Section 2: ECONOMIC DEVELOPMENT

I. HINGHAM'S ECONOMIC CHARACTERISTICS

This section provides a profile of the economic characteristics of Hingham, including the labor force, employers, and various industries in the town followed by goals and recommendations. The most recent data available has been used in this analysis, but some data is as old as the 1990 US Census. Data sources for this section and following sections include the 1997 US Economic Census, the Massachusetts Division of Employment and Training (DET), the 1990 US Census of Population, the Metropolitan Area Planning Council (MAPC) and the Town of Hingham. For additional demographic information, see Appendix 2-1, Demographic Profile.

Labor Force Employment

In 1999 there was an average of 10,885 people in the Hingham civilian labor force. The US Census reported a larger labor force and lower unemployment rate for 1990 than DET (10,742 and 5.9% as compared to 10,525 and 4.1% by DET). The unemployment rate has been in steady decline since its peak in 1991, following trends across the region and state. Hingham's unemployment rate is consistently lower than the unemployment rate for the state (see Table 2-1).

Table 2-1

Average Annual Labor Force And Unemployment, 1987 - 1998

	Hingham		State	
	Labor Force	Unempl. Rate	Labor Force	Unempl. Rate
1987	10,504	3.0%	3,058,283	3.2%
1988	10,186	2.2	3,086,092	3.3
1989	10,237	2.8	3,154,492	4.0
1990	10,526	4.1	3,179,750	6.0
1991	10,254	6.1	3,242,000	9.1
1992	10,170	5.9	3,161,800	8.6
1993	10,273	4.5	3,162,000	6.9
1994	10,378	4.1	3,164,100	6.0
1995	10,364	3.3	3,167,100	5.4
1996	10,498	2.9	3,167,500	4.3
1997	10,790	2.7	3,189,100	4.0
1998	10,838	2.0	3,260,200	3.3
1999	10,885	1.9	3,277,900	3.2%

Source: Massachusetts Division of Employment and Training

Comparison with Neighboring Towns

Town	Unempl. Rate (1998)
Abington	3.6%
Braintree	2.8
Cohasset	2.0
Hanover	2.2
Hingham	**2.0**
Hull	4.1
Norwell	2.1
Rockland	3.4
Scituate	2.6
Weymouth	2.9%

Occupation and Industry of Hingham Residents

In 1990, 60% of Hingham's labor force was employed in managerial, professional, technical, or sales occupations while 22% was in service occupations or administrative support jobs. The remaining portion of the workforce was employed in general labor occupations.

Service and finance/investment/real estate fields together employed 53% of Hingham's labor force, while trade related fields employed about 20% of Hingham's labor force. About 10% of the labor force was employed in manufacturing. Generally, Hingham had a diverse and balanced occupational composition in 1990 (see Table 2-2).

Table 2-2
Employment By Industry of Town Residents, 1990 and 1999

	1990			1999	
	Employees	%	State %	Employees	%
Agriculture & Fishing	129	1.2%	1.2	23	0.3
Construction	614	6.1	5.5	390	4.3
Manufacturing	1,051	10.4	18.1	224	2.4
Transportation, Communications & Utilities	548	5.4	6.2	240	2.6
Wholesale & Retail Trade	2,019	20.0	20.3	1,214	13.3
Finance, Insurance & Real Estate	1,451	14.4	8.0	1,153	12.6
Services	3,887	38.5	36.4	5,657	61.8
Government	408	4.0	4.3	258	2.8
Total Residents Employed	10,107	100%	100%	9,159	100%

Source: U.S. Census (1990), Town Census (1999)

Information about the occupation of Hingham residents is also collected through the annual Town Census, which covers all persons over age 18. This data is not directly comparable to the U.S. Census because of the method of collection. Individual respondents to the Town Census define their occupations themselves, without using SIC classifications[1]. The responses were then interpreted to fit in the SIC industry categories. Many respondents did not supply adequate descriptions of their occupations to place them into the correct industry group, which may account for over-representation in the Service industry and under-representation in others. Within the Service industry, four subgroups were identified, including Professional/Educational Services (41.8%), Business/Computers (31.1), Medical Services (18.4), and Personal/Repair Service (8.7%).

Places of Work

In 1990 most of the Hingham labor force commuted to other areas for employment. 22% of Hingham residents worked in Boston and 21% were employed in Hingham. Other major places of employment are other suburbs south of Boston (see Table 2-3). The majority of persons who are employed in Hingham come from other towns in the surrounding region.

[1] SIC, or Standard Industrial Code, is a system of classification used by the U.S. Census and the Massachusetts Division of Employment and Training. This system will soon be replaced by the NAICS, or North American Industrial Classification System.

Table 2-3
Top Destinations of Persons Traveling To or From Hingham for Work, 1990

Town of Residence of Hingham Employees	# of Persons	%
Hingham	**2,036**	**19.7%**
Weymouth	1,234	11.9
Scituate	453	4.4
Hull	425	4.1
Boston	410	4.0
Quincy	409	4.0
Marshfield	405	3.9
Cohasset	364	3.5
Rockland	348	3.4
Other	4,263	41.2

Workplace of Hingham Residents	# of Persons	%
Boston	2,134	22.2%
Hingham	**2,036**	**21.2%**
Quincy	936	9.7%
Weymouth	562	5.9%
Braintree	474	4.9%
Norwell	284	3.0%
Cambridge	220	2.3%
Brockton	188	2.0%
Rockland	183	1.9%
Other	2,585	26.9%

Source: 1990 U.S. Census

Another way to look at the availability of employment in the town is to compare the number of jobs to the labor force. The ratio of jobs to workers in Hingham in 1999 is 1.01, meaning that there is a slight inflow of labor to the town.

Economic Base

Recent trends in the MAPC District show a broadening of the regional employment base. Employment in the South Shore Coalition (SSC) subregion of MAPC (see Figure 2-1) represented 3% of employment in the MAPC region in 1980, and was expected to increase to 4% of employment in the region by 2000. Total employment in the South Shore subregion has increased over the past two decades, with the number of employees estimated at about 66,000 for year 2000. Hingham, itself, accounts for approximately 17% of employment in the SSC subregion.

The economy in Hingham remained fairly steady throughout the past decade. The number of establishments and total employment fluctuated by about 10% during the recession of the early 1990s, and has now risen above peak levels in the previous decade. Employment in manufacturing and transportation, communication and utilities (TCPU) has declined since 1990, while employment in all other sectors has risen, with the most significant increases in services, construction, and trade.

The Town of Hingham has reasonably good access to the regional labor supply, both in the South Shore area and Greater Boston. Hingham has access to several major routes in the regional highway network, especially Route 3. Commuter rail service is available nearby in South Weymouth. Additional commuter rail will be available when the Greenbush Line is reactivated. If needed, the MBTA ferry and bus routes can be supplemented with shuttle service provided by major employers. Hingham may also want to seek better regional bus service from the MBTA.

The commercial real estate market has been quite heated in the suburban Boston region in recent years. (Spaulding & Slye) The majority of suburban office and R&D development activity in the suburbs has taken place to the north of Boston, but industrial development activity has been focused in the suburbs to the south of the city. As the market for attractive industrial and high tech land tightens, developers are typically companies seeking owner-occupied spaces rather than speculative rental buildings. Where speculative development does take place, the majority of the space is usually rented before the building is completed. Much of the recent absorption in the region has been with new companies starting or moving

into the Boston area rather than existing companies relocating. As spaces nearer Boston get filled, Hingham can expect more activity in its industrial, high tech and office areas (especially office and high tech).

Another indication of the economic base is the rate of new commercial construction in the town. Between 1990 and 2000 there were 8 permits issued for new commercial construction and 12 permits for sizeable additions and renovations to commercial buildings.

Employers

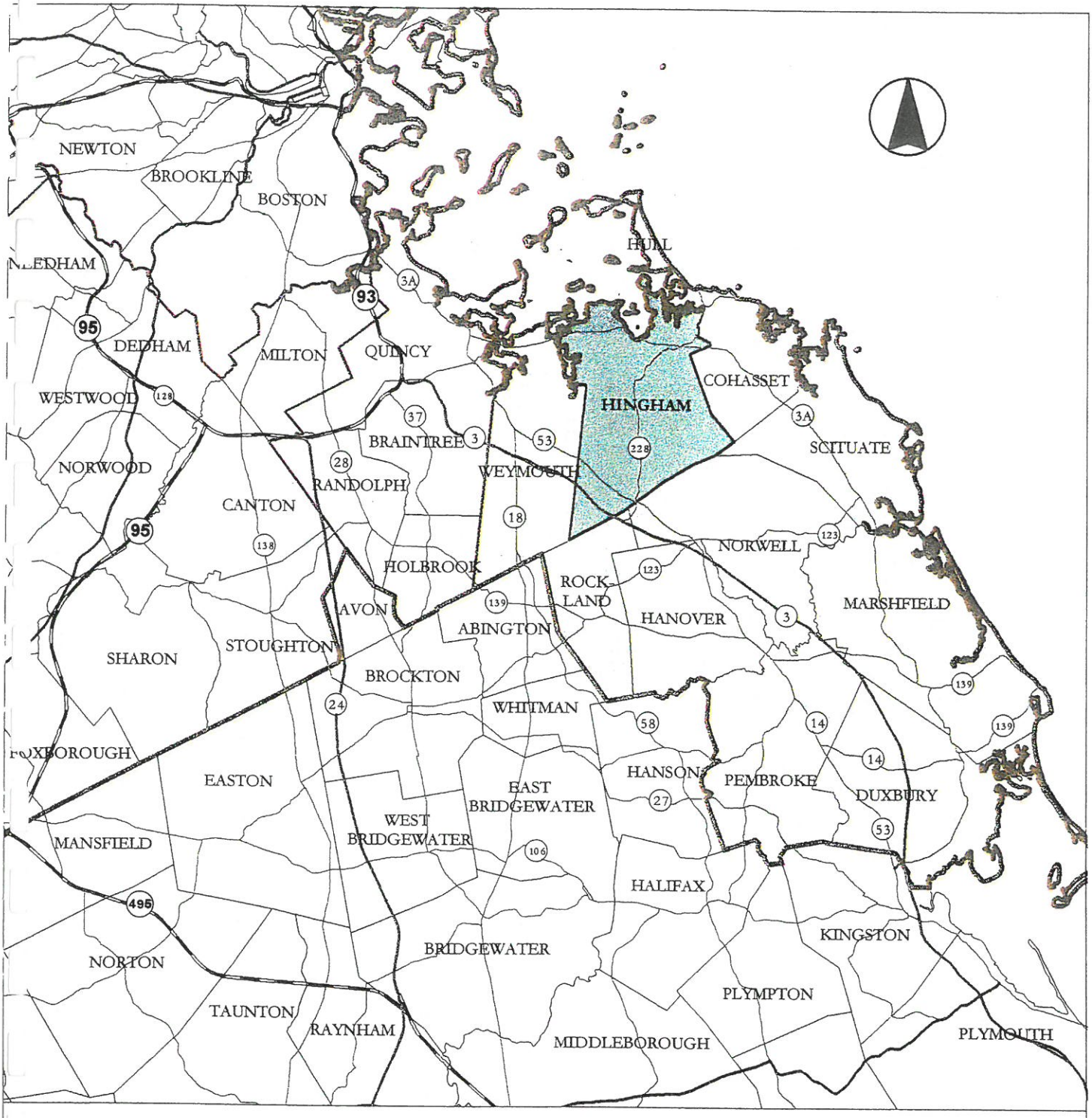
In 1998 a total of 844 businesses in Hingham employed 11,045 persons. The average annual wage for employees in Hingham in 1998 was $39,810.00. The types of industries represented in the town are well balanced. Table 2-4 shows the number of persons employed in businesses located in Hingham in each of the industry categories. The highest number of jobs were in the wholesale and retail trades (41.5%), followed by the services industry (24.6%). Government, manufacturing and construction each provided close to 10% of employment in the town. Employment in the service industry is expected to grow faster than employment in all other industries in the MAPC region as a whole, reaching over 40% of total employment by 2010. Employment growth projections are not available on a town-wide basis, however Hingham can be expected to follow the regional trend.

Table 2-4
Employment by Industry in Hingham[1]

	Average Annual Wage	Number of Establish-ments	Total Employ-ment	Gov.	Agr. & Min.	Contr. Const.	Manu-facturing	Transport Comm. Utilities	Wholes. & Ret. Trade	Finance Insurance Real Estate	Services
1988	$22,779	772	10,687	1,019	116	853	1,595	241	4,434	380	2,049
1989	$23,040	789	10,579	1,031	101	602	1,593	200	4,371	578	2,103
1990	$25,456	809	9,730	882	74	461	1,410	204	4,030	573	2,096
1991	$26,702	777	9,435	988	69	345	1,338	171	3,893	582	2,049
1992	$28,497	758	9,573	950	84	312	1,299	144	4,059	646	2,079
1993	$28,850	809	10,259	952	76	359	1,418	145	4,261	1,011	2,037
1994	$31,129	823	10,324	1,009	66	451	1,540	158	4,446	1,097	1,556
1995	$31,376	835	10,892	1,035	93	515	1,527	170	4,535	1,050	1,946
1996	$32,967	855	10,938	1,053	62	627	1,248	147	4,608	1,034	2,136
1997	$35,210	841	11,055	1,068	78	650	1,147	126	4,451	890	2,619
1998	$39,810	844	11,045	1,088	85	809	923	125	4,582	692	2,714

Source: Massachusetts Division of Employment and Training (covered employees only)

[1] Industry categories are derived from Standard Industrial Code (SIC) system used by federal and state data collection agencies. Service includes business and repair services, personal services, entertainment and recreation, and professional services.



3 0 3 6 Miles

MAPC Region
SSC Subregion

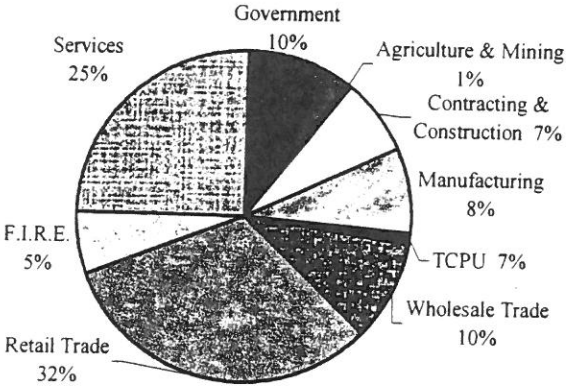
Town of Hingham Master Plan

John Brown Associates, Inc.
Planning Consultants

Figure 2-1

Town of Hingham Regional Context

Figure 2-2
Distribution of Employment in Hingham (1998)



The jobs providing the highest average wages in Hingham are in the wholesale trade industry, followed by construction and finance, insurance & real estate (F.I.R.E.). These industries provide approximately 25% of the jobs in Hingham. Wages are fairly even between industry groups. Although it is typical for wages to be relatively low in the retail industry, this is not the case in Hingham.

Table 2-5
Average Annual Wages by Industry in Hingham

	1998
Government	$35,978
Mining	41,267
Agriculture, Forestry & Fishing	23,275
Contracting & Construction	48,974
Manufacturing	44,988
Transp., Comm., & Utilities	29,852
Wholesale Trade	55,252
Retail Trade	36,062
Fin., Insurance, & Real Estate (F.I.R.E.)	48,907
Services	34,491
Average	$39,810

Source: Massachusetts Division of Employment and Training

Table 2-6 shows the most recent available list of largest employers in the town.

Table 2-6 Largest Employers (2001)

Company	Type of Business	# Employees
Talbot's	Headquarters	1100
Eat Well, Inc.	Restarants	275
Russ Electric	Automatic Switches	250
Stop & Shop	Retail	200
Harbor House Nursing and Rehab	Health Care	150
Building 19	Distribution Warehouse	140
Best Chevrolet	Car Dealership	102
Sager Electric	Electrical Equipment	100
Serono Laboratories	Biotech	100
Derby Academy	School	72

Source: Hingham Office of Accounting

Pending developments that could impact local employment include the fact that Sager Electric has announced its relocation, the impact of which is not yet known. Additionally, Kohls Department Store is scheduled to open in 2002 in the former Bradlees site. Finally, Hingham Lumber has reported that due to the taking of its current site through the Greenbush Line development, it will be moving its operation to nearby Cohasset.

Retail and Wholesale Trade

The 1997 U.S. Census of Retail Trade reported that there were 126 retail establishments in Hingham with total annual sales of $542,586,000. The number of establishments declined from 166 in 1992, while total annual sales increased by 19%. Automotive stores brought in the highest total sales in 1997, at $92,323,000. The substantial number of apparel and accessories establishments and furniture and home furnishing establishments reflects the high value retail uses in downtown Hingham. (See Table 2-7).

Retail establishments in 1998 employed 3,517 people at an average wage of $36,062. Wholesale establishments employed 1,062 persons at an average wage of $55,252. (See Table 2-5).

Table 2-7
Retail Sales by Retail Group, 1997

	Establishments	Sales ($,000)
Building materials, garden supplies	8	D
General merchandise	6	$38,370
Food Stores	16	37,961
Automotive stores	9	92,323
Gasoline service stations	11	12,644
Apparel, accessories stores	26	45,873
Furniture, home furnishings stores	9	D
Electronics & appliance stores	7	D
Drug & proprietary stores	6	D
Miscellaneous retailers	11	D

Note: Sales is withheld (indicated with a "D") where it would disclose the operations of individual companies or businesses.
Source: US Census of Retail Trade, 1997

TAX BASE

The tax base in Hingham is primarily residential, with homeowners providing approximately 84% of the tax revenues. Exempt properties constitute about 21% of total property value in the town. (These include government properties, churches, educational institutions, and properties owned by other organizations which are exempt from property taxation.) Industrial and commercial properties combined make up approximately 14% of the taxable property in Hingham (see Table 2-8). About $3,000,000, or 1.6% of the commercial property valuation, was classified under the Chapter 61A program, meaning that it was used for agricultural purposes and was taxed at less than its full value.

Table 2-8
Total Property Values in Hingham by Land Use Category, January 1, 1999

	Total Property Value	%
Residential	1,859,786,771	84.0%
Commercial	186,650,447	8.4
Industrial	114,350,482	5.2
Personal Property	53,119,780	2.4
Total (taxable only)	2,213,907,480	100.0%

Source: Town of Hingham Assessors Department

Table 2-9 shows a comparison of Hingham's tax base with neighboring towns. The average single-family residential tax bill in Hingham is higher than average among the towns shown, while residential property covers a greater proportion of the total tax revenues. It must be noted, however, that some of the towns shown have a much higher degree of commercial development than would be desirable in Hingham.

Table 2-9
Comparison of Tax Base - Neighboring Communities (FY 98)

	% of Total Assessed Valuation			Tax Rate	Avg Res.
	Residential	Commercial	Industrial	Res./Nonres.	Tax Bill
Abington	85.47%	11.16%	1.26%	16.98	2,564
Braintree	70.0	24.5	4.0	12.87 / 24.93	2,055
Cohasset	92.51	5.76	0.57	15.05	4,851
Hanover	78.13	16.85	3.37	17.33	3,418
Hull	93.44	4.31	0.00	19.59	2,511
Norwell	82.89	12.18	3.46	15.86	4,200
Rockland	76.63	13.93	7.04	17.40	2,295
Scituate	94.33	4.20	0.24	15.19	2,950
Weymouth	77.3	15.5	4.5	17.38 / 25.59	2,422
Hingham	**84.19**	**7.66**	**5.52**	**15.70**	**4,030**
State Average	79.1%	13.1%	4.4%	14.95 (res only)	2,121

As indicated in the Land Use section, commercial properties yield higher tax revenues per acre than residential properties.

ZONING

There are nine commercial zoning districts in Hingham: Business A, Business B, Office Park, Waterfront Business, Waterfront Recreation, Industrial, Industrial Park, Limited Industrial Park, and Business Recreation. Most of the districts allow a mixture of commercial uses (described below), as well as the continuation of residential uses that have existed prior to the zoning bylaw. None of the commercial areas allow the construction of new single-family dwellings.

The Business District A is located in the Downtown Hingham/Hingham Harbor area, while the Business District B is located in spots along Routes 53 and 3A. The permitted uses are fairly similar except that Business District B allows some uses that would be inappropriate for a small-scale commercial village, such as warehouses, freight terminals and storage containers. The districts both allow retail/service use, professional offices, and multifamily housing of all types (with special permit).

The Office Park District is located near the intersection of Route 3 and Derby Street and on Beal Street off Route 3A. This district allows professional offices, restaurants and hotels. A maximum floor area ratio (FAR) of 0.15 is allowed by right, although 0.25 is allowed in the South Hingham area. A greater building height is also permitted in the South Hingham area (48 feet as opposed to 35 feet elsewhere).

The Industrial and Limited Industrial Park District are located in the Route 3A/Shipyard area of the town. These districts allow light industry, professional offices and "retail group" uses. The Industrial District has a maximum FAR of 0.35 for industrial or office uses, or 0.50 with a special permit. The FAR for retail groups is 0.60; however the maximum portion of the lot that can be covered by buildings is 30%.

The Industrial Park District is located in South Hingham along Route 3 and adjacent to the former South Weymouth Naval Air Station. This district allows professional office uses and light industrial uses by special permit. The maximum FAR is 0.35 or 0.25 for certain uses.

The Waterfront Business, Waterfront Recreation, and Business Recreation Districts are all small districts oriented toward special purposes. The Waterfront Business District is located in the Hingham Harbor area, and it is the only location along the waterfront in this area to allow private businesses. Zoning allows retail/service and professional office uses by special permit only. The Waterfront Recreation District is located along the Weymouth Back River off of Beal Street. This district allows marinas and other marine-related businesses. The Business Recreation District is located near the intersection of West Street and South Street. It allows only recreation and entertainment-related businesses, and is the site of the clubhouse building of the South Shore Country Club.

In addition to these commercial areas, small professional offices and home occupations are permitted in most of the residential districts.

Buildings throughout the town are limited to three stories in height. Although commercial development in the past has tended to have only one story, some taller buildings are now under construction, and Hingham can expect to see more three story commercial buildings as the supply of developable land in the region becomes tighter.

PRIMARY COMMERCIAL AREAS

The principal commercial areas in Hingham are Downtown Hingham/Hingham Harbor, the Hingham Shipyard/Route 3A area, and South Hingham, and Queen Anne's Corner. Smaller commercial areas include Hingham Centre, West Hingham, and a few other scattered sites.

Downtown Hingham/Hingham Harbor. Downtown Hingham (Hingham Square) is a small scale, pedestrian oriented downtown area that successfully competes with shopping plazas and regional malls. The Square caters to an upscale market, with such national chain stores as Talbots and Laura Ashley, as well as a variety of smaller locally owned shops, restaurants, and professional offices. The Hingham Square/Hingham Harbor Business District A runs between Hersey Street and the Hingham Rotary, and is bounded by historic residential neighborhoods. The dimensions of the downtown were defined in the 17th, 18th and 19th centuries. The area is characterized by narrow streets and sidewalks, with shops opening onto the sidewalks. According to the Hingham Square Business Association, the "Square" includes over 150 businesses employing over 1,000 people. The Square is also a focal point for community activity, with a community center, parochial school, and several churches.

South Hingham. The South Hingham area includes the area adjacent to and south of Route 3, which includes the South Hingham Overlay District and the underlying Industrial Park District and Office Park District. Several large retail and industrial uses exist in this area, including the South Shore Industrial Park and Hingham Plaza (an older shopping center currently scheduled for redevelopment). Much of the commercial land in South Hingham remains undeveloped, and much of the land zoned for industrial use is owned by a single owner. A considerable amount of land in this area is undevelopable because of the presence of wetlands. A buildout analysis by MAPC conducted in 1999 estimates that approximately 4 million square feet of industrial or commercial development may take place on 91 acres of developable land in the Industrial Park District (south of Route 3).

Hingham Shipyard/Route 3A. The Hingham Shipyard area was made available for private use following military presence in World War II. The Hingham Ferry Terminal, located in the Shipyard, provides commuter service to Boston as well as excursions to the Boston Harbor Islands. As many as 2000 riders use the commuter boats on a round-trip, daily basis. A special mixed-use zoning district applies in the Shipyard, and proposals for redevelopment of the area are expected to be finalized in 2002.

The adjoining area across Route 3A includes a sizeable area bounded by Beal Street, Fottler Road and Route 3A which is industrially zoned and contains some substantial nonresidential uses, including a shopping center at the westerly end, a Flatley office park and Talbot's' world headquarters on Churchill Street (off Beal Street). Another smaller retail/service area is located to the east on Route 3A at the intersection of Route 3A with Downer Avenue and Thaxter Street.

Other Areas. Queen Anne's Corner is located at the intersection of Route 228 and Route 53 along the town boundary; part of the commercial area is located in Norwell. This is primarily a secondary retail/service and office location.

Hingham "Centre" is an older commercial area comprised of a few small retail and service stores located in the north central part of the town, at the intersections of Main Street, Leavitt Street, School Street, and Short Street.

MARKET AREA CHARACTERISTICS

Location

Hingham is located in the South Shore subregion of the MAPC district.. The Town is largely a bedroom community of Boston, although people do commute to the Route 128 corridor and elsewhere. The Town of Plymouth to the south is a regional economic center in the South Shore area, with a concentration of tourism activities, commercial recreation, retail and office uses, and industrial and high tech uses. Major regional retail centers are located in the towns of Hanover and Braintree, which are also centers of

economic growth. Hingham has good access to regional transportation corridors via Route 3, which passes through southerly portion of the Town.

Market Trends
The office, industrial, and high tech real estate market in the Greater Boston area has been strong in recent years and exceptionally low vacancy rates have diminished options for companies seeking space. Financial services and high technology companies have been the primary engines of economic growth in the region. Many speculative office developments are currently taking place in Boston and along major transportation corridors close to the city. Outlying suburban areas are not likely to see a rise in speculative development, but can still expect to see an increase in construction of new industrial, office, and high tech facilities by individual companies seeking to relocate.

Major commercial areas in Hingham (namely South Hingham) attract a diverse group of businesses, including office uses, small businesses which use warehouse space, high tech/R&D businesses, and an increasing number of first class office space users. There is also some demand for retail space. In the long term, maintaining a broad variety of business is in the community's interest. Currently types of space that are in demand in Hingham include "flex buildings" (targeted toward small, growing businesses needing office and warehouse space) and first class office space. Demand for commercial space in the town tends historically to come from businesses whose decision-makers or a large number of employees reside in the South Shore area. This trend can be expected to continue.

NEEDS/ISSUES

Needs and issues have been organized into two categories: regulatory and structural. Regulatory issues pertain to problems that can be addressed through changes to local regulations and bylaws. Structural issues are any issues over which the Town has no direct control through regulation. These may include deficiencies or other constraints caused by infrastructure, environment, or markets. Some structural needs can be addressed by the local government through infrastructure investments, grants, technical assistance, or other programs.

Regulatory
The areas zoned Industrial currently permit large retail uses such as shopping plazas. If in fact the continuation or expansion of these uses are desired, the Town may wish to consider changing the names of the districts so that the name of the district is more consistent with the prevalent use. Alternatively, retail uses (except accessory retail) could be eliminated from the permitted uses in industrial districts, so as to reserve these areas for high tech and office uses.

There has been some discussion of rezoning the area along Route 53 to commercial use. Although some commercial use exists at Queen Anne's Corner, at the intersection of Derby Street and Route 53, and near the Weymouth town border, the areas in between these nodes are primarily residential. Further consideration is needed regarding the future land use for this area, since strip commercial use must be avoided. This is discussed in the land use section.

Structural
According to a survey of business owners and residents conducted by the Jordan Group in 1998, there is greater public support for improving and intensifying the existing commercial and industrial areas than for expanding them or creating additional commercial areas. The survey respondents did not feel that substantial parking or traffic issues impacted economic development goals.

MBTA. The proposed reactivation of the Greenbush commuter rail line through downtown Hingham is a highly contentious issue. Opponents believe that rail activity will have an adverse economic impact on

the downtown, in addition to other impacts. Proponents of the commuter rail feel that the Greenbush line could provide a boost to businesses located near the proposed rail stations, as well as to the general economy of the South Shore region.

Subsequently, the Town and the MBTA have entered into an agreement which called for the Town to cease its litigation, in exchange for which the MBTA has agreed to design and construct a so-called "short" tunnel through Hingham Square and provide 1.3 million dollars in mitigation funding. The goal of this settlement is avoid the loss of convenient parking and loading areas, disruptions in traffic and pedestrian flow, and thus protect both customers and business owners. The Town's Development and Industrial Commission is presently working on ideas and plans to address the construction impacts of the Greenbush Line through this area. This issue is discussed further in the Land Use section.

Former Naval Air Station Reuse. The reuse plan for the former South Weymouth Naval Air Station, which includes retail uses, is expected to have a significant impact on the South Hingham area. The plan includes a substantial amount of retail and office space, as well as senior housing. According to a 1999 study by MAPC, a proposed Route 3 Connector road that is part of the plan would provide access to developable parcels in Hingham which are currently inaccessible. According to MAPC the Industrial Park District has the potential to accommodate an additional 4 million square feet of commercial space under existing zoning. Water, sewer and other infrastructure improvements are needed in this area in order to support this level of development. MAPC recommends that a master plan be developed for the industrial park area, and suggests land use changes for the area, including downzoning along Abington Street to residential use only. See Appendix 2-2 for a list of recommendations provided in the MAPC study.

Shipyard. Plans have been proposed to redevelop the Shipyard area with a mixed-use complex, including luxury residential units, retail establishments, office space, and open space. Such a development would generate considerable net tax revenue for the Town, as well as bringing jobs and physical improvements. In November, 2001 Acting Governor Jane Swift signed into law legislation allowing for a land swap between the MBTA and Sea Chain, LLC, thereby putting a central piece of the development plan in place for the eventual redevelopment of the Shipyard.

The Hingham Ferry Terminal (in the shipyard) is in need of infrastructure improvements and additional parking to serve commuters. At this point the only constraint on increased ferry service is the lack of sufficient parking. The MBTA has recently requested over $1million from the Bureau of Transportation Planning & Development. A study has been proposed to determine what ferry needs will comprise in the future.

II. ECONOMIC DEVELOPMENT GOALS & RECOMMENDATIONS

Economic development and land use are closely related. Goals for economic development will be enhanced or limited by available and desirable land, as well as policies related to overall community land use.

GOALS

General Goals

- Support and strengthen the kinds of local businesses that are beneficial to the community in terms of providing needed services, products, employment and tax revenue.
- Explore various methods of insuring that desired nonresidential growth produces net tax income to the town.
- Maintain high standards of design and maintenance in existing and new commercial developments.
- Seek to attract businesses that fit the character of the community, in terms of scale, attractiveness, and functionality.

Specific Goals

- Enhance the unique role, character, and scale of commercial areas within the town including local retail and service, office and high tech, light industrial, commercial recreation, and automotive and trades.
- Keep the tax base stable by encouraging further commercial and industrial activity in the presently zoned areas rather than designating new areas.
- Other than Hingham Square, keep major traffic producing economic development projects near regional highways.
- Coordinate vehicular traffic, pedestrian traffic and parking in commercial areas so that they function in an optimal manner.
- Proactively seek to attract esthetically and fiscally desirable land uses (e.g. high tech, office, senior assisted living, etc.) rather than passively wait for development proposals.
- Preserve the historic character, amenities, and ambiance of the Downtown Hingham/Harbor area while seeking ways to improve economic opportunities, parking, loading, and traffic and pedestrian flow.
- Work with owners of key properties to assure development or redevelopment, which will benefit both the town and the property owners.

RECOMMENDATIONS

To maintain and even further encourage the continued economic vitality of the Square, the Town may wish to consider the following actions. These recommendations are presented in three parts, including a) local retail and service, b) office, high tech, and light industrial, and c) special commercial and other economic related activities.

a) Local Retail and Service

Hingham is served by local retail and service establishments in a number of locations. The most notable is the Hingham Downtown/Harbor area which is discussed below. Other locations include local shopping centers and strip centers on Lincoln Street and Derby Street and smaller facilities at Hingham Centre, Queen Anne's Corner, the intersection of Whiting and Derby Streets and a few other smaller locations. Some additional local retail is also expected to be a part of the Hingham Shipyard development (discussed below). Additional local retail and service facilities beyond those discussed herein are not considered necessary, although some special circumstances may make additional limited facilities appropriate.

Hingham Square/Downtown. Hingham Square is a vibrant, pedestrian-oriented and historic village center with many specialty retail shops, restaurants, banks, and a local cinema. The downtown is currently thriving and has developed a market niche which can compete with outlying shopping centers and plazas. The current economic vibrancy and historic character of the Square must be maintained, protected, and enhanced throughout the inevitable disruption associated with the construction of the rail line and associated tunnel.

Hingham Square/Downtown Recommendations

- *Encourage the Option of Providing Apartments in the Upper Floors of Existing Buildings*
  To provide housing for either young adults and senior citizens who may enjoy living in the midst of Hingham Square, explore the option of converting upper floor space in commercial buildings to new apartments or condominiums. This option should be provided only for the conversion of existing buildings rather than allowing new multi-family housing in construction. If new construction were to be permitted, it would encourage teardowns of existing smaller structures that now provide the Square with its small village ambiance.

  If additional housing is encouraged, it will be important to provide sufficient parking. It is likely, however, that this parking supply already exists since the upper floors of existing buildings at present are largely used for commercial and office uses which now require their own parking spaces. If these commercial upper floors were converted to housing, these existing parking spaces could be transferred to residential use.

- *Increase Parking Spaces at the Station Street Parking Lot*
  The Station Street parking lot should be repaved and re-striped to accommodate additional parking spaces. At present, the lot is largely unstriped which results in an inefficient use of the property. At this point the Station Street Lot is scheduled to be used as the staging area for the Greenbush construction, and the MBTA has made a commitment to rehabilitate and improve the lot when the project is complete.

- *Strengthen the Link between Upper and Lower Squares by Encouraging Further Retail and Small Professional Office Business Growth along the Portion of North Street Which Connects Them*
  At present, Hingham Square is perceived to be divided into two distinct commercial sub-centers connected tenuously by North Street. One part focuses around North, South, Central, and Main Streets. The other part is clustered near the Harbor. The link between them along North Street has few retail destinations and is therefore perceived as a "gap" between the two commercial sub-centers. At present, retail patrons with destinations in each sub-center are likely to drive between the two. If the link along North Street were to be further developed commercially, the two existing sub-centers would more likely be perceived as a unified whole and pedestrians would choose to walk between the two commercial clusters.

- *Modify the Zoning Bylaw to Protect Hingham Square Retailers*
  Today the Square is economically healthy. However, retailers are still subject to the laws of competition. If new retail uses are constructed at nearby and new planned retail centers which may directly compete with the Square's retailers, such new retailing could negatively erode the market base of downtown retailers. Therefore, as new retail and mixed-use centers are planned in Hingham, the allowed uses in these new centers should be crafted so as not to adversely impact the Square's merchants. To a large extent, government cannot and should not take upon itself to intervene in the competitive market process. However, the Town does have a legitimate public interest in maintaining its historic vital center. Therefore, zoning should be crafted for new retail centers to encourage types of stores that are not directly competitive with downtown merchants. This can be accomplished, in part, by regulating retail floor areas, parking requirements, and even allowed uses – such as cinemas.

- *Proactively Plan for Changes in the Square in Response to Construction of the Greenbush Commuter Rail Line*
  The Town should actively participate in planning for the most desirable design and mitigation measures when the Greenbush Line is constructed so that it can shape and influence the final outcome. Originally, two distinct scenarios for the rail line were considered: the tunnel option and the surface option. The MBTA has recently agreed to construct a tunnel through the downtown area.

  Increasing Parking
  The presence of the Greenbush line may increase pressure for additional parking in downtown Hingham. One candidate site for increasing parking is on the large parcel between Central and Main Streets currently used for private parking. Because this parcel's elevation is now a full story below the sidewalk level on Central Street, there may be an opportunity to build a parking deck that would be at street level with the existing parking lot below it at the lower grade. This deck and the surface parking spaces below it would probably be of sufficient size to replace lost parking and perhaps even add to the net inventory of parking spaces in the Square.

  Furthermore, the lower (surface) level could be designated for all-day employee parking for the Square's businesses so that the deck level (Central Street level) could be used by visitors and patrons of the Square for short-term parking. Also, by designating or encouraging employee parking at this location, on-street short-term curbside parking immediately adjacent to retailers would probably be freed to accommodate patrons since many of these curbside spaces are now probably used by employees. The Town can encourage this parking strategy by readjusting on-street curbside parking time limits and parking meter fees versus parking deck time limits and parking fees.

The Tunnel Cap

When the Greenbush Line is constructed and is placed in a tunnel under the Square, the Square's merchants and their patrons may actually benefit. Therefore, the Town should plan for how the tunnel surface is designed and utilized. In all likelihood, the tunnel surface can be designed to provide more parking, better service areas, better lighting, and a more pleasant pedestrian environment than now exists on the rail right of way. The tunnel surface should therefore be designed to include new paved parking areas, screened delivery areas, pedestrian lighting, landscaped areas, and even a linear pedestrian pathway along its length. If the surface is designed well, existing stores may be encouraged to open rear entrances to this new surface spine where there may even be space to provide for small outdoor café sitting areas, etc. The elements of these new design features should be reviewed by the Hingham Historical Commission to ensure that they are compatible with the character of the Square's historic district.

The Town should also work with the MBTA and building owners adjacent to the rail right-of-way to seek to maintain access to the rear of buildings for service and maintenance functions. If the MBTA right-of-way is wide enough, such access could be provided within the right-of-way. If it is not wide enough, property owners may wish to cooperatively provide an easement strip adjacent to the MBTA right-of-way for access purposes.

b) Office, High Tech and Light Industrial

Except for the office/high tech concentration located in the Lincoln Street/Beal Street area in North Hingham, all recommended office, high tech and light industrial areas are located in South Hingham near Route 3. South of Route 3 there is potential for additional office, high tech, and industrial growth. The existing South Shore Industrial Park is already showing signs of expansion and redevelopment, reflecting emerging market interest in Hingham. The additional land adjacent to the industrial park north of Abington Street (although somewhat limited by wetlands) also has potential for substantial office and high tech growth. The proposed access road from the redeveloped South Weymouth Naval Air Station would provide improved access to this site.

Abington Street is recommended to remain as a residential location because of the existing residential development already there. South of Abington Street there is additional land (even further restricted by wetlands) that is available for future office and high tech growth. It is anticipated that this latter area will not develop substantially until further into the future.

c) Sewage Disposal

All of the above areas in South Hingham are restricted by the lack of public sewer in the area and must rely on on-site septic disposal unless connections to public sewers in neighboring towns can be arranged. The Town may wish to investigate the feasibility of tying areas south of Route 3 into neighboring towns' sewer systems, provided that groundwater recharge is not compromised. Another option, favored by the Department of Environmental Management, would be to investigate the newest technology in on-site sewage treatment plants. This should be done because this area is an environmentally sensitive area for both Hingham and Weymouth (the Old Swamp River is a water supply for Weymouth); Accord Pond is located nearby (Hingham's water supply); and Abington/Rockland's water supply is nearby as well.

d) Special Commercial and Other Economic Related Activities

The Guide Plan shows the Hingham Shipyard as "Planned Development," although another designation could be used. The Shipyard is proposed to be redeveloped for a variety of uses and already has preliminary approval from the Town. Such uses would include approximately 500 units of housing, 250,000 square feet of retail space, and 30,000 square feet of office space. In addition,

improved facilities and parking for the MBTA commuter boat would be accommodated. No specific date for beginning this project has yet been established but it is anticipated that a definitive proposal will be submitted in the Spring of 2002. It is an appropriate use for the site and will be a substantial improvement over the massive and deteriorating former military buildings now covering much of this site. It will provide another improved "gateway" to the Town as well as a substantial source of non-residential tax revenue.

Appendix 2-1
DEMOGRAPHIC PROFILE

POPULATION

Much of the following information comes from the 1990 U.S. Census. Estimates for 1998 and forecasts are based upon town-level research provided by MISER or local sources. Although the focus is on Hingham, data on adjacent communities and regional groups is included for comparative purposes, so that a sense of Hingham's role in the region is provided. Hingham is a part of the South Shore Coalition (SSC) subregion of the Metropolitan Area Planning Commission (MAPC), which also includes Weymouth, Cohasset, Rockland, Hanover, Pembroke, Duxbury, Marshfield, Norwell, Scituate, and Hull.

Size and Growth

The January, 2000 population in Hingham, as reported by the Town Clerk, was 21,479 people. The January, 2000 population estimated by the Massachusetts Institute for Socio-Economic Research (MISER) was 21,818. The rate of population growth has accelerated over the past decade, after a population decline between 1980 and 1990. According to the Town Census the town's population grew by about 8% between 1990 and 1998. This growth rate is considerably higher than growth in the state as a whole. (See Table A1.)

Table A1
Historical Population Trends for Hingham and Region (1970 - 2000)

	Hingham	% Change	MAPC	% Change	Massachusetts	% Change
1970	18,845				5,689,170	
1980	20,339	7.9	2,884,702	1.3	5,737,037	11.4
1990	19,821	-2.5	2,922,934	3.0	6,016,425	4.9
2000	21,479	8.4				

Source: US Census, Town of Hingham, MISER

Population projections by MAPC and MISER utilize complex models based on birth, death, and migration rates to estimate future population trends. In Table A2 two different population estimates from each of these agencies is shown[1]. The actual growth rate since 1990 indicates that MISER's estimate for 2000 is more accurate than MAPC's. The continued rate of population growth may be greater than projected (based upon current housing starts and proposed projects.)

Table A2
Population Projections for Town of Hingham (2000 - 2020)

	MAPC	% Change	MISER	% Change
2000	19,948	5.22	21,818	9.1
2010	19,911	3.21	22,096	1.3
2020	19,844	2.40		

Source: MAPC, MISER

Households

As of January, 2000 there are approximately 7,216 households (occupied housing units) in Hingham. The number of households grew by about 4% between 1990 and 2000.

(Continued)

[1] MISER projections were recently updated in 1999, while MAPC projections were completed in 1996.

Table A3
Historical Household Trends for Town of Hingham (1970 - 2000)

	Households	Persons Per Household	% Change in Households	Yearly Avg. Increase
1970	5,337	3.53		
1980	6,323	3.19	18.5	99
1990	6,915	2.84	9.4	59
2000	7,216	2.98	4.4	30

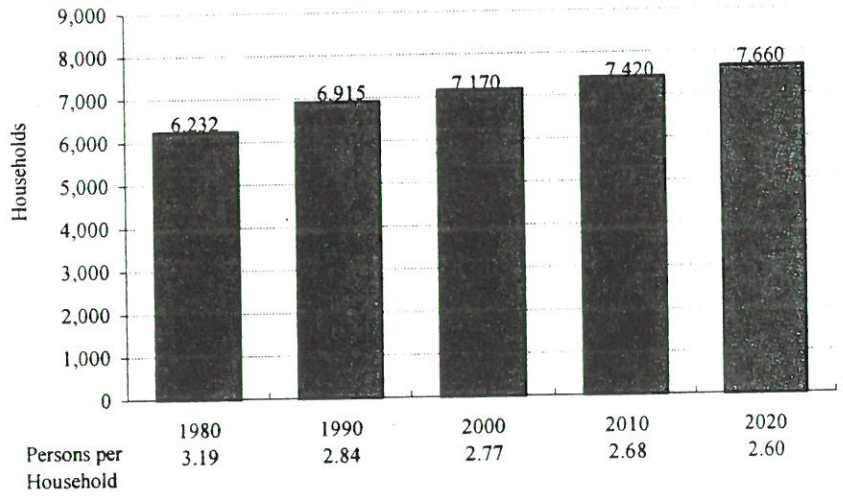
Source: US Census, Town of Hingham, John Brown Associates, Inc.

Table A4
MAPC Projected Household Trends for Town of Hingham (1990 - 2020)

	Households	% Change	Yearly Avg. Increase
1990	6,915		
2000	7,170[(1)]	3.7	26
2010	7,420	3.5	25
2020	7,660	3.2	24

Source: MAPC
[(1)] This projection has been surpassed; current households are estimated at 7,216.

Figure A1
Household Forecast for Hingham



Source: MAPC

The number of households in Hingham increased from 6,915 in 1990 to 7,216 in 2000, an increase of 4.4% in this period, compared to an overall population growth of 8.4%. The number of persons per household in Hingham increased slightly from 2.84 persons in 1990 to about 2.98 persons in 2000. This increase counters a regional trend to smaller household size. Household size is expected to decline in the future.

(Continued)

There has been a slight decrease in the number of family households that are headed by females. In 1980, 12.5% of the families in Hingham were headed by females; by 1990 this figure had decreased to 10.9%. This counters the state-wide and national trend, in which a rise in the number of female-headed households reflects an increase in separate households. At the same time, Hingham has seen an increase in the number of non-family households, from 16.5% in 1980 to 20.6% in 1990. The data suggests that Hingham's population is composed increasingly of two-parent families and persons living alone.

Income Distribution

According to MAPC estimates, the median household income in Hingham in 1994 was $74,699. The median household income in Hingham in 1989 was $60,274. The number of persons in 1989 whose household income was below the poverty level was 519, or approximately 2.6% of the population. The percentage of persons below the poverty level in Hingham was considerably lower than Massachusetts (8.9%). Income and poverty statistics are not regularly updated by government agencies, thus more recent figures will not be available until the next U.S. decennial Census is released.

Table A5
Income Distribution - 1989

	Households	%
Less than $10,000	415	6.0
$10,000 - $24,999	796	11.5
$25,000 - $49,999	1,604	23.2
$50,000 - $99,999	2,731	39.5
$100,000 or more	1,365	19.8

Source: U.S. Census

Age Characteristics

Only the older age groups increased in population between 1980 and 1990. There was a 21% increase in persons 65 and over between 1980 and 1990. The number of persons below the age of 30 years declined during the 1980's, resulting in a negative growth rate for the total population.

According to population forecasts (MISER, 1999), the number of persons aged 45 and older is expected to grow by more than 29% by the year 2010, while all other age groups are expected to shrink. Although the total population is expected to grow over the coming decade, the population of Hingham is expected to consist of fewer young adults and young families, and more older adults and seniors.

Table A6
Age Distribution 1980 - 2010

	1980		1990		2010 (Projected)		
	Persons		Persons		Persons		Percent Change (1990 – 2010)
0-14	4,867	23.9%	3,899	19.7%	4,324	19.6	-11.2%
15-19	2,109	10.4	1,439	7.3	1,688	7.6	-20.0
20-29	2,384	11.7	2,347	11.8	1,831	8.3	-23.2
30-44	4,489	22.1	4,808	24.3	3,862	17.5	-14.0
45-64	4,440	21.8	4,842	24.4	6,716	30.4	51.3
65 & over	2,050	10.1%	2,486	12.5%	3,675	16.6	79.3
Total	20,339		19,821		22,096		8.6%

Source: U.S. Census, MISER

(Continued)

Other Social Characteristics
The educational attainment of residents in Hingham in 1990 was well above the State average for completing both high school and college. 93% of Hingham residents over the age of 16 years had high school diplomas, and 44% had a bachelor's degree or higher. (see Table A7).

Table A7
Educational Attainment

	% Completed High School	% Completed 4+ Years College
Hingham	93.2%	44.2%
MAPC	84.3	35.4
Massachusetts	80.0%	27.2%

Source: 1990 U.S. Census

Appendix 2-2
RECOMMENDATIONS BY MAPC, ADJACENT LAND USE STUDY, JUNE, 1999
(If Proposed Route 3 Connector is Built)

1. Water and sewer resources have to be improved to achieve significant future development or the community should consider down-zoning property to limit development in line with existing infrastructure.

2. According to the build-out analysis, the industrial park zoning district has the potential for just under 4,000,000 sf of development. Major infrastructure improvements will be needed to accommodate this level of development in the community. Plans and decisions regarding the type and location of such improvements must be constructed in order to adequately prepare for future growth.

3. None of the commercial and residential development within the Hingham study area is on public sewer system and significant septic system construction could affect water quality for the community. A master plan that would provide guidelines for handling the community's wastewater into the next millennium must be developed.

4. A master plan should be developed for the industrial park (IP) area. Important in the plan will be control of the access from the Route 3 Connector road to the industrial parcels.

5. Develop systems of roadways such that accessibility is improved, and existing congestion can be redistributed across several routes. All new roadways should be designed to meet projected traffic demands.

6. Establish framework for the use or requirement of Traffic Demand Management plans for newly developed sites.

7. The IP parcels, or portions of these parcels, along Abington Street should be rezoned for residential development.

8. Mitigation associated with the development of the Route 3 connector should be required to limit access and usage of Abington Street. This is needed to ensure the residential character of the area.

Section 3: NATURAL RESOURCES

{tc \l1 "5.1 INTRODUCTION}

Hingham contains a wealth of natural resources, including productive aquifers, rivers and streams, saltwater marshes, shellfisheries, and regionally-important wildlife habitat. Beyond the critical role they play in supporting natural ecosystems, these resources contribute valuable or irreplaceable services to the people of Hingham and the surrounding towns by providing drinking water, clear air, flood control and other benefits. This section of the Master Plan identifies Hingham's natural resources and evaluates existing provisions for their protection. Where natural resources are inadequately protected, specific courses of action are discussed to protect these resources.

I. NATURAL RESOURCES INVENTORY

Hingham's natural resources were inventoried using information from MassGIS, the Massachusetts Natural Heritage and Endangered Species Program (NHESP), the 1996 Hingham Open Space and Recreation Plan, interviews with town officials, site visits, and other sources. The maps, which supplement this section, display the spatial extent of each resource.

SURFICIAL GEOLOGY AND SOILS

Surficial geology is an important determinant of a site's natural species composition, hydrological characteristics, and overall suitability for development. Hingham's surficial geology was heavily influenced by the most recent glaciations when sand, gravel and till were deposited by the retreating glacier. Glacial movement sculpted numerous drumlins: deposits of till molded into a streamlined pattern following the motion of the retreating glacier. Prominent drumlins in Hingham include Bumpkin Island, World's End, Baker Hill, Planter's Hill, and Otis Hill.

Detailed soils maps are available from the U.S.D.A. Soil Conservation Service. These maps indicate soil type based on physical properties such as natural drainage capacity, texture, stoniness, depth to bedrock and slope gradient. For the purposes of this report, soils have been grouped into three main types, shown in Figure 3-1, which are grouped together based on similar physical properties and development constraints:

Sand and Gravel: Sands and gravels are glacial deposits with large and fairly uniform grain size and considerable porosity. Typically, sand and gravel deposits provide the fastest percolation rates and therefore serve as effective groundwater infiltration areas. The rapid percolation rate in sand and gravel soils typically makes them the most suitable soils for development, particularly where on-site sewage disposal is required. As shown in Figure 3-1, a broad spine of sand and gravel soils runs north-south through the western two-thirds of Hingham. While this figure presents generalized surficial geology conditions, Hingham's soils are highly variable from location to location, and include areas with shallow depth to bedrock, hardpan, steep slopes and other constraints. Thus, many of the areas shown as sand and gravel on Figure 3-1 may actually be unsuitable or marginally suitable for development.

Till: Till is a more heterogeneous glacial deposit consisting of a mixture of grain sizes including finer-grained materials that reduce porosity and limit percolation rates. This property makes

bedrock, hardpan and steep slopes make it difficult to generalize conditions across broad areas of the town.

Peat, Muck and other Hydric Soils: These soils were formed by organic materials collecting and decaying in depressions in the landscape, such as kettleholes and streambeds. These soils are typically found in wetlands or flood-prone regions and are generally unsuitable for development. Hydric soils are located along Hingham's streams and rivers and in isolated pockets throughout the town.

Although many areas of Hingham contain soils that restrict the development of buildings and septic system, low-density, high cost development has nevertheless proved possible on several such constrained sites. The recent record of development indicates that, given the high value of buildable land in Hingham, soil constraints are not likely to stop development in the long term, except in areas where local or state laws expressly prohibit development.

WATER RESOURCES

Surface Freshwater Resources

Hingham is located within the Boston Harbor watershed. The majority of the town is within the Weir River sub-watershed, which discharges to Boston Harbor at Hull Bay. Parts of northwest Hingham drain to the Weymouth Back River, and coastal areas drain directly into the Bay. Figure 3-2 shows Hingham's major surface water features.

The Weir River contains several sub-watersheds within Hingham, including:

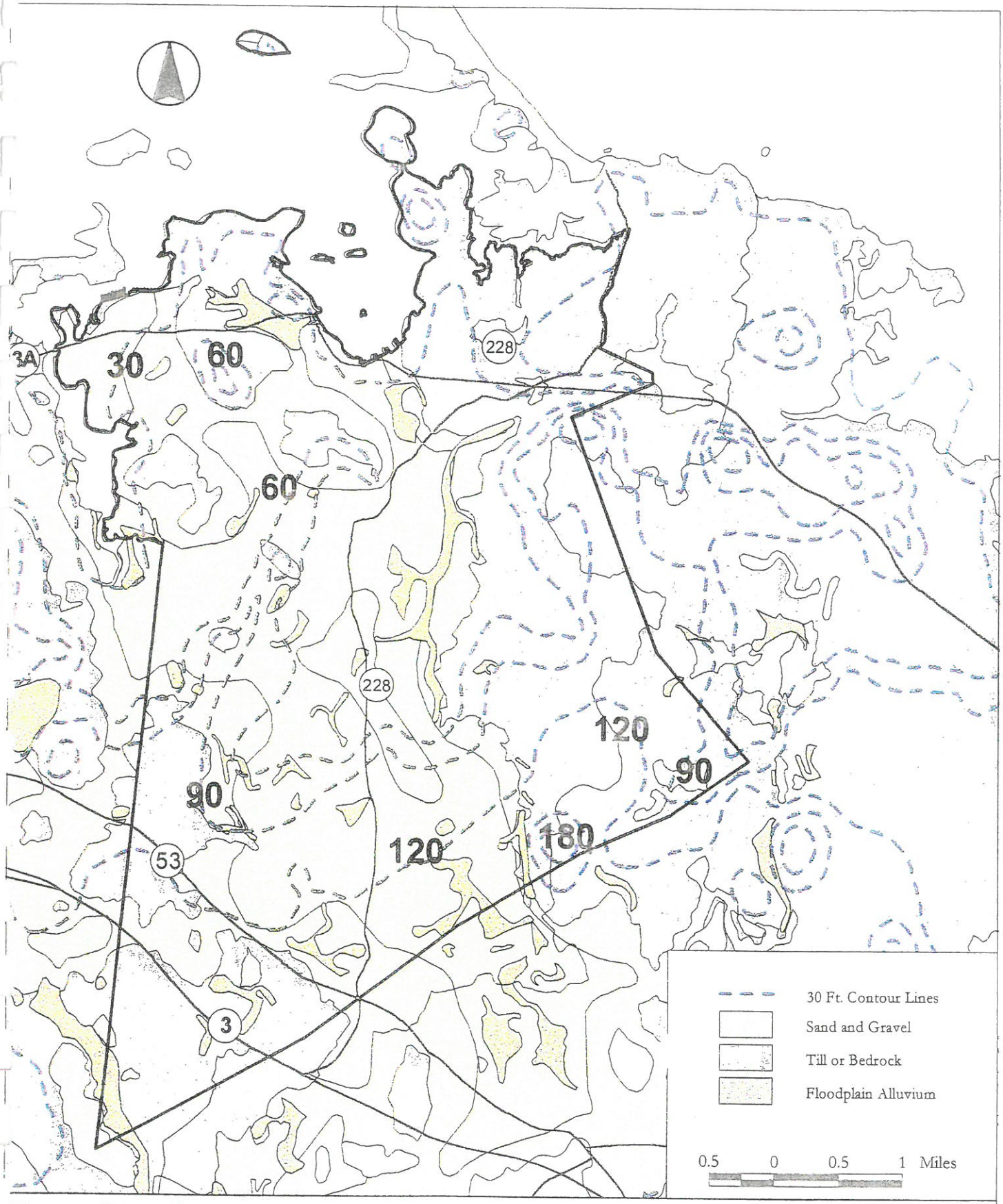
Tower Brook Sub-Watershed: Tower Brook flows east across central Hingham. This brook has a large bordering wetland system near its confluence with the Weir River, which is the site of high- and medium-yield aquifers and one of Hingham's major wellfields.

Plymouth River Sub-Watershed: The Plymouth River and its tributaries drain southwest Hingham, including the Hingham Industrial Park area. The Plymouth River flows into Cushing Pond and then north toward its confluence with the Weir.

Accord Pond Sub-Watershed: Water leaves Accord Pond on the north end and flows via Accord Brook into the Weir River. Although it functions as an important water supply, Accord Pond has very little protected land around its perimeter, and has a variety of residential and commercial uses nearby in Hingham, Rockland and Norwell.

Fulling Mill Brook Sub-Watershed: Fulling Mill Brook flows north from South Hingham into the Weir River. The brook overlies medium-yield aquifers and feeds Fulling Mill Pond, which has a water pumping station.

Town Brook Sub-Watershed: Town Brook flows east through portions of downtown Hingham and West Hingham, emptying into Hingham Harbor. Town Brook drains a small, but fairly densely developed watershed of about 600 acres. As a result of extensive hydrological alteration over the years, the brook is a major source of flooding as well as sedimentation and

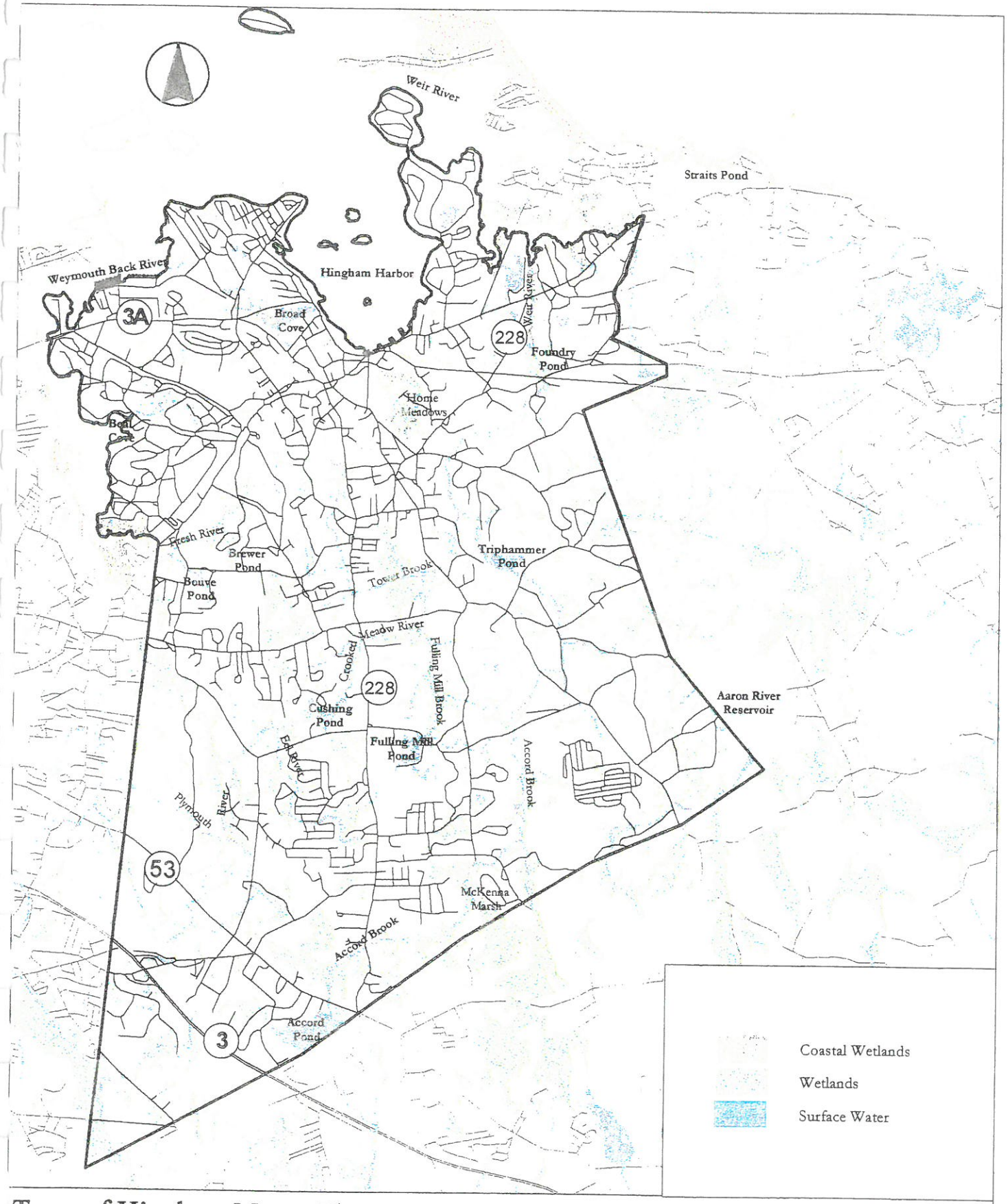


Town of Hingham Master Plan

John Brown Associates, Inc.
Planning Consultants

Figure 3-1

Geological Features



Town of Hingham Master Plan

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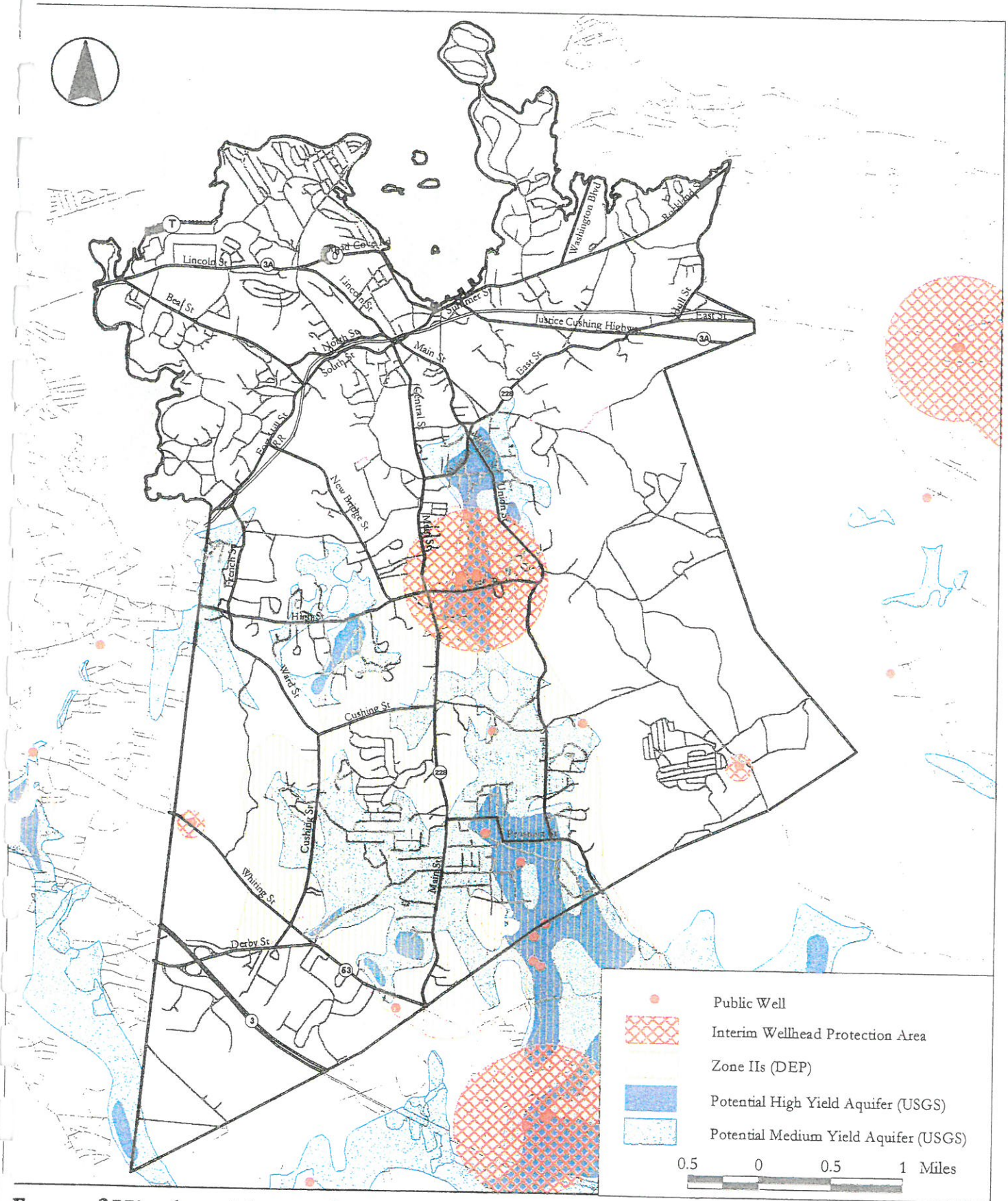
Figure 3-2

Water Resources



Town of Hingham Master Plan

John Brown Associates, Inc.
Planning Consultants

Figure 3-3

Groundwater Resources

water pollution in Hingham Harbor. The town recently submitted a grant application to develop a plan that will correct some of these problems by providing additional flood storage capacity and stormwater treatment in the Town Brook watershed.

Hingham has numerous small ponds, all of which were created by damming streams, primarily to harness water power earlier in the town's history. Accord Pond is Hingham's only natural pond.

Saltwater Resources

Hingham's land mass forms a "horseshoe" around Hingham Harbor, a sheltered water body with numerous salt marshes. To the west, the Weymouth Back River also has an associated estuarine system of tidal flats and marshes. Much of Hingham's coastline is either marshy or rocky, with few sandy areas suitable for public beaches.

Salt marshes play several crucial ecological roles. Benefiting from both the nutrient-rich runoff from land surfaces and the flushing tidal action of the sea, salt marshes are among the most productive ecosystems in the world, in terms of biomass generated per area. This richness allows salt marshes to support not just local species such as birds and shellfish, but also young fish populations that will later take to the open ocean. The anoxic sediments (sediments lacking oxygen) in salt marshes also facilitate the cycling of nitrogen, a critical plant nutrient.

Groundwater Resources

Hingham's groundwater aquifers consist mainly of stratified sand and gravel deposits which are porous and transmit groundwater well. Till deposits are relatively packed, transmit groundwater poorly, and serve as the boundaries between aquifers. Groundwater recharge occurs primarily through sand and gravel formations, wetlands, and surface water bodies. As shown on Figures 3-1 and 3-3, potential aquifers and aquifer recharge areas generally coincide with the areas of sand and gravel soils in the south-central portion of the town and run approximately north-south above Fulling Mill Brook and Accord Brook (see Figure 3-3). A medium-yield aquifer also extends west over Liberty Plain and the Mullein Hill area. Most of Hingham's aquifers are designated as "medium yield" by the U.S. Geological Survey, which means that they could potentially sustain a safe pumping rate of 100 to 300 gallons per minute (gpm). Two high-yield aquifers (aquifers capable of sustaining more than 300 gpm of pumping) are the site of most of Hingham's town wells.

As shown in Figure 3-3, the MA Department of Environmental Protection (DEP) has designated two types of groundwater protection zones to delineate the areas that recharge to Hingham's public wells.

Zone II: A Zone II is a wellhead protection area that has been determined by hydrogeologic modeling and approved by the DEP's Drinking Water Program (DWP). As stated in 310 CMR 22.02, a Zone II is "that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at safe yield, with no recharge from precipitation)..."

IWPA: In cases where hydrogeologic modeling studies have not been performed and there is no approved Zone II, an Interim Wellhead Protection Area (IWPA) is established based on DWP

well pumping rates. The IWPA radius is ½ mile for wells that pump 100,000 or more gallons per day (gpd), and between 400' and ½ mile (based on a formula) for wells that pump less than 100,000 gpd.

Currently, groundwater is the major source of domestic water for Hingham residents, making groundwater protection a top priority for the town. Groundwater resources can be diminished if recharge to the aquifers is reduced by the development of large areas of impervious surfaces, or by the diversion of stormwater water away from natural drainage and infiltration channels. In suburban communities such as Hingham, "nonpoint source" pollution, or polluted runoff, is typically the greatest threat to groundwater quality. This problem is discussed further in the following section.

Water supply is a significant long-term planning issue in Hingham. Public water is available in most, but not all, parts of the town. Where public water is not provided, water is supplied by on-site drinking water wells. The town currently exceeds the water withdrawal permit limit for its public water supply wells. Because demand exceeds supply during dry months, voluntary water bans are typically instituted during the summer.

New development, including residential subdivisions, golf courses, and commercial development in southwest Hingham would further necessitate the development of additional water supplies. In addition, any proposed development of the South Weymouth Naval Air Station will demand additional water and may look to neighboring communities as the source for some of this water. An analysis of Hingham's long-term water needs and sources is beyond the scope of the Master Plan. Instead, this section of the Master Plan focuses on maintaining the quantity and quality of groundwater in Hingham's aquifers, as these aquifers are the primary source for both public and private water supplies in the town.

Threats to Water Resources

Presently, the most serious threat to Hingham's water resources is "nonpoint source pollution," or polluted runoff. Nonpoint source pollution (NSP) originates from rainwater or snow melt washing past pollutant sources such as exposed soils, oil leaked onto parking lots, or spills of hazardous substances. NSP may come from many places and many land uses, including farms, construction sites, lawns and gardens, septic system leaching fields, industrial plants, streets and highways. NSP can affect adversely affect lakes, streams, aquifers and coastal waters, and is the cause of the majority of shellfish area closures in Massachusetts. Specific nonpoint source pollutants that are of concern in Hingham include the following:

Sediment: Sedimentation occurs when particles of silt, soil and sand are washed from exposed soils at construction sites, gravel operations, farms, landscaped areas, roads, and other altered areas. Sedimentation tends to increases the turbidity of lakes, streams, and the ocean, thus reducing its habitat and recreational value. In addition, sedimentation clogs wetlands and riparian zones and reduces their flood storage capacity.

Phosphorous and Nitrogen: Phosphorus and nitrogen are major constituents of wastewater effluent (human wastes, detergents, etc.) as well as chemical fertilizers. Because phosphorous and nitrogen are both critical plant nutrients, increasing the amount of these chemicals in the environment can cause algae blooms, reduced levels of dissolved oxygen, and changes in aquatic and terrestrial species composition. Nitrate (a form of nitrogen commonly found in

groundwater that can contaminate drinking water supplies) is also a suspected carcinogen.

Metals: Various metals are commonly found in urban runoff. Many metals are toxic to plants, wildlife and humans, and may also increase water treatment costs for public water supplies.

Pesticides and Herbicides: Agricultural and horticultural chemicals derive not just from farms, but from lawns, gardens, and golf courses, which may use as much or more of these compounds per acre than farms. Most pesticides and herbicides are toxic to plants and animals (including humans) other than those that they are specifically intended to kill. Many pesticides and herbicides are very persistent in the environment and tend to "bioaccumulate" in the food chain (i.e., concentrations of the toxins are magnified in carnivores, such as birds of prey).

Pathogens – Bacteria and Viruses: Biological contaminants derive from farms, urban runoff, septic systems, and improper waste disposal. These organisms can cause a host of public health problems, necessitate additional treatment for water supplies, and impair recreational resources such as swimming beaches. In addition, biological contaminants in runoff are a primary cause of closed fisheries and shellfisheries.

Salts: Salts are used to de-ice roads and parking lots, but can have serious ecological consequences if used improperly or excessively. Often, the presence of salt will kill certain plant species, while favoring other, salt-tolerant invasive species, such as the Phragmites reed. Salts can also reduce the quality of drinking water sources.

A closely-related threat to water resources is the increase in impervious surface that typically accompanies development. Impervious and semi-pervious surfaces increase the amount of pollutants that are washed into streams, lakes and the ocean. In addition, impervious cover prevents water from infiltrating into the ground, and may therefore reduce the level of groundwater aquifers. Recent scientific studies indicate that watershed functions are significantly altered when impervious cover exceeds 10%.

As demonstrated above, NSP is diffuse, derives from numerous sources, and is often the accumulated result of many small actions whose origin or origins may be difficult to trace. For this reason, an effective strategy to control NSP must be multi-pronged, and must involve a wide cross-section of the community including individual homeowners. Recommendations on adopting such a strategy in Hingham are provided later in this chapter.

HABITATS AND ECOSYSTEMS

Terrestrial Habitats

Hingham's matrix of forests, fields, water bodies, and edge zones provides habitat for a variety of mammal and bird species. According to the 1996 Open Space and Recreation Plan, Hingham's woodlands are home to white-tailed deer, opossum, raccoon, shorttail weasel, mink, otter, striped skunk, red and gray fox, woodchuck, eastern cottontail, showshoe hare, eastern chipmunk, and two squirrel species. Muskrat and beaver are present, but less commonly seen. Upland game bird species include ruffed grouse, northern bobwhite, ring-neck pheasant, and American woodcock.

The suburbanization of Hingham ensures that there is and will continue to be plenty of "edge habitat" where two or more land-use types abut (such as a residential subdivision and a

conservation area). Such edge habitat is useful for common species such rabbit, squirrel, ruffed grouse, and quail. Preserving Hingham's biological diversity will require protecting large, unfragmented parcels of wildlife habitat that are suitable for large mammals, as well as for amphibians and reptiles that are threatened by roads, houses, and other forms of habitat fragmentation. This objective can best be accomplished by linking existing conservation areas and by planning new development so as to minimize the fragmentation of natural areas.

Aquatic Habitats

Ponds: Many of the dammed ponds contain populations of largemouth and smallmouth bass, sunfish, catfish, pickerel, perch and various minnow species. Foundry Pond and Fulling Mill Pond are periodically stocked with rainbow trout, while their upstream areas contain native brook trout populations, which are commonly an indication of pure, oxygen-rich water.

Vernal Pools: Vernal pools are seasonal depressions that contain water for at least two months of the year, usually in the spring, and that lack adult fish populations. The pools provide important breeding and mating areas for salamander and frog species, which return to the same pools each year, as well as for other wildlife. It is important to note that many of these species rely on not just the vernal pool itself for their survival, but also the adjacent upland area. There are several certified vernal pools within Hingham located in the area west of Fort Hill Street and east of the Weymouth Back River (see Figure 3-4). The Town likely contains many more vernal pools that have not been certified.

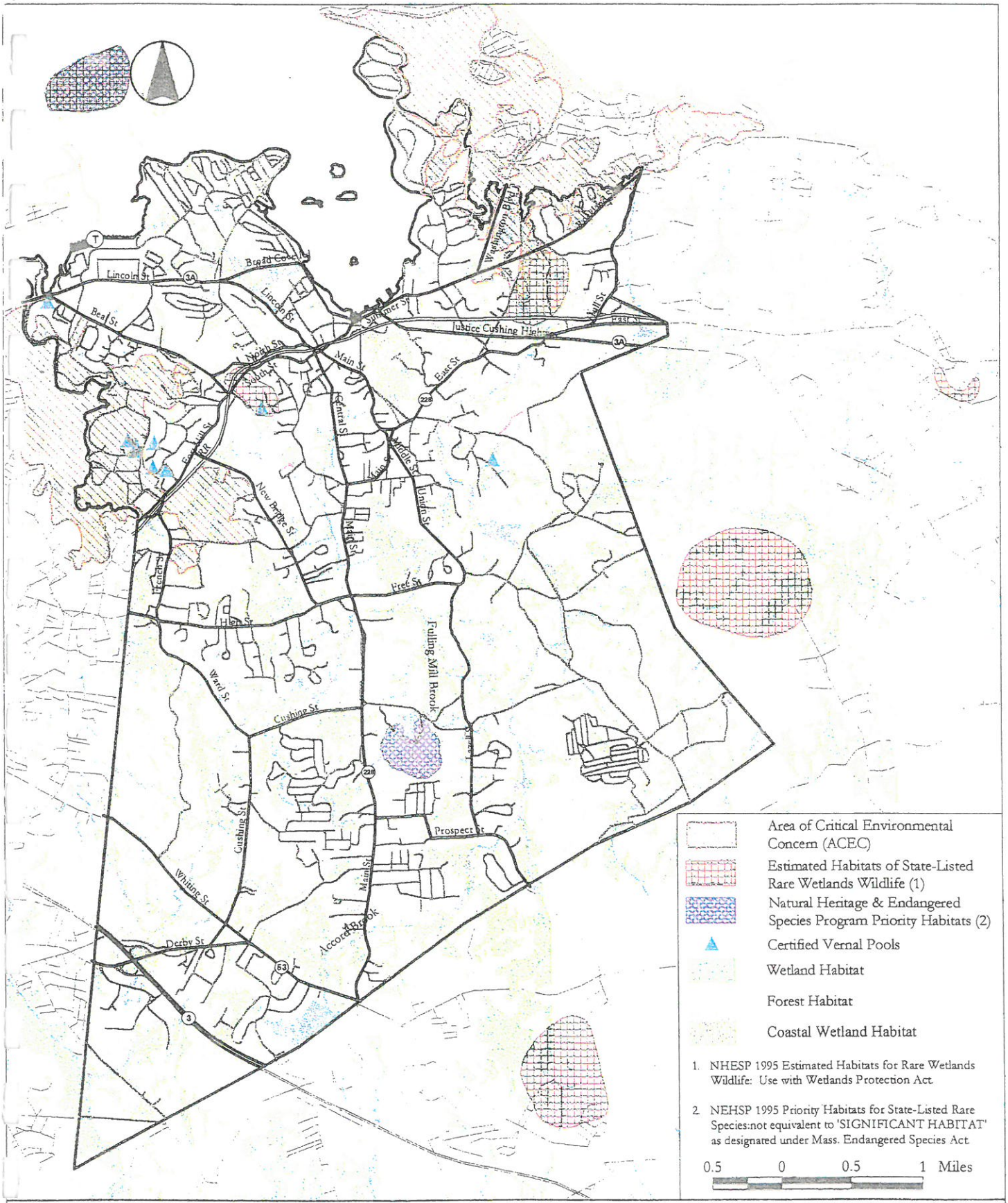
Rare and Endangered Species

Throughout the Commonwealth of Massachusetts, the NHESP has identified three types of habitat areas where rare or endangered species exist or could exist. These include:

Estimated Habitats of Rare Wildlife: This designation identifies habitats of state-listed rare wildlife in and near wetlands based on actual observation records over the past 25 years, and is intended to be used in conjunction with the Wetlands Protection Act Regulations. Hingham contains two Estimated Habitats: one in West Hingham and the other northeast of the downtown (see Figure 3-4).

Priority Sites of Rare Species Habitats and Exemplary Natural Communities: These areas indicate the approximate extent of the most important rare species habitats in Massachusetts. Unlike the Estimated Habitats, this designation includes both plant and animal species, and applies to both wetland and upland areas. This designation does not afford any legal protection, but is intended to be used for land use planning purposes. Hingham contains a Priority Site in the area just south of Fulling Mill Pond (see Figure 3-4).

Certified Vernal Pools: Only vernal pools certified by NHESP are included in the NHESP inventory. Certified Vernal Pools occurring within Areas Subject to Flooding (as defined by the Wetlands Protection Act) are protected under the Wetlands Protection Act for their wildlife habitat value. Certified vernal pools outside of Areas Subject to Flooding are not protected by state or local law. Uncertified vernal pools are also unprotected. Because vernal pools are temporary and seasonal, they can easily be developed unless they have been certified with the NHESP and have state or local protection. Local citizens can initiate the certification process by contacting NHESP at (508) 792-7270.



Town of Hingham Master Plan

John Brown Associates, Inc.
Planning Consultants

Figure 3-4

Habitat and Ecosystems

In addition to these designations, NHESP prepares lists of rare and endangered species for each Massachusetts community. As of 1996, Hingham potentially contained the following rare and endangered species:

State-Listed Rare and Endangered Species in Hingham

Common Name	Scientific Name	First Observed	Classification
Arethusa	*Arethusa bulbosa*	1800s	T
Linear-Leaved Milkweed	*Asclepias verticillata*	1887	T
Golden Seal	*Hydrastis Canadensis*	1980	E
Hairgrass	*Muhlenbergia capillaries*	1887	T
Adder's Tongue Fern	*Ophioglossum vulgatum*	1893	T
Pake Green Orchid	*Platanthera flava var. harbiola*	1915	T
Tiny-Flowered Buttercup	*Ranunculus micranthus*	1800s	T
Bristly Buttersup	*Ranunculus pensylvanicus*	1885	T
Seabeach Dock	*Rumex pallidus*	1883	T
American Sea-Blite	*Suaeda calceoliformis*	1984	SC
Rich's Sea-Blite	*Suaeda richi*	1982	WL
Pied-Billed Grebe	*Podilymbus podiceps*	1977	T
Eastern Box Turtle	*Terrapene carolina*	1989	SC
Common Barn Owl	*Tyto alba*	1952	SC

Source: MA Natural Heritage and Endangered Species Program
Key to classifications: E = Endangered; T = Threatened; SC = Special Concern; WL = Watch List

Also considered to be rare and endangered:

Green Dragon	*Arisaema dracontium*
Shooting Star	*Dodecatheon meadia*
Cardinal Flower	*Lobelia cardinalis*
Pink Lady Slipper	*Cypripedium reginae*
Yellow Lady Slipper	*Cypripedium calceolus var. parviflorum*
Swamp Azalea	*Rhododendron maximum*

Areas of Critical Environmental Concern (ACECs)

ACEC is a state designation that identifies an area as having outstanding habitat value and ecological function. The ACEC designation provides very limited protection against inappropriate development, in that certain types of projects proposed within the ACEC require a higher level of state environmental review. Hingham contains two ACECs, as shown in Figure 3-4.

The Weir River ACEC contains about 950 acres of land in Hingham, Hull and Cohasset. The ACEC contains one of the most extensive salt marsh systems in the Boston metropolitan area and supports more than 100 migratory and resident bird species, as well as feeding and nursery areas for numerous pelagic fish species. The marshes and flats provide important flood control services. The ACEC abuts two important recreation areas: Nantasket Beach, a designated barrier beach, and World's End.

The Weymouth Back River ACEC spans both sides of the Weymouth Back River where it empties into the harbor and includes 950 acres of land and water in Hingham and Weymouth. Approximately 180 acres of the ACEC are tidal waters flushing into Hingham Bay. The ACEC includes productive fish and shellfish habitat, including clam flats, nursery and feeding areas for many species of finfish, and the passage for annual smelt and alewife runs. Most of the uplands in this ACEC within Hingham are contained in Bare Cove and More-Brewer parks.

EXISTING PROTECTION FOR NATURAL RESOURCES

This section examines the existing provisions for natural resource protection in Hingham, including state and local environmental regulations.

Existing Protection for Wetlands

Wetlands provide several benefits both to humans and to ecological communities, and are regulated under the Massachusetts Wetlands Protection Act to preserve the following important functions:

Pollution Control: Wetlands remove or detain sediments, nutrients (such as nitrogen and phosphorus), and toxic substances (such as heavy metals) that are found in runoff and flood waters.

Flood Control: Wetlands temporarily store flood waters, allowing some evaporation and slowing the release of flood waters to downstream areas.

Storm Damage Prevention: The reduction of the quantity and flow of flood waters lessens damage to private and public property.

Wildlife Habitat: The hydrologic regime, plant communities, soils, topography and water chemistry of vegetated wetlands provide food, shelter, and migratory, overwintering and breeding areas for many birds, mammals, amphibians and reptiles. Thirty-five percent of plants and animals that are listed as endangered or threatened in the United States live in wetlands or depend upon them for survival.

Fisheries: Wetlands provide habitat for insects and aquatic invertebrates, which are an important source of food for fish.

Ground Water Supply: Some wetlands discharge ground water to the surface. Wetlands also aid in maintaining base flow levels in rivers and streams and filter and clean surface water as it percolates into the ground.

Public and Private Water Supply: Wetlands help maintain groundwater quality and clean stream flow for feeding public water sources.

The MA Wetlands Protection Act applies to activity within 100 feet of bordering wetlands (wetlands bordering ponds, streams, the ocean, and other water features) and within certain isolated wetlands. The Hingham Conservation Commission administers this law, and considers applications for activities in wetlands and buffer zones. Generally wetland alteration is allowed only in small areas when there are no feasible alternatives, and is subject to the condition that an

equivalent amount of wetland must be replicated elsewhere. In wetland buffer zones, work is often allowed subject to an Order of Conditions from the Conservation Commission. Although the Conservation Commission has discretion in deciding how much development to allow in wetlands and buffer zones, the MA Department of Environmental Protection has the authority to override any Conservation Commission decision. The Wetlands Protection Act does not provide protection for many small isolated wetlands, or for vernal pools (see discussion above).

Some Massachusetts communities have supplemented the Wetlands Protection Act with local wetland protection bylaws or districts that are more restrictive of development in and near wetlands. Hingham's Wetlands Protection By-law regulates activity in and within 100 feet of any bank, freshwater wetland, coastal wetland, beach, dune, bog, flat, marsh, meadow, swamp, estuary, creek, river, stream, pond, lake, or the ocean, or land under or bordering these areas, or land subject to tidal action, coastal storm flowage, or flooding. This jurisdiction area is broader than that of the state Act, in that it includes more isolated wetlands. In addition, since the Hingham Conservation Commission administers this regulation, this local group has additional control over activities in the 100-foot buffer zone.

Hingham has also adopted a Flood Plain and Watershed District which provides protection for low-lying areas that are subject to flooding and/or high groundwater, and is delineated on a map on file in Town Hall. Within this district, major allowed uses are limited to conservation uses, outdoor recreation, agriculture, and minor modifications and maintenance to non-conforming, pre-existing structures.

Despite these protections, the Open Space and Recreation Plan reports that there are numerous threats to Hingham's wetlands, the largest of these probably being the combination of many small and seemingly innocuous activities on the part of individual landowners. For example, owners of homes that abut wetlands sometimes mow, fill, or dump yard debris in the wetlands to extend the usable area of their yard, often not realizing they are affecting the wetland. Increased storm runoff from suburban land uses, with its usual load of pollutants and sediment, can also degrade wetlands. One significant problem in the construction of new development is that much of Hingham's land is so environmentally constrained that close supervision and enforcement of Orders of Conditions is required if construction activities are not to harm nearby natural resources. The Town does not always have the staff resources to provide such close attention to construction and land use activities throughout Hingham.

Rivers Protection Act

According the recent studies in the scientific literature, the area within 200 feet of the riverbank can play an important ecological role by serving as the recharge area for rivers, by providing a complementary habitat for riparian species requiring upland resources, and by allowing riparian corridors to serve as effective migration corridors for species requiring larger habitat areas. The Massachusetts Rivers Protection Act of 1996 restricts development within 200 feet of perennial rivers and streams (defined provisionally as those streams which appear as dark blue lines on U.S.G.S. topographic maps). The Hingham Conservation Commission administers this Act. Typically, development is allowed within 100 feet of rivers only under extraordinary circumstances, but certain types of development are sometimes allowed between 100 feet and 200 feet of streams.

Aquifer Protection

Groundwater in Hingham is protected by both state and local regulations. State DEP regulations contained in 310 CMR 22.21 require municipalities to adopt zoning and nonzoning controls for Zone II wellhead protection areas that restrict certain land uses that are presumed to pose a threat to groundwater quality. Many communities whose water systems have been on-line since before the adoption of these regulations in 1997 do not provide protection for their Zone II districts that is consistent with the DEP requirements. Hingham is one such community.

The Accord Pond Watershed and Hingham Aquifer Protection District covers an area roughly corresponding to the medium- and high-yield aquifers shown on Figure 3-3, plus the portions of Accord Pond Watershed northeast of Route 3. The formal boundaries of the district are shown on a map on file in Town Hall. While this district is broad in its geographic coverage, its main purpose is to regulate the use, storage and generation of toxic substances and wastes that could contaminate the aquifers or Accord Pond. Unlike many other towns' aquifer protection districts, Hingham's district does not regulate the dumping of snow, storage of de-icing chemicals, creation of large amounts of impervious coverage, or nitrogen loading. Since the district is situated almost entirely over residentially zoned areas, there is little potential for inappropriate industrial activities to pollute the aquifer.

II. NATURAL RESOURCES GOALS & RECOMMENDATIONS

GOALS

The natural resource goals were developed based on several sources. First, the 1996 Open Space and Recreation Plan provided a starting-point for identifying conservation needs and opportunities. Second, recent input from Hingham's citizens and leaders was utilized to determine concerns, preferences, and priorities. This input was derived from the 1996 Community Action Statement—which compiled information and needs analysis from various town officials—and the 1998 Zoning and Land Use Planning Survey—which is based on the responses of 2,406 resident, or 33% of Hingham's households. Finally, the goals are based on accepted principles of natural resource planning and management.

The goals statement includes five broad goals, each of which is divided into several more specific goals that form the basis for the recommendations presented below.

Goal 1: Protect and enhance Hingham's natural environment for the benefit of the town's existing and future citizens.

- Continue to protect land and water resources for both human and natural uses.
- Manage natural resources to balance the needs of natural ecosystems with human activities such as fishing and shellfishing, forestry, and passive recreation.

Goal 2: Protect sensitive natural areas from inappropriate development and other potential hazards.

- Ensure that Hingham's Zoning By-Laws direct growth toward areas with the physical capacity to absorb new development, and away from sensitive environmental resources.

Goal 3: Protect Hingham's freshwater and saltwater resources from pollution and incompatible development.

- Enforce state and local wetland protection laws and monitor Orders of Conditions to prevent wetland degradation from various human activities, such as runoff from construction sites, mowing, and filling.
- Manage stormwater effectively so as to minimize the impact of developed land uses on water resources.
- Protect and manage saltwater marshes and flats as both a critical natural habitat and a valuable economic resource.
- Monitor water quality in Hingham's water bodies, and address any water quality problems.

Goal 4: Maintain sufficient natural areas to sustain viable populations of native plant and wildlife species.

- Manage existing town-owned conservation properties so as to maximize their value for native plant and wildlife species.
- Monitor and control invasive species so that they do not out-compete and eradicate native species.
- Protect vernal pools and their upland buffers from development or degradation.
- Provide appropriate protections for Areas of Critical Environmental Concern and designated rare species habitats.

- Create greenways of connected habitat so that wildlife can travel among Hingham's various conservation areas.

Goal 5: Protect groundwater aquifers and surface water supplies to ensure sufficient clean water for current and future users.

- Review and modify the existing Accord Pond Watershed and Hingham Aquifer Protection District By-law to protect the quality and quantity of current and potential future drinking water supplies.

RECOMMENDATIONS & IMPLEMENTATION ACTIONS

The following recommendations outline the specific actions required to achieve the goals discussed above. These actions include:

Regulatory Actions: Certain local Zoning By-laws and overlay districts should be revised or expanded to increase protection for natural resources.

Acquisition/Protection Actions: Certain critical natural resources are best protected by outright acquisition or protection by the town or others.

Management Actions: Controlling the use and functionality of natural resources requires monitoring, enforcement, and sometimes physical alteration (such as the removal of invasive species).

Goal 1: Protect and enhance Hingham's natural environment for the benefit of the town's existing and future citizens.

Land Acquisition and Protection

Undeveloped land is essential for maintaining wildlife habitat, water quality and quantity, and functioning ecosystems. For this reason, Hingham should continue to seek ways to acquire or otherwise protect undeveloped land. See the Open Space element for further discussion.

Goal 2: Protect sensitive natural areas from inappropriate development and other potential hazards.

Conservation Design for Residential Development

"Conservation design" is a form of residential cluster development that focuses on maintaining and even enhancing a site's natural resources when the site is developed. In the April, 2001 Town meeting, the Zoning By-Law was amended to provide for the inclusion of a new Flexible Residential Development by-law, which is calculated to provide incentives for preserving open space and providing affordable units in the development of future subdivisions.

Goal 3: Protect Hingham's freshwater and saltwater resources from development and pollution.

Wetlands Protection

In addition to the state Wetlands Protection Act, Hingham has adopted an excellent local Wetlands Protection By-law. Nevertheless, there continue to be threats to Hingham's wetlands. In recent years, many marginal lands (i.e., areas with partial environmental constraints) have been developed in Hingham. Development in these areas often poses greater threats to natural resources and requires

added vigilance on the part of the Conservation Commission to enforce and monitor Orders of Conditions. One future possibility to aid in this often-overwhelming task is to develop a Geographic Information System (GIS) to track Orders of Conditions. This system would allow the user to enter information about sites and specific Orders and then to monitor these orders chronologically (e.g., every six months) and geographically. Several Massachusetts towns are beginning to use GIS to track Orders of Conditions to improve enforcement and to utilize limited person-power to the maximum effect. Such a GIS could be developed in conjunction with an overall town system, or separately.

Stormwater Management and Nonpoint Source Pollution

Effective control of nonpoint source pollution typically requires several strategies in combination. The selection of these strategies often needs to occur on a case-by-case basis, and requires weighing the cost or burden of a given strategy against its likely environmental benefit. In Hingham, several strategies are appropriate. These include:

Adopt Townwide Stormwater Management Standards: Townwide minimum stormwater management standards should apply to all new development and should address removal of suspended solids, stormwater infiltration and peak discharge rates. The DEP's current Stormwater Management Policy is a good model that Hingham could adopt locally as a general by-law. Most of DEP's standards are "performance standards," and therefore allow the engineer to select the most cost-effective technology or practice to achieve the given standard. Appropriate documentation requirements and review procedures will be required as part of such a by-law.

Promote Better Design: As discussed elsewhere, Hingham's subdivision regulations and cluster zoning By-law should promote designs that minimize impervious surfaces such as roadways and driveways. Local regulations should also promote the retention of natural vegetation, since lawns generate a significantly higher runoff rate and pollutant load than undisturbed forests.

Environmentally-Responsible Town Activities: Maintenance and management of roads and other public paved surfaces have a significant effect on local water quality. The DPW in conjunction with the Conservation Commission should assess its current programs for street sweeping and road de-icing and identify any opportunities to reduce the impact of road management activities on water quality.

Public Education: Because nonpoint source pollution is primarily the result of numerous small, individual actions, public education is an essential strategy for addressing the problem. See below.

Education

Hingham should strive to increase its citizens' knowledge of the Town's water resources and the steps they personally can take to help protect them. Public education on the following topics may appropriate in Hingham:

- Overview of Hingham's water resources and threats to these resources
- Proper septic system use and maintenance
- Low-impact lawn and garden care (proper use of lawn/garden chemicals, as well as organic and non-chemical alternatives)
- Information for homeowners who abut wetlands about how to protect these areas, highlighting the detrimental effects of mowing, filling, dumping yard debris, etc., in or adjacent to wetlands

Educational materials can be distributed at low cost in the Town's water bill or tax bill mailings and on the Internet.

Water Quality Monitoring

Existing water quality monitoring in coastal areas should be supplemented by additional monitoring on local streams. Water quality monitoring will help to evaluate the effectiveness of the strategies discussed above (once they are implemented), and identify the need for additional strategies to minimize water pollution. A local water-quality monitoring program can help to identify water quality threats and long-term trends by testing for fecal coliform counts, biological oxygen demand, turbidity, and perhaps other indicators. The majority of water quality monitoring could be performed by interested citizens and by students in the Hingham schools, thus providing environmental education and community involvement for Hingham citizens.

Goal 4: Maintain sufficient natural areas to sustain viable populations of native plant and wildlife species.

Protecting Vernal Pools

Hingham's local Wetlands Protection By-law protects isolated land subject to flooding if the land confines at least 1/16 of an acre-foot of water, to a depth of at least six inches, at least once a year. Many, but probably not all, vernal pools meet this criterion. Therefore, the local Wetlands Protection By-law should be modified to specifically include certified vernal pools within its jurisdiction. The 100-foot buffer around certified vernal pools should be presumed to be a resource area subject to regulation. The 100-foot buffer around vernal pools is critical because amphibian and other species that use vernal pools for breeding also require an area of uplands around the pool for adult habitat. The By-law should also state that, as additional vernal pools are certified in the future, they are automatically included in this district.

In addition, the Conservation Commission should work with volunteers to identify and certify additional vernal pools in Hingham. Vernal pools and rare species habitats have no protection under state law unless they are certified with the Natural Heritage and Endangered Species Program.

Land Acquisition Priorities

Land acquisition and protection priorities should focus on creating large contiguous habitats, which are typically required to support larger and less common wildlife species. In addition, conservation areas should be linked wherever possible in order to allow wildlife to travel among these areas. Specific open space recommendations that promote these objectives are discussed further in the Open Space element.

Management of Conservation Land

Simply protecting land against development is inadequate to ensure that the land will continue to function as habitat for native plant and wildlife species. For example, the species composition in Home Meadows, a 70-acre salt marsh managed by the Conservation Commission, has been changed significantly from its natural state by hydrologic alterations and encroachment by *Phragmites* reeds, an invasive species. The town should promote ecologically sound land management through the following steps:

- Develop and implement management plans for existing town-owned conservation properties so as to maximize their value for native plant and wildlife species. The 1996 Open

Space and Recreation Plan outlines land management plans for many of the town's parcels of conservation land.

- Solicit volunteers to monitor invasive species on conservation lands in Hingham, and develop eradication plans if necessary.
- Promote wildlife movement by minimizing fencing in conservation areas, particularly where adjacent open space parcels abut one another. When the Greenbush Line is reactivated, work with the MBTA to avoid unnecessary fencing along the right-of-way that would impede opportunities for wildlife migration.

Goal 5: Protect groundwater aquifers and surface water supplies to ensure sufficient clean water for current and future users.

Accord Pond Watershed

Accord Pond, an important local water supply, is surrounded by developed land uses with very little protected open space. For this reason, additional water supply protection measures are probably warranted within the Accord Pond Watershed. The Town should consider developing a Local Surface Water Supply Protection Plan in accordance with the DEP's guidance (guidelines and technical information may be found on the DEP's website). Specific elements of a Local Surface Water Supply Protection Plan might include the following:

- Regulation of additional uses and activities in the Accord Pond Watershed and Hingham Aquifer Protection District By-law, such as floor drains, underground storage tanks, and transportation-related uses;
- Monitoring and (when necessary) repair/replacement of subsurface wastewater disposal facilities (e.g. septic systems);
- Stormwater management policies (see above) and
- Identification and management of potential impact areas, such as highly erodible soils, major herbicide/pesticide users, and large impervious surfaces.

Groundwater Protection

Hingham derives a large portion of its water supply from the aquifer located under Fulling Mill Brook in the south-central portion of the town. Maintaining this aquifer as a clean and productive water source is essential for Hingham's future. If the aquifer becomes unusable as a water supply, Hingham would be forced to search for alternative water sources that would likely be much more expensive, such as desalinized seawater.

While the existing Accord Pond Watershed and Hingham Aquifer Protection District By-law provides some protection for the aquifer, there are several opportunities to strengthen this By-law to ensure that current and potential future drinking water supplies are protected against pollution. Specifically:

<u>Geographic Extent</u>

The extent of the local groundwater protection district should include, at a minimum, the recharge zone for Hingham's public water supply wells. Therefore, the extent of the district should be expanded to include all the land within the Zone II area, as delineated by the DEP and shown on Figure 3-3.

Use Regulations

Hingham's existing Accord Pond Watershed and Hingham Aquifer Protection District By-law

only regulates the use, discharge, and storage of toxic and hazardous substances. Many other activities pose potential threats to Hingham's aquifers. The By-Law should be expanded to also prohibit road salt stockpiles, dumping of snow from outside the district, removal of soil or ground cover within 4 feet of maximum high groundwater, and possibly other uses. A full list of suggested use regulations are contained in the DEP's Model Groundwater Protection District Bylaw/Ordinance (available at www.state.ma.us/dep) and in the Cape Cod Commission's Model Aquifer Protection Bylaw (available at www.capecodcommission.org/bylaws). Many of these use restrictions relate to commercial and industrial activities, and may be unnecessary in Hingham since almost all of the Zone II area is contained within residential districts that would prohibit these activities anyway.

Special Permit Requirement for Certain Activities

Certain large developments and other activities are presumed to have an impact on the aquifer because they create significant amounts of impervious surface. A special permit procedure may be used to provide additional town review of such uses, in order to minimize and, when necessary, mitigate their impact on the aquifer. Such uses might include:

- New residential subdivisions of 10 or more units
- New construction that creates 10,000 square feet or more of new impervious surface
- Creation of more than 15% impervious surface on any lot

Special permits may be granted when the applicant has demonstrated that the project will not adversely affect the quality or quantity of groundwater in the aquifer and that the project has been designed to minimize impervious surfaces and the disturbance of soils and vegetation.

Stormwater Management

Stormwater management standards should be adopted in the Accord Pond Watershed and Hingham Aquifer Protection District By-law, if not townwide. Appropriate standards are discussed above.

Nitrogen Loading

Excessive concentration of nitrogen in water supply aquifers is both a health hazard (when present as nitrate) and an indicator of other biological and chemical contaminants. Therefore, some communities have adopted nitrogen loading standards to regulate the nitrogen load from septic systems into the groundwater. Such a regulation might be unnecessary in Hingham because the Board of Health already limits wastewater discharge into the ground beyond what is required by state standards. Groundwater quality testing should be conducted to verify whether such a regulation is needed in Hingham.

Additional Water Supplies for the Future

Hingham is likely to require additional water supplies in the future. Therefore, any potential groundwater well sites should be identified and protected for future use. Protection should include delineating the Zone II area of recharge and including this area in the Accord Pond Watershed and Hingham Aquifer Protection District By-law. In addition, the 400' Zone I setback should be acquired and protected from development.

Section 4: HISTORIC & CULTURAL RESOURCES

I. INVENTORY & ANALYSIS

1. INTRODUCTION

The Town of Hingham, first settled in 1635 by the Puritans and incorporated as the twelfth town in the Massachusetts Bay Colony, is rich in irreplaceable historical and cultural resources. Clearly the town has much to be proud of and is well known as a community actively working to protect its historic character for future generations. Through the past work of its active citizens, the Hingham Historical Society, the Hingham Historical Commission, and the Historic Districts Commission, Hingham has created a number of local historic districts as well as the Lincoln National Register Historic District in the downtown area and the South Hingham National Register Historic District. The two commissions have also prepared the *Historic Districts Handbook,* which many regard as the best local handbook of restoration guidelines of its kind in the Commonwealth.

Additionally, Hingham has designated several of its beautiful roads as "scenic roads" and has protected them through a local by-law in accordance with the Commonwealth's Scenic Roads Act. The Town has also put in place a demolition delay by-law that allows the Town to seek acceptable preservation options when any of its historical assets are proposed for demolition.

Though much has been accomplished over the years, the town still faces challenges. If the Old Colony Greenbush commuter rail line resumes operations through the historic town center, appropriate protective measures must be put in place to preserve as well as possible the historic fabric of the center. Also, more roadways may deserve designation as scenic by-ways. Though Hingham stands at the head of the class in having achieved protection of many of its valued resources, there are more challenges to be met.

2. HINGHAM'S ADMINISTRATION & PROTECTION OF THE TOWN'S HISTORIC RESOURCES

The protection of the town's various historic districts and properties are primarily overseen by two commissions: the Hingham Historical Commission and the Hingham Historic Districts Commission. Both Commissions co-sponsor and fund a single Administrator to carry out their various activities.

❑ *The Hingham Historical Commission and its Duties*

The Hingham Historical Commission is the town's agency responsible for identifying, evaluating and protecting the historic and archaeological resources of the town. In 1996, the Historical Commission was awarded Certified Local Government (CLG) status by the US Department of the Interior and the Massachusetts Historical Commission (MHC), and has since retained this status through an annual review process. The Historical Commission maintains an inventory of the town's historical resources, which includes information on over 1,200 properties, primarily within the town's various historic districts. Many of these have been documented and the resulting inventory forms submitted to the MHC for inclusion in the inventory of historical

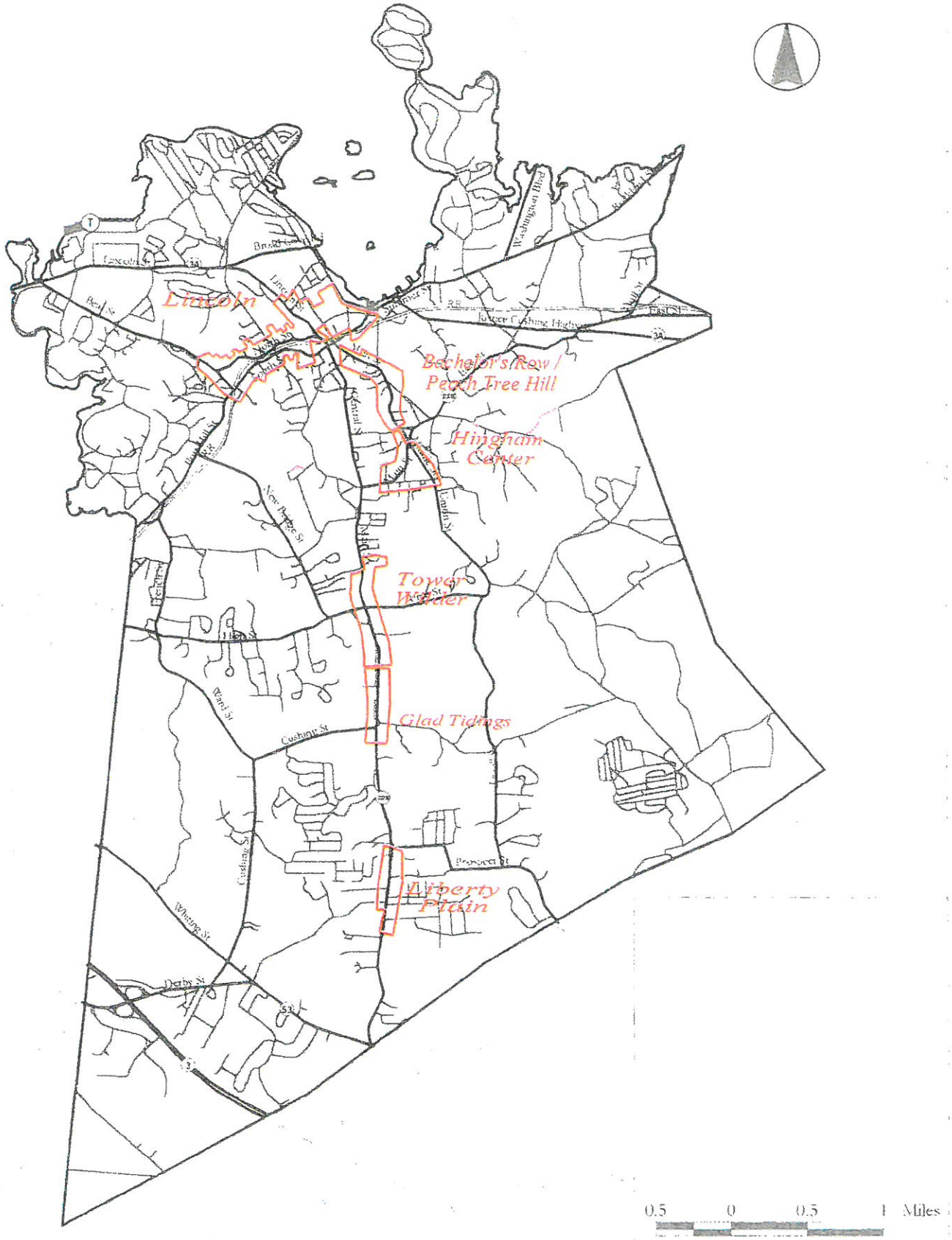
assets of the Commonwealth. The Historical Commission also maintains the "Preservation Projects Fund" to assist in carrying out programs for preserving the historic character of the town. For example, the Commission, through this Fund, has helped to explore measures to mitigate the impact of the proposed restoration of the Old Colony Greenbush Rail Line. The Commission also has custodial care duties for maintaining town landmarks such as the Lincoln statue, historical plaques, and the Iron Horse on Hingham Harbor.

The Commission also administers specific statutes that protect historic properties, such as the Town's demolition delay by-law, and advises on environmental reviews, notably the federal "Section 106" historic review process and the Massachusetts State Register of Historic Places Program. Hingham's Demolition Delay By-Law (Act XV, Section O, General By-Laws of the Town of Hingham) was adopted to protect the historic and aesthetic qualities of the town by preserving and rehabilitating, whenever possible, worthy buildings or structures threatened by permit application for demolition. This by-law regulates buildings or structures which are: listed on the National or State Register of Historic Places (or the subject of pending application); located within 200 feet of the boundary of any federal, state or local historic district; included in the Inventory of the Historic and Prehistoric Assets of the Commonwealth (or designated by the Historical Commission for inclusion in the Inventory). The provisions of this by-law do not apply to buildings or structures *within* a local historic district subject to regulation under the provisions of Chapter 40C of the Massachusetts General Laws.

Procedurally, the Commission must determine within 30 days of the receipt of such an application whether the building or structure is historically significant. If the building or structure is judged significant, the Commission must notify the Building Commissioner that a demolition plan review is required prior to the issuance of a demolition permit by the Building Commissioner. The demolition permit applicant must then submit a demolition plan to the Commission within 60 days stating the reasons demolition is necessary with a description of the proposed reuse of the site for review. Upon receipt of this demolition plan, the Commission must then hold a public hearing with respect to the application for demolition. Within 60 days the Commission must file a written report to the Building Commissioner with a recommendation as to whether or not the building should be preserved. Such a finding for preservation can be offered only if the building is judged historically significant and it is in the public interest to preserve, rehabilitate or restore. If such a finding is offered, the Building Commissioner cannot then issue a demolition permit for a period of six months unless the Commission is satisfied that the applicant for the demolition permit has made a bona fide, reasonable but unsuccessful effort to find a purchaser for the building willing to preserve, rehabilitate or restore the property, or, has agreed to accept a demolition permit on specified conditions. An appeals process is also an option.

❑ The *Hingham Historic Districts Commission and Its Duties*

The Hingham Historic Districts Commission is established in accordance with the provisions in Chapter 40C ("Historic Districts By-Law") of the general laws of the Town of Hingham to oversee, through an established design review process, the appropriateness of all proposed new construction or exterior renovations of structures located within Hingham's eight existing (plus two proposed) local historic districts. Once a local historic district is established, the primary role of the Historic Districts Commission is to serve as a design review board whose members are appointed by the Board of Selectmen for three-year terms. Property owners appear before the Commission with their suggested improvement plan and seek from the Commission a Certificate of Appropriateness. The attainment of such Certificate is required prior to the application for a building permit from the Building Commissioner's Department. Proposed exterior changes within the town's local historic districts are assessed at this public hearing (where abutters may voice



Town of Hingham Master Plan

John Brown Associates, Inc.
Planning Consultants

Figure 4-1

Existing Historic Districts

their opinions) against the guidelines outlined in the Historic District Handbook. Because this excellent handbook is in place, it serves as a valuable resource to property owners, their designers and contractors, prior to their appearance before the Commission, to understand what may be expected of them, the types of improvements allowed, and how improvements can best reflect the historic period in which the structure under review was originally constructed. Because these guidelines and criteria are in place *a priori* to review, decisions of the Commission are not taken in an arbitrary or intrusive manner. (Alternatively, the Commission may issue a Certificate of Non-applicability, which exempts the subject project from review because either the work proposed meets requirements for an historic district or is determined not to detract from the purposes of the Historic Districts By-Law. The Commission may also choose to issue a Certificate of Hardship when construction or alteration is inappropriate, but the Commission has determined that failure to approve the application will cause significant hardship, financial or otherwise, to the owner.) Certification by the Commission is a pre-condition for obtaining a building permit from the Building Commissioner. An appeals process is available to an owner to the Superior Court for Plymouth County.

3. OVERVIEW OF EXISTING HISTORIC & CULTURAL RESOURCES

Historic Districts

Hingham has established eight (plus two proposed) local historic districts, all focused either on the downtown or the length of Main Street, to protect its rich historical legacy. The Lincoln National Register Historic District (which overlays four of these local districts) in the downtown was established in 1990; and recently in 1998, the South Hingham National Register Historic District was accepted for listing in the National Register of Historic Places. What makes historic districts such an important mechanism for preservation is that they not only protect individual historic properties, but also the meaningful historic setting or context within which they are located. Within these districts and without, many homes and structures are recognized for inclusion in the Historic Comprehensive Inventory; are protected by Hingham's Demolition Delay By-Law, and are listed in either the State or the National Register of Historic Places.

❑ ***The Lincoln National Register Historic District***

The Lincoln Historic District, established as a local district in 1966 and extended both in 1988 and 1989, includes much of the downtown. The 1966 district included the structures around Fountain Square, also known as the Lincoln Green, including the General Benjamin Lincoln Homestead, the Old Ordinary, and the New North Church. The 1988 extension continued the District along North and South Streets to the intersection of Thaxter and Hersey Streets. In 1989 the District was extended further westward along North and South Streets and eastward along Cottage, Ship, Miles, and portions of Lincoln Streets, Fearing Road and North Street to the Harbor.

Together with the adjacent Bachelor's Row/Pear Tree Hill Local Historic District (*see description below*), the Lincoln Local Historic Districts were nominated for inclusion in a National Register Historic District in 1989 and approved as a National Register Historic District by the National Park Service and the US Department of the Interior in 1990. In 1990, the Massachusetts Historical Commission placed the District on the State Register of Historic Places as well. The Lincoln National Register Historic District consists of 725 entries of which 335 are residences and 60 are commercial buildings. The "contributing" buildings (those having historic or architectural significance) number 552. "Non-contributing" entries number 128 and consist primarily of buildings constructed after 1950.

- ***South Hingham National Register Historic District***

The South Hingham Historic District, which contains 202 listings, was approved in 1998 by the U.S. Department of the Interior and is listed in the National Register of Historic Places. Properties or districts nominated to the National Register are automatically listed in the State Register of Historic Places as well.

- ***The Glad Tidings Historic District (Local)***

Established in 1975, the Glad Tidings Historic District extends along both sides of Main Street from the Second Parish Church to Cushing Street in an area known as the Glad Tidings Plain. Three-quarters of the structures date from the seventeenth, eighteenth and nineteenth centuries and include the Cushing House (1687) and the Cushing Tavern (1746).

- ***The Tower-Wilder Historic District (Local)***

Established in 1987 and extended in 1988, this District adjoins the Glad Tidings District at the Second Parish Church and extends northward along Main Street to the Tower Homestead (1664). It includes Wilder Memorial Hall, Wilder's Bridge, and the Rainbow Roof House.

- ***The Liberty Plain Historic District (Local)***

The Liberty Plain Historic District was established in 1988 to help preserve a significant portion of Main Street in South Hingham. In the north it begins at the intersection of Prospect and Main Street and extends southerly of Liberty Road to the Enoch Whiton House (1680). The District includes numerous homes from the eighteenth as well as the early nineteenth centuries as well as the Liberty Plain Cemetery where many of Hingham's early settlers are buried.

- ***The Bachelor's Row / Pear Tree Hill Historic District (Local)***

Established in 1988, this District begins at Old Derby Academy (1818) on Main Street and continues southerly on Main Street to the intersection of Garrison Road at Hingham Centre. The District includes stately seventeenth, eighteenth and early nineteenth century homes as well as several non-residential structures of note such as Old Derby Academy, the First Baptist Church (1829), the Church of St. John the Evangelist (1919), and the Old Ship Church, a National Historic Landmark built in 1681.

- ***The Hingham Centre Historic District (Local)***

This District, roughly triangular in shape, was established in 1990. It is bounded on the west by properties on Main Street, on the south by properties along Pleasant Street, and to the east by properties along Middle Street. In addition to numerous eighteenth and early nineteenth century homes, it includes the historic Hingham Common where the seventeenth century militia gathered, the Evangelical Congregational Church (1848), the G.A.R. Hall (1888), and the Hawkes Fearing House (1784).

4. NATIONAL REGISTER (NR) ELIGIBLE HISTORIC DISTRICTS

- ***Fort Hill Street NR Eligible Historic District***

The proposed Fort Hill Street NR Eligible Historic District, along Fresh River Avenue/Fort Hill Street adjacent to the Weymouth town line, is a microcosm of a working community's social, historic, and architectural development from the eighteenth to the early twentieth century and adjoins the MBTA's rail right-of-way through town. The Fort Hill District was declared eligible for listing in the National Register of Historic Places in 1992.

❑ ***Fort Hill Extension NR Eligible Historic District***
The proposed Fort Hill Extension NR Eligible Historic District is located along New Bridge Street/Quincy Avenue.

❑ ***Beal/East Street NR Eligible Historic District***
Adjacent to the Cohasset town line, the proposed Beal/East Street Historic District adjoins the MBTA's rail right-of-way. The nuclei of this proposed District are the Black Horse Tavern on East Street and the Glastonbury Abbey on Hull Street.

❑ ***Barnes Area/Old Colony Hill NR Eligible Historic District***
The proposed Barnes/Old Colony Hill Historic District runs along Summer Street up Old Colony Hill toward Rockland Street.

❑ ***Hersey-Elm-Central Streets NR Eligible Historic District***
The proposed Hersey-Elm-Central Streets Historic District is located in the north part of Hingham, bounded by Central Street to the east, and extends west along the rear lot lines of Emerald Street, continuing south along Elm Street to its intersection with Hersey Street, its western boundary. The area is significant as a nineteenth and twentieth century residential neighborhood.

❑ ***Lincoln Extension NR Eligible Historic District***
The proposed Lincoln Extension Historic District is adjacent to the existing Lincoln National Register Historic District and abuts the Hersey-Elm-Central Streets Historic District.

❑ ***Matthew Cushing (East - Summer Streets) NR Eligible Historic District***
The proposed East-Summer Streets Historic District in the north part of Hingham is located southwest of the Beal Street area along Summer and East Streets. The area is significant as an early settlement node in Hingham, and retains several buildings from the seventeenth and eighteenth centuries.

5. OTHER INITIATIVES

The Hingham Historical Commission is involved in several other initiatives. Among them are the following projects:

❑ ***Bell Tower Restoration***
With a $100,000 fund matched on a 50/50 basis by the Town and by a grant from the Massachusetts Historical Commission, the Hingham Historical Commission directed the renovation and restoration of the town-owned Memorial Bell Tower on Main Street, situated near the Old Ship Church. The Bell Tower houses eleven bells comprising one of the few peals in North America used for change ringing, with ten bells fitted to swing by pulling ropes and one bell in fixed position.

❑ ***Hingham Comprehensive Inventory***
With annual funding of $10,000, the Historical Commission is now preparing inventory forms for a number of significant structures for submission to the Massachusetts Historical Commission for acceptance and inclusion in the State Register. This annual funding is primarily being used to document significant structures outside of Hingham's several historic districts. Prior to the availability of this funding, Hingham's inventory primarily included places and structures only within existing historic districts.

6. SCENIC ROADS

Several of the town's scenic roads are provided certain protections by a local by-law administered under the Rules and Regulations of the Planning Board. They represent the preservation of important historic contexts, settings, landscapes, view sheds, and vistas that are critical in preserving the historic character of the town. Streets currently designated as scenic roads include: Lazell Street/Union Street as well as Turkey Hill Lane/Pope's Lane/a portion of Leavitt Street.

The Massachusetts Scenic Roads Act (M.G.L. ch. 40, sec. 15C of 1973) authorizes towns to establish local by-laws to provide certain protections to scenic rural roads. The law states that upon the request or recommendation of either the local Planning Board, Conservation Commission or Historical Commission to designate any public road other than a numbered route or state highway in their town as a scenic road, the town may pass a by-law so designating that road. Once a road is so designated, any proposed repairs or changes (by *any* agency, including the local DPW, state DPW and public or private utilities) that threaten trees, stone walls, or other aesthetic features along the road may not be carried out without the written approval of the Selectmen or Planning Board after a public hearing.

II. HISTORIC & CULTURAL RESOURCES: GOALS & RECOMMENDATIONS

In the months and years ahead, Hingham must remain vigilant in order to protect its historic resources. In order to address important issues and challenges, the following goals and recommendations are proposed:

GOALS

❑ *Mitigate the Impacts of the Planned Extension of the Greenbush Commuter Rail Line Through Downtown Hingham and the Lincoln National Register Historic District*

Work with the MBTA to devise protective buffers, design the rail tunnel surface, and select streetscape, furniture and grade crossing fixtures that are compatible with the historic character of the town.

❑ *Continue to Expand the Protections of Hingham's Various Historic Resources and Districts*

Continue to inventory Hingham's historic and cultural resources and expand historic protections to properties and districts where appropriate.

❑ *Identify and Then Add to Hingham's Protected Network of Scenic Roads*

❑ *Provide Adequate Administrative Staffing Resources and Support to the Historical Commission and Historic Districts Commission*

RECOMMENDATIONS

❑ ***Devise Suitable Greenbush Line Mitigation Measures***

Define mitigation measures and mitigation plans to protect the Lincoln National Register Historic District in anticipation of the MBTA's plans to restore the Greenbush branch service of the Old Colony commuter rail system in a tunnel through the Lincoln Historic District. Such plans range from participating in the tunnel surface design as the tunnel burrows beneath the town center to the establishment of design guidelines for protective buffer fences, sound barriers, vibration mitigation measures, intersection rail crossing signalization, signage, street furniture and lighting, and replacement parking facilities – all designed to be compatible, to the extent possible, with the character of the historic district.

❑ ***Expand Hingham Centre Historic District***

Expand the boundaries of the Hingham Centre Local Historic District to include additional historically and architecturally significant buildings and structures.

❑ ***Add the Fort Hill Street Historic District to the National Register of Historic Places***

The proposed Fort Hill Historic District, along Fresh River Avenue / Fort Hill Street adjacent to the Weymouth town line, is a microcosm of a working community's social, historic, and architectural development from the eighteenth to the early twentieth century and adjoins the MBTA's rail right-of-way through town. It may be considered an extension of the Lincoln Historic District to the west. The District has been documented and has been presented to the MHC for approval. The Fort Hill District was also declared eligible for listing in the National Register of Historic Places in 1992.

❑ ***Add the Beal Area / East Street Historic District to Hingham's Protected Historic Districts (Proposed National Register District)***

Adjacent to the Cohasset town line, the proposed Beal Area/ East Street Historic District adjoins the MBTA's rail right-of- way and may be considered an extension eastward of the Lincoln Historic District. The nuclei of this proposed District are the Black Horse Tavern (former Beale House) on East Street and the Glastonbury Abbey on Hull Street. The District has been documented and has been presented to the MHC for approval. This District is also eligible for listing in the National Register of Historic Places and will be nominated for inclusion on the National Register as administered by the US Department of the Interior.

❑ ***Identify Additional Historic Resources in Need of Protection Due to Growth Pressures And add to the Inventory of the Historic and Prehistoric Assets of the Commonwealth***

Identify additional historic resources that will need to be protected in areas throughout town, which can expect significant change and growth in coming years even though these resources are not currently within historic districts. With annual funding of $10,000, the Historical Commission is now preparing inventory forms for a number of significant structures to be submitted to the Massachusetts Historical Commission for acceptance and inclusion in the Inventory of the Historic and Prehistoric Assets of the Commonwealth. This annual funding is primarily being used to document significant structures outside of Hingham's several existing historic districts. Prior to the availability of this funding, Hingham's inventory primarily included places and structures only within existing historic districts.

❑ ***Identify and Protect Properties Not Previously Listed, which are Now At Least Fifty Years Old***

Identify additional buildings and structures worthy of preservation that have not been considered historic in the past, but which, in fact, have played a significant role in Hingham's history, e.g.

parts of the Hingham Shipyard, such as the old chimney tower or other industrial artifacts that should be preserved to commemorate Hingham's industrial and shipbuilding history within the framework of the shipyard's redevelopment.

- ***Identify Additional Scenic Roads and Valued "Streetscapes" for Designation and Protection***

Several of the town's scenic roads are provided certain protections by a local by-law administered under the Rules and Regulations of the Planning Board. They represent the preservation of important historic contexts, settings, landscapes, view sheds, and vistas that are critical in preserving the historic character of the town. Streets currently designated as scenic roads include: Lazell Street / Union Street, Free Street, as well as Turkey Hill Lane /Pope's Lane/ a portion of Leavitt Street. Additional scenic byways and valued "streetscapes" should also be identified and protected.

- ***Assess Changes to the Historic Character of the Town Due to Growth and Change of Landscape***

Assess how the development of farmlands and the clearance of trees alter the Town's historic visual character and identify the means and resources to protect these valued landscapes from further alteration. Such means and methods may include land acquisition, land swaps, tax abatements, and / or the establishment and purchase of scenic easements.

- ***Provide Adequate Administrative Staffing Resources***

Insure that the staffing of the Historical Commission and Historic Districts Commission is sufficiently funded to meet the challenges in the years ahead.