Boiling Spring Lakes, North Carolina

Land Use Plan and Policies For Growth and Development

1987 Update

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l D. Stone, Jr. and Associates, Planners and Landscape Architects

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Land Use Plan
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Technical Assistance by:
Edward D. Stone, Jr. and Associates

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November 23, 1987

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Technical Assistance

Edward D. Stone, Jr. and Associates
Planners and Landscape Architects
215 South Front Street
Wilmington, North Carolina 28401

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Executive Summary

Introduction

Need For Planning

The City of Boiling Spring Lakes was established in the late 1950s as primarily a planned, low density residential retirement community. Growth was fairly modest during the decade of the 1960s, but escalated dramatically during the 1970s. Since 1980, the growth rate of the City has been roughly equivalent to that of Brunswick County, and continues at a relatively brisk pace.

As the City of Boiling Spring Lakes becomes more densely settled, however, new growth issues have emerged, including: an increasing number of housing types other than traditional single family residential, development occurring on less suitable soils, a tightening of State and County regulations regarding the suitability of soils for septic tanks, the need for alternative sewage treatment systems, a shortage of revenues to pay for needed services and facilities, and the possible degradation of the natural features of the community.

The intent of the Land Use Plan is to anticipate and plan for future growth, in a manner which helps protect the existing quality of life of area residents and avoids unreasonable increases in the local tax burden. The NC General Assembly recognized these issues when it passed the Coastal Area Management Act of 1974, which requires coastal local governments to develop Land Use Plans and update them every five years. The first Land Use Plan for the City of Boiling Spring Lakes was adopted in 1983; this 1987 Update primarily refines the 1983 Plan and Policies to reflect current conditions in the City.

Functions of the Plan

The Land Use Plan performs several important functions for local governing bodies and the general public; these functions are briefly described below:

- Source of Information - The plans' technical studies provide information on a number of topices, including the local economy, population, environmental features, housing trends and facility needs.
- Guidance for Government Decisions - Once a governing body adopts a plan, it then has a blueprint for guiding future decisions on budgets, ordinances, and zoning or subdivision applications.
- Preview of Government Action - Business decisions of the public in general, and

developers in particular, are easier to make when the probable outcome of governmental decisions is understood; the adoption of a Land Use Plan increases the predictability of government actions.

- Public Participation in Managing Growth - Public Meetings and hearings held during the plan's preparation help to insure that the plan expresses the will of the area's citizens.

Ingredients of the Plan

Several major steps were involved in the preparation of the Land Use Plan for Boiling Spring Lakes. First, a number of technical studies were made on the past and present conditions in the City. From these initial studies, forecasts for future growth and development of the area were summarized. Finally, policies and a Land Classification Map were devised to address present and future needs.

Technical Studies

A number of basic studies are required before sound policy decisions can be made. These basic studies include the following subjects:

Population and Economy
Existing Land Use Analysis
Current Plans, Policies and Regulations
Physical Limitations for Development
Fragile Areas
Areas with Resource Potential
Water Supply
Sewage Treatment
Transportation Facilities
Police Protection
Fire Protection
Schools
Parks and Recreation
Solid Waste
Population and Economic Projects
Future Land Use Needs
Community Facility Demands

Collectively, these studies summarize past and present conditions, while providing the essential yardsticks for estimating future conditions. The results of these studies are contained in full in Section 1 of the Land Use Plan. In addition, detailed mapping of existing land uses is available for inspection at the City Hall.

Highlights of the Technical Studies

Population

In 1985, there were an estimated 1,314 residents in the City, up from about 245 residents in 1970. Based on recent trends, the City's population is expected to reach about 2,300 persons by 1995. In a community the size of Boiling Spring Lakes, however, this figure could vary dramatically with the addition of a single major new development. In the past few years, the City has emerged from being a primarily retirement-oriented community to one which supports a significant number of families with school-age children.

Economy

Despite the reputation of Boiling Spring Lakes as a retirement community, Census figures reveal that area residents typically have higher household and family incomes than the County as a whole. It appears that a significant number of Boiling Spring Lakes residents may be employed at some of the higher paying industries in the area, such as the CP&L Power Plant and the Pfizer Chemical Plant. There are currently no industries within the corporate limits, and only a limited amount of commercial and service-oriented businesses.

Land Use and Housing

The 1987 Existing Land Use Survey revealed that the City is seeing an increasingly larger proportion of its new housing stock appear in the form of mobile homes. It is estimated that mobile homes now comprise approximately 50% of the City's total housing stock. Another trend in the City is the early signs of strip commercialization appearing along NC 87.

Soil Suitability for Septic Tanks

Suitability of soils for septic tanks has emerged as the number one constraint on the future growth and development of Boiling Spring Lakes. The majority of the land area within the City is not suited for conventional septic tank use. This issue has implications for future development patterns, housing types, and the need for public or private central sewage treatment facilities.

Policies for Growth and Development

The technical reports described above were geared to gathering and summarizing information related to the growth of the City. Building upon this information, a number of policies were prepared for consideration by the Boiling Spring Lakes Board of Commissioners. The policies which are presented in this document are the result of this process; as officially adopted policies of the City, they will serve as the basis for future decisions on capital improvements, ordi-

nance, zoning requests, special use permits, subdivision approvals, and other similar matters. In addition, once the Plan and Policies are approved by the Coastal Resources Commission, the document becomes the official plan for state and federal permit and funding decisions.

Land Classification Map

Some of the policies make reference to specially mapped areas; the Land Classification Map contained in the Land Use Plan illustrates these areas. The four land classification categories (Developed, Transition, Rural, and Conservation) were adapted from the Coastal Area Management Act's Land Use Planning Guidelines. By assigning the land classes to specific parts of the City, the map shows visually where and at what density growth should occur, and where significant natural resources are to be conserved. These classes are as follows:

1. **Developed** provides for continued intensive development and redevelopment of existing urban areas.
2. **Transition** provides for future intensive urban development within the ensuing ten years on lands that are most suitable and that will be scheduled for provision of necessary public utilities and services.
3. **Rural** - The purpose of the Rural Class is to provide for agriculture, forest management, mineral extraction, and other low intensity uses. Residences may be located within Rural areas where urban services are not required and where natural resources will not be permanently impaired.
4. **Conservation** provides for effective, long-term management of significant, limited or irreplaceable areas. Conservation lands are the lakes and connecting wetlands of Boiling Spring Lakes, as well as any isolated wetland or marsh areas under the jurisdiction of the U.S. Army Corps of Engineers 404 Wetland Permitting Program. These isolated wetlands pockets are site specific and, therefore, are not shown in map form.

Major Changes From the 1983 to the 1987 Updated Policies

- **Policy on Package Sewage Treatment Plants** - The City has adopted a policy which specifically supports the use of package sewage treatment plants when the plants are properly developed and maintained. The recent tightening of State and County regulations regarding the installation of conventional septic tank systems has further constrained the potential for growth in the City.

The City recognizes, that under certain conditions, package sewage treatment plants can offer a viable alternative to conventional septic systems.

- **Attached and Cluster Housing Encouraged** - In response to continued demographic changes in the population of Boiling Spring Lakes, area residents have begun to recognize the need for housing types beyond conventional site built, single family homes, and mobile homes. These housing types might include attractive apartments and cluster developments, as well as garden homes, patio homes, and townhouses. These housing types may respond to the needs of young families, as well as the less active retired, who are less able to manage the responsibilities of a traditional single family home on a large lot.
- **Strip Development on NC 87 Discouraged** - City officials have identified the beginnings of a stripped commercial development pattern along NC 87 as it passes through the community. The Planning Board has initiated discussions regarding changing some of the strip commercial zoning along this route to a more consolidated area on 87 west of the Town Hall and north of South Shore Drive. This initiative is reflected in the policy statements.
- **Need for Improved System of Development Controls Recognized** - Most residents attending the public meetings related to the Land Use Plan were in agreement that the City's existing development controls and administrative procedures need to be overhauled. The Planning Board has established this overhaul as its highest priority for the five year planning period leading to the next update of the Land Use Plan.

Section 1: Data Collection and Analysis

1.1 Information Base

The CAMA guidelines for preparing land use plans in the coastal area of NC require that an analysis of existing conditions and future trends be performed prior to policy development. The intent of this requirement is to insure that the policies as developed respond as closely as possible to current problems and issues facing the City. Key components of the analysis may be described in four categories: 1) present conditions, including population, economy, existing land use, and current plans and regulations; 2) land suitability constraints, including physical limitations for development, fragile areas, and areas with resource potential; 3) community facility and service constraints, including water, sewer, transportation, police, fire, schools, parks and recreation, and solid waste; and 4) anticipated demand, including population and economic projections, future land use needs, and community facility demands.

Collectively, these studies summarize past and present conditions, while providing the essential yardsticks for estimating future conditions.

1.2 Present Conditions

1.2.1 Population and Economy

1.2.1(a) Population

Population Growth
1950-1985

Year	Boiling Spring Lakes	Brunswick County
1950	---	19,238
1960	100	20,278
1970	245	24,223
1980	998	35,777
1985	1,314	45,555
ABSOLUTE INCREASE (DECREASE)		
1950-1960	100	1,040
1960-1970	145	3,945
1970-1980	753	11,554
1980-1985	316	9,778
AVERAGE ANNUAL GROWTH RATE		
1950-1960	---	0.5%
1960-1970	9.4%	1.8%
1970-1980	15.1%	4.0%
1980-1985	5.7%	5.0%

Source: *U.S. Census*
Brunswick County Planning Department for 1985 Estimate
EDSA

Because the City of Boiling Spring Lakes was planned as a new community during the 1960s, there are no significant population records prior to 1960. A review of the population growth rate from 1960 to 1985 reveals several trends. The decade of the 1970s was the City's fastest growth period. During that time frame, the City added over 700 new residents and achieved an average annual growth in excess of 15%. For comparison, all of Brunswick County grew at an average annual growth rate of only 4% during the same period. While the decade of the 1980s continues to show strong growth, the rate of increase has declined. With an estimated 316

new residents added to the City's population from 1980 to 1985, this translated to an average annual growth rate of 5.7%. This current rate of growth is comparable to the County's as a whole over the same period.

Racial Composition, 1980

	White	Black	Amer. Indian	Asian	Hawaiian
Boiling Spring Lakes	980	6	0	5	5
Brunswick Co.	27368	8261	51	104	6

Source: *U.S. Census Bureau for Decennial Statistics*

Compared to the total population of Brunswick County, Boiling Spring Lakes' racial composition in 1980 was overwhelmingly White, with less than 1% of the population Black.

Persons By Age, 1980

Age	Boiling Spring Lakes	% of Total	Brunswick Co.	% of Total
0-4	75	7.52%	2595	7.25%
5-14	160	16.03%	6222	17.39%
15-24	169	16.93%	5946	16.62%
25-34	158	15.83%	5518	15.42%
35-44	105	10.52%	4137	11.56%
45-54	27	2.71%	3681	10.29%
55-64	162	16.23%	3843	10.74%
65-74	106	10.62%	2726	7.62%
75+	36	3.61%	1109	3.10%
Total	998	100.00%	35777	100.00%

Source: *U.S. Census, 1980* and EDSA
Note: Population totals in the two tables on this page may not equate due to occasional vagaries in U.S. Census Data (e.g. data suppression for privacy).

The age breakdown for Boiling Spring Lakes vs. the County reveals the tendency of the City toward a greater retirement aged population. This is evident particularly in the 55-64 and 65-74 age groups. Another significant variance between the City and the County is a lack of Boiling Spring Lakes' residents in the 45-54 age group. All other age categories in the City are roughly equivalent, percentage wise, to the County totals.

Where Residents Lived In 1975

Persons 5 Years and Over by Residence in 1975	Boiling Springs Lakes	Brunswick County
Same House	357	19401
Different House in U.S.		
Same County	200	6426
Different County,		
Same State	107	4149
Different State		
Northeast	107	745
North Central	43	383
South	109	1875
West	6	98
Abroad	0	39

Source: *U.S. Census, 1980*

The predominance of people moving into Boiling Spring Lakes from out-of-state is also revealed by their location of residence 10 years ago. At the time of the 1980 Census, over 250 residents of Boiling Spring Lakes had been living in a different state in the country just five years earlier. The figures reveal that over 100 had lived in the Northeast, another 100 had lived in a different state in the South, and the balance came from the North Central or Western sections of the country. This is in striking contrast to the same figures for Brunswick County.

School Enrollment, 1980

PERSONS 3 YEARS OLD AND OVER ENROLLED IN SCHOOL BY SCHOOL ENROLLMENT

	Nursery School	Kindergarten & Elementary (1-8 Years)	High School (1-4 Years)	College
Boiling Spring Lakes	4	154	51	19
% Total Pop.*	0.40%	15.43%	5.11%	1.90%
Brunswick County	259	5663	2582	817
% Total Pop.*	0.72%	15.83%	7.22%	2.28%

*Based on 1980 population of 998 for Boiling Spring Lakes and 35,777 for Brunswick County

Source: *U.S. Census, 1980* and EDSA

Despite Boiling Spring Lakes' reputation as a predominantly retirement-oriented community, there are a sizable number of school-aged children living in the City. For example, in 1980 there were 154 students in grades K-8 comprising 15% of the City's population. This percentage was roughly equivalent to the County as a whole. School enrollments at other grade levels are also roughly equivalent to the County's percentages.

Where Residents Were Born

Persons by Nativity and Place of Birth	Boiling Spring Lakes	Brunswick County
Native		
Born in State of Residence	359	27063
Born in Different State	585	8171
Born Abroad, at Sea, Etc.	11	129
Foreign Born	42	414

Source: *U.S. Census, 1980*

While the vast majority of Brunswick County residents were born in the state of North Carolina, a predominance of Boiling Spring Lakes' residents were born in a different state. This is perhaps a reflection of the community's marketing orientation toward out-of-state residents.

Educational Attainment Of Residents, 1980

Persons 25 Years Old & Over By Years of School Completed	Boiling Spring Lakes	% of Total Pop.*	Brunswick County	% of Total Pop.*
Elementary 0-8 Years	77	7.7%	5602	15.66%
High School				
1-3 Years	90	9.02%	4583	12.81%
4 Years	251	25.2%	6555	18.32%
College				
1-3 Years	137	13.73%	2591	7.24%
4 Years or More	93	9.32%	1683	4.70%

* Based on 1980 populations of 998 for Boiling Spring Lakes and 35,777 for Brunswick County

Source: *U.S. Census, 1980* and EDSA

Boiling Spring Lakes' residents in general tend to be better educated than those residents of the County as a whole. While only 18% of the total County population over 25 years of age had completed four years of high school, over 23% of Boiling Spring Lakes' residents had completed four years. At the college level,

approximately twice as many residents of Boiling Spring Lakes, percentage-wise, had completed college.

Age of Housing, 1980

Year-round housing units by year structure built	Boiling Spring Lakes	% of all housing units	Brunswick Co.	% of all housing units
1980-1985	150	25.00%	9154	33.94%
1979-March1980	29	4.83%	962	3.57%
1975-1978	155	25.83%	3095	11.48%
1970-1974	95	15.83%	4867	18.05%
1960-1969	165	27.50%	4631	17.17%
1950-1959	0	0.00%	1864	6.91%
1940-1949	0	0.00%	1041	3.86%
1939 or Earlier	6	1.00%	1356	5.03%
TOTAL	600	100.00%	26970	100.00%

Sources: *U.S. Census, 1980* for figures through 1980
Brunswick County Planning Department for 1980-1985 Estimates

According to U.S. Census data, only six year-round housing units were built within the corporate limits of the City before 1960. This figure represents only 1% of the City's total housing stock in 1985. The figures also reveal the periods of most rapid growth for the City over the past 25 years. According to the Census, the single fastest period of new housing construction in Boiling Spring Lakes was from 1975 to 1978, with 155 units being built or put in place, representing over 25% of the total housing stock in 1985.

Occupied Housing Units By Tenure

	Boiling Spring Lakes	% of Total	Brunswick County	% of Total
Total	366	100%	12,411	100%
Renter Occupied	55	15%	2,337	18.8%

Source: *U.S. Census, 1980*

Boiling Spring Lakes has slightly fewer renter occupied housing units compared to Brunswick County as a whole on a percentage basis.

Housing Units

	1970	1980	1985
Boiling Spring Lakes	118	460	610
Brunswick County	11,729	21,551	30,719

Source: *U.S. Census decennial statistics*
Brunswick County Planning Department for 1985 statistics

The growth in housing units for Boiling Spring Lakes has obviously paralleled the City's population growth. The number of housing units in the City nearly quadrupled during the fast growth period of the 1970s and has increased an additional 50% during the first half of the 1980s. While the increase in housing units far surpassed the increase of the County during the 1970s, the production and placement of new housing units in the City has roughly paralleled the rate of production and placement for the County as a whole during the 1980s.

Housing Types, 1980

Year-Round Housing Units, 1980 by Units In Structure	Boiling Spring Lakes	Brunswick County
1, Detached	343	13,079
2	6	596
3 and 4	3	161
5 or More	1	364
Mobile Home or Trailer	97	3,572
Other	0	44

Source: *U.S. Census, 1980*

Compared to Brunswick County, Boiling Spring Lakes has an overwhelming predominance of single family homes and mobile homes. In 1980, approximately 30% of the City's total year-round housing stock was comprised of mobile homes or trailers. Discussions with the City Clerk, as well as the inventory of existing land use, have revealed that the percentage of mobile homes within the City has risen to approximately 50% as of 1986.

Occupations of Residents, 1980

Employed Person 16 Years and Over By Occupation	Boiling Spring Lakes	% of Total	Brunswick Co.	% of Total
Managerial & Professional Specialty				
Executive, Administrative, Managerial	39	12.19%	918	6.97%
Professional Specialty	14	4.37%	1225	9.30%
Technical, Sales, Administrative Support				
Technicians and Related Support	22	6.88%	315	2.39%
Sales	18	5.63%	1033	7.85%
Administrative Support Including Clerical	37	11.56%	1542	11.71%
Service				
Private Household	0	0.00%	131	1.00%
Protective Service	34	10.63%	315	2.39%
Service, Except Protective and Household	23	7.19%	1249	9.49%
Farming, Forestry and Fishing	7	2.19%	668	5.07%
Precision Production, Craft and Repair	81	25.31%	2413	18.33%
Operators, Fabricators, and Laborers				
Machine Operators, Assemblers, Inspectors	25	7.81%	1605	12.19%
Transportation and Material Moving	12	3.75%	911	6.92%
Handlers, Equipment Cleaners, Helpers, Laborers	8	2.50%	840	6.38%
TOTAL EMPLOYED PESONS	320	100.00%	13165	100.00%

Source: *U.S. Census, 1980*

Compared to Brunswick County, Boiling Spring Lakes had a higher incidence of employed persons in the following occupations: managerial and professional specialty; technical, sales, and administrative support; protective service; and precision production, craft and repair. Occupations of less significance in the City were as follows: farming, forestry and fishing; and operators, fabricators, and laborers.

Persons 16 Years and Over By Labor Force Status

		Boiling Spring Lakes	% of Total		Brunswick County	% of Total
Labor Force		356	47.09%		14433	55.13%
Armed Forces	3		0.40%	115		0.44%
Civilian Labor Force						
Employed	320		42.33%	13165		50.28%
Unemployed	33		4.37%	1153		4.40%
Not in Labor Force		400	52.91%		11748	44.87%
Total, All Persons 16 Years +		756	100.00%		26181	100.00%

Source: *U.S. Census* and EDSA

In 1980, less than half of the total population of the City over 16 years of age were in the labor force. This figure contrasts with Brunswick County, where approximately 55% of the total adult population was considered to be part of the labor force.

Household and Family Incomes, 1979

Households	Boiling Spring Lakes	Brunswick County
Median	$15,882	$12,992
Mean	$17,642	$15,623

Families	Boiling Spring Lakes	Brunswick County
Median	$17,222	$15,153
Mean	$19,177	$17,199

Source: *U.S. Census, 1980*

Despite the significant number of retired residents within the City, Census data reveals that Boiling Spring Lakes' residents have higher household and family incomes than the County as a whole. One possible explanation for this may be the number of Boiling Spring Lakes' residents employed at the CP&L Power Plant in Southport, at Pfizer Chemical, and at other higher than average paying employment sites.

Employment by Industry, 1980

Employed Persons 16 and Over By Industry	Boiling Spring Lakes	% of Total	Brunswick County	% of Total
Agriculture, Forestry, Fisheries, Mining	7	2.19%	645	4.90%
Construction	49	15.31%	1904	14.46%
Manufacturing				
Nondurable Goods	26	8.13%	1775	13.48%
Durable Goods	10	3.13%	886	6.73%
Transportation	18	5.63%	471	3.58%
Communication, Other Public Utilities	66	20.63%	908	6.90%
Wholesale Trade	0	0.00%	482	3.66%
Retail Trade	45	14.06%	1942	14.75%
Finance, Insurance and Real Estate	8	2.50%	515	3.91%
Business and Repair Services	18	5.63%	501	3.81%
Personal, Entertainment, and Recreation Services	10	3.13%	529	4.02%
Professional and Related Services				
Health Services	14	4.38%	541	4.11%
Educational Services	12	3.75%	1082	8.22%
Other Professional and Related Services	5	1.56%	340	2.58%
Public Administration	32	10.00%	664	5.04%
TOTAL	320	100.00%	13165	100.00%

Source: *U.S. Census, 1980*

Employment figures by industry in 1980 reveal that nearly one out of every three employed persons in the City works in the area of communication, public utilities, or public administration. This is significant in that these industries are less susceptible to major fluctuations in the national and local economy. By contrast, only about 12% of the total employed persons in Brunswick County work in these two industries.

1.2.1(c) Impact of Seasonal Population

The impact of seasonal population on the City of Boiling Spring Lakes is negligible. According to the 1980 *U.S. Census of Population and Housing,* no less than 95% of the City's total housing stock is in year-round occupancy. (See Section 1.2.1(a)). As is the case with most communities located near the ocean, there may be an increase in the overall level of population during the summer months due to higher levels of friend and family visitorship, but this is difficult to document. In any case, such visitorship is not considered to be significant, compared to the seasonal impacts experienced by nearby ocean-oriented beach communities in Brunswick County.

Those public facilities that are typically most impacted by increases in seasonal population, such as water and sewer, are not provided by the City of Boiling Spring Lakes.

1.2.2 Existing Land Use Analysis

Purpose

The existing Land Use Survey and Analysis serves a number of useful functions. The primary function is to provide a "snapshot" of development patterns, and a basis for determining growth trends over time. The survey identifies where development has occurred, what kind of development it is, and at what density. The survey also shows the relationships between different kinds of land use, and whether or not they are compatible.

Current land use information is fundamental to the preparation of a land use plan. Not only is the survey helpful in preparing growth and development policies, but it is also useful in identifying, for example, where it may be cost effective to provide public services, such as water and sewer. Accurate information on existing land use can also be helpful in making changes to an existing zoning ordinance, or in providing new zoning where none was present before.

Data provided by the survey are also useful to both the public and private sectors in considering specific development proposals. For the public sector, the land use survey can assist in siting a school or park, while in the private sector, the information might be helpful in locating a future shopping center or residential development.

Study Area

The study area for the existing Land Use Analysis consists of the entire 17,000-acre area within the corporate limits of the City of Boiling Spring Lakes.

1.2.2(a) Methodology and Findings

The existing Land Use Survey and Analysis prepared for the 1987 Land Use Plan was conducted in accordance with traditional land use survey methods. First, available single sheet base maps showing primarily the existing street pattern were obtained from the City and from the offices of the Brunswick County Planning Department. Second, parcel level tax maps were obtained from Brunswick County as necessary to encompass the entire corporate limits. Third, a 1986 county-wide land use survey conducted by the Brunswick County Planning Department and including Boiling Spring Lakes was consulted. These preliminary land use survey maps were used as a point of departure for conducting the 1987 survey.

Land uses were field checked by windshield survey, and also verified through discussions with City officials. A composite color coded existing land use map was then prepared at the single sheet scale, and served as the basis for preparing the reproducible black-and-white land use survey contained in this report. The color coded map has been retained on file in City Hall.

Current existing land use patterns in the City have continued to reinforce those patterns established over twenty-five years ago during the community's early development stages. Traditional single family residential development continues to occur predominantly along the shorelines of the lakes, as well as adjacent to the golf course. The City has also witnessed a scattering of traditional single family residential development from Boiling Spring Road north to Queens, Glen Oak, and Jupiter Drive, as well as locations south of the golf course area.

The recent accelerating rate of mobile home placements in the community has occurred predominantly in three areas:

1. a triangular area bordered by Cherry Street on the west, Beach Street on the north, the railroad tracks on the east, and Boiling Spring Road to the south,
2. an area in the extreme southeastern corner of the City, bounded by the railroad tracks to the west and north, by the city limits to the southeast and south, and by Woodcrest to the southwest,

3. an area generally to the west of Lake Hastie and Lake Reeves in the south central portion of the City bounded generally by Goldsboro Street to the west, Fifty Lakes Drive to the north, Beaufort to the east, and Catawba to the south.

A fourth and much smaller cluster of mobile homes occurs in the area of the City west of NC 87 and is bounded generally by Greenlawn to the north, Bluebird to the east, Hunters Road to the south, and Bermuda/Barclay to the west.

Office and institutional uses have tended to congregate along NC 87 and Boiling Spring Road at the approximate centerpoint of the community. Included here is the City fire station, the Town Hall, real estate offices, churches, and the VFW Post. It should also be noted that South Brunswick Middle School and South Brunswick High School share a common site in the south central area of Boiling Spring Lakes on the east side of NC 87.

Commercial/retail uses have chosen to locate on NC 87 near the City center. Typical of these commercial uses are a convenience store and gas station. A small motel is located at the intersection of NC 87 and North Shore Drive fronting on the main lake.

Transportation, communication and utility uses include all existing streets in the City, as well as small utility substations and the Sunny Point railroad track, which cuts through the community just east of the main lake.

There is no warehousing or industrial development in the City of Boiling Spring Lakes.

There are three principal recreational uses in the community. The first is the City's main park which is located about two blocks east of the Town Hall on Boiling Spring Road. The second is the Boiling Spring Lakes golf course and country club. The country club is located at approximately the midpoint of the main lake on South Shore Drive. The 18-hole golf course encompasses approximately 150-170 acres of land, and winds through much of the land area south of Boiling Spring Lake. Due to the course's location and layout, it provides open space relief for a large number of single family homes which back up to the fairways. It should be noted, however, that the golf course and country club are privately owned facilities.

The third major category of recreational uses in the community is the lakes after which the community is named. In addition to providing permanent open space,

they also offer opportunities for water sports and fishing.

The vast majority of Boiling Spring Lakes' 17,000 incorporated acres is undeveloped, including nearly all of the land area west of NC 87, a large area on the north side of the community east of NC 87, and most of the land area east of the railroad tracks.

1.2.2(b) Significant Land Use Compatibility Problems

The City of Boiling Spring Lakes has few significant land use compatibility problems. Reasons for the lack of land use conflicts include the following:

1. an overall low density of development
2. the predominance of single family residential and lack of multi-family residential
3. a limited amount of commercial and office development, largely confined to the NC 87 City center area
4. the absence of industrial development
5. a limited population on 17,000 acres of land.

The few instances of land use conflicts can be found where commercial development on NC 87 is adjacent to residential sites. The City is currently acting to prevent future reoccurrences of this situation by eliminating commercial strip zoning along certain portions of NC 87 and redirecting such future commercial growth to an area generally west and northwest of the Town center. There is very little residential development near the proposed new commercial district. There is also sufficient acreage such that any new commercial development could be well buffered from the few residences located nearby.

Another potential land use compatibility problem is the presence of the Sunny Point railroad which cuts through the eastern part of the City. A significant number of single family residences, both stick built and mobile homes, are within a few hundred feet of the rail line; perhaps as many as 30-40 homes have lots backing up directly to the rail right-of-way. Most residents have accepted the presence of the rail line, and in fact, decided on their home sites with the full knowledge of the presence of the rail line nearby.

In addition to the noise associated with the shipment of munitions to the Sunny Point Military Terminal, recent developments in the southeastern area of Brunswick County may cause a further increase in the use of this rail line. For example, a new cogenerating facility is presently under construction north of the Town of Southport. This facility uses large quantities of coal in

LEGEND

- Single Family Residential
- Mobile Home Residential
- Office and Institutional
- Commercial
- Transportation, Communication and Utilities
- Recreational
- Vacant and Undeveloped

BOILING SPRING LAKES

NORTH CAROLINA

GENERALIZED EXISTING LAND USE MAP 1987

LAND USE PLAN UPDATE 1987

Edward D. Stone, Jr. and Associates
Planners and Landscape Architects
215 South Front Street, Wilmington, North Carolina 28401 (919) 343 1515

0 .25 .5 1.0
SCALE IN MILES

NORTH

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

its operations, which will likely be shipped into the facility via the Sunny Point rail line. The City may wish to discourage future residential development from locating adjacent to the rail line.

1.2.2(c) Major Problems From Unplanned Development

As noted above, there are few major land use problems in the City of Boiling Spring Lakes. The potential problem of strip development along NC 87 has already been recognized by City officials, and steps are being taken to redirect future commercial development away from a linear strip along the highway and into a more controlled commercial district.

One other potential problem which is currently being examined by the Planning Board is the occasional lack of transition between the City's various residential zoning districts. For example, northeast of the main lake the zoning changes from R-1, the most restrictive residential district, to R-5, a district set aside specifically for mobile home development. One action being considered is the creation of an R-2 residential district as an appropriate transition between the R-1 and the R-5 in this area of the City. The issue warrants further study by the Planning Board.

1.2.2(d) Areas Experiencing Or Likely To Experience Changes in Predominant Land Use

In general, the City of Boiling Spring Lakes does not anticipate any major redirection of development activities in the community. Residential development should continue to occur largely as infill within existing residential areas.

It should be noted that the majority of the dedicated streets in the City are unpaved. As sparsely developed residential areas become more densely settled, there is oftentimes a need to pave such streets to serve the increased traffic load. When such streets are paved, infill development oftentimes accelerates. Thus, the existing development pattern is further reinforced, reducing the probability of expansion of residential development into new areas of the City.

One possible major change in predominant land use, however, may occur in the proposed new commercial district northwest of the City center. As residential development continues to occur not only in the City of Boiling Spring Lakes but also in Bolivia to the north and the more beach-oriented areas to the south, there may be an increasing demand for a centrally located commercial development on NC 87. A small shopping center,

including perhaps a grocery store and drug store, could become a reality within this new district.

1.2.3 Current Plans, Policies and Regulations

As a means of coordinating the planning activities of Boiling Spring Lakes with those of the Federal, State and County government, a summary of the City's previous plans, policies, and regulations is included here.

1.2.3(a) Plans and Policies

1. 1983 Land Use Plan, City of Boiling Spring Lakes - This was the first Land Use Plan prepared for Boiling Spring Lakes under the guidelines of the Coastal Area Management Act. The plan established the initial land classification system for the City, and included many of the policy statements that provided the foundation for the 1987 Land Use Plan Update.

2. Municipal Water System, Economic Feasibility Report and Addendum #1 (1981) - The first report, completed in January of 1981, evaluated the economic feasibility of developing a water supply source, storage, and distribution system within the Town of Boiling Spring Lakes. Addendum #1 to the initial report was completed in July of 1981, and evaluated the possibility of establishing a distribution system for only certain areas of the City, with a supply source provided by the Brunswick County water system. The second option, as outlined in Addendum #1, was found to be potentially feasible, depending upon the availability of a State of North Carolina Clean Water Bond Grant and a Farmer's Home Administration Grant and/or Loan. The report recommended that the Board of Commissioners initiate discussions with the FmHA about the possibilities of starting on the initial system.

3. Sinkholes: Plan of Action (1983) - The purpose of this study was to investigate and recommend short- and long-term courses of action to address the problem of limestone sinkholes in the corporate limits of Boiling Spring Lakes. The problems with the sinkholes, which develop as a result of the solution and breakdown of the limestone substructure in the area, focused on their negative impacts on railroad and dam construction and maintenance. The conclusions of the study included a range of alternative actions, varying

from a relocation of the existing railroad, to lowering the water level of the lake above the dam.

1.2.3(b) Regulations

1. Zoning Ordinance - The City adopted a zoning ordinance in October of 1975. The City's zoning law is basically a traditional zoning ordinance, with several separate and distinct zoning districts laid out in specific parts of the community.

   The residential districts are distinguished from one another primarily by the minimum heated square footage required for structures in each of the respective districts. For example, in the most restrictive residential district (R-1) the minimum heated square footage is 1,300 square feet. In the R-2 and R-3 districts, the minimum square footage drops to 1,000 square feet and 800 square feet, respectively. The R-5 district is the City's primary district for mobile homes.

   In general, minimum lot area requirements in all of the residential districts are 10,500 square feet, except for the R-6 district which does not have a minimum. There is some concern in the community that the 10,500 square foot minimum lot size is an insufficient area to accommodate a residential structure plus a private well and traditional septic tank and nitrification field. This problem is becoming more apparent with the recent tightening of septic tank regulations in the County.

   Since the last Land Use Plan in 1983, several changes have been made to the zoning ordinance. First, provisions have been added to the ordinance to regulate the placement and use of satellite dish antennas in the community. Second, a Planned Residential District (PRD) has been added to the zoning ordinance to accommodate multi-family, condominium, townhouse, and apartment-type residential developments. Unlike the other residential districts in the City, which are fixed to specific locations, the PRD is a floating zone. Another difference between the PRD and the traditional residential districts in the City are specific requirements for parking, in addition to paved roads.

   A third and relatively minor change in the ordinance since the last Land Use Plan has

been the relaxing of setback requirements primarily for mobile homes in the R-5 district.

2. Subdivision Regulations - The City's subdivision regulations are patterned after the model subdivision regulations prepared and published by the North Carolina Division of Community Assistance. The regulations call for the submission of a preliminary plat for review by the Planning Board, and a final plat to be prepared and recorded following completion of construction. The 1983 Land Use Plan noted that the subdivision regulations require the installation of certain physical improvements that might be considered excessive in light of the community's overall lack of urban level development and public utilities. The regulations reviewed at the time of this Land Use Plan Update, however, note that certain physical standards will not be considered mandatory until such a time as the City reaches a more urban level of development.

3. Flood Insurance Regulations - According to the Federal Emergency Management Agency, there exists no threat of flooding within the corporate limits, and for this reason, the City does not participate in the Federal Flood Insurance Program, nor does it regulate development for the purpose of protection from flooding.

4. CAMA Permits For Minor Developments and AECs - To date, there have been no AECs designated within the corporate limits of Boiling Spring Lakes. No minor permitting program is, therefore, in effect.

1.2.3(c) State and Federal Government Licenses and Permits

The following is a list of State and Federal permits and licenses which may apply to developments occurring in the City of Boiling Spring Lakes:

STATE LICENSES AND PERMITS

Department of Natural Resources and Community Development Division of Environmental Management	- Permits to discharge to surface waters or to operate waste water treatment plants or oil discharge permits; NPDES Permits; (G.S. 143-215).

	- Permits for septic tanks with a capacity over 3,000 gallons/day (G.S. 143-215.3).
	- Permits for withdrawal of surface or ground waters in capacity use areas (G.S. 143-215.15).
	- Permits for air pollution abatements facilities and sources (G.S. 143-215.108).
	- Permits for construction of complex sources; e.g. parking lots, subdivisions, stadiums, etc. (G.S. 143-215.109).
	- Permits for construction of a well over 100,000 gallons/day (G.S. 87-88).
Division of Coastal Management	- Permits for development in Areas of Environmental Concern (G.S. 113A-118). NOTE: Minor development permits are issued by the local government.
Department of Natural Resources and Community Development, Division of Earth Resources	- Permits to alter or construct a dam (G.S. 143-215.66).
	- Permits to conduct geophysical exploration (G.S. 113-391).
	- Sedimentation erosion control plans for any land disturbing activity of over one contiguous acre (G.S. 113A-54).
Department of Natural Resources Community Development, Secretary of NRCD	- Permits to construct an oil refinery.
	- Easements to fill where lands are proposed to be raised above the normal high water mark of navigable waters by

	filling. (G.S. 146.6(c)).
Department of Human Resources	- Approval to operate a solid waste disposal site or facility (G.S. 130-166.16).
	- Approval for construction of any public water supply facility that furnishes water to ten or more residences (G.S. 130-160.1).

FEDERAL LICENSES AND PERMITS

Army Corps of Engineers (Department of Defense)	- Permits required under Sections 9 and 10 of the Rivers and Harbors of 1899; permits to construct in navigable waters.
	- Permits required under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972.
	- Permits required under Section 404 of the Federal Water Pollution Control Act of 1972; permits to undertake dredging and/or filling activities.
Coast Guard	- Permits for bridges, causeways, (Department of Transportation) pipelines over navigable waters; required under the General Bridge Act of 1946 and the Rivers and Harbors Act of 1899.
	- Deep water port permits.
Geological Survey Bureau of Land Management (Department of Interior)	- Permits required for off-shore drilling.
	- Approvals of OCS pipeline corridor rights-of-way.

Nuclear Regulatory Commission	- Licenses for siting, construction, and operation of nuclear power plants; required under the Automic Energy Act of 1954 and Titl II of the Energy Reorganization Act of 1974.
Federal Energy Regulatory Commission	- Permits for construction, operation and maintenance of interstate pipelines facilities required under the Natural Gas Act of 1938.
	- Orders of interconnection of electric transmission facilities under Section 202 (b) of the Federal Power Act.
	- Permission required for abandonment of natural gas pipeline and associated facilities under Section 7C(b) of the Natural Gas Act of 1938.
	- Licenses for non-federal hydroelectric projects and associates transmission lines under Sections 4 and 15 of the Federal Power Act.

1.2.3(d) Evaluation of Previous Land Use Plan Effectiveness

Discussions with City officials responsible for land use planning in Boiling Spring Lakes have generally indicated that the 1983 Land Use Plan has not been used in guiding development decisions. There are a number of reasons why this may be the case:

1. The City has no paid planning staff responsible for administering day-to-day planning and development activities in the community. Responsibility is loosely shared by the Board of Commissioners and the Planning Board with the Town Clerk serving as the only regular point of contact in City Hall.
2. New development in the City has been brisk but incremental, i.e. most new residential development has been on individual lots with little or no large-scale subdivision activity. Most such activity has required only a building permit and

other standard permits, thereby not directly involving any policy-making board.

3. Likewise, commercial and office development in the City has involved only individual businesses on relatively small parcels of land. No planned shopping centers or office complexes have yet been proposed in the City where a higher level of development review would be in order.
4. The 1983 Land Use Plan contains few specifically identified implementation actions. The lack of such identifiable actions requires policy makers to "read between the lines" as to what near-term courses of action may be needed to correct problems in the City's land use and growth management system.

In light of the situation described above, this update to the City's Land Use Plan will focus on clearly identifying those implementation actions thought necessary to carry out the policies of the land use plan. Each action will be clearly labeled in relation to the specific policy statement which it is designed to address. It will then be up to the initiative of the Board of Commissioners and the Planning Board to see to it that the implementation actions are carried out.

It is not likely that the City will be in a financial position to afford a paid planner in the near future. Therefore, the initiative taken by the individuals serving on the City's elected and appointed boards will be critical in the successful implementation of this plan.

1.3 Constraints; Land Suitability

1.3.1 Physical Limitations for Development

1.3.1(a) Natural Hazard Areas

At the time of preparation of the 1983 CAMA Land Use Plan, there was uncertainty as to whether the City of Boiling Spring Lakes had any flood hazard areas. On one hand, U.S.G.S. topographic maps (7 1/2 minute series) indicated that there were flood hazard areas within the city limits. On the other hand, no flood hazard areas had been identified up to that time under the National Flood Insurance Program.

Since the writing of the last Land Use Plan, City officials have consulted directly with Federal Emergency Management Agency personnel to resolve the issue. The City has subsequently been informed that there are no flood hazard areas within the corporate limits and there is, therefore, no need for the City to participate in the National Flood Insurance Program.

The other natural hazard condition found in the City is the presence of limestone sinkholes underlying some parts of the community. The problem of sinkholes is well documented in the CAMA-funded 1983 study entitled: *Sinkholes: Plan of Action, Boiling Spring Lakes, North Carolina.* While these sinkholes pose no sudden danger to area residents, their presence adversely impacts the general development suitability of the area, particularly for the railroad and dam located in the community. The sinkhole problem is a complicated issue, with no easy solutions; the reader is directed to the detailed study for further information.

1.3.1(b) Manmade Hazard Areas

Manmade hazards which pose a potential threat to the City of Boiling Spring Lakes include the railroad line which bisects the community, and the Carolina Power and Light nuclear-powered generating plant located southeast of Boiling Spring Lakes and north of the Town of Southport. Concern about the rail line rests to some degree with the frequent shipment of munitions over this section of rail to the military ocean terminal at Sunny Point. A more recent and perhaps even greater concern is the movement of coal shipments through the City to the new cogeneration facility now under construction north of Southport. When the facility comes on line, a reported 80 to 85 coal cars per week are

expected to move through Boiling Spring Lakes on the rail line. Both the rail line and the nuclear-powered plant are considered to be permanent facilities that City residents have accepted at a reasonable level of risk. The City continues to cooperate with representatives of each of these facilities to maximize information exchange and public safety.

1.3.1(c) Soil Limitations

The suitability of soils for development activities, particularly conventional septic tanks, is the number one constraint on the future growth and development in the City of Boiling Spring Lakes. The 1983 Land Use Plan for the City devoted some ten pages of text and fifteen pages of maps to cover the subject. Nearly all of the pages were excerpts from a preliminary soil survey for Brunswick County.

In November of 1986, the U.S. Department of Agriculture, Soil Conservation Service published the final *Soil Survey of Brunswick County, North Carolina.* The soil survey, printed in booklet form, includes all appropriate mapping and soil interpretation charts and narrative suitable for generalized soil interpretation and land analysis. For the most up-to-date soil mapping and full interpretation of soil series occurring in Boiling Spring Lakes, the reader is referred to that document.

By way of a summary analysis, there are thirteen soil series occurring in the City of Boiling Spring Lakes, of which eight have a depth to the seasonal high water table of two feet or less. Twelve of the thirteen soil series are rated as severe for septic tank absorption fields. The thirteen soil series and some of their key characteristics are summarized in the table below.

				Limitations		
Soil Series	Slope	Depth To Seasonal High Water Table (feet)	Flooding Frequency (surface)	Dwellings	Streets and Roads	Septic Tanks
Baymeade Fine Sand	1-6%	4-5	None	Mod.-wetness	Slight	Mod.-wetness
Croatan Muck	0-2%	0-1	Rare	Severe-low strength, floods, wetness	Severe wetness low strength	Severe wetness percs slowly

Soil Series	Slope	Depth To Seasonal High Water Table (feet)	Flooding Frequency (surface)	Limitations		
				Dwellings	Streets and Roads	Septic Tanks
Foreston Loamy Fine Sand	0-2%	2 1/2-3 1/2	None	Slight	Slight	Severe wetness poor filter
Kureb Fine Sand	1-6%	>6	None	Slight	Slight	Severe poor filter
Leon Fine Sand	___	0-1	None	Severe-wetness	Severe wetness	Severe wetness poor filter
Lynchburg Fine Sandy Loam	<2%	1/2-1 1/2	None	Severe wetness	Severe wetness	Severe wetness
Mandarin Fine Sand	0-2%	1 1/2-3 1/2	None	Mod.-wetness	Mod.-wetness	Severe wetness
Muckalee Loam	0-2%	1/2-1 1/2	Freq.	Severe floods, wetness	Severe wetness floods	Severe wetness
Murville Fine Sand	<2%	0-1	None-rare	Severe wetness	Severe wetness	Severe wetness poor filter
Rains Fine Sandy Loam	<2%	0-1	None	Severe wetness	Severe wetness	Severe wetness
Torhunta Fine Sandy Loam	0-2%	1/2-1 1/2	Freq.	Severe wetness floods	Severe wetness floods	Severe wetness floods
Woodington Loamy Fine Sand	0-2%	1/2-1	None	Severe wetness	Severe wetness	Severe wetness
Goldsboro Fine Sandy Loam	nearly level-gently sloping	2-3	None	Mod.-wetness	Mod-wetness	Severe wetness

From the table, it is apparent that only Baymeade soils are capable of accepting conventional septic tank absorption fields without significant modifications of the land resource. A review of the soil maps covering Boiling Spring Lakes reveals that Baymeade soils are found relatively infrequently within the corporate limits, and comprise a minor amount of acreage in the community. Much of the existing development in the community has occurred on Mandarin, Kureb, Murville, and Leon soils. This development has been accomplished only through extensive surface drainage and ditching.

It should also be noted that State and County regulations regarding the installation of septic tank systems have been tightened in recent years, increasing the distance required between the bottom of the septic tank absorption field and the top of the seasonal high water table. These new regulations have further constrained the future of development in Boiling Spring Lakes without some alternative means of wastewater treatment and disposal. As will be discussed under the policy section of this plan, the desire to identify and encourage such alternative facilities is a high priority of the City.

1.3.1(d) Water Supply

The 1983 Land Use Plan contained an excellent summary and analysis of the surface and groundwater resources available to the City of Boiling Spring Lakes as prepared by the regional hydrologist in the Wilmington office of the Department of Natural Resources and Community Development (Memorandum from Richard Shiver, April 13, 1981). Portions of that appraisal are repeated here in full, as it is unlikely that regional groundwater conditions have changed over the past four years:

"Underneath Boiling Spring Lakes, usable groundwater occurs within the surficial aquifer and the limestone aquifer. Commonly known as the water table aquifer, the surficial aquifer exists from a few feet below land surface to a depth of 20'. Permeable sands form the geologic framework of this aquifer. Wells exposed to this aquifer are generally not capable of yielding more than a few gallons per minute of water. Fair in quality, iron is a common constituent that causes nuisance problems. Since the cost of constructing a well in the underlying limestone aquifer is low, the surficial aquifer is rarely used as a source of water supply.

"The limestone aquifer occurs from a depth of 20-40' to a maximum depth of 150' below land surface. Aquifers past 150' contain brackish water, and therefore, are not usable as a source of water supply. The aquifer framework is composed of shells, shell limestone, and sandstone. Considerable quantities of water are stored in the pores and cracks of these rocks. Wells exposed to the limestone aquifer are capable of yielding up to 200 gallons per minute of water. The quality of water from this aquifer is good to fair; again, iron may occur in concentrations that cause nuisance problems. However, in spite of this iron problem, the aquifer is considered an excellent source of water supply.

"Significantly, the surficial aquifer and the limestone aquifer are connected with one another. The clay layer that usually separates aquifers, called an aquitard, is not everywhere present, and where present is 'leaky'; rain infiltrating into the surficial aquifer is thereafter transmitted into the limestone aquifer. Moreover, other geological factors interact to promote efficient aquifer recharge; as a consequence, Boiling Spring Lakes is located over a primary aquifer recharge area.

"Since it is a primary recharge area, development of Boiling Spring Lakes must proceed carefully. Wastes disposed on or into the land have the potential to severely, and irrevocably, contaminate groundwater in this primary limestone aquifer. Water pumped from this aquifer in excess of recharge--in this instance, an impressive 1-2 million gallons per day per square mile--will accelerate the collapse of theretofore inactive sinkholes. In conclusion, if the groundwater resources are improperly managed, it will serve only as a short-term source of water supply for the City; if properly managed, the groundwater resources will be available for use in the many decades to come."

In the same memorandum, Mr. Shiver also makes reference to the feasibility of using surface water supplies in the Boiling Spring Lakes area for potable water. Referring to the many manmade impoundments as well as several of the larger sinkholes in the community, he states that the quantity of water would be adequate, but the costs of developing such a water source would not be cost effective.

Since the time of the preparation of the 1983 Land Use Plan, the Brunswick County regional water supply

system has become a reality. A major trunkline for the system runs down NC 87 through the City of Boiling Spring Lakes, and is available for use by the City if it desires. The quantity of water available through the regional County system is more than ample to serve the needs of the County for many years to come, and the County is actively seeking customers to help pay for the further development of the treatment and distribution system. At the present time, the City of Boiling Spring Lakes does not have the financial resources to tap into the trunkline and build the necessary water distribution system within the corporate limits. Ultimate use of the regional water supply system will be dependent upon the emergence of other factors in the community, such as the availability of a centralized sewage treatment system and higher density levels of development.

1.3.1(e) Areas Which Exceed 12% Slope

Boiling Spring Lakes does not contain any areas where the predominant slope exceeds 12%.

1.3.2 Fragile Areas

There are no Areas of Environmental Concern, as defined in the Coastal Area Management Act Guidelines, that have been formally identified and recognized in the City of Boiling Spring Lakes. Certain fragile areas do exist in the community, and these areas are associated primarily with the lakes and numerous wetland areas found throughout the community.

Many of the wetland areas in the community occur in the form of pocosins, which literally translated means "swamp on a hill." Typically, an underlying layer of clay forms a barrier to the downward movement of rainwater through the soil, causing very wet soil conditions with a groundwater table near or at the surface. As a result of water availability, pocosins are most often characterized by a heavily vegetated understory of evergreen shrubs and small trees. The upper canopy of trees, if present, is oftentimes quite sparse.

A distinct topographic feature found in Boiling Spring Lakes, with which pocosins are oftentimes associated, are "Carolina Bays." Carolina Bays are land features of unknown origin on the coastal plain landscape of the Southeast from Virginia to North Florida. The bays are elliptical depressions with the long access of the ellipse oriented within about 18-20° around northwest-southeast. Thousands of these bays occur in the coastal

plain in the Southeast, and several are readily apparent in aerial photographs of the Boiling Spring Lakes area. Some of the bays in other areas of the State contain open water, as do some of those in Bladen Lakes State Forest, White Lake, and Lake Waccamaw. Some depressions contain deep peat deposits supporting pocosin vegetation, and some are filled by sand or a mixture of sand and clay. Some theories consider the depressions are of meteoric origin, but no such materials have ever been found. Current thinking subscribes to the idea that they were derived from a combination of wind and water related phenomena prior to the onset of the last Ice Age, the Wisconsin Glaciation. None of these theories is entirely satisfactory, so the origin of Carolina Bays remains unknown. (David DuMond and New Hanover County Planning Department, "Conservation Resources in New Hanover County," September, 1984)

For at least the past twelve years, pocosins in the City of Boiling Spring Lakes have been identified as supporting remnant species of venus flytrap. The venus flytrap is an endangered plant species in North Carolina.

It is conceivable that one or more of the pocosin areas in the City of Boiling Spring Lakes could be designated as an Area of Environmental Concern under the Remnant Species category of the CAMA guidelines. Any citizen, interest group, local government, state or federal agency may nominate areas such as this for designation as an AEC. Forms are available from the North Carolina Division of Coastal Management and must be sumitted to that agency for formal review. The 1983 Land Use Plan indicates that fragile wetland areas in Boiling Spring Lakes may also contain the American Alligator, the Red Cockaded Woodpecker, and the Osprey. These three species are also considered endangered or threatened by the U.S. Fish and Wildlife Service.

It should also be noted that the small wellsite for the public water supply east of NC 87 and on Boiling Spring Road has the potential for designation as an Area of Environmental Concern under the Public Water Supply category.

The North Carolina Department of Cultural Resources, Division of Archives and History, has stated: "There are four archaeological sites . . . within the Boiling Spring Lakes city limits. Since the area has never been systematically surveyed in order to determine the location or significance of archaeological resources,

others may exist. Based on our current knowledge of similar environmental settings, the upland areas immediately adjacent to the navigable portions of Allen Creek hold a moderate potential for containing archaeological resources. The remaining portions have a low potential for such resources.

We have conducted a search of our maps and files, and have located no structures in Boiling Spring Lakes which are listed in the National Register of Historic Places or on the Division of Archives and History's Study List for future nomination to the register. Since a comprehensive cultural resources inventory of Boiling Spring Lakes has never been conducted, there may be properties of architectural and/or historical significance of which we are unaware located in the area." (Letter communitication, May 21, 1987)

1.3.3 Areas With Resource Potential

There are no known areas in the City of Boiling Spring Lakes suitable for commercial forestry, mining, fishing, agricultural or other significant activities drawing on the natural land and water resources of the area. It has been noted, however, that the significant wetland areas (pocosins and Carolina Bays) in the community provide habitat for many forms of wildlife, and may therefore be considered suitable for passive recreation and open space uses.

1.4 Constraints: Community Facilities and Services

As discussed in the preceding section, the suitability of land for development presents one set of constraints on the future growth of Boiling Spring Lakes. These mostly natural constraints are largely beyond the control of man without considerable and oftentimes costly modification of the land resource.

A second set of constraints, however, has to do with local government's ability to provide and pay for community facilities and services in the face of continued growth. While such ability is linked to some degree to the natural systems upon which certain facilities (such as water) depend, the provision of such facilities and services is more a function of conscious decisions on the part of local government as to when such services are needed, who will pay for them, how and when.

In the City of Boiling Spring Lakes, some of the community facilities and services are provided through the limited tax base of the community and are operated and controlled by the City. In other instances, such as in fire protection, the services are provided by a volunteer group. Finally, some other services are provided through the County. Each of the City's major service needs and offerings are summarized in the paragraphs below.

1.4.1 Water

There is no publicly owned or operated central water supply system serving the City of Boiling Spring Lakes. There is, however, a small water distribution system previously owned by the Boiling Spring Lakes Development Company, which was subsequently turned over to a cooperative called the Boiling Spring Lakes Water Corporation. There are about 30-35 residential customers on the system, and it generally serves an area along Willetts Road, Wendover Road and North Shore Drive near the intersection of NC 87 and Boiling Spring Road.

All other residents of the City obtain water from small individual deep wells. A more detailed discussion of the groundwater resource serving the City is found in Section 1.3.1 (d).

1.4.2 Sewer

There is no publicly owned or operated central sewage collection and treatment system within the corporate limits of Boiling Spring Lakes. In addition, there is no public or privately owned package sewage treatment

plant within the community. All residences and businesses rely upon individual septic systems and nitrification fields to handle sewage disposal needs within the Town. As noted in Section 1.3.1(c), there is a predominance of soils in the community that are unsuited for septic tank use. The inability of many lots to percolate is the singlemost constraining factor on the future growth and development of the City. For a more detailed discussion of the various policy options available to the City in dealing with this issue, see Section 2.1.6.

1.4.3 Transportation

The City has a street maintenance department equipped with two motor graders, two front end loaders with backhoes, and two tractors with bushhogs for right-of-way mowing. Two full-time employees work three days per week in the street maintenance department and two days per week in the solid waste and trash collection area.

Of the City's 116 linear miles of streets, 16 are paved and 100 are dirt. The City uses its annual Powell Bill funding to operate the street maintenance department. For Fiscal Year 1986, the City was allocated $133,000 which it uses to pay the salaries of the two employees, provide fuel and oil, new tires, supplies, and other necessary equipment to run the department. During the past fiscal year, $45,000 of the total allocation was appropriated for the upgrading of streets in the Town. Such upgrading can include, for example, marl improvements to dirt roads or the resurfacing of some streets facing continued deterioration to avoid total loss of the paved surface. There are no plans to change the current operation of the department or its funding methods.

1.4.4 Police

The City of Boiling Spring Lakes maintains its own full-time police department. The department consists of four full-time officers. The City currently has three patrol cars, one of which has been modified for animal control use.

1.4.5 Fire Protection

According to the Emergency Management Coordinator for Brunswick County, there are two volunteer fire stations serving the City of Boiling Spring Lakes. Fire House #1 is located on NC 87 in the City, while Fire House #2 is located on Frink Lake Drive. Winnabow and Southport serve as backup stations for the City, while the Sunny Point Military Terminal has two six-

wheeled vehicles used predominantly for brush fires. The Boiling Spring Lakes' volunteer fire department has equipment as follows: two pumper trucks, three tank trucks, and one four-wheel drive brush truck with pump.

Since there is no central water supply system in the City, there are also no fire hydrants in the City, with the exception of several dry hydrants connected to the lake system for pumping on demand. The fire department has a fire chief and approximately 17-25 volunteers. The City as a whole has a fire insurance rating of 8. There are no plans to change the current firefighting capability of the volunteer fire department.

1.4.6 Schools

School-age children in the City of Boiling Spring Lakes are served by the Brunswick County public school system. Children in grades 1-5 living on the north side of Boiling Spring Lakes attend Bolivia Elementary School, while children living on the south side of the main lake attend Southport Elementary School. Children of junior high school age attend South Brunswick Middle School, while high school students attend South Brunswick High School. Key numbers for these various schools are as follows:

School	4th Month Membership	Grades Served	Additional Classrooms Needed*
Bolivia Elementary	484	K-5	4
Southport Elementary	830	K-5	3
South Brunswick Middle	690	6-8	4
South Brunswick High	887	9-12	12

*Telephone interview with Gene Yarborough, Superintendent of Public Schools, Brunswick County, 2/17/87.

1.4.7 Parks and Recreation

Boiling Spring Lakes maintains one small community park just off the main road east of the Town Hall. The park includes the following features: one tennis court, one basketball court, a picnic shelter and picnic area, and playground equipment. There are no plans to expand

this park or to add additional park facilities in the near future.

A significant recreation and open space feature within the City of Boiling Spring Lakes is the golf course and country club. This semi-private club has a current membership of 150+ members, but the course is also open the public. Total yardage for the course is 6,762 yards over 18 holes. The golf course encompasses an estimated 150-170 acres of land in open space. While the golf course is not owned or operated by the City, it is felt to be a significant enough open space amenity to be included in the discussion of recreation under the plan.

1.4.8 Solid Waste Disposal

The City provides garbage pickup services twice weekly. Two full-time employees split their time two days per week in garbage collection and three days per week in the street maintenance department. The Town has one garbage truck which it uses to collect the trash and deliver it to the County transfer station on NC 133 near the Board of Education office. When the transfer station is not operating, the solid waste is carried to the County landfill near Supply off Highway 17. Expansion of the County's landfill system by about 300 acres is currently being implemented and should accommodate the needs of the community for the foreseeable future.

1.5 Anticipated Demand

The purpose of this section is to anticipate how future population projections may impact upon the need for additional developable land and facilities in the City of Boiling Spring Lakes. These projections have a direct bearing on the amount of land allocated, for example, to the Transition class of the Land Classification Map. This is more fully explained in the paragraphs that follow.

1.5.1 Population Projections

As noted earlier under Section 1.2.1, the population growth rate for the City of Boiling Spring Lakes has varied considerably over the past three decades. During the 1960s, for example, the City's population increased by an average annual growth rate of just under 10% per year. For the 1970s, this growth rate accelerated to just over 15% per year for the decade. During the first half of the 1980s, however, the average annual growth rate for the City has fallen to between 5 and 6% annually.

Several factors may have contributed to the decline in the growth rate in recent years. First, there is undoubtedly more competition today from other developments and communities in Southeastern North Carolina than during the locally high growth period of the 1970s. Second, the tightening of State and County regulations for the installation of septic tanks has made much of the land area in the City of Boiling Spring Lakes more difficult to develop. Third, there has been a nationwide slowdown in the movement of individuals from the Northeast and Midwest to the Southeast, West, and Southwest. Fourth, the development company which was responsible for much of the community's early growth and development has gradually become less active, perhaps as a result of the previous three factors.

Based upon the aforementioned factors and trends, it is unlikely that the rate of growth in Boiling Spring Lakes is apt to increase significantly without some significant change in one of the factors discussed. An example of a major change might be the establishment of a new grant funding initiative at the State or Federal level for the construction of municipal sewage treatment plants. Another example might be the takeover of the existing development company by a new development company with different development objectives. (It is known that the existing development company is available for purchase at this time.)

Thus assuming no change in the growth and development factors mentioned above, the most likely projected growth rate for the City is considered to be approximately 6% per year, a figure roughly equivalent to the current growth rate. The State Office of Management and Budget has estimated that the City of Boiling Spring Lakes had a permanent population of 1,314 residents in 1985. If the 6% average annual growth rate is applied to this 1985 estimate and carried through over the ensuing ten year period, a 1995 projected population of 2,356 persons may be determined.

As a final caveat, it should be noted that population projections for communities the size of Boiling Spring Lakes are oftentimes highly unreliable. If any single growth factor mentioned above should change significantly, there could also be a dramatic change in the associated population level of the community.

1.5.2 Future Land Use Needs

Future land use needs are a function of overall population growth for the area, and associated residential, institutional and commercial land development factors. No industrial land uses are projected to occur in the City of Boiling Spring Lakes for a number of reasons as discussed in Sections 2.1.8 and 2.3.1 of this plan.

The City of Boiling Spring Lakes encompasses a very large territory in comparison to its population base. With approximately 17,000 acres in the corporate limits, there were only 1,314 residents and 610 housing units in the community in 1985. Despite the constraints imposed by soil conditions throughout the City, and the presence of a primary aquifer recharge area underlying much of the community, there is ample available land remaining in the City for any growth that might be anticipated over the next several decades.

The 1983 Land Use Plan categorized much of the subdivided areas of the City of Boiling Spring Lakes as Developed and several smaller areas as Transition. It should be noted that much of the areas designated as Developed contain ample opportunities for infill development on undeveloped lots scattered throughout the subdivided areas. The Transition areas are designed only to supplement new growth that would not be considered as infill development. With the addition of just 150 new housing units in the five year period from 1980 to 1985, an expansion of the Developed and

Transition categories as identified in the last Land Use Plan does not appear to be justified at this time; nor has commercial development along NC Highway 87 been sufficient to warrant an expansion of the Developed category identified along this facility.

Under the recently tightened State and County regulations for septic tank installation, it is likely that future development may have to occur on larger lot sizes than has been the practice in the past. However, such new development is not likely to significantly change the amount of Developed and Transition land identified on the Land Classification Map.

1.5.3 Community Facility Demands

Based on the 1995 population projection of 2,356, Boiling Spring Lakes should be able to continue its recent slower rate of growth without the necessity for community water and sewer facilities. As noted above, there appears to be ample acreage in the community to accommodate a growth pattern of large lots with homesites dependent upon individual wells and septic tanks.

This rate of growth and type of development pattern has certain policy implications, however. These implications are more fully discussed in Section 2.3.2 of this plan, which is entitled "Provision of Services To Development."

Aside from traditional water and sewer services and street paving, the community is also beginning to identify the need for other community facilities. For example, the need for an additional park facility to serve the City's growing child-aged population was mentioned at the public meetings held for the Land Use Plan Update. At the same time, the current City Hall is very much in need of a planned expansion to allow for the seating of the public at meetings of the various Town Boards. At present there is barely enough room to seat the members of the particular board that may be meeting, while also reserving a minimal amount of office space for the functions of the City Clerk.

At the present time, any such activities are typically dependent upon volunteer help to see them carried forward. As a result, progress is oftentimes slower than desired, and unpredictable.

Section 2: Policies for Growth and Development

Introduction to the Policies

The data collection and analysis described in Section 1 of this plan was geared to gathering and summarizing information related to the growth of Boiling Spring Lakes. Building upon this information, a series of official local government policies are hereby set forth. As officially adopted policies of the City's Board of Commissioners, they serve as the basis for future decisions on capital improvements, ordinances, rezoning requests, subdivision approvals, and other similar matters.

Policy Format

Each major policy category in the 1987 update to the Policies for Growth and Development is addressed according to the following format:

Discussion	-	A brief summary of the issues and relevant findings.
Policy Statement	-	A statement of local government principle designed to achieve legitimate public objectives related to the issue.
Implementation Actions	-	Assignable actions designed to carry out the policies, and which can be accomplished within the 1987-1992 timeframe.

It is important to understand that discussion and implementation actions are not policies, and do not carry the same degree of importance as the actual policy statements. The narrative in each discussion section is designed to provide background and rationale for the ensuing policy statement. In most instances, the discussion serves to identify a problem or issue, and may present a summary of findings from other technical studies. There is no intent to establish policy within any discussion section.

Short-term (i.e. within five years) implementation actions are designed to suggest several possible courses of action available to the City to carry out the policies. The suggested actions are not intended to be all-inclusive, nor are they binding. In other words, as conditions change, additional actions may be added to the list and others removed.

The policy statements, on the other hand, must be viewed in a wholly different light. As statements of local government principle, the policies should remain substantially un-

changed during the five year planning period. Frequent changes to the policies would undermine their effectiveness in achieving intended goals and objectives. Indeed, the policies are designed to maintain a consistent and predictable direction for local government decisions affecting the local growth and development of the City during the planning period. Therefore, in reviewing the pages that follow, the reader is asked to focus greatest attention on the policies, while relying upon the discussion and implementation actions primarily as explanations as to intent.

2.1 Resource Protection

2.1.1 Constraints to Development

By consensus of residents attending the public meetings for the land use plan, the suitability of soils for septic tanks within the City is the number one issue and constraint on the future growth and development of the City. In the early years of the community's development, most of the new homesites were located on reasonably good soils that were capable of accepting effluent from septic tanks. Gradually, however, and especially in the past five years, more development has been occurring on marginally suitable soils for septic tanks.

At the same time, the County Health Department has tightened its standards for septic tank approval and percolation tests to increase the separation of the nitrification lines from the groundwater table. Some septic systems have been installed in fill dirt. This practice has been acceptable so long as the fill dirt has not caused runoff to flow onto adjacent, lower lying properties.

A final concern has been that the continued use of septic tanks may eventually contaminate the groundwater resource upon which the vast majority of the City's residents depend.

As long as development in the City remains dependent upon conventional septic tank systems, the continued growth and development of the community will be hampered.

Policy 2.1.1

IT SHALL BE THE POLICY OF BOILING SPRING LAKES TO PROTECT ITS GROUNDWATER RESOURCES AND AESTHETIC ENVIRONMENT FOR PRESENT AND FUTURE GENERATIONS BY THOROUGHLY CONSIDERING SOIL LIMITATIONS AND THE REQUIRED MODIFICATIONS FOR VARIOUS USES.

Implementation

1. The City will continually seek from local, state and federal agencies all available information regarding technological advances in low cost sewage treatment alternatives.
2. In reviews of major development projects and planned residential developments, the City will encourage the use of environmentally sound package treatment plants and technologically advanced systems.

2.1.2 Areas of Environmental Concern

There are no areas of environmental concern (AECs), as defined by the Coastal Area Management Act, located within the corporate limits of Boiling Spring Lakes. As identified under CAMA, AECs are areas that are of statewide significance and therefore warrant special attention and regulatory control.

At the local level, however, the citizens of the City feel very strongly about the need to protect and conserve two basic environmental features of the community, namely the lakes and wooded condition of the area. In the 1983 plan, the following statement was made which holds equally true today: "To remain an attractive community, we must be conscious of what makes our community so livable. We must preserve and conserve those attributes."

2.1.2(a) Lakefront Development and Use

Land adjacent to the lakes is in the ownership of a large number of private individuals (single family lots) as well as the Development Corporation. Only the big lake is in the ownership of the City, but the Development Corporation has given the City the power to regulate the use of all the lakes within the City limits.

At the major lakes, the City has obtained certain lots for public recreational activities. At the smaller lakes, the City has permanent drainage easements which afford public access. Recently, concern has heightened over the use of the lakes, specifically the construction of private boat docks and the lack of standards for their construction.

Policy 2.1.2(a)

THE CITY SHALL SEEK TO MINIMIZE ADVERSE IMPACTS OF LAKEFRONT DEVELOPMENT, TO INSURE REASONABLE ACCESS, AND TO DEVELOP FOR PUBLIC PURPOSES ITS AREAS SUITABLE FOR RECREATIONAL ACTIVITIES.

Implementation

1. The City shall investigate the feasibility of establishing minimum standards for dock construction on the lakes of the City.
2. As finances allow, the City will seek to improve its existing public access points to the lakes. An inquiry will be made to the State regarding the possibility of receiving a construction grant for public access improvements.
3. The City should evaluate the need for an additional small public park, perhaps adjacent to one of the lakes.

2.1.2(b) Preservation of Wooded Areas

Residents of the City have expressed concern over the practice of clearcutting lots prior to new construction. Discussion focused on the need to discourage such practices, but at the same time, recognized the difficulties in establishing and enforcing an ordinance to prevent clearcutting. Examples given were the need to clear trees away to establish septic tank nitrification fields and gardens. A liability question was also raised regarding the possibility that a tree could fall over on a house during a storm and the City might be held liable for not allowing the property owner to cut down those trees.

Policy 2.1.2(b)

THE CITY ENCOURAGES AND REQUESTS THAT PRIVATE PROPERTY OWNERS DISTURB ONLY THAT AREA OF THEIR LOT REQUIRED FOR BUILDINGS, ACCESS, PARKING, WATER SUPPLY, WASTE DISPOSAL, AND OTHER NORMAL REQUIREMENTS. THE CITY WISHES TO RETAIN A WOODED APPEARANCE IF POSSIBLE.

Implementation

1. The City will advise the property owner upon request for a building permit of the City's policy against clearcutting. If such information can be passed along to new residents prior to the request for a building permit, an effort will be made to do so.

2.1.3 Other Hazardous Or Fragile Land Areas

2.1.3(a) Freshwater Swamps and Marshes

While freshwater swamps and marshes are not a typical feature of the land area found within the corporate limits, there are extensive areas of the City that have extremely wet soils. In particular, the soil survey of Brunswick County identifies Croatan muck, Leon fine sand, Lynchburg fine sandy loam, Murville fine sand, Rains fine sandy loam, and Torhunta fine sandy loam as being especially susceptible to wetness year-round. Many of these soil types occur within pocosins and Carolina bays, which are typical throughout much of the community. It should be noted that the variation of soil types from one area to another is sometimes quite subtle, and is therefore subject to site specific investigation.

Policy 2.1.3(a)

THE CITY SUPPORTS THE POLICIES AND REGULATIONS OF THE U.S. CORPS OF ENGINEERS AS IT SEEKS TO PROTECT AND CONSERVE OFFICIALLY DESIGNATED WETLAND AREAS UNDER THE "404" PERMIT PROGRAM. THE CITY WILL MAKE EVERY ATTEMPT TO PRESERVE, IN THEIR NATURAL STATE,

ANY FRAGILE AREAS IN WHICH THREATENED OR ENDANGERED SPECIESW OCCUR.

1. In its review of subdivision plats, the City will seek to encourage a pattern of development which avoids "404" wetland areas and fragile areas containing threatened or endangered species.

Implementation

As noted in Section 1.3.2, the State Division of Archives and History has stated that there are four known archaeological sites within the Boiling Spring Lakes city limits. In addition, the agency has noted that "the upland areas immediately adjacent to the navigable portions of Allen Creek hold a moderate potential for containing archaeological resources." State Archives also has no record of any structures in Shallotte which are listed in the National Register of Historic Places or on the Division Study list for future nomination on the Register.

2.1.3(b) Cultural and Historic Resources

Locally, City residents have not recognized any historic sites in the community.

THE CITY SUPPORTS THE IDENTIFICATION AND PRESERVATION OF CULTURAL AND HISTORIC RESOURCES WITHIN THE CITY LIMITS.

Policy 2.1.3(b)

1. Recognizing that the resources of the State Historic Preservation office are limited, the City welcomes further investigations of cultural and historic sites that may be located within the City limits.

Implementation

As noted previously, there are few actual manmade hazards located within the city limits of Boiling Spring Lakes. The one notable exception is the rail line passing through the City which serves the Sunny Point Munitions Terminal. While the munitions terminal and the nuclear powered generating plant at Southport are both located outside the city limits, they are nonetheless close enough to be of continuing concern. (Also see Section 1.3.1(a) Hazard Areas).

2.1.3(c) Manmade Hazards

CONSIDERING THE INHERENT HAZARDS INVOLVED IN THE OPERATION OF THE RAILROAD, THE MUNITIONS TERMINAL, AND THE NUCLEAR POWERED PLANT, THE CITY SHALL SEEK INFORMATION AND COOPERATE TO THE MAXIMUM EXTENT POSSIBLE WITH THE MANAGEMENT OF EACH OF THESE FACILITIES TO INSURE SAFE OPERATION AND TO MINIMIZE THE RISK.

Policy 2.1.3(c)

Implementation

1. The City shall seek on a continual basis additional information regarding the mitigating measures designed and in place for the ammunition terminal, the railroad facility serving the terminal, and the nuclear powered plant.
2. Evacuation plans for railway or nuclear power plant accidents shall be acknowledged and carefully coordinated in conjunction with representatives of these facilities and the County Emergency Preparedness Coordinator.

2.1.4 Hurricane and Flood Evacuation

The City of Boiling Spring Lakes has no history of flooding or damage from minor or major storm events. City residents noted that during hurricanes, the community serves as a "safe area" for evacuees from the beach communities.

The City has also fully investigated the desirability and need for participating in the National Flood Insurance program. The Federal Emergency Management Agency has indicated that there is no justification for the City's participation in the program and therefore, City officials have dropped further consideration of the issue.

2.1.5 Protection of Potable Water Supply

As noted under Section 1.3.1-d, Water Supply, City residents are currently totally dependent upon the surficial and limestone aquifers as sources of water. Most potable water is drawn from the limestone aquifer at a depth of from 20-40' to a maximum depth of 150' below land surface. It was further noted that the surficial aquifer and the limestone aquifer are connected with each other hydrologically. As a result, contaminants that entered the groundwater table at the surface could eventually find their way to the deeper limestone aquifer without necessarily having to pass through a separating natural filter such as a clay layer.

It was also noted that Boiling Spring Lakes is a primary aquifer recharge area. Because of the area's importance to the entire groundwater system in this part of the County, development should proceed with care and concern for the protection of the groundwater resource.

Policy 2.1.5

IN RECOGNITION OF THE CITY'S ROLE AS A PRIMARY AQUIFER RECHARGE AREA, THE CITY WILL REMAIN WATCHFUL OF THE POTENTIAL ADVERSE IMPACTS OF NEW DEVELOPMENT UPON THE GROUNDWATER RESOURCE.

Implementation

1. Through the administration of the zoning ordinance and the subdivision regulations, the City will encourage new residential development to occur on large lots. When possible, smaller undeveloped lots will be combined to form new larger lots until such a time as public facilities are available.
2. The City recognizes the administration and enforcement of the County septic tank regulations by the County Health Department as a means to protect groundwater quality.

2.1.6 Package Sewage Treatment Plants

As discussed previously, the general unsuitability of soils within the City for septic tank use is a major constraint on the future growth and development of Boiling Spring Lakes. Several trends have emerged which lead City residents to be increasingly supportive of the use of package sewage treatment plants. These trends include:

1. New development occurring on marginally suitable soils.
2. A tightening of County regulations for the siting and operation of conventional septic tanks.
3. An identified need for a greater variety of housing types in the community, including multi-family and cluster development.
4. The scarcity of state and federal funding sources for the construction of municipal sewage treatment plants.

All of these factors lead the City to the conclusion that the private sector will have to play an increasing role in the provision of sewage treatment facilities in the City of Boiling Spring Lakes.

Policy 2.1.6

THE CITY OF BOILING SPRING LAKES SUPPORTS THE USE OF PACKAGE SEWAGE TREATMENT PLANTS WHEN SUCH FACILITIES ARE PROPERLY DESIGNED, LOCATED, AND WHEN THERE IS ASSURANCE OF CONTINUED PROPER OPERATION.

Implementation

1. In its review of multi-family and planned residential developments, the City will cooperate with state and local health and environmental officials to see that all environmental and technical standards are met.

2.1.7 Stormwater Runoff

Concern about stormwater runoff in the community focuses primarily on the maintenance of a high level of water quality in the various lakes of the City. Currently, there are few areas

of lakefront property that have not been developed for residential purposes. There is concern, however, that many of the lots of record in the City are too small and that this will contribute eventually to unacceptable levels of stormwater runoff into the lakes.

City officials have identified the need for a comprehensive drainage study for the community, such study to include provisions for the control of stormwater runoff. There is also a movement afoot to encourage owners of currently platted small lots to combine their lots with adjacent properties to achieve a larger lot prior to development.

Policy 2.1.7

STORMWATER RUNOFF AND DRAINAGE FROM DEVELOPMENT OR OTHER ACTIVITIES SHALL BE OF A QUALITY AND QUANTITY AS NEAR TO PREDEVELOPMENT CONDITIONS AS POSSIBLE.

Implementation

1. The City shall request funding through the Coastal Management Program to conduct a comprehensive drainage study for the community.

2.1.8 Industrial Impacts on Fragile Areas

Due to the occurrence of a high water table throughout most of Boiling Spring Lakes and the role of the land area within the community as a primary aquifer recharge area, there should be considerable concern regarding the potential for adverse impacts of industrial development on the natural resource base of the community. To date, however, there has been no industrial development *per se* in any part of the City.

Reasons for a lack of industrial development include the predominance of wet, poorly drained soils and the lack of public water and sewer treatment facilities. Also, while a rail line runs through the community and there are adequate secondary roads serving the area, the transportation network serving the community is less attractive compared to other available sites in southeastern North Carolina. Despite the current lack of interest in industrial development within the City, it is conceivable that industrial development could occur at some point in the future.

Policy 2.1.8

FUTURE INDUSTRIAL DEVELOPMENT SHALL BE DISCOURAGED FROM LOCATING IN AREAS OF THE CITY CONSIDERED TO BE FRAGILE, INCLUDING UNIQUE NATURAL AREAS, AND AREAS PARTICULARLY SUSCEPTIBLE TO GROUNDWATER CONTAMINATION.

1. Prior to approving an industrial development or the rezoning of a land tract for future development as industrial, the City will consult with appropriate state and federal agencies including the NC Department of Natural Resources and the U.S. Army Corps of Engineers.

Implementation

2.2 Resource Production and Management

Of the three general policy areas specified under the Coastal Area Management Act for land use plans, the Resource Production and Management policy area is of markedly lesser importance to the land area encompassed by the City of Boiling Spring Lakes. Due to the predominance of wet, poorly drained soils and the original conception of the City as a residential community, resource production is not a current issue, nor is it expected to be one in the future.

There are no productive agricultural lands located within the City. While much of the community is wooded, none of the City is in use as commercial forest land, and this status is not expected to change. There are also no mineral production areas within the City. Fisheries resources from a management standpoint are limited to recreational fishing by City residents in the area lakes. The freshwater fisheries resource of the City's lakes is not considered sufficient to support a commercial fishing industry. The City does support, however, several policies regarding the future development of the community which lends support to the continued high standard of water quality in the lakes.

The use of off-road vehicles in the Town is not considered to be an issue by area residents and there have been no reported significant abuses of natural areas in the community by off-road vehicles.

Despite the general absence of concern regarding resource production issues, the City does wish to adopt the following policy statement regarding resource production and management.

Policy 2.2

THE POTENTIAL PRODUCTIVITY OF LAND AREAS LOCATED WITHIN THE CITY OF BOILING SPRING LAKES FOR AGRICULTURAL USE, COMMERCIAL FORESTRY, MINERAL PRODUCTION, AND FISHERIES RESOURCE DEVELOPMENT SHALL BE PRESERVED FOR FUTURE GENERATIONS THROUGH PROTECTION OF THE UNIQUE NATURAL ECOSYSTEMS UPON WHICH THEY DEPEND. THE FUTURE DEVELOPMENT OF ANY SUCH PRODUCTIVE RESOURCE SHALL ONLY BE PERMITTED WHEN SUCH DEVELOPENT IS CONSIDERED COMPATIBLE WITH THE DESIRED CHARACTER OF THE COMMUNITY.

2.3 Economic and Community Development Management Policies

Introduction

This policy section is concerned with those issues associated with the development and redevelopment of the City of Boiling Spring Lakes regarding the types and locations of desired development, the willingness of the City to provide public services to development, the desired pattern of development, local support for state and federal programs influencing development, and the provision of access to public open space and recreational areas.

2.3.1 Types and Locations of Desired Industries

Section 2.1.8 discussed many of the reasons why industrial development has not occurred to date within the City of Boiling Spring Lakes. Chief among those reasons was the high water table occurring throughout the community, the poor drainage of area soils, and the absence of a superior transportation network relative to other sites available in southeastern North Carolina.

Due to the residential character and intended future development of Boiling Spring Lakes, only clean, light industries would be considered compatible for development in the City. The location of new industry would likely occur adjacent to either of the main secondary highways serving the community, NC 87 and NC 133. In any case, it would be desirable to have such industry located away from existing or planned future residential development. This separation of uses could also be achieved by having commercial or office development located on lands between the industrial and residential areas. In absence of such intervening transitional uses, natural buffer areas should be required.

The City recognizes that new industry could contribute significantly to expanding the community's limited tax base, while at the same time, providing employment for area residents.

Policy 2.3.1

THE CITY OF BOILING SPRING LAKES SUPPORTS AND ENCOURAGES THE DEVELOPMENT OF CLEAN, LIGHT INDUSTRY ON ENVIRONMENTALLY SUITABLE SITES WITHIN THE COMMUNITY. NEW INDUSTRIAL DEVELOPMENT SHOULD HAVE SUFFICIENT PHYSICAL SEPARATION FROM EXISTING OR PO-

TENTIAL FUTURE RESIDENTIAL AREAS, ACHIEVED BY APPROPRIATE BUFFERING OR THE PLACEMENT OF APPROPRIATE COMMERCIAL AND OFFICE TRANSITIONAL USES ON INTERVENING LANDS.

2.3.2 Provision of Services to Development

Regarding the provision of public services to development, the City of Boiling Spring Lakes finds itself in a dilemma. On one hand, development in the community is currently being constrained by the lack of public sewage treatment facilities to overcome the problem of unsuitable soils for septic tanks. On the other hand, the City lacks the tax base and financial resources to build the public facilities necessary to attract new development. Public funding sources to subsidize the development of community-wide water and sewer services have all but dried up in recent years.

Brunswick County is well along in the process of constructing a regional water supply system. A major trunkline of the system parallels NC 87 through the heart of Boiling Spring Lakes, and is available to be tapped. At the present time, however, the City does not have the financial wherewithall to tap into the line and construct the water distribution system throughout the balance of the community. Even with the provision of potable water from this outside source, the problem of soil suitability for septic tanks is not resolved. Therefore, until such a time as sewage treatment technologies and development costs change, or new outside funding sources are put in place, the City must maintain a conservative posture on its commitment to providing public services.

Policy 2.3.2

IT IS THE POLICY OF BOILING SPRING LAKES TO PROVIDE BASIC MUNICIPAL SERVICES REQUIRED OF AN URBAN SETTLEMENT PATTERN WHEN SUCH PROVISION CAN BE MADE AT COSTS WITHIN THE REASONABLE FINANCIAL CAPABILITY OF THE CITY. THE CITY SHALL REMAIN OPEN TO THE POSSIBILITY OF INTERGOVERNMENTAL COOPERATION AGREEMENTS FOR ALL SERVICES.

2.3.3 Urban Growth Pattern

The City of Boiling Spring Lakes was originally conceived as a low to moderate density residential retirement community. The existing street pattern reflects this philosophy of growth. At public meetings concerning the land use plan update, area residents expressed support for a general continuation of the original low to medium density concept. Within this general pattern of development, residents are supportive of a mixture of multi-family housing at appropriate locations in the

community. Residents are also supportive of a clustering of commercial uses at designated sites along NC 133 and NC 87. These sites are reflected accurately in the City's zoning ordinance, subject to future revisions.

THE CITY OF BOILING SPRING LAKES WISHES TO RETAIN ITS IDENTITY AS A PRIMARILY LOW TO MODERATE DENSITY COMMUNITY. THE HEART OF THE COMMUNITY'S GROWTH PATTERN SHOULD CONTINUE TO BE REINFORCED ON NC 87 NEAR THE SITE OF THE PRESENT TOWN HALL.

Policy 2.3.3

1. Current and ongoing rezoning actions will be supportive of the above stated policy.

Implementation

2.3.4 Redevelopment

Due to the development of the City as a new planned residential community and the limited age of most structures in the City, redevelopment in the traditional sense is not yet seen as an issue. There is some strong sentiment, however, that many previously platted single family residential lots are too small in light of soil conditions and recent tightening of septic tank regulations. The City is therefore interested in investigating ways in which these smaller lots could be replatted to more closely match current standards and the present level of knowledge about soil conditions.

THE CITY OF BOILING SPRING LAKES SHALL BE SUPPORTIVE OF ALL EFFORTS TO COMBINE EXISTING SMALLER LOTS INTO LARGER LOTS MORE SUITABLE FOR DEVELOPMENT.

Policy 2.3.4

2.3.5 State and Federal Program Support

With recent cutbacks in various state and federal grant and loan programs, there are a limited number of such programs available to the City. At the present time, those programs of greatest importance include possible federal or state support for municipal wastewater treatment facilities and support for road construction and maintenance. As noted previously under Section 1.4.3, the City has approximately 116 miles of streets, of which only 16 are currently paved. The City relies heavily upon available Powell Bill funds to operate its street maintenance department.

The City has looked into the need for and desirability of participating in the Federal National Flood Insurance Program, and has been informed by the Federal Emergency Management Agency that participation in the flood insur-

ance program is not necessary due to the lack of a flooding problem in the City.

Of all federal programs having a potential impact on the future growth and development of the community, funding for municipal wastewater collection and treatment plants looms as the most signficant. Recently there have been discussions at the state legislative level that a statewide revolving loan fund or other revenue source might be created and made available to local governments. Presumably, various local governments in the state would have to compete for such funding based upon the severity of the need for municipal sewage treatment. It is not clear at this time whether such a revolving loan fund may in fact be created or how high on the list Boiling Spring Lakes may rank in comparison to other communities.

Policy 2.3.5

CONSIDERING ALL THE NEEDS OF BOILING SPRING LAKES, THE LIMITED FINANCIAL RESOURCES AVAILABLE, AND THE POTENTIAL FOR LONG-TERM POSITIVE IMPACT, WASTEWATER TREATMENT SHALL BE THE TOP PRIORITY FOR FUNDING THROUGH STATE AND FEDERAL PROGRAMS.

Implementation

1. Boiling Spring Lakes will continually monitor developments at the state and federal level regarding the availability of funding for wastewater treatment projects.
2. The City will keep abreast of new technological developments in wastewater treatment with an eye toward cost effective means of establishing centralized sewage treatment facilities to serve the community. At a minimum, the City will request copies of demonstration project reports from other local governments.

2.3.6 Energy Facilities

Due to the City's geography, it is doubtful that Boiling Spring Lakes would be the site of an oil refinery, nuclear power plant, or other major energy facility. However, the general area of Brunswick County east of Boiling Spring Lakes has been considered on occasion for various other energy facilities, including the BECO Oil Refinery and numerous coal export facilities.

It is conceivable that Boiling Spring Lakes could be in the right-of-way path for energy products' transmission lines, such as oil or gas pipelines, and could also be subject to coal

train movements serving exporting facilities. In other communities, these energy-related facilities have been known to be quite disruptive.

The general welfare and general interest of the nation, state and community require that a reliable source of energy be made available to its citizens. Thus, there must be a proper balancing between the public benefits of energy development and the potential for disruption of a community like Boiling Spring Lakes.

THE SITING OF ENERGY FACILITIES WITHIN THE CORPORATE LIMITS OF BOILING SPRING LAKES WILL BE ACCEPTABLE ONLY IF IT CAN BE DEMONSTRATED THAT SUCH FACILITIES WILL NOT BE DISRUPTIVE TO THE DESIRED CHARACTER OF DEVELOPMENT IN THE COMMUNITY AND THE QUALITY OF LIFE PROVIDED BY ITS NATURAL AMENITIES.

Policy 2.3.6

1. Applicants for energy facility siting in Boiling Spring Lakes will be required to disclose to the City all costs and benefits (economic, social and environmental) associated with the project.

Implementation

2.3.7 Waterfront Access

The most important natural resource in Boiling Spring Lakes is the lakes. As noted in Section 2.1.2, land adjacent to the lakes is largely in private ownership. The big lake is owned in its entirety by the City, and it is monitored by the Lake Watch Committee.

Fortunately, at the major lakes, the City has obtained certain lot areas for public recreational activities. At the other smaller lakes, the City has permanent drainage easements which afford public access. As identified on plat maps located in City Hall, there are approximately 22 such recreation access points available to the public in Boiling Spring Lakes.

THE CITY SHALL SEEK TO MINIMIZE ADVERSE IMPACTS OF LAKEFRONT DEVELOPMENT TO INSURE REASONABLE ACCESS, AND TO DEVELOP FOR PUBLIC PURPOSES ITS AREAS SUITABLE FOR RECREATIONAL ACTIVITIES.

Policy 2.3.7

Implementation

1. The City should inquire of the State Division of Coastal Management as to the possibility of receiving a grant to provide for improvements to the town's existing access facilities. Such improvements could include physical changes to the access points, but it could also include signage identifying the availability of the access to the public. City officials have also noted an interest in the possibility of State funding for regulatory signage in conjunction with public access signage.

2.3.8 Residential Development

To date, the City of Boiling Spring Lakes has been developed exclusively as a single family residential community. Housing types have included site built single family residences, as well as mobile homes. Current estimates by City officials indicate that approximately 50% of the housing units in the City are site built and 50% are mobile homes. This statistic was generally confirmed by the survey of existing land use prepared as part of the land use planning process.

While the community was originally conceived primarily for retirement-aged persons, the City has gradually evolved over the past 10 years into supporting a substantial non-retirement population including signficant numbers of children. In addition to the so-called "active retired" population of the City, there is also a growing number of retired persons who are less able to manage the responsibilities of a traditional single family home on a large lot.

In light of these demographic changes in the community, area residents have begun to recognize the need for a wider variety of housing types. Included might be attractive apartments and cluster developments, as well as garden homes, patio homes, and townhouses. These housing types can oftentimes be built on less land and can be serviced by package sewage treatment plants, in turn overcoming one of the largest deterrents to growth in the community, non-perking soils.d

Policy 2.3.8

THE CITY RECOGNIZES THE NEED FOR A VARIETY OF HOUSING TYPES WHICH DO NOT NEGATIVELY OR ADVERSELY AFFECT CONVENTIONAL SINGLE FAMILY HOUSING TYPES, AND SHALL THEREFORE CONTINUE TO ENCOURAGE A VARIETY OF HOUSING TYPES AT SPECIFIC LOCATIONS.

1. The City shall encourage the use of the planned residential district to facilitate the development of non-traditional housing.
2. The City shall consider the designation of one or more specific areas of the community to be set aside in the zoning ordinance for the benefit and use of double-wide manufactured homes.

2.3.9 Commercial Development

Boiling Spring Lakes recognizes that as the area in and around the City continues to develop for residential purposes, commercial uses are likely to follow. In most urban areas, there is a natural tendency for commercial uses to locate in a stripped fashion along the area's major highways. Such stripping provides maximum exposure to the traveling public and allows developers to pick sites on the outskirts of town where real estate prices are lower.

Unfortunately, this pattern of development has many public costs:

1. The use and efficiency of the highway is diminished by the number of driveway cuts and turnouts onto the highway. This can cause an unpredictable flow of traffic, resulting in congestion and increased accidents. In most instances, it eventually results in the loss of the highway for its originally intended purpose, that of moving traffic through the urban area. Parallel roads must then be built at additional public expense.
2. This stripped development pattern is also more costly to service with regard to the extension of water and sewer lines, police and fire protection, and trash collection.
3. Strip commercialization can eventually lead to visual blight due to a proliferation of signs, variable setbacks, unplanned parking areas with minimal landscaping, etc.

The City of Boiling Spring Lakes has recognized in the past few years the beginnings of such a commercial strip development pattern along NC 87. The Planning Board has initiated discussions regarding changing some of this strip commercial zoning to a consolidated area along 87 west of the Town Hall and north of South Shore Drive.

Regarding the level of commercial development, Boiling Spring Lakes does not wish to become nor is it likely that it will become a regional commercial center for this sector of Brunswick County. Commercial uses permitted within the Town should be those that generally serve the local area

market at the community level. However, in the future as the community continues to grow, it may be necessary to reevaluate this position. If, for example, a major new development corporation should take over the interests of the current development corporation, there could be a new initiative toward additional development with the need for associated increased commercial activity.

Policy 2.3.9

IT IS THE POLICY OF BOILING SPRING LAKES TO ENCOURAGE AND PERMIT ONLY THOSE COMMERCIAL ACTIVITIES WHICH COMPLEMENT A LOW TO MODERATE DENSITY RESIDENTIAL COMMUNITY.

Implementation

1. The City shall continue its investigations of the possibility of creating a consolidated commercial district west of Town Hall as opposed to strip commercialization along 87 through the community.
2. The zoning ordinance shall also be reviewed with regard to permitted uses within the commercial districts in keeping with the above stated policy.

2.3.10 Growth and Development Controls

The City of Boiling Spring Lakes is in the process of a total review and possible revision of its land use controls. Several development trends in the community are causing the City to reassess the adequacy of its existing regulations to guide and control future development in the community. For example, the rate of placement of mobile homes in the community has exceeded the rate of placement of conventional single family homes over the past five years. As noted previously, mobile homes now comprise approximately 50% of the total housing stock of the community.

Whereas early development in the Town was concentrated primarily on the best available soils in terms of septic tank suitability and drainage, recent new development has been moving into marginally suitable soils. There is also increasing recognition of the problem of previously platted lots in private ownership that are too small for development in light of the current understanding of soil suitability and drainage.

At the early public meetings regarding the development of the land use plan, the need for improvement in the City's existing land use controls was evident by comments received from City residents. Comments included: the need to upzone some areas of the City, to require larger lot sizes, to adopt more strict design criteria, to conduct a general overhaul of existing zoning standards and zoning classifications, to better

enforce the City's current ordinances and codes, to establish a system of review of plans and specifications, etc., prior to the issuance of a building permit, and to develop an expeditious method for dealing with code violators.

It is evident from these various concerns that development control and enforcement is probably the number two priority of the Town, second only to the issue of resolving the sewage treatment and disposal problem.

THE CITY OF BOILING SPRING LAKES SUPPORTS THE DEVELOPMENT CONTROL PROVIDED BY LAND USE AND BUILDING ORDINANCES, AND IS COMMITTED TO THE PROPER ENFORCEMENT OF OFFICIALLY ADOPTED ORDINANCES.

Policy 2.3.10

1. The Planning Board will continue to examine the Town's current development controls as its highest priority task. Application will be made to the State CAMA programs for a grant to assist the City in revising and upgrading its development ordinances.

Implementation

2.4 Public Participation Policies

At public meetings related to the land use plan, a recurring problem expressed by many area residents was the lack of an effective means for the City to communicate with its citizens. There is no newspaper of general circulation, for example, that area residents regard as an accepted source of local information about activities in the City. The "closest" newspapers to the City include: *Brunswick Beacon, Brunswick News and Shopper, State Port Pilot* and the *Wilmington Star News.* Because the City has no water or sewer bills, there is no opportunity to send out public notices with such bills, as is a common practice in many communities.

The Property Owners Association (POA) is one potential resource for distributing information but, unfortunately, the membership of the POA is roughly ±100 homeowners, and comprises only 20% of the total households in the community. Currently, notices of public meetings are posted in the local post office and at the Town Hall. In the past, these notices have proven generally ineffective in turning out sizable crowds, even for issues of presumably significant concern.

The current small Town Hall is also not conducive to public meetings. There is little or no space available inside the building to accommodate area residents as the various boards deliberate over City business. Meetings for the land use plan update, for example, were held at the VFW post to allow for adequate seating.

To the City's credit, the community has established several worthwhile boards comprised of many dedicated citizen volunteers. The City Council, the Planning Board, the Community Appearance Commission, and the Board of Variance are examples of boards that are active in the community.

The City is also in the process of building an addition to the current City Hall. Building materials and supplies have been acquired, and commitments have been obtained from several craftsmen to volunteer their labor to do the project. Because of the volunteer nature of the work, however, City officials are uncertain as to when the job will be completed. Note: Please also see Section 5 of this Plan for a further discussion of public participation.

IT IS THE POLICY OF BOILING SPRING LAKES TO WELCOME AND SOLICIT THE PUBLIC'S INVOLVEMENT IN REGARD TO THE CITY'S BUSINESS ON A CONTINUING BASIS.

Policy 2.4.1

Implementation

1. Boiling Spring Lakes will appoint active, community-minded citizens to its advisory boards.
2. Boiling Spring Lakes will support the efforts of the Property Owners Association and its efforts to organize and inform community residents for the betterment of Boiling Spring Lakes.
3. Boiling Spring Lakes will continue to sponsor meetings (other than regularly scheduled meetings) to solicit citizens' opinions on specific issues.
4. Boiling Spring Lakes will continue to investigate alternative methods for notifying the citizenry of issues of common concern and of specific meetings to deal with those issues. Consideration will be given to the printing and distribution of an annual calendar of events for the City. Such a calendar could include the regularly scheduled meetings of the various boards and commissions dealing with City business.

2.5 Storm Hazard Mitigation, Post-Disaster Recovery, and Evacuation Plan

As noted under policy section 2.1.4, the City of Boiling Spring Lakes is not subject to hurricane threat, flooding, and the associated destruction that can accompany major storms. In fact, area residents noted at the various public meetings that Boiling Spring Lakes serves as an area of refuge for beach community residents during hurricane events and other storms.

City officials have inquired as to the need and desirability of obtaining Federal Flood Insurance, and have been informed by the Federal Emergency Management Agency that there is no need for the City to participate in the program. This finding has been substantiated by the experience of City residents during recent storm events.

Beyond flooding, the other potentially significant cause of damage stemming from a major storm event is high winds. Hurricane force winds can cause serious structural damage as well as damage to overhead utilities. Boiling Spring Lakes is located in a zone identified by the State Building Code as having a reasonable expectation of having 100 mph winds from a hurricane. The State Building Code requires that any new structure built in the area be able to withstand winds of 100 mph. The Building Code sets standards for design, anchorage and tie downs for structures. As noted in Section 1.2.1(a) of this plan, approximately 50% of the housing stock in Boiling Spring Lakes is comprised of mobile homes. The State Building Code requirement for anchorage and tie downs is therefore particularly important in Boiling Spring Lakes.

Brunswick County, in which Boiling Spring Lakes is located, has an official Hurricane Evacuation Plan which has been prepared at the request of and for approval by the Brunswick County Board of Commissioners, and mayors of towns and municipalities in the County. This plan was prepared with the assistance of the Brunswick County Civil Preparedness Agency and the North Carolina Department of Crime Control and Public Safety, Division of Civil Preparedness.

The Evacuation Plan identifies hurricane routes and shelters, anticipated evacuation times for various severities and instructions for evacuees. In addition, the Plan provides hurricane safety rules, safe boating precautions, and hurricane facts. Copies of the Plan are available from the Brunswick County Civil Preparedness Agency.

The City of Boiling Spring Lakes has officially endorsed and supports Brunswick County's Hurricane Evacuation Plan, and considers the plan adequate. The County Civil Preparedness Agency has taken the lead in coordinating Brunswick County's Hurricane Evacuation Plan with the Eastern North Carolina Hurricane Evacuation Study. However, as noted previously, there is clearly less need for evacuation from Boiling Spring Lakes relative to the beach communities of the area.

City officials, as well as representatives of the Boiling Spring Lakes volunteer fire department, participate in the regular emergency management program organized at the County level.

THE CITY OF BOILING SPRING LAKES SUPPORTS THE EFFORTS OF THE BRUNSWICK COUNTY EMERGENCY MANAGEMENT COORDINATOR TO FACILITATE AND ENCOURAGE THE SAFE EVACUATION OF VULNERABLE AREAS OF THE COUNTY DURING STORM EVENTS.

Policy 2.5

BOILING SPRING LAKES WILL CONTINUE TO SUPPORT THE ENFORCEMENT OF THE NORTH CAROLINA BUILDING CODE, PARTICULARLY THE PROVISIONS WHICH REQUIRE CONSTRUCTION STANDARDS TO MEET WIND RESISTIVE FACTORS, I.E. DESIGN WIND VELOCITY.

Policy 2.6

1. City officials will continue to actively participate in various scheduled activities of coordination between towns in the County for storm preparedness, evacuation, and post-disaster recovery.

Implementation

Section 3: Land Classification

3.1 Purpose of Land Classification and Relationship to Policies

A land classification system has been developed as a means of assisting in the implementation of the policies adopted by the City. By delineating land classes on a map, local government and its citizens can specify those areas where certain policies (local, State, and Federal) will apply. Although specific areas are outlined on a land classification map, it must be emphasized that land classification is merely a tool to help implement policies and not a strict regulatory mechanism. The designation of land classes allows the City to illustrate its policy statements as to where and at what density growth should occur, and where natural and cultural resources should be conserved by guiding growth. Where the City has enacted zoning controls which apply in the various land classification areas, appropriate land uses are specified by the zoning map and ordinance.

While North Carolina's Coastal Area Management Act Guidelines for Land Use Planning suggests a general format for the land classification system, local governments may modify the system within reason to meet local area needs.

3.2 Land Classification System

For Boiling Spring Lakes, four general land classes have been devised to cover all parts of the City. The various classes are shown on the land classification map and may be described as follows:

A. DEVELOPED: The purpose of this land classification is to provide for continued intensive development and redevelopment of existing cities.

According to the CAMA guidelines, "areas meeting the intent of the Developed classification are currently urban in character where minimal undeveloped land remains and have in place, or are scheduled for the timely provision of, the usual municipal or public services. Urban in character includes mixed land uses such as residential, commercial, industrial, institutional, and other uses at high to moderate densities. Services include water, sewer, recreational facilities, streets and roads, police and fire protection. In some instances, an area may not have all the traditional urban services in place, but if it otherwise has a developed character and is scheduled for the timely provision of these services, it still meets the intent of the Developed classification. Areas developed for predominately residential purposes meet the intent of this classification if they exhibit existing high to moderate densities such as:

(i) a density at or approaching 500 dwelling units per square mile; or
(ii) a density of 3 or more dwelling units per acre; or
(iii) a majority of lots of 15,000 square feet or less, which are provided or scheduled to be provided with the traditional urban services; and/or
(iv) permanent population densities approaching or exceeding 2,000 persons per square mile and the seasonal population may swell significantly."

It is the intent of the Boiling Spring Lakes Land Use Plan that those high ground areas that are already disturbed or occupied with various types of residential and commercial activities should be designated as Developed for land classification purposes. Under the above stated CAMA definition, the characteristic that most closely

applies to Boiling Spring Lakes is that the majority of lots in the City are less than 15,000 square feet and are currently provided with traditional urban services, including: street maintenance, garbage collection, municipal recreation facilities, and police and fire protection. While centralized water and sewer are not currently available to the vast majority of residences and businesses in the community, the City continues to explore the provision of such services, including a potential tie-in to the Countywide water system.

B. TRANSITION: The purpose of the transition class is to provide for future intensive urban development within the insuing 10 years on lands that are most suitable and will be scheduled for provision of necessary public utilities and services.

According to CAMA guidelines, Transition areas should *not* include "areas with severe physical limitations which would make the provision of urban services difficult or impossible, lands which meet the definition of conservation, lands of special value (unless no other alternative exists) such as productive and unique agricultural lands, forest lands, potentially valuable mineral deposits, water supply watersheds, scenic and tourist resources including archaeological sites, habitat for important wildlife species, areas subject to frequent flooding, areas important for environmental or scientific values, lands where urban development might destroy or damage natural systems or processes of more than local concern, or lands where intense development might result in undue risk to life and property from natural or existing manmade hazards."

For Boiling Spring Lakes, Transition lands have been identified for certain relatively high ground areas immediately adjacent to existing Developed areas in the City. No Transition areas have been designated for land areas adjacent to the existing rail line (which may be considered a potential manmade hazard) or for lands falling within Carolina Bays (which may be considered environmentally sensitive). Upon the establishment of centralized water and sewer facilities in the community, it is the intent of the City to provide services to Transition areas as well as Developed areas.

C. RURAL: The purpose of the rural class is to provide for agriculture, forest management, mineral extraction, and other low intensity uses. Residences may be located within "rural areas" where urban services are not required and where natural resources will not be permanently impaired.

For Boiling Spring Lakes, Rural lands encompass most of the outlying areas of the City. Rural areas typically have wet soils and are relatively inaccessible via paved roads. Residential development densities are very low, if present at all. These are the land areas of the community in which the City does not envision an urban level of development occurring in the next five to ten years. Upon establishment of centralized water and sewer in Boiling Spring Lakes, Rural areas would not likely receive such services due to the economic inefficiency of such service extensions.

Appropriate uses of land in Developed, Transition, and Rural areas are identified in the City's land use control ordinances (zoning, subdivision regulations, and mobile home ordinance). Generally, a variety of commercial, institutional, and recreational uses are permitted.

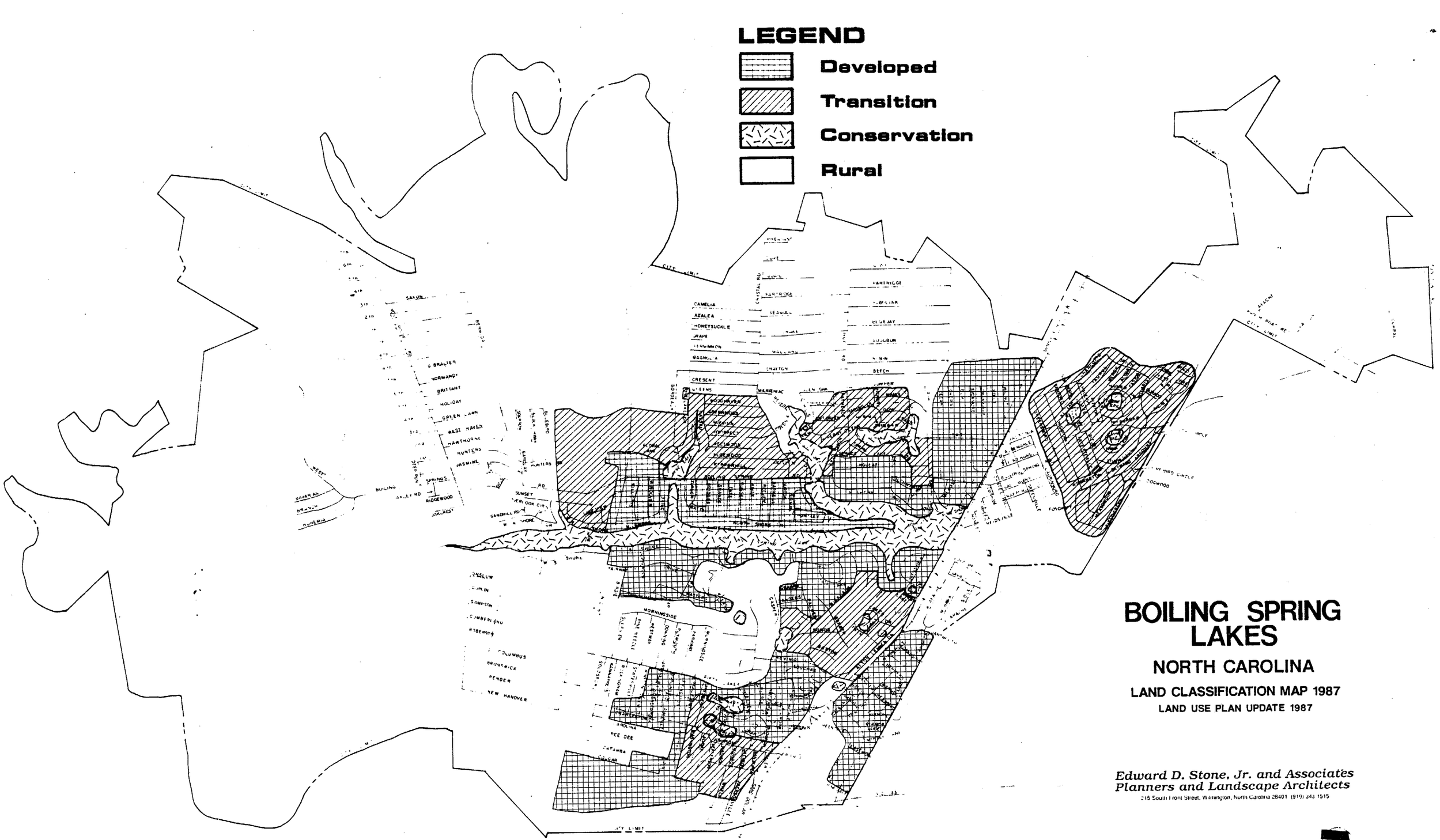
D. CONSERVATION: The purpose of the Conservation class is to provide for effective long-term management of significantly limited or irreplaceable areas. This management may be needed because of the natural, cultural, recreational, productive or scenic values of these areas. The Conservation class should be applied to lands that contain: major wetlands, essentially undeveloped shorelands that are unique, fragile, or hazardous for development; necessary wildlife habitat or areas that have a high probability for providing necessary habitat conditions; publicly owned water supply, watersheds and aquifers; and forest lands that are undeveloped and will remain undeveloped for commercial purposes.

For Boiling Spring Lakes, Conservation lands are the lakes and connecting wetlands of the community. Also included by general reference, but not necessarily mapped, are isolated pockets of wetlands. There may be instances, for example,

where an onsite inspection would reveal the need for a U.S. Army Corps of Engineers' wetland permit (404) which would be beyond the jurisdiction of the City. Since these areas are site specific, they are not mapped as Conservation. Appropriate development standards of the U.S. Corp of Engineers would be applicable.

Interpreting the Land Classification Map

As noted previously, the Land Classification Map contained in this document provides a general description of the location of each of the land classes established in this section. This Land Classification Map should not be utilized for site specific interpretive purposes; its scale precludes such detailed use. Site specific questions concerning properties described on the Land Classification Map should be directed to the Boiling Spring Lakes Planning Board.



The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

Section 4: Intergovernmental Coordination and Implementation

4.1 Intergovernmental Coordination and Implementation

The Boiling Spring Lakes Land Use Plan, including the Policies for Growth and Development and the Land Classification Map, will serve as the basic tools for coordinating numerous policies, standards, regulations, and other governmental activities at the local, State and Federal levels. Such coordination is achieved in three ways:

1. State and Federal government agencies are required to review local land use plans when considering any actions or activities under their jurisdiction. Their actions are to be consistent, whenever possible, with the intent of the local Land Use Plan.
2. The policies and land classification system described in the Land Use Plan provide a basis for planning and budgeting for the provision of public facilities and services such as water and sewer systems.
3. The City's Land Use Plan can serve as a coordinating instrument in helping to bring together the various regulatory policies and decisions of the local government into one document.

The preparation of the Boiling Spring Lakes Land Use Plan and Policies has proceeded in a manner which recognizes the planning activities of other government jurisdictions. In preparing the plan, for example, the most recent copy of the Brunswick County Land Use Plan was obtained and reviewed, as well as documents on the City's sinkhole problem and the Federal Flood Insurance Maps for Brunswick County in the vicinity of Boiling Spring Lakes.

Members of the Brunswick County Planning Staff were contacted and consulted to determine how any area-wide planning might impact upon the future of the City. Included in the discussion were the most recent thoroughfare plan for Brunswick County, and plans for the countywide water supply system.

Also contacted were environmental specialists at the Wilmington regional office of the Department of Natural Resources and Community Development, the County Emergency Management Coordinator, the County Superintendent of Schools, the State Department of Cultural Resources, as well as periodic progress reports with the CAMA Coastal Planner for the State.

Section 5: Public Participation

5.1 Public Participation

Since its inception, North Carolina's Coastal Area Management Act Program has placed a high level of emphasis on public participation in the development of local land use plans and policies. The intent is to insure that the resulting plan and policies reflect, as closely as possible, the will of the people in the community. Much of the public participation strategy employed for the development of the Boiling Spring Lakes Land Use Plan is generally discussed in Section 2.4 of this document. However, the following summary of program phases/key meetings for the 1987 Land Use Plan Update and their respective accomplishments is presented here for the sake of completeness.

Public Participation: Program Phases/Key Meetings

1. **Strategy Development** - The first priority in developing a public participation strategy for the Boiling Spring Lakes Land Use Plan was to get key officials in the City to agree upon an overall strategy for citizen involvement. For the initial kickoff meeting to establish the strategy, the City Clerk and the Chairman of the Planning Board met with the Planning Consultant to identify appropriate boards and commissions in the City, their regular meeting dates, and customs and protocol. It was decided that the key elected and appointed boards in the community which specifically related to the development of the Land Use Plan were the City's Board of Commissioners, the Planning Board, the Board of Adjustment, and the Community Appearance Commission. It was further decided, that in accordance with the intent of State planning enabling legislation, that the City's Planning Board would have primary responsibility for development of the Land Use Plan, but with considerable involvement of the Board of Commissioners, as well as lesser involvement by the Board of Adjustment and the Appearance Commission. Public meetings for the Land Use Plan would be scheduled to coincide with the regular meeting dates of the Planning Board and/or Board of Commissioners when possible, but that special meetings could also be held as necessary to allow for a fuller level of citizen input. The decision was then made to hold an issue identification meeting to coincide with a previously scheduled meeting of the four boards and commissions mentioned above. The purpose and intent of that meeting is more fully described under Phase 2 which follows.

2. **Issue Identification** - On Thursday, January 22, 1987 at 7:30 p.m., a joint work session was held on the Land Use Plan involving several City boards and commissions. Elected and appointed officials in attendance represented the City Board of Commissioners, the Planning Board, the Zoning Board of Adjustment, and the Community Appearance Commission. In total, there were 17 residents of the City of Boiling Spring Lakes in attendance, a number considered to be substantial relative to most meetings held in the community.

   The group was led in discussion by two representatives of the consulting firm of Edward D. Stone, Jr. and Associates. Issue identification was facilitated through the use of a modified nominal group technique. Some 32 growth and development issues were identified and then ranked as a priority number 1, 2 or 3 problem by a show of hands. A complete summary of all 32 issues is presented at the end of this section. These issues then provided the basis for identifying priorities in policy development.

3. **Policy Development** - On Wednesday, February 18 at 7:30 p.m. in the VFW Post, a joint meeting was held by the four major boards and commissions mentioned above. Fifteen residents of the City were in attendance, a number again determined to be substantial in light of the normal turnout for public meetings in the City. The meeting was designed as a policy development workshop, and to facilitate the process, a summary of the City's existing policies for growth and development as contained in the 1983 Land Use Plan was distributed for review and discussion. Also distributed were copies of the 32 growth issues identified at the previous meeting. Discussion then focused on the adequacy of existing policies in light of recent developments in the community, as well as any new requirements of the Coastal Area Management Act Coastal Land Use Planning Guidelines. Each existing policy was evaluated by the group on this basis, and changes were suggested where the group felt it was necessary. In some instances, the group simply provided the consultant with comment, direction, and intent, with the expectation that the consultant would return to the group an appropriate policy statement for further consideration. Upon completion of the review of the

existing policy statements, the last item on the agenda was to evaluate the adequacy of the City's existing Land Classification Map. To aid in this discussion, a color coded existing Land Use Map of the 1987 development pattern in the City was presented. Discussion focused primarily on whether the identified Conservation areas were appropriate, and whether the Developed and Transition categories adequately reflected current development trends in the community. This meeting and discussion provided the basis for the preparation of a draft Land Use Plan, including revised policies for growth and development and a revised Land Classification Map.

4. **Draft Plan Review** - On Wednesday, June 17, 1987 at 7:30 p.m. in the City Hall, a joint meeting was held by the City Board of Commissioners and the Planning Board to review the completed draft of the land use plan and policies. The meeting was advertised in the local newspaper, but no one other than board members, the City Clerk, and the planning consultant were in attendance.

   The purpose of the meeting was to review in full the draft land use plan. While the entire document was reviewed from front to back, particular attention was focused on the Policies and Implementation Section of the Plan, as well as the Land Classification Map. At the conclusion of the meeting, board members voted to authorize the preliminary draft, with corrections as noted, be submitted to the State for review and comment.

5. **Public Hearing and Adoption** - On Thursday, November 19, 1987, the City held a public hearing on the Land Use Plan Update to receive public comments. On Monday, November 23, 1987, the City Commissioners met to review all comments and moved for adoption of the plan, with changes as noted, for submission to the North Carolina Coastal Resources Commission for certification.

Identification of Growth and Development Issues
Joint Meeting of All City Boards
January 22, 1987
City of Boiling Spring Lakes

As a joint work session of all City boards involved in directing the growth of the City of Boiling Spring Lakes, the following development issues were identified for consideration in the 1987 CAMA Land Use Plan Update. Issues were ranked preliminarily according to their relative priority, 1 being most important, 2 being next important, and 3 being least important.

(1)	1.	Water and Sewer System, including treatment.
(1)	2.	Growth on State Road 87 needs more control.
(3)	3.	Maintaining use of the lakes for all without stepping on the toes of others.
(1)	4.	Rezoning to upgrade some areas and require larger lot sizes.
(3)	5.	Consider some control over Army access.
(1)	6.	Need restricted area for double wide mobile homes.
(1)	7.	Preserve as many trees on both single family and multi-family housing sites as possible.
(1)	8.	Encourage development of condos or apartments, especially for singles.
(1)	9.	Adequate drainage for all lots and streets.
(3)	10.	More public access to the Lakes.
(1)	11.	Accelerate the street improvement program.
(1)	12.	Explore the impact of increased railroad activity.
(1)	13.	Potential effect of massive sale of Reeves land on Boiling Spring Lakes.
(2)	14.	Develop park-like areas, City buildings, service areas, etc.
(2)	15.	Upgrading support to rescue and fire services.
(1)	16.	Boat dock specifications, restrictions (i.e. length, etc.).
(1)	17.	Look at rezoning all of Boiling Spring Lakes.
(1)	18.	Expansion of City Hall.
(1)	19.	Better enforcement of city ordinances and codes.
(1)	20.	A system of review of plans, specifications, etc. prior to the issuance of a building permit, especially related to commercial but in reality to all development.
(2)	21.	Community building needed.
(2)	22.	Playground area in the mobile home area.
(2)	23.	A post office with their own zip code.
(N/A)	24.	What will costs be to implement this particular plan?
(3)	25.	How can Boiling Spring Lakes attract a doctor?
(1)	26.	Forestall the practice of combining waste water, i.e. storm water or gray water and actual sewage.
(1)	27.	Develop better communication between the citizens and the City.

(1) 28. Business establishments should conform to architectural style and design criteria established by Boiling Spring Lakes, especially traffic control and general site beautification.

(1) 29. Develop an expeditious method for dealing with code violators.

(3) 30. Consolidate City-owned and operated facilities into campus-like setting.

(1) 31. How can the town get some support from Brunswick County for police protection and for the Brunswick County schools within the City of Boiling Spring Lakes?

(N/A) 32. Should City services be expanded?