | Oven | | 2003 | | \$5,800 |

Source: School District Office

Present Staffing and Future Needs

Three Rivers School currently employs 40 full-time certified staff, 21 full-time paraprofessional staff, and full-time secretarial (2) and custodial (3) staff. Five part-time employees (1 certified staff and 4 food service staff) are also employed. At this time, no additional staffing is needed.

Table IX-9
Current Three Rivers School Staffing Levels

| Staff Category | Number |
|------------------------------------|--------|
| Certified Staff (Full-Time) | 40 |
| Certified Staff (Part-Time) | 1 |
| Paraprofessional Staff (Full-Time) | 21 |
| Support Staff (Full-Time) | 5 |
| Support Staff (Part-Time) | 4 |
| Total | 71 |

Source: Three Rivers School

By 2008, in order to offer music and physical education classes year round, the school would need to hire one additional music teacher and one additional physical education teacher to teach the additional classes.

Between 2008 and 2013, the school plans to hire part time staff to teach alternative word language, depending on the interests of the student population. Such a position is anticipated to be half time.

Facility Assessment and Future Needs

The Three Rivers School encompasses approximately 66,000 square feet. The breakdown of footage is illustrated in Table IX-10.

Table IX-10
Approximate Three Rivers School Square Footage

| Areas | Size (sf) |
|------------------|-----------|
| Library | 1,920 |
| Offices | 4,176 |
| Cafeteria | 5,580 |
| Locker Rooms/Gym | 7,746 |
| Common Areas* | 20,508 |
| Classrooms | 26,070 |
| Total | 66,000 |

*Halls, Stairs, Rest Rooms, Elevator

Source: Three Rivers School

The recommendation of the School Board is a total of 400 students whereby 25 students are assigned to each of 16 general purpose classrooms. While the space is currently adequate for a population of 400 students, there are areas which would be seriously impacted by even a small increase in students. In ten years, if the school population increases even by 10%, the unified arts program which is central to the success of many middle school students will be adversely affected. The music program has a very small room which can accommodate a class of approximately 20 students. That room is currently used every available period each day with the current staff teaching six classes each day. Due to the location of this room off the cafeteria, classes cannot be held during lunch periods because of the noise level of the 100 students per lunch period.

The gymnasium is adequately sized for the population for physical education classes, but the locker rooms, where students change out of school clothing and into active wear, are already inadequate for some of the current class sizes. The gym is slightly undersized from a normal middle school facility, so it is not large enough to accommodate the entire student body for an assembly or whole school meeting.

Another space which is currently barely adequate, but would be markedly insufficient if the population were to grow, is the library media center. There is currently room for only four computers, which is not an adequate number for the present student body. Adding computers, though, would take away space needed for the book collection. Presently, tables can accommodate one class of students at a time. If a class comes to use the library, it must be closed to other students and classes due to a lack of space.

Three Rivers School Summary

Short-term needs (2004 to 2008)

- Expand the music (band and chorus) programs to school day, year-long programs.
- Hire one additional music teacher to teach the expanded music programs.
- Expand the physical education programs, with the addition of fitness activities, to year-long programs.
- Hire one additional physical education teacher to teach the expanded programs.

Long-term needs (2008 to 2013)

- Offer world languages to all students as exploratory classes in the lower grades.
- Offer advanced classes to the 8th grade students in Spanish or other languages.
- Hire part time staff to teach alternative world languages.

PEMBROKE ACADEMY

Located at 209 Academy Road, 1,037 students were enrolled for the 2003-2004 school year. Pembroke Academy provides a comprehensive educational experience to the students of Pembroke, Allenstown, Epsom, and Chichester as well as a small number of non-AREA students. The term “comprehensive”, indicates that the academic and co-curricular programs and support programs meet the NH Department of Education’s Minimum Standards for certification as well as accreditation standards of the New England Association of Schools and Colleges. Both sets of standards articulate expectations for policies, procedures, and resources covering virtually every aspect of school life: curriculum, instruction, assessment, leadership, and school and community resources. In addition, the school houses and works closely with the Renaissance Project, a federally funded community learning center that offers, among a variety of programs and services, a diploma completion program for students who are experiencing difficulty in completing PA’s traditional program; fully-staffed after-school programs at all three levels of education; and summer camp and transitional programs.

Expansion of Curricula and Programs

By 2008, any potential need to either expand or cut back on existing programs will be contingent on one or more of three developments: budgetary cuts imposed on the school, population growth (or decline), or a substantive change in the way the school delivers educational services. The first of these, budgetary cuts, is a constant possibility but hardly predictable from year to year. If faced with substantively reduced funding, there would be implemented a cut protocol/hierarchy based on eliminating budgetary items that would have the least detrimental effect on the education of students. For example, maintaining teaching staff would have the highest priority.

More likely is a spike in population, which seems a distinct possibility given the numerous housing starts in Pembroke. An increase of 100+ students would seriously and negatively affect the quality of education at PA as a whole; the school is now reaching its capacity in classroom availability. This level of increase would also result in the need for increased staffing and/or increased class size. An increase of 150-200 students would probably necessitate looking at alternative modes of providing classroom space, e.g. trailers, building an addition to the present structure, or seeking a dissolution of the present AREA agreement.

The third possibility – a major change in the way educational services are delivered–seems almost inevitable. For example, PA currently subscribes to the Virtual High School, which allows students to access a wide variety of courses online. Additionally, we offer an on-line “credit recovery” program through which students can retake missed or failed courses. In a similar vein, an increasing number of students will be incorporating internships and even apprenticeships in to their high school experiences. The school further anticipates Senior Projects – a substantial, independent learning experience undertaken as a graduate requirement by each student – to become standard. The budgetary implications of such changes are not entirely clear.

There could then be some reduction in the need for traditional class room centered staffing; however, the school would also require oversight and coordination of internship and online programs. For example, two years ago the school lost -due to budgetary cuts- its full-time School-to-Career Coordinator, who identified internship needs and resources, facilitated the considerable paperwork and protocols inherent in establishing formal internships, and secured financial and logistical support for a program that served around 40 students per semester; if there are 100 students participating, the need for coordination increases.

There is a distinct and growing need for an alternative high school program for non-special education students. Essentially, meeting the needs of, and consequently maintaining the educational viability of, 10-20 students who are unable to function within the setting, constraints, and expectations of a traditional public high school is critical. A program such as Concord's Second Start is a good example of this type of resource. A full year's tuition to Second Start is about \$1,800.

Looking at Pembroke Academy's longer range curricular needs, by 2013 the school projects that the methods used to deliver educational services will continue to evolve. Specifically, an increasing use of individualized, on-line distance learning and out-of-school learning opportunities is inevitable and desirable. In this same vein, we may anticipate the very nature of the school day and year becoming more flexible as students' educational experiences become more focused based upon an evolving understanding of their career aspirations and the background needed to realize those aspirations. It is further anticipated that the actual time students need or take to complete their public school education will vary with some students achieving educational standards- and therefore moving on to advanced training- in fewer than 12 years.

Equipment Inventory and Future Needs

Pembroke Academy has numerous pieces of equipment, kitchen appliances, and vehicles which need to be replaced on a long-term basis. No further replacements need to occur until 2006, when a digital projector or two will be purchased. Anticipated future needs include a backup generator, air conditioning, and room dividers. The existing equipment is detailed in Table IX-11:

Table IX-11
Existing Pembroke Academy Equipment

| Name of Equipment | Type of Equipment | Condition | Hours or Miles | Year Acquired | Anticipated Replacement Year | Estimated Replacement Cost |
|------------------------------|-------------------|-----------|----------------|---------------|------------------------------|----------------------------|
| School Bus (100% federal) | Vehicle | Excellent | 10,000 | 2002 | No replacement | \$60,000 |
| Riding Lawn Mower | Machine | Fair | 1,000 | 1995 | 2007 | \$6,500 |
| School Sign | Machine | Excellent | 1 year | 2003 | 2020 | \$6,000 |
| Stage Curtain | Equipment | Excellent | 2 years | 2002 | 2020 | \$8,000 |
| Bleachers | Equipment | Fair | | 1972 | 2008 | \$45,000 |
| Library Circulation Desk | Equipment | Excellent | 2 years | 2002 | 2025 | \$9,000 |
| Pressure Steam Cooker | Equipment | Fair | | c 1985 | 2010 | \$5,000 |
| Freezer (walk in) | Equipment | Good | | 2000 | 2015 | \$15,000 |
| Cooler (walk-in) | Equipment | Good | | 2000 | 2015 | \$15,000 |
| Refrigerator | Equipment | Good | | 1995 | 2010 | \$7,000 |
| Steamer | Equipment | Excellent | | 2000 | 2015 | \$10,000 |
| Steamer | Equipment | Good | | 1995 | 2010 | \$10,000 |
| Industrial Paper Cutter | Equipment | Fair | | 1994 | No replacement | \$5,000 |
| Zamboni | Machine | Good | 245 hours | 2001 | 2010 | \$10,000 |
| Playing Field Irrigation Sys | | Excellent | | 2002 | 2015 | \$30,000 |
| Massey-Ferg. Tractor | Vehicle | Excellent | | 2003 | 2013 | \$30,000 |
| Ford Van (Windstar) | Vehicle | Fair | | 2003 | 2008 | \$5,000 |
| Gymnasium Divider | Equipment | Excellent | | 2003 | 2018 | \$7,000 |
| LCD Digital Projectors | Equipment | Good/Exc | | 2000-02 | 2006-07 | \$3,000 each |
| Dishwasher | Equipment | Good | | 1995 | 2010 | \$8,000 |
| Floor Mixer | Equipment | Good | | 1992 | 2010 | \$8,500 |

Source: Pembroke Academy

In Table IX-12, the school has identified future needs that should be considered in the coming years when the opportunities become available.

Table IX-12
New Equipment for Pembroke Academy

| Name of Equipment | Type of Equipment | Year to Acquire | Estimated Cost | Purchased or Donated | Purchase Priority |
|--|-------------------|-----------------|----------------|----------------------|-------------------|
| Back-up Generator | Equipment | | \$25,000 | Purchased | Low |
| A/C in Classrooms | | | | | Low |
| Dividing Existing Guidance Conference Room | | | | | Medium |

Source: Pembroke Academy

As part of Pembroke's evolving safety-emergency planning, the need has been identified for a source of alternative power that could accommodate a large number of students and/or adults during a prolonged emergency. PA is the logical choice for this resource. As the school becomes more individualized, more students and, therefore teachers, will be adopting flexible calendars that will include summertime schooling. If this occurs, the school will need to have some of the existing classrooms air-conditioned. One of the space needs is for office space for "specialty" personnel, e.g. the drug and alcohol counselor or speech therapist, etc. Additional space can be acquired by dividing the existing Guidance conference room into two or three spaces.

Present Staffing and Future Needs

Pembroke Academy employs 117 full-time employees and four part-time employees. Seventy four certified teaching staff are employed, with 20 paraprofessional staff, six administrative employees, and 21 support staff members. Future needs include a science teacher, school-to-career coordinator, nurse's aide, athletic trainer, and outdoor maintenance worker.

Table IX-13
Current Pembroke Academy Staffing Levels

| Staff Category | Number |
|------------------------------------|--------|
| Certified Staff (Full-Time) | 73 |
| Certified Staff (Part-Time) | 1 |
| Paraprofessional Staff (Full-Time) | 19 |
| Paraprofessional Staff (Part-Time) | 1 |
| Administration (Full-Time) | 6 |
| Support Staff (Full-Time) | 19 |
| Support Staff (Part-Time) | 2 |
| Total | 121 |

Source: Pembroke Academy

To fulfill the current need, several positions should be established. They are science teacher, nurse's aide, athletic trainer, and an outside maintenance worker.

By 2008, there will be need for a social studies teacher and a School-to Career Coordinator. Also, SAU 53 has a clear need for a central office-level Curriculum Coordinator to focus curricular efforts in the four towns sending students to Pembroke Academy.

After 2008, any future staffing needs will be contingent upon the school population.

Facility Assessment and Future Needs

Pembroke Academy encompasses approximately 102,000 square feet. The breakdown of footage is illustrated in Table IX-14. The recommendation of the School Board is for a total of 1,060 students whereby 20 students are assigned to each of 53 general purpose classrooms.

Table IX-14
Approximate Pembroke Academy Square Footage

| Areas | Size (sf) |
|--------------------|-----------|
| Storage | 3,100 |
| Sheds/outbuildings | 4,200 |
| Library | 4,500 |
| Offices | 7,500 |
| Auditorium | 9,000 |
| Locker Rooms/Gym | 14,800 |
| Classrooms | 59,000 |
| Total | 102,100 |

*does not include halls, lobbies, restrooms, etc

Source: Pembroke Academy

By 2008, as noted previously, there is a strong need for an alternative regular education program which would service non-special education students in need of more focused and flexible programs. The likelihood is that such services would be contracted for out of district; however, the possibility certainly exists that it could be in-district and, therefore, would require space sufficient to house 10-15 students. Specifically, this would probably translate into the equivalent of two standard classrooms and one additional smaller space.

There is also a present need for an additional baseball field and an additional rectangular playing field.

The Academy could utilize approximately 30-40 more parking spaces. Currently, there are students parking at the Congregational Church and, even with this additional resource, we lack the space to issue permits to all students desiring one. This is an especially important need given the limited busing services offered by towns sending students to PA.

The Academy is close to full classroom capacity. While there are some rooms unoccupied during each block, 80-100% of these rooms are inappropriate for general classroom use (i.e. they are special education rooms), which are too small to accommodate a full (25-30 student) class; or "specialty" classes (e.g. the food labs); or a science classroom. If Pembroke Academy's population grows by 75-100 students over the next five years, there may well be neither the quantity nor the appropriate type of classrooms available to house the needed classes.

By 2013, changes to the facility will be contingent upon changes in school population.

Pembroke Academy Summary

Short-term needs (2004 to 2008)

- Continue to monitor budgetary changes, population growth, and delivery of alternate education services to determine appropriate level of education programs and services at Pembroke Academy.
- Continue to provide alternative high school programs such as Second Start to students requiring a unique educational setting at Pembroke Academy.
- Fulfill the current need of a science teacher, nurse's aide, athletic trainer, and outside maintenance worker positions at Pembroke Academy.
- Hire a social studies teacher, School-to Career Coordinator, and Curriculum Coordinator when the need becomes demonstrated at Pembroke Academy.
- Secure space of two standard classrooms and one smaller space to accommodate alternate education services at Pembroke Academy.
- Develop an additional baseball field and rectangular playing field at Pembroke Academy.
- Build 30-40 more parking spaces to accommodate the present need and reduce overflow (at the Congregational Church) at Pembroke Academy.
- Monitor the need for additional traditional classrooms as the school's population grows.
- Purchase a back-up generator for PA to become an emergency shelter during an emergency.
- Divide the existing Guidance conference room into two or three offices to accommodate specialty (drug counselor, speech therapist) personnel and their student services.

Long-term needs (2008 to 2013)

- Reevaluate the methods and traditional timing of educational service delivery at Pembroke Academy.
- Continue to monitor the need for additional traditional classrooms as the school's population grows.
- Monitor the need for air-conditioning in select classrooms if flexible-calendar summer classes are instituted.

SUMMARY

It is clear that the Pembroke schools face challenges of providing adequate and competitive education to students while balancing budgetary restrictions and a changing population. From Village and Hill Schools to Three Rivers and Pembroke Academy, each will be affected by the numbers of new Pembroke students or the incoming tuition students from area towns. Staffing must constantly be revisited, as well as the facilities, to ensure that the education levels for the Pembroke School District remain high.

Chapter X TRANSPORTATION

INTRODUCTION

The Town of Pembroke is situated between the City of Concord and the urban area around the City of Manchester. With US Route 3 traversing the entire length of the community a large amount of regional commuting traffic travels through Pembroke every day. Added to that regional traffic are the nearly 7,000 residents of Pembroke who utilize US Route 3 and NH Route 106 to access residences, businesses, schools, and a multitude of other services and daily needs. This combination of local land uses with local and regional traffic has created two very congested major roadways in central New Hampshire. The Town of Pembroke has realized the importance of preserving these two travel corridors and has explored options for the construction of parallel roads that would help alleviate the reliance of residents on them.

NH Route 106 serves a large portion of Pembroke's commercial and industrial employers. Connecting US Route 3 with a major commercial and industrial area of Concord and other points to the north, including the Lakes Region, NH Route 106 plays a key role in both Pembroke and the region. The Town has discussed exploring connections between businesses along NH Route 106 and the creation of an access road to help preserve the transportation corridor. While US Route 3 and NH Route 106 are two vital roads in Pembroke, the transportation system includes many other types of roads and other modes of travel.

In the Community Survey distributed to all residents at the onset of the update of the Master Plan, a majority of respondents indicated that they would support the extension of Concord Area Transit into Pembroke. While an extension of Concord Area Transit would have only a small impact on the congestion on US Route 3, it would bring a service to many people who are otherwise unable to easily access services. Concord Area Transit has also expressed an interest in expanding into Pembroke and is only waiting for funding to become available and for the appropriate time as an organization.

Where many of the local roads, both major and minor, intersect with US Route 3 and NH Route 106 the Town has expressed safety concerns. Due to the sheer amount of traffic on both roads during the peak travel hours it can be extremely difficult to access the local roads. The Town of Pembroke has already sought assistance from the New Hampshire Department of Transportation for a few of these intersections, there remain many where access is an issue.

As the Town of Pembroke and the entire region continue to grow, the issues of congestion and access will only become more crucial to the residents of Pembroke. Through this update to the Master Plan the Town of Pembroke will have the opportunity to explore options and outline some steps that should be taken.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These Objectives were developed as a result of Subcommittee analysis and interpretation of the data contained within the following Chapter and from concerns raised from Pembroke residents and landowners from the Community Survey. They are listed in the beginning to give the reader the opportunity to view the results without reading through the entire Chapter.

- To provide a highway and streets system that allows for the safe and efficient movement of people and good throughout Pembroke.
 - Review the study conducted by REI, Inc. and implement steps to complete the suggested parallel road to US Route 3 along 3rd Range Road between Cross Road and Belanger Drive.
 - Determine the potential for adding a parallel road to Borough Road between North Pembroke Road and Clough Mill Road.
 - Explore possibilities for upgrading North Pembroke Road (examples would include the use of parallel roads and acquisition of easements for potential widening.)
 - Regulate and maintain safe sight distance at road intersections.
- To protect the village and historic character along Pembroke's local and major roads while maintaining their viability as travel corridors.
 - Research regulations and policies of other Towns to determine their approach to this issue.
 - Give more weight to the existing Architectural Design District by providing better definitions.
- To address safety and development concerns on Class VI roads on a priority basis.
 - Protect rights of public and private property owners to use roads and access property along them.

- To evaluate the transportation impact of any proposed development that requires subdivision or site plan review and recommend action in a timely manner.
 - Implement steps to provide safer access to main arteries.
 - Require developers to look at traffic safety issues and road network requirements.
 - Limit the number of entry points along roadways when possible (examples would include exploring options for shared driveways.)

- To sustain and enhance the opportunities for safe pedestrian activities throughout Pembroke.
 - Identify locations for additional crosswalks where warranted (such as at intersection of Dearborn and Route 3).
 - Recommend that when roads with adjacent sidewalks are rehabilitated, the sidewalks are also rehabilitated as part of the overall project.
 - Maintain the existing sidewalks and their right-of-ways to enhance pedestrian safety.

COMMUNITY SURVEY RESULTS

The March 2003 Community Survey yielded 780 replies from 2956 surveys distributed, which equals a 26.4% return rate. The following questions were pertinent to the **TRANSPORTATION CHAPTER**. The full survey results are displayed in the **APPENDIX CHAPTER**.

Please write in your estimated travel time and method of transportation to work for all employed persons (16 years old and older) in your household?

Part of the question also included a space to write in to where the employed persons were commuting. The top five responses were Concord or Penacook (36.4%), Manchester (16.3%), Other NH Town (12.3%), and Pembroke or Suncook (11.4%). The top four choices represented 76.4% of all responses.

A second part of the question was concerning the estimated travel time for each employed person. Of 1,011 responses to this question, 22% of respondents indicated they had a commute of ten minutes or less, 35% responded in the ten to twenty minute commute, 20% answered a twenty to thirty minute commute, 19% had a commute between thirty and sixty minutes, and 5% had a commute longer than one hour.

The third portion of the question inquired about the method of transportation to work for each employed person. Of the various locations employed people in Pembroke travel to, the vast majority utilize single occupancy vehicles. The results showed that more than five commuters utilized other means of transportation to work besides single occupancy vehicles for travel to only two locations; Concord or Penacook (seven) and Pembroke or Suncook (nineteen).

In your opinion, what is the general year-round condition of the roads you travel in Pembroke?

In response to this question, 351 (46.4%) rated the condition as Good and 310 (41.0%) rated it as Fair. Only a small portion of survey respondents, 91 (12.0%), indicated that the general condition of roads was poor.

If Pembroke were to construct new roads, where should they be built?

A substantial number of respondents indicated that road construction should be directed at the Range Roads (13.9%) and at the existing roads (11.3%). Additionally, 17.2% of survey respondents did not want any new roads and 27.2% indicated a wide range of other locations around the Town of Pembroke.

Would you support an extension of the Concord Area Transit (CAT) bus service into Pembroke?

A majority of survey respondents (55.1%) indicated that they would support such an extension. An additional 18.2% were unsure and 9.4% had no opinion.

In order to help Town officials better direct their efforts, please rate each of the following municipal services?

Road maintenance was among the wide range of municipal services listed in this question. A substantial majority (78.6%) felt that road maintenance was either Good or Fair.

BACKGROUND INFORMATION

Functional Highway Classifications

A method, by which public roadways are classified, relevant to long-range planning of roadway improvements is based on primary function, type of service, or the roadway's relation to the community transportation system as a whole. These divisions are used to determine roadway design standards and to locate funds that may be used for needed roadway improvements. In order to be eligible for some types of improvement funds, highways must be a certain level of functional class. The five basic functional classifications are described below.

Principal Arterial

Principal arterial roadways form the basic framework of the State roadway system. They primarily function as the main routes for interstate commerce and traffic. In addition, they also link major geographic and urban areas to economic districts of the State. Ideally, access to these roads by abutting parcels is not permitted or is highly restricted.

Minor Arterial

These roadways serve as long distance traffic movements, and are secondary to primary arterials in that minor arterials tend to serve as links between major population areas or between distinct geographic and economic regions.

Major Collector

These roadways differ from arterials due to size and general service area. Collectors serve traffic in a specific area, whereas as arterials generally serve traffic moving through an area. Thus, average trip lengths on collectors are shorter than trips on arterial. Furthermore, collectors gather traffic from local roads and streets and distribute them to arterials.

Minor Collector

These roads provide access to smaller communities within a geographic area or economic region. They may link locally important trip generators, such as shopping centers to surrounding rural areas. They also serve as links between two or more major collectors.

Local Roads

These roads and streets primarily provide access to adjacent properties. These roads have numerous turning movements in and out of abutting driveways and curb cuts.

The State of New Hampshire Department of Transportation assigns a functional classification to all of the state roads. In addition, the Town of Pembroke has developed a functional classification system for the major roads within town which is illustrated in the *Functional Highway Classification Map*.

State Aid Highway Classifications

Another system used to classify roadways in New Hampshire is the State Aid Highway Classification System. This system was created under the requirement set forth by RSA 229-231 to determine the responsibility for the reconstruction and maintenance of roadways located in the State. This system is also used to determine the eligibility of roads for State funding. Classifications are comprised of six categories (Class I through Class VI highways).

Class I, Trunk Line Highways

This classification consists of all existing and proposed highways on the primary state system, except all portions of such highways within the compact sections of communities, providing said sections are Class I highways. Examples nearby include Interstates 93, 89, and 393.

Class II, State Aid Highways

This classification consists of all existing and proposed highways on the secondary state systems, except those in compact sections of cities and towns. All sections of these roadways must be improved to the satisfaction of the NHDOT Commissioner and are maintained and reconstructed by the State. The Town must maintain all unimproved sections of these roadways, where no state or federal monies have been expended, until they are improved to NHDOT satisfaction. All bridges maintained with state or federal funds shall be maintained by the State, while all other bridges shall be the responsibility of the municipality.

Class III, Recreational Roads

This designation is assigned to all roads leading to, and within, state reservations designated by the NH Legislature. The NHDOT assumes all responsibility for construction and maintenance.

Class IV, Urban Highways

This designation is assigned to all highways within the compact areas of municipalities listed in RSA 229:5, V. The compact section of any city or town shall be the territory within such city or town where the frontage on any highway, in the opinion of the DOT Commissioner, is mainly occupied by dwellings or buildings where business is conducted, throughout the year. No highway reclassification from Class I or II to Class IV shall take effect until all rehabilitation needed to return the highway surface to reputable condition has been completed by the State.

Class V, Rural Highways

This classification consists of all traveled highways which the town or city has the duty to maintain regularly, paved or unpaved.

Class VI, Unmaintained Highways

Roads under this category consist of all other public ways, including highways subject to gates and bars, and highways not maintained in suitable condition for travel for more than five (5) years.

Table X-1
Summary of State Owned Roads within Pembroke

| Road / Description | Maintenance | Plowing |
|--------------------|-------------|---|
| US Route 3 | State | State |
| NH Route 28 | State | State |
| Academy Road | State | State |
| Broadway Street | State | Town |
| Main Street | State | Town |
| Buck Street | State | State - From Academy Road to NH Route 28 Town - From Main Street to Academy Road |

Source: Subcommittee input

Table X-1 summarizes the roads within Pembroke owned by the State of New Hampshire and the maintenance and winter plowing responsibilities of both the Town and the State for those roads. The ownership of a road is essential when discussing options for improving pedestrian or vehicular safety, ideas concerning access management, or maintenance plans.

The Town does not receive any funds through the Block Grant Aid program to perform the plowing on state roadways. In some cases it may benefit the Town to seek assistance in reconstructing or repaving the state roads and then requesting that ownership be transferred to the town. This transfer would give the community greater control over speed limits, parking, and many other aspects of the road. The community would also receive funds through the Block Grant Aid program. However, future maintenance responsibilities would reside with the Town which would increase the financial burden. While this is certainly a drawback to having ownership of the road, it also allows the community to address the maintenance concerns as needed based on local priority instead of waiting for the State.

Traffic Counts

The New Hampshire Department of Transportation conducts traffic counts at hundreds of locations around the State on a three-year cycle. In many cases, counts at a specific location may go back ten or more years, providing a sense of how traffic has changed over the years. For some time now, the CNHRPC has conducted a municipal traffic counting program. This program enables municipalities to request traffic counts at a few specific locations around a town. Between the counts collected by the NHDOT and the CNHRPC over the years, there exists a wealth of traffic count data for the Town of Pembroke. Traffic count locations are depicted on the *Accident Locations, Traffic Count Locations, Bicycle and Pedestrian Infrastructure Map*.

Table X-2 displays counts collected by both the CNHRPC and the NHDOT over the past several years. The counts are displayed in two different formats. Figures that are shown as rounded numbers (e.g. 700) are Annual Average Weekday totals. These counts have been processed to show the average weekday traffic over an entire year and better represent typical vehicle volumes. Figures in the table that are not rounded (e.g. 1,057) are displayed as Average Weekday totals. These counts are directly from weeklong counts and are subject to seasonal and weekly traffic flow variations.

Table X-2
Traffic Counts, 1995-2003

| Site Code | Road | Location | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|-----------|--------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 361058 | North Pembroke Rd. | At Ames Brook | 660 | 780 | 880 | - | - | 1000 | - | - | - | - | 1272 |
| 361539 | North Pembroke Rd. | At Concord TL | - | - | - | - | - | - | - | - | - | - | 1669 |
| 361060 | I-393 | At Horse Corner Rd. Bridge Exit 3-4 | 13000 | 11000 | 15000 | 15000 | 16000 | 16000 | 16000 | 16000 | - | - | - |
| 361538 | Borough Rd. | At N. Pembroke Rd. | - | - | - | - | - | - | 1412 | - | - | - | - |
| 361536 | N. Pembroke Rd. | At NH 106 | - | - | - | - | - | - | - | - | - | - | - |
| 361053 | NH 9 | At Soucook River | - | - | - | - | 6800 | 2100 | - | - | - | - | 11031 |
| 361535 | Bow Ln | Btw. US 3 and Nadine Drv. | - | - | - | - | - | - | - | 655 | - | - | - |
| 361050 | NH 106 | Concord TL | - | 8000 | 7500 | - | 7800 | - | - | 5500 | - | - | 13020 |
| 361531 | Pembroke Hill Rd. | E of US 3 | 2279 | - | - | - | - | - | 1266 | - | - | - | - |
| 336521 | Fourth Range Rd. | E. of Borough Rd. | 851 | - | - | - | - | - | 967 | - | - | - | - |
| 361521 | Eighth Range Rd. | E. of Borough Rd. | - | - | - | - | - | - | 1624 | - | - | - | - |
| 361527 | N. Pembroke Rd. | E. of Borough Rd. | - | - | 870 | - | - | - | - | - | - | - | - |
| 361500 | Academy Rd. | E. of Cross St. | - | 2361 | - | - | - | - | - | - | - | - | - |
| 361513 | Church St. | E. of Cross St. | - | - | - | 310 | - | - | - | - | - | - | - |
| 361509 | Buck St. | E. of Dudley Hill Rd. | - | - | - | 2443 | - | - | - | - | - | - | - |
| 361510 | Central St. | E. of Main St. | - | - | 450 | - | - | - | - | - | - | - | - |
| 361537 | Borough Rd. | E. of NH 106 | - | 1460 | - | - | 1681 | - | - | - | - | - | 1965 |
| 361505 | Brickett Hill Rd. | E. of US 3 | - | - | - | 1329 | - | - | - | - | - | - | - |
| 361512 | Church St. | E. of US 3 | 509 | - | - | - | - | - | - | - | - | - | - |
| 361517 | Dearborn Rd. | E. of US 3 | - | - | - | 806 | - | - | - | - | - | - | - |
| 361540 | Pembroke Hill Rd. | East of third Range Rd (school in session) | - | - | - | - | - | - | - | - | - | - | 534 |
| 361052 | Buck St. | East of US 3 | - | - | 1700 | - | - | - | - | - | - | - | - |
| 361069 | Academy St. | East of US 3 (Pembroke St) | - | 3100 | - | - | - | - | - | - | - | - | - |
| 361504 | Brickett Hill Rd. | N. of US 3 | - | - | - | - | - | - | - | - | - | - | - |
| 361516 | Dearborn Rd. | N. of US 3 | - | - | - | - | - | - | - | - | - | - | - |
| 361502 | Academy Rd. | Near Black Water Bridge | - | - | - | 2865 | - | - | - | - | - | - | - |
| 361065 | Buck St. | Over Hartford Brook | - | 1100 | - | - | - | 1300 | 1600 | - | - | - | 1387 |
| 361064 | Old NH 28 | Over Pettingill Brook | - | 2000 | - | - | - | 2400 | - | - | - | - | - |
| 361066 | Main St. | Over Suncook River | - | 4600 | - | - | - | 6800 | - | - | - | - | - |
| 361511 | Church St. | S. of Central St. | 1089 | - | - | - | - | - | - | - | - | - | - |
| 361532 | Turnpike St. | S. of Main St. | - | - | 430 | - | - | - | - | - | - | - | - |
| 361514 | Cross Country Rd. | S. of N. Pembroke Rd. | - | - | 250 | - | - | - | - | - | - | - | - |
| 361534 | US 3 | S. of NH 106 | - | 13200 | - | - | - | - | - | - | - | - | - |
| 361506 | Broadway St. | S. of US 3 | - | 3279 | - | - | - | - | - | - | - | - | 5139 |
| 361542 | Smith Ave. | South of Dearborn Rd. | - | - | - | - | - | - | - | - | - | - | 460 |

| Site Code (cont.) | Road | Location | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|----------------------|-------------------|--|-------|-------|------|-------|-------|------|-------|-------|------|------|-------|
| 361068 | Broadway St. | South of Hillcrest Ave. | - | 3600 | - | - | - | - | - | - | - | - | - |
| 361048 | US 3 SB | South of Meetinghouse Brook | - | - | - | - | - | - | - | - | - | 8760 | - |
| 361049 | US 3 NB | South of Meetinghouse Brook | - | - | - | - | - | - | - | - | - | 8722 | - |
| 361059 | US 3 | South of Meetinghouse Brook (SB-NB) | 13000 | 13000 | - | 14000 | 13000 | - | - | 12000 | - | - | - |
| 361051 | US 3 | South of NH 106 | 12000 | - | - | 14000 | 14000 | - | 14000 | - | - | - | 14045 |
| 361070 | US 3 SB | South of NH 106 | - | - | - | - | - | 3600 | - | - | - | 8364 | 7895 |
| 361071 | US 3 NB | South of NH 106 | - | - | - | - | - | 2800 | - | - | - | 8295 | 7596 |
| 361067 | Broadway St. | South of North Main St. | - | 3400 | - | - | - | 3800 | - | - | - | - | - |
| 361547 | Smith Ave. | South of Tina | - | - | - | - | - | - | - | - | - | - | 384 |
| 361530 | Old Buck St. | W. of Buck St. | - | - | 190 | - | - | - | - | 1413 | - | - | - |
| 361520 | Eighth Range Rd. | W. of Country & Tobin Rds. | - | - | - | - | - | - | - | - | - | - | - |
| 361523 | Front St. | W. of Main St. | 1453 | - | - | - | - | - | - | - | - | - | - |
| 361528 | N. Pembroke Rd. | W. of NH 28 | - | - | - | - | 1005 | - | - | 1302 | - | - | - |
| 361508 | Buck St. | W. of Old Buck St. | - | - | - | - | - | - | - | - | - | - | - |
| 361518 | Donna Drive | W. of US 3 | - | - | - | - | 1352 | - | - | - | - | - | - |
| 361507 | Buck St. | W. of Wilkins Rd. | 1547 | - | - | - | - | - | - | - | - | - | - |
| 361057 | Pleasant St. | West of Broadway St. | - | - | - | - | 1500 | 1300 | - | - | - | - | - |
| 361541 | Pembroke Hill Rd. | West of third Range Rd. (school in session) | - | - | - | - | - | - | - | - | - | - | 958 |
| 361056 | North Main St. | West of Turnpike St. | - | - | - | - | - | - | - | - | - | - | - |

Source: CNHRPC and NHDOT traffic counts

Regular monitoring of sites during peak months is critical in the planning process, as accurate projections are required for logical transportation and land use planning.

Table X-3
Multi-Year Trends at Same Location

| Road | Location | Years | Annual Percent Change | Total Percent Change |
|--------------|-----------------------|--------------|-----------------------|----------------------|
| NH Route 106 | Concord City Line | 1995 to 2003 | 8.5% | 70% |
| US Route 3 | South of NH Route 106 | 1996 to 2003 | 0% | 0% |

Source: NHDOT and CNHRPC traffic counts

This data should be utilized to begin to identify corridors that may become threatened in the future by current development trends. In locations where traffic has increased significantly, land use trends and access management policies should be closely examined and modified to best maintain and promote an efficient transportation network.

Table X-3 illustrates the growth in traffic on NH Route 106 over the past several years. Over a period of nine years traffic has increased substantially at a rate that is much greater than has been observed on other major roads in this area. An annual growth rate of 2% to 4% is fairly typical of major roads in the region. The Town of Pembroke, the City of Concord, and the New Hampshire Department of Transportation should continue to monitor traffic and safety on NH Route 106.

Accident Analysis

One of the most useful and obvious methods of identifying where transportation improvements may be needed is to analyze the location, frequency, and type of accidents that occur at various locations in the community. For the period of 1998 to 2002, a total of 554 locatable accidents occurred in Pembroke. Table X-4 shows areas where ten or more accidents have occurred over that time period.

Table X-4
Traffic Accidents, 1998-2002

| Road | Closest Major Location(s) | # of Accidents |
|---------------------------------|------------------------------|----------------|
| US Route 3 (Pembroke Street) | Total On US Route 3 | 209 |
| | Academy Road | 15 |
| | Beacon Hill Road | 6 |
| | Bow Lane | 7 |
| | Brickett Hill Road | 10 |
| | Broadway Street | 17 |
| | Main Street | 6 |
| | Pembroke Hill Road | 13 |
| | NH Route 106 | 19 |
| | Sherwood Meadows | 5 |
| North Pembroke Road | Total on North Pembroke Road | 47 |
| | Borough Road | 9 |
| NH Route 106 | Total on NH Route 106 | 41 |
| | US Route 3 | 11 |
| | Borough Road | 10 |
| NH Route 28 | Total on NH Route 28 | 39 |
| | North Pembroke Road | 14 |
| Academy Road | | 25 |
| Buck Street | | 22 |
| Glass Street | | 20 |
| Main Street | | 16 |
| Cross Country Road | | 14 |
| 4 th Range Road | | 13 |
| Borough Road | | 10 |
| Broadway Street | | 10 |
| Church Road | | 10 |

Source: Accident data – Pembroke Police reports processed by CNHRPC

Table X-4 above illustrates some of the key areas where recent accidents have occurred in Pembroke. Of particular note is the sheer volume of accidents that occur on US Route 3 in Pembroke, 209 over the five-year period which represents 38% of all accidents in Pembroke. The large number of access points on US Route 3 and the dual nature of the road, functioning as both a regional commuting corridor and a local street, undoubtedly contribute the substantial number of accidents. Accident locations are depicted on the *Accident Locations, Traffic Count Locations, Bicycle and Pedestrian Infrastructure Map*.

The Town of Pembroke has explored options to construct an alternative parallel road to US Route 3. By helping alleviate the amount of local traffic on US Route 3 this alternative route may help reduce the number of accidents and overall amount of traffic on US Route 3.

Table X-5
Total Number of Accidents, 1998-2002

| | 1998 | 1999 | 2000 | 2001 | 2002 |
|-----------------|------|------|------|------|------|
| Total Accidents | 95 | 92 | 125 | 121 | 120 |

Source: Accident data - Pembroke Police reports processed by CNHRPC

Accident data serves as one tool in identifying potential hazardous intersections; however, it is only a piece of the overall picture. Local knowledge is of key interest to understanding why intersections work the way they do and why some are more dangerous than others. While there was a jump in the numbers of accidents reported between 1999 and 2000, over the last several years the figures have remained consistent. If any large changes in the number of accidents per year are observed, the Town should investigate the causes behind them.

ACCESS MANAGEMENT

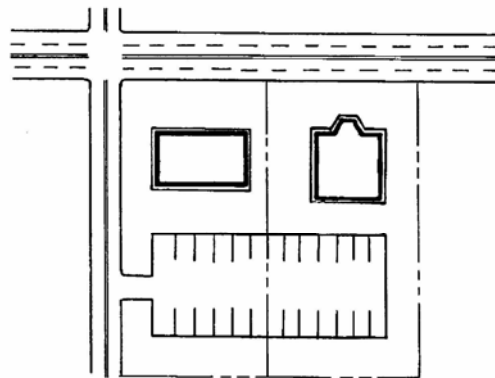
The goals of access management are to reduce congestion, increase safety, and implement coordinated land use and transportation plans. Often access management can be improved by focusing on smaller site improvements, like defined entryways and exits, shared driveways, and connections between adjacent subdivisions. These types of facilities are easiest to implement as part of a new development and are sometimes required by a municipality. Improvements to existing facilities can also greatly enhance the capacity and character of a roadway, but a more cooperative approach is required between the Town and the landowner to plan, fund, and complete the improvements.

Other opportunities exist to enhance access management by better coordinating planning efforts like a Master Plan, Zoning Ordinances, Subdivision Regulations, and impact fee ordinances. The Master Plan can set the stage for improvements by clearly identifying goals for the transportation network. Zoning Ordinances can further aid in the process by tailoring frontage requirements, lot sizes, signage and architectural standards, and possibly by identifying overlay districts. The Zoning Ordinance can also depart from the normal strip zoning along roadways and adopt a nodal approach. In the nodal approach, development focuses in denser areas along a roadway, with open space or less traffic-intensive development between nodes. Using Subdivision Regulations, a community can further improve access management by having provisions for shared driveways and connector roads between subdivisions.

Shared Access Points

All new site plans on heavily traveled roadways could have shared access points with abutting parcels. This will reduce the number of driveways (curb cuts) on major roadways, and improve traffic movement and safety conditions.

Figure X-1
Shared Access Points

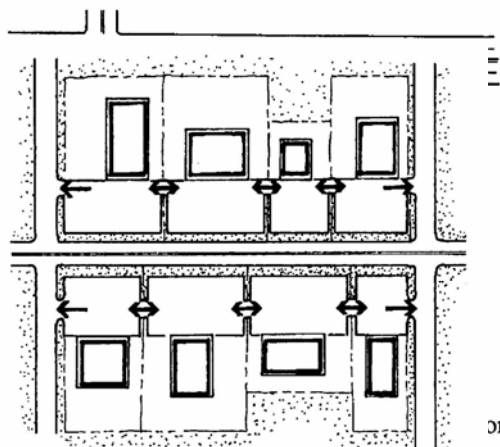


A single access point from a collector road for two adjacent businesses

Interconnected Sites

Developers could provide rights-of-way to connect commercial and multi-family sites, thus creating parallel access roads along major roadways. This will help to reduce congestion and slow the need to expand highway capacity.

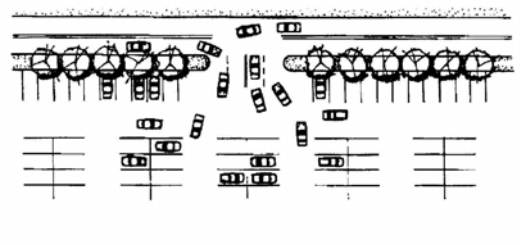
Figure X-2
Interconnected Sites



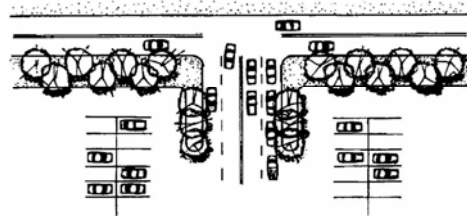
Interconnecting commercial sites

Figure X-3
Minimum Driveway Throat Lengths

Minimum Driveway Throat Lengths
A minimum driveway throat length could be defined for commercial and large multi-family developments in order to help better define internal traffic movements at those sites.



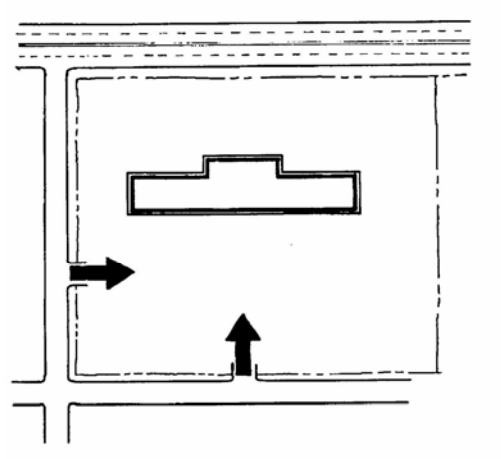
A short throat length can cause confusion and danger at the entrance to a site.



An appropriate throat length allows vehicles to enter and exit a site in an orderly and safe fashion.

Figure X-4
Corner Lot Access Points

Corner Lot Access Points
All corner lots fronting a major road could be accessed from the adjacent local or collector road, not the major roadway. Again, this will reduce congestion and improve safety.

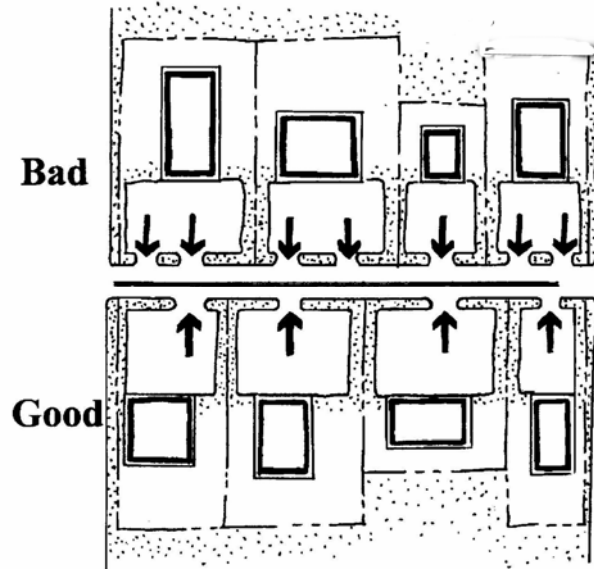


Access to a corner lot should be from a local or collector road instead of an arterial

Distance Between Driveways

A minimum distance between commercial and multi-family driveways on major roadways could be set in order to better streamline turning movements and improve safety. The largest feasible distance between driveways should be encouraged.

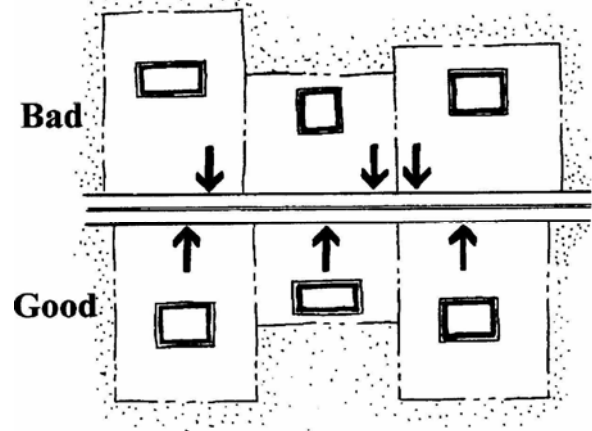
Figure X-5
Distance Between Driveways



Number of Driveways Per Lot

The Planning Board should limit the number of driveways for parcels fronting major collector or arterial roadways. Furthermore, continuous, undefined driveways should be prohibited, as such driveways often confuse drivers and contribute to accidents.

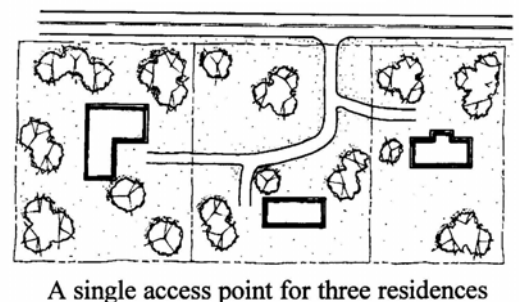
Figure X-6
Number of Driveways Per Lot



Shared Driveways

Shared driveways should be constructed for subdivisions on major roadways. This would improve traffic flow and safety conditions of the roadway. The Planning Board, when reviewing developments proposing shared driveways, should require all proper easement and maintenance agreements to be incorporated into the deed of each parcel. In some cases this arrangement can accentuate disputes between neighbors over maintenance of the driveway, however, the town has no responsibility to become involved with the dispute.

Figure X-7
Shared Driveways

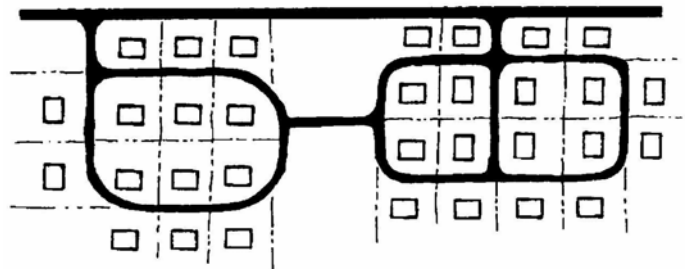


A single access point for three residences

Connect Adjacent Roadways

Developers could design subdivisions to connect with other public roadways in other subdivisions.

Figure X-8
Connect Adjacent Roadways



Interconnecting residential developments

This type of connection, while often not popular with residents who want to live on quiet streets, does provide a number of benefits to the residents and to the town in general. The interconnection helps preserve the main roadway by creating a way for neighbors to drive to one another's house without accessing the main road. The connection also provides an additional access point for emergency vehicles and can help foster an expanded neighborhood feel to the developments.

PEMBROKE'S TRANSPORTATION SYSTEM

Pedestrian Infrastructure

Pedestrian facilities, such as paved sidewalks and gravel walking paths, are critical features for roadways with high volumes of traffic or high speeds where pedestrian activities naturally occur or wish to be encouraged. The primary purpose of a sidewalk is to improve safety for pedestrians by separating them from the travel lanes of roadways. In addition to this, sidewalks can also serve as a source of recreation for residents, serve to beautify an area, or stimulate economic activity in rural and village settings.

Speed limits have been the usual method of improving pedestrian safety and other non-motorized modes of travel. In both rural and urban areas, the minimum speed limit a municipality can impose is 25 miles per hour. Limits can be made lower at intersections (RSA 265:63, (a)) and in school zones (265:60, II (a)). Crosswalks on local streets are a form of traffic regulation and therefore must be approved by the Board of Selectmen. Crosswalks located on State roads must be installed and approved by NHDOT, but are maintained by the Town.

Many communities in the United States are now exploring further means beyond sidewalks that place pedestrians and other non-motorized modes of travel on a more even level with motorized traffic. These measures, collectively called traffic calming, use the physical design of the roadway to prevent inappropriate automobile speeds. Most often they are used in residential or downtown areas where residents see the road as part of their neighborhood and a place where walking, recreation, and social interaction can safely coexist with motorized traffic.

Existing Sidewalks

The sidewalks in Pembroke are listed in Table X-6 below:

Table X-6
Existing Sidewalks

| Road | Road |
|--------------------|--------------------|
| Academy Road | Main Street |
| Alexander Drive | Maple Street |
| Belanger Drive | Mason Avenue |
| Brickett Hill Road | Middle Street |
| Brittany Circle | Mill Falls |
| Broadway Street | Pembroke Street |
| Buck Street | Pembroke Hill Road |
| Central Street | Pine Street |
| Church Street | Pleasant Street |
| Crescent Street | Prospect Street |
| Cross Road | Riverview Way |
| Exchange Street | Terrace Lane |
| Front Street | Third Range Road |
| Glass Street | Turnpike Street |
| High Street | Union Street |
| Kimball Street | |

Source: Action Plan For Existing Sidewalks, KNA - 2000

One issue that is common among many communities and has been expressed in Pembroke is the issue of sidewalk maintenance. In most communities, roadways are more visible and are more important to the residents. This often creates a situation where proportionally more money is directed toward road maintenance than to sidewalk maintenance. When this occurs, over time a community's sidewalks deteriorate and discourage residents from using them. To encourage walking throughout a community, the sidewalks need to be maintained with a priority similar to that of the roadway system.

The Town of Pembroke has a substantial and thorough plan for sidewalks in Town called the "Action Plan for Existing Sidewalks". To assist with creating the plan, the Town contracted with Keach-Nordstrom Associates, Inc. The Plan outlines a logical approach to maintaining existing sidewalks within the Town of Pembroke and provides a thorough inventory of each sidewalk's location and condition. The Plan did not address any expansion to the existing sidewalk system within Pembroke. Current practice of the Town is to require that sidewalks be constructed in any new developments that are near a school. The Town may also explore constructing new sidewalks to fill any current gaps in the sidewalk system.

Pedestrian Crossings

Unlike sidewalks, crosswalks need not be expensive to create and when they are constructed properly at a location chosen with care, they can improve pedestrian safety. However, crosswalks do not stop vehicles and if they are striped without the utmost caution, they can be more hazardous to pedestrians and vehicles than not having designated crossing areas at all.

The Town of Pembroke has a number of marked pedestrian crosswalks around the community. There are several located adjacent to Main Street and Glass Street in the village area, one located at the intersection of Broadway and US Route 3, one at the intersection of Academy Road and Route 3, and one on Pembroke Hill Road. Pedestrian infrastructure is depicted on the *Accident Locations, Traffic Count Locations, Bicycle and Pedestrian Infrastructure Map*.

Bicycle Infrastructure

Planning for a bicycle network requires a different approach from that of motorized transportation planning. Bicyclists have different needs than those of motorists, including wider shoulders, more sensitive traffic control at intersections, and stricter access management. Often, roadways are designed solely with motor vehicles in mind and Pembroke is no exception to this. In some cases, consideration for bicycles may not actually be beneficial to all users.

There currently exists a Statewide and a Regional Bicycle Route System with components in the Pembroke area. The Statewide System was established to link commuting nodes throughout the State with one another; for example, connecting Concord to Hooksett to Manchester. The Regional network, of which US Route 3, NH Route 106, and NH Route 28 are part of, connects other communities to the statewide system and to one another. Bicycle infrastructure is depicted on the *Accident Locations, Traffic Count Locations, Bicycle and Pedestrian Infrastructure Map*.

At this time there are no plans to make improvements specific to bicycles to roads that are on either the statewide or regional bicycle route system. Instead as other improvement projects and regular maintenance activities are undertaken on these roads, where practical improvements in the form of wider shoulders may be included. If a community were requesting funds through some type of funding program, like Transportation Enhancements to make improvements, a road being on either of the two systems could strengthen the project application.

Traffic Calming

Traffic calming suggests road design techniques using active or physical controls (lumps, barriers, curves, rumble strips, etc.) and passive controls such as signs and traffic regulations to reduce speeds. Traffic calming measures foster safer and quieter streets that are more hospitable to cyclists, pedestrians, and joggers. The potential benefits of traffic calming include reduced traffic speeds, reduced traffic volumes by discouraging "cut-through" traffic on residential streets, and often improved aesthetic quality of streets. An example of some traffic calming techniques include:

Speed Humps, Speed Tables, and Raised Crosswalks: All of these techniques involve raising the height of the pavement in a more subtle fashion than with a speed bump, allowing vehicles to pass over them at the intended speed of the road, but preventing excessive speeds and alerting drivers to the existence of non-motorized users.

Chicanes or Medians: These effectively narrow road width and slow down traffic by placing a physical impediment either in the middle of the road (median) or on the side of the road (chicane). These lend themselves to landscaping and improve the visual experience for all users of the road, as well as reducing speeds. Both techniques can provide additional safety for crossing pedestrians. Medians may serve as a refuge by allowing pedestrians to cross one lane of travel at a time, while chicanes provided at crosswalks (curb bulbs) reduce the overall distance from one side of the road to another and slow down traffic at those crossings.

Modern Roundabout: Not to be confused with a traditional high-speed rotary or traffic circle, this is an intersection treatment that forces motorized traffic to slow down to speeds under 25 mph in order to negotiate a center island that can be landscaped. Such speeds allow pedestrians to safely cross around the perimeter of the roundabout and cyclists to safely become a part of the circulating traffic.

Private Roads

Private roads are roads that have been constructed but, for various reasons, are not Town-owned roads. There is currently limited Town adopted policy regarding private roads, their construction, maintenance, or the Town's acceptance of them. Emergency services also have concerns about their ability and duty to respond to calls for assistance from residents on private roads. Many communities do perform minimal maintenance and/or snow removal on private and class VI roads, but the town must understand and follow the NH laws and case examples dealing with these activities.

In the NH case of *Clapp v. Town of Jaffrey* the Court supported the constitutional requirement that public funds be spent only for public purposes. The Court found that plowing of private roads would only be legal if the activity is secondary and incidental to the town and that those benefiting from the plowing reimburse the town so that no public funds are spent.

In 1994 the NH Legislature enacted RSA 231:59-a "Emergency Lanes" as a means for communities to provide snow removal and minimal maintenance to private and class VI roads. The RSA stipulates that for the town to undertake such maintenance, the road must be declared an "emergency lane". A public hearing must be held to declare any private road as such and notice be given to all those with an interest.

The *Private, Gravel, Class V, and Scenic Roads with Bridges Map* illustrates the locations and names of private roads known to be found in Pembroke.

Class VI Roads and Trails

Class VI roads are roads that are not maintained by the Town, may be subject to gates and bars, and are almost always gravel or unimproved dirt. A Class V road can become a Class VI road if the Town has not maintained it for five years or more.

State Statute also addresses Class VI roads and any potential building along them in RSA 674:41. Under this RSA, section I(c), for any lot whose street access (frontage) is on a Class VI road, the issue of whether any building can be erected on that lot is left up to the "local governing body" (Town Selectmen) who may, after "review and comment" by the Planning Board, vote to authorize building along that particular Class VI road, or portion thereof. Without such a vote, all building is prohibited. Even if the Board of Selectmen does vote to authorize building, the law states that the municipality does not become responsible for road maintenance or for any damages resulting from the road's use. The purpose of RSA 674:41, I(c) is to prevent scattered and premature development.

Across the State, many communities are beginning to look at Class VI roads as candidates for designation as Class A Trails because they have little or no development associated with them, are scenic, have no inherent liability concerns, public access is already allowed, and also serve to connect large areas of open space, conservation, and/or agricultural lands. By reclassifying certain roadways that meet these criteria to Class A Trails, the community could be taking a step in creating a community-wide system of greenway trails. Unlike Class VI roads that the Town does not maintain, Towns, at their option, may conduct maintenance on Class A Trails.

It is important to stress that reclassification of Class VI roads to Class A Trails will not inhibit the access rights of landowners along the roadways. In the case of a Class A trail, landowners can continue to use the trail for vehicular access for forestry, agriculture, and access to existing buildings. However, under such classification, new building development as well as expansion, enlargement, or increased intensity of the use of any existing building or structure is prohibited by New Hampshire Statute. The Town and owners of properties abutting Class VI roads are not liable for damages or injuries sustained to the users of the road or trail.

Class VI roads and Class A & B trails are an important component of a Town's transportation infrastructure because they personify the community's rural character and provide vast recreational opportunities. The *Private, Gravel, Class V, and Scenic Roads with Bridges Map* will provide information as to where current trails exist, where Class VI Roads are located, and which Class VI Roads may be good candidates for Class A Trail designation.

Parking

The one area of Pembroke where parking will play a key role in the future is in the village area around Main Street. There is generally enough parking to satisfy the current demand from businesses and residences, however, as the Town of Pembroke continues to work toward revitalizing the area, parking will play a key role. In a Village/Downtown environment, the availability of parking is one of the contributing factors to how well an area will do economically. Having the right amount of parking available will help the Village/Downtown flourish. Similarly, having too much available parking in this type of environment can diminish the "small town" atmosphere and "bustling" sense that will also contribute to the areas success.

Public Transportation

In 2001-2002, the Central NH Regional Planning Commission and the Concord Area Transit, with funding from the NH Department of Transportation, conducted a survey of Pembroke and Allenstown to quantify interest in an extension of Concord Area Transit to both communities. The survey results were favorable enough for everyone involved to progress to the next step in supporting the extension, searching for funding to cover the costs. Concord Area Transit applied to what was then a program that had recently been created by the New Hampshire Department of Transportation to assist rural transit operators. However, at the Federal level, the program was not deemed appropriate for the types of funds being utilized and it was not supported. Without the use of Federal funds, the State was not able to continue the program.

More recently Concord Area Transit undertook a study to explore this expansion of service as well as other extensions around the region. Again this route was identified as a favorable future extension, but was not identified as the highest priority. Concord Area Transit would like to extend service into Pembroke in the future and hopes that funding becomes available.

Bridge Network

Bridges are a vital component of the highway system, as they connect road segments across streams, lakes, rivers, and other roads. Bridges are the most expensive sections of roads and the lack of adequate bridges creates transportation bottlenecks.

Table X-7
Pembroke Bridges

| Location | Crossing | Owner | Notes |
|------------------------|-------------------|-------|---|
| Main Street | Suncook River | State | Red Listed - Scheduled for replacement (2004, 2005) |
| Buck Street | Hartford Brook | Town | |
| Interstate 393 (EB-WB) | Horse Corner Road | State | |
| Interstate 393 WB Ramp | NH 9 | State | |
| Old NH 28 | Pettingill Brook | State | |

Source: NHDOT Mini Bridge List & NHDOT Red List Summary (2002)

RECENT STATE AND LOCAL ROAD IMPROVEMENTS

State Improvements

The NH Department of Transportation and the State as a whole has adopted a long-range planning approach to the development and funding of transportation projects throughout the State. This process and resulting document is the New Hampshire Ten Year Plan. The creation and revision of the Ten Year Plan is a comprehensive process that involves municipalities, regional planning commissions, the New Hampshire Department of Transportation, the Governor's Advisory Council on Intermodal Transportation (GACIT), the Governor and Legislature of New Hampshire, and the federal government.

The revision process typically starts at the regional planning commission level, although it is beneficial if the process is first initiated at the municipal level. All regional planning commissions within New Hampshire prepare a Regional Transportation Improvement Program (TIP) every two years based on input from local municipalities, NHDOT, and each planning commission's Transportation Advisory Committee (TAC). The NHDOT then takes the regional TIPs and incorporates the projects with the highest level of support into the NH Ten Year Plan, adding their own input and specific projects. From NHDOT, the Governor's Advisory Committee on Intermodal Transportation (GACIT), the Governor, and the Legislature review the NH Ten Year Plan. After final approval, the NH Ten Year Plan then becomes the transportation project guide for the upcoming years.

The New Hampshire Department of Environmental Services (NHDES) reviews the NH Ten Year Plan and provides comments to NHDOT. The Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Environmental Protection Agency (EPA) review the first three years of the of the NH Ten Year Plan, also know as the Statewide Transportation Improvement Program. Upon review of the document, these agencies verify that the projects meet all of the federal regulations and approve them for implementation. Currently the NH Ten Year Plan is nearing the conclusion of the most recent revision process. The last column in Table X-8 shows the status of projects in the most recent version of the NH Ten Year Plan, though it is not formally adopted at this time.

Table X-8
Pembroke Projects in the NH Ten Year Plan

| Year | Project | Cost | Potential Revisions in 2005-2014 Ten Year Plan |
|------|---------------------------------|-------------|--|
| 2003 | Main Street Pembroke/Allenstown | \$1,750,000 | |
| 2006 | US Route 3 Pembroke/Allenstown | \$3,000,000 | Revised estimated cost of \$7,450,000 |

Source: 2003-2012 Ten Year Plan

Local Improvements

In the Town of Pembroke, the Director of Public Works traditionally discusses upcoming road improvement projects with a local Road Committee and with the Board of Selectmen. Along with regular maintenance of the roads in Pembroke, the Department of Public Works normally undertakes several more substantial projects each year. In 2004 improvements are planned to be constructed on portions of North Pembroke Road, Robinson Road, Church Road, Cross Road, and Pleasant Street. Sidewalks and their rights-of-way should be maintained for safety on a regular basis.

TRANSPORTATION FUNDING OPPORTUNITIES

Federal Programs and Resources

The Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2003 (SAFETEA)

In the spring of 2004 the reauthorization of the 1998 to 2003 Transportation Equity Act for the 21st Century came into focus. SAFETEA is the new parent legislation that will fund a variety of transportation programs including the Congestion Mitigation and Air Quality (CMAQ) Improvement Program and the Transportation Enhancement (TE) Program.

Transportation Enhancement Funds (TE)

The Transportation Enhancements Program (TE) is another viable source for improving roads in communities. Funding for the TE program is slightly more than \$3 million dollars in the State annually. These funds are provided in an 80/20 match, with the State paying for the majority of the project cost. Typical examples of projects eligible for TE funds include:

- Facilities for bicyclists and pedestrians;
- Safety and education activities for bicyclists and pedestrians;
- Acquisition of scenic easements and scenic or historic sites;
- Scenic or historic highway programs;
- Rehabilitation and operation of historic transportation buildings, structures, and facilities;
- Preservation of abandoned railway corridors; and
- Establishment of transportation museums.

Congestion Mitigation and Air Quality Funds (CMAQ)

The Congestion Mitigation and Air Quality program (CMAQ) is another viable source for improving roads in communities. Funding for the CMAQ program is in the vicinity of \$10 million dollars in NH biennially. These funds are also provided in an 80/20 match, with the State paying for the majority of the project cost. Projects applying for CMAQ funds must demonstrate a benefit to air quality and often include sidewalk, transit, and rail projects.

Federal Aid Bridge Replacement Funds

These funds are available for the replacement or rehabilitation of Town-owned bridges over 20 feet in length. Matching funds are required and applications for funding are processed through the NHDOT's Municipal Highways Engineer.

State Funding Sources

Highway Block Grants

Annually, the State apportions funds to all cities and towns for the construction and maintenance of Class IV and V roadways. Apportionment "A" funds comprise not less than 12% of the State Highway budget and are allocated based upon one-half the total road mileage and one-half the total population as the municipality bears to the state total. Apportionment "B" funds are allocated in the sum of \$117 per mile of Class V road in the community. Block grant payment schedules are as follows: 30% in July, 30% in October, 20% in January, and 20% in April. Any unused funds may be carried over to the next fiscal year.

Municipal Highway Aid

This program creates an opportunity for municipalities and the state to invest in the secondary state highway system. By providing a local match, towns can work with the state to make improvements on some of the major roads through a community. While the town is paying for a portion of the improvements to a state road, the benefits are an improved travel way for local residents and regional commuters as well as completing the project much sooner than it may have otherwise been.

State Bridge Aid

This program helps to supplement the cost to communities of bridge construction on Class II and V roads in the State. Funds are allocated by NHDOT in the order in which applications for assistance are received. The amount of aid a community may receive is based upon equalized assessed valuation and varies from two-thirds to seven-eighths of the total cost of the project.

Town Bridge Aid

Like the State Bridge Aid program, this program also helps communities construct or reconstruct bridges on Class V roads. The amount of aid is also based upon equalized assessed valuation and ranges from one-half to seven-eighths of the total cost of the project. All bridges constructed with these funds must be designed to support a load of at least 15 tons. As mandated by State Law, all bridges constructed with these funds on Class II roads must be maintained by the State, while all bridges constructed on Class V roads must be maintained by the Town. Any community that fails to maintain bridges installed under this program shall be forced to pay the entire cost of maintenance plus 10% to the State Treasurer.

Local Sources of Transportation Improvement Funds

Local Option Fee for Transportation Improvements

New Hampshire RSA 261:153 VI (a) grants municipalities the ability to institute a surcharge on all motor vehicle registrations for the purpose of funding the construction or reconstruction of roads, bridges, public parking areas, sidewalks, and bicycle paths. Funds generated under this law may also be used as matching funds for state projects. The maximum amount of the surcharge permitted by law is \$5, with \$0.50 allowed to be reserved for administering the program.

Impact Fees

Authorized by RSA 674:21, communities can adopt an impact fee ordinance to offset the costs of expanding services and facilities that must be absorbed when a new home or commercial unit is constructed in Town. Unlike exactions, impact fees are uniform fees administered by the building inspector and are collected for general impacts of the development, as opposed to exactions that are administered by the Planning Board and are collected for specific impacts unique to new site plans or subdivisions on Town roads. The amount of an impact fee is developed through a series of calculations. Impact fees are charged to new homes or commercial structures at the time a building permit is issued.

When considering implementing an impact fee ordinance, it is important to understand that the impact fee system is adopted by amending the Zoning Ordinance. The law also requires that communities adopting impact fees must have a current Capital Improvements Program (CIP). Lastly, State law also stipulates that all impact fees collect by a community must be used within 6 years from the date they were collected, or else they must be refunded to the current property owners of the structure for which the fee was initially collected.

Capital Reserve Funds

This is a popular method to set money aside for future road improvements. RSA 35:3 mandates that such accounts must be created by a warrant article at Town Meeting. The same warrant article should also stipulate how much money will be appropriated to open the fund, as well as identify which Town entity will be the agent to expend the funds. Once established, communities typically appropriate more funds annually to replenish the fund or to be saved and thus earn interest that will be put towards large projects or expenditures in the future.

SUMMARY

Pembroke has a number of transportation issues to consider in the future as its population grows, including an alternative to Route 3, continuation of sidewalks, opening range roads, and sharing bus service. While roadway improvement projects will continue to enhance the safety of Pembroke's roadways, many planning options for safety enhancement, presented here, can be utilized within the scope of the Planning Board regulations.

Chapter XI EXISTING AND FUTURE LAND USE

INTRODUCTION

Increased population growth, evolving housing needs and changing social and economic trends discussed throughout this Master Plan have had - and will continue to have - a direct impact on the landscape of our community. Because it is a finite resource which can never be replaced, the Planning Board realizes that thoughtful use of Pembroke's 22.6 square miles of land represents one of the most important challenges it faces - especially as the Board confronts fundamental land use issues related to where people will live, play, shop and work, and how they will travel around town. Whether considered individually or as a whole, these issues have the potential to drastically affect the town's visually beauty, historic sense of place and overall quality of life.

With this in mind, the Planning Board developed this Chapter to assist it in identifying and exploring Pembroke's land use trends, to see how these trends may be affected by local regulations and other factors, and to assist it in deciding what future steps should be taken to meet the perceived land use needs of the community. To guide its examination of these matters, the Planning Board reviewed and analyzed the town's existing land use regulations and ordinances, considered information which was included on a variety of useful land use maps, examined the results of a town-wide community attitude survey and reflected on extensive public feedback which was generated in civic planning sessions over the last two years.

One of the first steps taken in developing this Chapter was an effort to renew and modernize all of the town's existing and relevant land use informational resources. Toward this end, new data was collected, digitally data-based and, where feasible, placed on appropriate thematic map layers in the town's geographic information system (GIS). For examination purposes, this updated land use data was sorted into appropriate tables, charts and maps which were then reproduced in paper format and included in this Master Plan's **EXISTING AND FUTURE LAND USE CHAPTER**.

As noted above, the Planning Board's land use information collection process benefited significantly from public feedback. One of the most important of these sessions was the 2001 Economic Development Charrette (or public planning session) which was the first event related to this Master Plan update which provided residents with an opportunity to give their opinion on the Town's development potential. That charrette was followed in 2002 by several GrowSmart envisioning meetings where large numbers of residents met to identify the Town's most favored and least preferred qualities and to speak out on Pembroke's future. One interesting event which occurred at these meetings was that participants were asked to specifically locate where future residential growth ought to take place. Finally, in 2003, the Planning Board conducted an in-depth Community Survey which provided the public with an opportunity to sound out on a broad range of community issues.

Taken as a whole the information, data and public feedback which was collected as part of this Master Plan update process allowed the Planning Board to reflect not only on existing land use conditions but, most importantly, to use that information as a base upon which to think about where future residential, commercial and industrial development should be encouraged, how the town's remaining undeveloped land should be used, and to decide upon what (and for what purpose) land areas should be conserved; in short, the end result of the collected data was to assist the Planning Board in envisioning where Pembroke is headed in the near future. As such, the most important of these informational resources and conclusions have been woven into the fabric of this Chapter and they act as an informational base of support to the land use Objectives and Recommendations which are presented herein.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These land use Objectives were developed as a result of the Planning Board's analysis and interpretation of the data contained within the following chapter and from issues raised by Pembroke residents and landowners in the Community Survey. They have been identified by the Planning Board as meaningful goals or objectives which, if carried out, would carry the town significantly closer to its vision of the future which is identified herein and, in part, visually shown on the *Future Land Use Map*.

General Objective

- To thoroughly review Pembroke's historic and existing land use patterns and present a land use oriented vision of Pembroke's future in order to provide guidance for Pembroke's Boards, Committees and Commissions who make decisions about Pembroke's growth.
 - Determine the adequacy of the existing municipal infrastructure of water, sewer and roads and, if it is deemed necessary, develop any necessary policies for their expansion in order to accommodate anticipated residential, commercial, industrial or municipal development.
 - Develop a comprehensive policy regarding the preservation or development of the town's system of Class VI range roads for the purpose of furthering the Planning Board's future land use objectives.
 - Investigate areas for implementing innovative zoning as laid out in RSA 674:21.
 - Incorporate Smart Growth principles into Zoning, Subdivision, Site Plan and other Town regulations where it can practically be done.

Residential Land Use Objective

- To use the Existing Land Use, Development Constraints and Transportation maps and other informational materials to examine the existing patterns of residential development throughout the town in order to identify those areas which are most suitable for future residential use.
 - Review and revise the Zoning Ordinance so that its various components are consistent in promoting the Planning Board's Future Land Use plan as it relates to residential uses.
 - Review and revise the Subdivision Regulations to achieve these Objectives.
 - Review and revise the existing cluster development ordinance so that it can be effectively used to protect long term conservation of the prime natural features on parcels undergoing development and so that effective visual and spatial buffer areas are put into place along the perimeter edges of these same parcels.
 - Explore the feasibility of introducing village zoning in the undeveloped land west of Broadway and Pembroke Street and south of the Condominiums.

Business and Commercial Land Use Objective

- To use the Existing Land Use, Development Constraints and Transportation maps and other informational materials to examine the existing patterns of business and commercial development throughout the town in order to identify those areas which are most suitable for future commercial use.
 - Review and revise Zoning regulations so that its various components are consistent in promoting the Planning Board's Future Land Use plan as it relates to commercial and business uses.
 - Explore the possible use of tax increment finance (TIF) districts for encouraging commercial development.
 - Promote commercial activities to those areas of town which has, or will have, access to the municipal water and sewer infrastructure.

Undeveloped Land Objective

- To use the Existing Land Use, Natural Resources, Development Constraints and Transportation maps and other informational materials to examine the existing pattern of undeveloped land throughout the town in order to identify those areas of town which should be preserved for agricultural, timber and rural lands conservation uses and to also identify those areas of town in which limited or no development would be promoted in order to balance out pro-growth related residential and commercial land use objectives.
 - Explore the possibility of creating Timber Conservation and Open Space Conservation Districts in the town's most rural areas in order to foster sustainable commercial forestry activities and to preserve the historic forested and open-space nature of the town's rural landscape. Very large (25-50 acre) minimum lot sizes would be promoted in such areas.
 - Investigate, where appropriate, the designation of a "no new roads zone".
 - Explore the possibility of designating select Class VI range roads as municipal trails.
 - Encourage owners of targeted lands to donate conservation easements on those parcels so that they may be preserved as undeveloped open spaces and natural resources areas.
 - Investigate the possible use of transfer of development rights (TDR's) or other innovative techniques and zoning provisions to preserve land for agricultural, silvicultural and other similar uses.

COMMUNITY SURVEY RESULTS

In the spring of 2003, the Planning Board distributed community attitude surveys to all Pembroke residents and property owners. The results of the survey can be found in the APPENDIX CHAPTER. Some of the answers to the questions pertaining to land use issues are summarized below.

"What do you consider the desirable features of the Town of Pembroke?"

Respondents rated rural atmosphere, employment opportunities, town services, location, and short commuting distance to work as the most desirable features in Pembroke.

"Which of the following recreational opportunities you would you like the Town to develop and/or improve?"

There were a number of recreational opportunities which large numbers of respondents indicated they would like to see be developed or improved upon. The most popular included walking trails on Town property, senior citizen programs, bike paths and community use of school fields. Other popular recreational opportunities which received high ratings were access to water bodies, Town Recreational Department programs, and expanded access to the Merrimack River.

“Should development along rivers be promoted or discouraged?”

51% of all respondents indicated that development should be discouraged along the Merrimack, Suncook and Soucook Rivers while 26% of the respondents thought that development should be promoted along those same bodies of water.

“Are agricultural and forestry land uses important objectives of the Master Plan?”

Almost 75% of the respondents indicated that agricultural and forestry land uses were important to the town while less than 6% of the respondents indicated that such uses were not important.

“Should the Town work to acquire undeveloped land for preservation?”

Almost six out of ten respondents (58%) indicated that the Town should acquire undeveloped land for preservation. Interesting, less than 6% of the respondents maintained that the Town should not acquire such lands.

“If Pembroke were to expand trails, how should this be done?”

Most people thought that acquiring landowner permission was the most appropriate way of expanding the town’s off-road trail system. Almost 20% suggested that trail expansion should occur through the purchase of land easements by private organizations. The lowest percentage of respondents, 9%, indicated that expansion should occur through transfer of development rights.

“Have you ever had your well water tested?”

Approximately 30% of the respondents indicated that their well water had been tested and about 11% indicated that they had not. Most respondents, 58%, noted that this question was not applicable to their situation (presumably they were hooked-up to a public or municipal water system).

“Has your well water ever been contaminated?”

Approximately 28% stated that their water had never been contaminated. 60%, of the respondents indicated that this question was not applicable to their situation.

“Has your well water supply ever been inadequate in quantity?”

Almost 33% indicated that their water supply was never inadequate in quantity while over 60% of the respondents indicated that this question was not applicable to their situation.

ADDITIONAL COMMUNITY INPUT AND GUIDANCE

The analysis and recommendations of the Land Use Chapter are also framed, in part, by guidance provided by Pembroke citizens. In this regard, the Planning Board used the results of a design charrette and a series of “GrowSmart” community planning workshops which were sponsored by the former New Hampshire Office of State Planning to help write this Chapter.

Economic Development Charrette, 2001

In the spring of 2001, the Pembroke Economic Development Committee commissioned a study by TF Moran and Coldstream Real Estate Advisors (CREA) to analyze the development potential of commercial property in Pembroke. TF Moran researched existing natural resource features and land uses along Routes 3 and 106 in Pembroke and developed a base plan consisting of parcel, topography, easement, current zoning and water features. CREA also contributed a real estate market analysis of Pembroke and surrounding communities.

Armed with this base information, the consultants gathered public input through the use of a design charrette, which is a strategic planning session which asks a series of specific questions and then solicits information and opinions about those questions from the charrette participants. The charrette was held on Saturday April 7, 2001, and involved landowners, developers, realtors, business owners, landscape architects, planners and the public. During the charrette, the previously developed base information was presented to the participants, who then broke up into four small groups to study the information. Two of the groups dealt with Pembroke’s image and the other two groups discussed zoning and land use issues. In the end, the several small groups came back together to share with each other and with charrette leaders the ideas and concerns they had developed.

The charrette findings included proposals for change to the zoning ordinance including the suggestion that a “performance zone” be created to the west of Pembroke Street in the vicinity of the Soucook River; that the zoning mechanism known as “transfer of development rights” (or TDR’s) be considered to discourage residential development away from low-growth areas of town to other parts of town more suitable for such growth; that the town increase recreation opportunities and natural resource conservation efforts; that an economic development zone be created at the junction of Route 3 and Route 106; that the range of industrial uses be expanded along Route 106 corridor; that the Planning Board consider requiring more substantial landscape buffers for new developments; and that there be more opportunities for multi-family and elderly housing. The charrette also recommended that a new north-south by-pass road be created parallel to Pembroke Street to ease traffic congestion on Pembroke Street.

The charrette also voiced a concern that the beauty of the town’s natural landscape needed to be maintained in the face of strong regional development pressure, that basic utilities such as the town’s water and sewer infrastructure needed to be adequately maintained, that additional retail and convenience store locations were needed, that high local residential property taxes needed to be eased by an increase in the non-residential tax base, and that the town needed to further encourage recreational opportunities along the Merrimack River while still preserving views of the river.

In discussing Pembroke's image, the Charrette concluded that new marketing materials and maps needed to be developed which emphasized Pembroke's proximity to Concord and Route 106. Some participants suggested that the signs marking the entry points of Pembroke read on the front, "*Pembroke . . . Where Business Thrives and Families Prosper*" and on the back, "*Leaving The Colonial Town of Pembroke, Come Again.*" In order to market Pembroke to industry, it was recommended that the Town create an Economic Development Information booklet with a one-page fact sheet on Pembroke to be distributed to business prospects and marketing sources; another suggestion was for the Economic Development Information booklet to be incorporated into Town website.

GrowSmart NH – A Smart Growth Future for Pembroke, 2002

In order to deal with increasing demands on community resources and to prevent impulsive actions to stop all growth, Smart Growth community planning principles recommend that the first order of action towns should take in preparing long-range comprehensive plans is to first decide on their vision for the future. This requires that a town's "sense of place," "sense of community," and "sense of economy" be recognized and evaluated for the purpose of providing primary assistance to the town as it develops and shapes its long range plan for development. Smart Growth principles were developed in the United States as a direct counter-response to the rapid suburbanization of rural countrysides and, toward this end, Smart Growth employs the following eight planning principles:

- maintain most residential housing in compact settlement areas;
- encourage a human scale of development that is conducive to community life;
- incorporate a mix of uses in developing the compact settlement areas;
- provide choices and safety in transportation;
- preserve the working landscape by sustaining rural resources;
- protect environmental quality;
- involve the community in planning and implementation programs; and
- work with neighboring towns to achieve common goals and address common problems.

In April and May of 2002, members of the Pembroke community under the guidance of the Planning Board gathered with a "GrowSmart" consulting group, whose services were provided to the town by the New Hampshire Office of State Planning (now the Office of Energy and Planning), to discuss the town's future. During the two meetings which were held participants identified the following seven "favorite qualities" of Pembroke:

- the character of the people,
- the small town atmosphere,
- the historic character and design of town,
- its undeveloped open spaces,
- the quality of town services,
- its convenient location in southern New Hampshire, and
- its rivers, streams, and ponds.

In order to protect the positive qualities of Pembroke that residents identified, the Smart Growth consultants offered the following six suggestions for a “Smart Growth Future for Pembroke”:

Encourage the revitalization of Suncook Village

Suggestions were made to revisit and alter some of the zoning regulations to create a new village residential zone from the existing B-1 and B-2 zones in the Village area while continuing to promote a variety of mixed range allowed uses; to maintain stricter control over the aesthetic quality of the Village’s visual landscape; and to encourage a higher standard for the maintenance of the traditional housing stock located there. Design standard regulations, a Village Maintenance Fund, and encouragement of second and third floor uses of downtown buildings were also ideas which were explored.

Enhance the traditional village character of Pembroke Street

Zoning changes were encouraged in order to maintain and enhance the traditional village character of Pembroke Street. The GrowSmart consulting group suggested that the Town ease transportation pressure on the local roads that flow into Pembroke Street by focusing residential, commercial, and service development within Suncook village and its immediate vicinity. Because of the compact nature of living conditions within this zone, it was recommended that elderly and special care residential development projects be welcomed.

Create a new “suburban residential zone”

The GrowSmart consulting group recommended that a mix of new housing types and costs be encouraged in order to meet the continual demands for single family housing and it was noted that residential housing growth has already begun to infill the area between Pembroke Street and Third Range Road. With this new growth in mind, the GrowSmart consultants recommended, among other things, that a new suburban residential zone be newly created in this already developing area. This may require extending sewer services a short distance easterly from Pembroke Street and, to prevent new street connections between Pembroke Street and nearby town roads, new development would be limited to the existing system of local roadways.

Create a “traditional New England” village in one or two rural areas

In order to lessen the occurrence of scattered, random and premature rural housing development in Pembroke, the GrowSmart consultants suggested that steps be taken to proactively concentrate new rural development into one or two new rural village nodes which would ideally be located as close as possible to major highway transportation routes. An alternative to this approach would be to establish one or two new mixed-use “Village” zones just outside the immediate confines of Suncook Village in the vicinity of Pembroke Street. New “Village” zones, such as this, would be connected to the municipal water and sewer system and would be characterized by a variety of lot sizes.

Create an open space preservation overlay zone

For the purpose of preserving rural open spaces the GrowSmart consultants suggested that a new zoning district be created which would require 10-20 acre minimum lot sizes for new subdivisions. They further suggested that an Open Space Preservation subcommittee of the Planning Board be established to further this goal.

General Zoning Changes

The GrowSmart consultants recommended several other zoning changes but also recognized that not all growth was going to occur in accordance with such zoning goals. They offered two general suggestions in anticipation of such variance. First, the consultants suggested amending section 143-3 of the zoning ordinance to reflect concepts of Smart Growth and, secondly, they suggested amending section 143-94 of the zoning ordinance to incorporate increased operational and capital costs for new development.

PAST AND EXISTING LAND USE SECTION

It wouldn't make sense for the Planning Board to develop updated recommendations regarding how Pembroke should accommodate future land uses without first examining the town's and the surrounding region's historic land use pattern. The data culled from this appraisal is reported here.

PAST LAND USES

The 1993 Master Plan described the most heavily settled parts of town as consisting of a rough "v" shape with Pembroke Street and Buck Street forming the sides of the "v" and Suncook Village forming the bottom point. Pembroke Street was predominantly residential with service stations and home based businesses scattered along its length. An Architectural Design district had been adopted to protect the residential design character of this part of town.

The southwest end of Buck Street was a relatively densely settled residential area while its central area and northeast end was physically characterized by the presence of several active farms and associated large-sized agricultural parcels. The upland area of Town was notable for its low density development, with most residences located on Fourth Range, Borough, Cross Country and North Pembroke Roads.

Route 106 at the northwest end of town was distinguished by a mixture of residential, industrial and small commercial uses while Suncook Village, at the south end of Pembroke, was the most densely settled part of town featuring a blend of commercial, industrial and residential land uses.

Table XII-1
Land Use, 1991

| Land Use | Acres | % of Town |
|---|----------|-----------|
| Residential | 2,603.1 | 18.0% |
| Commercial | 320.5 | 2.2% |
| Industrial | 67.6 | 0.5% |
| Transportation, Communication, and Utilities | 700.4 | 4.8% |
| Undeveloped | 10,801.4 | 74.5% |
| Total | 14,493.0 | 100.0% |

Source: 1993 Master Plan (total acres may differ slightly due to rounding)

According to Table XI-1, above, most of Pembroke's land in 1993 (74.5%) was undeveloped. Of the approximately 25% of land which was developed, 18% represents residential uses while roads and utilities total 4.8% of all land in town. Commercial and industrial land uses are barely appreciable amounting to 2.2% and 0.5% respectively.

EXISTING LAND USES

2003 Land Use

The *Existing Land Use Map* was created using the town's digital tax maps, the assessor's 2001 database and was field checked by the Planning Board's Land Use Subcommittee. The approximate acreage calculations for the various existing land uses shown on this map are listed below in Table XI-2.

The land use categories listed in Table XI-2 are not directly comparable to the 1991 land use survey recorded in Table XI-1 because each of these surveys were separately developed using unrelated survey methodologies and land use classifications. For example, land uses shown on the 1991 survey map were assigned to large areas of town and were not parcel-specific whereas the 2003 land use survey assigned a specific land use to each individual parcel in town. Another reason for the variation in data between the two tables relates to the fact that the undeveloped land acreage listed in the 1991 land use table includes "river acres" - that is, it included those portions of Pembroke which abut its municipal boundary line with Concord, Allentown and Bow - areas which are located on rivers. These same "river acres" were, perhaps more accurately, not counted as undeveloped land in the 2003 land use survey. This difference also helps explain the total acreage differences between the two surveys.

Table XI-2
Land Use, 2003

| Land Use | Acres | % of Town |
|---|----------|-----------|
| Agricultural | 751.0 | 5.4% |
| Agricultural-Equestrian | 130.0 | 0.9% |
| Conservation | 398.0 | 2.9% |
| Residential | 5,441.9 | 39.0% |
| Commercial | 1,075.2 | 7.7% |
| Utility | 21.7 | 0.2% |
| Industrial | 79.9 | 0.6% |
| Public/Institutional | 294.0 | 2.1% |
| Rights-of-Way | 13.4 | 0.1% |
| Undeveloped (counting only parcels assigned to the “undeveloped” category)* | 5,754.9 | 41.2% |
| Total | 13,960.0 | 100.0% |

Sources: 2001 Digital Tax Maps (total acres may differ slightly due to rounding); Subcommittee Input

* An alternate calculation for “undeveloped” land is discussed below

The information in Table XI-2 indicates that 41.2% of land in Pembroke is undeveloped with residential parcels following closely at 39%. The remaining land uses total 20% when combined together: commercial uses 7.7% of all land, agriculture (combined) uses 6.3%, conservation land accounts for 2.9%, publicly owned parcels make up 2.1% and utility, industrial, and rights-of-way account for the remaining 0.9% of land.

As can be seen in Table XI-2, the listed acreage of Pembroke’s “undeveloped” parcels is 5,754.9 acres. It should be noted that, when the Land Use Subcommittee reviewed this number, it realized that the 5,754.9 acres of “undeveloped” land did not include all truly “developable” land in town. This was because the acreages of a significant amount of “undeveloped” land was probably being included in the “residential” category, such as in the case of those large-sized parcels which are occupied by single family homes. Therefore, in order to obtain a more realistic acreage calculation for “undeveloped” land in Pembroke, the Subcommittee went through the following calculation:

- (a) A subset of all 1,895 residential parcels was selected which consisted of all residential parcels which are 5.0 acres or greater in size (199 parcels in all);
- (b) 2.0 acres were subtracted from the total acreage of each of the 199 large-sized residential parcels. (Note: for calculation purposes, the Land Use Subcommittee assumed that the actual “residential” portion of each large-sized residential parcel is 2.0 acres.) The remaining acreage was then presumed to have “undeveloped” status;
- (c) The total undeveloped acreage from each of these 199 residential parcels was added together to equal 3,306.4 acres. And finally,
- (d) The sum of all undeveloped land associated with large-sized residential parcels (3,306.4 acres) was added together with the total “undeveloped” acreage listed in Table XII-2 (5,827.2 acres).

Based on this calculation, the actual amount of undeveloped land in Pembroke equals 9,133.6 acres (or 65.4% of all land) – a figure which the Land Use Subcommittee feels is a more accurate reflection of the town’s undeveloped open space. Obviously, this alternate information about undeveloped lands stands in sharp contrast to the 5,827.2 acre figure cited in Table XI-2. Using the same calculation method, the total acreage of residential lands, as listed on Table XI-2, would also be reduced from 5,441.9 acres to 2,135.5 acres if the same 3,306.4 acres of “undeveloped” residential land were similarly removed from it.

A summary of each existing land use category follows:

Agricultural Land Use (751 acres)

The majority of agricultural parcels in Town are found along the Suncook River, mostly on the southern side of Buck Street. Additional agricultural lands are located along the northern side of Buck Street and off the west side of Pembroke Street south of Bow Lane. Land classified as agricultural includes open fields, active farms, hay fields, dairy and animal husbandry farms, orchards and horticultural uses.

Agricultural-Equestrian Land Use (130 acres)

Four parcels are located along Fourth Range Road which accommodate equestrian operations. This substantial acreage is nearly 15% of Pembroke’s entire agricultural land area.

Conservation Land Use (398 acres)

The Whittemore Town Forest is located between Fifth and Sixth Range Roads and encompasses the largest acreage in the conservation land use category. The Concord water well field along the Soucook River off of North Pembroke Road is also of significant size. Other conservation lands include the Bragfield Pond Conservation Area, the Butterfield Town Forest, White Sands Conservation Area, Schuett Conservation Area and Memorial Field. In addition, dedicated open space originating from subdivisions along Mason Avenue, Pheasant Run and Donna Drive have allocated more acreage to the privately-owned conservation land use category.

Residential Land Use (5,442 acres)

Pembroke’s 1,895 residential parcels are found in all areas of town except in the eastern portion of the R-3 zoning district which is an area containing few town-maintained roads. No longer situated primarily in the “v” shaped development pattern indicated in the 1993 Master Plan, residential development has, over the last 10 years, spread out across the entire area of the Town except within the confines of the Class VI range road system. The densest residentially developed roads outside of Suncook Village are now North Pembroke, Cross Country, Borough, Pembroke Hill, Third Range and Fourth Range Roads, Pembroke and Buck Streets, Route 28 and the immediate environs of Donna Drive.

While Table XI-2 lists the amount Pembroke's total residential parcel acreage at 5,441.9 acres - or 39% of all lands - a separate calculation has been made (discussed above) which perhaps more accurately estimates the amount of residential land in Pembroke at 2,136.5 acres - or 15.3% of all land.

Commercial Land Use (1,075 acres)

Commercial land uses include businesses, retail and parcels dedicated to the extraction of sand and gravel. Most of Pembroke's commercial lands are located in the Route 106 corridor and along the short stretch of Interstate-393 which slices through the northern end of Pembroke; a number of commercial parcels also border the Soucook River. A scattering of commercial parcels can also be found along Pembroke Street while Suncook Village's Main and Glass Streets features several restaurants, a fine pastry bakery, antique shops, hair salons and other retail uses.

Utility Land Use (22 acres)

A utility parcel owned by PSNH is located along the Soucook River just north of Riverwood Drive. A second, smaller, utility parcel is located in Suncook Village.

Industrial Land Use (80 acres)

Eleven parcels used for industrial purposes are located along Route 106.

Public/Institutional Land Use (294 acres)

The Town of Pembroke owns numerous parcels throughout the Town including Town Hall and Library, lands on Pembroke Street, Memorial Field in Suncook Village, elementary school land, well fields and a handful of conservation lands.

Right-of-Way Land Use (13 acres)

Parcels classified as "right-of-way" are located along Keith Avenue, along a cul-de-sac off Robinson Road and at an extension of Cross Road.

Undeveloped Land (9,133 acres)

The largest land use category in Pembroke is still undeveloped land. There are a few vacant parcels along the Merrimack River and along the northern half of the Soucook River, but the majority of undeveloped lands are located in the town's R-3 zoning district between Third Range Road and North Pembroke Road. While Table XI-2 lists the total amount of Pembroke's undeveloped parcels at 5,754.9 acres - or 39% of all lands - a separate calculation has been made (discussed above) which perhaps more accurately estimates the amount of undeveloped land in Pembroke at 9,133 acres - or 65.4% of all land.

“Current Use” Lands

Until 1973, New Hampshire cities and towns typically assessed all parcels of land – including undeveloped lands – at their “highest and best value” rather than their “current use value”. Often-times, this method of assessment was felt to be an unfair financial burden by owners of large open space land holdings. In response to their situation, and in order to preserve such undeveloped lands, the 1973 State Legislature enacted RSA 79-A:1 which declared that preservation of open space was in the public interest and consequently approved the Current Use tax assessment system which is now widely used across the state.

Essentially, the Current Use tax assessment system allows undeveloped portions of parcels which are 10 acres or larger in size to be assessed at a lower tax rate (the “current use” rate) than all other parcels in town with the stipulation that such “current use” lands remain undeveloped. Any change that disqualifies the land from the Current Use assessment would result in a penalty equal to ten percent of the fair market value of that property.

Most observers believe that this legislation has played an important role in preserving open space throughout the state as well as in Pembroke. Certainly, the significantly lower tax rates assessed on “current use” lands has made it possible for many land owners to retain ownership of their property as open space.

Current Land Use Trends

309 acres of Pembroke lands have been taken out of the Current Use Program for development since 1998. The 1998 MS-1 form filed with the NH Department of Revenue stated there were 9,078.18 acres of land in current use in Pembroke; by 2002, this figure had dropped to 8,768.77 acres (or 62.8% of all land in town). This represents a loss of 309 “current use” acres to development over that four year period. Half of all the 309 acres had been converted between 2001 and 2002. In 2001 alone, 82 acres were converted for development and 53 acres were converted for development in 2002. As of May 2003, 14.9 more acres were taken out of the current use program with an additional 150 acres in application before the Planning Board. The Planning Board estimates that this trend will likely continue over the next 10 years with increased land use development causing 600–800 more acres to be removed from current use.

In an effort to counterbalance the increasing loss in undeveloped “current use” lands, the 2002 Town Meeting voted to have the current use penalty collected from land development placed into a special Conservation Fund which, when enough funds are accumulated, would allow the Conservation Commission to purchase and preserve worthy land parcels for open space and conservation purposes. Total funds generated so far equal \$97,600. In anticipation of using Conservation Fund monies for their intended purposes (to protect lands from future development), the Conservation Commission has begun a Land and Easement Acquisition Program.

Zoning Districts

The Town's current digital tax maps indicate that Pembroke is comprised of 14,390 acres. By contrast, the 1993 Master Plan stated that there were 14,493 acres of land in Pembroke, and data provided by the NH Office of Energy and Planning (formerly Office of State Planning) states that the total land and water acreage of Pembroke is 14,597.3 acres - with 14,487 land acres and 110.3 water acres - or 22.8 square miles. For the purpose of calculating the amount of land in Pembroke's various zoning districts, as well for the purpose of analyzing land uses within the scope of the current Master Plan process, the Planning Board will be using the acreage calculations taken from the town's digital tax map (see Table XI-3).

Table XI-3
2001 Zoning District Land Acreage

| Zone | Acres | % of Town |
|---------------------------------------|----------|-----------|
| Medium Density - Residential (R1) | 2,924.9 | 20.3% |
| Rural/Agricultural - Residential (R3) | 9,861.0 | 68.5% |
| Business/Residential (B1) | 78.6 | 0.5% |
| Central Business (B2) | 23.1 | 0.2% |
| Commercial/Light Industrial (C1) | 995.5 | 6.9% |
| Limited Office (LO) | 279.1 | 1.9% |
| Soucook River District (SRDD) | 228.0 | 1.6% |
| Total | 14,390.0 | 100.0% |

Source: *Digital Tax Maps 2003*(total acres differ slightly due to rounding)

The *Zoning Map* depicts all of Pembroke's land use zones. As shown in Table XI-3, 68.5% of the Town is currently zoned R3 (Rural/Agricultural), while 20.3% is zoned R1 (Medium Density Residential). The smallest zoning district is B2 (Central Business) which comprises 0.2% of the Town in Suncook Village.

The areas and descriptions of Pembroke's current zoning districts are examined in the following sections.

Medium Density - Residential (R1) Zone (2,925 acres)

The R1 zone is located in the southern part of Pembroke. Bounded on the west side by the Merrimack River, it extends approximately 100' east of Third Range Road. The zone's northern border begins north of Beacon Hill Road and extends southeast all the way to the Suncook River. The main uses in this zone are residential with some home-based and small office/professional businesses.

Rural/Agricultural – Residential (R3) Zone (9,861 acres)

The R3 zone encompasses the majority of land area in Pembroke. It extends from the district's northern border with Chichester, through the range roads located northeast of Third Range Road, bounds the Soucook River on its western side and spans all the way to the Suncook River at its east end. The major land use in this zone is undeveloped open space with most of the land held in current use and actively harvested for timber. There are scattered residential and agricultural uses primarily concentrated along town-maintained roads such as Cross Country and Borough Roads, and there are also horse farms, especially along Fourth Range Road, which also contributes to the rural character and charm of this zone. Most residential uses are on larger size lots.

Business/Residential (B1) Zone (79 acres)

Bounded by the Suncook River and the B2 district and abutting the R1 zoning district on three sides, the B1 zone spans about $\frac{3}{4}$ of a mile at the southern tip of the Town. It covers the most compact section of Pembroke and extends into Suncook Village. This district consists mostly of high density residential land uses with many multi-family apartment houses and home-based and other small businesses.

Central Business (B2) Zone (23 acres)

The B2 zone is roughly $\frac{1}{4}$ mile in diameter and is completely bounded by the Suncook River and the B1 zone in an area which has been traditionally known as Suncook Village. This is a classic mixed use zoning district which allows and encourages traditional village settlement. An application is currently being developed by the *Meet Me in Suncook* Committee which aims to have the downtown Suncook Village Main Street's 19th century industrial brick buildings entered, under the "district" designation, into the New Hampshire and National Register of Historic Places.

Commercial/Light Industrial (C1) Zone (996 acres)

The C1 zone is located in two areas of Pembroke. The largest C1 area is bounded by the Soucook River and is situated along Routes 3 and 106. Its southern border ends at the Route 3 and 106 intersection while its northern border extends just past the middle section of Clough Mill Road. The smaller of the two areas making up the C1 zone is located at the northernmost tip of Pembroke along Interstate I-393. Bounded by the Soucook River on the west, the zone ends at Pembroke's border with Loudon and Chichester.

The major land uses in the C1 zone are commercial and industrial businesses. Epoch Corporation, Precision Technology, T&T Power, Nortrax Equipment, Howard P. Fairfield, Wright Communications, Great Northern Video, NH Tile and Rumford Stone are just a few of the businesses that are located in this zone.

Limited Office (LO) Zone (279 acres)

The LO zone is bounded on the south by Whittemore Road, has the Soucook River as a western border, and travels up the length of Route 106 for about $\frac{3}{4}$ mile. This is a transition zone between the C1 and the Soucook River Development District and the R1 zones. This area is currently evolving from single family residential homes uses to professional offices for accountants, realtors and computer software companies.

Soucook River Development District (SRDD) (228 acres)

Initially proposed by the 2001 Economic Development Study, the Soucook River Development District is the newest zoning district in Pembroke having been officially established at the 2003 Town Meeting. It is designed to allow for more creative commercial land uses through performance zoning standards. The town's hope is that over a five to ten year period the sand and gravel extraction projects which are located in the SRDD will be ended and the land reclaimed and converted into an attractive, valuable area thriving with new businesses. The boundary of the zone is the Soucook River to the north and west while its eastern border extends behind the frontage parcels on Pembroke Street.

Overlay Zoning Districts

These districts are, in essence, draped over, or "overlay", the base zoning districts which lay beneath them and, as such, their purpose is to provide additional protection for the natural or built environments in which they are situated. The following are brief descriptions of Pembroke's six overlay zones.

Architectural Design District (AD)

The Architectural Design overlay district is intended to protect the traditional architectural integrity and character of Pembroke Street (US Route 3). Its boundaries are 500 feet from the center line of Pembroke Street from the Suncook River to the Soucook River and they include the entire Limited Office District which runs along Pembroke Street. The intent of the district is to require that all site plans be reviewed by the Planning Board to ensure that the proposed development will be harmonious with the existing character of the area.

Aquifer Conservation District (AC)

The Aquifer Conservation overlay district is designed to protect, preserve and maintain the existing and potential groundwater supplies and their recharge areas within the town of Pembroke from adverse development, land uses or depletion by limiting which land uses which are permitted within the AC overlay district.

Unless a special exception is granted by the Zoning Board of Adjustment and a special use permit is granted by the Planning Board, no aquifer threatening land use such as disposal of solid, hazardous or industrial waste, automotive shops, junkyards and excavations of sand and gravel may be located within the AC.

Floodplain Development District (FD)

The Floodplain Development overlay district is intended to protect people and property from the flood hazard dangers associated with locating residential, commercial and industrial development within the floodplains of the Suncook, Soucook and Merrimack Rivers.

All developments proposed to be located within a designated floodplain, including new or replacement water and sewer systems, must be specially designed and constructed so that potential flood damage is minimized and any proposals to carry out building alterations or locate manufactured homes in floodplain areas must be reviewed and approved by the NH Department of Environmental Services. Also, traditional homes and recreational vehicles must adhere to strict floodplain regulations and any variances from the requirements of this district are heard by the Zoning Board of Adjustment. Often, property insurance is not available for development activities which are proposed to be located in recognized floodplains.

Home Business Overlay District (HB)

The Home Business overlay district is designed to permit certain types of residentially based businesses along Pembroke Street (U.S. Route 3). The boundaries of the district extend 500 feet from the centerline of Pembroke Street between the Suncook and Soucook Rivers.

Shoreland Protection District (SP)

The Shoreland Protection overlay district is set up to control erosion and protect the water quality, recreational use, economic value, wildlife habitat and visual character of shoreland areas along the Suncook, Soucook and Merrimack Rivers. The SP district covers all land within 125 feet of the normal water line of the above cited Rivers and restricted activities include no driveways or roads, no structures except docks (through a special use permit), no septic disposal systems, no excavation (without a special use permit) and severe restrictions on the cutting of trees. Permitted uses include forestry, agriculture, water supplies, wildlife and parks promoting passive recreation uses.

Wetlands Protection District (WP)

Extending to all areas that are inundated or saturated by surface or groundwater, the Wetlands Protection overlay district was designed to prevent the destruction of wetlands by controlling possibly threatening building and land uses. In practice, the regulations associated with Pembroke's Wetlands Protection district have precedence over all other regulations in any area designated as a wetland.

As long as no building is erected, no surface altered or fill added, the permitted uses in the Wetlands Protection district include forestry, agriculture, water supplies, conservation areas, nature trails and wildlife refuges. Exceptions, which include streets and rights-of-way, need to be approved by both the New Hampshire Wetlands Board and the Pembroke Planning Board. Within any protected wetland area no septic tank or leach field can be located closer than 75 feet from a wetland nor 125 feet from a body of open water although special use permits can issued in certain situations.

Other Town Ordinances

In addition to the established Zoning and Zoning Overlay Districts, the Town of Pembroke zoning ordinance contains a number of protective regulations which are designed to promote consistency with the existing community character. These include the Parking, Sign, Telecommunications, Cluster, Planned Development and Impact Fee Ordinances. Brief descriptions of these regulations follow:

Parking, Landscaping, and Fences

Except for the B2 district, vehicular parking requirements for all buildings except one- and two-family dwellings are regulated depending on the type and size of the structure. Because of B2 district's population and building density, somewhat different parking regulations are in effect there. Fences, visual screening and buffer areas are required in the Limited Office and Commercial Districts when a non-residential use is proposed to be placed next to a residential use. Fences can be erected with a permit from the Code Enforcement Officer.

Signage

The basic purpose of the sign ordinance is to enhance the Town's visual character and promote public safety while allowing appropriate opportunities for business identification and direction.

Prohibited signs include billboards, pennants, flashing signs, roof signs, signs which sparkle or reflect and signs that are similar to safety traffic signs. Placement, safety standards and illumination of signs are defined within the ordinance as are the allowable dimension for all permitted signage.

Telecommunications Facility and Antenna Criteria

The telecommunications regulations provide a uniform and comprehensive set of standards for the development of telecommunications facilities and the installation of towers and antennas and are designed to protect and promote public health, safety, community welfare and the aesthetic quality of the Town. Other goals of this ordinance include maximizing the use of existing towers and buildings to accommodate new antennas, retaining local responsibility for use of public-rights-of-way and ensuring compliance with FCC regulations on radio frequency exposure guidelines.

Special exceptions are granted by the Zoning Board and approvals are granted by the Planning Board as long as co-location, construction and other requirements are met.

Cluster Subdivision Provisions

The zoning ordinance provisions related to cluster subdivisions were created to provide land use developers and town planners with an alternative mechanism to traditional subdivision design. The intent of the ordinance is to allow new residential living areas to be established while preserving the natural beauty and open spaces of the parcels they are located on. Because of their noted open space design concept, cluster-style subdivisions often promote a more efficient use and arrangement of land, roads and utilities.

Planned Residential Development (CRD-1) – the suburban version of cluster-style subdivisions in Pembroke – is allowed only in the R1 and LO districts where town water and sewer services are available while the Cluster Open Space Development regulations (CRD-2) – the version designed to be used in rural areas – are targeted to the R1, LO and R3 districts where there is no municipal water and sewer pipeline infrastructure. In both of these cluster subdivision districts, density and common open space requirements must be met as well as building setback and property buffering rules as well as a range of other regulations.

Planned Developments

Planned development regulations are intended to promote the efficient use of land and utilities by providing developers with an alternative pattern for site development. Depending of the specific development proposal, on-site parking and infrastructure needs can be minimized, multiple buildings could be sited on a single lot and the impact of other generally applicable zoning requirement could be lessened.

Subject to review and approval under the Planning Board's site plan review regulations, Planned Commercial Developments (PCD) and Planned Industrial Developments (PID) are permitted for all projects which are located on parcels at least five acres in size, which have access to adequate water and sewer services, where at least 10% of the parcel's acre-age will be set aside for permanent open space and where underground utility services are planned.

Impact Fees

Impact fees are assessments imposed on new development to help meet the impact of that development on certain town facilities and services. Under the Impact Fee ordinance, developers can be charged fees related to a developments impact on local roads, the town library, public schools, solid waste, and recreation and conservation purposes depending on whether the town's Capital Improvement Program is promoting the development of a particular community facility in any of these areas.

All Impact-related fees are assessed prior to the issuance of a building permit and are collected as a condition for the Certificate of Occupancy. Fees unused after six years are returned.

Earth Excavation and Reclamation

This Planning Board regulation grants the town the authority to cope with the recognized safety hazards which open excavations create by requiring that excavation and post-excavation reclamation plans conform with operational standards and be submitted to, and approved by, the Planning Board prior to the start of any excavation work. While preserving a landowner's right to remove earth materials from their property, the regulations also permits the some oversight to the town over how individual excavation projects would affect nearby water, forest and wild life resources. Pembroke's Earth Excavation Regulations also allows the Planning Board to apply some modest controls over fencing, boundary line buffering and other visual line-of-sight and noise issues which are typically associated with such projects.

Land Use Regulations

As authorized under guiding state statutes, the Planning Board has adopted Site Plan Review Regulations and Subdivision Regulations which are rules specifying how land may be subdivided or otherwise developed in Pembroke. The following is a brief discussion of these local land use regulations.

Subdivision Regulations

Pembroke's subdivision regulations were first adopted by the Planning Board in May 1994. Since that time, a number of revisions have occurred to further clarify and enhance those regulations and the last update was adopted in September, 2002.

The Subdivision Regulations grant the Planning Board the authority to provide against premature and scattered development and ensure that local development projects will be carried out in a harmonious and safe manner. The rules also ensure that land is adequately suited for the type of development being proposed.

Included in the Subdivision Regulations is a definitions section which provides guidance for any potential misinterpretation of the terms used in the document as well as a broad list of application materials and procedures which clearly spell out what an applicant needs to submit to the Planning Board in order to have a complete application. The document classifies subdivision types into minor (three or fewer lots), and major (four or more lots) and includes an assigned set of regulatory requirements for each subdivision type.

Provisions for governing lot mergers and developments of regional impact are also included in the Subdivision Regulations as are the Planning Board's general design standards for subdivisions. These standards include provisions for lot requirements, floodplain areas, special flood hazard areas and areas of poor drainage, erosion and sediment control, preservation of natural features, energy conservation design, non-buildable lots and the phasing of subdivision.

Numerous design standards are included which deal with street design, frontage issues, site grading and improvement plans, drainage, curbing and sidewalks. Some of the street design rules manage issues related to street trees, signage, lighting and the naming of streets. Utility design standards are also included to control storm water drainage, water supply and sanitary sewage disposal.

The Subdivision Regulations also contain sections on administrative procedures, financial guarantees, construction inspections, building permits, certificates of occupancy, fee schedules and other procedural measures. The contents and specifications for what is required to be included on subdivision plats are clearly outlined for applicants to follow and similar requirements are provided for construction plans.

As a result of the findings in the various Chapters of this Master Plan, the Planning Board may seek to revise and improve the Subdivision Regulations to better suit current conditions and the justified needs of the Planning Board (acting on the town's behalf) and the developer community. In particular, the Board may investigate possible changes to the existing provisions for cluster or open space developments.

Site Plan Review Regulations

Pembroke's Site Plan Review Regulations were first adopted by the Planning Board in April 1994 and it has been revised on several occasions since that time to address current needs and issues. The latest update was adopted in September 2002.

In addition to providing private sector applicants with a clear set of rules governing the organization and submission of their proposed site plans to the Planning Board, the purpose of Pembroke's Site Plan Review Regulations is to protect the health and safety of residents, ensure attractive site development, provide for responsible and harmonious growth, prevent premature development and ensure proper street arrangement.

Site plans are required to be submitted for all commercial, industrial, multi-family (three or more units) and business developments or expansions and the Planning Board has defined two different types of site plans: major site plans - which are required for all new developments, any substantial change or expansion of the use of an existing site - and minor plans (which involve all site plans which are not defined as major). The Site Plan Review Regulations includes a definitions sections, checklists governing plat submissions, a set of rules governing how the Board deals with developments of regional impact, as well as a range of other application procedures for the design review.

A number of recommendations for changes or additions to the Site Plan Regulations are likely to be made as a result of findings included in this new Master Plan.

POPULATION AND GROWTH TRENDS

The land use issues discussed in the Chapter need to be examined in context with the recent period of housing and population growth in the town and region because the information gained will help the Planning Board better understand and assess the perceived need for more or less growth controls over the next 10-20 year period.

While the population in Pembroke increased 5.1% over the 10-year period from 1990 to 2000, the surrounding towns (with the exception of Allentown and Loudon) experienced significantly greater population increases of 12% or higher, as shown in Table XI-4. The GrowSmart Report included information which indicated that Pembroke can expect population increases of up to 40% - to 9,600 people - over the next 20 years (between 2000 and 2020) with the expectation that normal growth over that period will be compounded by the anticipated widening of Interstate I-93. That same Report similarly indicated that Pembroke can expect up to a 50% increase in housing units - to 4,200 units- stimulated by the Interstate I-93 expansion plans.

Table XI-4
Population Increase, 1990-2000
Pembroke and Abutting Communities

| | % Increase, 1990-2000 |
|-----------------|--------------------------|
| Allentown | 4.2% |
| Bow | 29.8% |
| Chichester | 15.1% |
| Concord | 13.0% |
| Epsom | 12% |
| Loudon | 8.9% |
| Pembroke | 5.1% |

Source: 1990 US Census & 2000 US Census

As can be seen in Table XI-4 and Table XI-5, Pembroke's population increased 5.1% between 1990 and 2000 while the total number of dwelling units increased at a slightly greater 7.8% rate over that same period. The greater growth rate in dwelling units compared to the population growth rate could be attributed to several factors including families having fewer children, the falling size of the average household and a reflection that housing stock is being created in Pembroke to satisfy an unmet regional demand.

Table XI-5
Dwelling Unit Increase, 1990-2000

| Dwelling Type | 1990 | 2000 | % Increase |
|--------------------------------|-------|-------|------------|
| Single Family Homes | 1,472 | 1,710 | 16.2% |
| Manufactured Homes | 948 | 878 | -7.4% |
| Multifamily Homes | 116 | 146 | 25.9% |
| Total Number of Dwelling Units | 2,536 | 2,734 | 7.8% |

Source: US Census 1990 and 2000

Although Pembroke's population and housing growth during the 1990's was slower than in most abutting communities, this trend is quickly changing with a significant increase in new development applications occurring in Pembroke between 2000 and 2003. Typical new subdivision applications have gone from 3-4 lots to recent applications for 120+ lots and all signs indicate that Pembroke's population and housing units will increase significantly in the next 10 years. This is also seen in Table XI-6 below which shows how many new residential building permits were issued between 1998 and 2002.

Table XI-6
New Residential Building Permits Issued by Housing Type, 1998 - 2002

| Housing Type | 1998 | 1999 | 2000 | 2001 | 2002 | 5-Year Total |
|---------------------|------|------|------|------|------|--------------|
| Single Family Homes | 12 | 31 | 26 | 40 | 37 | 146 |
| Multi Family Homes | 0 | 0 | 1 | 0 | 1 | 2 |
| Mobile Homes | 0 | 0 | 0 | 0 | 0 | 0 |
| Yearly Totals | 12 | 31 | 27 | 40 | 38 | 148 |

Source: Pembroke Town Files

Pembroke residential building rates are comparable to its surrounding towns in terms of single family, multi-family, manufactured, commercial, and industrial structures as a percentage of total development. As illustrated in Table XI-7, over the period 1990 to 1998, 86% of Pembroke's development was residential, a rate which is higher than the regional average.

In Table XI-7, the number of new multi-family units was comparable to the abutting towns (Concord is the exception) at 1%, and the manufactured housing units was lower than the Central New Hampshire Regional Planning Commission average at 7%. The number of new commercial structures is on the high side at 5% as compared to the region. Industrial structures, at 0%, is consistent with the regional average of 1%. In summary, the rate at which new construction is occurring in Pembroke is approximately equal to what is being experienced in other medium-sized towns in the Central New Hampshire planning region.

Table XI-7
Type of Structure as Total Percent of Development, 1990-1998

| | Allenstown | Bow | Chichester | Concord | Epsom | Loudon | Pembroke | CNHRPC Region Average |
|---|------------|------|------------|---------|-------|--------|------------|-----------------------|
| Single Family Units as % of Total Development | 31% | 100% | 78% | 67% | 68% | 86% | 86% | 74% |
| Multifamily Units as % of Total Development | 1% | 0% | 1% | 31% | 4% | 2% | 1% | 10% |
| Manufactured Units as % of Total Development | 67% | 0% | 11% | 2% | 24% | 10% | 7% | 13% |
| Commercial Structures as % of Total Development | 1% | 0% | 9% | n/a | 3% | 2% | 5% | 2% |
| Industrial Structures as % of Total Development | 0% | 0% | 1% | n/a | 0% | 0% | 0% | 1% |

Source: CNHRPC Residential, Commercial, and Industrial Development Trends final Jan 2000, 1990-1998

DEVELOPMENT CONSTRAINTS

Land development projects are typically affected by a range of natural and man-made restrictions including aquifers, surface waters, wetlands, floodplains, the presence of steep slopes, wellhead protection zones and legally conserved or publicly owned areas. These limitations to development have been charted and are shown herein on the *Development Constraints Map* and what follows are a series of brief descriptions of these various limitations to development. The issue of development constraints is also discussed in the NATURAL RESOURCES CHAPTER of this Master Plan.

Wetlands

Hydric soils are calculated by the U. S. Natural Resources Conservation Service and are wetland soils that are rated as poorly or very poorly draining; as a consequence, they considered to be not suitable for development. The locations of very poorly draining soils in Pembroke strongly correlates with the location of wetlands as determined by the National Wetlands Inventory (NWI) which classifies wetlands using vegetative criteria rather than soil types.

There is also a very strong correlation between the location of hydric soils and surface watercourses and, in many cases, these types of wetland soils will drain directly into open bodies of water such as ponds and streams. Though they are distributed throughout the town, large concentrations of soils-based wetlands are especially found along Fourth and Fifth Range Roads as well as along Ames, Pettingill, Meetinghouse, French and Hartford Brooks. Nearer to the Suncook Village area, large areas of hydric soil wetlands are found in the vicinity of Bettany Circle and between Dearborn Road and Buck Street.

Because they are classified by the U. S. Fish and Wildlife Service using different criteria than those used to identify soils-based wetlands, NWI designated wetlands are not always co-occurring with hydric soils. Typically they are more widely and thinly scattered around the town than soils-based wetlands although they often occupy the same geographic location as very poorly draining soils.

Floodplains

Floodplains are low-lying areas along open bodies of water such as rivers and streams which are periodically flooded by rising water. Mapped by the U. S. Army Corps of Engineers, Pembroke's floodplains are primarily located near the banks of the Suncook, Soucook and Merrimack Rivers. For purposes of emergency management and preparedness, as well as to serve the needs of the insurance industry, both the 100-year and 500-year floodplain limits were calculated to measure as accurately as possible the broadest likely extend of the largest flood which could be expected to occur within a 100-year or 500-year time period. Based on the large amount of inundated land which could be expected, rarely seen 500-year floods would obviously have the greatest effect on people and property and most of these particular floodplains are located along the Merrimack River.

An examination of these floodplain areas indicates that they are mostly open lands which are mostly owned by the town. Few man-made structures are found in these areas though there a number of small-sized privately owned lots along the Suncook River floodplains. Additional areas of concern are found along Route 28 and Bachelder Road because they would be crossed by the occurrence of 100-year floods.

Steep Slopes

For purposes of consideration by the Planning Board “steep slopes” are considered to be any natural topography which is sloped at a 15% or greater level of inclination. In examining the full range of development constraints the Planning Board has observed that there are a number of difficulties and dangers associated with developing areas of steep slopes. For example, the well observed problems associated with erosion caused by high-velocity stormwater runoff, the possible threat caused by landslide and the generally recognized instability of land located in steeply sloped areas are all reasons to be concerned about development actions which would target areas of steep slopes. In dealing with this issue, the Board has decided to use two different map-based informational resources to gather together steep slope data about Pembroke.

The most important and reliable information resource was a newly updated digital soils map of Pembroke which was produced by the U. S. Natural Resources Conservation Service (NRCS). This map categorized steep slopes as any soils type which have a greater than 15% slope. Such steep topography is common in North Pembroke and along Route 3 and the Merrimack River from Bow Lane to Fairview Avenue. Similarly steep slopes also characterize the area between Robinson and Plausawa Roads and other smaller areas located in the vicinity of Borough and Cross Country Roads.

The Planning Board also derived steep slope information from the 20-foot topographic contour lines shown on U. S. Geological Survey (USGS) maps of Pembroke. Because the contour intervals were so large, efforts using this resource yielded only a small scattering of 15% or greater sloped areas which usually coincided with the soils based steep slope data.

Earth Excavations

Lands which are currently being excavated are also limiting to development and Pembroke has a number of such parcels which are primarily located along the Soucook River where there are significant sand and gravel deposits. Land reclamation efforts are expected to occur in these areas as the materials in the gravel pits are used up. Earth excavation will be discussed in greater detail in the following section.

Aquifers

Aquifers are, sometimes quite large, underground deposits of porous rock, sand and other similar earth materials containing water into which wells can be sunk. Information obtained from the U. S. Geological Survey indicates that such stratified drift aquifers are broadly located in the vicinity of the Suncook, Soucook and Merrimack Rivers. In a number of instances, these underground water deposits underlie areas of high residential population, especially in Suncook Village as well as in the area between Route 3 and the Soucook and Merrimack Rivers. Significant aquifer deposits are also located at the north end of town beneath Interstate-393 and Routes 9/4/202, as well as in southeast section of Pembroke in the vicinity of Buck Street and Route 28.

Taking advantage of their great water carrying capacity, the Town of Pembroke currently maintains several aquifer-based drinking water wells which are located off Route 3 along the Soucook River near the Concord town line. These important sources of public drinking water are protected by required wellhead protection zones which are designated by the New Hampshire Department of Environmental Services (NHDES). These wellhead protection zones are shown on the *Development Constraints Map*.

Typically, the NHDES defines a wellhead protection area by marking a 4,000 foot circular radius around a public well. In some cases, however, the wellhead protection zones are demarcated in a more irregular manner. As is the case in Pembroke where, because of the way the topography of the land is shaped in relation to the existing aquifer locations, the perimeters of wellhead protection areas are unevenly located around areas of North Pembroke and Burrough Roads and along the Soucook River extending to 6th Range Road. Parts of 3rd, 4th, and 6th Range Roads, Borough Road and all of Beacon Hill Road are also included in this protection zone. Smaller sized wellhead protection areas are also located along Thompson Road and Route 28 near the Allenstown and Epsom town lines.

Public Land

The last type of development constraint to be examined is land owned by a public entity or agency. The Town of Pembroke, for example, possesses such land along the Soucook and Merrimack Rivers as well as at conservation areas such as the Whittemore Town Forest, Bragfield Pond and at several other parcels generally located in the mid-section of Town. The State of New Hampshire also owns parcels along Route 9 and the Suncook River and the School District has land holdings along Pembroke Street and on Maple Street in Suncook Village. Lastly, the Pembroke Water Commission and the Concord Water Precinct both own land along the Soucook and Merrimack Rivers for the purpose of protecting area water supplies.

Development Constraints Conclusions

Despite all the natural and other barriers to future development discussed in this section which have the effect of eliminating or limiting land development in Pembroke, there are still many large-sized parcels in the upland area of town and along Buck Street which have the potential for substantial development. If carried out, such projects would likely impose a significant impact on the town's natural resources and established infrastructure and would be likely have a strong affect on the future shape of the Town. In this light, it was important for the Planning Board to identify

and evaluate the known development constraints and, in so doing, gain a sense of where to appropriately guide and promote future development.

EARTH EXCAVATION

There are currently nine active earth excavation operations within the Town of Pembroke, seven of which are grandfathered. They are all located within the Town's main aquifer which is situated under the Soucook River. Based upon submitted reclamation plans, which are required by state law and local ordinances, it is the Town's expectation that, as the active excavation operations are completed, the affected parcels will all be suitable reclaimed and that a number of these sand and gravel excavations operations would be redeveloped for commercial or industrial development. These sites are located on along North Pembroke Road, off Keith Avenue, along Route 3, and at the end of Whittemore Road. Detailed information on these excavation operations is displayed on Table XII-8.

Table XI-8
Excavation Operations

| Name | Status | Map and Lot | Location | Description |
|--|---|---------------------------------------|---|---|
| Concord Sand & Gravel | Grandfathered | Map 256 Lot 22 | Ricker Road | Operating conditions from Special Exception granted in 1986 |
| Concord Sand & Gravel | Grandfathered; Lot 256-25 may need a permit | Map 256 Lots 22-1, 22-3, 25, and 26-2 | Ricker Road | Subject to 1986 operating conditions; Asphalt plant permitted in 1999 on Lot 26-2 |
| Concord Sand & Gravel | Permit granted in 1985 | Map 559 Lot 6 | North Pembroke Road | Permit issued by Special Exception and Site Plan |
| Silver Hill Development Corp | Grandfathered | Map 559, Lot 12 | North Pembroke Road | 3 acres (total w/Silver Hill) excavated as of 7/91; excavation began in 1930s |
| Silver Hill Development Corp | Grandfathered | Map 559, Lot 4 | North Pembroke Road | 3 acres (total w/Elmwood) excavated as of 7/91; excavation began in 1930s |
| Manchester Sand & Gravel | Grandfathered | Map 632, Lot 41 | West side of Route 3, Pembroke Street, ¼ mi south of Rte 106 intersection | Excavation began in 1940s |
| D'Agnese & Keeler | Permitted | Map 634 43-2 | West side of Route 3 adjacent to Manchester Sand & Gravel pit | 26 acre excavation began 1996; reclamation scheduled for fall 2003 |
| Plourde Excavation | Grandfathered | Map 634, Lots 3, 4, and 5 | Along Soucook River | Excavation began in 1963 |
| Plourde Sand and Gravel / Plausawa Valley Country Club Pit | Grandfathered | Map 634, Lot 2 | Along Soucook River south of the ninth hole | Excavation began in 1963; gravel rights expired May 14, 2003 |

Sources: 1993 Master Plan; 2002 Digital tax maps

The 2001 Economic Development Charrette identified Pembroke's gravel excavation areas as ideal sites for future commercial sites and a couple of their economic development recommendations involved expanding commercial zoning to newly encompass the northern sand and gravel excavation sites along North Pembroke Road near Pembroke's town line with Concord and to ensure adequate enforcement of reclamation procedures so that the resulting land is suitable for development.

TIMBER HARVESTING

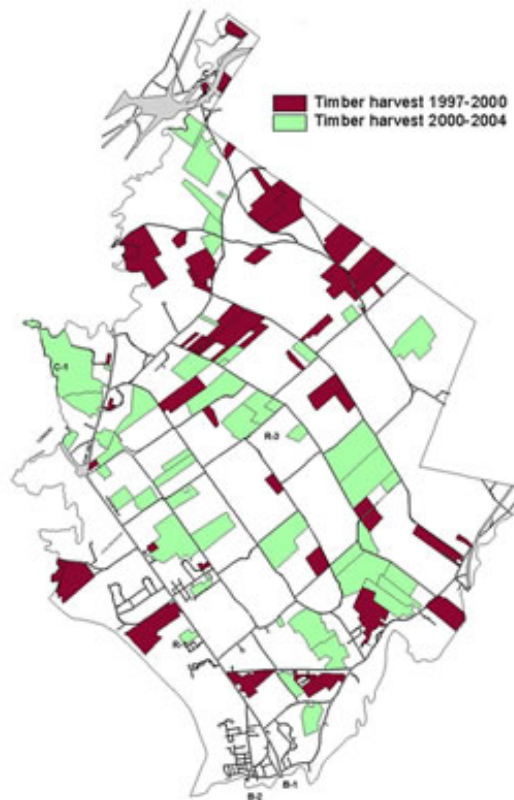
Loggers are required to obtain a "intent to cut" permit prior to the onset of any significantly sized timber cutting operation and this process involves submission to Selectmen of written information about the proposed timber cut including the location of the cutting operation and an estimate of the amount of wood that is expected to be cut. Because large timber cutting operations sometimes precede land development operations, a careful review of submitted "intent to cut" applications could shed light on possible future land use development activities.

With this in mind, a recent review of "intent to cut" permits filed with the Town reveals the possibility of an increase in development potential on the parcels being logged. The image below shows the location of parcels that have been harvested between 1997 and 2004.

A majority of the harvests have been completed since 2000, and this coincides with the noted increase in residential development applications as well as land taken out of the current use program due to development. The majority of lots that comprise the large "unfragmented" core of Pembroke have forest management plans.

Figure XI-1 displays the parcels on which "intent to cut" permits were issued between 1997 and 2004. Between 1997 and 2000, timber cuts were performed on a number of large parcels in North Pembroke. Within the last five years, timber cuts have primarily been performed between the range roads, along the Soucook River and immediately south of Route 4/202. Some of the recent cuts may be continuations of the 1997-2000 cuts and, if so, would not be depicted as post-2000 timber cuts on this figure.

Figure XI-1
Timber Harvesting, 1997-2004



Source: Town of Pembroke

Although they serve to indicate the location and intensity of timber cutting operations, the “intent to cut” applications also provide the Town of Pembroke with a small amount of income in the form of a tree harvesting yield tax. While small in size, the amount of town income associated with this tax are provided in Table XI-9.

Table XI-9
Timber Tax Revenue 1996 - 2001

| | Timber (Yield) Tax Collected |
|------|---------------------------------|
| 2001 | \$2,622 |
| 2000 | \$9,684 |
| 1999 | \$11,906 |
| 1998 | \$7,532 |
| 1997 | \$11,575 |
| 1996 | \$9,431 |

Source: Pembroke Town Reports

As noted above, the locations of timber cuts can be an indicator for future development intentions – which was the case in the new developments located on Alexander Drive in 2001, on Peaslee Drive in 2002 and on Wellington Way and Cross Country Road from 2000 to 2002. Building permits for these new homes were issued as a result of subdivision activity after a timber harvest.

FUTURE LAND USE SECTION

This focus of this Chapter so far has been on how land has historically been used until the present day. From this point on, the focus will be on the how land could best be used in the future. Factors and issues which will be considered include road access and parcel frontage needs, environmental constraints, the size and location of previously developed parcels and the location of state and federal lands. Because it is best illustrated in mapped form, much of the remaining discussion in this Chapter will reference the *Future Land Use Map*.

FUTURE LAND USES

Future Land Use Map

The *Future Land Use Map* was developed by the Planning Board in order to satisfy two main objectives:

- (1) Provide the people of Pembroke with a graphic representation of the Planning Board's direction regarding future land uses; and
- (2) Act as a guide which would assist the Planning Board in making decisions regarding the preservation of the Town's physical, natural and historical assets and in promoting appropriate opportunities for commercial, industrial and residential land growth.

One factor to keep in mind when considering the information shown on this map is that most of the parcels directly abutting Pembroke's existing road system have already been developed with the exception of the Class VI range roads.

Future Land Uses and Zoning

The future uses of land and the recommendations for changes in the current pattern of zoning, as they are described in this section, were developed from suggestions proposed by the Land Use Subcommittee, the results of the Community Survey and from the recommendations that grew out of the GrowSmart New Hampshire Charrettes.

Suncook Village

Suncook Village currently acts as the sole area of Pembroke which features a mixed range of high density uses and future zoning in this part of town should continue to ensure that appropriate infill and revitalization development activities are encouraged.

The Community Survey revealed that there was significant support for expanding the range of existing uses in the B-1 District to allow for a wider variety of mixed business uses and the GrowSmart Report recommended that a revitalized Suncook Village, along with the development of one or two new residential growth hubs strategically situated elsewhere in Pembroke, could act to attract new multi-use development projects to those hubs - and consequently discourage widespread, or "sprawl", residential development throughout the remainder of the town.

To foster this goal, the Report suggested that a range of mixed uses continue to be emphasized in the Village, that the aging stock of housing be revitalized and that the positive human scale of the built environment and the sociable ambiance which exists there should continue to be fostered in all development activities.

Commercial and Industrial Uses

The existing Commercial zone, which allows a mix of commercial and industrial uses, should continue to be maintained and expanded as shown on the *Future Land Use Map*. It should be anticipated that, as the existing earth excavation operations which are located on the west side of Pembroke Street are ended and their reclamation plans are carried out, the Soucook River Development District, which allows for a range of commercial uses, will begin to be developed.

Community Survey responses related to commercial issues focused on the need promote business activities by reducing taxes for commercial businesses, reestablishing Suncook Village so that it again plays a significant commercial role in town and the need to continue improving the Route 106 commercial corridor. The GrowSmart findings focused on Village issues and are listed above in the *Suncook Village* section.

Residential Uses

Under the current zoning ordinance, relatively intense residential development may be carried out in the B-1 and B-2 zoning districts which comprise Suncook Village. The R-1 zone, which is a medium density residential district, is currently situated in a long corridor which starts just outside the Village area and more or less extends between Beacon Hill Road near Route 106 at its north end down along Academy Road to the Allenstown Town Line at its southern end and from Third Range Road to the Merrimack River. All remaining sections of the town are currently zoned R-3 which promotes relatively medium intensity residential land uses (1.8 acre minimum lot sizes). One distinguishing feature of the R-3 zone is that it is relatively sparsely settled and currently contains numerous very large sized undeveloped parcels of land.

Based on reliable population projection information, the Planning Board anticipates that there will be a significantly increased demand for local housing over the next 20 years as Pembroke's established role as a "bedroom" community for business hubs in Concord and Manchester becomes further established. This is not idle theory; as discussed elsewhere in this Chapter, the housing needed to satisfy this emerging residential demand is already coming on line. If the current residential zoning structure, as outlined above, is allowed to stand without change, it is expected that all of the remaining undeveloped parcels in the R-1 zone would be filled at the currently zoned density - which would allow up to about five housing units per acre in areas serviced by municipal water and sewer lines. The town should also expect to see large scale, large-lot, residential development appear in intense sprawl-like fashion along North Pembroke and Cross Country Road and throughout the remainder of the R-3 zone wherever town-maintained roads are available.

With this reality, and the limitations of the current residential zoning structure, in mind, and judging that it is the will of a large majority of townspeople that the interior rural core of the town should be preserved into the future, the Planning Board is recommending that changes should be made to the zoning ordinance with respect to the issue of where and how residential housing growth is promoted. Therefore, in order to adequately satisfy a portion of anticipated future housing needs and to prevent the advent of residential sprawl throughout the entire town, the Planning Board recommends that:

- (a) High density residential uses should be expanded into the existing R-1 medium density residential use zone along the Pembroke Street corridor between the Suncook Village area and Whittemore Road.

Already facing significant subdivision growth, this area is served by an established water and sewer infrastructure and critical municipal service centers such as the Town Hall, Library, and most schools and the Fire and Police headquarters are already located within this area, primarily along Pembroke Street. Pembroke Street also serves at a major regional transportation highway and this corridor is already facing significant subdivision growth.

- (b) Because high density residential infill along the Pembroke Street corridor is not expected to fully satisfy Pembroke's anticipated future housing needs, the Planning Board is also recommending that the portions of the existing low density R-3 zone be rezoned to accommodate medium density residential development. The Board also recommends that a portion of this area (see the *Future Land Use Map*) serve as the receiving area for the Agricultural Conservation zone's "transfer of development rights" (or "TDR") activities.

As can be seen on the *Future Land Use Map*, this new medium density residential area would extend roughly from the eastern edge of the newly created high density zone discussed in (a), above, out to Dudley Hill and Fourth Range Roads and would run from the Allenstown town line northerly out beyond Beacon Hill Road, taking in the area east of Pembroke Street in the vicinity of Plausawa Valley Country Club, and extending northerly from Beacon Hill Road out to the Chichester Town Line along both sides of Borough Road.

- (c) In order to preserve the rural sparsely settled residential nature of the remainder of the existing R-3 zoning district (except for the Buck Street corridor), the Planning Board recommends that a Timber Conservation Zone (featuring very large minimum lot sizes of 20 acres or greater) and an Open Space Conservation Zone (feature 5 acre minimum lot sizes), be established at the locations shown on the *Future Land Use Map*. These recommended zoning changes are further discussed in the *Agriculture and Conservation Uses* section, below.

- (d) In order to preserve the existing residential and agricultural land use pattern along the Buck Street corridor north of Dearborn Road and along Thompson Road and Route 28 – areas which are notably characterized by a string of rural residential parcels generally surrounded by Pembroke’s last remaining active farmlands and farmsteads – the Planning Board recommends that an Agricultural Conservation Zone be established which would foster low density residential development while promoting long term conservation of the agricultural farmlands. This recommended zoning change is further discussed in the *Agriculture and Conservation Uses* section, below.

The GrowSmart Report recommended that several different types of residential development action take place including the creation of one or more new pedestrian-friendly high density residential villages to be appropriately located outside the existing confines of Suncook Village in areas which would be serviced by municipal water and sewer services. In view of the expected rise in elderly population, the Report also recommended that a greater number of elderly and special care housing units than are currently on line be developed and it also recommended that a new suburban residential zone (RS-1) be established east of Pembroke Street between Pembroke Street and Third Range Road from Brickett Hill Road to Pembroke Hill Road. This new zone would also extend westerly from Pembroke Street between Bow Land and Whittemore Road. It was envisioned that this zone would include a mix of housing types and costs.

Agricultural, Timber and Open Space Conservation Uses

In order to appropriately conserve the natural timberland and agricultural resources of the most rural areas of Pembroke, the Planning Board envisions establishing several new conservation zones throughout the eastern portion of the current R-3 zoning district. The existing zoning in the R-3 district presently allows newly subdivided parcels to be as small as 1.8 acres in size – a minimum lot size which, until now, was thought to promote relatively low density residential development. However, based on reliable population projections, the Planning Board now anticipates that the expected population flow into the central New Hampshire region, and, especially, into the immediate Pembroke area, over the next 10-20 years, will create a significant increase in the need for local housing. If the town’s current zoning districts, and the zoning requirements associated with those districts, remains unchanged, this increase in housing demand could only be satisfied, in part, by the widespread subdivision of many of the numerous large-sized parcels which are located throughout the R-3 zone.

As discussed above in the *Residential Land Use* section, the Planning Board’s strategy to accommodate this anticipated demand for housing, as it is required to do under state law, would be to increase the allowable density of development in those south and western sections of town where a municipal water and sewer infrastructure is already established, where a regional arterial road system already exists in close proximity to the existing residential areas and where town service centers such as schools and police and fire services are already available and near at hand.

However, if the Board were to apply this suburban development strategy evenly across the entire area of the town; that is, if it were to encourage residential sprawl and unplanned and premature land uses in the town's most rural areas over the eastern portion of the current R-3 zone – an area which, in comparison to the rest of the town, is least able to accommodate that growth – it is probable that many of the large-sized lots which are located in these areas would be fragmented through residential subdivision activities. It is also probable that the paved town-maintained roads which traverse this area would have to be significantly upgraded to accommodate a higher volume of traffic, and that basic town services such as police and fire protection and trash pickup would also need to be expanded to handle the increased demand on services which residential development would bring. The Planning Board is aware that if the existing rural character of this region were to be destroyed by suburban sprawl the town would have lost what the Master Plan's Community Survey indicates is one of the most important attributes of life in Pembroke.

For that reason, rather than passively allowing the suburbanization process to take place throughout the whole town, the Planning Board has decided to implement a plan which would seek to preserve the established rural areas of Pembroke by replacing the eastern portion of the current R-3 zoning district with several new conservation zones and establish new rules for those new conservation areas which would require significantly larger minimum lot sizes for newly created parcels (see the *Future Land Use Map*). The Board anticipates that this strategy would have the affect of preserving traditional land uses within the new zones. More specifically, the Planning Board recommends that:

- (a) A new Timber Conservation Zone should be created in the immediate vicinity of the existing town-owned Whittemore Conservation Area.

This area chiefly consists of very large-sized, mostly privately owned, parcels which can only be accessed via the Town's Class VI non-maintained range road system. These parcels are currently maintained for timber conservation purposes and they are all taxed for current use. The Planning Board estimates that, because there are no maintained roads which directly access these lands, they will – for practical purposes – not likely be further subjected to land development activities. However, in order to ensure that this core timberland conservation area is preserved into the future, the Board plans on establishing very large minimum lot sizes of 20 acres or greater throughout this new district.

- (b) A new Open Space Conservation Zone should be created in the rural areas of land which extends away to the north, west and south of the new Timber Conservation Zone in the eastern portion of the existing R-3 zone.

On the south side of the Timber Conservation district, this new zone would run northwesterly from Dudley Hill Road out to Cross Country Road occupying the area between Fourth and Fifth Range Roads; the zone would then continue to reach northwesterly beyond Cross Country Road to the vicinity of Brush Road where its northwesterly border would stretch out to the Chichester Town Line; from the vicinity of Plausawa Hill Road the new zone would swing through the entire northeast corner of Pembroke occupying the area north of the new Timber Conservation Zone traversed by North Pembroke Road.

This new Open Space Conservation Zone would essentially cover a long-standing rural area which is far removed from major transportation routes, town services and heavily settled neighborhoods. Most of the parcels which would be located in this new zone are not currently bordered by town- or state-maintained roads though, unlike the situation in the new Timber Conservation district, many of these parcels could be accessed via new roads construction by private developers. To lessen the possibility that this rural area would be intensely developed and to conserve the open, primarily forested spaces which characterize this new zone, the Planning Board plans on establishing significantly larger (5-10 acre) minimum lot sizes throughout this new zone.

- (c) A new Agricultural Conservation Zone should be created from the vicinity of Dearborn Road on the southwest side of Buck Street out to the northeast end of Buck Street and on the north side of Buck Street beginning just easterly of East View Drive and stretching northeasterly out the environs of North Pembroke Road taking in the agricultural parcels west of Thompson Road and Route 28.

The agricultural lands which characterize the area covered by this new conservation zone represent most of the remaining long established agricultural lands in Pembroke and the Planning Board is aware, through the Master Plan Community Survey, that most Pembroke residents would like to see this area remain intact as farmland for the long term. Toward this end, the strategy which the Board has settled on to promote the long term viability of these agricultural lands is to establish an innovative land use program in this new zone called "transfer of development rights" or TDR. Transfer of development rights is a mechanism which is widely used across the United States and refers to a method for protecting land by providing the owners of lands in a "donor" zone with a financial incentive to accept legal development restrictions on their farmland. It works whenever the owner of farmland targeted for conservation sells the development rights associated with ownership of that farmland to a developer of land located elsewhere in town in a "receiver" zone.

What actually occurs when a TDR action takes place is a consensus between the "donor" farmland owner, the "receiving" owner of the land to be developed and the Town whereby the town pays the owner of the farmland property in the Agricultural Conservation Zone to have a conservation easement placed on their property (to prevent future development) while the developer is allowed an increase in development densities or "bonuses" in the "receiving" area. The developer repays the Town the costs of purchasing the conservation easement from the profit associated with their building bonus.

Another tool the Planning Board intends to use in maintaining the existing open lands in the new Agricultural Conservation Zone is the establishment throughout this district of somewhat larger (approximately 5 acre) minimum lot sizes than currently are allowed. Doing so would clearly lessen the possibility that these lands would be significantly fragmented.

The GrowSmart Report recommends that a new rural residential zone be developed specifically for open space preservation in the areas encompassed by the proposed Timber Conservation and Open Space Conservation Zones.

TECHNIQUES TO SHAPE FUTURE LAND USE

The Zoning Ordinance is clearly the most effective and commonly used tool to foster the direction of future land uses. Modifications to the Zoning Ordinance are developed and proposed by the Planning Board and must, ultimately, be approved at Town Meeting, and the preceding sections of this Chapter has identified several changes to the Zoning Ordinance which the Planning Board intends to propose.

SUMMARY

Investigate the Following Potential Zoning Changes

- (a) Establish a new high density residential zone in a portion of the existing R-1 medium density residential use zone along the Pembroke Street corridor between the Suncook Village area and Whittemore Road. This new “R-1” zone would allow 15,000 s.f. minimum lot sizes on all parcels serviced by municipal water and sewer systems. Newly developed village-style cluster subdivision rules would be in effect for all subdivision proposals involving at least four acres of land.
- (b) Extend the remaining portion of the existing R-1 medium density residential zone (newly labeled “R-2”) easterly into portions of the existing low density R-3 zone. As can be seen on the *Future Land Use Map*, this new medium density residential area would extend roughly from the eastern edge of the newly created high density zone discussed in (a), above, out to Dudley Hill and Fourth Range Roads and would run from the Allenstown Town Line northerly out beyond Beacon Hill Road, taking in the area east of Pembroke Street in the vicinity of Plausawa Valley Country Club, and extending northerly from Beacon Hill Road out to the Chichester Town Line along both sides of Borough Road. A portion of this area would serve as the receiving area for Agricultural Conservation zone “transfer of development rights” (or “TDR”) activities.
- (c) Establish in the immediate vicinity of the existing town-owned Whittemore Conservation Area a new Timber Conservation Zone. This area is currently situated in the R-3 low density residential zone. Very large minimum lot sizes of 20 acres or greater would be established throughout this new district.

- (d) Establish a new Open Space Conservation Zone in the rural parcels of land which stretch away to the north, west and south of the new Timber Conservation Zone in the eastern portion of the existing R-3 zone. From the south side of the Timber Conservation district, this new zone would occupy the area to the northwest of Dudley Hill Road between Fourth and Fifth Range Roads; from Dudley Hill Road the zone would reach northwesterly beyond Cross Country Road into the vicinity of Brush Road from where the new zone would veer in a northeasterly direction and proceed to the Chichester town line; from the vicinity of Plausawa Hill Road the new zone would swing in an easterly direction and cover most of the entire northeast corner of Pembroke north of the new Timber Conservation Zone, an area traversed by North Pembroke Road. Large 5-acre minimum lot sizes would be established throughout this new zoning district.

- (e) Establish a new Agricultural Conservation Zone to extend from southwest side of Buck Street in the vicinity of Dearborn Road out to the northeast end of Buck Street near Old Buck Street Extension; and on the north side of Buck Street beginning just easterly of East View Drive and stretching northeasterly out the environs of North Pembroke Road taking in the agricultural parcels west of Thompson Road and Route 28.

- Respectfully Submitted, Roland Lemoine, Land Use Subcommittee Chair

Chapter XII REGIONAL CONCERNS

INTRODUCTION

While the Pembroke Master Plan focuses on issues within the Town or within the control of the Town, some emphasis should be given to the outside influences that have an impact on the community. Within the Central NH Region and beyond, regional concerns such as environmental factors, population and housing growth, transportation pressures, and groundwater strongly affect the Town of Pembroke.

Partnerships opportunities are identified to foster good relations with neighboring communities on issues that affect multiple towns. Involvement in regional projects which include Pembroke will help the community better place itself in a larger context and participate in activities which will benefit the Town. In this Chapter, specific ideas about how Pembroke can become involved in those issues most important to the Town are given as well as a series of recommendations to help guide the Town in thinking how its actions can have an effect on the entire Region.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These Objectives were developed as a result of analysis and interpretation of concerns raised from the Central NH Regional Planning Commission and Steering Committee members. They are listed in the beginning to give the reader the opportunity to view the results without reading through the entire Chapter.

- To partner with neighboring communities and local groups to enable Pembroke to improve the quality of life for its residents and be better able to respond to issues which affect the Town.
 - Hold discussions among all area town planners and planning boards to help facilitate the regional affordable housing dialogue. [Affordable and Senior Housing]
 - Work with the large abutting towns of Concord, Bow, Hooksett to better connect future commercial areas and plan for high density areas among the four municipalities. [Urban Sprawl and Smart Growth]
 - Hold Discussions with Concord and Allenstown to assist with the local support component of any CAT service expansion. [Concord Area Transit]
 - Obtain a copy of Hooksett's Master Plan to try to coordinate development when possible. [Hooksett Residential and Commercial Growth]

- Establish a regular regional dialogue, perhaps facilitated by the two regional planning commissions, among Pembroke, Allenstown, and Hooksett as commercial and residential growth in Hooksett will have an impact on Pembroke. [Hooksett Residential and Commercial Growth]
 - Establish a relationship with the Allenstown/Pembroke Old Home Day Committee and Meet Me in Suncook group to develop ideas for revitalizing Suncook. [Downtown Suncook]
 - Coordinate planning efforts with area Towns, including the regular use of the developments of regional impact statute, obtaining copies of Master Plans and regulations, and holding sub-regional planning conferences on a semi-annual basis. [Developments of Regional Impact]
 - Join the Suncook Area Residents Against Power Plant Pollution to keep abreast of the happenings at the Power Plant. [Public Service of New Hampshire Coal-Fired Power Plant in Bow]
- To become involved with state or regional groups, organizations, and agencies to form relationships and to take advantage of free or low cost services and information.
- Seek technical assistance money from the NH DOT through the I-93 Community Technical Assistance Program to facilitate regional planning efforts. [Urban Sprawl and Smart Growth] [I-93 Expansion]
 - Join the Friends of the Suncook River to address issues about the River, to promote the river, to lead clean-up days, and to hold River events. [Aquifer Protection] [Watershed Protection]
 - Provide regular active representation to the Upper Merrimack River Local Advisory Committee to help maintain the health of the river. [Aquifer Protection] [Watershed Protection]
 - Encourage landowners to take advantage of assistance from the Natural Resource Conservation Service and the Merrimack County Conservation District to best learn the options for protecting agricultural resources. [Loss of Farmland and Agriculture]
 - Continue to work with the NH Department of Transportation (NH DOT) on roadway improvement projects in Pembroke. [US Route 3]
 - Maintain active representation on the Technical Review Committee and the Citizen's Advisory Task force for the I-93 Bow-Concord Study. [NH Route 106]

- Participate in any public information sessions held by the NH Department of Transportation for I-93 Bow to Concord and for I-93 Salem to Manchester, and remain updated via the online websites. [I-93 Expansion]
- Continue to meet with the CNHRPC and Concord Area Transit for updates to funding opportunities for a bus line. [Concord Area Transit] [Hooksett Residential and Commercial Growth]
- Research state and federal transportation funding programs available to small communities in the event that the CAT expansion goes forward. [Concord Area Transit]
- Continue to strengthen the lines of communication with the New Hampshire Department of Transportation and the adjacent communities to help ensure future projects experience similar success. [Double-Decker Bridge Replacement]
- Work with the Highway District Engineer regarding road maintenance, winter plowing, and driveway permitting to pursue to continue strengthening relationships between the Town and NH DOT. [Double-Decker Bridge Replacement]
- Sustain the relationship with CNHRPC to ensure that Pembroke continues to learn how to utilize wise growth principles and techniques as the Town faces new development pressures. [Central NH Regional Planning Commission]
- Appoint two representatives to the CNHRPC's Regional Resource Conservation Committee (R2C2). [Regional Resource Conservation Committee]
- Appoint a representative to CNHRPC's Transportation Advisory Committee to ensure that the transportation interests of Pembroke are represented. [Transportation Advisory Committee]
- Encourage the Planning Board to subscribe to the free Plan-Link list serve to be kept abreast of issues other towns in New Hampshire are facing with respect to growth. [NH Office of Energy and Planning]
- Encourage Town officials to regularly visit the NH OEP website to view the calendar of educational planning workshops and events. [NH Office of Energy and Planning]
- Enhance the Town's use of NHMA's services to take full advantage of Pembroke's membership. [NH Municipal Association]
- Attend state and regional conferences on telecommunications issues to remain educated on the issues. [Telecommunications Towers]

- To take proactive action on regional issues which affect Pembroke.
 - Monitor air quality reports from the NH Department of Health and Human Services for the Public Service of NH Power Plant in Bow. [Public Service of New Hampshire Coal-Fired Power Plant in Bow]
 - Approach legislators to develop legislation which requires affordable housing be mandatory in all municipalities. [Affordable and Senior Housing]
 - Monitor regional growth patterns and consider implementing regulatory techniques, to help offset the effect the impacts generated by the area's more urban centers. [Urban Sprawl and Smart Growth]
 - Protect land abutting the Soucook, Suncook and Merrimack Rivers from development by: considering outright purchase, encouraging landowners to donate easements, or requiring developers to set aside the land at the plan approval stage. [Aquifer Protection] [Watershed Protection]
 - Seek easements on, purchase the rights of, or purchase outright agricultural use parcels to protect them from development. [Loss of Farmland and Agriculture]
 - Seek to find an alternative to Route 3, possibly by opening up one of the range roads. [US Route 3]
 - Stay apprised of the I-93 Bow-Concord Study when working to bring new business and infrastructure to Route 106. [NH Route 106]
 - Conduct a buildout analysis to guide the rewriting of pertinent regulations, including an emphasis on mixed use, encouraging infill and redevelopment, and strengthening the Route 3 corridor in Pembroke with pedestrian facilities and access management. [Hooksett Residential and Commercial Growth]
 - Lobby for complete cellular coverage in New Hampshire and the development of consistent regulations. [Telecommunications Towers]
 - Voice concerns over any significant expansion to the airport during the development of regional impact public input opportunity. [Concord Airport Expansion]

INFLUENCES ON PEMBROKE FROM NEIGHBORING COMMUNITIES AND THE STATE

Pembroke has a number of outside influences which may affect the Town but which the community has little control over. This section highlights the primary influences that Pembroke should be concerned about and offers suggestions about how the Town can get involved. A small amount of participation in these multi-town activities will ensure that Pembroke has a better “say” in what can happen. For many of these issues, Pembroke can similarly affect other communities with its own actions.

Public Service of New Hampshire Coal-Fired Power Plant in Bow

The power plant in Bow is an electricity generation station owned by Public Service of New Hampshire (PSNH). Located one mile northwest of the Pembroke line, the plant is one of three fossil fuel-fired plants and nine hydroelectric facilities owned by PSNH in the State. From the PSNH website, all facilities combined are capable of generating more than 1,110 megawatts of electricity. The Merrimack Station has an output of 478 megawatts and supplies 189,000 customers.

The Merrimack Station is PSNH's prime base load plant, operating continuously to meet the state's significant electrical demand. The plant operates on two coal-fired steam turbines, and has two combustion turbines utilized only during great power demands. Initiatives at Merrimack Station have broken new ground in environmental technology, earning us numerous awards including the Governor's Award for Pollution Prevention in 1996, and the EPA's Environmental Merit Award in 1996 and again in 1999. More than \$47 million has been invested in the plant for environmental initiatives since 1989.

The installation of a Selective Catalytic Reduction (SCR) system on Merrimack Station's Unit One boiler in 1999 caused nitrogen-oxide (NOx) emissions to be reduced by 90 percent—a reduction equivalent to removing 700,000 automobiles from the road. Today, Merrimack Station is one of the cleanest coal-fired plants in the Northeast.

There are several impacts the PSNH Power Plant, which provides the Town with electricity, has on the residents of Pembroke. Negative impacts are the result of the proximity of the power plant to the Pembroke town line. Plumes from smoke-stacks trail in the sky and particulates fall onto surfaces in the Suncook Village area and along Route 3. Pembroke is downwind from the facility, resulting in questions of the plant's impacts on air quality. Recent concerns from residents about respiratory health have resulted in the New Hampshire Department of Health and Human Services (NH DHHS) performing a study to monitor air quality.

How Pembroke Can Get Involved

The Suncook Area Residents Against Power Plant Pollution is a citizens awareness and lobbying group for Pembroke and Pembroke residents. The results of the NH DHHS air quality study should be obtained. Lobbying with local legislators and state senators could help with establishing a strong show of concern if air quality results are poor.

Aquifer Protection

Pembroke is surrounded on three sides by aquifers underlying the Soucook, Merrimack, and Suncook Rivers. The Soucook aquifer begins at the north Loudon/Canterbury town lines and travels south through the middle of Loudon, down to the Concord/Pembroke border where it joins to the Merrimack River aquifer. High areas of transmissivity (feet per second) abound under the Soucook River. The Merrimack aquifer is connected to the Pemigewasset River aquifer in Franklin, flowing south through Boscawen and Concord in to Pembroke, Bow, Hooksett, and beyond beneath the Merrimack River. The Suncook River aquifer begins in Pittsfield and flows through Chichester and Epsom and into Pembroke/Allenstown, flowing into the Merrimack aquifer. A high level of transmissivity is found along the Pembroke/Allenstown border. The aquifers can be found on the *Water Resources Map*.

Pembroke's municipal drinking water is drawn from the Soucook and Suncook aquifers. The industrial area of Concord rests over the Soucook aquifer, as does Route 106. Routes 3 and 28 in Pembroke travel over the Merrimack and Suncook aquifers, respectively. Aquifers are a shared resource which must be protected in order to retain water quality for future use. Pembroke has an Aquifer Conservation District to help protect the groundwater.

From the **NATURAL RESOURCES CHAPTER**, in order to minimize potential opportunities for contamination of public water supplies, the NH Department of Environmental Services has implemented a regulatory strategy of limiting the types of land use activities which can occur in the vicinity of wellhead locations. This geographic area of limited land uses is known as a wellhead protection area. A typical wellhead protection area in New Hampshire is normally denoted by a 4000 foot radius around a public well location although it is not unusual for a wellhead protection area to have variable radii to suitably cover site specific local conditions. As may be seen on the *Potential Threats to Water Resources Map*, for example, most of the state-assigned protection areas for wells located in Pembroke have variable radii.

How Pembroke Can Get Involved

Consideration of aquifer effects should be made when developing land throughout the town of Pembroke. Strong efforts need to be made to protect and manage those lands closest to the Suncook, Soucook, and Merrimack Rivers. This will help decrease the potential contaminants that may reach surface waters and groundwater.

The Friends of the Suncook River, a Suncook watershed group, has been established to discuss the concerns of the watershed with each involved community. Similar non-profit volunteer groups have been established in New Hampshire. Such groups are involved in community education, hold river clean up days, and hold recreation functions to promote the river(s). Pembroke should also have active representation on the Upper Merrimack River Local Advisory Committee to help maintain the health of the river.

Affordable and Senior Housing

Over the last four years, the lack of affordable (also known as “workforce”) and senior housing has remained a problem within many New Hampshire towns and has increased to a 1% overall housing vacancy rate in Merrimack County in 2003. Affordable housing is defined as housing that costs not more than 30% of a household’s income. Included in this category are manufactured housing and rental apartments.

Based on the regional affordable housing needs assessment conducted by the Central New Hampshire Regional Planning Commission (CNHRPC), Pembroke has an adequate amount of affordable housing. Though Pembroke contains ample “affordable” housing, several surrounding towns have not provided their theoretical share. Combined with the current housing market, many people in the Region cannot locate affordable housing.

Seniors in Pembroke and in the area are currently moving to apartments on Route 3 in Suncook Village. Property values are too high in Bow, Hopkinton, and many other area towns to allow seniors to be able to remain in their homes on a fixed income. This issue is also addressed in the HOUSING CHAPTER.

How Pembroke Can Get Involved

All towns in the Central NH Region should look to encourage affordable housing within their community to try and attain their “fair share.” The Town should approach legislators to develop legislation which requires this of all municipalities. Discussions should be held among all area town planners and planning boards to help facilitate the regional affordable housing dialogue.

Urban Sprawl and Smart Growth

Sprawl has become an increasing problem in many of the communities throughout New Hampshire. As population increases, the amount of land being developed increases. Often this development has been spread out throughout the landscape. The end result is often a greater reliance on automobiles, a loss of open space, and increased costs to the taxpayers through infrastructure extensions (police and fire service, road maintenance, utilities, etc).

The housing and population of Pembroke is concentrated along Route 3, in Suncook Village, along Buck Street and is interspersed throughout the remaining areas of Town. Although water and sewer infrastructure serves the urban areas of Town, homes in North Pembroke result sprawling pattern which is not easily served by infrastructure. Growth from southern and eastern New Hampshire is moving to the Central Region, and Pembroke will be affected by the transportation and development patterns from points south (Manchester area) and west (Concord area), and even east (seacoast area).

Motorists are increasingly using Route 3 to travel from Concord to Hooksett and Manchester. Having a prime commuting corridor is not an ideal situation in Pembroke, as the road is primarily residential. It is unlikely that additional businesses will be able locate to Route 3 to take advantage of the through-traffic and maintenance of the road and safety of the roadway for local residents is a concern.

Regional development has serious implications in the degradation and loss of prime wildlife habitats (including aquatic) and the expansion of invasive plant and animal species. Similarly, a loss of regional environmental quality can be expected as area water bodies and air quality negatively affected. These types of degradation can be attributed to many factors, including traffic pollutants to the area's air, land, and water resources.

Loss of the rural character of Pembroke and surrounding communities will continue if towns do not act upon this issue. Smart growth is a method of combating sprawl involving thoughtful planning for future growth. The lack of planning between towns results in the communities (often which are affected by the growth of another) enacting measures to address new growth pressures. These include decreasing lot size and setback requirements, encouraging mixed-use land development in appropriate areas, innovative zoning techniques (such as covered in the **EXISTING AND LAND USE CHAPTER**) and avoidance of open space and farmlands.

This issue is also addressed in the **EXISTING AND FUTURE LAND USE CHAPTER**. For Pembroke, the 2002 Smart Growth report recommended these and other techniques:

- Encourage revitalization of Suncook Village
- Enhance the traditional village character of Pembroke Street
- Create a new "suburban residential zone"
- Create a "traditional New England" village in one or two rural areas
- Create an open space preservation overlay zone
- General Zoning Changes

How Pembroke Can Get Involved

The Town should stay informed about regional growth patterns and consider implementing regulatory techniques, such as those outlined in the **EXISTING AND FUTURE LAND USE CHAPTER**, to help offset the effect the impacts generated by the area's more urban centers. Pembroke should work with the large abutting towns of Concord, Bow, Hooksett to better connect future commercial areas and plan for high density areas among the four municipalities. Seek technical assistance money from the NH DOT through the I-93 Community Technical Assistance Program to facilitate regional planning efforts.

Watershed Protection

A watershed is an area of land drained by streams or rivers and is a connected hydrologic system in itself, although it is always part of a larger watershed. Disturbances which affect the groundwater of an area can have an impact on the entire watershed. Pembroke lies within the Soucook River, Lower Suncook River, and Concord Tributaries of the Merrimack River watersheds.

The Soucook River watershed is located on the west side of Pembroke, at the confluence of the Merrimack and Soucook Rivers and spanning north to the west of Cross Country Road. This watershed is shared by Pembroke, Concord, Chichester, Loudon, Canterbury, Northfield, Belmont, and Gilmanton.

The Lower Suncook River abuts the Soucook River watershed on the east side of Pembroke. It spans from the confluence of the Merrimack and Suncook Rivers on north, east of Cross Country Road. The watershed is shared by Pembroke, Hooksett, Allenstown, Candia, Deerfield, Northwood, Pittsfield, Barnstead, Loudon, and Gilmanton.

The smallest watershed within Pembroke, the Concord Tributaries, encompasses the span of the Merrimack within Pembroke to just south of 4th Range Road and east of Brickett Hill Road. The watershed is shared by Pembroke, Bow, Concord, Dunbarton, Hopkinton, Canterbury, and Loudon.

The Pembroke Water Works draws municipal drinking water from these watersheds. It used to draw water from the Suncook River until it was discovered that Pittsfield discharged their treated wastewater into the river. Pembroke provides drinking water to Allenstown and a portion of Hooksett. The industrial zone of Concord, which rests over the Soucook River aquifer, can have a negative impact on the water quality of the entire watershed. The increasing recreational use of the Merrimack, Suncook, and Soucook Rivers will eventually result in degradation of the water, embankments, and aquatic habitat.

How Pembroke Can Get Involved

Consideration of watershed effects should be made when developing land throughout the town of Pembroke. Strong efforts needs to be made to protect and manage those lands closest to the Suncook, Soucook, and Merrimack Rivers. This will help decrease the potential contaminants that may reach surface waters and groundwater.

The Friends of the Suncook River, a Suncook watershed group, has been established to discuss the concerns of the watershed with each involved community. Similar non-profit volunteer groups have been established in New Hampshire. Such groups are involved in community education, hold river clean up days, and hold recreation functions to promote the river(s). Pembroke should also have active representation on the Upper Merrimack River Local Advisory Committee to help maintain the health of the river.

Loss of Agriculture and Farms

There has been a steady decline of agricultural and farm lands in New Hampshire over the past several decades. Like most New Hampshire communities, Pembroke was once an agrarian and forestry-based community. Presently, two active farms have been identified in Pembroke. One farm is a dairy farm, and the other produces corn and vegetables. The decline of agricultural lands and farms have resulted in the loss of lands that are economically, aesthetically, and ecologically important. Some benefits of farmlands are that they provide food for people, wildlife habitat, and flood control.

The most common reason for the loss of this land is development. Increasing development of farmlands occur due to the poor economic return for agricultural products combine with the ease of converting farmland to development. This trend is not unique to Pembroke, but combined with similar Regional and State occurrences, little agricultural land remains in active use in New Hampshire. When neighboring communities practice the same type of development of farm lands, the scenic rural quality that makes the State unique and cherished by its residents is no longer there.

The lack of agricultural lands in a community is directly attributed to residential growth. In Pembroke, these farmlands are located primarily on 4th Range Road.

How Pembroke Can Get Involved

The Natural Resource Conservation Service is available to assist communities and landowners, usually free of charge, with issues related to retaining farmlands. Pembroke should take advantage of their assistance to best learn the options for protecting this precious resource.

Fields should be placed into conservation easement as readily as those lands which are forested. The Town should actively seek easements on, purchase the rights of, or purchase outright agricultural use parcels to protect them from development.

US Route 3

In the Central NH Region, US Route 3 spans from Franklin to Hooksett and beyond. Within Pembroke, Route 3 runs from the Concord to the Allenstown town lines via Pembroke Street. Route 3 is a heavy commuting corridor for area residents traveling to Concord, Franklin, and points south. Presently, there is heavy commercial use occurring along the entire roadway. Extremely heavy concentrations are found within Concord.

Regarding safety, the main speed limit for most of Route 3 within the Central NH Region is between 30 and 40 miles per hour. Pedestrian crossings are found in Concord, at strategic places (such as Pembroke Academy), and at selected intersections. An alternative to Route 3 in Pembroke is necessary. Vehicles speed on the straight-aways, and traffic is at a stand-still at the traffic lights. Route 3 is the only collector road in the area, with both NH Route 106 and Route 28 feeding into the Route 3. All along Route 3, heavy commercial traffic travels from points north and south, with the only residential neighborhoods along the entire stretch of road in Pembroke. See also the **TRANSPORTATION CHAPTER** for more information.

How Pembroke Can Get Involved

Increased traffic volume from Pembroke, neighboring communities, and within the State should be expected on Route 3. Pembroke should continue to work with the NH Department of Transportation (NH DOT) on roadway improvement projects. The Town should also seek to find an alternative to Route 3, possibly by opening up one of the range roads.

NH Route 106

Route 106, which connects Concord and Pembroke, is the main commercial area in Pembroke. The route connects Laconia, Belmont, Gilford, Northfield, Gilmanton, Loudon, Concord, and Pembroke and channels traffic onto Route 3.

The volume of traffic has increase on Route 106 in Pembroke due to Loudon Road (Concord) congestion, and widening is being considered in the future. The prime commercial area for Pembroke is on Route 106, but it rests over the Soucook River aquifer.

The I-93 Bow to Concord Study is underway in Phase A, and will provide alternatives to how to alleviate traffic via a potential connector to Route 106 after the Study concludes in approximately 2008. This recommendations of this study may further impact Route 106. Pembroke has a representative on the Technical Review Committee and the Citizen's Advisory Task Force (see also **I-93 Expansion**). The focus of additional business growth, including the installing new water and sewer, will need to consider how a potential connector will affect economic development.

How Pembroke Can Get Involved

The Town should maintain its representatives on the Technical Review Committee and the Citizen's Advisory Task force for the I-93 Bow-Concord Study. The Economic Development Committee should stay apprised of the I-93 Bow-Concord Study when working to bring new business and infrastructure to Route 106.

I-93 Expansion

Salem - Manchester

The Final Environmental Impact Statement (EIS) was released in April 2004. According to the EIS, the basic purpose of the project is to “*improve transportation efficiency and reduce safety problems associated with this approximately 19.8-mile segment of highway from the Massachusetts/New Hampshire state line to Manchester.*” If the current schedule is adhered to, construction will begin in 2005 and be completed by 2015.

The EIS examined a wide range of alternatives, ranging from the “no-build”, the baseline established for the project, to a four-lane expansion for the project length. Also included in the analysis were expanded bus service in the corridor and Transportation Demand Management initiatives such as employer-based incentives to change travel patterns. The Selected Alternative involves a combination of techniques: expanding the existing two-lane highway to four-lanes in each direction, numerous improvements at Exits 1 through 5, the construction of three park and ride lots with bus facilities, the implementation of variable message signs and other intelligent transportation system measures along the corridor, and the allocation of right-of-way for a future commuter rail corridor from the state line to Exit 5. The entire project, including mitigation, is estimated to cost \$421,400,000.

Of particular importance to Pembroke was the section of the EIS that examined the potential effect of the I-93 expansion on the five communities abutting the corridor, as well as 24 other communities within the “Secondary Impacts Study Area.” Pembroke is a primary impact community. This examination attempted to project increases in population and employment in each community due to the Salem to Manchester project by convening a wide-ranging panel with participants from local planning boards, real estate representatives, experts from the University of New Hampshire and the University of Massachusetts, local and regional planners, environmental policy groups, and experts in finance, law and economics.

The projections prepared by the panel estimate that in 2020, and additional 700 people will live in Pembroke due to the project, along with approximately 160 new jobs. This growth would be in addition to the more than 1,900 people (and 950 jobs) that are expected to be added to the Town’s population and employment base even if the project were not to be undertaken.

As part of the project mitigation, the NHDOT is planning to initiate the Community Technical Assistance Program to assist communities within the study area to better manage growth and advance conservation efforts through initial five-year funding through federal and state transportation funds. Although the program is not yet in place, it is envisioned that funding will be available for technical assistance to support planning and conservation; for innovative projects proposed by the towns; for training and education of officials; for marketing campaigns; analyses of future growth scenarios; and for the development of specific tools and materials to support local planning and conservation efforts.

Bow to Concord

The I-93 Bow to Concord improvement project was added to the New Hampshire Ten Year Transportation Program (Ten Year Plan) in 2001, with the initiation of construction not expected until after 2010. The project will necessitate study of a wide range of options and issues between the I-89/I-93 interchange and Exit 16, including the number of lanes, improvements to exits within the study area, safety improvements, the protection of a future rail corridor, and traffic demand measures. The study is currently underway and the first phase, Phase A, is anticipated to be completed in 2005.

How Pembroke Can Get Involved

Pembroke should participate in any public information sessions held by the NH Department of Transportation for both Salem to Manchester and Bow to Concord, and remain updated via the online website at www.i93bowconorod.com. When funds become available for I-93 Salem-Manchester mitigation, the Town should take advantage of the opportunity to develop planning tools to handle anticipated growth.

Concord Area Transit

Concord Area Transit, in cooperation with the Central NH Regional Planning Commission (CNHRPC), surveyed all households in Allenstown and Pembroke in 2001 regarding their interest in future bus service between Concord and the two communities. With the generally favorable results of the survey, CAT sought federal funding to undertake a trial expansion of service through Pembroke into Pembroke.

Unfortunately, while the funding for this trial was supported by the New Hampshire Department of Transportation, the Federal Highway Administration did not support the proposal and the funding was not approved. In 2003, CAT and CNHRPC began undertaking a broader CAT expansion study to develop a long-range route expansion plan. It is envisioned that this study, in conjunction with the earlier survey results, will emphasize the demand for enhanced transit service in central New Hampshire, thus supporting future requests for federal assistance for route expansion. The issue of regional bussing should be revisited on a regular basis.

How Pembroke Can Get Involved

Pembroke should continue to meet with the CNHRPC and Concord Area Transit for updates to funding opportunities. Discussions with Concord and Allenstown will assist with the local support component of any CAT service expansion. The Town should educate itself with state and federal transportation funding programs available to small communities in the event that the expansion goes forward.

Hooksett Residential and Commercial Growth

The population of Hooksett was 11,271 with the number of dwelling units at 4,150 in 2000. This results in 2.8 persons per household. In 1990, the population was 9,002, which is an increase of 33.7%. To put this in proportion, Pembroke's growth from 1990 to 2000 was 4.2%. With its high degree of commercial development along Route 3, Hooksett is a regional destination for area residents. Routes 3 and 3A are the primary travel corridors and traffic does not often flow freely.

The Town of Hooksett recently updated its Master Plan, which was last developed in 1989. One projection is that prime residential development in specific locations of Hooksett could increase number of homes by 1,650 by 2015 in these areas alone. Many housing options were explored in their new Master Plan, including cluster development, cost of housing, types of housing, and lot size. Economic considerations were also examined, such as conflicts between a downtown and a village and incentives for new businesses to locate to Hooksett. The Town presented the updated Master Plan to the public for review in late spring 2003.

With increasing population and housing trends, growth pressure from Hooksett may extend into Pembroke. Increased population in Hooksett will result in additional commuters. In addition, commercial growth will bring more through-traffic to Pembroke via Route 3. Sprawl from Hooksett may also result from further development as available land in Hooksett decreases.

The Central NH Regional Planning Commission, of which Pembroke is member, and the Southern NH Regional Planning Commission, of which Hooksett is a member, can serve as facilitators for communication on regional growth.

How Pembroke Can Get Involved

Pembroke should obtain a copy of Hooksett's Master Plan to try to coordinate development when possible. A regular regional dialogue should occur among Pembroke, Allenstown, and Hooksett as commercial and residential growth in Hooksett will have an impact on Pembroke, perhaps facilitated by the two regional planning commissions.

A buildout analysis should be conducted to guide the rewriting of pertinent regulations. Rewrites should include an emphasis on mixed use; encouraging infill and redevelopment; strengthening the Route 3 corridor in Pembroke with pedestrian facilities and access management.

The opportunities for bus service through the Concord Area Transit should be reevaluated on a regular service. At some point in the future, it may be able to connect Concord and Hooksett.

Double-Decker Bridge Replacement

The double-decker bridge crossing the Suncook River between Allenstown and Pembroke is a key feature of the transportation network in the area. The bridge is also much more than simply a transportation feature, it is historic, it is unique in design, and it links two communities together. The decision to replace the bridge was not one made easily by the New Hampshire Department of Transportation, but after examining the structural elements of the bridge, it was decided that building a new bridge was the best avenue to pursue. The US Route 3 bridge is currently scheduled to be replaced in 2006, although that date may still change in the future.

US Route 3 carries a large amount of traffic traveling between two large commuting destinations, Hooksett and Concord. It also carries a large amount of traffic between the Town of Pembroke and the Town of Allenstown and is in fact, both communities' busiest roads. With approximately 10,000 vehicles per day traveling the corridor, the importance of the double-decker bridge is clearly evident. One of the most difficult elements of any road improvement project is managing traffic during the construction, particularly when 10,000 vehicles are involved. The New Hampshire Department of Transportation explored detouring traffic on adjacent local streets while the construction was taking place, but did not find this option suitable from a safety standpoint. The most reasonable option remaining is to construct the new bridge separate from the existing bridge on the southern side.

After hearing at several meetings from both the Town of Pembroke and the Town of Allenstown, the New Hampshire Department of Transportation heard clearly that both communities would like to preserve the unique character that the existing double-decker bridge has. At this time, the preferred alternative includes constructing the new bridge as a double-decker bridge in an attempt to preserve as much of that character as possible. The new bridge, just as the old bridge does now, will include a lower-level local connector street with sidewalks. Changes are also planned for the intersection of Turnpike Street with US Route 3 to improve safety in the area. The existing open access from Turnpike Street to US Route 3 will be closed, requiring vehicles to access US Route 3 via School Street.

While the preferred alternative has been outlined by the New Hampshire Department of Transportation, opportunities for public input and involvement still exist. The Department will hold a Public Hearing at some point in the months to come regarding the project. Any input received at the meeting will need to be considered by the New Hampshire Department of Transportation before a final design is settled on. The new US Route 3 bridge will function as a safe and efficient component of the transportation network and hopefully, it will also continue to have a unique character reminiscent of the original bridge.

Installation of the new bridge will disrupt traffic flow and will require an alternate route for water pipes for approximately one year.

How Pembroke Can Get Involved

While the public involvement process for this project has been thorough, the Town of Pembroke should continue to strengthen the lines of communication with the New Hampshire Department of Transportation and the adjacent communities to help ensure future projects experience similar success.

Working with the Highway District Engineer regarding road maintenance, winter plowing, and driveway permitting is one avenue to pursue to continue strengthening relationships.

Developments of Regional Impact

At the time of plan acceptance, the individual Planning Boards of New Hampshire communities should determine whether or not the project before the Board is a development that has regional impact. As provided in RSA 36:55, a development would be considered as having regional impact if the project could reasonably be expected to impact a neighboring community because of its size, proximity to the neighboring community's transportation networks, proximity to aquifers, and if facilities such as schools and solid waste are shared. If the Planning Board concludes that a project is a development having a regional impact, notice has to be provided by certified mail to the respective regional planning commission and the affected municipality. All recipients will have the status of abutters for the purpose of being provided notice and giving testimony.

How Pembroke Can Get Involved

Pembroke and area communities should regularly coordinate their planning efforts, including the regular use of the developments of regional impact statute, obtaining copies of Master Plans and regulations, and holding sub-regional planning conferences on a semi-annual basis.

Telecommunications Towers

The dependence on and installation of cell towers are becoming prevalent in New Hampshire, including in the Central NH Region. Some communities do not permit telecommunications towers while neighboring towns actively promote them. Areas of "holes" exist where cellular reception is lost, and coverage is spotty at best. There is a level of inconsistency among towns, some of which regulate the placement and aesthetics of towers which are erected.

Pembroke has the telecommunications regulations to provide a uniform and comprehensive set of standards for the development of telecommunications facilities and the installation of towers and antennas and are designed to protect and promote public health, safety, community welfare and the aesthetic quality of the Town. Other goals of this ordinance include maximizing the use of existing towers and buildings to accommodate new antennas, retaining local responsibility for use of public-rights-of-way and ensuring compliance with FCC regulations on radio frequency exposure guidelines.

How Pembroke Can Get Involved

The Town should attend state and regional conferences on telecommunications issues to remain educated on the issues. Representatives can lobby for complete cellular coverage and the development of consistent regulations.

Concord Airport Expansion

Concord Airport serves the Central NH Region and welcomes corporate and private flyers with aircraft as large as a Boeing 727 and the military C-130 transport aircraft. The airport has 35,000 square feet of heated hangers and a dozen private T-hangers. A maintenance shop and an avionics shop are located on the field, as is a Hertz car counter. Several small aircraft are available for hourly rental to qualified pilots. Photo-survey flights are also provided. Concord hosts visiting candidates during the US Presidential primary season. Twice a year, Concord Airport is home to the NASCAR "Air Force" delivering drivers, owners, sponsors and officials to the New Hampshire International Speedway racetrack in Loudon.

Future expansion to the airport will increase the amount of noise pollution already experienced in Pembroke and the surrounding communities. As the size of the Manchester airport grows and its flight paths are changed, the Concord airport will also need to modify its routines and operations.

How Pembroke Can Get Involved

Any significant expansion to the airport would normally be considered a development of regional impact by the City. Pembroke should take the opportunity to voice its concerns at this time.

OPPORTUNITIES OF PARTNERING WITH NEIGHBORING COMMUNITIES

These opportunities are not the influences reviewed in the previous section but offer a chance for Pembroke to join with other Towns to develop a project or produce a legacy. Regionally, towns may accomplish together what they could not accomplish alone because of funding, increased resources, or because of the sheer size of the goal. Pembroke should take advantage of the following special opportunities that will make a lasting a difference to the community.

Downtown Suncook

Downtown Suncook is officially located in Pembroke right across the Suncook River from Allenstown. The entire area was more economically and characteristically united from 1735, when a bridge was built across the Suncook River, to the industrial age of the late 1800's and early 1900's. Mills were built along the banks of the River and provided employment for area residents. Once the use of the Old Meeting House was discontinued in 1876, community meetings were held at Hayes Hall in the Pembroke downtown area just south of the bridge. Culturally, Bartlett's Opera House opened in Suncook, at the same time as the use of the Hayes Hall commenced as a gathering place, hosting numerous grand performances by professional traveling companies.

Today, Suncook is a beautiful, quaint, and underutilized resource and commercial center. In recent years, revitalization efforts have repaired the Clock Tower and attracted businesses to the area. The Post Office, which proudly boasts the name, is situated in Suncook. The Suncook River offers scenic views. It has the potential to become a destination for residents of Pembroke, Allenstown, and travelers wanting to walk and shop in a historic downtown setting.

The Town of Allentown is looking to “streetscape” its Main Street using historically styled lighting, benches, signage, and street trees. A unique opportunity is available for Pembroke to culturally and visually connect to the existing Downtown Suncook in Pembroke by employing the same streetscaping methods.

How Pembroke Can Get Involved

Pembroke has a number of active groups that work hard to promote and revitalize Suncook. Pembroke should contact the Pembroke-Allenstown Old Home Day Committee and the Meet Me in Suncook group to establish interaction and begin a commitment to extend the “look and feel” of Suncook into Pembroke.

PARTICIPATION IN REGIONAL GROUPS AND ORGANIZATIONS

The benefits to being involved with regional groups are a heightened awareness of how outside actions will have an impact on Pembroke and the ability to take advantage of the services and knowledge that is available to members or representatives. The shared pool of resources is an asset waiting to be tapped. In addition to the regional groups and organizations mentioned in the previous sections, solid relationships with the following entities should also be developed.

Central NH Regional Planning Commission

The Central NH Regional Planning Commission (CNHRPC) is a voluntary member-driven planning advisory entity in the Concord area. Twenty communities are served. Membership to the CNHRPC provides access to free or low cost planning services such as Master Plan development, development review assistance, traffic counts, zoning ordinance revision, educational workshops, geographic information system mapping, information on latest available programs, grant projects, and statistical data.

How Pembroke Can Get Involved

The Town of Pembroke is currently a member of the CNHRPC. The Town is fully represented and takes advantage of the services CNHRPC offers. The Town should sustain its relationship with CNHRPC to ensure that Pembroke continues to learn how to utilize wise growth principles and techniques as the Town faces new development pressures.

Regional Resource Conservation Committee

The Regional Resource Conservation Committee (R2C2) is an advisory committee of the CNHRPC that meets quarterly. Comprised of Conservation Commission, Planning Board, and Board of Selectmen representatives from the 20 towns in the Central NH Region, the group discusses issues which affect their communities and holds guest speaker presentations to inform the R2C2 about the latest environmental or land preservation topics.

How Pembroke Can Get Involved

Pembroke does not have representatives to the R2C2, possibly because of a turn over in Conservation Commission members. The Town should appoint two representatives to the CNHRPC's R2C2.

Transportation Advisory Committee

The Transportation Advisory Committee (TAC) is an advisory committee of the CNHRPC which is comprised of local appointed representatives from communities within the region as well as members from other local, state, and federal agencies. The official purposes of TAC are to provide technical advice and policy recommendations regarding transportation planning issues. The TAC organizes and recommends projects for the Regional Transportation Improvement Program, the State Transportation Improvement Program, and ranks Transportation Enhancement and Congestion Mitigation-Air Quality grant applications for funding. TAC meets quarterly.

How Pembroke Can Get Involved

Pembroke does not currently have a representative to the TAC. The Town should appoint a representative to CNHRPC's TAC to ensure that the transportation interests of Pembroke are represented.

NH Office of Energy and Planning

The Office of Energy and Planning (NH OEP) - formerly the Office of State Planning - is based in Concord and is legislatively required to plan for the orderly development of the state and the wise management of the state's resources; compile, analyze, and disseminate data, information, and research services to advance the welfare of the state; encourage and assist planning, growth management, and development activities of cities and towns; administer select federal and State grant-in-aid programs; and participate and advises in matters of land use planning regarding lakes and rivers management programs. The Office of Energy and Planning typically does most of its work with communities through the regional planning commissions.

How Pembroke Can Get Involved

The Town should be aware of the projects and services that the OEP offers. Particularly, the Planning Board should subscribe to the free Plan-Link list serve to be kept abreast of issues other towns in New Hampshire are facing with respect to growth. The NH OEP website should be regularly visited to view the calendar of educational planning workshops and events.

New Hampshire Municipal Association

The NH Municipal Association (NHMA) was formed over 50 years ago by a group of concerned local officials who felt that by pooling resources and concerns, New Hampshire communities could better work together with a common voice. Today, NHMA represents 233 of the 234 Granite State communities and offers legal and technical assistance, legislative representation, training and workshops, and personnel services.

How Pembroke Can Get Involved

Pembroke is currently a member of the NHMA. The Town should enhance its use of NHMA's services to take full advantage of its membership.

Concord Area Trust for Community Housing

Since 1989, the Concord Area Trust for Community Housing (CATCH) has been helping families to become homeowners or find a stable, affordable apartment in the Concord area. Their mission seeks to increase the supply of affordable apartments, searching beyond city limits to expand housing choices, educating and empowering families to take control of their finances, and nurturing neighborhoods through quality local management. To date, 142 dwellings have been built or rehabilitated and 350 people have gained access to decent and affordable housing.

How Pembroke Can Get Involved

From the HOUSING CHAPTER, Pembroke expressed interest in housing rehabilitation and should contact CATCH to find out if the organization can assist the Town. CATCH also offers homebuyer education programs and may be able to provide assistance to potential residents or current renters looking to purchase a home in Pembroke. Their brochures and information should be made available in Town Hall for residents to pick up when visiting.

SUMMARY

Although every community, including Pembroke, is faced with its own internal issues and concerns, Town governments need to be aware that it may not have much control over another whole set of issues that will affect the Town from the outside. Many different regional influences, from transportation growth to environmental threats to population and housing influxes, will exert degrees of pressure on Pembroke. Pembroke needs to be adequately prepared to handle these exterior demands by becoming involved in the regional processes and therefore being in a better position to respond positively to forthcoming pressures or problems. Establishing a relationship with regional groups and abutting communities will ensure that communication lines are open and that Pembroke finds itself in the best position to influence whatever demands come this way.

Chapter XII REGIONAL CONCERNS

INTRODUCTION

While the Pembroke Master Plan focuses on issues within the Town or within the control of the Town, some emphasis should be given to the outside influences that have an impact on the community. Within the Central NH Region and beyond, regional concerns such as environmental factors, population and housing growth, transportation pressures, and groundwater strongly affect the Town of Pembroke.

Partnerships opportunities are identified to foster good relations with neighboring communities on issues that affect multiple towns. Involvement in regional projects which include Pembroke will help the community better place itself in a larger context and participate in activities which will benefit the Town. In this Chapter, specific ideas about how Pembroke can become involved in those issues most important to the Town are given as well as a series of recommendations to help guide the Town in thinking how its actions can have an effect on the entire Region.

OBJECTIVES OF THE CHAPTER AND RECOMMENDATIONS

These Objectives were developed as a result of analysis and interpretation of concerns raised from the Central NH Regional Planning Commission and Steering Committee members. They are listed in the beginning to give the reader the opportunity to view the results without reading through the entire Chapter.

- To partner with neighboring communities and local groups to enable Pembroke to improve the quality of life for its residents and be better able to respond to issues which affect the Town.
 - Hold discussions among all area town planners and planning boards to help facilitate the regional affordable housing dialogue. [Affordable and Senior Housing]
 - Work with the large abutting towns of Concord, Bow, Hooksett to better connect future commercial areas and plan for high density areas among the four municipalities. [Urban Sprawl and Smart Growth]
 - Hold Discussions with Concord and Allenstown to assist with the local support component of any CAT service expansion. [Concord Area Transit]
 - Obtain a copy of Hooksett's Master Plan to try to coordinate development when possible. [Hooksett Residential and Commercial Growth]

- Establish a regular regional dialogue, perhaps facilitated by the two regional planning commissions, among Pembroke, Allenstown, and Hooksett as commercial and residential growth in Hooksett will have an impact on Pembroke. [Hooksett Residential and Commercial Growth]
 - Establish a relationship with the Allenstown/Pembroke Old Home Day Committee and Meet Me in Suncook group to develop ideas for revitalizing Suncook. [Downtown Suncook]
 - Coordinate planning efforts with area Towns, including the regular use of the developments of regional impact statute, obtaining copies of Master Plans and regulations, and holding sub-regional planning conferences on a semi-annual basis. [Developments of Regional Impact]
 - Join the Suncook Area Residents Against Power Plant Pollution to keep abreast of the happenings at the Power Plant. [Public Service of New Hampshire Coal-Fired Power Plant in Bow]
- To become involved with state or regional groups, organizations, and agencies to form relationships and to take advantage of free or low cost services and information.
- Seek technical assistance money from the NH DOT through the I-93 Community Technical Assistance Program to facilitate regional planning efforts. [Urban Sprawl and Smart Growth] [I-93 Expansion]
 - Join the Friends of the Suncook River to address issues about the River, to promote the river, to lead clean-up days, and to hold River events. [Aquifer Protection] [Watershed Protection]
 - Provide regular active representation to the Upper Merrimack River Local Advisory Committee to help maintain the health of the river. [Aquifer Protection] [Watershed Protection]
 - Encourage landowners to take advantage of assistance from the Natural Resource Conservation Service and the Merrimack County Conservation District to best learn the options for protecting agricultural resources. [Loss of Farmland and Agriculture]
 - Continue to work with the NH Department of Transportation (NH DOT) on roadway improvement projects in Pembroke. [US Route 3]
 - Maintain active representation on the Technical Review Committee and the Citizen's Advisory Task force for the I-93 Bow-Concord Study. [NH Route 106]

- Participate in any public information sessions held by the NH Department of Transportation for I-93 Bow to Concord and for I-93 Salem to Manchester, and remain updated via the online websites. [I-93 Expansion]
- Continue to meet with the CNHRPC and Concord Area Transit for updates to funding opportunities for a bus line. [Concord Area Transit] [Hooksett Residential and Commercial Growth]
- Research state and federal transportation funding programs available to small communities in the event that the CAT expansion goes forward. [Concord Area Transit]
- Continue to strengthen the lines of communication with the New Hampshire Department of Transportation and the adjacent communities to help ensure future projects experience similar success. [Double-Decker Bridge Replacement]
- Work with the Highway District Engineer regarding road maintenance, winter plowing, and driveway permitting to pursue to continue strengthening relationships between the Town and NH DOT. [Double-Decker Bridge Replacement]
- Sustain the relationship with CNHRPC to ensure that Pembroke continues to learn how to utilize wise growth principles and techniques as the Town faces new development pressures. [Central NH Regional Planning Commission]
- Appoint two representatives to the CNHRPC's Regional Resource Conservation Committee (R2C2). [Regional Resource Conservation Committee]
- Appoint a representative to CNHRPC's Transportation Advisory Committee to ensure that the transportation interests of Pembroke are represented. [Transportation Advisory Committee]
- Encourage the Planning Board to subscribe to the free Plan-Link list serve to be kept abreast of issues other towns in New Hampshire are facing with respect to growth. [NH Office of Energy and Planning]
- Encourage Town officials to regularly visit the NH OEP website to view the calendar of educational planning workshops and events. [NH Office of Energy and Planning]
- Enhance the Town's use of NHMA's services to take full advantage of Pembroke's membership. [NH Municipal Association]
- Attend state and regional conferences on telecommunications issues to remain educated on the issues. [Telecommunications Towers]

- To take proactive action on regional issues which affect Pembroke.
 - Monitor air quality reports from the NH Department of Health and Human Services for the Public Service of NH Power Plant in Bow. [Public Service of New Hampshire Coal-Fired Power Plant in Bow]
 - Approach legislators to develop legislation which requires affordable housing be mandatory in all municipalities. [Affordable and Senior Housing]
 - Monitor regional growth patterns and consider implementing regulatory techniques, to help offset the effect the impacts generated by the area's more urban centers. [Urban Sprawl and Smart Growth]
 - Protect land abutting the Soucook, Suncook and Merrimack Rivers from development by: considering outright purchase, encouraging landowners to donate easements, or requiring developers to set aside the land at the plan approval stage. [Aquifer Protection] [Watershed Protection]
 - Seek easements on, purchase the rights of, or purchase outright agricultural use parcels to protect them from development. [Loss of Farmland and Agriculture]
 - Seek to find an alternative to Route 3, possibly by opening up one of the range roads. [US Route 3]
 - Stay apprised of the I-93 Bow-Concord Study when working to bring new business and infrastructure to Route 106. [NH Route 106]
 - Conduct a buildout analysis to guide the rewriting of pertinent regulations, including an emphasis on mixed use, encouraging infill and redevelopment, and strengthening the Route 3 corridor in Pembroke with pedestrian facilities and access management. [Hooksett Residential and Commercial Growth]
 - Lobby for complete cellular coverage in New Hampshire and the development of consistent regulations. [Telecommunications Towers]
 - Voice concerns over any significant expansion to the airport during the development of regional impact public input opportunity. [Concord Airport Expansion]

INFLUENCES ON PEMBROKE FROM NEIGHBORING COMMUNITIES AND THE STATE

Pembroke has a number of outside influences which may affect the Town but which the community has little control over. This section highlights the primary influences that Pembroke should be concerned about and offers suggestions about how the Town can get involved. A small amount of participation in these multi-town activities will ensure that Pembroke has a better “say” in what can happen. For many of these issues, Pembroke can similarly affect other communities with its own actions.

Public Service of New Hampshire Coal-Fired Power Plant in Bow

The power plant in Bow is an electricity generation station owned by Public Service of New Hampshire (PSNH). Located one mile northwest of the Pembroke line, the plant is one of three fossil fuel-fired plants and nine hydroelectric facilities owned by PSNH in the State. From the PSNH website, all facilities combined are capable of generating more than 1,110 megawatts of electricity. The Merrimack Station has an output of 478 megawatts and supplies 189,000 customers.

The Merrimack Station is PSNH's prime base load plant, operating continuously to meet the state's significant electrical demand. The plant operates on two coal-fired steam turbines, and has two combustion turbines utilized only during great power demands. Initiatives at Merrimack Station have broken new ground in environmental technology, earning us numerous awards including the Governor's Award for Pollution Prevention in 1996, and the EPA's Environmental Merit Award in 1996 and again in 1999. More than \$47 million has been invested in the plant for environmental initiatives since 1989.

The installation of a Selective Catalytic Reduction (SCR) system on Merrimack Station's Unit One boiler in 1999 caused nitrogen-oxide (NOx) emissions to be reduced by 90 percent—a reduction equivalent to removing 700,000 automobiles from the road. Today, Merrimack Station is one of the cleanest coal-fired plants in the Northeast.

There are several impacts the PSNH Power Plant, which provides the Town with electricity, has on the residents of Pembroke. Negative impacts are the result of the proximity of the power plant to the Pembroke town line. Plumes from smoke-stacks trail in the sky and particulates fall onto surfaces in the Suncook Village area and along Route 3. Pembroke is downwind from the facility, resulting in questions of the plant's impacts on air quality. Recent concerns from residents about respiratory health have resulted in the New Hampshire Department of Health and Human Services (NH DHHS) performing a study to monitor air quality.

How Pembroke Can Get Involved

The Suncook Area Residents Against Power Plant Pollution is a citizens awareness and lobbying group for Pembroke and Pembroke residents. The results of the NH DHHS air quality study should be obtained. Lobbying with local legislators and state senators could help with establishing a strong show of concern if air quality results are poor.

Aquifer Protection

Pembroke is surrounded on three sides by aquifers underlying the Soucook, Merrimack, and Suncook Rivers. The Soucook aquifer begins at the north Loudon/Canterbury town lines and travels south through the middle of Loudon, down to the Concord/Pembroke border where it joins to the Merrimack River aquifer. High areas of transmissivity (feet per second) abound under the Soucook River. The Merrimack aquifer is connected to the Pemigewasset River aquifer in Franklin, flowing south through Boscawren and Concord in to Pembroke, Bow, Hooksett, and beyond beneath the Merrimack River. The Suncook River aquifer begins in Pittsfield and flows through Chichester and Epsom and into Pembroke/Allenstown, flowing into the Merrimack aquifer. A high level of transmissivity is found along the Pembroke/Allenstown border. The aquifers can be found on the *Water Resources Map*.

Pembroke's municipal drinking water is drawn from the Soucook and Suncook aquifers. The industrial area of Concord rests over the Soucook aquifer, as does Route 106. Routes 3 and 28 in Pembroke travel over the Merrimack and Suncook aquifers, respectively. Aquifers are a shared resource which must be protected in order to retain water quality for future use. Pembroke has an Aquifer Conservation District to help protect the groundwater.

From the **NATURAL RESOURCES CHAPTER**, in order to minimize potential opportunities for contamination of public water supplies, the NH Department of Environmental Services has implemented a regulatory strategy of limiting the types of land use activities which can occur in the vicinity of wellhead locations. This geographic area of limited land uses is known as a wellhead protection area. A typical wellhead protection area in New Hampshire is normally denoted by a 4000 foot radius around a public well location although it is not unusual for a wellhead protection area to have variable radii to suitably cover site specific local conditions. As may be seen on the *Potential Threats to Water Resources Map*, for example, most of the state-assigned protection areas for wells located in Pembroke have variable radii.

How Pembroke Can Get Involved

Consideration of aquifer effects should be made when developing land throughout the town of Pembroke. Strong efforts need to be made to protect and manage those lands closest to the Suncook, Soucook, and Merrimack Rivers. This will help decrease the potential contaminants that may reach surface waters and groundwater.

The Friends of the Suncook River, a Suncook watershed group, has been established to discuss the concerns of the watershed with each involved community. Similar non-profit volunteer groups have been established in New Hampshire. Such groups are involved in community education, hold river clean up days, and hold recreation functions to promote the river(s). Pembroke should also have active representation on the Upper Merrimack River Local Advisory Committee to help maintain the health of the river.

Affordable and Senior Housing

Over the last four years, the lack of affordable (also known as “workforce”) and senior housing has remained a problem within many New Hampshire towns and has increased to a 1% overall housing vacancy rate in Merrimack County in 2003. Affordable housing is defined as housing that costs not more than 30% of a household’s income. Included in this category are manufactured housing and rental apartments.

Based on the regional affordable housing needs assessment conducted by the Central New Hampshire Regional Planning Commission (CNHRPC), Pembroke has an adequate amount of affordable housing. Though Pembroke contains ample “affordable” housing, several surrounding towns have not provided their theoretical share. Combined with the current housing market, many people in the Region cannot locate affordable housing.

Seniors in Pembroke and in the area are currently moving to apartments on Route 3 in Suncook Village. Property values are too high in Bow, Hopkinton, and many other area towns to allow seniors to be able to remain in their homes on a fixed income. This issue is also addressed in the HOUSING CHAPTER.

How Pembroke Can Get Involved

All towns in the Central NH Region should look to encourage affordable housing within their community to try and attain their “fair share.” The Town should approach legislators to develop legislation which requires this of all municipalities. Discussions should be held among all area town planners and planning boards to help facilitate the regional affordable housing dialogue.

Urban Sprawl and Smart Growth

Sprawl has become an increasing problem in many of the communities throughout New Hampshire. As population increases, the amount of land being developed increases. Often this development has been spread out throughout the landscape. The end result is often a greater reliance on automobiles, a loss of open space, and increased costs to the taxpayers through infrastructure extensions (police and fire service, road maintenance, utilities, etc).

The housing and population of Pembroke is concentrated along Route 3, in Suncook Village, along Buck Street and is interspersed throughout the remaining areas of Town. Although water and sewer infrastructure serves the urban areas of Town, homes in North Pembroke result sprawling pattern which is not easily served by infrastructure. Growth from southern and eastern New Hampshire is moving to the Central Region, and Pembroke will be affected by the transportation and development patterns from points south (Manchester area) and west (Concord area), and even east (seacoast area).

Motorists are increasingly using Route 3 to travel from Concord to Hooksett and Manchester. Having a prime commuting corridor is not an ideal situation in Pembroke, as the road is primarily residential. It is unlikely that additional businesses will be able locate to Route 3 to take advantage of the through-traffic and maintenance of the road and safety of the roadway for local residents is a concern.

Regional development has serious implications in the degradation and loss of prime wildlife habitats (including aquatic) and the expansion of invasive plant and animal species. Similarly, a loss of regional environmental quality can be expected as area water bodies and air quality negatively affected. These types of degradation can be attributed to many factors, including traffic pollutants to the area's air, land, and water resources.

Loss of the rural character of Pembroke and surrounding communities will continue if towns do not act upon this issue. Smart growth is a method of combating sprawl involving thoughtful planning for future growth. The lack of planning between towns results in the communities (often which are affected by the growth of another) enacting measures to address new growth pressures. These include decreasing lot size and setback requirements, encouraging mixed-use land development in appropriate areas, innovative zoning techniques (such as covered in the **EXISTING AND LAND USE CHAPTER**) and avoidance of open space and farmlands.

This issue is also addressed in the **EXISTING AND FUTURE LAND USE CHAPTER**. For Pembroke, the 2002 Smart Growth report recommended these and other techniques:

- Encourage revitalization of Suncook Village
- Enhance the traditional village character of Pembroke Street
- Create a new "suburban residential zone"
- Create a "traditional New England" village in one or two rural areas
- Create an open space preservation overlay zone
- General Zoning Changes

How Pembroke Can Get Involved

The Town should stay informed about regional growth patterns and consider implementing regulatory techniques, such as those outlined in the **EXISTING AND FUTURE LAND USE CHAPTER**, to help offset the effect the impacts generated by the area's more urban centers. Pembroke should work with the large abutting towns of Concord, Bow, Hooksett to better connect future commercial areas and plan for high density areas among the four municipalities. Seek technical assistance money from the NH DOT through the I-93 Community Technical Assistance Program to facilitate regional planning efforts.

Watershed Protection

A watershed is an area of land drained by streams or rivers and is a connected hydrologic system in itself, although it is always part of a larger watershed. Disturbances which affect the groundwater of an area can have an impact on the entire watershed. Pembroke lies within the Soucook River, Lower Suncook River, and Concord Tributaries of the Merrimack River watersheds.

The Soucook River watershed is located on the west side of Pembroke, at the confluence of the Merrimack and Soucook Rivers and spanning north to the west of Cross Country Road. This watershed is shared by Pembroke, Concord, Chichester, Loudon, Canterbury, Northfield, Belmont, and Gilmanton.

The Lower Suncook River abuts the Soucook River watershed on the east side of Pembroke. It spans from the confluence of the Merrimack and Suncook Rivers on north, east of Cross Country Road. The watershed is shared by Pembroke, Hooksett, Allenstown, Candia, Deerfield, Northwood, Pittsfield, Barnstead, Loudon, and Gilmanton.

The smallest watershed within Pembroke, the Concord Tributaries, encompasses the span of the Merrimack within Pembroke to just south of 4th Range Road and east of Brickett Hill Road. The watershed is shared by Pembroke, Bow, Concord, Dunbarton, Hopkinton, Canterbury, and Loudon.

The Pembroke Water Works draws municipal drinking water from these watersheds. It used to draw water from the Suncook River until it was discovered that Pittsfield discharged their treated wastewater into the river. Pembroke provides drinking water to Allenstown and a portion of Hooksett. The industrial zone of Concord, which rests over the Soucook River aquifer, can have a negative impact on the water quality of the entire watershed. The increasing recreational use of the Merrimack, Suncook, and Soucook Rivers will eventually result in degradation of the water, embankments, and aquatic habitat.

How Pembroke Can Get Involved

Consideration of watershed effects should be made when developing land throughout the town of Pembroke. Strong efforts needs to be made to protect and manage those lands closest to the Suncook, Soucook, and Merrimack Rivers. This will help decrease the potential contaminants that may reach surface waters and groundwater.

The Friends of the Suncook River, a Suncook watershed group, has been established to discuss the concerns of the watershed with each involved community. Similar non-profit volunteer groups have been established in New Hampshire. Such groups are involved in community education, hold river clean up days, and hold recreation functions to promote the river(s). Pembroke should also have active representation on the Upper Merrimack River Local Advisory Committee to help maintain the health of the river.

Loss of Agriculture and Farms

There has been a steady decline of agricultural and farm lands in New Hampshire over the past several decades. Like most New Hampshire communities, Pembroke was once an agrarian and forestry-based community. Presently, two active farms have been identified in Pembroke. One farm is a dairy farm, and the other produces corn and vegetables. The decline of agricultural lands and farms have resulted in the loss of lands that are economically, aesthetically, and ecologically important. Some benefits of farmlands are that they provide food for people, wildlife habitat, and flood control.

The most common reason for the loss of this land is development. Increasing development of farmlands occur due to the poor economic return for agricultural products combine with the ease of converting farmland to development. This trend is not unique to Pembroke, but combined with similar Regional and State occurrences, little agricultural land remains in active use in New Hampshire. When neighboring communities practice the same type of development of farm lands, the scenic rural quality that makes the State unique and cherished by its residents is no longer there.

The lack of agricultural lands in a community is directly attributed to residential growth. In Pembroke, these farmlands are located primarily on 4th Range Road.

How Pembroke Can Get Involved

The Natural Resource Conservation Service is available to assist communities and landowners, usually free of charge, with issues related to retaining farmlands. Pembroke should take advantage of their assistance to best learn the options for protecting this precious resource.

Fields should be placed into conservation easement as readily as those lands which are forested. The Town should actively seek easements on, purchase the rights of, or purchase outright agricultural use parcels to protect them from development.

US Route 3

In the Central NH Region, US Route 3 spans from Franklin to Hooksett and beyond. Within Pembroke, Route 3 runs from the Concord to the Allenstown town lines via Pembroke Street. Route 3 is a heavy commuting corridor for area residents traveling to Concord, Franklin, and points south. Presently, there is heavy commercial use occurring along the entire roadway. Extremely heavy concentrations are found within Concord.

Regarding safety, the main speed limit for most of Route 3 within the Central NH Region is between 30 and 40 miles per hour. Pedestrian crossings are found in Concord, at strategic places (such as Pembroke Academy), and at selected intersections. An alternative to Route 3 in Pembroke is necessary. Vehicles speed on the straight-aways, and traffic is at a stand-still at the traffic lights. Route 3 is the only collector road in the area, with both NH Route 106 and Route 28 feeding into the Route 3. All along Route 3, heavy commercial traffic travels from points north and south, with the only residential neighborhoods along the entire stretch of road in Pembroke. See also the **TRANSPORTATION CHAPTER** for more information.

How Pembroke Can Get Involved

Increased traffic volume from Pembroke, neighboring communities, and within the State should be expected on Route 3. Pembroke should continue to work with the NH Department of Transportation (NH DOT) on roadway improvement projects. The Town should also seek to find an alternative to Route 3, possibly by opening up one of the range roads.

NH Route 106

Route 106, which connects Concord and Pembroke, is the main commercial area in Pembroke. The route connects Laconia, Belmont, Gilford, Northfield, Gilmanton, Loudon, Concord, and Pembroke and channels traffic onto Route 3.

The volume of traffic has increase on Route 106 in Pembroke due to Loudon Road (Concord) congestion, and widening is being considered in the future. The prime commercial area for Pembroke is on Route 106, but it rests over the Soucook River aquifer.

The I-93 Bow to Concord Study is underway in Phase A, and will provide alternatives to how to alleviate traffic via a potential connector to Route 106 after the Study concludes in approximately 2008. This recommendations of this study may further impact Route 106. Pembroke has a representative on the Technical Review Committee and the Citizen's Advisory Task Force (see also **I-93 Expansion**). The focus of additional business growth, including the installing new water and sewer, will need to consider how a potential connector will affect economic development.

How Pembroke Can Get Involved

The Town should maintain its representatives on the Technical Review Committee and the Citizen's Advisory Task force for the I-93 Bow-Concord Study. The Economic Development Committee should stay apprised of the I-93 Bow-Concord Study when working to bring new business and infrastructure to Route 106.

I-93 Expansion

Salem - Manchester

The Final Environmental Impact Statement (EIS) was released in April 2004. According to the EIS, the basic purpose of the project is to “*improve transportation efficiency and reduce safety problems associated with this approximately 19.8-mile segment of highway from the Massachusetts/New Hampshire state line to Manchester.*” If the current schedule is adhered to, construction will begin in 2005 and be completed by 2015.

The EIS examined a wide range of alternatives, ranging from the “no-build”, the baseline established for the project, to a four-lane expansion for the project length. Also included in the analysis were expanded bus service in the corridor and Transportation Demand Management initiatives such as employer-based incentives to change travel patterns. The Selected Alternative involves a combination of techniques: expanding the existing two-lane highway to four-lanes in each direction, numerous improvements at Exits 1 through 5, the construction of three park and ride lots with bus facilities, the implementation of variable message signs and other intelligent transportation system measures along the corridor, and the allocation of right-of-way for a future commuter rail corridor from the state line to Exit 5. The entire project, including mitigation, is estimated to cost \$421,400,000.

Of particular importance to Pembroke was the section of the EIS that examined the potential effect of the I-93 expansion on the five communities abutting the corridor, as well as 24 other communities within the “Secondary Impacts Study Area.” Pembroke is a primary impact community. This examination attempted to project increases in population and employment in each community due to the Salem to Manchester project by convening a wide-ranging panel with participants from local planning boards, real estate representatives, experts from the University of New Hampshire and the University of Massachusetts, local and regional planners, environmental policy groups, and experts in finance, law and economics.

The projections prepared by the panel estimate that in 2020, and additional 700 people will live in Pembroke due to the project, along with approximately 160 new jobs. This growth would be in addition to the more than 1,900 people (and 950 jobs) that are expected to be added to the Town’s population and employment base even if the project were not to be undertaken.

As part of the project mitigation, the NHDOT is planning to initiate the Community Technical Assistance Program to assist communities within the study area to better manage growth and advance conservation efforts through initial five-year funding through federal and state transportation funds. Although the program is not yet in place, it is envisioned that funding will be available for technical assistance to support planning and conservation; for innovative projects proposed by the towns; for training and education of officials; for marketing campaigns; analyses of future growth scenarios; and for the development of specific tools and materials to support local planning and conservation efforts.

Bow to Concord

The I-93 Bow to Concord improvement project was added to the New Hampshire Ten Year Transportation Program (Ten Year Plan) in 2001, with the initiation of construction not expected until after 2010. The project will necessitate study of a wide range of options and issues between the I-89/I-93 interchange and Exit 16, including the number of lanes, improvements to exits within the study area, safety improvements, the protection of a future rail corridor, and traffic demand measures. The study is currently underway and the first phase, Phase A, is anticipated to be completed in 2005.

How Pembroke Can Get Involved

Pembroke should participate in any public information sessions held by the NH Department of Transportation for both Salem to Manchester and Bow to Concord, and remain updated via the online website at www.i93bowconorod.com. When funds become available for I-93 Salem-Manchester mitigation, the Town should take advantage of the opportunity to develop planning tools to handle anticipated growth.

Concord Area Transit

Concord Area Transit, in cooperation with the Central NH Regional Planning Commission (CNHRPC), surveyed all households in Allenstown and Pembroke in 2001 regarding their interest in future bus service between Concord and the two communities. With the generally favorable results of the survey, CAT sought federal funding to undertake a trial expansion of service through Pembroke into Pembroke.

Unfortunately, while the funding for this trial was supported by the New Hampshire Department of Transportation, the Federal Highway Administration did not support the proposal and the funding was not approved. In 2003, CAT and CNHRPC began undertaking a broader CAT expansion study to develop a long-range route expansion plan. It is envisioned that this study, in conjunction with the earlier survey results, will emphasize the demand for enhanced transit service in central New Hampshire, thus supporting future requests for federal assistance for route expansion. The issue of regional bussing should be revisited on a regular basis.

How Pembroke Can Get Involved

Pembroke should continue to meet with the CNHRPC and Concord Area Transit for updates to funding opportunities. Discussions with Concord and Allenstown will assist with the local support component of any CAT service expansion. The Town should educate itself with state and federal transportation funding programs available to small communities in the event that the expansion goes forward.

Hooksett Residential and Commercial Growth

The population of Hooksett was 11,271 with the number of dwelling units at 4,150 in 2000. This results in 2.8 persons per household. In 1990, the population was 9,002, which is an increase of 33.7%. To put this in proportion, Pembroke's growth from 1990 to 2000 was 4.2%. With its high degree of commercial development along Route 3, Hooksett is a regional destination for area residents. Routes 3 and 3A are the primary travel corridors and traffic does not often flow freely.

The Town of Hooksett recently updated its Master Plan, which was last developed in 1989. One projection is that prime residential development in specific locations of Hooksett could increase number of homes by 1,650 by 2015 in these areas alone. Many housing options were explored in their new Master Plan, including cluster development, cost of housing, types of housing, and lot size. Economic considerations were also examined, such as conflicts between a downtown and a village and incentives for new businesses to locate to Hooksett. The Town presented the updated Master Plan to the public for review in late spring 2003.

With increasing population and housing trends, growth pressure from Hooksett may extend into Pembroke. Increased population in Hooksett will result in additional commuters. In addition, commercial growth will bring more through-traffic to Pembroke via Route 3. Sprawl from Hooksett may also result from further development as available land in Hooksett decreases.

The Central NH Regional Planning Commission, of which Pembroke is member, and the Southern NH Regional Planning Commission, of which Hooksett is a member, can serve as facilitators for communication on regional growth.

How Pembroke Can Get Involved

Pembroke should obtain a copy of Hooksett's Master Plan to try to coordinate development when possible. A regular regional dialogue should occur among Pembroke, Allenstown, and Hooksett as commercial and residential growth in Hooksett will have an impact on Pembroke, perhaps facilitated by the two regional planning commissions.

A buildout analysis should be conducted to guide the rewriting of pertinent regulations. Rewrites should include an emphasis on mixed use; encouraging infill and redevelopment; strengthening the Route 3 corridor in Pembroke with pedestrian facilities and access management.

The opportunities for bus service through the Concord Area Transit should be reevaluated on a regular service. At some point in the future, it may be able to connect Concord and Hooksett.

Double-Decker Bridge Replacement

The double-decker bridge crossing the Suncook River between Allenstown and Pembroke is a key feature of the transportation network in the area. The bridge is also much more than simply a transportation feature, it is historic, it is unique in design, and it links two communities together. The decision to replace the bridge was not one made easily by the New Hampshire Department of Transportation, but after examining the structural elements of the bridge, it was decided that building a new bridge was the best avenue to pursue. The US Route 3 bridge is currently scheduled to be replaced in 2006, although that date may still change in the future.

US Route 3 carries a large amount of traffic traveling between two large commuting destinations, Hooksett and Concord. It also carries a large amount of traffic between the Town of Pembroke and the Town of Allenstown and is in fact, both communities' busiest roads. With approximately 10,000 vehicles per day traveling the corridor, the importance of the double-decker bridge is clearly evident. One of the most difficult elements of any road improvement project is managing traffic during the construction, particularly when 10,000 vehicles are involved. The New Hampshire Department of Transportation explored detouring traffic on adjacent local streets while the construction was taking place, but did not find this option suitable from a safety standpoint. The most reasonable option remaining is to construct the new bridge separate from the existing bridge on the southern side.

After hearing at several meetings from both the Town of Pembroke and the Town of Allenstown, the New Hampshire Department of Transportation heard clearly that both communities would like to preserve the unique character that the existing double-decker bridge has. At this time, the preferred alternative includes constructing the new bridge as a double-decker bridge in an attempt to preserve as much of that character as possible. The new bridge, just as the old bridge does now, will include a lower-level local connector street with sidewalks. Changes are also planned for the intersection of Turnpike Street with US Route 3 to improve safety in the area. The existing open access from Turnpike Street to US Route 3 will be closed, requiring vehicles to access US Route 3 via School Street.

While the preferred alternative has been outlined by the New Hampshire Department of Transportation, opportunities for public input and involvement still exist. The Department will hold a Public Hearing at some point in the months to come regarding the project. Any input received at the meeting will need to be considered by the New Hampshire Department of Transportation before a final design is settled on. The new US Route 3 bridge will function as a safe and efficient component of the transportation network and hopefully, it will also continue to have a unique character reminiscent of the original bridge.

Installation of the new bridge will disrupt traffic flow and will require an alternate route for water pipes for approximately one year.

How Pembroke Can Get Involved

While the public involvement process for this project has been thorough, the Town of Pembroke should continue to strengthen the lines of communication with the New Hampshire Department of Transportation and the adjacent communities to help ensure future projects experience similar success.

Working with the Highway District Engineer regarding road maintenance, winter plowing, and driveway permitting is one avenue to pursue to continue strengthening relationships.

Developments of Regional Impact

At the time of plan acceptance, the individual Planning Boards of New Hampshire communities should determine whether or not the project before the Board is a development that has regional impact. As provided in RSA 36:55, a development would be considered as having regional impact if the project could reasonably be expected to impact a neighboring community because of its size, proximity to the neighboring community's transportation networks, proximity to aquifers, and if facilities such as schools and solid waste are shared. If the Planning Board concludes that a project is a development having a regional impact, notice has to be provided by certified mail to the respective regional planning commission and the affected municipality. All recipients will have the status of abutters for the purpose of being provided notice and giving testimony.

How Pembroke Can Get Involved

Pembroke and area communities should regularly coordinate their planning efforts, including the regular use of the developments of regional impact statute, obtaining copies of Master Plans and regulations, and holding sub-regional planning conferences on a semi-annual basis.

Telecommunications Towers

The dependence on and installation of cell towers are becoming prevalent in New Hampshire, including in the Central NH Region. Some communities do not permit telecommunications towers while neighboring towns actively promote them. Areas of "holes" exist where cellular reception is lost, and coverage is spotty at best. There is a level of inconsistency among towns, some of which regulate the placement and aesthetics of towers which are erected.

Pembroke has the telecommunications regulations to provide a uniform and comprehensive set of standards for the development of telecommunications facilities and the installation of towers and antennas and are designed to protect and promote public health, safety, community welfare and the aesthetic quality of the Town. Other goals of this ordinance include maximizing the use of existing towers and buildings to accommodate new antennas, retaining local responsibility for use of public-rights-of-way and ensuring compliance with FCC regulations on radio frequency exposure guidelines.

How Pembroke Can Get Involved

The Town should attend state and regional conferences on telecommunications issues to remain educated on the issues. Representatives can lobby for complete cellular coverage and the development of consistent regulations.

Concord Airport Expansion

Concord Airport serves the Central NH Region and welcomes corporate and private flyers with aircraft as large as a Boeing 727 and the military C-130 transport aircraft. The airport has 35,000 square feet of heated hangers and a dozen private T-hangers. A maintenance shop and an avionics shop are located on the field, as is a Hertz car counter. Several small aircraft are available for hourly rental to qualified pilots. Photo-survey flights are also provided. Concord hosts visiting candidates during the US Presidential primary season. Twice a year, Concord Airport is home to the NASCAR "Air Force" delivering drivers, owners, sponsors and officials to the New Hampshire International Speedway racetrack in Loudon.

Future expansion to the airport will increase the amount of noise pollution already experienced in Pembroke and the surrounding communities. As the size of the Manchester airport grows and its flight paths are changed, the Concord airport will also need to modify its routines and operations.

How Pembroke Can Get Involved

Any significant expansion to the airport would normally be considered a development of regional impact by the City. Pembroke should take the opportunity to voice its concerns at this time.

OPPORTUNITIES OF PARTNERING WITH NEIGHBORING COMMUNITIES

These opportunities are not the influences reviewed in the previous section but offer a chance for Pembroke to join with other Towns to develop a project or produce a legacy. Regionally, towns may accomplish together what they could not accomplish alone because of funding, increased resources, or because of the sheer size of the goal. Pembroke should take advantage of the following special opportunities that will make a lasting a difference to the community.

Downtown Suncook

Downtown Suncook is officially located in Pembroke right across the Suncook River from Allenstown. The entire area was more economically and characteristically united from 1735, when a bridge was built across the Suncook River, to the industrial age of the late 1800's and early 1900's. Mills were built along the banks of the River and provided employment for area residents. Once the use of the Old Meeting House was discontinued in 1876, community meetings were held at Hayes Hall in the Pembroke downtown area just south of the bridge. Culturally, Bartlett's Opera House opened in Suncook, at the same time as the use of the Hayes Hall commenced as a gathering place, hosting numerous grand performances by professional traveling companies.

Today, Suncook is a beautiful, quaint, and underutilized resource and commercial center. In recent years, revitalization efforts have repaired the Clock Tower and attracted businesses to the area. The Post Office, which proudly boasts the name, is situated in Suncook. The Suncook River offers scenic views. It has the potential to become a destination for residents of Pembroke, Allentown, and travelers wanting to walk and shop in a historic downtown setting.

The Town of Allentown is looking to “streetscape” its Main Street using historically styled lighting, benches, signage, and street trees. A unique opportunity is available for Pembroke to culturally and visually connect to the existing Downtown Suncook in Pembroke by employing the same streetscaping methods.

How Pembroke Can Get Involved

Pembroke has a number of active groups that work hard to promote and revitalize Suncook. Pembroke should contact the Pembroke-Allentown Old Home Day Committee and the Meet Me in Suncook group to establish interaction and begin a commitment to extend the “look and feel” of Suncook into Pembroke.

PARTICIPATION IN REGIONAL GROUPS AND ORGANIZATIONS

The benefits to being involved with regional groups are a heightened awareness of how outside actions will have an impact on Pembroke and the ability to take advantage of the services and knowledge that is available to members or representatives. The shared pool of resources is an asset waiting to be tapped. In addition to the regional groups and organizations mentioned in the previous sections, solid relationships with the following entities should also be developed.

Central NH Regional Planning Commission

The Central NH Regional Planning Commission (CNHRPC) is a voluntary member-driven planning advisory entity in the Concord area. Twenty communities are served. Membership to the CNHRPC provides access to free or low cost planning services such as Master Plan development, development review assistance, traffic counts, zoning ordinance revision, educational workshops, geographic information system mapping, information on latest available programs, grant projects, and statistical data.

How Pembroke Can Get Involved

The Town of Pembroke is currently a member of the CNHRPC. The Town is fully represented and takes advantage of the services CNHRPC offers. The Town should sustain its relationship with CNHRPC to ensure that Pembroke continues to learn how to utilize wise growth principles and techniques as the Town faces new development pressures.

Regional Resource Conservation Committee

The Regional Resource Conservation Committee (R2C2) is an advisory committee of the CNHRPC that meets quarterly. Comprised of Conservation Commission, Planning Board, and Board of Selectmen representatives from the 20 towns in the Central NH Region, the group discusses issues which affect their communities and holds guest speaker presentations to inform the R2C2 about the latest environmental or land preservation topics.

How Pembroke Can Get Involved

Pembroke does not have representatives to the R2C2, possibly because of a turn over in Conservation Commission members. The Town should appoint two representatives to the CNHRPC's R2C2.

Transportation Advisory Committee

The Transportation Advisory Committee (TAC) is an advisory committee of the CNHRPC which is comprised of local appointed representatives from communities within the region as well as members from other local, state, and federal agencies. The official purposes of TAC are to provide technical advice and policy recommendations regarding transportation planning issues. The TAC organizes and recommends projects for the Regional Transportation Improvement Program, the State Transportation Improvement Program, and ranks Transportation Enhancement and Congestion Mitigation-Air Quality grant applications for funding. TAC meets quarterly.

How Pembroke Can Get Involved

Pembroke does not currently have a representative to the TAC. The Town should appoint a representative to CNHRPC's TAC to ensure that the transportation interests of Pembroke are represented.

NH Office of Energy and Planning

The Office of Energy and Planning (NH OEP) - formerly the Office of State Planning - is based in Concord and is legislatively required to plan for the orderly development of the state and the wise management of the state's resources; compile, analyze, and disseminate data, information, and research services to advance the welfare of the state; encourage and assist planning, growth management, and development activities of cities and towns; administer select federal and State grant-in-aid programs; and participate and advises in matters of land use planning regarding lakes and rivers management programs. The Office of Energy and Planning typically does most of its work with communities through the regional planning commissions.

How Pembroke Can Get Involved

The Town should be aware of the projects and services that the OEP offers. Particularly, the Planning Board should subscribe to the free Plan-Link list serve to be kept abreast of issues other towns in New Hampshire are facing with respect to growth. The NH OEP website should be regularly visited to view the calendar of educational planning workshops and events.

New Hampshire Municipal Association

The NH Municipal Association (NHMA) was formed over 50 years ago by a group of concerned local officials who felt that by pooling resources and concerns, New Hampshire communities could better work together with a common voice. Today, NHMA represents 233 of the 234 Granite State communities and offers legal and technical assistance, legislative representation, training and workshops, and personnel services.

How Pembroke Can Get Involved

Pembroke is currently a member of the NHMA. The Town should enhance its use of NHMA's services to take full advantage of its membership.

Concord Area Trust for Community Housing

Since 1989, the Concord Area Trust for Community Housing (CATCH) has been helping families to become homeowners or find a stable, affordable apartment in the Concord area. Their mission seeks to increase the supply of affordable apartments, searching beyond city limits to expand housing choices, educating and empowering families to take control of their finances, and nurturing neighborhoods through quality local management. To date, 142 dwellings have been built or rehabilitated and 350 people have gained access to decent and affordable housing.

How Pembroke Can Get Involved

From the HOUSING CHAPTER, Pembroke expressed interest in housing rehabilitation and should contact CATCH to find out if the organization can assist the Town. CATCH also offers homebuyer education programs and may be able to provide assistance to potential residents or current renters looking to purchase a home in Pembroke. Their brochures and information should be made available in Town Hall for residents to pick up when visiting.

SUMMARY

Although every community, including Pembroke, is faced with its own internal issues and concerns, Town governments need to be aware that it may not have much control over another whole set of issues that will affect the Town from the outside. Many different regional influences, from transportation growth to environmental threats to population and housing influxes, will exert degrees of pressure on Pembroke. Pembroke needs to be adequately prepared to handle these exterior demands by becoming involved in the regional processes and therefore being in a better position to respond positively to forthcoming pressures or problems. Establishing a relationship with regional groups and abutting communities will ensure that communication lines are open and that Pembroke finds itself in the best position to influence whatever demands come this way.