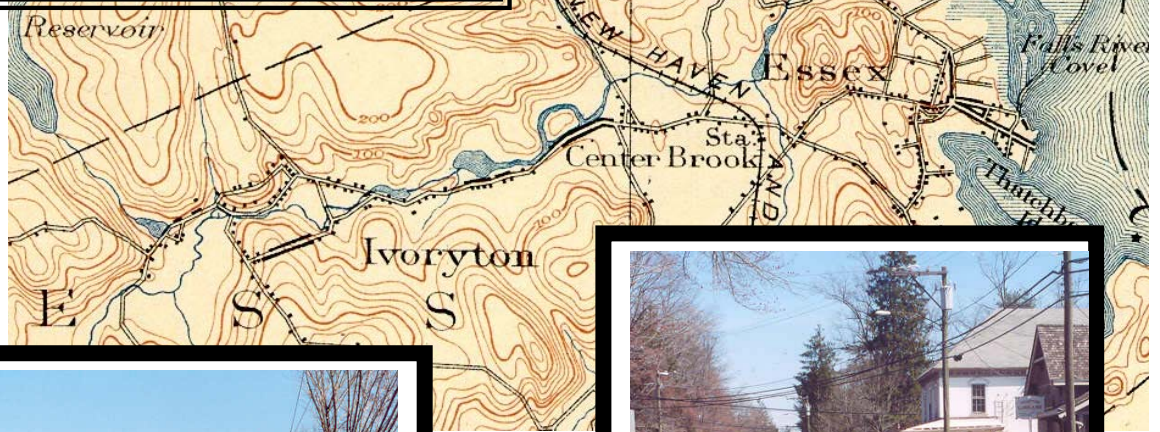


The 2005 Plan of Conservation and Development Essex, Connecticut



Essex Planning Commission

Public Hearing: 6/10/04, 9/23/04, 10/28/04, 1/13/05, 2/10/05, 4/14/05

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The 2005 Plan of Conservation and Development Essex, Connecticut

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PART ONE

INTRODUCTION

I. STATEMENT OF INTENT

The 2005 Essex Plan of Conservation and Development¹ represents an update to the previous Plan of Development adopted on June 20, 1991. The Plan provides a blueprint for preserving and enhancing the Town's heritage and character, and it serves as a guide to Town officials for long range planning for municipal improvements.

As described in Connecticut General Statute 8-24, municipal public improvements and the long range capital improvement plans must be referred to the Planning Commission. Part of this 2005 Plan of Conservation and Development update is to provide long range recommendations for municipal projects projected to occur within the next ten years. It recommends promoting land use that will assure a prudent balance of residential, industrial and commercial uses, while preserving open space necessary to retain the Town's visual character.

Recognizing Essex has developed around historic villages, the Plan supports renewed emphasis on villages as the centers of commercial, industrial, and residential life. It emphasizes the need to preserve as a proper setting for these uses the surrounding natural, agricultural, and forested lands. Conservation and development that recognizes and balances these needs assures the preservation of the Town's historic blend of natural and developed environments.

¹ The Connecticut General Statutes requires all local Planning Commissions to periodically review and update their local Plan of Conservation and Development and to adopt such amendments as the Commission deems necessary to update the Plan. The contents and issues considered in the Plan are proscribed by Section 8-23. In 1995, the Connecticut General Assembly renamed the plan, from the Plan of Development to the Plan of Conservation and Development, and authorized the plan to contain provisions for greenway protection.

II. BACKGROUND

A. The 1971 Plan

Essex was one of many Connecticut communities to embrace at its earliest opportunity a Town plan. In 1971, the Essex Community Development Action Plan and Town agencies adopted a Plan of Development prepared by E.A. Lord-Wood Associates, Inc. with assistance from the Selectmen, the Town Clerk, the Superintendent of Schools, the Zoning Commission, CRERPA, and the Conservation Commission. This "Plan" provided detailed recommendations for capital improvement programs, housing, education, recreation, open space, transportation, public safety, economic development, health, social services, cultural, and government. The Plan provided the basis for many land use decisions over the next twenty years.

B. The 1991 Plan

In 1987, the Essex Planning Commission began the monumental task of generating a new Plan of Conservation and Development. The process included extensive interaction with its consultant.

To assist in this important effort, the Essex Planning Commission established the following citizens committees:

Committee on Town Character and Aesthetics
Committee on Community Service and Facilities
Committee on Economic Development

This able group of 35 people contributed many long hours over several months and completed their respective reports in mid-1989. They were given invaluable assistance in their efforts by the thoughtful responses to a 1988 questionnaire issued to every Essex household and business by the Essex Planning Commission.

The 1991 Plan expressed goals and values which continue to be emphasized by the 2004 Planning Commission. Further, these views are also expressed by the public as indicated in surveys and meetings. The Commission recognized the many changes that had occurred since the adoption of the 1971 plan including: the 1972 statutory requirements for inland wetland regulations, the establishment of the Connecticut River Gateway Conservation Zone in 1973, the Coastal Area Management Program, Aquifer Protection Act of 1989, and a detailed soil survey from the Soil Conservation Service.

In addition, significant population increase, development pressure, and natural resource protection issues were addressed. The 1991 Plan of Development became the basis for many changes in the Zoning and Subdivision regulations. While many of the recommendations from the 1991 Plan were realized, there remains a significant amount of work to be implemented to ensure that Essex attains its projected goals for future land use within the community. A copy of this 1991 plan is available for reference and review through the Essex Planning Commission

C. The 2005 Plan

This 2005 Plan of Conservation and Development provides a revised foundation for completing the goals expressed in the 1991 Plan of Conservation and Development and updated recommendations for the next ten years of land use within Essex. This revision addresses several issues that were unresolved in the 1991 Plan's text and maps. The data on which the 1991 Plan was based has been updated, and projections for future land use have been modified accordingly. While the 2005 Plan contains a significant level of 2000 census data, unpublished 2000 Census data had not been released for household characteristics, travel patterns, and income. Additionally, this document recommends several topics for further in-depth study. For these reasons, the Planning Commission envisions periodic amendments to the 2005 Plan of Conservation and Development, not just at the end of recurring ten year cycles as mandated by the Legislature.

This revision represents the work of the Planning Commission over a period of four years in conjunction with the support of the Connecticut River Estuary Regional Planning Agency. Contributions from Essex citizens, governing bodies, and other stakeholders are also incorporated. The primary source of public opinion was obtained by the Planning Commission through meetings and an extensive questionnaire mailing.

The 2005 Plan of Conservation and Development is available at the Town Hall for the citizens of Essex and all Town boards and commissions. Over the next several years, Essex's land use commissions will work cooperatively to incorporate recommendations into the Essex Zoning and Subdivision Regulations, assist other agencies to promote policies that encourage the integrity of future growth in the Town, and provide opportunities for public input and insight on future land use planning issues.

Essex Planning Commission 2005

Russell Smith, Chairman
Laura Champion, Vice Chairman
Raymond D. Gastil
August Pampel
Susan Uihlein

Linda Herman
Carla Feroni (Alternate)
John Beveridge (Alternate)
Ralph Monaco (Alternate)

The Planning Commission wishes to acknowledge the support and assistance of John Beveridge, 2004 POCD Coordinator; Essex Town staff; Land Use Official, Marian Staye; Jean Davies, and other staff members at the Connecticut River Estuary Regional Planning Agency (CRERPA) for their assistance in the preparation of this document.

III. ENVISIONING ESSEX

Essex is a picturesque, New England community comprising a mix of residential, commercial, industrial, recreational, and marine activity. Public and private activity is carried on in a manner that protects the environment and the diverse natural and historic resources of the Town. Growth is regulated utilizing growth management techniques which factor in the ability of existing resources to support new growth without having a negative impact on the environment. This future land use and capital improvement plan encompasses existing characteristics that have been preserved, enhanced, and augmented by succeeding generations.

Essex is situated on the banks of the Connecticut River, the Falls River and their tributaries. This location coupled with the general topography have influenced the growth and development of the three historic villages and surrounding development that have occurred over 300 years. There is a pleasing and compatible combination of residential, commercial, and industrial uses carried on by residents of all ages, incomes and skill levels.

To continue this growth pattern, it is critical that the Zoning and Subdivision Regulations be revised to guide the development of our land uses and protect remaining open space. A strong relationship between the Zoning and Planning Commissions is encouraged to ensure that this Plan's recommendations are implemented. Changes in the Connecticut General Statutes now require that zoning regulations and zone changes to be in conformance with the Plan of Conservation and Development (Public Act 02-74).

In June 2001, the Essex Planning Commission with the assistance of the Connecticut River Estuary Regional Planning Agency, prepared a survey that included questions about existing land use, future land use, Town services, housing, open space, and demographics of respondents. Surveys were distributed to residents by mail and through distribution points at the Town Hall, the Essex Library, and the Ivoryton Library. With 600 responses received out of the 2500 surveys distributed, the return rate was approximately 25%. A synopsis and tabulation of the answers received by written comment and tabulated answers are listed in **Appendix I**.

The Town-wide questionnaires, the governing bodies, the Planning Commission and many other informal discussions and suggestions continued to support the following definition of the Town character in the 1991 Plan:

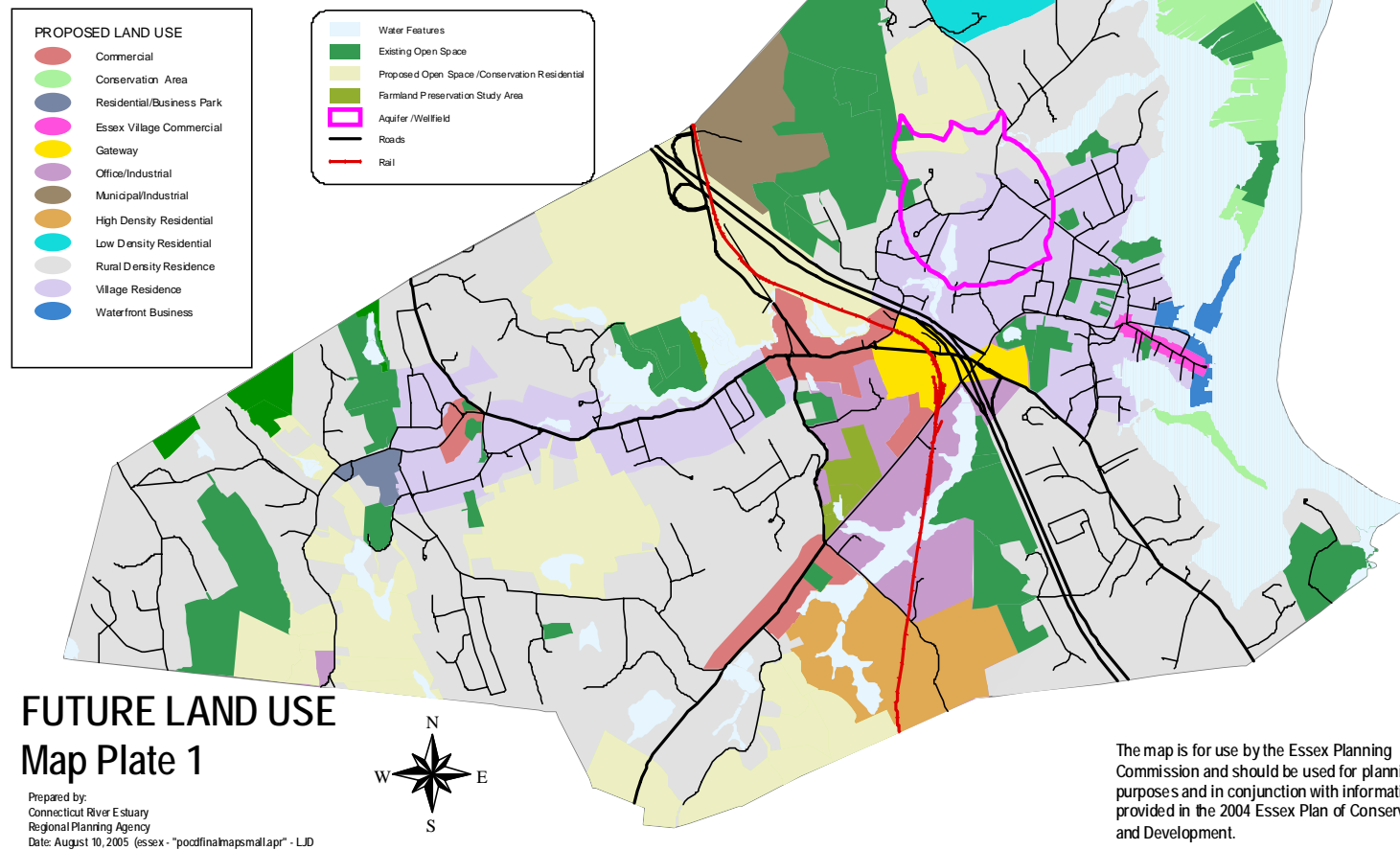
"Consisting of three distinct New England villages, Essex is characterized by a variety of housing sizes, styles and settings, winding roads, lanes, pentways and common driveways; a mixture of uses and an integration of income and skill levels throughout the Town; village centers, street trees, post offices, sidewalks, Town greens and parks; farms, open spaces, libraries, places of worship, schools, museums, a summer theater, baseball fields, swimming holes, playgrounds and tennis courts; gardens, window boxes; volunteers; Town meetings; community events; boats and marine activity; stores to walk to, stores that serve the local population, citizens working in government, commerce, personal interaction with shopkeepers and neighbors; clean air to breathe, clean water to drink, clean water to swim in; natural attributes of rivers, hills, woods, a natural harbor and waterfront, views of waterways, undeveloped land, and views of open natural landscapes."

After evaluating the current zoning and subdivision regulations, the Planning Commission concluded that current regulations do not fully ensure long term protection of those characteristics. Current zoning regulations are similar to the majority of zoning regulations in America where a town's land area is compartmentalized into specific land use categories without a detailed evaluation of the zone in context with future land use goals for the Town. The Town has already taken significant steps to improve the design standards in the Essex regulations to allow for flexibility to better protect natural topography, soil conservation, drainage and other resources. Further updates to the standards should include higher environmental standards and better environmental design.

Subdivision and zoning regulations are enacted to provide a vehicle for orderly land use development. To provide continuity between the historical growth patterns of 18th century Essex and future growth within modern Essex, the Zoning and Planning Commissions must continue the process of modernizing the regulations. Future changes in the land use regulations should discourage excessive land clearing and destruction of resources. Future amendments should facilitate open space preservation, development in continuity with historic patterns and structures, vital mixed use, multi-modal transportation opportunities, flexibility through special permit criteria, re-evaluation of permitted uses within current zones, and site design which fosters community interaction.

This being the case, our task becomes setting guidelines for a progressive transformation of the regulatory framework of Essex that will make possible the vision of an economically vibrant, livable, and sustainable community. (See Map 1)

Town of Essex, Connecticut 2005 Plan of Conservation and Development



IV. TOWN STATISTICS

From the size of the police force and fire departments to the size of storage space within the Town vault in the Town clerk's office to the size of schools, all aspects of Town government and operations are affected by Essex's population characteristics and size.

The last U.S. government census in 2000 provides statistics on births, deaths, migration patterns, housing characteristics, population characteristics, and much more. The 2000 Census has limited details for specific blocks or tracts within the CRERPA region. Therefore, it is difficult to predict growth trends and provide population characteristics for each village. For a sample of population characteristics for Essex, the Planning Commission's resident survey responses provide the most detailed picture of the population. The survey is also limited by the demographic characteristics of the respondents.

The 2000 Census figures below provide a basis for comparative growth which may affect land use decisions and Town issues for the next 10 years. The rate of population growth has slowed, from 16 % during the 1980s to 10% in the 1990s. This reflects a steadier growth rate than the fluctuations of 21% growth in the 1960s and 3% growth in the 1970s. Assuming a moderate growth rate of 13%, the projected population in 2010 would be approximately 7350. (See Figure 1)

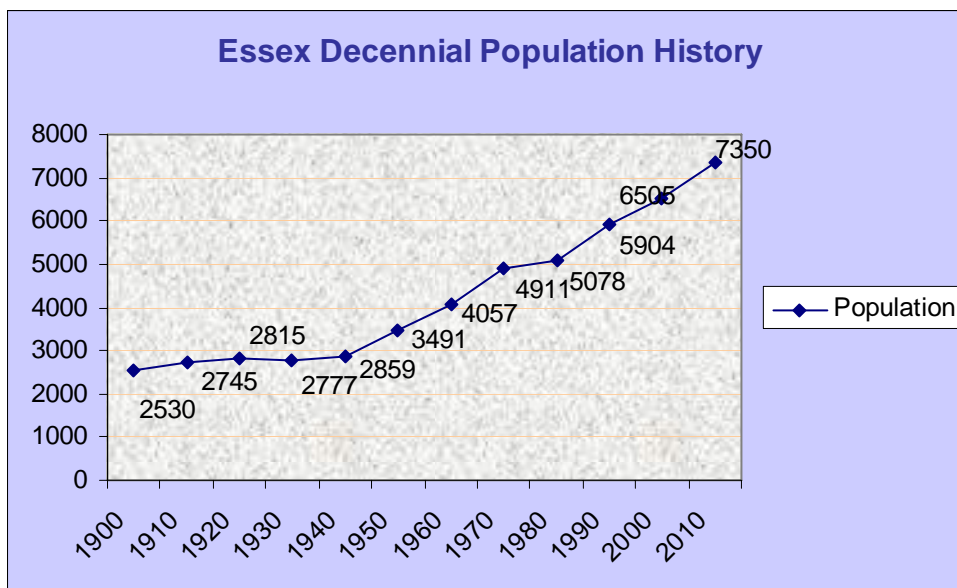


Figure 1

An important statistical comparison is age distribution. Age distribution and projections have impact on the types of services that a community will provide over the next ten years. While age distribution in Essex has remained relatively consistent over the last twenty years, fluctuations in certain age sectors may affect the allocation of Town resources toward certain services. While there was a moderate increase in school age children, the 15-34 year old age group declined relatively. The 35-54 year old age group continued to significantly increase, along with moderate growth in the 55-59 year old and over 85 years age groups. (See Figure 2) An equal ratio of male to female persons remained consistent with past trends as did household characteristics. (See Figures 3 and 4)

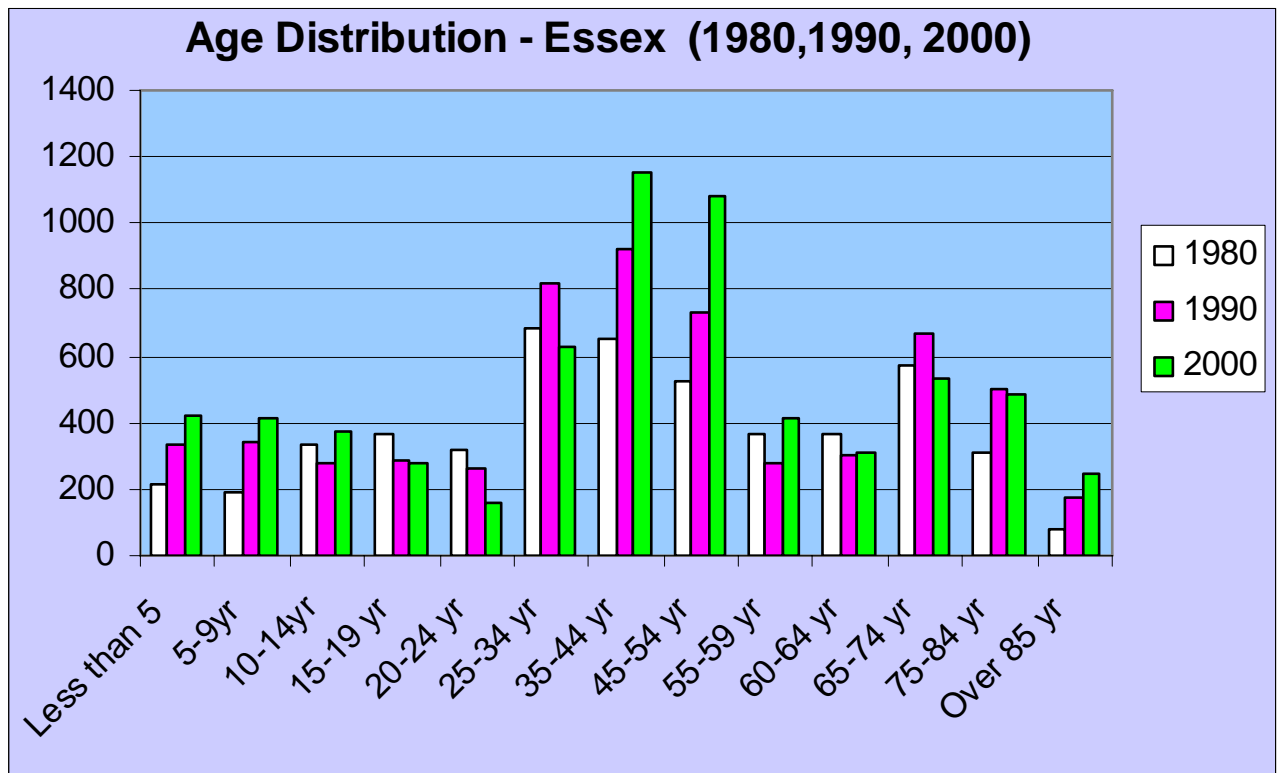


Figure 2

Figure 3

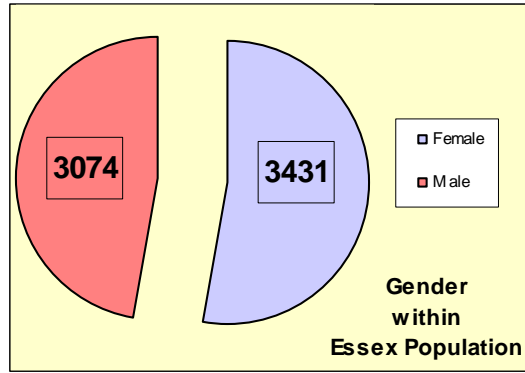


Figure 4

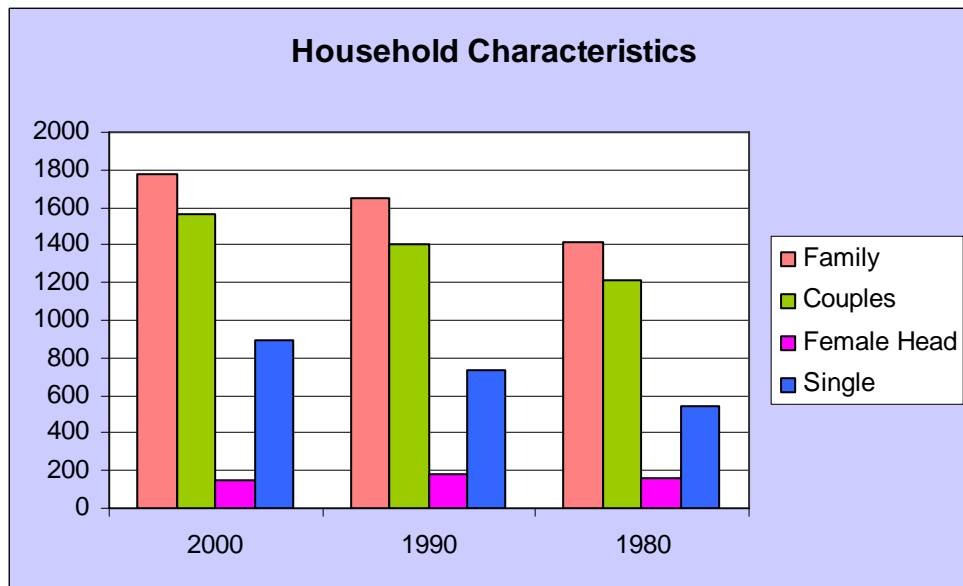


Figure 5

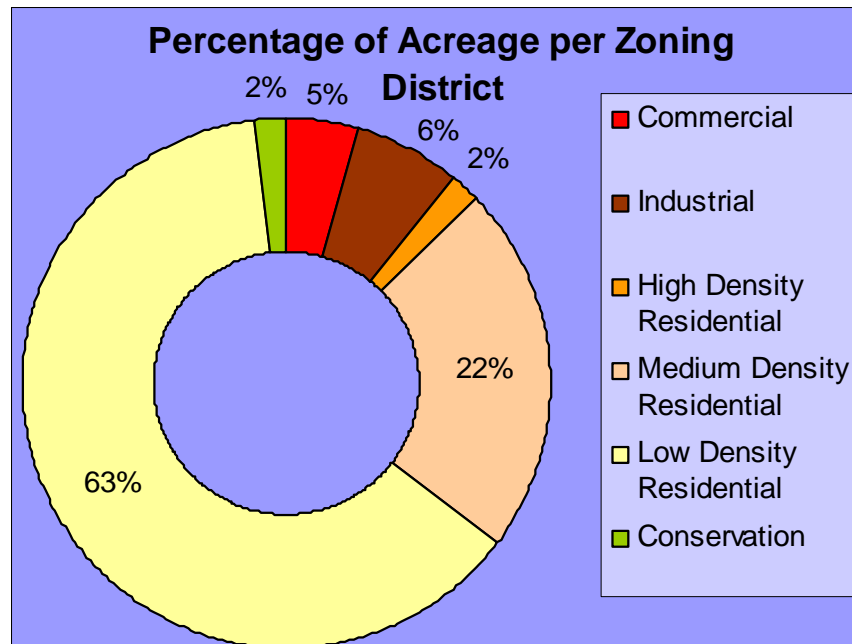
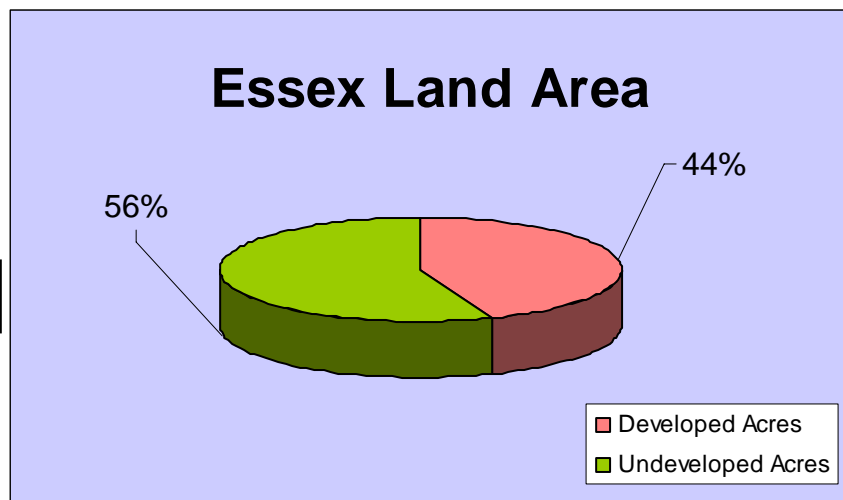


Figure 6

Town of Essex (all figures are estimates based on available data)	1999 acres	% of land
Land Uses:		
Undeveloped	3852	56%
Protected Passive Open Space	641	9%
Protected Active Open Space	40	1%
Unprotected/Developable	3171	46%
Developed	2995	44%
Residential	2112	31%
Commercial	113	2%
Industrial	149	2%
Institutional	153	2%
Transportation	468	7%
Total Land Area	6847	100%
Total Water Area	961	
Total Area	7808	

Figure 7



Source: 1990 CRERPA land use study, updated from 2003 land use records

PART TWO

GOALS AND OBJECTIVES

A primary component of this plan is to look at methods to enhance recommendations detailed in the 1991 plan. Future development in Essex should follow these guidelines to retain the existing character of the Town:

1. PRIMARY CENTERS OF DEVELOPMENT: Village Centers

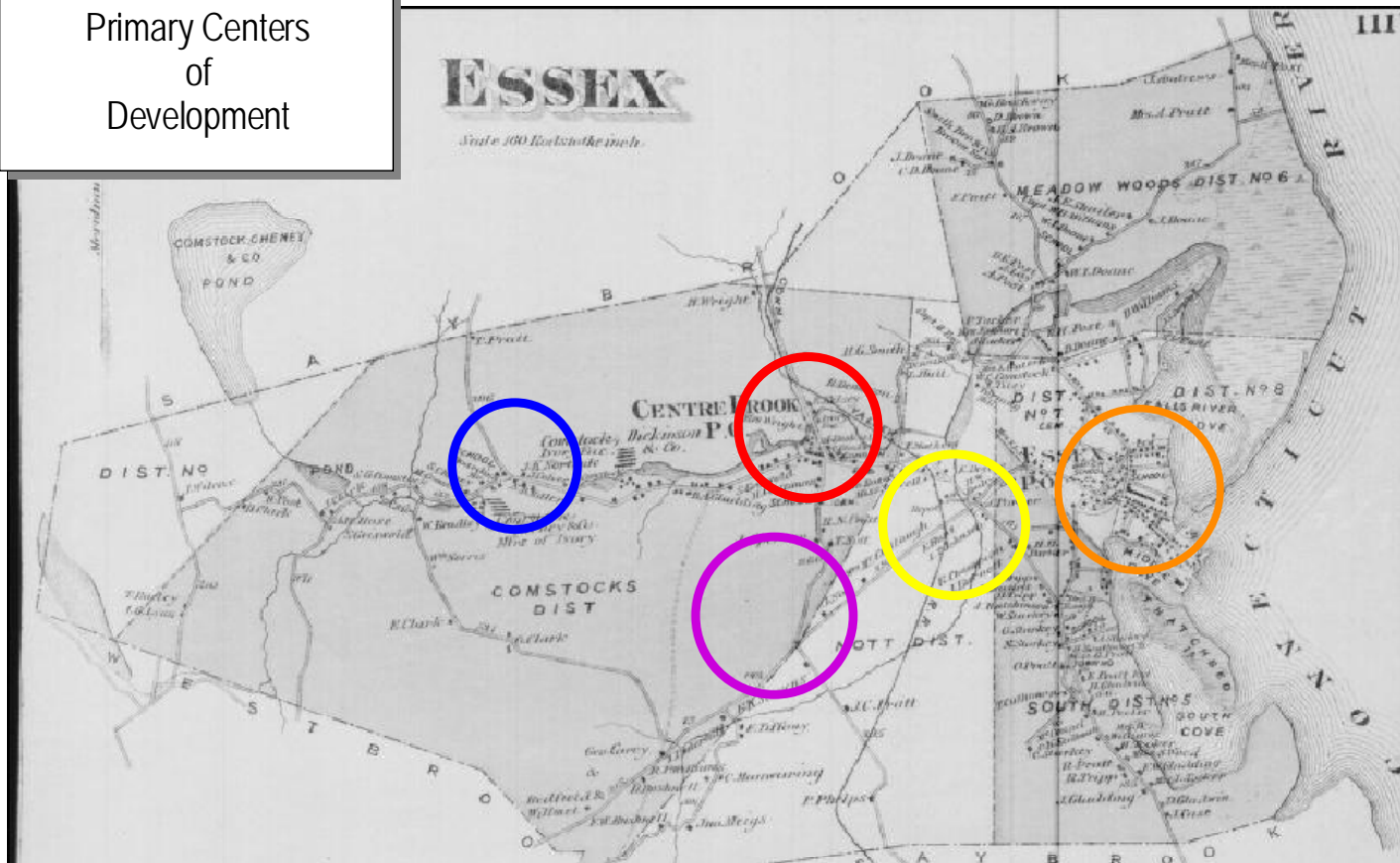
An analysis of existing development patterns is consistent with five primary centers of development. These growth locations are delineated on **Map 2**. Future growth should recognize and maintain the historic development patterns in the historic villages of Essex, Centerbrook, and Ivoryton. In addition, similar patterns of historic preservation, renovation, and development should be fostered in the Heritage Gateway area and Bokum Center.

- A. Foster economic growth through preservation that reinforces the three historic village centers of Essex, Centerbrook, and Ivoryton, as well as the two relatively new development areas of Bokum Center and the Heritage Gateway (Route 9 Interchange) as five primary centers of commercial development.
- B. Ensure that additional future business or mixed use development is encouraged in these locations rather than rezoning existing residential areas.
- C. Encourage redevelopment and use of existing commercial and industrial zones.
- D. Specifically, avoid rezoning property from residential or industrial to commercial in transportation corridors with high average daily traffic volume.
- E. Encourage redevelopment and reinvestment in existing structures within the village centers, along with site development which promotes architectural compatibility with the historic character of the Town

2. CLUSTER ZONING

Where resources and carrying capacity for both site and traffic volumes permit, all future development, be it commercial, industrial, or residential should be condensed through techniques that promote higher density per acre in exchange

Historic Growth Centers
Primary Centers
of
Development



Reproduced from the negative photostat at the Map and Geographic Information Center,
Homer Babbidge Library, University of Connecticut/ The Petersen Collection - Essex, Conn 185-?

Map Plate 2

for significant areas of open space. This technique is described in the Essex regulations as Open Space Preservation Subdivision. Another term is cluster zoning. The goal is to make future development possible while insuring that contiguous open space is created or large tracts of open space are maximized, preserved, and protected.

3. MIXED USE DEVELOPMENT

Zoning within the primary centers of development should be reinforced and enhanced by the creation of site design and architectural design regulations. The driving force behind the successful preservation and perpetuation of the "village character in a rural setting" is mixed use development. Historically, development within Essex avoided a pattern of purely segregated functional compartments, as would be dictated by present zoning regulations. A rich "tapestry" of uses, overlapping, supporting, and complimenting one another has evolved over hundreds of years.

Not only is this functionally and financially successful, but it defines the character of our villages which is so appealing to both residents and visitors. Within the primary centers of development, zoning enforcement that facilitates and encourages mixed use is critical to the success of goals and objectives outlined in this Plan of Conservation and Development.

4. NATURAL RESOURCES AND OPEN SPACE

In concert with focused and controlled development in the five "centers", the preservation and the protection of natural resources and open space is imperative. This element of land use is important for the scenic beauty and setting that it provides for the primary centers of development as well as for the health, safety, and welfare of Town residents. As detailed later in this document, the Plan strongly supports and endorses the goals of the Essex Open Space Plan, dated March 2000 and has incorporated this plan as Appendix II.

5. ARCHITECTURAL HERITAGE

In addition to a rich heritage of natural resources and open space, Essex has a significant architectural heritage. This includes an abundant array of notable structures dating from the seventeenth to the early twentieth centuries. These structures, residential, commercial, or industrial, form attractive, well articulated facades for the streetscape and frame scenic vistas. A particular goal of this 2005 Plan is to provide

recommendations for the preservation of architecturally significant structures and streetscape. To that end, recommendations are included that future development be sensitive to this legacy. Historic design styles should be employed wherever necessary to maintain our historic charm and character. In some areas it will be appropriate to enhance this legacy by building in "innovative" architectural styles.

6. ECONOMIC BASE

None of the goals stated above can or will be realized without a healthy economic base for the private sector and adequate tax revenues for the public sector. Vital commercial, industrial, and retail activities are by necessity an integral component of the community. How these activities are encouraged rather than discouraged will be one of the key factors in the future development patterns within Essex.

7. HOUSING

Encourage and promote a wide variety of housing throughout the Town, from the apartment over the store on Main Street to the multi-acre estate on River Road. Residents possessing many skills and trades and representing a variety of economic circumstances are an important resource of the Town. Cultural and economic health of a community is cultivated by the rich diversity of its citizens. Affordable housing must be integrated into the Town's regulations to ensure housing opportunities and retain workers for commercial, manufacturing, and service businesses. Additionally, encourage affordable housing that is legally affordable. Preferably, it will be constructed near transit services and offer pedestrian access to shopping areas. This coincides with the goal to encourage redevelopment of existing Primary Centers of Development.

8. INFRASTRUCTURE/ TRANSPORTATION

For our vision to be realized, regulatory changes need to be supported by a sound infrastructure in the form of serviceable roads, multi-modal transportation alternatives, water, sanitary services, drainage, schools, Town service facilities, and cable and electrical installations. Further, the citizens must be provided with services for health, education, safety, and welfare, and led by boards and commissions that are enlightened, that are sensitive to the needs of those governed, and that possess the will and conviction to see this Plan through to fruition.

Each of the following sections in turn, addresses the goals described above. Each goal is articulated, recommendations to achieve the goal are stated, action steps are stated, and the governing body responsible for achieving the goal is identified.

PART THREE

OVERVIEW AND IMPLEMENTATION

I. PRIMARY CENTERS OF DEVELOPMENT

Overview

As part of the update to the 1991 Plan of Conservation and Development, this 2005 plan seeks to reinforce the historical growth patterns that have created the Essex of today, to protect the character of Essex, to concentrate future development in areas already developed, and to preserve the remaining open space. To that end, the following recommendations are made:

- A. Recognize and reinforce the three primary centers of development that have occurred over the history of the Town. These areas are the "historic" villages of Essex Village, Centerbrook, and Ivoryton.
- B. Recognize and reinforce the two primary centers of development that have evolved over the past several decades. These "centers" are Heritage Gateway at the Route 9 Interchange and Bokum Center.
- C. Provide growth management through innovative standards within regulations to ensure that future development outside these centers of growth decreases directly with its relative distance from the primary centers of development.
- D. Promote compact development and mixed use in the primary centers of development through the land use regulations.
- E. Integrate all further development with the land use proposals set forth in the 2000 Open Space Plan.

Implementation

Accordingly, the following actions are required:

1. The revision of zoning regulations to reinforce the village districts to reflect the boundaries of the primary centers of development and establish associated growth boundaries.
2. Provide regulatory language within zoning regulations to encourage mixed uses in the five primary centers of development.
3. Coordinate all new zoning regulations with the 2000 Open Space Plan and recommendations outlined in the Section IV of this plan regarding cluster development and open space.

II. FUTURE CONSIDERATIONS FOR ZONING DISTRICTS

Overview

The zoning regulations and zoning map outline and depict the overall short term goals for Town land use. Planning is the vehicle for implementing land use strategies recommended by the public. The Plan of Conservation and Development, provides recommendations for long- term goals for the Town to the other land use boards.

The Zoning Regulations and Map identify thirteen zoning districts within the Town of Essex. The goal of this 2005 Plan is to support and encourage the existing pattern of zoning districts within Essex and recommend amendments to regulations pertaining to each district that will achieve the goals and objectives set forth in this long- range plan. (See Map 3)

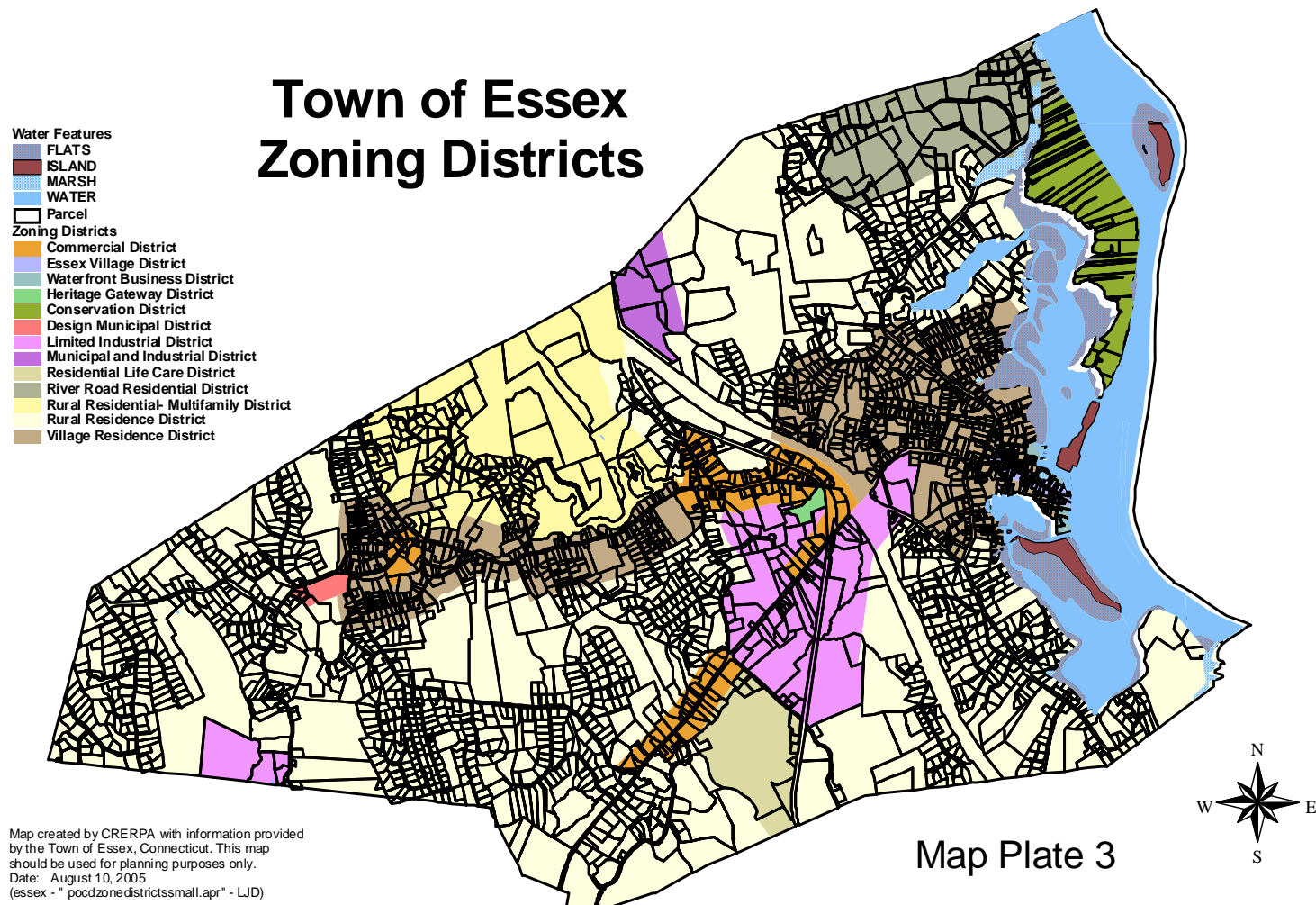
A key component of this updated Plan of Conservation and Development as outlined in the previous sections is to refine the thirteen districts, especially the commercial district, to reflect the character that the Town would like to sustain or promote over the next ten to twenty years. To promote and protect the Town character, encourage economic development, and preserve valuable resources, the following recommendations are made:

- A. Incorporate design elements into the zoning districts that encourage either architectural compatibility with surrounding buildings or innovative design where compatibility is not in question. Where appropriate, designate design districts as overlay zones based on the specific character of each of the five primary centers of development.
- B. Add language to the zoning and subdivision regulations which requires stringent landscaping and signage standards and maintenance of site plan amenities, traffic volume, flow and management, and architectural review of building structures.

Implementation

RESIDENTIAL DISTRICTS

The Essex zoning map and regulations list five separate and distinct residential districts: Residential Life Care; River Road Residential; Rural Residential – Multifamily; Rural Residential, and Village Residential. All of the zones, with the exception of the



Rural Residential-Multifamily zone, reflect the overall land use goals for the zone in conjunction with natural resources. The Rural Residential-Multifamily District is an anomaly as the district is located in an area of steep slopes and wetlands and current parcel maps indicate that one half of the district has been developed in a manner consistent with the Rural Residential District. (See **Figure 8**). In all the residential districts, there are standard requirements within the subdivision and zoning regulations for residential construction, landscaping, natural resource management, and drainage. While the subdivision regulations provide a regulatory guideline for the layout of lots and roads, amendments could be provided which encourage flexibility for resource protection.

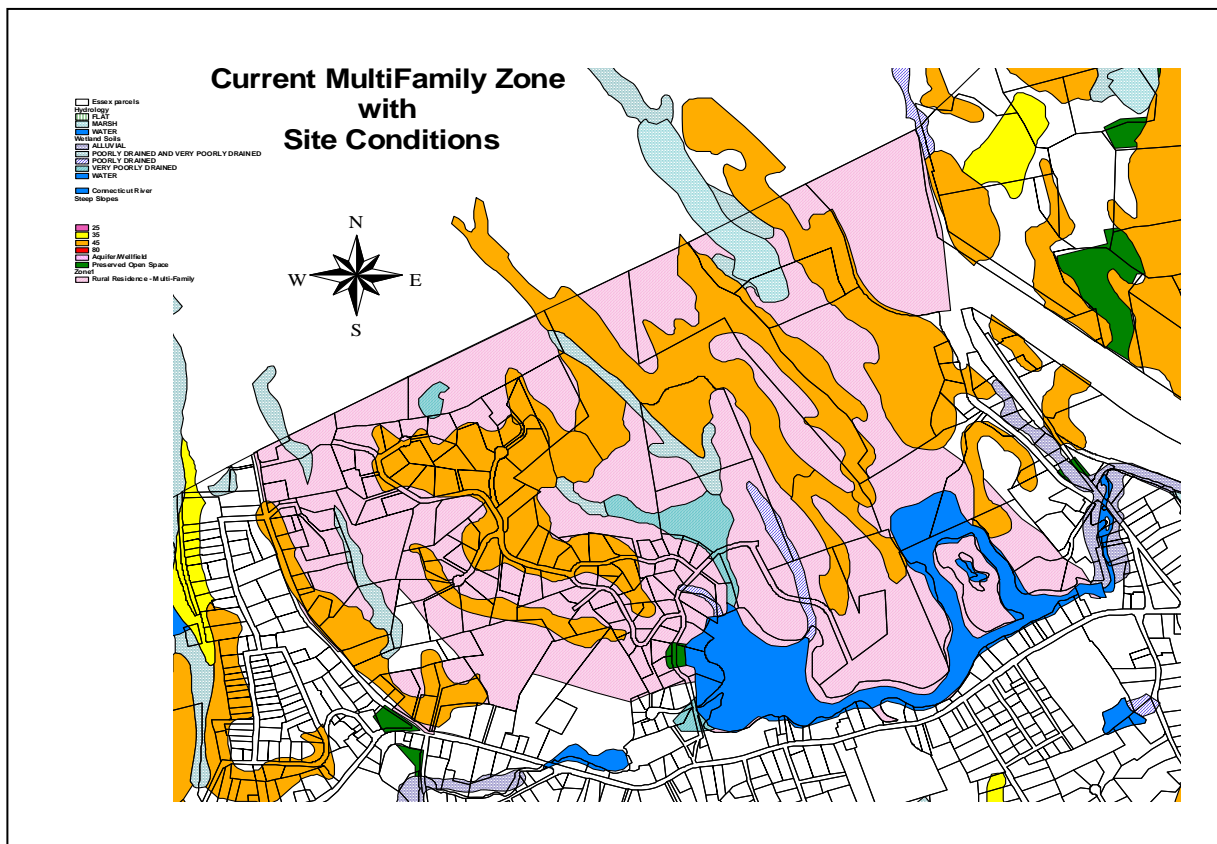


FIGURE 8 - Area recommended for rezoning to rural residential

Another factor for consideration in future development of residential units within Essex is accommodation for affordable housing. There are approximately 2,950 housing units in Essex, 54 units of which are designated as affordable housing units under the Connecticut Affordable Housing guidelines. Essex currently has approximately 1.85% of its housing units classified as affordable where 10% is the State guideline for exemption from affordable housing laws. State laws allow affordable housing development special

latitude with Town regulations for wetlands setbacks, site plan review, special permit, and zoning. These laws support the development of affordable housing in all areas of the state.

Recommendations for Residential Districts:

1. Review subdivision regulations and open space development standards to include more stringent natural resources protection and consideration for additional open space conservation land up to 50% of the development acreage. An important consideration for both zoning and subdivision regulations is enacting view protection in context with building height.
2. Review property currently zoned Rural Residential Multi-Family and consider rezoning to Rural Residential to provide continuity with existing subdivision development and protection of natural resources. Further, minimize site disturbance in areas of steep slopes and wetlands. (See Figure 8).
3. As lots are developed, study the possibility of including affordable housing units in the Rural Residential and Village Residential districts to increase the Town's percentage of affordable housing units in accordance with the requirement as outlined in the state statutes. This recommendation would ensure that affordable housing is intermixed with various housing types and not isolated as a single development in one location. Density should be appropriate for the existing zone and preservation of site resources.
4. Evaluate options for including affordable housing in Mixed Use and Commercial Districts to provide housing near transportation and services.
5. Evaluate options for a limited term moratorium on subdivision applications to fully evaluate provisions for soil-based zoning in cooperation with the Zoning Commission, road and drainage design, and a percentage of open space dedication for cluster subdivisions.

COMMERCIAL DISTRICTS

Currently, the Town of Essex has three specific commercial districts with standards regulated by the commercial district regulations. One district is labeled Commercial District; the second is the Essex Village District, and the third is the Waterfront Business District. While the Waterfront Business District allows marine related uses and other uses as special permit, the Commercial District allows one family residences, home occupations, professional offices and retail under 1,800 sq. ft. without a special permit. All other uses require a special permit. In the Essex Village District, residential and home occupations are permitted as of right. All other uses are regulated by special permit.

In addition, there is a mixed use district labeled Heritage Gateway District which allows retail, office uses, personal services, cultural arts, schools, warehousing, light industry and various miscellaneous uses. These regulations set criteria for the development of structures and site design within the commercial zone. This district is located in the vicinity of the Dickinson Factory.

To further the goals of the 2005 Plan, design standards should be incorporated into the commercial district regulations after significant evaluation and review as to the purposes of each primary center of development.

Recommendations for Commercial Districts:

1. Revise existing commercial district regulations to reflect the distinctive character of each commercial area: Ivoryton village, Centerbrook village, Essex village, Bokum Center, and the Heritage Gateway area. This recommendation is detailed within the Economic Development Section of this document on page 41, with detailed descriptions of the character and types of uses recommended for each district.
2. Develop standards for these expanded commercial districts in the three villages that encourage or require parking in the rear of the building, shared parking, construction of structures close to the street line with sidewalks and pedestrian friendly amenities.
3. Revise standards for the Bokum and Heritage Gateway centers to require more detailed site plan requirements for all uses. Include more detailed traffic flow analysis and coordination with adjoining properties, driveway connections between parcels, minimize curb cuts and facilitate inter-connective traffic flow for retail access to minimize impact to the arterial volumes.
4. Revise standards for Essex village to permit retail uses only on first floor. Encourage office or residential to be located on the second floors of mixed use buildings.
5. Revise landscaping and site plan standards for all commercial zones to provide more landscaping and detailed information on site plan. Also, architectural elevations and contextual information should be included to provide information on the overall design in relation to existing development.
6. Revise the zoning regulations to eliminate the possibility for future strip retail development on Route 153 from the intersection of Ingham Hill Road and the Westbrook Town line.

INDUSTRIAL DISTRICTS

Industrial districts within Essex are separated into three districts, the Limited Industrial District, the Design Municipal/Industrial District and the Municipal and Industrial Service District. The Planning Commission has proposed another specialized industry/office zone, Business/ Commerce District (**Figure 9**). This zone would encompass the area currently zoned as Limited Industrial, but exclude the current industrial park off Westbrook Road. This district proposes to permit office space along with manufacturing. The Limited Industrial District lists many permitted manufacturing uses subject to various conditions and requirements.

Of special note, solid waste collection, water supply facilities, motor vehicle detailing facilities, special municipal services such as fire and police, sales of propane, and farm stands are special permit uses which have a higher standard of review before the Zoning Commission. The Municipal and Industrial Service Zone, which designates the parcels surrounding and including the Essex Transfer Center, allows by special exception, municipal public works garages, emergency medical transportation service, earth moving businesses, septic lagoons, solid waste facilities, and fire houses. The Design Municipal/Industrial District which designates the area of the former Pratt Reed Factory allows for former industrial properties to be put to adaptive reuse.

This 2005 Plan emphasizes design standards and the placement of land uses in harmony with existing natural resources and infrastructure. To further that goal, it is recommended that design standards be incorporated into industrial districts, especially where industrial zones are located near village areas or near commercial zones. Also, where critical resources such as water resource districts, flood zones, or wetlands are located, the location of zoning boundaries for industrial districts should be re-evaluated.

Recommendation for Industrial Districts

Review and revise existing Limited Industrial District or propose Business/Commerce District regulations/boundary in context with areas designated as flood zones, aquifers protection areas, or wetlands to assure resource protection and emergency access for structures. (See **Figures 9 & 10**).

Figure 9

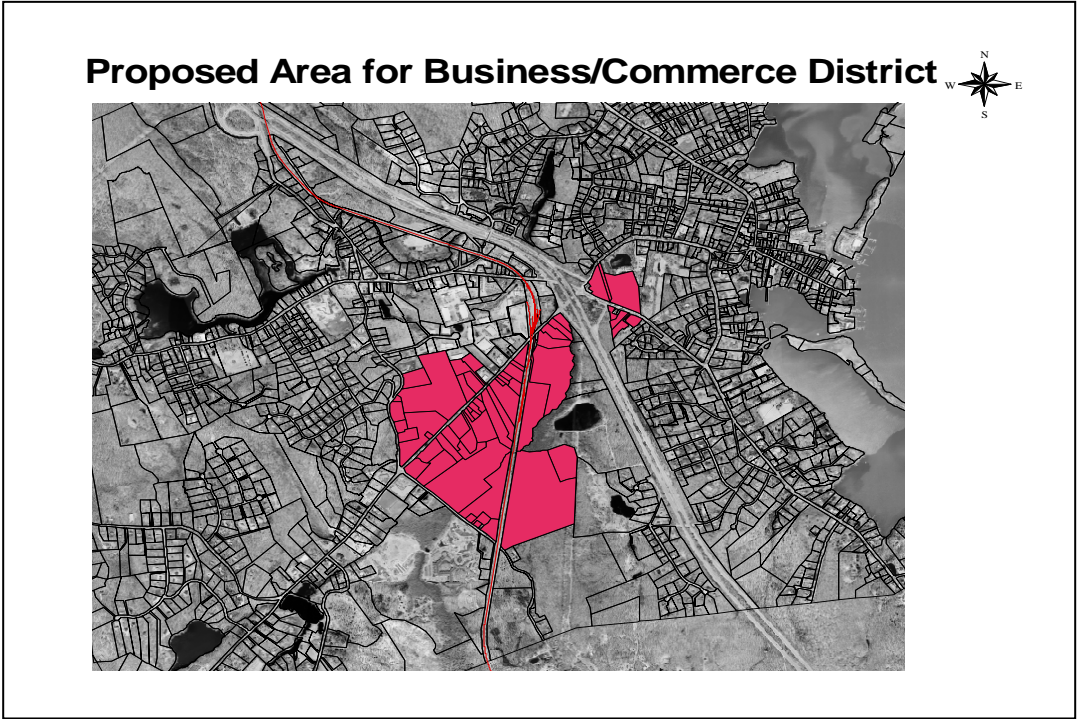
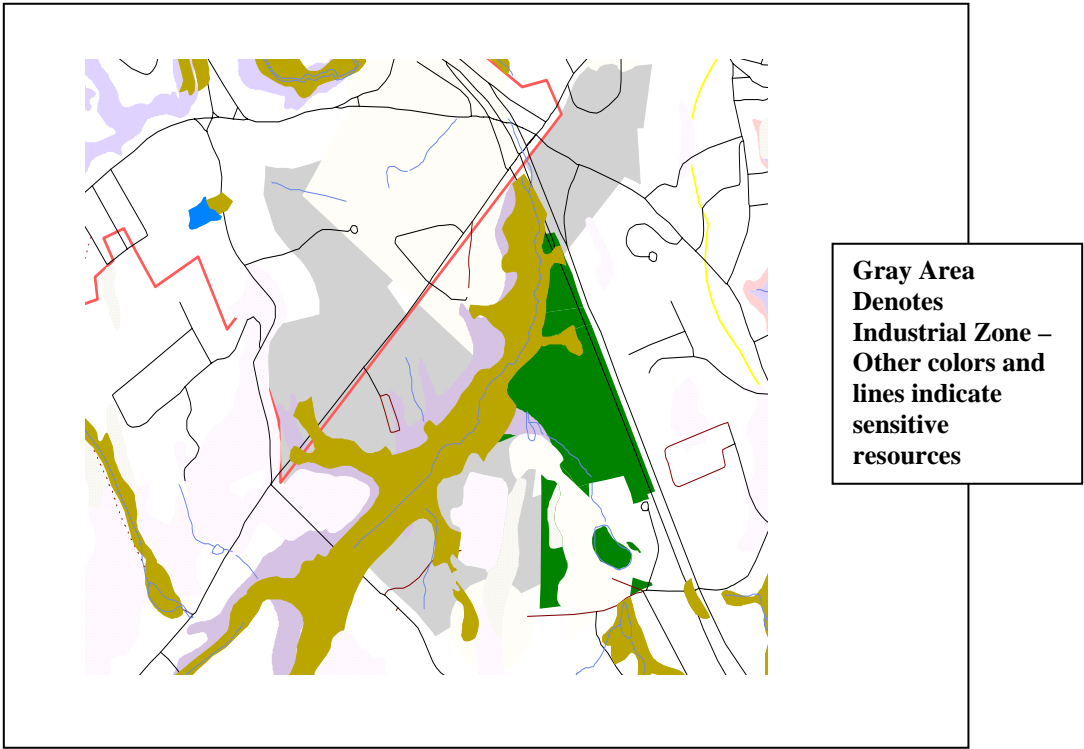


Figure 10



III. DESIGN STANDARDS WITHIN ZONING DISTRICTS

Overview

Existing standards within the zoning regulation and subdivision regulations are currently structured to promote various uses within each zone and to promote a uniform regulations for design layout of residential buildings lots within a subdivision or parking traffic patterns, and building location within commercial and industrial districts. To fully recognize the diverse characteristics of each of the five primary centers of development, this Plan of Conservation and Development proposes a set of design standards for zoning districts where appropriate to further enhance and protect the existing character of the three villages of Essex, Ivoryton, and Centerbrook. Further, the design standards would promote attractive landscaping and building standards for new development in the Gateway District and the commercial and industrial properties adjacent to Route 153.

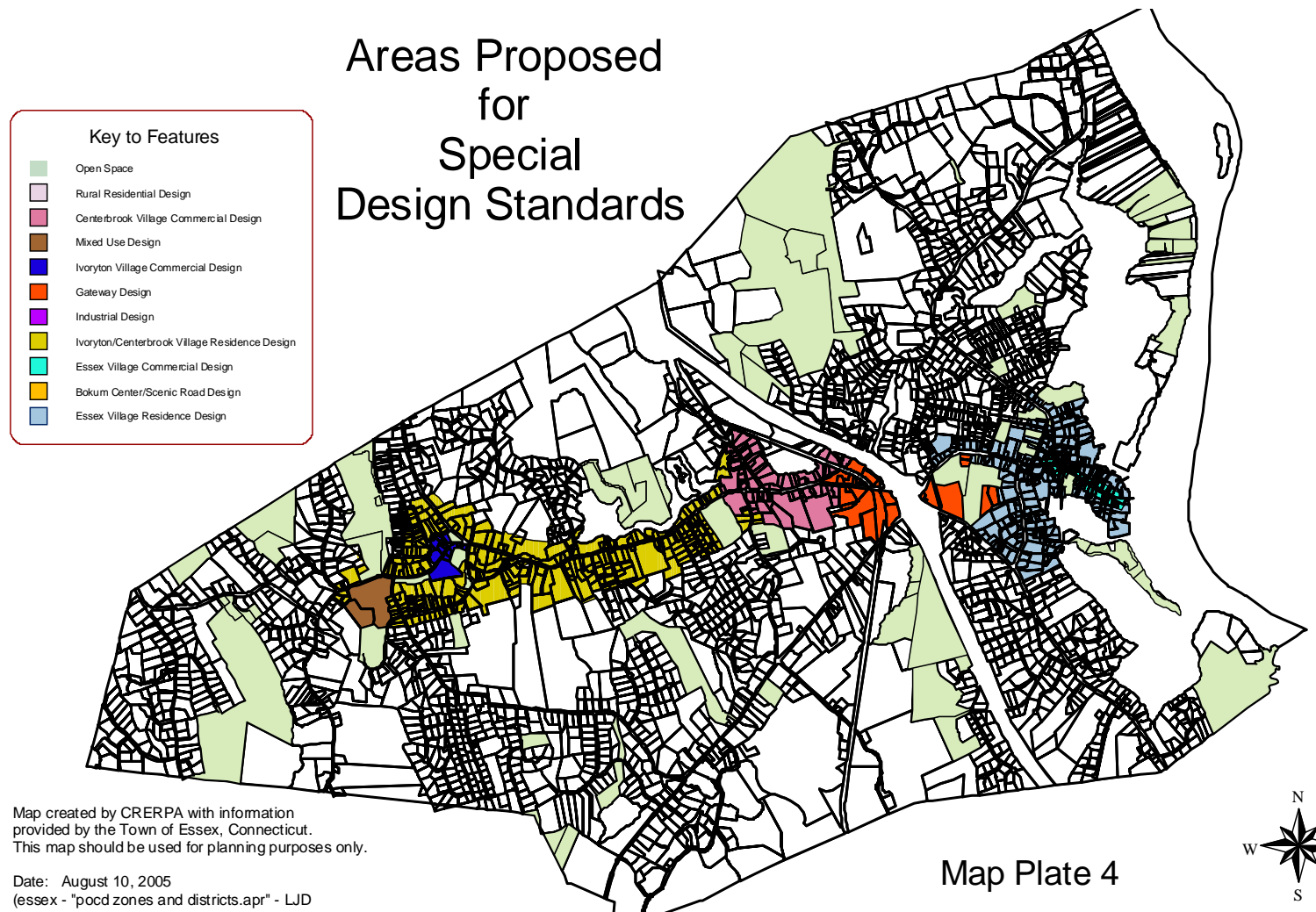
Implementation

To direct and control further development consistent with the Town character, aid in the goal of directing development to the five primary centers of development, and to promote mixed use, the following recommendations are made:

1. Re-evaluate the boundaries of the existing districts in context with desired results for design preservation within each of the districts. For instance, the Heritage Gateway District could be expanded to include parcels surrounding the Route 9 Interchange with design standards for construction, landscaping, and setbacks that project the overall character of the Town.
2. Establish, within each of the districts, regulations for architectural and site design that will provide a regulatory vehicle for implementing the goals of the primary centers of development and open space/ resource preservation in the remaining areas of the Town. Examples of areas where these specialized design regulations would be incorporated into the underlying zone are delineated on Map 4.

Accordingly, the following actions are required:

- a. Establish design standards within the Zoning Regulations to permit properties to be improved and/or developed in a manner that creates an integrated and harmonious design consistent with the character of the Town, and which further promotes the orderly development of the neighborhood.



- b. Promote and establish six sets of planned design standards. The design standards envisioned are:

- b-1. **Design Standards for Village Commercial Districts:** Include areas designated on Map 4 as Essex Village Commercial Design, Ivoryton Village Commercial Design, Centerbrook Village Commercial Design, and Bokum Center/Scenic Road Design. These commercial areas coincide with targeted areas for the recommended primary centers of development.

One way to promote this concept is to rezone the current commercial district and regulations into three commercial village districts and one specialized commercial district located in the area around Bokum Center. Develop design standards regulations for design standards for each district to be incorporated into site plan development for properties within each zone. For instance: designate the commercial zone in Ivoryton as the Ivoryton Commercial District and develop detailed design standards for this area thus preserving the character of Ivoryton's historic features: the Playhouse, the former General Store, and the Library.

Another alternative to promote village preservation and aesthetically pleasing site and structure design is to maintain the existing "Commercial District" and the "Essex Village District" and overlay the design standards for each design area. Whichever way is deemed appropriate, it is important to move forward on one of these methods to protect the existing character of the various village centers within Essex.

- b-2. **Design Standards for Mixed Use Districts:** There are areas outside of the village districts in which a mixture of industrial, commercial, and residential uses would be permitted. They are designated on Map 4 as "Mixed Use Design". Design objectives and guidelines would be established for Mixed Use districts. Industrial uses should be of the small scale, "clean" type that would integrate well with the non-industrial uses. An example of a mixed use district would be the present Pratt Reed Industrial Zone that is limited to the factory site for office, specialty retail, and residential with limits to the amount of any one use. Other permitted uses may be research labs and light assembly
 - b-3. **Design Standards for Industrial Districts:** Design objectives and guidelines for areas in which development would be predominately or totally industrial in nature from each district depicted on Map 4 as

"Industrial Design". Include guidelines for the type of industry desired, traffic flow within the site plan in context with traffic volume on the Town or state road, size and height restrictions, screening and buffering requirements, etc. Review and develop a plan for modifying Industrial Districts to separate out area for mixed use in the area of Centerbrook (including the Essex Industrial Park) with the objectives of:

- Limiting traffic impact on Westbrook and Plains Roads.
- Improving the appearance of the entrance to the Industrial Park to encourage occupancy.
- Reducing the area presently zoned for limited industrial use to areas with suitable soils.
- Restricting uses to those in compliance with the Connecticut DEP.

- b-4. Design Standards for the Heritage Gateway Design District:** A specific area that includes the fire station, Sunset Pond, the Essex Steam Train, and former EE Dickinson Factory, and the Tuscarora factory is delineated on Map 4. Design objectives and guidelines would enhance and create a viable Gateway District for Essex at the crossroads of Route 9, Route 153, and Route 154. This particular area is incorporated into the current Limited Industrial District and would need to be rezoned into an expanded "Heritage Gateway-Commercial" District.

The objective of this design area is to provide an aesthetic link to the other four areas of Essex Village, Bokum Center, Centerbrook, and Ivoryton. Another function of this design area is provide and an attractive multi-modal transportation hub for the Town and act as a conduit to existing areas of open space by including areas of significant landscaping and pedestrian pathways. This would be accomplished by increasing requirements for sidewalks, bus stops, bikeways and landscaping on site plans.

The Town should consider the acquisition of the Tuscarora property for municipal use. The property would link commuter parking areas, transit parking and open space areas to the tourism area of the Valley Railroad to the west and Essex Village to the east with pedestrian accessibility and open space.

- b-5. Design Standards for Village Residence Districts:** There are areas which permit residential uses in higher densities than that of the rural residence districts and have historic character. Establish design objectives and guidelines through combined efforts of the village residents, the Essex Zoning and Planning Commissions, and the Essex Historical Society for each Village District to preserve the integrity of historic structures and character within that particular village. This would include areas delineated on Map 4 as Ivoryton Village Residence Design, Centerbrook Village Residence Design, and Essex Village Residence Design.
- b-6. Design Standards for Rural Residential Districts:** Encourage clustered land development in selected areas to preserve open space and the natural character of the land while also providing a functional design for housing development. Include opportunities for affordable housing. A residential design manual could accompany the standards within the regulations to better illustrate the objectives of the design regulations. Concentrate growth in the areas of suitable soils. Require cluster development where soil conditions permit to allow for the preservation of large contiguous areas of open space. This will promote soil conservation and wildlife corridors.

IV. ARCHITECTURAL RESOURCES

Overview

As an ancillary component to developing design standards, an evaluation of architectural resources is recommended as a means to further conserve and enhance the architectural heritage that reinforce the Town character (See Figures 11-15). In the event a review indicates significant loss of architectural resources within the Town, and public opinion supports architectural review and control, the following recommendations are made:

- A. Establish Historic Districts (or at a minimum, architectural review for building and land use permits in the three villages. An alternative option would include establishing village districts as allowed by Connecticut General Statutes 8-2j.).
- B. Establish an Architectural Design Review Board in order to preserve the character of the Town as exhibited in structures throughout the Town, and to assure the quality of individual buildings and their context.



Figure 11– Essex has an abundance of historic homes similar to this one that provide character and economic stimulus to a tourism economy.

Implementation

1. Establish Historic Districts in the three villages as follows:
Essex: West Avenue into the Village, South Main Street into the Village, North Main Street into the Village.
Centerbrook and Ivoryton: Main Street from the Westbrook Road to Bushy Hill Road.
2. Establish a demolition ordinance restricting destruction of historic structures with specific conditions outlined for significant renovation or demolition.
3. Develop a committee of the land use commission, the Essex Historical Society and interested individuals to engage a consultant to develop guidelines and regulations for architectural design in each district.

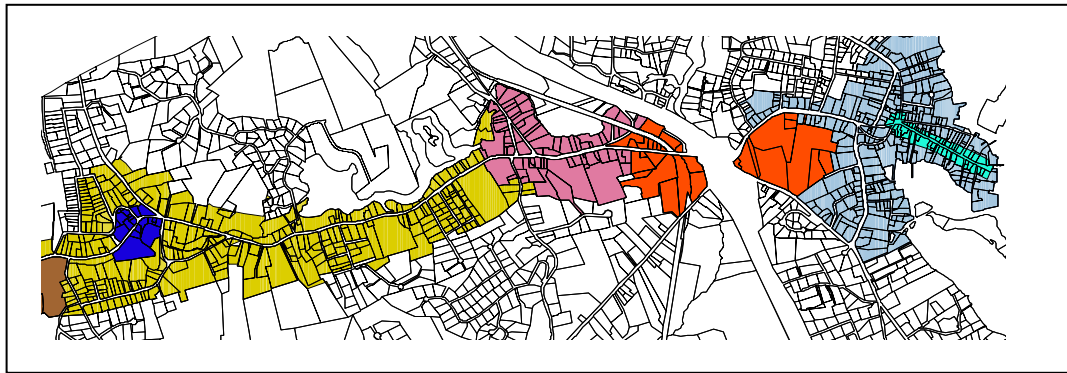


Figure 12 - Potential Areas for Historic District Designation

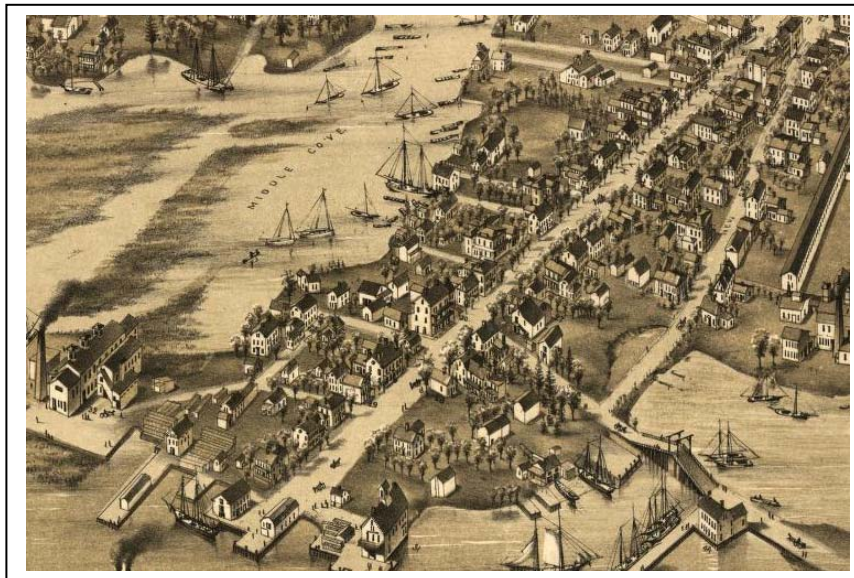


Figure 13 - O.H. Bailey & Co. View of Essex, Conn. 1881. (magic.lib.uconn.edu)

4. Where historic districts are established through public vote, further establish architectural review boards to;
 - Review and provide input with representation from the Essex Historical Society regarding architectural design for Primary Centers of Development and the specific zones with design standards.
 - Provide review and input regarding layout and design for subdivisions.

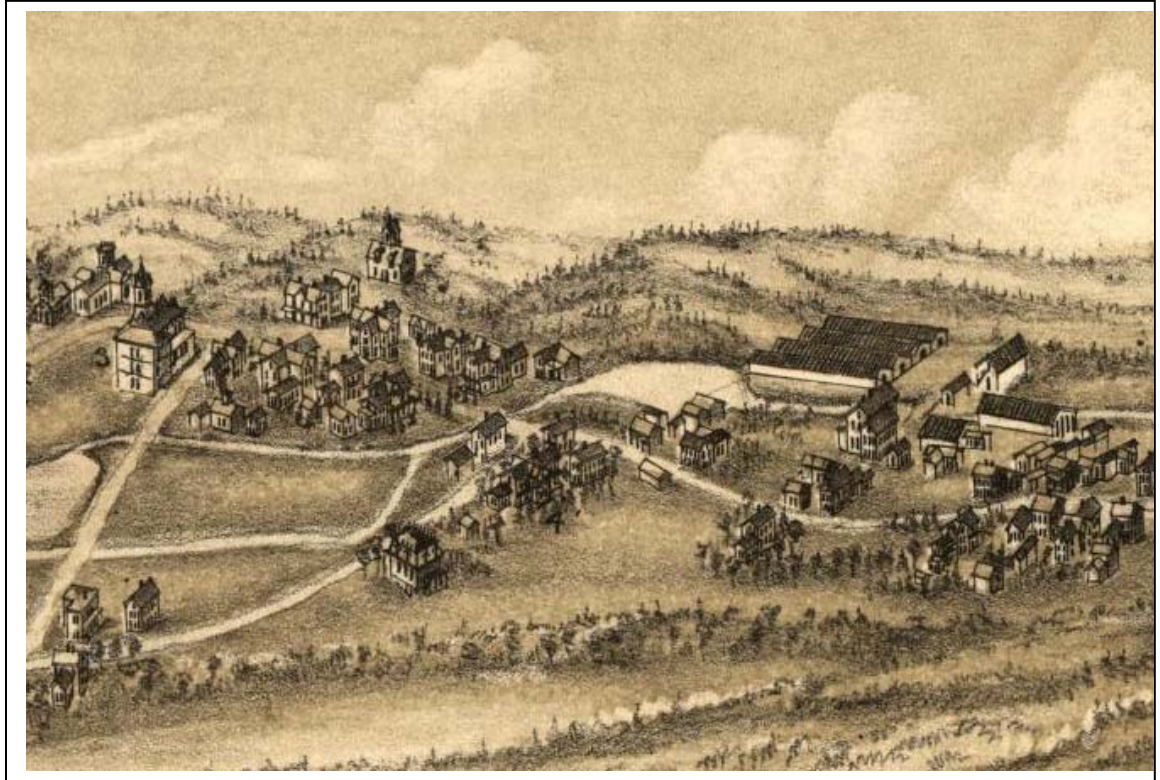


Figure 14 - O.H. Bailey & Co. View of Ivoryton, Conn. 1881. (magic.lib.uconn.edu)

5. Require that Planned Design Districts employ a "contextual" architectural style that represents and reinforces the area's historical environment and architectural character.
6. Modify the zoning regulations to promote mixed uses and compact development in the Primary Centers of Development in addition to the Planned Design Districts.
7. Modify zoning regulations to encourage the retention of existing residential structures for use as professional and commercial establishments in the Essex, Centerbrook, and Ivoryton Villages, including a component for second floor residential use.

8. Subject all development to site plan review that will include submittal of elevations that clearly illustrates how the project's architecture will relate to surrounding architecture. This will ensure that the size and scale of structure is compatible with surrounding structures and provide the Commissions with opportunity for reviewing existing vegetation in context with proposed landscaping, parking, signage, buffers, and traffic circulation.
9. Require new names for streets, and/or subdivisions (or any name changes) reflect the Town's history and environment.
10. Require small scale and "contextual" signage, both on buildings and free standing.



Figure 15 - O.H. Bailey & Co. View of Centerbrook, Conn. 1881. (magic.lib.uconn.edu)

V. NATURAL RESOURCES

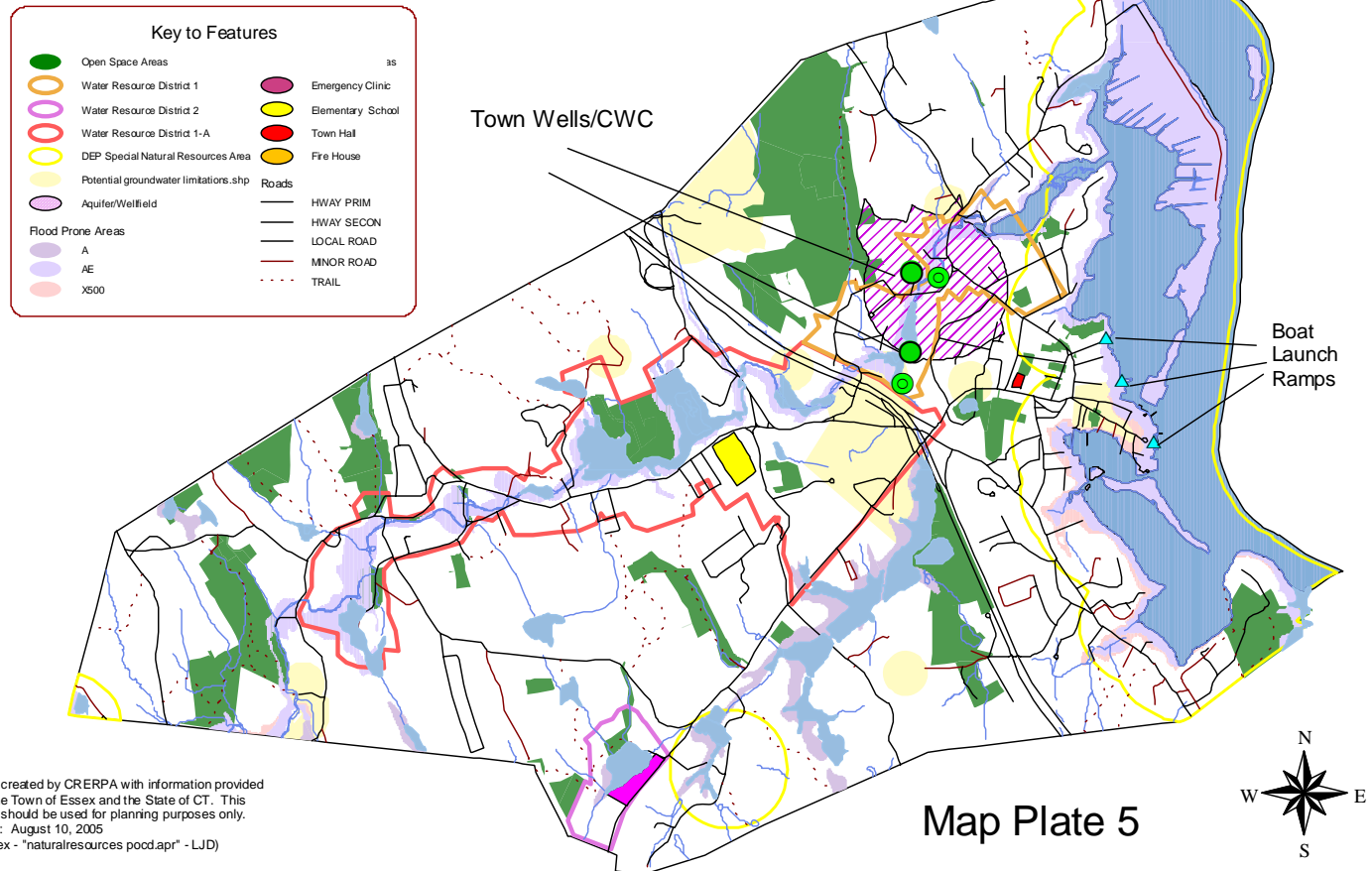
Overview

Like other Towns in southern New England, Essex has a diverse and interesting natural resource base. The variety of resources has significantly contributed to the Town's historical development. As land is developed for various uses, the integrity of the resources on the land can be altered with sometimes detrimental and costly impacts for the overall population. The description of natural resources within the Town is located in Appendix IV (See Map 5).

To conserve and enhance the natural beauty of the Town, promote protection of environmentally sensitive land and future public health, the following recommendations are made:

- A. Protect sources of drinking water and provide service to residential areas with insufficient water supply.
- B. Base growth policy on the ability of land to support on-site septic systems requirements. Insure compliance with state statutes, and local and regional regulations governing aquifers, tidal and inland wetlands, watercourses, special flood zones, Connecticut River shoreline and coves.
- C. Protect ridgelines and steep slopes from clearing and erosion.
- D. Encourage solar power alternatives and promotion of renewable forms of energy.
- E. Protect archeological and scenic resources.
- F. Manage and enhance Town trees by continuing to support increased funding for the planting of additional street trees and/or trees in other open areas of Town owned property.
- G. Encourage land use that conserves natural features and open spaces.
- H. Prohibit uses within zones that are not environmentally sensitive.
- I. Establish regulations that protect views, particularly those of the Connecticut and Falls Rivers.

Natural Resources, Town Facilities and Environmentally Sensitive Resources



Implementation

Accordingly, the following actions are required:

1. Protect Sources Of Drinking Water:
 - a. Utilize public funds either through special Town funding or grants to perform an in-depth hydrologic study and non-point source analysis of the Town to be utilized for all new development, including:
 - Depth to Bedrock
 - The delineation of areas adequate for on-site septic disposal
 - Depth to the water table and water table elevation
 - Hypothetical groundwater flow directions and gradients
 - Groundwater yields based on rock types
 - Potential sources of groundwater pollution
 - Distribution of certain chemicals in groundwater
 - Detailed analysis of bedrock and stratified drift aquifers
 - b. Utilize up-to-date technical and advisory information from the local utility water company.
 - c. Evaluate Town regulations based on the ability of the land to support water supply and on-site septic requirements.
 - d. Review with sanitarian and Connecticut Department of Health existing minimum building lot sizes in the various zoning districts based on the Net Buildable Area (NBA) concept for potential modifications to the standards. Net Buildable Area is defined as the amount of contiguous land on a given building lot that meets certain minimum standards. NBA, similar to another concept of Minimum Area of Buildable Land (MABLE) may not be conducive to cluster development design due to wetlands, steep slope, shallow depth to bedrock or ground water, flood prone areas, and/or low potential for on-site septic systems.
 - e. Direct development to areas where the soils are suitable for development. The USDA Soils Conservation Services publication, "Soil Potential Ratings: Septic Tank Absorption Fields for Single Family Residences, Middlesex County, Connecticut," will be used as a basis for developing density utilizing the concept of Net Buildable Area.
 - f. Periodically review land development in Town to assess the cumulative effect on the surrounding undeveloped areas and critical resources.
 - g. In lieu of septic systems, a study should be undertaken to determine the feasibility of small treatment systems dedicated to select village areas.

2. To insure compliance with State and Gateway Commission Regulations and statutes governing tidal and inland wetlands, watercourses and the Connecticut River shoreline and coves:
 - a. Review, consolidate, and modify upland review areas requirements in conjunction with existing quality of Town wetlands and watercourses.
 - b. Use slope stability and existing vegetation as a basis for reviewing the existing width of buffer zones, construction setbacks, or conservation easements along all watercourses and water bodies.
3. Protect Archeological And Scenic Resources:
 - a. As a supplement to the 2000 Open Space Plan:
 - Conduct a scenic vista inventory
 - Prioritize areas of conservation
 - Formulate and monitor a plan for their acquisition or dedication.
 - Develop regulations that protect and preserve the archaeological features of the Town.
 - Continue to apply for scenic roadway and highway protection.
 - b. Ensure that all existing public rights-of-way are usable, especially those for public access to the Falls River and Connecticut River as well as the three major coves.
 - c. Encourage the study of local history and environment in the school curriculum including links to Town GIS mapping.
 - d. Encourage preservation of farmland and ensure that regulations do not discourage agricultural uses.
 - e. Recognize woodlands as an important environmental asset through open space preservation and protection.
 - f. Mandate cluster development in all zones as discussed under "cluster zoning" to better preserve natural features and create more open space. Coordinate open space dedication to maintain or preserve forest canopy, ecological continuity, and provide adequate connectivity between existing and proposed open space areas.
 - g. Refer subdivision applications to the Conservation Commission for their advisory opinion regarding protection of natural resources and open space.
 - h. Review and revise as needed Town and subdivision road requirements to encourage more attractive streets and roads that minimize damage of natural resources and terrain.
 - i. Manage development in areas of scenic vistas to maintain at least 50% of the existing vegetation to screen and soften the view of the development.

This would be appropriate for views of Essex and public views from Essex's waterfront.

3. Provide Sound Management Of Trees:

- a. Continue public and private funding for the Street Tree Committee to plant, maintain and replace trees along Town roads.
- b. Seek funding from the Department of Transportation for the addition and replacement of trees along state highways. Scenic road designation is a valuable tool for ensuring the replacement or preservation of street trees on State Roads. Currently several Towns within the Estuary region have applied for scenic road status for Route 82, Route 148, and currently Route 154.
- c. Assist property owners in the purchase, care, and maintenance of street trees that may be located outside of the right of way and on private property.

4. Restrict Zones To Uses That Are Environmentally Suitable:

- a. Designate an Aquifer Protection Commission to develop an Aquifer Protection Program that will meet or exceed state mandates.
- b. In the zoning regulations, prohibit any new uses over an aquifer that have the potential of contaminating the aquifer.
- c. Reduce the amount of land that is zoned industrial in those areas that overlay the Town's coarse-grained stratified drift aquifers. Establish "floating zones" subject to design review for land over these aquifers.
- d. Limit the industrial zone in Ivoryton to those areas with existing industry and with undeveloped land within current industrial zones that contain soils suitable for development.

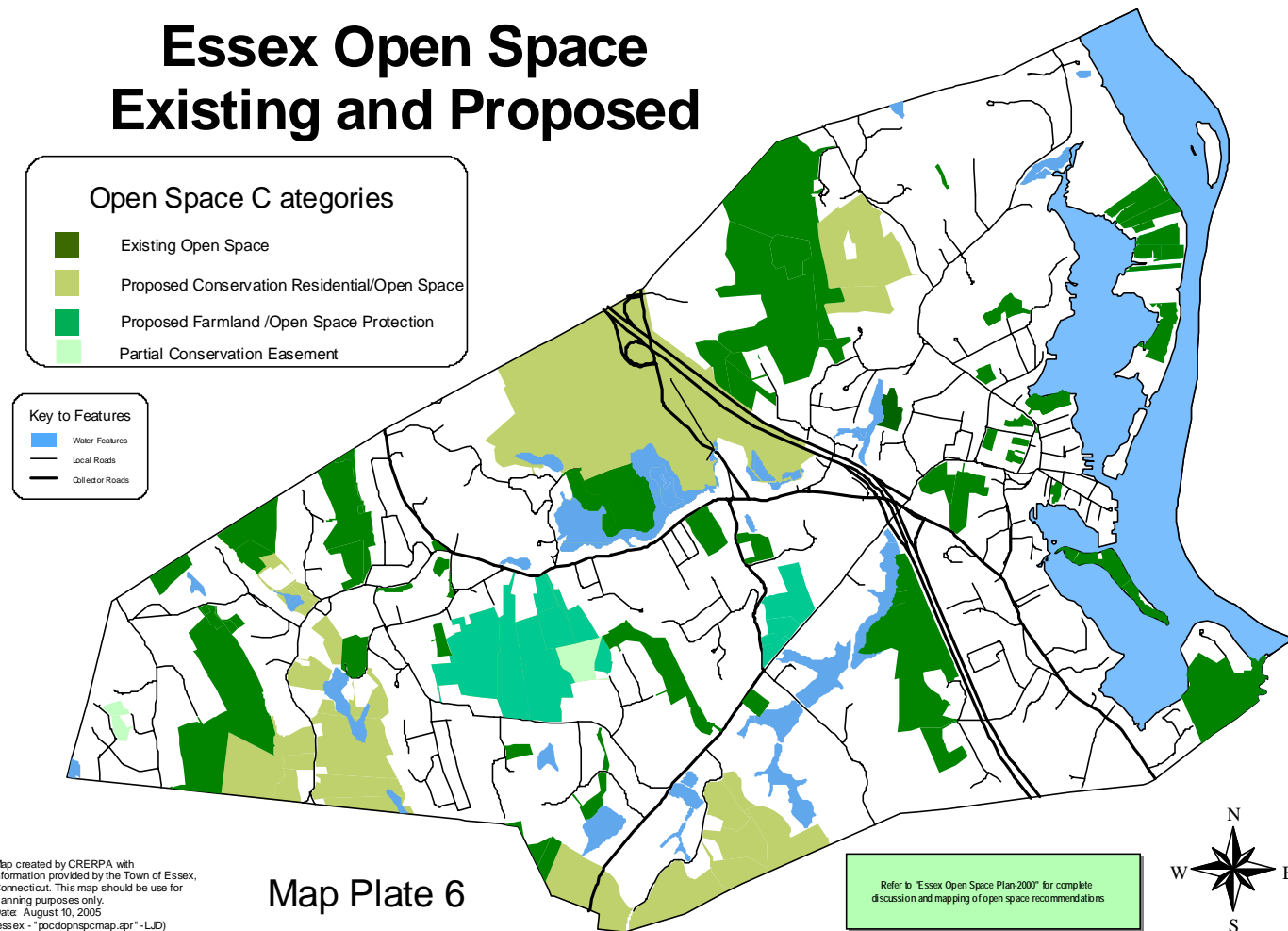
VI. OPEN SPACE

Overview

As a compliment to directing growth to the Primary Centers of Development, the goals of this plan are in tandem with the recommendations of the 2000 Open Space Plan to preserve open space, and minimize demand on the Town's infrastructure. The primary purpose will be to direct dedication of open space as envisioned in the 2000 Open Space Plan and also to further the continuity of open space. Open Space Preservation Cluster Zoning is generally applied to residential large tracts of land to promote dedication of open space. It is recommended that it also be applied to both commercial and industrial land where appropriate. To conserve open space and reinforce the rural and village atmosphere of Essex, the following recommendations are made:

- A. Endorse and adhere to the 2000 Open Space Plan. (**See Appendix II and Map 6**) for the acquisition and conservation of desirable open areas.
- B. Acquire open space with funds allocated in the capital improvement budget of the Town and through fees collected in lieu of open space within subdivisions.
- C. Encourage the conservation of privately held open space.
- D. Conduct a comprehensive review with an eye to potential revision of the Zoning Regulations and Subdivision Regulations to require open space preservation and clustering of structures for development where appropriate in each zoning district.
- E. Promote compact mixed-use development in the five Primary Centers of Development and Planned Design Districts to provide residential opportunities other than traditional residential subdivisions.
- F. Integrate open space within all future development with the land use proposals outlined in the 2000 Open Space Plan.
- G. Acquire open space at the "Gateways" to Essex to reinforce the rural character of the Town.
- H. Recognize and encourage understanding of Open Space Acquisition as an economic benefit to the Town.
- I. Note that while priority areas are outlined in the Open Space Plan, the plan also encourages acquisition of large parcels of land that may not be identified on the open space map.

Essex Open Space Existing and Proposed



Implementation

Accordingly, the following actions are required:

1. Revise the zoning regulations to require open space preservation/ cluster zoning and specifically write guidelines for the design of this type of development. Design regulatory language to ensure that open space preservation/cluster zoning also promotes mixed uses in the five Primary Centers of Development.
2. Coordinate all new cluster/open space zoning regulations with the 2000 Open Space Plan.
3. Endorse and adhere to the 2000 Open Space Plan for the Town that guides the acquisition and conservation of desirable open areas.
4. Acquire open space as Town property through:
 - Collection of fees in lieu of open space in subdivisions to augment the Town fund for open space acquisition.
 - Continued annual allocate funds in the capital improvement budget of the Town for open space acquisition.
 - Application to the State and private organizations for funding as appropriate for acquisition of open space property.

Conserve privately held open space by:

5. Encouraging landowners to preserve open space through acquisition, dedication, conservation easements, or transfer of development rights
6. Improve and publicizing existing property tax incentives available to owners for preserving open space.
7. Encouraging the acquisition of open areas within the Heritage Gateway Zone and the construction of pedestrian corridors through the Heritage Gateway Zone to connect Centerbrook, Essex, and Bokum Center and conservation areas.

VII. COASTAL AREA MANAGEMENT

Overview

The Essex Coastal Area Management Report (CAMR) was compiled in 1983 by Lord-Wood, Larson Associates, Inc for the Essex Planning Commission. As such, it is important in many land use decisions. This overview provides an encapsulation of the resources and recommendations within the 1983 CAMR, and various recommendations for future implementation the CAMR.

The Coastal Area Management Report for Essex is the initial element in the Town's Municipal Coastal Program. Therefore, the purpose and objectives of the Coastal Plan are best understood in context with the overall Municipal Coastal Program and the shared state/local coastal area, coastal boundary management system that exists in Connecticut.

A. COASTAL AREA MANAGEMENT IN CONNECTICUT

The basic concept underlying coastal area management, as embodied in Connecticut's Coastal Management Act (C.G.S. 22a-90 through 22a-114) can be summarized as:

- The coast and its adjacent waters are a uniquely valuable natural resource.
- The coast also possesses great value for a wide variety of competing uses-residential, commercial, industrial, recreational- which have exerted intense pressure for development
- Development of coastal areas unsuited for intensive use has resulted in damage to, or the loss of, natural coastal resources.
- Within the coastal areas best suited for development, many sites have been committed to uses that do not require a shorefront location, thus limiting future water dependent development opportunities.
- Improved public management of the coastal area depends on:
(1) adequate consideration of the capacity of natural resources to support development when planning for and regulating coastal uses; and
(2) improved coordination among the various governmental authorities sharing regulatory control over the coast.

Following on the initiative of the Federal Coastal Zone Management Act of 1972, the Connecticut Coastal Area Management (CAM) Program was established in 1975. A four-year planning process culminated in passage of the Connecticut Coastal Management Act, which took effect January 1, 1980. The Act defines the boundary of the coastal area, establishes policies to guide coastal development and sets forth the regulatory system to be employed to manage the coastal area.

1. ESSEX COASTAL AREA

The coastal area of the Town of Essex is comprised of four main areas:

- open water,
- fringing estuarine wetlands,
- river islands, and
- coastal uplands.

Topography within the CAM boundary lines runs relatively flat on the islands. Grade changes inland produce a gently rolling landscape of a predominantly 0%-15% slope with many valleys which drain into the river and one major tributary. The tributary, the Falls River has been drastically changed from the 1982 flood. Wetlands along the waterfront are influenced by both fresh and saline water. The Great Meadow is a pendant river bar affected saline water on the river's side and fresh water on the cove side.

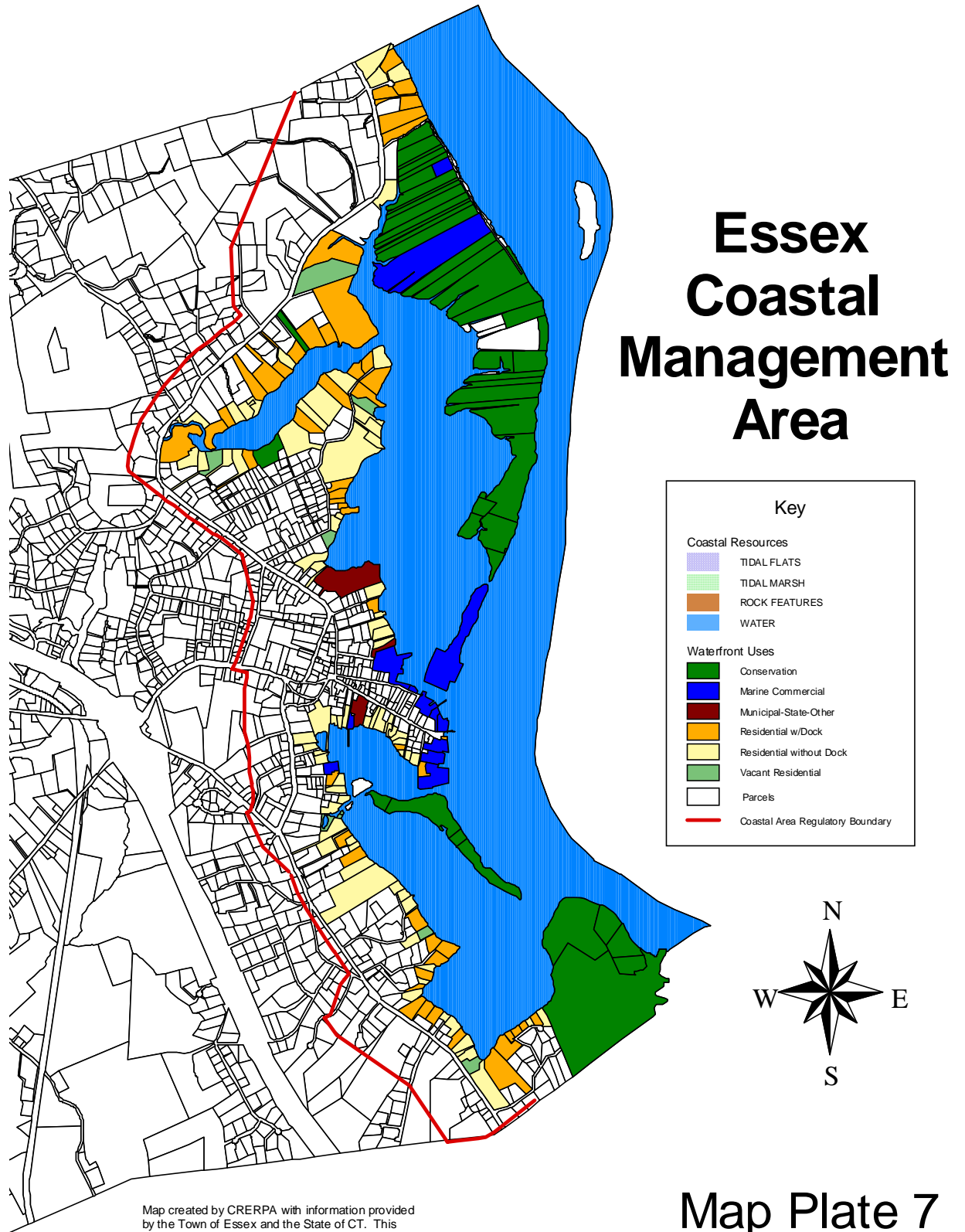
The Essex waterfront is made of several shore types:

- a pendant river bar,
- islands,
- river coast,
- brackish coves,
- a tributary river, and
- small streams.

In addition, there is developed shoreline in the form of private docks, marinas and moorings, and residential and commercial development. (See Map 7).

One of the purposes of the CAMR was to examine the growth and development of Essex in terms of problems and issues related to the frontage that the Town shares on the Connecticut River with 22 other Connecticut towns. The CAMR describes several issues and problems which are still relatively current to 2005:

- a. Much of the Essex waterfront is characterized by fragile soil types such as found on the Great Meadow and the shallow water of the coves, which separate the upland areas from the main river channel.



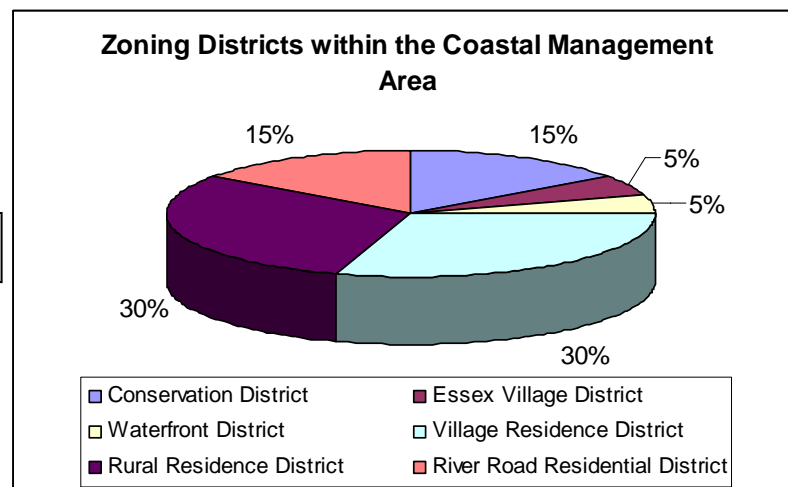
As a result, most development still occurs in Essex Village, the small finger of land which projects into the Connecticut River.

- b. As the River is a major attraction to both permanent residents and tourists, Essex Village has the highest density, the greatest traffic and parking problems and concentration of commercial uses within the coastal area boundary
- c. The limited number of viable harbors on the Connecticut River, plus the atmosphere of Essex Village draw an unusually large number of boating enthusiasts to Essex. This results competing interests of development and conservation along the waterfront.
- d. Increase the opportunities for environmentally responsible marine use through applications for funding from the State for public access and dredging.
- e. Pollution is a potential hazard on the Essex waterfront, because so much of the water adjacent to the uplands is in shallow coves not flushed by the river's flow. This condition has been compounded by lack of sewers on the land areas, combined with difficult soil conditions. The Town has taken great strides in strengthening the on-site septic monitoring for Essex Village. This technique has successfully supported sewer avoidance for the downtown area over the last ten years.

2. ZONING IN THE ESSEX COASTAL BOUNDARY

Within the Essex coastal management area there are six different zones. They include: the River Road Residential District, the Village Residence District, Essex Village District, the Rural Residence District, the Conservation District, and the Waterfront District. Of the six districts in the coastal management area, Essex Village District and the Waterfront District which permit commercial and water dependent commercial uses comprise 10% of the total land area within the CAM boundary. (See Figure 16).

Figure16



The other ninety percent of land use is dedicated to less intensive land use and 15% of that area, adjacent to the Connecticut River is zoned for conservation and owned in part by the a local conservation trust. The River Road Residential, a minimum three acre per lot zoning district, approximates 15% of the Coastal Management Area. The other 60% is Village Residence District and Rural Residence District allows residential structures on lots not less than 60,000 square feet and 60,000 square feet, respectively. Within these districts, certain more intensive uses are permitted by special exception. The Waterfront District permits various water dependent uses including: single family dwellings, marine dependent office uses, sail lofts, bait and tackle shops, brokerages for marine products, and by special exception boatyards for storage and repair, marinas, wharves and landings, yacht clubs, maritime museums, and water supply facilities.

The current uses and zones within the Coastal Area Management Area district are promoting the goals and objectives outlined in the coastal area management plan for Essex. There are various adjustments to the standards which would help mitigate potential impacts on the Connecticut River and adjacent tributaries.

- a. On Pratt Street, the Waterfront District boundary includes four upland parcels which are currently used for single family residential. While this is a permitted use within the district, the expansion of intensive development for marine dependent uses in this steep sloped area may produce environmental concerns. For that reason, maintenance of single family use should be encouraged by rezoning the four parcels to the adjacent Village Residence District.
- b. The Essex Open Space Plan notes that acquisition of property near or adjacent to waterways is important.
- c. The Essex Coastal Area Management Report provide specific technical data on the coastal resources with special emphasis on the resources of Great Meadow, a pendant river bar on the Connecticut River. While zoned a Conservation Zone, acquisition of property on this bar would ensure protection of this unique resource.
- d. Encourage role of the Harbor Management Commission in regulatory review as a means to preserving critical resources on the coastal waters.

VIII. ECONOMIC DEVELOPMENT

Overview

Over time, Essex has evolved into a community of three villages. The three villages consist of mixed land uses. Between the three villages, the Town is predominantly rural residential and suburban housing. One major exception is the large complex of retail and industrial land use on Route 153 on either side of the intersection with Bokum Road. Above all, Essex is an historic community with many colonial and federal buildings and picturesque tree lined streets in the three villages. With regulations and a population sensitive to historic land use patterns, the Town of Essex has been able to avoid the proliferation of large scale strip and big box commercial development within its boundaries in the last twenty- thirty years.

During the 1960s, zoning districts were established in order to control, focus, and guide development into areas which were felt at that time to be most appropriate. Since that time, a large amount of natural resource data has been developed which presents a more accurate picture of existing land within Essex and its relationship to natural resources. Areas zoned for commercial and industrial development as well as high density residential may not be environmentally appropriate for such development (See Maps 3 & 5).

A balance between land uses to assure minimal impact on the residential property tax burden should be maintained. Revenues in Essex come from two sources, Town taxes and governmental contributions. Overall, Town taxes are the primary source of operating funds for Town services and government.

To promote a healthy, sustainable economic base for the Town of Essex, the following recommendations are made:

- A. Strive for a tax base that obtains not more than 75% of its revenues from residential properties.
- B. Encourage commercial and office development both in the commercial zones and in part of mixed use development zones in the Primary Centers of Development.
- C. Encourage industrial development in the Light Industrial zone and to a limited extent in mixed use development in the Primary Centers of Development.

- D. Encourage retail development to serve both the local and tourist trade.
- E. Avoid tourist attractions that would change the character of the Town.
- F. Encourage re-development in existing structures in lieu of new construction.
- G. Discourage any development whatsoever that would turn Essex into a regional shopping or distribution center.
- H. Develop present commercial and industrial zones by determining the industry and businesses that provide the best tax return and then encourage their establishment or retention in Essex.
- I. Consult with the State Department of Economic and Community Development to develop a marketing and incentive program to attract appropriate commercial, industrial, and retail activities to Essex.
- J. An Economic Development Study is underway at the same time that this document is being published. Review and consider the final recommendations of the Economic Development Study. Incorporate sections as necessary and adopt the EDC plan as an addendum to this document.
- K. Provide tax abatements where appropriate for existing properties in existing industrial and commercial zones where structures need to be renovated, upgraded or expanded. This would provide incentive for redevelopment of existing structures, encourage property maintenance, and ultimately yield a stronger tax base.

Implementation

Accordingly, the following actions are required:

1. **Commercial and Office Space:**
 - a. Continue to encourage commercial development in the Route 153 area, as a Design Mixed Use District in conjunction with limitations from existing traffic volumes. Require that screen planting and berms be installed, along with parking in the rear, rather than in the front of buildings.

- b. Encourage the development and redevelopment of commercial properties that promotes pedestrian accessibility, side or rear parking, sidewalks adjacent to the road and leading to the storefront. (See Figure 17).
- c. Encourage commercial use in existing structures within the Villages, particularly upper floor occupancies over first floor retail space. Adaptive reuse such as that taking place at the EE Dickinson Factory should be strongly encouraged and supported throughout the Town.



Figure 17

Development in Centerbrook where sidewalk is adjacent to both the front of the building and the street.

Parking is on the side and rear of the building with connecting sidewalks.

2. Industrial:

- a. Encourage industrial use in the Light Industrial Zone. However, further development should be heavily screened from view.
- b. Require stringent site plan review standards for areas as noted for Planned Design Districts.
- c. Industrial development, should be carefully selected to allow for
 - Those companies that provide a high tax base with minimal service Demands,
 - "Clean" industry,
 - "High-tech" companies, and
 - "Incubator" facilities for start-up companies with modest future growth.

3. Retail Component of Commercial:

- a. Prevent the development of Essex as a regional shopping center and modify zoning regulations to encourage commercial, personal service, and business establishments scaled to serve Town residents rather than a regional base.
- b. Continue to encourage retail that services the local population in a convenient manner that minimizes trip generation within commercial districts or to other commercial districts.
- c. Revise zoning regulations to encourage retail use on the street floor of buildings in Essex village that are currently used as mixed use or commercial buildings.
- d. Discourage strip development. Encourage existing facilities within strip development to renovate exterior facades for continuity with historic and village character and provide pedestrian accessibility through well delineated street crossings, and sidewalks. In addition, street trees and landscaping should be encouraged to offer visual and structural continuity between the street and the building.
- e. Essex is a tourist destination. The waterfront, shops, and inns, the Ivoryton Playhouse, museums, the Steam Train, and the historic village "charm" are irresistible tourist draws. Tourism will be an increasingly important aspect of Essex's economic future. It will provide jobs, revenue for business, and a tax base from those stores that serve the tourist trade. Negative impacts arising from excess traffic and "pedestrian congestion" should be managed within the context of the proposed transportation study and the planning for the Design Districts.

4. Conduct an Economic Development Study to establish the appropriate long-term direction for Essex's economic base to include:

- a. Identify stakeholders in the Town's economic development process and their role in an overall plan for the Town's future economic growth. Review economic development impacts of various types of residential growth, open space acquisition, agriculture, and redevelopment as well as new building development as it pertains to Essex.
- b. Identify any study areas that may need to be addressed in the future.
- c. Identify the retail character of each village. Understanding the customer basis of the village retail core will help direct future efforts in marketing the area to village residents or visitors.

Each of the three villages has its own unique character. As part of the design planning for each district examples of uses within the districts might include the following:

Essex Village: Upscale specialty shopping and restaurants-
Encourage quality specialty shops to establish themselves here. Review the possibility of permitting additional retail along Pratt Street to provide a walking/shopping "loop" through the Village. This retail development should not preclude commercial or force out residential. A well-balanced mix is required to maintain Essex's character.

Centerbrook: General retail and services-
Continue to provide general retail and services with an eye toward Centerbrook's location, bracketed by Exits 3 and 4 off Route 9, and serviced by 153 and 154. Encourage further growth along with aesthetic improvements such as architectural face-lifts, landscaping, lighting and signage control, and power line burial. Centerbrook, as one of the "gateways" to the Town, should reflect our desired character and image.

Ivoryton: Antiques and Arts/Crafts-
Beyond providing "local" retail and services, Ivoryton might be considered as an antiques and arts destination. Ivoryton's charm is its location "off-the beaten path", its rich architectural heritage and its relationship to the Falls River. Advantage should be taken of all of this. To be viable for retail, Ivoryton needs an additional "draw"; to be a destination. A very significant "critical mass" of antique and arts shops in the lower Connecticut River Valley is developing. Ivoryton could capitalize on this. There are many existing structures that could be converted to these uses. Existing features such as the Copper Beech Inn, the Playhouse, and the Ivoryton Inn would help foster this development.

- d. Examine trade area and retail demographics for each village relative to the outflow or inflow of retail dollars for the Town. Look at ways villages can expand their trade area (types of businesses or industry, marketing, promotions).
- e. Evaluate the tax advantages to promoting redevelopment of existing structures within the commercial and industrial zones through modifications to zoning (Floor Area Ratio, Parking Standards, Site Plan

layouts) simultaneous with providing a short-term tax credit to property owners who reinvest in their buildings with updated improvement and rehabilitation work.

- f. Review utilities (electric, water, phone, cable access DSL access, potential problems with septic) for industrial parks and commercial areas (Understand limitations and how can the Town creatively overcome obstacles).
- g. Through interviews with public and business owners, identify those characteristics that serve to promote Essex as a place to do business.
- h. Identify festivals that help to promote Essex as a tourist destination. Examples of current festivals include; the Eagle Festival, the Ground Hog Festival, Lights in the Rigging Festival. Consider the possibility of integrating festivals into a regional tourism events calendar to coordinate Town activities with activities in other adjacent towns.

IX. HOUSING

Overview

To promote the historic patterns of housing mixed with commercial development in the village centers, to manage housing development in the rural areas of Town to preserve natural beauty and open space, and to encourage the addition of affordable housing that is integrated into our neighborhoods, the following recommendations are made:

- A. Continue to allow mixed residential use in commercial zones.
- B. Encourage and support affordable housing in Essex.
- C. Mandate open space conservation planning for new subdivisions in Rural Residential Districts, (i.e., cluster zoning).
- D. Make incentives available to encourage developers to include condominiums and affordable housing in subdivisions and mixed use developments.
- E. Conduct a build-out study of remaining vacant land in Essex where potential development could occur with an emphasis on affordable housing.

Implementation

Accordingly, the following actions are required:

To promote the historic pattern of housing development in the village centers and to promote affordable housing integrated into neighborhoods:

1. Modify the zoning regulations to allow accessory apartments to be incorporated into commercial buildings in the Commercial Village Districts as established by the Zoning Commission and where the soils will support the additional on-site septic systems.
2. Modify the zoning regulations to clearly define and allow one accessory apartment as an integral part of a primary owner-occupied residence, regardless of the age of the structure, where the soils will support the additional on-site septic system and off-street parking is available.

3. Encourage developers to include affordable housing in subdivisions and housing development with incentives such as reduced lot size and increased density where soils would support the increase.
4. Encourage developers to provide housing, including affordable housing, within walking distance of the villages and other two "centers", employment, and bus transportation.
5. Promote architectural design review for subdivision applications through residential design guidelines developed by the Planning Commission.
6. Identify specific areas where affordable housing would be appropriate.

X. INFRASTRUCTURE, SERVICES, AND GOVERNANCE

TRANSPORTATION

Overview

Transportation is the system of providing for the safe and convenient movement of people through the Town. The transportation system, including moving vehicles, pedestrians, cyclists, and parking areas takes into account people using the local facilities, traveling through, and movement of goods and services into and through the Town of Essex. It is important that various aspects of transportation work in harmony to promote the safe and efficient movement of people and associated goods and services through the community while also protecting the rural lifestyle and historic components of the Town.

Essex is located on Route 9, a limited access highway paralleling the Connecticut River and linking the lower Connecticut valley to the Capital region and other limited access highways. Routes 153 and 154 bisect the community providing additional access to the Town from other lower valley Towns and also acts as a bypass alternative connecting Interstate 95 to Route 9.

Implementation

Essex located near the center of the CRERPA region. Suburban land use patterns, commercial development, and tourism in the lower Connecticut Valley have the potential for significantly altering average daily traffic volumes. As Essex is centrally located within the region, with several state collector routes and a major limited-access arterial bisecting the Town, the roads in Essex act as a conduit to intra-regional traffic. **(See Map 8)**. Increases in residential, commercial and industrial development in the neighboring communities of Old Saybrook, Westbrook, and Deep River have the potential to significantly affect traffic and impact the quality of life for Essex residents. For instance, the goal to improve road capacity for new development could easily create intimidating conditions for the pedestrian or bicyclist. **(See Figure 18- comparative photos of two locations in Essex)**

Figure 18



Route 154 near Route 9 connects Ivoryton, Centerbrook and Essex Villages. The design, width, curbcuts and lack of markings in this section encourages high speeds and discourages pedestrians and bicyclists.



By comparison, this section leading to Essex Village has sidewalks, tree-lined streets encouraging slower speeds, pedestrian and bicycle use. Added markings for bike lanes would improve conditions for bicyclists.

Increases in traffic flow affect conservation, future development, and the quality of life of Essex residents. Additionally, future development and redevelopment in Essex should examine fully the inter-relationship of uses, site design, and existing traffic conditions when reviewing subdivisions and site plans. For these reasons, evaluation and discussion are key components of this plan and every effort should be pursued by Town and state officials to implement the recommendations outlined in this section.

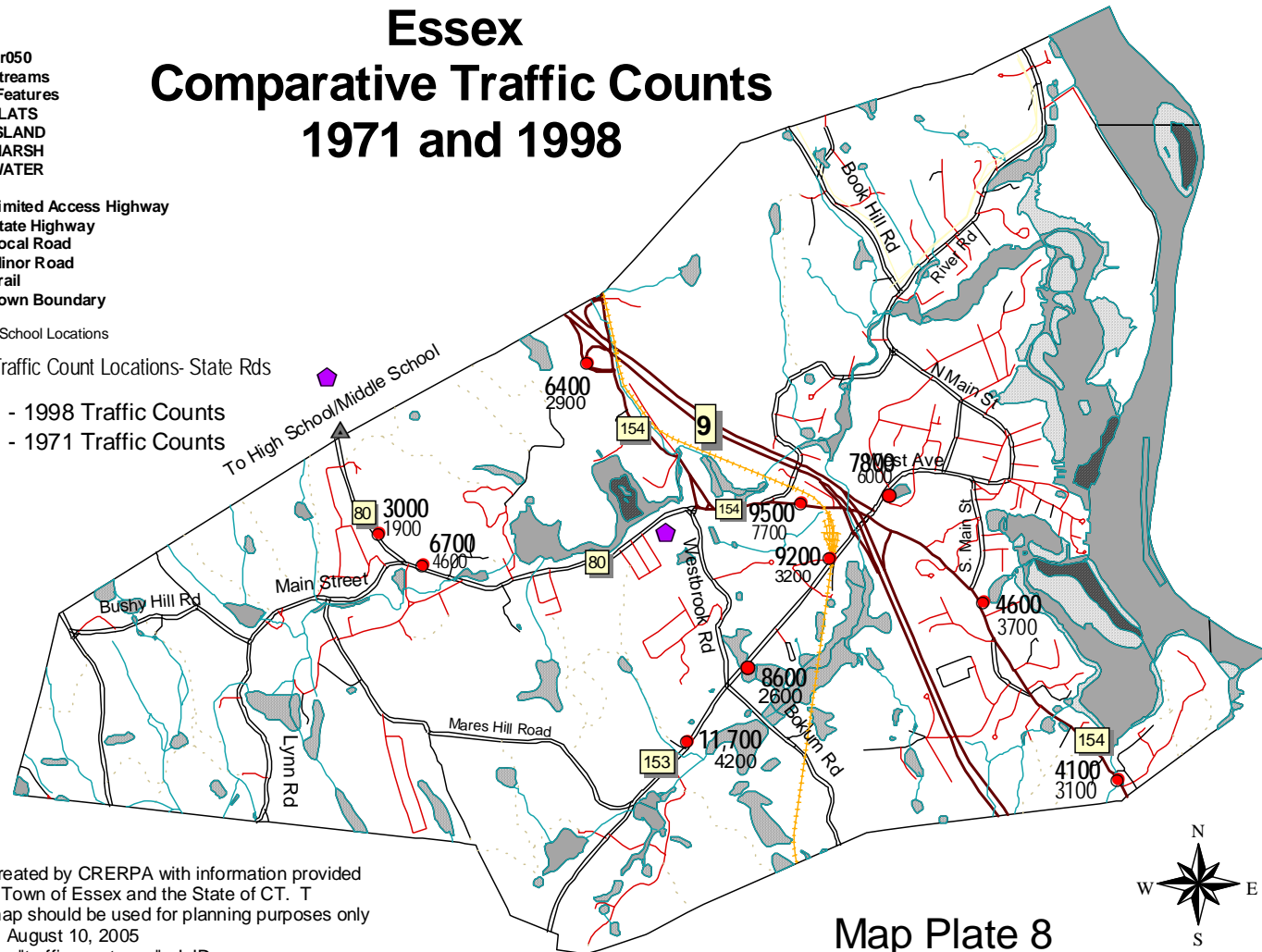
(See Map 8 & 9).

- A. Conduct a Town-wide study to ascertain the overall condition and level of service provided by State and local roads.
- B. Using this Plan of Conservation and Development as a baseline for the development goals of the Town, develop a Town-wide transportation strategy for future growth and localized development with a strong emphasis on maintaining and promoting the scenic and rural character of the Town.
- C. Encourage and ensure that Routes 153 and 154 are maintain scenic, two lane roads integrating transit options along these corridors to stabilize or reduce current average daily traffic volume.

Essex Comparative Traffic Counts 1971 and 1998

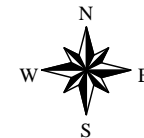
- Rr050
- Streams
- Water Features**
 - FLATS
 - ISLAND
 - MARSH
 - WATER
- Roads**
 - Limited Access Highway
 - State Highway
 - Local Road
 - Minor Road
 - Trail
 - Town Boundary
- School Locations
- Traffic Count Locations- State Rds

000 - 1998 Traffic Counts
000 - 1971 Traffic Counts



Map created by CRERPA with information provided
by the Town of Essex and the State of CT. T
This map should be used for planning purposes only
Date: August 10, 2005
(essex - "trafficcounts.apr" - LJD

Map Plate 8



1. ROADS

In 1971, Essex had 34.14 miles of local improved roads. Today, Essex's road systems is made up of approximately 41.25 miles of local improved roads, each of which serves a specific function in the Town's traffic flow system. A road system can either promote or hinder quality of life and emergency access for residents and business. Essex is included in the CRERPA –Metropolitan Planning District as established by the 2000 Census. Road classifications that were formerly considered rural are now classified as urban within the urban boundaries. The following categories are generally accepted and were used in preparing the recommendation in this plan. The accompanying map, **(Map 10)**, depicts the classification of roads within the community.

Expressways – Designed to carry large volumes of high speed, through traffic between regions and Towns. They afford no access to abutting properties and have grade separated interchanges with ramps providing the only access. (Example Route 9)

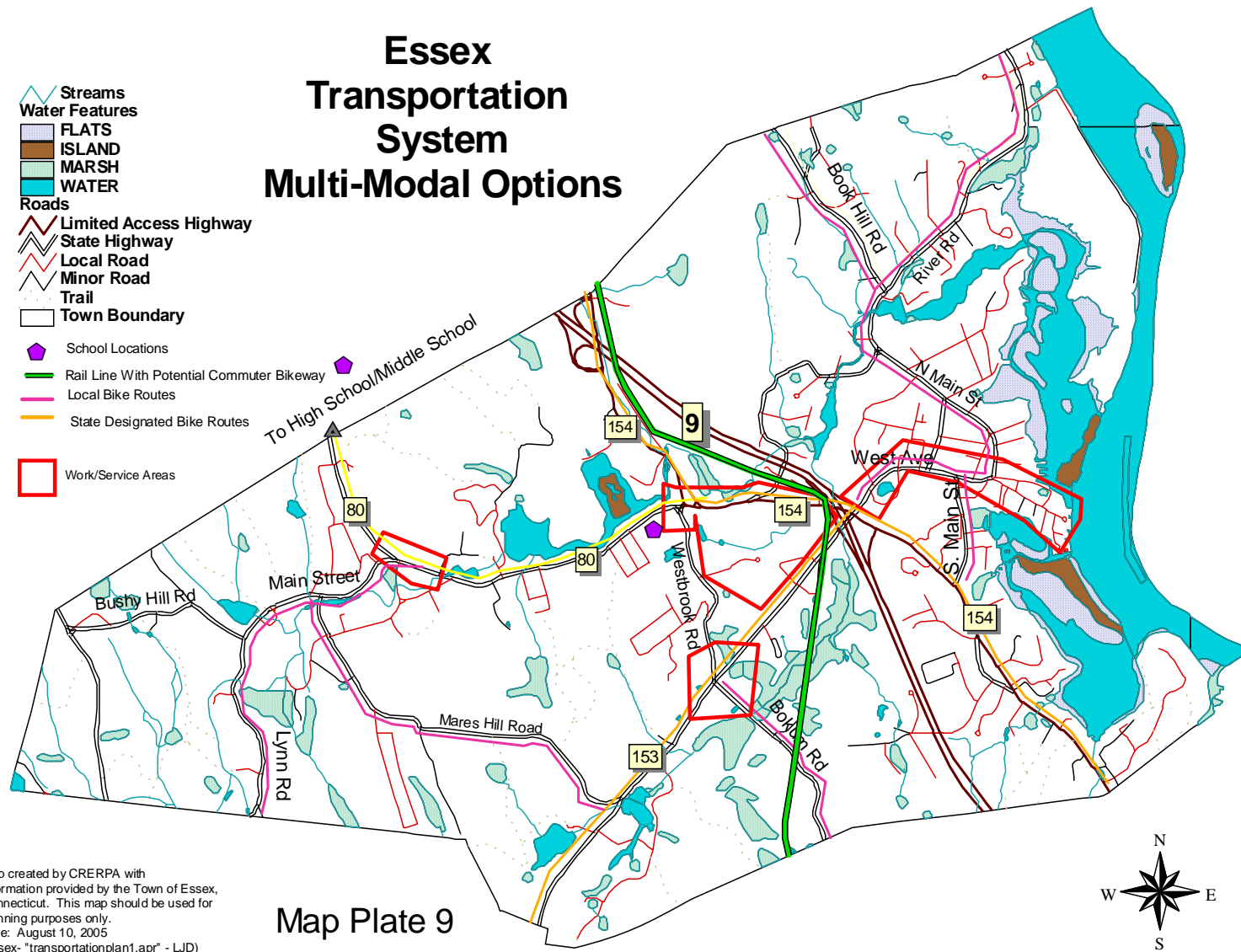
Arterials – Roads carrying heavy volumes of traffic, often providing access to expressways and connecting important points within the community. (Examples - Routes 154 and 153)

Collectors - Carries traffic between points in the community and collect traffic from residential neighborhoods for distribution to arterials and/or other points in the community. Some of these roads are in rural areas and carry only low volumes of traffic. (Example: Westbrook Road)

Boulevards – Similar to collectors, but minimize the impact on the slope and natural terrain and incorporate a center landscaped or tree-lined median and perimeter walkways or bikeways within residential neighborhoods or linking neighborhoods

Local Roads – Provide access to individual properties resulting lower average daily traffic volume.

Rural Collectors – These roads are located in largely unsettled areas and are intended to carry low volumes of traffic, but act as routes to carry through traffic from one section of Town to another.



Land use and growth patterns have the potential for increasing dependency on the automobile, thereby minimizing the options for other alternatives such as walking, biking, or using transportation. It is important to apply these categories in a manner that will provide an efficient and context sensitive road network as the Town develops. Given the continued growth in residential development, it is expected that new roads will be built to access undeveloped property. This can affect the hierarchy of roads by causing local roads to become collector streets and collector streets to become arterials.

Without consideration of multi-modal alternatives, current road construction and improvements, including widening or design criteria, can lead to isolations of structures and people. This section will describe current conditions on existing local streets and state roads and provide recommendations for future design standards, capacities, and classifications.

A. State Highways

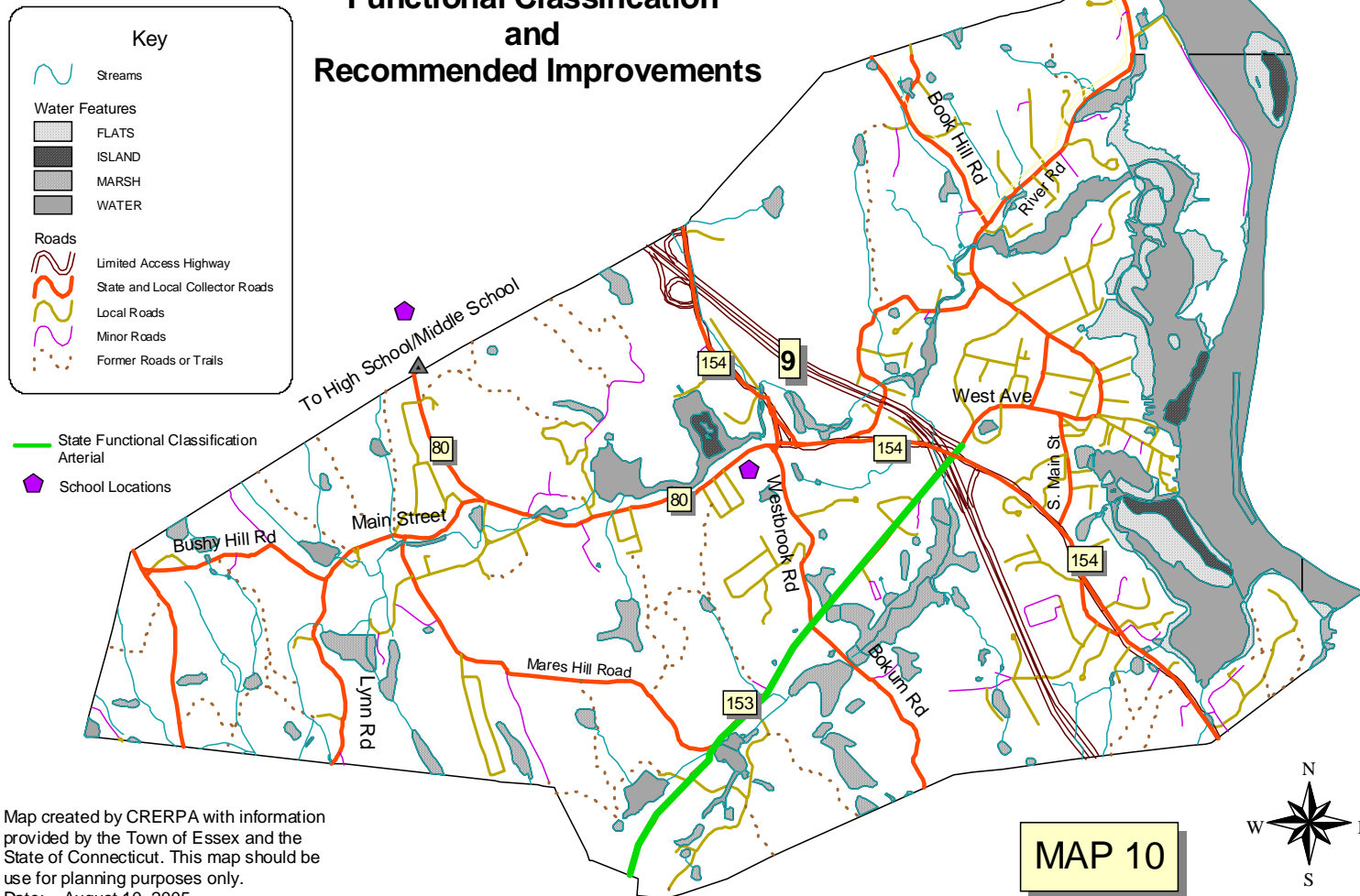
Overview

Approximately eleven (11) miles of Essex's roads are state-owned and maintained. These roads consist of two east-west routes (Route 153 and Route 80) and one north-south corridor (Route 154). Also, Route 9 is an important expressway which bisects the community in a north-south direction. Traffic on these particular routes has increased significantly over the last twenty years. Route 153 has experienced a significant increase in traffic. While comparatively, Route 80 saw on average a 45% increase in average daily traffic over 27 years, and Route 154 experienced a 24% increase in average daily traffic., Route 153 increased its average daily traffic volume from 178% south of Bokum center to 230% north of Bokum Center to 187% at the junction with the Essex Railroad. This route will not be able to sustain additional increase in traffic from commercial sprawl or a large residential development without a comprehensive transportation study funded by the Town.

Implementation

Examining options for future planning on state roads within Essex is difficult. To affect future policies regarding road upgrades, widening, or other design criteria for Routes 80, 153 and 154, Town officials and residents will need to be in agreement on goals and objectives for state roads within Essex.

Town of Essex Functional Classification and Recommended Improvements



1. In the past, Town has taken a position opposing the widening of state roads, specifically Route 153. Include options in any future transportation study for regulating development to prevent widening of this route.

Alternatives may include:

- designation as a scenic road
- changes to zoning districts
- regulations to minimize development within this particular corridor and
- working within the region to provide transportation alternatives.

2. Work with neighboring communities and within the regional transportation plan to assure that development in neighboring Towns does not increase traffic on Routes 80, 153 or 154 to the degree that either road needs to be widened. Route 153 has significant sections that are located in either flood-prone areas or within environmentally critical areas.

B. Local Roads

Overview

The CRERPA region is currently undergoing a transition from a rural transportation district to a metropolitan transportation district. This is based on the 2000 census population data. This designation may positively affect funding within the region, and yield more funding for local road programs. Examination of local traffic counts and right of way widths and potential for building multi-modal corridors indicates that local roads are important in the potential impact they have on traffic volumes for collector roads. An important component of urban designation is the categorization of local roads into arterials and collector routes. The designation of a road as arterial, collector or local can affect the design standards for road improvements and carrying capacity of the road.

Implementation

To promote a comprehensive transportation plan, the Planning Commission and Zoning Commission will need to:

1. Enact regulations to ensure road development that adheres to the long range transportation plan in conjunction with a transportation study. Some regulatory changes might include:
 - a. prohibiting lots smaller than 3-5 acres in size from being re-subdivided for road purposes.
 - b. limiting the number of lots on a dead end street.

- c. defining the difference between dead end streets and temporary dead end streets.
 - d. providing standards for road design that complement the rural character of the Town.
- 2. Coordinate future roads and/or site plans to improve existing circulation, minimize curb cuts and conserve scenic roads and highways.

2. MASS TRANSIT

Overview

- A. Shoreline Shuttle** - The shoreline shuttle service provides continuing service along the Route 1 corridor. The shuttle bus meets the Dattco bus out of New Haven in Madison. The shuttle also provides free transfers aboard the shoreline shuttle for monthly rail pass holders on Shore Line East rail service and Dattco bus service. The shoreline shuttle has stops at the Estuary Senior Center, the Old Saybrook Rail Station, Old Saybrook Stop and Shop, the Westbrook YMCA, the Westbrook Factory Outlet Mall and Subway Restaurant, Clinton Post Office Square, Clinton Crossing, Hammonasett State Park, Madison Rail Station, Madison Senior Center, and Concord Meadows and Scranton Gazebo in Madison.

The "Bus" has been renamed from the original Tri-Town shuttle. The "Bus" provides service to Chester, Essex, and Deep River on the same schedule as the Tri-Town shuttle, which is two days a week. Additional service, which the Estuary Transit District supports, is dependent on funding. Essex should provide support to expanded mass transit options for the Town residents. Bus services on routes that experience high traffic volume would alleviate average daily traffic volumes on those routes

- B. On-Demand Bus** -The Estuary Transit District provides a dial-a-ride service and a flexible route service which is an additional service to the "Bus". The dial-a-ride service is available through the Estuary Council of Seniors (ECSI) as a service to seniors and handicapped individuals. The flexible route service is available by using the "Bus" service and the Shoreline Shuttle.

- C. **Shoreline East** - Shoreline East is a commuter rail service funded by the Connecticut Department of Transportation. It provides train service Monday through Fridays in the morning and afternoon to and from New Haven to New London. There are stops in Old Saybrook and Westbrook. Old Saybrook has a larger facility for parking for commuters. Coordination with regional bus service would allow additional options for Essex commuters. Currently, there are no plans for weekend service for Shoreline East based on projected transit plans by the Department of Transportation.
The future of local rail transit is dependent on funding for additional sidings, and station improvements.
- D. **Amtrak** - Amtrak provides east coast service to the region. Amtrak junctions with local Shoreline East Service in Old Saybrook and New London and New Haven. Weekend rail service to the region is provided in the mornings, afternoon, and evenings in Old Saybrook. This service fluctuates depending on agreements with the Department of Transportation. Currently, Amtrak provides passage for Shoreline East commuters with monthly passes.
- E. **Essex Valley Railroad** - Essex Valley Railroad (**Figure 19**) currently functions as a tourist attraction during the summer with special events in the winter. There is a significant history attached to the railroad and it's survival through the era of dissolution of railroad companies is noteworthy.

In 1882, the Valley Railroad was owned by the New Haven Railroad. The incorporation was good for the Valley Railroad as the New Haven Railroad put money and improvements into the line. In 1999, an effort on the part of Middlesex County officials was initiated to fund a Hartford–Old Saybrook commuter railroad using the Valley Railroad as one piece of the connection. While it may take time to gain momentum for this plan, a commuter and freight rail line would greatly improve transportation alternatives for Essex residents and the business community. Any efforts to promote such an endeavor should be encouraged by the Town as part of long-range transportation alternatives.



Figure 19 – Essex Steam Train Depot with Conn. Valley 6

Implementation

To alleviate congestion on roadways, part of the long range planning for transportation in Essex must include components for mass transit. The Town should support actions within the region that expand the shuttle bus service to service Essex and Towns to the north of the shoreline, including marketing the “Bus” and the Shoreline Shuttle as a mechanism for moving tourists within the nine Town region. As part of the transportation planning for the Town, the following actions are recommended:

1. Explore and apply for Federal Transportation funding to install bus shelters at appropriate locations such as village centers, senior housing, and intersections with future bike trails.
2. Plan bike trails and future pedestrian corridors and sidewalk installation with consideration of linking to mass transit to assure continuity of transportation options residents and visitors.
3. Work with the Estuary Transit District and the Metropolitan Planning Organization to promote the expansion of service by the “Bus” into the four Towns of Essex, Deep River, Killingworth, and Chester to promote links to rail and tourism.
4. Support the extension of rail service by Shoreline East to alleviate congestion on Interstate 95 and provide more efficient alternatives to automobile travel in this transportation corridor.

5. Work with regional officials to extend the use of the Essex Valley Railroad and its associated rail line as a potential commuter rail and freight rail from Hartford or Middletown to Old Saybrook.

3. BICYCLES/ BIKEWAYS

Overview

Routes and Links – The State of Connecticut provides a map which delineates bike routes throughout the state. This is primarily limited to state roads. Local roads can often be a safer alternative to state routes, especially for family trips with children. Essex has a number of unique opportunities for both scenic and commuter biking. This would include River Road, Walnut Street, Mares Hill Road, Main Street in Ivoryton, Main Street in Essex, and South Main. In addition, several of the state highways in Essex are appropriate for biking with appropriate lane designation and signage. This would include Route 80 and Route 154. While Route 153 would be an ideal road for biking, current conditions and traffic volumes would preclude use of this corridor for biking and alternative connections to Westbrook should be explored until conditions improve.

Implementation

Essex should use opportunities through grant funding, Town funds, and transportation funding to improve signage and lane designation for bike lanes within the community. This could be done in conjunction by designing for lanes and signage during scheduled road improvements.

- a. The Town engineer, selectmen, and public works should coordinate with the CTDOT for the design of bike lanes when CTDOT when they initiate road improvements on state routes.
- b. Several Town roads are not conducive to bicycle traffic and cannot be widened to accommodate bike lanes. To promote use of bicycles as an alternative transportation source, the Town should participate in regional efforts to construct and maintain a bike trail from Chester to Old Saybrook adjacent to the Essex Valley Railroad line. This is especially critical for families with children and recreational bike traffic. (See Map 9).

4. PEDESTRIAN

Overview

Facilities for Pedestrians such as sidewalks, crosswalks, trails, and walkways, are the means for moving pedestrians from one location to another. Sidewalks provide a valuable alternative for transportation in small Towns. Despite the small Town atmosphere of Essex, average daily traffic volumes on roads that link the three villages is high. Safe pedestrian access has become a priority consideration for new development and redevelopment.

Implementation

- a. It is strongly recommended that sidewalk and trail connections be constructed to link the three commercial centers. This is especially true on high volume roads such as Westbrook Road, Route 153, Main Streets in Centerbrook, Ivoryton, and Essex. These areas are outlined in Maps 9 and 10.
- b. Additionally, future development should be required through regulation to install sidewalks on the property road frontage.
- c. Residential subdivisions should incorporate trails or sidewalks on one side of the right of way throughout the subdivision.
- d. Trail Installation
- e. It is strongly recommended a conservation focus on "greenway" corridors throughout the Town becomes a priority of open space acquisition. Public open space and private open space rights-of-way could link three villages, especially along waterways, such as the Falls River, and would greatly benefit the community. Beyond the aesthetic impact, it would provide areas for hiking, jogging, bicycling, and play, particularly if these corridors could link playgrounds and parks. There is relatively little public access to the Connecticut River. Consideration might be given to link these "greenway" corridors with trails along the River, perhaps from the North Cove area at the Falls River outlet into Essex Village.

5. PARKING

Overview

Parking is generally a source of frustration for residents, commercial property owners, shoppers, and Town enforcement officials. While there are parking standards for various commercial businesses, the actual size and use of the parking area is generally dependent on the success of the business. An example of over regulating is parking for a restaurant. While the regulations generally dictate a number for the patrons at the restaurant, the hours of the restaurant are such that the parking area is a large unattractive asphalt lot for most of the day. If the restaurant is successful, the parking may be too limited. Predicting the required parking for commercial uses is often difficult. The most common technique and one that is in harmony with the recommendations within this plan is to develop shared parking regulations in conjunction with compact commercial development.

Implementation

Considering the future of development as recommended by this plan, the following actions for parking strategies are:

- a. Conduct a Town-wide comprehensive parking study as part of the comprehensive transportation plan. Within the study, examine ways to maintain municipal parking in the village areas at its present level in addition to opportunities for shared parking. Promote remote parking with shuttle bus service to the three villages.
- b. Study the possibilities of creating a shared parking overlay for each design district or village which counts parking spaces in a walkable geographic area rather than on a lot by lot basis.
- c. Within larger commercial retail developments, consider implementing a shared parking requirement for the uses in the development to assure that parking is used to its maximum potential during all hours of the day. This would include zoning techniques which encourage mixed use development.
- d. Provide comprehensive landscaping techniques which break up large areas of asphalt and provide shade trees to minimize heat islands within commercial developments or the three villages.
- e. Enforce the two-hour parking regulation currently in effect in Town.
- f. Require employees of commercial and retail establishments in the villages to park in assigned lots, not on the streets. This could be accomplished through leasing agreements with tenants in commercial buildings.

B. CAPITAL IMPROVEMENTS/ TOWN SERVICES

1. TOWN HALL

Overview

The Town hall is located in Essex Village at the intersection of West Avenue and Grove Street. Built in the 1920s, it is centrally located on a one acre site in a three story building. The location provides a municipal focus with the Town Hall's proximity to a park, the Library, tennis courts, and the sidewalk to downtown Essex Village. The Town Hall houses the offices of the Selectmen, Town Clerk, Assessor, Tax Collector, Building Department, Planning and Zoning, Sanitarian, Social Services, Resident State Trooper, Judge of Probate, Fire Marshall, Dog Warden, and Agent for the Elderly. A large auditorium is located on the ground floor and several small meeting rooms are located on the second floor of the building, accessible by an elevator.

Implementation

Existing space needs to be evaluated and a detailed space needs study would provide an understanding of future space needs for the Town. Based on recommendations from the 1991 Plan of Development, second floor meeting rooms and the garage area are designated as future expansion areas.

2. PARKS/ RECREATION

Overview

Open space is land which has not been developed or has been minimally developed for organized or active recreation. This type of land use contributes to the Town character and uniqueness. The overall intent of planning for open space is to create an environment that continuously enriches the lives of the Town's residents.

This section on parks and recreation has been included in the capitol improvements section due to the financial investment and planning that are required for active recreation facilities and formal parks. As such they should be included as part of any future open space plan to ensure connectivity.

In March 2000, the Essex Open Space Plan Subcommittee approved the "Essex Open Space Plan". (See Appendix C) It includes recommendations for open space acquisition, but additional study is required for future requirements for playground, ball fields, and other cost intensive recreational development.

Implementation

Both active and passive recreational parks are important to the vitality of community life within Essex. Currently, there are 70 acres (includes 30 acres in Viney Hill Brook) of protected active open space in Essex which includes recreational areas such as ball fields and parks. This accounts for approximately 1% of the total land area of the Town. Current recommendations for capitol investment for active recreation include:

- a. Improve and maintain existing recreation areas.
- b. Develop a comprehensive recreation plan for a park at Viney Hill Brook.
- c. Provide permanent public restrooms on Essex Main Street and Town Hall site.
- d. Assess feasibility of public restrooms in the other villages.
- e. Provide new and improve existing recreation areas.
- f. Develop and implement an improvement plan for existing recreation areas.
- g. Develop a recreation complex with a swimming area at Viney Hill Brook.

3. SCHOOLS

Essex has one elementary school which is centrally located in the village of Centerbrook. Currently, the regional middle school and high school in Deep River are in reconstruction to provide additional space and upgrades. Essex has a long term plan for improvements to the elementary school. It is recommended that the Board of Education and the Selectmen evaluate land acquisitions to ensure there is adequate area for future recreation fields and any potential future expansion of the elementary school.

4. SEWER/ON-SITE SEPTIC

Manage development to avoid a large public sewer system and control the impact of development on municipal services. Additional study of this issue is warranted as residential development pressure continues to increase.

- a. Continue to pursue an active sewer avoidance program as outlined in the Fuss & O'Neill report from 1998 and continue to follow the Wastewater Management Plan and Ordinance.

- b. Manage development to avoid public sewers and to control the impact of development on municipal services.
- c. Conduct a study of residentially zoned areas to evaluate the carrying capacity of land for residential development and the extent of the density allowed by the soils.
- d. Conduct a study for future feasibility of limited sewer system for problem areas with a high population density if necessary.

5. WATER SERVICE

Currently, areas of Essex are served through a private water company, the Connecticut Water Company (CWC). In 1999, the CWC finalized a comprehensive Water Supply Plan for the service areas in Essex and surrounding Towns. While the CWC had earlier proposed a water tower to serve one of these areas, public opinion at the time was opposed to the construction. Since then it has become evident that the problem of water pressure and volume increases with each new development. For this reason, the following recommendations are made:

- a. Conduct a water supply review for areas outside of the Connecticut Water Company Service area to ascertain the need for supplemental water service.
- b. Enact standards within the Subdivision and Zoning Regulation requiring water service extensions or private water supplies by developers of subdivisions especially in cluster developments.
- c. Review the option of using public funds to improve water service to existing development with water quality or quantity problems.

6. UTILITIES

Within historic areas, special design areas, and other select locations, consider the option for underground electrical service and replace street lighting in a manner to improve overall aesthetics and architectural character.

- a. Selectively retrofit the street lighting, particularly in the Essex and Ivoryton Villages to more "traditional", lower fixtures for greater aesthetic appeal.
- b. Encourage burying power lines, particularly in the Villages. This would have a significant aesthetic impact on the historic image and character in these locations.

7. EMERGENCY SERVICES, HAZARD MITIGATION, AND DOMESTIC PREPAREDNESS

The Town has a comprehensive Emergency Management Plan that is reviewed and updated as required by the Emergency Management Official. Essex is serviced by 911 for all emergencies.

Police: Essex has a Resident Trooper, three full time constables, and several part time constables. The police parking and station is house in the ground floor of the Town Hall.

Services: There are various community services available in Essex. The Visiting Nurses Association is located in Centerbrook and provides skilled nursing and health services to the community. The Community Renewal Team Inc. Middletown Division provides social services, including early childhood, employment, education and nutrition programs; energy, housing and some emergency services. The Middlesex Hospital-Shoreline Medical Center located on Westbrook Road, provides out-patient and emergency services to the area residents.

Fire: The Essex Fire Engine Co. # 1 has been an all volunteer department since 1833. The department currently has 60 senior members and 6 junior members. The organization responds to fires, Hazmat, water rescue and medical calls. The department is the first responder for the Town. Currently, there are four engines, a ladder, a tanker, a brush truck, a heavy rescue vehicle, a light rescue vehicle, and a fire boat. The department operates out of two stations in Town. The department also responds to emergencies in surrounding Towns under various mutual aid agreements. In 2002, the fire department responded to 838 calls, with an average response time of 2 minutes, 47 seconds.

Ambulance & Paramedic: The Essex Ambulance Association has historically provided ambulance service from its headquarters at Dennison Road. Early in 1986, Middlesex Hospital began to implement a hospital-based paramedic program. Essex Ambulance Association currently works in partnership with Middlesex Hospital's paramedic program. The Middlesex Hospital Paramedic Program continues to re-evaluate its services in order to better meet the needs of the towns.

8. HAZARD MITIGATION

Currently, the Town is part of a regional effort to create a Hazard Mitigation Plan for the nine individual Towns within the region. The primary purpose of the hazard mitigation plan is to identify hazards or risks, existing capabilities and activities which can be undertaken by the communities within the region to prevent loss of life and reduce

property damages associated with natural hazards (See Figure 20). There is a distinct difference between hazard mitigation and emergency operations planning. While emergency operations planning focuses on infrastructure and the ability or personnel and equipment to react to natural or manmade disasters, Hazard mitigation planning targets advance planning and implementation of strategies to reduce the loss of life and property damage.



Figure 20 – Essex Boat Works in CT River flood event – 1955 (W. Olson)

As evidenced in 1936, 1938, and especially in 1982, flooding is an important hazard for mitigation planning within Essex. The Federal Emergency Management Agency (FEMA) has provided baseline information to demonstrate areas within Essex that are vulnerable to flooding. This includes Flood Insurance Rate Maps, Flood Boundary and Floodway Maps, and Flood Insurance Study. These materials were last updated for Essex in 1986. The 100 year flood zone indicates that a flood has a 1 in 100% chance of occurring in one year. The draft Essex Hazard Mitigation Plan provides various measures to mitigate the potential damage from flooding and other natural hazards. In the event that the Hazard Mitigation Plan is approved after the adoption of the 2003 Plan, it is recommended that the Hazard Mitigation Plan for Essex be included as a future Appendix VI.

9. DOMESTIC PREPAREDNESS

Another aspect of emergency planning is the domestic preparedness for emergencies that occur due to human error, accident, or terrorism. The Town of Essex is actively participating in an update to the Town-wide Emergency Management Plan to include provisions for domestic preparedness, specifically terrorism and bio-terrorism. It is recommended that the Town participate in regional solutions for preparedness.

GOVERNMENT SERVICES

The Town of Essex municipal government has excellent staffing and provides ongoing daily service to a Town population of 6505 persons. As Essex continues to grow, the need for additional staffing in critical areas is recommended for protection of overall community development. These recommendations include:

- a. Hire a planning consultant for guidance on future comprehensive zoning revisions.
- b. Hire a consultant to assist in the establishment of Historic Districts and future administrative guidelines.
- c. Utilize existing relationship with the Connecticut River Estuary Regional Planning Agency as a planning consultant for large planning studies.
- d. Consider a full-time land use assistant to work under the direction of the Zoning and Land Use Official to help coordinate administrative details with all of the land use commissions and provide support to the ZBA and Building Department in field review of minor zoning applications.
- e. Consider hiring a Park and Recreation staff person to oversee Town-owned open space and conservation easement lands, promote park and recreation programs, and facilitate grant applications for the Town
- f. Insure adequate funding to create a position for a full time Town engineer.

XI. CONCLUSION

A Plan of Conservation and Development can be no better than a town's commitment to it. The residents, together with the elected and appointed officials within the Town of Essex, form a community with a firm foundation of commitment which will prove to be a major factor in the successful execution of this Plan.

As the pressure of increasing population and congestion closes in on us, the task of preserving our environment and quality of life will become more difficult. In order to meet the challenges of this changing social climate and to achieve the results desired by our vision of Essex, the Plan proposes many recommendations that are outlined in Appendix III. Appendix III provides the recommendations listed in this plan grouped by the board or commission. This particular appendix illustrates how boards and commission can work together to promote sustainable growth for the Town.

To summarize the goals outlined in Part II, the overall goal of the Town in the next ten to twenty years is to protect the remaining valuable natural resources of our community. In conjunction with future residential, commercial, and industrial development, the Town seeks to sustain the historic character of each of the three villages. Moreover, Essex wishes to promote development which will protect resources and enhance its residents' economic and environmental quality of life.

PART FOUR APPENDICES

- APPENDIX I: POCD 2002 SURVEY
- APPENDIX II: ESSEX OPEN SPACE PLAN (This is a separate document on file in the Zoning Land Use Office)
- APPENDIX III: IMPLEMENTATION BY COMMISSION/BOARD
- APPENDIX IV: NATURAL RESOURCES
- APPENDIX V: ESSEX NATURAL HAZARDS MITIGATION PLAN (Pending Approval)
(This is a separate document on file in the Zoning Land Use Office)

APPENDIX I POCD 2002 SURVEY

PART ONE - ABOUT YOURSELF

Please tell us something about yourself. This survey is designed to protect your privacy, but it is helpful to know the concerns of different age groups and neighborhoods.

1. In which area of Essex do you live? (check one)

223 Essex Village **30** Centerbrook **69** River Road area
170 Ivoryton **25** Mares Hill **12** Plains Road area
8 Other (Where _____)

Blanks – **3**

Nonblanks - **565**

2. Are you a full time resident? Yes 555 No **25**

Blanks - **1**

Nonblanks - **567**

3. How many years have you lived in Essex?

Less than 3 years **109** 3-9 years **179** 10-25 years **174** 25 or more **140**

Blanks - **29**

Nonblanks - **538**

4. Where was the last place you lived before you came to Essex? Blanks **29**

NonBlanks - **539**

5. What is your age?

Under 35 **-52** 36-50 **-180** 51-64 - **177** Over 65 **183** Non Blanks-**537**

Blanks - **1**

6. Your place(s) of employment?

199 - Retired **92** - work in Essex **55** work at home

37__work outside Essex If outside, where? _____

Blanks - 9

Non Blanks - 559

7. How important were each of the following to your choice of Essex for your home

	most important	important	not important	B	NB
low density population	299	227	27	33	535
village atmosphere	369	170	23	33	535
natural resources	284	198	52	59	509
potential for economic devel	38	127	363	63	505
location relative to employment	106	165	259	61	507
schools	166	190	174	61	507
taxes	220	255	66	48	520
level of services	102	266	147	75	493
born/grew up here	45	45	232	257	311
other _____					

PART TWO - PLEASE TELL US WHAT YOU THINK ABOUT YOUR TOWN?

8. The Town has some ability to direct growth through its land use commissions. Do you feel these town agencies should (check one)

30_ ENCOURAGE FUTURE GROWTH B- 9 NB 559

375_ LIMIT FUTURE GROWTH

170_ DISCOURAGE FUTURE GROWTH

9. To what degree should the following land uses be encouraged/discouraged in Essex?
(Choose one answer for each use - 1, 2, 3, or X)

	encourage - 1	limit -2					
	discourage - 3	no opinion - X	1	2	3	x	B NB
_____ single-family residential			207	259	77	0	80 566
_____ multi-family residential			46	164	325	19	87 559
_____ commercial			69	299	174	15	86 560
_____ industrial			68	219	255	14	84 562
_____ conservation land			463	62	23	20	74 572
_____ active recreational facilities			314	171	50	25	80 566
_____ passive recreational facilities			382	109	21	37	90 556
_____ marine facilities			191	231	80	44	93 553
_____ other? (specify) _____							568 78

10. Do you feel there is a need for more housing alternatives other than single family homes in Essex? **268** Yes **279** NO

If yes, what type of housing?

	Yes out of 547
_____ elderly housing	108
_____ accessory apartments	34
_____ low and moderate cost housing for families	30
_____ cluster housing/conservation subdivisions	68
_____ apartments	67
_____ town houses and condominiums	37
_____ multi-family homes	62
_____ rental houses	14
_____ other	

Comments? _____

11. Would you support the expenditure of town funds in support of affordable housing?
140 Yes 364 No 64 No opinion

12. What is the best location for additional commercial development?

10 Essex Village	76 Bokum Center (Route 153)
18 Ivoryton Village	37 Westbrook Road (Route 154)
1 Waterfront	6 Other
211 do not want additional commercial development	

- . If you would like to see additional commercial development, what type?
(grocery, hardware, clothing, pharmacy, automotive, banking, restaurant, etc.)
-

13. Where should additional industrial development be located?

20 Bokum Road
33 Plains Road (Rt 153)
7 Ivoryton
3 waterfront
122 redevelop older existing sites
3 other? (specify) _____
225 do not want additional industrial development

If you would like to see additional industrial development, what type?

14. Do you feel that tourism has a positive or negative influence on the quality of life in Essex? 397 Positive 128 Negative _____ Comments
Comments? _____

15. Do you feel that recent development in Essex has been in keeping with the character of the town? 341 Yes 173 No
Please explain _____

16. Are there any aspects of new development which you feel should receive more attention from town officials? 225 Yes 157 No
Please explain _____

17. Should town officials consider establishing historic districts or creating a design review board to influence architectural design of new structures and additions?

384 Yes 170 No

18. Do you favor the expansion of marine related activities and increased boating in Essex harbor? 200 Yes 349 No

19. Open space is land which is protected against future development in order to preserve natural resources or provide recreational opportunities. Do you think the town of Essex

128 Has enough open space 419 needs more open space

20. Please indicate how important each of the following open space categories is to you.

Very important - 1

Important - 2

Not important -3

1 2 3

210	195	151	_____	active recreation (ballfields, biking, tennis, pools)
374	161	31	_____	passive recreation (walking trails, nature preservation)
389	138	30	_____	protecting wildlife habitat
377	137	25	_____	protecting streambelts
420	119	23	_____	protecting tidal and inland wetlands
390	130	33	_____	protecting the Falls River corridor
420	107	24	_____	protection of aquifer areas
299	170	73	_____	protection of ridges and hilltops
458	89	23	_____	protection of town aesthetics and character
165	198	191	_____	provide greater river and cove access
111	186	252	_____	provide greater boating and fishing access
336	143	71	_____	protect large unfragmented tracts of land
6	1	1	_____	other (specify)

21. Do you think the town should use taxpayer money to buy and maintain additional open space? 394 Yes 127 No 59 No opinion

22. Do you feel that there are specific properties that should be targeted for conservation in the event that they become available?

Yes - 224 No - 79 No opinion - 239 blank - 98

If yes, which properties or areas? _____

23. Do you feel town services are adequate?

Yes - 409 No - 134 No opinion

If no, where can we improve? _____

25. Do you see a traffic problems with our roads?

Yes - 302 No - 254 Blanks Non Blanks

If yes, which roads are most in need of attention? _____

26. Would you support an initiative to designate any Essex roads as “scenic roads” to protect their scenic character? Yes____ No____ No opinion____
If so, which road(s)?_____

28. What single capital improvement do you feel should be our most important priority? (i.e. schools, roads, sewers, recreational facilities, open space)

29. What **PROBLEM** would you most like to see you local government solve?

30. What do you like **BEST** about Essex? _____

31. What do you like **LEAST** about Essex? _____

Additional comments: Please feel free to attach additional sheets of paper if necessary.

APPENDIX II ESSEX OPEN SPACE PLAN

(This is a separate document on file in the Zoning Land Use Office)

APPENDIX III

IMPLEMENTATION BY COMMISSION/BOARD

Recommendations for Implementation by Commission/Board TASK LIST

Recommendations within the 2004 Essex Plan of Conservation and Development (POCD) are listed here in a format which encourages specific boards and commissions to review what actions can be taken to achieve the goals listed within the Plan. Some recommendations are listed under two or more commissions or boards. These recommendations will require the cooperative efforts of two or more town boards or commissions. This appendix can be detached from the main 2004 POCD document for ease of reference. Where differences in interpretation occurred in the enactment or understanding of these tasks or actions, consultation with the goals and language of the main document (2004 Plan of Conservation and Development) should occur.

Planning Commission (working in cooperation with Zoning Commission and other boards)

1. Review subdivision regulations and open space development standards to include more stringent natural resources protection and consideration for additional open space conservation land up to 50% of the development acreage. An important consideration for both zoning and subdivision regulations is enacting view protection in context with building height.
2. Add language to the zoning and subdivision regulations which requires stringent landscaping and signage standards and maintenance of site plan amenities, traffic volume, flow and management, and architectural review of building structures.
3. Evaluate options for a limited term moratorium on subdivision applications to fully evaluate provisions for soil-based zoning in cooperation with the Zoning Commission, road and drainage design, and a percentage of open space dedication for cluster subdivisions.
4. Organize in conjunction with the Zoning Commission, the Board of Selectmen, and the Historical Society, the establishment of architectural design controls for specific zones with historic structures.
5. Require that new names for streets, and/or subdivisions (or any name changes), reflect the Town's history and environment
6. Enact regulation which protect ridgelines and steep slopes from clearing and erosion
7. Encourage solar power alternatives and promotion of renewable forms of energy
8. Protect archeological and scenic resources.
9. Encourage land use that conserves natural features and open spaces.
10. Periodically review land development in Town to assess the cumulative effect on the surrounding undeveloped areas and critical resources.
11. Promote architectural design review for subdivision applications through residential design guidelines
12. Enact regulations that prohibit lots smaller than 3-5 acres in size from being re-subdivided for road purposes
15. Revise Subdivision regulations to limit the number of lots on a dead-end street.

16. Revise Subdivision regulations to define the difference between dead-end streets and temporary dead- end streets
17. Provide standards for road design that complement the rural character of the Town.
18. Coordinate future roads and/or site plans to improve existing circulation, minimize curb cuts and conserve scenic roads and highways.
19. Recommended where possible that pedestrian sidewalk, crosswalk, and trail connections be constructed to link the three commercial centers.
20. Enact regulatory language that requires future development to install sidewalks on the property road frontage.
21. Enact regulatory language that requires residential subdivisions to incorporate trails or sidewalks on one side of the right of way throughout the subdivision.
22. Study the possibility of including affordable housing units in the Rural Residential and Village Residential districts to increase the Town's percentage of affordable housing units in accordance with the requirement as outlined in the state statutes.

Zoning Commission (working in cooperation with Planning Commission and other boards)

4. Revise zoning regulations to reinforce village districts to reflect the boundaries of the primary centers of development and establish associated growth boundaries.
5. Provide regulatory language within zoning regulations to encourage mixed uses in the five primary centers of development.
3. Coordinate all new zoning regulations with the 2000 Open Space Plan and recommendations outlined in the Section IV of this plan regarding cluster development and open space.
4. Review and participate in potential program for architectural design for Primary Centers of Development and for specific zones with design standards.
5. Work with Planning Commission, Historical Society, and other town commissions to create design standards as overlays over existing commercial districts based on the specific character of the individual ten design areas.
6. Re-evaluate the boundaries of the existing districts in context with desired results for design preservation within each of the districts.
7. Establish, within each of the districts, regulations for architectural and site design that will provide a regulatory vehicle for implementing the goals of the primary centers of development and open space/ resource preservation in the remaining areas of the Town.
8. Establish design standards within the Zoning Regulations to permit properties to be improved and/or developed in a manner that creates an integrated and harmonious design consistent with the character of the Town, and which further promotes the orderly development of the neighborhood.
9. Incorporate design elements into the zoning districts that encourage either architectural compatibility with surrounding buildings or innovative design where compatibility is not in question.
10. Promote and establish six sets of planned design standards.

11. Add language to the zoning and subdivision regulations which requires stringent landscaping and signage standards and maintenance of site plan amenities, traffic volume, flow and management, and architectural review of building structures.
12. Review property currently zoned Rural Residential Multi-Family for rezoning to Rural Residential to provide continuity with existing subdivision development and protection of natural resources
13. Study the possibility of including affordable housing units in the Rural Residential and Village Residential districts to increase the Town's percentage of affordable housing units in accordance with the requirement as outlined in the state statutes.
14. Evaluate options for including affordable housing in Mixed Use and Commercial Districts to provide housing near transportation and services.
15. Evaluate options for a limited term moratorium on subdivision applications to fully evaluate provisions for soil-based zoning in cooperation with the Zoning Commission, road and drainage design, and a percentage of open space dedication for cluster subdivisions.
16. Revise existing commercial district regulations to reflect the distinctive character of each commercial area: Ivoryton village, Centerbrook village, Essex village, Bokum Center, and the Heritage Gateway area.
17. Develop standards in the three villages that encourage or require parking in the rear of the building, shared parking, construction of structures close to the street line with sidewalks and pedestrian friendly amenities.
18. Revise standards for the Bokum and Heritage Gateway centers to require more detailed site plan requirements for all uses. Include more detailed traffic flow analysis and coordination with adjoining properties, driveway connections between parcels, minimize curb cuts and facilitate inter-connective traffic flow for retail access to minimize impact to the arterial volumes.
19. Revise standards for Essex village to permit retail uses only on first floor. Encourage office or residential to located on the second floors of mixed use buildings.
20. Revise landscaping and site plan standards for all commercial zones to provide more landscaping and detailed information on site plan, including architectural elevations and contextual information to provide information overall design in relation to existing development.
21. Revise the zoning regulations to eliminate the possibility for future strip retail development on Route 153 from the intersection of Ingham Hill Road and the Westbrook Town line.
22. Review and revise existing Limited Industrial District or proposed Business/Commerce District regulations/boundary in context with areas designated as flood zones, aquifers protection areas, or wetlands to assure resource protection and emergency access for structures.
23. Prohibit uses within zones that are not environmentally sensitive
24. Protect ridgelines and steep slopes from clearing and erosion
25. Encourage solar power alternatives and promotion of renewable forms of energy
26. Protect archeological and scenic resources.
27. Manage and enhance Town trees.
28. Encourage land use that conserves natural features and open spaces.
29. Establish regulations that protect views, particularly those of the Connecticut and Falls Rivers.

30. Evaluate Town regulations based on the ability of the land to support water supply and on-site septic requirements:
31. Review with sanitarian and Connecticut Department of Health existing minimum building lot sizes in the various zoning districts based on the Net Buildable Area (NBA) concept for potential modifications to the standards
32. Direct development to areas where the soils are suitable for development.
33. Prohibit any new uses over an aquifer that have the potential of contaminating the aquifer.
34. Reduce the amount of land that is zoned industrial in those areas that overlay the Town's coarse-grained stratified drift aquifers. Establish "floating zones" subject to design review for land over these aquifers.
35. Limit the industrial zone in Ivoryton to those areas with existing industry and on undeveloped land within current industrial zones that contain soils suitable for development.
36. Promote compact mixed-use development in the five Primary Centers of Development and Planned Design Districts to provide residential opportunities other than traditional residential subdivisions.
37. Revise the zoning regulations to require open space preservation/cluster zoning and specifically write guidelines for the design of this type of development. Design regulatory language to ensure that open space preservation/cluster zoning also promotes mixed uses in the five Primary Centers of Development,
38. Rezone four upland parcels within the current Waterfront District boundary for single family residential to minimize the expansion of intensive development for marine dependent uses in this steep sloped area.
39. Encourage re-development in existing structures in lieu of new construction.
40. Discourage any development through regulation that would turn Essex into a regional shopping or distribution center.
41. Continue to encourage commercial development in the Route 153 area, as a Design Mixed Use District with limitations for increased traffic volumes. Require that screen planting and berms be installed, along with parking in the rear, rather than in the front of buildings.
42. Encourage the development and redevelopment of commercial properties that promotes pedestrian accessibility, side or rear parking, sidewalks adjacent to the road and leading to the storefront.
43. Encourage commercial use in existing structures within the Villages, particularly upper floor occupancies over first floor retail space. Adaptive reuse such as that taking place at the EE Dickinson Factory should be strongly encouraged and supported throughout the Town.
44. Encourage industrial use in the Light Industrial Zone. However, further development should be heavily screened from view.
45. Require stringent site plan review standards for Planned Design areas
46. Modify the zoning regulations to allow accessory apartments to be incorporated into commercial buildings in the Commercial Village Districts where the soils will support the additional on-site septic systems.
47. Modify the zoning regulations to clearly define and allow one accessory apartment as an integral part of a primary owner-occupied residence, regardless of the age of the structure,

where the soils will support the additional on-site septic system and off-street parking is available.

48. Encourage developers to provide housing, including affordable housing, within walking distance of the villages and other two "centers", employment, and bus transportation.
49. Coordinate future roads and/or site plans to improve existing circulation, minimize curb cuts and conserve scenic roads and highways.
50. Enact regulations which require sidewalk and trail connections be constructed to link the three commercial centers. This is especially true on high volume roads such as Westbrook Road, Route 153, and Main Streets in Centerbrook, Ivoryton, and Essex.
51. Require future development to install sidewalks on the property road frontage.
52. Study the possibilities of creating a shared parking overlay for each design district or village which counts parking spaces in a walkable geographic area rather than on a lot by lot basis.
53. Within larger commercial retail developments, consider implementing a shared parking requirement for the uses in the development to assure that parking is used to its maximum potential during all hours of the day. This would include zoning techniques which encourage mixed use development. Provide comprehensive landscaping techniques which break up large areas of asphalt and provide shade trees to minimize heat islands within commercial developments or the three villages.
54. Hire planning consultant for guidance on future comprehensive zoning revisions

Board of Selectmen

1. Work with the Planning Commission and Zoning Commission to preserve historic buildings and districts of Essex through cooperative agreement.
2. Consider the establishment of historic districts in the three villages in conjunction with recommendations from residents, board and commissions.
3. As an alternative to formal historic districts, work with Zoning and Planning Commissions to establish village districts as allowed by Connecticut General Statutes 8-2j.
4. Assist in establishing an Architectural Design Review Board as a committee of the land use commissions
5. Assist in engaging the services of a professional consultant to develop guidelines and regulations for historic and design standards for each district.
6. Establish a demolition ordinance restricting destruction of historic structures with specific conditions outlined for significant renovation or demolition.
7. Require that new names for streets, and/or subdivisions (or any name changes), reflect the Town's history and environment.
8. Protect sources of drinking water and provide service to residential areas with insufficient water supply.
9. Protect ridgelines and steep slopes from clearing and erosion
10. Encourage solar power alternatives and promotion of renewable forms of energy
11. Protect archeological and scenic resources.
12. Manage and enhance Town trees.
13. Encourage land use that conserves natural features and open spaces.

14. Establish regulation/ordinances that protect views, particularly those of the Connecticut and Falls Rivers.
15. Utilize public funds either through special Town funding or grants to perform an in-depth hydrologic study and non-point source analysis of the Town
17. Utilize up-to-date technical and advisory information from the local utility water company.
18. Evaluate Town regulations based on the ability of the land to support water supply and on-site septic requirements:
19. Conduct a study to determine the feasibility of small treatment systems dedicated to select village septic problem areas.
20. Encourage preservation of farmland and ensure that regulations do not discourage agricultural uses.
21. Encourage the study of local history and environment in the school curriculum including links to Town GIS mapping.
22. Continue public and private funding for the Street Tree Committee to plant, maintain and replace trees along Town roads.
23. Provide the tree warden with funding for the purchase, care, and maintenance of identified street trees that may be located outside of the right of way and on private property.
24. Designate an Aquifer Protection Commission to develop an Aquifer Protection Program that will meet or exceed state mandates.
25. Endorse and adhere to the 2000 Open Space Plan for the acquisition and conservation of desirable open areas.
26. Acquire open space with funds allocated in the capital improvement budget of the Town and through fees collected in lieu of open space within subdivisions.
27. Encourage the conservation of privately held open space.
28. Recognize and encourage understanding of Open Space Acquisition as an economic benefit to the Town.
29. Continue to annually allocate funds in the capital improvement budget of the Town for open space acquisition.
30. Make application to the State and private organizations for funding as appropriate for acquisition of open space property.
31. Encourage landowners to preserve open space through acquisition, dedication, conservation easements, or transfer of development rights
39. Improve and publicize existing property tax incentives available to owners for preserving open space.
33. Encourage the acquisition of open areas within the Heritage Gateway Zone and the construction of pedestrian corridors through the Heritage Gateway Zone to connect Centerbrook, Essex, and Bokum Center and conservation areas.
34. Strive for a tax base that obtains not more than 75% of its revenues from residential properties.
35. Provide tax abatements where appropriate for existing properties in existing industrial and commercial zones where structures need to be renovated, upgraded or expanded. This would provide incentive for redevelopment of existing structures, encourage property maintenance, and ultimately yield a stronger tax base
36. Conduct a Town-wide study to ascertain the overall condition and level of service provided by State and local roads.

37. Conduct a Town-wide transportation strategy for future growth and localized development with a strong emphasis on maintaining and promoting the scenic and rural character of the Town.
38. Encourage and ensure that Routes 153 and 154 are maintain scenic two lane roads integrating transit options along these corridors to stabilize or reduce current average daily traffic volume.
39. Work with neighboring communities and within the regional transportation plan to assure that development in neighboring Towns does not increase traffic on Routes 80, 153 or 154 to the degree that either road needs to be widened
40. Apply for Federal Transportation funding through the Estuary Transit district to install bus shelters at appropriate locations such as village centers, senior housing, and intersections with future bike trails. Plan bike trails and future pedestrian corridors and sidewalk installation with consideration of linking to mass transit to assure continuity of transportation options residents and visitors.
41. Work with the Estuary Transit District and the Metropolitan Planning Organization to promote the expansion of service by the "Bus" into the four Towns of Essex, Deep River, Killingworth, and Chester to promote links to rail and tourism.
42. Support the extension of rail service by Shoreline East to alleviate congestion on Interstate 95 and provide more efficient alternatives to automobile travel in this transportation corridor
43. Work with regional officials to extend the use of the Essex Valley Railroad and its associated rail line as a potential commuter rail and freight rail from Hartford or Middletown to Old Saybrook.
44. Coordinate with the CTDOT for the design of bike lanes when CTDOT initiates road improvements on state routes.
45. Promote use of bicycles as an alternative transportation source, the Town should improve bike lanes where designated and participate in regional efforts to construct and maintain a bike trail from Chester to Old Saybrook adjacent to the Essex Valley Railroad line.
46. Promote a Town-wide comprehensive parking study as part of the comprehensive transportation plan. Within the study, examine ways to maintain municipal parking in the village areas at its present level in addition to opportunities for shared parking. Remote parking with shuttle bus service to the three villages should be promoted.
47. Existing space needs to be evaluated and a detailed space needs study would provide an understanding of future space needs for the Town.
48. Provide comprehensive landscaping techniques adjacent to town roads and in town parking areas which
break up large areas of asphalt and provide shade trees to minimize heat islands.
49. Enforce the two-hour parking regulation currently in effect in Town.
50. Provide permanent public restrooms on Essex Main Street and Town Hall site. Assess feasibility of public restrooms in the other villages.
51. Provide new and improve existing recreation areas.
52. Develop and implement an improvement plan for existing recreation areas.
53. Develop a recreation complex with a swimming area at Viney Brook.
54. Evaluate land acquisitions to ensure there is adequate area for future recreation fields and any potential future expansion of the elementary school.
55. Utilize existing town assistance with Connecticut River Estuary Regional Planning Agency or hire planning consultant for guidance on future comprehensive zoning revisions

56. Hire a full-time land use assistant to work under the direction of the Zoning and Land Use Official to help coordinate administrative details with all of the land use commissions and provide support to the ZBA and Building Department in field review of minor zoning applications.
57. Consider hiring a Park and Recreation staff person to oversee Town-owned open space and conservation easement lands, promote park and recreation programs, and facilitate grant applications for the Town
58. Insure adequate funding to create a position for a full time Town engineer.
59. Conduct a water supply review for areas outside of the Connecticut Water Company Service area to ascertain the need for supplemental water service
60. Encourage standards within the Subdivision and Zoning Regulation which requires water service extensions by developers of subdivisions.
61. Review the option of fund raising to improve water service to existing development with water quality or quantity problems
62. Selectively retrofit the street lighting, particularly in the Essex and Ivoryton Villages to more "traditional", lower fixtures for greater aesthetic appeal.
63. Encourage burying power lines, particularly in the Villages. This would have a significant aesthetic impact on the historic image and character in these locations.

Board of Finance

1. Support funding initiatives to support goals and recommendations within this 2004 POCD.
2. Contribute and participate in build-out study of town to strive for a tax base that obtains not more than 75% of its revenues from residential properties and through objectives noted in this 2004 POCD.

Board of Education

1. Evaluate land acquisitions to ensure there is adequate area for future recreation fields and any potential future expansion of the elementary school.
2. Encourage the study of local history and environment in the school curriculum including links to Town GIS mapping.

Harbor Management Commission

1. Ensure that all existing public rights-of-way are usable, especially those for public access to the Falls River and Connecticut River as well as the three major coves
2. The Essex Open Space Plan notes that acquisition of property near or adjacent to waterways is important.
3. Encourage acquisition of land on the Great Meadow peninsula to ensure protection of this unique resource.

Park and Recreation Commission

1. Encourage the acquisition of open areas within the Heritage Gateway Zone and the construction of pedestrian corridors through the Heritage Gateway Zone to connect Centerbrook, Essex, and Bokum Center and conservation areas.
2. Encourage the recommended sidewalk and trail connections link the three commercial centers. This is especially true on high volume roads such as Westbrook Road, Route 153, Main Streets in Centerbrook, Ivoryton, and Essex.
3. Improve and maintain existing recreation areas.
4. Develop a comprehensive recreation plan for a park at Viney Brook.

Water Pollution Control Authority

1. Evaluate Town regulations based on the ability of the land to support water supply and on-site septic requirements:
2. A study should be undertaken to determine the feasibility of small treatment system dedicated to select village areas.
3. Pursue an active sewer avoidance program. Plan for densities of use at levels the land can support.
4. Provide guidance for managing development to avoid public sewers and to control the impact of development on municipal services.

Inland Wetland/ Conservation Commission (In cooperation with Zoning and Planning Commissions)

1. Review, consolidate, and modify upland review areas requirements in conjunction with existing quality of Town wetlands and watercourses.
2. Use slope stability and existing vegetation as a basis for reviewing the existing width of buffer zones, construction setbacks, or conservation easements along all watercourses and waterbodies.
6. Ensure that all existing public rights-of-way are usable, especially those for public access to the Falls River and Connecticut River as well as the three major coves.
7. Encourage preservation of farmland and ensure that regulations do not discourage agricultural uses.
8. Promote woodlands as an important environmental asset through open space preservation and protection.
9. Assist Zoning and Planning Commissions to coordinate open space dedication to maintain or preserve forest canopy, ecological continuity, and provide adequate connectivity between existing and proposed open space areas.
10. Provide advisory opinion on subdivision applications to the Planning Commission regarding protection of natural resources and open space.
11. Review and advise as needed Town and subdivision road requirements to encourage more attractive streets and roads that minimize damage of natural resources and terrain.

12. Assist in managing development in areas of scenic vistas to maintain at least 50% of the existing vegetation to screen and soften the view of the development. This would be appropriate for views of Essex and public views from Essex's waterfront.
13. Continue public and private funding for the Street Tree Committee to plant, maintain and replace trees along Town roads.
14. Seek funding from the Department of Transportation for the addition and replacement of trees along state highways. Scenic road designation is a valuable tool for ensuring the replacement or preservation of street trees on State Roads
15. Assist tree warden in the purchase, care, and maintenance of street trees that may be located outside of the right of way and on private property.
16. Endorse and adhere to the 2000 Open Space Plan for the acquisition and conservation of desirable open areas.
17. Acquire open space with funds allocated in the capital improvement budget of the Town and through fees collected in lieu of open space within subdivisions.
18. Encourage the conservation of privately held open space.
19. Assist with comprehensive review to potential revision of the Zoning Regulations and Subdivision Regulations to require open space preservation and clustering of structures for development where appropriate in each zoning district.
20. Promote compact mixed-use development in the five Primary Centers of Development and Planned Design Districts to provide residential opportunities other than traditional residential subdivisions.
21. Integrate open space within all future development with the land use proposals outlined in the 2000 Open Space Plan and recommendations in this Plan.
22. Acquire open space at the "Gateways" to Essex to reinforce the rural character of the Town.
23. Recognize and encourage understanding of Open Space Acquisition as an economic benefit to the Town.
21. Encourage landowners to preserve open space through acquisition, dedication, conservation easements, or transfer of development rights
24. Improve and publicize existing property tax incentives available to owners for preserving open space.
25. Encourage the acquisition of open areas within the Heritage Gateway Zone and the construction of pedestrian corridors through the Heritage Gateway Zone to connect Centerbrook, Essex, and Bokum Center and conservation areas.
26. It is strongly recommended that sidewalk and trail connections be constructed to link the three commercial centers. This is especially true on high volume roads such as Westbrook Road, Route 153, Main Streets in Centerbrook, Ivoryton, and Essex.
27. Improve and maintain existing recreation areas.
28. Develop a comprehensive recreation plan for a park at Viney Brook.

ECONOMIC DEVELOPMENT COMMISSION

1. Strive for a tax base that obtains not more than 75% of its revenues from residential properties
2. Encourage commercial and office development both in the commercial zones and in part of mixed use development zones in the Primary Centers of Development.

3. Encourage industrial development in the Light Industrial zone and to a limited extent in mixed use development in the Primary Centers of Development.
4. Encourage retail development to serve both the local and tourist trade.
5. Avoid tourist attractions that would change the character of the Town.
6. Encourage re-development in existing structures in lieu of new construction.
7. Discourage any development whatsoever that would turn Essex into a regional shopping or distribution center.
8. Develop present commercial and industrial zones by determining the industry and businesses that provide the best tax return and then encourage their establishment or retention in Essex.
9. Consult with the State Department of Economic and Community Development to develop a marketing and incentive program to attract appropriate commercial, industrial, and retail activities to Essex.
10. Utilize this plan, survey results, and other public input to conduct an economic Development Study to establish the most appropriate long-term direction for Essex's economic base.
11. Encourage the Board of Selectmen to provide tax abatements where appropriate for existing properties in existing industrial and commercial zones where structures need to be renovated, upgraded or expanded. This would provide incentive for redevelopment of existing structures, encourage property maintenance, and ultimately yield a stronger tax base
12. Encourage preservation of farmland and ensure that regulations do not discourage agricultural uses
13. Recognize and encourage understanding of Open Space Acquisition as an economic benefit to the Town.
14. Industrial development, should be carefully selected to allow for: (1) Those companies that provide a high tax base with minimal service demands, (2) "Clean" industry, (3) "High-tech" companies, and (4) "Incubator" facilities for start-up companies with modest future growth.
15. Prevent the development of Essex as a regional shopping center and modify zoning regulations to encourage commercial, personal service, and business establishments scaled to serve Town residents rather than a regional base.
16. Continue to encourage retail that services the local population in a convenient manner that minimizes trip generation within commercial districts or to other commercial districts.
17. Conduct an Economic Development Study to establish the appropriate long-term direction for Essex's economic base. Establish parameters of study. Gain an understanding of general public opinion on economic development (survey results, forums). Importance of understanding the general public opinion about economic growth can not be over-emphasized if the plan is going to be workable.
18. Identify stakeholders in the Town's economic development process and their role in an overall plan for the Town's future economic growth.
19. Review economic development impacts of various types of residential growth, open space acquisition, agriculture, and redevelopment as well as new building development as it pertains to Essex.
20. Examine trade area and retail demographics. Is there an outflow or inflow of retail dollars for the Town, for each village. Look at ways villages can expand their trade area (types of businesses or industry, marketing, promotions).

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21. Review utilities (electric, water, phone, cable access DSL access, potential problems with septic) for industrial parks and commercial areas (Understand limitations and how can the Town creatively overcome obstacles).
22. Through interviews with public and business, identify those characteristics of Essex that have promoted Essex as a place to do business.
23. Identify festivals that help to promote Essex as a tourist destination. Consider the possibility of integrating festivals into a regional tourism events calendar to coordinate Town activities with activities in other adjacent towns.
24. Promote a Town-wide comprehensive parking study as part of the comprehensive transportation plan. Within the study, examine ways to maintain municipal parking in the village areas at its present level in addition to opportunities for shared parking. Remote parking with shuttle bus service to the three villages should be promoted
25. Encourage businesses to require employees of commercial and retail establishments in the villages to park in assigned lots, not on the streets. This could be accomplished through leasing agreements with tenants in commercial buildings.
26. Assist with study for future feasibility of limited sewer system for problem areas with a high population density.
27. Assist with a water supply review for areas outside of the Connecticut Water Company Service area to ascertain the need for supplemental water service

APPENDIX IV NATURAL RESOURCES

(Derived from 1991 Essex Conservation and Development)

Appendix G

NATURAL RESOURCES

Essex, like many towns in southern New England, has a diverse and interesting natural resource base. This variety of resources is an important factor which contributed significantly to the town's historical development. In many ways, residents depend on these resources in their daily lives for such things as water supply. However, as they use and alter the land, these resources can be disrupted. The major thrust of the Essex Plan of Conservation and Development is the protection of natural resources for the benefit of present and future residents. Consequently, sound land use should take the function, fragility and interrelationships of these natural resources into consideration.

GEOLOGIC SETTING

Geologic resources provide the foundation for the physical environment of Essex. These resources include the solid bedrock or "ledge" that underlies the whole area and the thick glacial or surficial deposits which cover the bedrock. Soils develop in the top layers (several feet) of these surficial deposits. Water on the surface and in the ground completes the physical environment of the land. Vegetation then mantles the land providing the life-support system for animal life including man.

Although the bedrock in this area is very old, recording almost a billion years of earth history, the current landscape is geologically speaking very young. Twenty thousand years ago, this area was covered by more than a thousand feet of glacial ice. This continental ice sheet scoured the land, removing and redepositing much of the loose material. It exposed the bedrock creating the rugged hills. As the ice sheet melted (about 17,000 years ago), it left the glacial deposits that constitute the "dirt" of our land. In places, such as the lowlands, these deposits are more than 50 feet thick. Much of the shape of the land reflects this glacial history. .

Essex soils which developed from glacial material vary in character reflecting differences in the parent material, water drainage and content of organic matter. The soils are the fragile skin covering the land. They are the focus of most living things, including man, but they are easily disturbed and destroyed.

Bedrock

The major geographical elements of the Essex landscape are due to the underlying bedrock. The zig-zag course of the Connecticut River is caused by east-west running layers of bedrock which direct the flow of the river creating the bends and coves that occur in Deep River, Hamburg and Essex.

Essex is located at one of these river bends whose coves are suitable as ports. In addition, in areas where the bedrock is fractured and/or less resistant to weathering valleys have formed. These valleys run westerly from Essex Village toward Ivoryton and southwesterly toward Westbrook. The Falls River and the Mud River follow these bedrock zones. Variations in the hardness of the bedrock under the Falls River produce intermittent elevation changes that form the sites of the falls which were used for water power. Thus, the bedrock played a role in the development of Essex as a seaport and as

a water-powered milltown. Today, the bedrock controlled Connecticut River continues to be a focus of cultural and recreational activity.

Bedrock is also an important factor in the uplands. Erosion resistant bedrock underlies Book Hill and many other prominent hill areas of the town. Differences in the erodability of the bedrock are primarily responsible for the rugged hill and valley topography of the local area. Bedrock then is responsible for much of the variety of the local landscape, and its proximity to the surface makes it a factor to be considered in many construction activities.

In many areas, bedrock is exposed at the surface and is rarely more than 10 or 20 feet below the surface throughout most of the town. Where bedrock is close to the surface, it becomes an important factor affecting the construction of roads, foundations, septic systems and other excavations. In a few of the valley areas, bedrock may be as much as 50 feet below the surface. Bedrock, particularly when found close to the surface or exposed, is often referred to as "ledge."

Bedrock serves as the water source or aquifer for most of the household wells in the town. (The village areas of Essex, Centerbrook and Ivory ton are served by public water supply. Other areas depend on individual on-site wells.) Our humid climate, with more than 45 inches of rainfall per year, maintains relatively high groundwater levels. The bedrock is full of water and yields it readily to drilled wells. .

Water enters a drilled well through small fractures in the bedrock. These fractures are too small and too localized in extent to be mapped, and the actual success or yield of a well cannot be predicted in advance. Geologic studies can provide helpful information about the likelihood of success from a drilled well, especially if there is a choice of different sites. Some of the bedrock types in the western parts of town have proven to be a little more difficult to obtain adequate water supplies. However, adequate water supplies can be obtained from bedrock wells on most sites.

The quality of bedrock water supply is generally good. Treatment for health reasons has not often been necessary, and hardness is generally not a problem. Some local areas have moderately elevated iron and manganese, and some have moderately acidic water. The acidity can be of concern if it is sufficient enough to react with copper plumbing producing undesirable levels of copper in the water. Standard techniques of water analysis provide necessary information about bedrock water quality. Water quality in Essex is naturally good. However, poor land use practices can influence that quality.

Glacial Deposits

The glacial or unconsolidated deposits which cover the bedrock are of two basic types, glacial till and glacial stratified drift. Glacial till was deposited directly by the glacier as it advanced over the land. Since till is a "bulldoze" deposit left by the glacier, it is a mixture of everything from boulders to sand to clay size rock fragments. Till lies directly on top of the solid bedrock. Till is exposed at the surface in most hill and upland areas as the compact, bouldery "hardpan." Till varies in thickness from less than a foot where bedrock is exposed at the surface to several tens of feet or more. In most areas, it is less than 10-15 feet thick. The boulder-strewn deposits found on sloping hillsides are typical of this till. Where the till material is particularly clay-rich (containing very fine rock fragments) and compact, groundwater tables remain high and drainage problems occur.

The valley floors are underlain with a layer of till, but this is buried by thick glacial stratified drift deposits of sand, gravel and silt.

The glacial stratified drift material was deposited as water washed debris into small temporary lakes in front of the glacial ice as it melted about 17,000 years ago. These lakes and associated stratified drift deposits occurred in the Connecticut River Valley, and in the valleys of the Falls and Mud rivers. Stratified drift also occurs in lowlands lying between Plains Road, Main Street and Westbrook Road in Centerbrook. The stratified drift deposits underlie the level ground of the central parts of the town. The stratified drift deposits vary in texture from coarse gravel and sand to silt. They also vary in thickness depending on the lay of the land that was the floor of the glacial lake. For the most part, these deposits are several tens of feet thick, with locally thick and thin areas. In some places, these deposits are quite thin. For example, on the south side of Bokum Road near the new Essex Meadows project, bedrock can be seen sticking through the surface. Sand and gravel from these deposits have been mined at the present site of Heritage Village Condominiums, at Stanley Wollock's sand pit, and along Route 153 just south of town.

The stratified drift deposits are of particular importance to the town because they form much of the level land where development has already taken place. In addition, these deposits are aquifers, locally producing large amounts of groundwater for public water supply wells. Where the deposits are coarse-grained (sand and gravel), groundwater flows through them readily, permitting them to serve as high yield aquifers (See Water Resources Map). These same characteristics, though, permit the groundwater in the deposits to become easily contaminated by inappropriate land uses. The U.S. Geological Survey on its 1978 Surface Water Quality and Built-Up Areas in Connecticut Map has identified "known or inferred" coarse-grained stratified drift aquifers in Essex. These aquifers are located primarily along the Falls River, at Hayden Point and along Route 153 near Birch Millpond. The largest aquifer is in the center of town. Contamination may have already occurred in several places in the aquifer in the Plains Road - Westbrook Road-Main Street triangle in Centerbrook.

The Connecticut Water Company has two public water supply wells in the coarse-grained stratified drift deposits along the Falls River between Route 9 and Dennison Road. These wells are close to the river, and high pumping rates at the wellhead can draw surface water down through the bed of the Falls River into the aquifer and into the wells. This phenomenon is known as induced infiltration and can lead to contamination of the wells depending on the quality of the water in the Falls River (See also Water Resources and Community Facilities).

Other areas of stratified drift deposits may be quite limited in their potential for high yield groundwater development. Many of the deposits are quite thin and fine-grained, both of which limit their potential as high yield aquifers. In addition, intensive land use over these deposits has contaminated or has the potential to contaminate the groundwater.

SOILS

The soils analysis for the town of Essex is based on the 1980 Detailed Soil Survey Map of the United States Department of Agriculture Soil Conservation Service (SCS). This map was compiled by plotting soils information gathered in the field onto aerial photographs, called field sheets, at a scale of 1" = 1320'. Field Sheets #37, 40 and 41

cover the town of Essex. These field sheets were transferred by the University of Connecticut Cooperative Extension Service to a composite Soils Map at the same scale. The 1320' scale is a remnant of westward expansion when chains and rods were used as the basis for measurement. These maps were originally compiled to act as a guide for farmers in crop selection. They are now used as a basis for locating areas with soils suitable for development. Because soils data is plotted on aerial photos that use their own set of reference points, Soils Maps do not conform perfectly with other maps. For the purposes of the Essex Plan, the Detailed Soil Survey Map was enlarged and photographically adjusted for the best possible match with the Town Base Map, which is derived from the U.S. Geological Survey Topographic Quadrangle Maps (See Soils Map).

The Detailed Soil Survey maps soil units located in the town of Essex. Soil units are a minimum of two acres in size. Information is provided on the properties of the soil units to the depth of the first five feet of the land surface. Within a soil unit, at least 60% of the total area is occupied by the designated soil type. Soil units of less than one acre are not indicated, but notable, distinctive features are shown symbolically where the mapping team felt they were significant. These features include small bedrock outcrops and wetlands and short, steep slopes.

Essex soils are those of the New England uplands that formed mainly from material that weathered from gneiss, schist and granite. These soils divide the town from west to east into three major areas. They are underlain by glacial deposits and/or bedrock. The Canton-Hollis-Charlton soil complexes are the most westerly. They are described on the 1978 General Soils Map as "gently sloping to steep, somewhat excessively drained and well-drained, loamy soils; on glacial till uplands." The midsection of Essex is composed of Hollis-Charlton complexes of "gently sloping to steep, somewhat excessively drained and well-drained loamy soils; on bedrock controlled glacial till uplands." The eastern portion of Essex contains Hinckley-Agawam-Merrimac soils. These are "nearly level to steep, excessively drained to well-drained, loamy and sandy soils; on glacial outwash plains and terraces." While these descriptions give a general overview of Essex soils, the Detailed Soil Survey is much more specific and a much more valuable planning tool.

Wetland Soils

According to Public Act 155, "The Inland-Wetlands and Water Courses Act," and its amendments, "wetlands" are defined as lands including submerged lands, which consist of any soil types designated as poorly drained, very poorly drained, alluvial and flood plain by the National Cooperative Soil Survey of SCS. The term "water course" encompasses rivers, streams, brooks, waterways, lakes, ponds, marshes, bogs and all other bodies of water including intermittent streams.

Wetlands serve many important ecological functions, as natural sponges assisting in flood and erosion control and water purification, as well as providing a highly productive habitat for wildlife. However, all wetlands are not the same. Isolated upland wetlands may serve a different relative function than those associated with a large watercourse. Wetlands are regulated by the local Inland- Wetlands and Watercourses Agency, which has the power to limit or prohibit certain activities which may degrade their function.

Major wetlands in Essex are on Great Meadow and Thatchbed Island and along the Falls River and its tributaries, especially in the western part of town and in the southern part of town along the Mud River (See Wetlands Map).

Soils in Essex designated by SCS as wetland soils in accordance with the Connecticut statutory definition of wetland (Sections 22a-36 to 22a-45 of the General Statutes of Connecticut) are:

Very Poorly Drained

Aa Adrian
Ce Carlisle
LG Leicester
Sb Saco
Sc Scarboro
Wh Westbrook

Poorly Drained

Rb Raypol
Ru Rumney
Wd Walpole

Flood Prone

Ps Podunk

Soils With Steep Slopes

A slope of 15% or more is considered in the Department of Environmental Protection (DEP) Developer's Handbook as restrictive for septic tank installation. Slopes of this amount are indicated by the letter D or E following the name of the soil type. Steep slope is a limiting factor in the installation of on-site septic systems. Effluent from septic tank drainage fields installed on steep slopes may erupt or bleed to the surface requiring complex and expensive corrective measures. Extensive land shaping may be required to produce nearly level areas suitable for septic system installation. Steep slopes are also hazardous for the operation of heavy equipment. A change in or removal of vegetation from steep slopes may increase runoff and erosion which may lead to sedimentation of streams.

Areas of steep slope in Essex are located in the uplands of the northern and western parts of town and in the southern part of town on either side of Route 153 (See Steep Slope Map).

Soils in Essex that contain steep slopes are:

CdD Canton and Charlton
HME Hinckley and Manchester
HpE Hollis-Charlton
HSE Hollis-Rock
HuD Holyoke-Cheshire
HZE Holyoke-Rock
PbD Paxton and Montauk

PeD Paxton and Montauk
WkD Wethersfield

Soils With Shallow Depth To Bedrock

Soils with a depth of 6 feet or less to bedrock are considered to be shallow. State regulations require that the base of leaching systems be more than 4 feet above bedrock. Shallow soils require fill for septic tank installation. Blasting may be required to overcome this limitation. It should be noted that certain soil complexes consisting of 2 soil types may contain good soils but should be given special consideration as they may not.

Soils with shallow depth to bedrock predominate in Essex. They are located in all parts of town except the Falls and Mud River Valleys.

Soils in Essex with shallow depth to bedrock are:

Cyc Cheshire-Holyoke
HpE Hollis-Charlton
HrC Hollis-Rock
HSE Hollis-Rock
HuD Holyoke-Cheshire
HyC Holyoke-Rock
HZE Holyoke-Rock
Rp Rock-Hollis

Soils With Poor Potential For Septic Systems

Soil Potential Ratings were derived from the 1986 "Soil Potential Ratings: Septic Tank Absorption Fields for Single Family Residences, Middlesex County, Connecticut" by SCS and the Connecticut Department of Health Services (DOHS). All of the aforementioned soils are taken into consideration, as well as the absorptive capabilities of the soil, depth to water table and potential for flooding. This information is important in assisting the town in siting septic systems in areas best suited to handle them. Septic systems have gone into areas of Low Potential and can work if well-engineered, but areas of Extremely Low or Very Low Potential will in many cases have problems. Areas of disturbance or development are also included in this category as they may no longer provide their initial rating potential for septic systems and should be reevaluated. While a single septic system may function with no difficulty in an area with soils identified as having poor potential for on-site septic systems, a large number as in a subdivision may collectively impact the carrying capacity of the soils in that area. It is important to take this into consideration if the town wishes to continue with on-site septic systems rather than public sewers.

Areas with Extremely Low and Very Low Potential for on-site septic systems are located in most of Essex, especially in the northern and western uplands and the southern part of Essex along both sides of Route 153. Areas of Low Potential are generally adjacent to the Extremely Low and Very Low with the exception of a very large area of Low Potential in the center of town in the Route 154-Route 153-Westbrook Road triangle. Areas of disturbance are scattered and include the Essex landfill, the waterfront, Essex Island, Sunset Pond and west of Viney Brook (See Poor Potential for Septic Systems Map).

Soil Potential Ratings in Essex are:

Extremely Low - have severe limitations which are difficult to overcome. A permit for absorption field installation cannot be issued unless the naturally occurring soils meet the minimal requirements outlined in the state health code. It is unlikely that these soils can be improved sufficiently to meet state health code regulations.

Aa Adrian
Ce Carlisle
HrC Hollis-Rock
HsE Hollis-Rock
Ru Rumney
Sb Saco
Sc Scarboro
Wh Westbrook

Very Low - have severe limitations which require extensive design and site preparation to overcome. These soils are rarely used for septic tank absorption fields.

HpE Hollis-Charlton
LG Leicester
Ps Podunk
Rb Raypol
Wd Walpole

Low - have limitations which require extensive design and site preparation to overcome. These soils are commonly used for septic tank absorption fields.

NnA Ninigret
SgA Sudbury.
WxA Woodbridge
WxB Woodbridge
WyA Woodbridge
WyB Woodbridge
WzC Woodbridge

Medium - have significant limitations that are generally overcome using commonly applied designs.

CrC Charlton-Hollis
HME Hinckley and Manchester
PbB Paxton and Montauk
PbC Paxton and Montauk
PdB Paxton and Montauk
PdC Paxton and Montauk
PeC Paxton and Montauk
PeD Paxton and Montauk

High - have limitations which can be easily overcome using standard installation practices. An engineer's design is required in most cases.

AfA Agawam
AfB Agawam CdD Canton and Charlton
HfB Hartford
HkC Hinckley
MyB Merrimac
WvB Windsor

Very High - have the best combination of characteristics for septic tank absorption fields. An engineer's design is not required.

CcB Canton and Charlton
CcC Canton and Charlton
CdC Canton and Charlton

WATER RESOURCES**

Water has been an important factor in the development of Essex from the earliest times (See also Historical Land Use). The Connecticut River served to connect the town as a port to the world of commerce. In addition; the Falls River provided water power for mills that developed in later years.

Today, the Connecticut River continues to be a focus of the town's activity including recreational boating, boat yards and marinas, restaurants and the Connecticut River Museum, and the Falls River is still of significance linking all parts of the community and providing pleasant vistas as it flows to the Connecticut River.

Drainage Basins

The drainage basin, the land area which contributes water to a stream, is an essential component of land and water management. It is used in analyzing and planning for water supply, flood control, irrigation and the like. The water which flows into a stream or river is as much a factor in controlling the quality of water as the stream itself. Each stream or river segment has its drainage basin which is the land area that has to be managed in order to maintain or improve water quality. Segments of the drainage system may cross town boundaries requiring consideration beyond the town for water management.

The drainage basin of the Falls River includes all the land area that drains into the river. Significant areas of the towns of Westbrook and Deep River drain into this system. This includes Messerschmidt Pond in Westbrook and Bushy Hill Pond in Deep River. Water management practices in these areas will affect the Falls River in Essex. Similarly, water management practices in the Connecticut River, both upstream and downstream, will affect water resources in Essex (downstream because incoming tides bring water from Old Saybrook upriver past Essex)(See Connecticut River below).

According to the 1983 Connecticut Department of Environmental Protection Connecticut Dams Map, Essex lies entirely within the drainage basin of the Connecticut River.

Water Quality

Water quality classifications for surface and groundwater in the state of Connecticut are designated and monitored by the Department of Environmental Protection as part of its Water Quality Management Program. The state's policy toward surface water quality as explained in the DEP "Water Quality Management Plan" is to: "restore and maintain waters to a quality consistent with their use for protection and propagation of fish, shellfish and wildlife, including breeding, feeding and nursery grounds and with their use for recreation." For groundwater, the states policy is to: "restore and maintain groundwaters to a quality consistent with its use for drinking without treatment except in certain cases where: a. groundwater is in a zone of influence of a permitted discharge; b. groundwater is suspected to be contaminated (Class GB) and there is no overriding need to improve; and c. the groundwater classification goal is GC." However, the new Aquifer Protection legislation, Public Act 89-305, may alter this policy. Surface and groundwater classifications, uses and allowed discharges are listed below (See Water Resources Map).

Surface Water

Water in the rivers and streams of Essex flows through the town affecting a number of private and public land use issues. Management of the rivers and streams deals primarily with the quality of the water in the watercourses and wetlands and with the quantity or flow of water. Most of the Connecticut River and some of the water in the Falls River flows in from the drainage areas upstream, outside of town. Thus the town must look both within its boundaries and beyond when it comes to water and river management.

Connecticut River

The Connecticut River is the town's most important surface water resource. It has a watershed of over 11,000 square miles, 2,231 of which are within the State of Connecticut. From its source to the sandbar at the mouth, the river is about 400 miles in length and has a drop in elevation of 2,640 feet. The river is tidally influenced as far upstream as the Enfield Dam, but the saltwater intrusion reaches only as far upstream as Essex on average, although during periods of low freshwater flow, saltwater can intrude as far north as Chester. The average tidal range in the river is 2.5 feet, but this range is affected by storm surges, spring and neap tides, changes in planetary alignments, and other variables.

The Connecticut River experiences extremely wide variations in freshwater flow volumes in spite of the relatively even distribution of precipitation in the watershed throughout the year. Flow variation is generally caused by the storage of winter precipitation which is released in the spring. Variability in the flow volume is important because of its affect on shorelines both through erosion and the deposition of sediments. In areas of tidal influence, the tidal inputs are large in relationship to freshwater flow during low flow conditions and absent or nearly so during spring freshets. Thus, the tidal influence acts to create a seasonal compensation in water volumes in the lower portion of the river. Essex, being located between 5 and 7 miles upstream of the river mouth, is in the region

where saltwater from Long Island Sound is mixing with the freshwater from the river, creating an estuarine environment, and thus, placing Essex under the jurisdiction of the state's Coastal Area Management Program (See Coast).

The Connecticut River is navigable as far north as Hartford for major shipping and the Enfield Dam for recreational boating. Recreational boating is extremely popular in the Connecticut River, and the number of boats using the river for various activities has increased dramatically over the last twenty years, as evidenced by the constantly changing boating regulations aimed at recreational boating in the river. In the 18th and early 19th centuries, it was assumed that the river would be a major shipping artery in New England, and various dams and canals were built in the river as shipping aids. The emergence of the railroad in the mid- 1800s reduced the level of commercial river transport. Cargo traffic on the river is still important for some products, such as coal, oil and farm products. As a result, the Army Corps of Engineers maintains a navigation channel in the river which serves several industrial centers and 60 commercial and recreational centers between Hartford and Long Island Sound. One of the federal navigation projects in the Connecticut River lies within the boundaries of Essex and is known as the Essex Shoals Channel. This project was last dredged between 1975 and 1976, when 95,000 cubic yards of material were removed. The project consists of two channels: the first (navigation) channel being 3,500 feet in length, 150 feet wide and dredged to a depth of 15 feet below mean low water; the second (secondary) channel is 4,400 feet long, 99 feet wide, dredged to 10 feet below mean low water and follows the original river channel. The area between the two channels is maintained as a federal anchorage area. The creation of the new channel left the old channel and anchorage dependent on maintenance dredging, and the Essex Harbor Management Commission reports (1989) that the anchorage area has shoaled from the maintained depths of 8- 10 feet to an average of 5-7 feet since the last dredging.

Water quality in the Essex region of the Connecticut River is rated as SB, "suitable for bathing, other recreational purposes, agricultural uses, certain industrial processes and cooling, excellent fish and wildlife habitat, and good aesthetic value."

In terms of animal resources, the salinity regime in the Connecticut River in the Essex region is too variable to support any sort of significant shellfish population. Consequently, finfish are the most important resource. There are about 50 species of fish that have been identified in the lower reaches of the Connecticut River. A study conducted to monitor the environmental effects of the Connecticut Yankee Nuclear Power Plant in Haddam used a site off Brockway Island in Essex as a control site. This study found that the area of the Connecticut River from Higganum to Essex is the region of the freshwater-brackish water interface and a critical zone within the estuary. There is a high turnover rate of food organisms in this area which supports large numbers of maturing fish, especially in the spring and summer months, making the area a nursery ground for most fish species found in the river. Over 81 % of the total fish collected in the course of the study were the "young of the year." The report also stated "the downstream movement of freshwater spawners is not only beneficial, but necessary for their survival." The area from Essex to Long Island Sound was noted as an important nursery area for many marine species, based on the fact that the ten marine species collected in Essex were all "young of the year."

Many of the important fish species (salmon, alewife, herring and shad) in the Connecticut River are anadromous (lay eggs in freshwater, spend juvenile stages in brackish water and grow to adulthood in the open ocean). Ichthyoplankton sampling over a seven-year study period found that alewife and blueback herring compose over 80% of the eggs and larval fish collected between Enfield and Essex, although shad are considered the most important sports fish in the river. These larval and then juvenile anadromous fish spend four to six months in the lower reaches of the river before migrating out to sea in the fall of the year. During this period, the young are tiny and delicate, and much more vulnerable to adverse environmental factors than at any other time in their life cycle. The blueback herring, which make up a significant percentage of the anadromous fish population in the river, have been found to be much more sensitive to increased temperatures and decreased oxygen levels than the other species of anadromous fish, and the power plant study (1976) noted that further deterioration of the water quality of the lower Connecticut River could threaten the continued spawning success of this species. The implementation of the Clean Water Act (state 1967) and the effort to clean up the Connecticut River to encourage the reestablishment of a salmon population has benefited other fish species as well. It was noted that dams across the river contributed to the disappearance of the salmon.

Falls River

The Falls River is the second most important surface water body in the town of Essex. From its source in the western uplands, it cuts a narrow valley through the town dividing it nearly in half. It played a key role in the second half of the town's long history by acting as a power source for a number of mills and factories. At one time, ships anchored in its cove where it empties into North Cove on its way to the Connecticut River. Today, that cove has been silted in to such a degree that at low tide, it is too shallow for even a canoe. The development of the mills along the river with their associated dams ponded the river at certain locations, slowed natural flushing which led to siltation of the cove, and prohibited entry to anadromous fish species which eventually led to their disappearance.

Water quality in the Falls River from its southern entry to town as far as the Pratt-Read site is classified B/A, "surface water quality is impaired by wastewater discharges. State goal is to achieve and maintain a natural condition." From this point to North Cove, it is classified B as is the Connecticut River. The town has the opportunity to request an upgrade in the water quality of the Falls River as permitted discharges are terminated which would help to ensure minimal contamination in the future.

Except for a few areas in the more rugged and still inaccessible uplands on the north side of the Falls River, homes and businesses line the banks of the river from the cove inland to Ivory ton. Since the demise of several dams by the Flood of '82, with careful planning and setbacks from the river, there is a great potential for restoring anadromous fish to the Falls River. .

Mud River

The Mud River, which empties into the Falls River near the Route 9 interchange, and its tributaries, Viney Hill and Tiffany brooks, provide Essex with a significant wetland area in the southern part of town. Water quality in this area is A, "uncontaminated surface water designated for use as public water supply."

Ward Brook and Other Water Bodies

Ward Brook flows south along Route 9 and empties into the Falls River. This brook flows through the Essex landfill and consequently has a water quality classification of B/A.

Most other streams are minor tributaries of the Falls River, and they and an other surface waters in the town including Sunset Pond, Lord Pond, Birch Millpond, and Wright's Pond are considered A quality.

SCS and DEP recommend buffers along streams from 50-200 feet depending on the area and type of protection desired for the stream. Buffering would help to protect the integrity of the water quality, as well as maintain open space within the town.

Groundwater - Bedrock and Stratified Drift Aquifers

While surface water usually follows definite channels and is easily discernible, groundwater flow patterns are not as easily located. The direction of flow is determined by a number of variables which can differ from those at the surface, including type, size and thickness of the subsurface material. Groundwater can accumulate in underground reservoirs called aquifers. An aquifer is a geologic unit capable of yielding significant, usable amounts of water. Aquifers can either be in bedrock or stratified drift. Little is known about bedrock aquifers in Connecticut except that they can produce enough water for individual wells supplying single family homes. More is known about groundwater availability from stratified drift aquifers as described in the previous section on stratified drift. Coarse-grained stratified drift has the greatest potential for groundwater availability, and these areas have been mapped according to the 1978 Surface Water Quality and Built-Up Areas in Connecticut Map on the Water Resources overlay of the Natural Resources Inventory. In Essex, coarse-grained stratified drift aquifers are located around North Cove, in the Centerbrook triangle between Westbrook Road and Routes 153 and 154, along the Falls River between Centerbrook and Ivory ton, along the Falls River near the Pratt-Read site, in the area near the Turbo site, at Hayden Point on the Connecticut River and in the south of town in the Birch Millpond area (See Water Resources Map).

Groundwater Quality

The most significant of these aquifers is located in the Centerbrook triangle, and its water quality is classified GB/GA, "groundwaters which are contaminated and the state has established a Class GA goal as these waters are being used as a private supply source or could be used for that purpose in the future." Although Essex has aquifer protection regulations at this time, recent aquifer protection legislation, Public Act 89-305, may require the town to be more stringent in protection of this aquifer.

Groundwater in the area of the Essex landfill, Turbo Products and the Connecticut Water Company's Brookside well are classified GB/GA. All other groundwater in the town is considered A quality.

Most of the drinking water for the town of Essex is supplied by the Connecticut Water Company (CWC) from its Dennison Road wellhead which is next to the Falls River. This well serves about 2,400 residents and has a current production rate of 0.2 million gallons a day with expectations of future increases in both the number of customers and the

pumping rate. According to the CWC, the Dennison Road well is "an integral part of the water supply system that serves the town of Essex." If this well were to become contaminated, as has already happened to the Connecticut Water Company's Brookside Well, water to supply the needs of the town would have to be supplied from out of town.

At this time, the CWC owns only 35% of the 200 foot wellhead radius at the Brookside Well (now unusable) and even less, 26%, at the Dennison Well. "CWC feels that continued efforts in source protection by the utility, as well as state and local government, may provide many necessary land use controls which will provide a means of source protection without requiring utility ownership of lands...With more effective land use controls some potential water quality conflicts may be eliminated and the need for extensive utility acquisition minimized." The new Aquifer Protection legislation will, no doubt, play a significant role in this endeavor by mandating certain protectionary procedures.

The groundwater quality in the area of the Dennison Well can be affected in two ways. First, contaminated wastewater discharge into the ground can contaminate the well through natural infiltration. Second, depending on the water quality of the Falls River, induced infiltration from pumping could draw water from the Falls River of a quality which could render the Dennison Well useless.

Flood Prone Areas

In 1986, the Flood Emergency Management Agency (FEMA) published its Flood Insurance Study for the town of Essex. This study was done in order to develop flood risk data to be used in the establishment of flood insurance rates and to assist the town in flood plain management.

Floods of record in Essex occurred in 1936, 1938, 1978 and 1982. The 1936 event was the result of snowmelt and heavy rains. The 1938 flood was the result of storm surge and heavy rains from a hurricane. In 1978, the combination of frozen ground conditions, excessive rainfall and snowmelt and high tide conditions resulted in more extensive flooding than the 1936 and 1938 events. Heavy rains and several dam failures caused the 1982 flood. While the 1936 and 1938 floods were confined mostly to the coastal area of the Connecticut River, the 1978 and 1982 events greatly affected the Falls River drainage basin causing more extensive property damage in Essex.

The 1936 and 1938 flood events have been given a recurrence interval of 50 years, meaning that there is a 2% chance of a flood of this magnitude being equaled or exceeded in any given year. The 1978 and 1982 events have been designated as 100 year floods, having a 1% chance of being equaled or exceeded in any given year.

Based on the data from these floods and hydrologic and hydraulic studies of the community, FEMA has designated the boundary for the floodway in Essex for the 100 and 500 year floods. The floodway is the channel of a stream, and adjacent flood plain areas, that must be kept free of encroachment in order to carry the 100 or 500 year flood without substantial increases in flood heights. As a minimum standard, FEMA limits such increases in flood heights to 1.0 foot, provided that hazardous velocities are not produced.

THE COAST* *

Because Essex lies within the Connecticut River Estuary, the coast along the river falls under the jurisdiction of the DEP Coastal Area Management Division (CAM), as well as numerous other agencies which preside over various aspects of Coastal Area Management. Consequently, there is a boundary running north to south along the Essex coast delineating the coastal zone within the town. The Essex Harbor Management Commission must submit a plan to CAM which outlines the way in which Essex will manage the coastal area. This plan should be in harmony with the Plan of Development in managing the town on the basis of natural resources. The lower Connecticut River Valley is further protected by the Connecticut River Gateway Conservation Zone. This area is overseen by the Connecticut River Gateway Commission which works with landowners and others to preserve land along the river (See Connecticut River).

Wetlands In The Coastal Zone

Several areas within the Essex coastal zone can be classified as tidal wetlands as defined by Section 213-29 of the State Statutes: "those areas which border on or lie beneath tidal waters, such as but not limited to banks, bogs, salt marsh, swamps, meadows, flats and other low lands subject to tidal action including those areas now or formerly connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; and upon which may grow or be capable of growing some, but not necessarily all, of the following:" followed by a long list of plants. Wetland areas in the Essex coastal zone include Great Meadow, Thatchbed Island, Brockway Island, Turtle Creek and various pockets of emergent marsh on previously intertidal flats, such as the Falls River Cove.

Great Meadow

Great Meadow is the largest coastal wetland in Essex, and is considered one of the best examples of fresh to brackish water marsh in the State of Connecticut. It is also an excellent example of a pendant river bar, an area built by the deposition of sediments during high water intervals. The soils of the Great Meadow reflect this origin. There are two soil types in this area, Rumney, a fine sandy loam, which makes up the river shoreline and is the actual river bar, and Westbrook, a mucky peat, which makes up the remainder of the meadow. This combination is typical of such river bars because the low energy, protected environment created by the bar leads to high levels of sedimentation which then supports a vegetative cover which leads to the development of a peat layer. The layering of peat and the sediment swept over the river bar during flood conditions raise the topography of these areas and allow for changes in vegetation patterns. Areas of this geomorphic type tend to be unstable in form because of their dependence on sediment deposition and/or erosion rates. For example, an 1849 chart shows the Middlesex Turnpike running along the lower length of Great Meadow with Essex Island attached to the meadow at the southern tip. The turnpike was eroded over the years and a second road was built parallel to the first, and a large section of the second road has now been eroded, while the northern section of the marsh is two feet higher than, it was in 1635.

Vegetation patterns on Great Meadow are determined by factors such as salinity, frequency and duration of flooding, soil type, and others. Great Meadow is dominated by a series of north-south bands of vegetation, with the bands on the North Cove side of the

meadow being more influenced by the freshwater flow from the Falls River while the bands on the Connecticut River side are affected by tidally influenced variations in the salinity of the river. Changes in the elevation of the meadow have led to the invasion of vegetation types that are less flood or saline tolerant, particularly notable is the tree-shrub belt along the Connecticut River bar and in the increased woody plant invasion in areas of former open or grassland spaces. Metzler and Rozca (1980) and Gale and Perkins (1982) have produced excellent reports detailing the Great Meadow and changes in vegetation.

Islands

Thatchbed, Essex and Brockway Islands are composed of the same soil type (Rumney) as the pendant bar of Great Meadow with differing elevations. Consequently, the vegetation types are similar to those of the bands found on Great Meadow. Brockway Island, with the highest elevation, supports a large population of trees, not noted in the other wetland areas. The wetland area at the mouth of Turtle Creek appears to have Westbrook soils. As mentioned previously, there are several areas of emergent or pocket marshes in Essex. These are small areas along the shoreline where sediment has accumulated to a level high enough to support vegetation. The presence of vegetation tends to increase the rate of sediment accumulation, raising the land to a level favorable to further vegetation growth. Falls River Cove has significant areas which could be considered marsh as they support populations of cattails, wild rice and other varieties of typical wetland vegetation. Tidal wetland areas are considered critical natural habitat and, as such, are protected under Connecticut's Coastal Area Management Act. From the physical standpoint, wetlands improve water quality by trapping sediments, acting as a temporary holding area for storm and flood waters, restricting the spread of toxins and heavy metals from land sources to the associated water bodies, and trapping excess nutrient runoff. The vegetation of the wetlands acts as a buffer to stabilize the shoreline and reduce erosion from storms and waves.

Biologically, wetlands are areas of high biological productivity. Their vegetation provides habitat, nesting and feeding areas, for waterfowl. When the vegetation dies and becomes detritus in the associated water bodies, it provides a base source of energy in the food chain. The richness of this food source makes the associated waters a nursery ground for many species of freshwater and estuarine-dependent ocean species. From a recreational point of view, wetlands can be used for hunting, fishing, birding, hiking and other desirable low-impact activities. The aesthetic value of these areas as scenic vistas of widely diverse plant and animal species is also important.

Coves And Intertidal Flats

The shallow coves of Essex have contributed significantly to the character of the town. Of the three coves, North Cove is about 230 acres, Middle Cove about 30 acres and South Cove about 135 acres in size. The combined area of the three coves covers over 30% of the entire coastal zone of Essex. Between 20% and 50% of the area in each of these coves actually consists of intertidal mud flats, and a large percentage of the remaining water is less than three feet in depth at mean low tide. Coves, like the wetlands associated with them, can be considered geologically ephemeral features of the landscape. Because they are well protected from both wave action and the currents of the river (South Cove being the least protected), these coves are very low energy environments, with low current speeds and flushing rates, and therefore high rates of deposition of both sediment and organic matter which washes into the coves from the

surrounding land. These organically enriched accumulations gradually fill in the cove in a process called eutrophication, leading first to the creation of intertidal flats, then marshes. This natural process can be greatly accelerated by various human activities such as lawn fertilization, improper development practices which accelerate shoreline erosion, improper disposal of leaves and brush or the disruption of natural flushing patterns. For example, in North Cove, there is a natural channel which is maintained by the outflow of the Falls River. It is possible that human development of that river, in the form of dams and water diversions, may have increased the rate of eutrophication in North Cove by decreasing the normal flushing which would result from the increased stream flow during major storm events. Such storm-related flushing might only occur every 5-10 years but can have a significant effect in clearing the coves of excess sediment accumulation.

Intertidal flats are a fundamental unit of the cove and river ecosystem, and are therefore protected under the Coastal Area Management Act. The sediment acts as a trap for many pollutants such as heavy metals and petroleum products which tend to bind to the sediment particles and be removed from the water column. The flats act as a reservoir of nutrients and support rich communities of invertebrate organisms which filter the water or process sediment to obtain the organic components. The rich invertebrate life provides a food source for shorebirds and fish, which, combined with the rich organic source, make the coves critical nursery areas for many freshwater and estuarine species.

Shore front And Uplands

The shorefront and uplands in the coastal zone of Essex are highly diverse. The total area within the coastal area management boundary, according to the Coastal Area Management Plan prepared for Essex (1983), is approximately 1,400 acres, 50% of which is water (395 of those acres being the shallow coves). Of the remaining 720 acres, about 260 acres are wetlands, leaving about 460 acres of previously undiscussed uplands. According to the Connecticut Coastal Area Management Division, upland areas are immediate sources of runoff and sediments, provide scenic vistas and have high development potential. Of these remaining acres, only Hayden Point, the area at the extreme north of Great Meadow and the easternmost section of Essex Village actually front the Connecticut River. The remaining acreage all fronts or slopes into the cove areas. Because of this geographic configuration, any activity occurring in these upland areas has the potential to impact the coves.

The approximate breakdown of land uses in the coastal zone, based on estimates in the 1983 Coastal Area Management Plan, are as follows:

<u>Land Use</u>	<u>of Acres</u>
Single family residential	255
Multi-family residential	10
Commercial/Industrial	40
Public/Semi-Public	65
Open Space	90

Topography in these uplands ranges from gently sloping areas of glacially deposited material to short, steep bluffs which drop directly to the water's edge, to ledge outcrops. Almost the entire shorefront of the coves is developed in some manner, ranging from low-density residential to small areas of high-density marine commercial/industrial use in the southern section of North Cove. Most residential properties have some sort of docking structure, and some of these docks reach significantly large sizes. In areas where the shoreline is "bluffy," some properties have been developed with extensive "seawalls" and bulkheading at the shoreline.

Sea Level Rise

The concept of accelerated global warming due to human activities and the related effects of sea level rise, increased storm intensities, changes in weather patterns and the like, have been the topic of many articles, both academic and popular, in the last two years. Mean global temperature has increased between 0.5 and 1.3 degrees F in the last century and is continuing to rise. Whether the past rise, and thus any predicted future rise, is related to the increase in the greenhouse gases (carbon dioxide, methane, chlorofluorocarbons and others) or to the fact that the world is in an inter-glacial period where mean atmospheric temperatures are expected to rise one or two degrees F has been the subject of intense scientific debate. The Environmental Protection Agency (EPA), in a 1988 report to Congress, stated that the world is already committed to a future warming of 1.8 to 3.6 degrees F due to the present accumulation of greenhouse gases in the atmosphere and estimates that the amount of carbon dioxide in the atmosphere will be double pre-industrial revolution levels by 2100. The National Academy of Science's computer model of climate change indicates that such carbon dioxide concentrations would raise the world temperature by 2.7 to 8.1 degrees F. Increased atmospheric temperatures have two ways of affecting sea level. Increasing the temperature of the water causes an increase in the volume of water by causing the water to expand. In small volumes of water, the amount of expansion caused by a one or two degree rise in temperature would not seem significant, but when the entire volume of the ocean expands, the effect on sea level is expected to be significant. The second effect of increasing the planet temperature would be the increased rate of melting of the polar ice caps. The 1988 EPA report states that "sea level rise is one of the most certain impacts of climate change." An international workshop in 1987 projected that sea level would rise 1-5 feet by the middle of the next century. In the past century, sea level rose 4-6 inches. There is a problem associated with measuring sea level rise because sea level is relative from one section of the globe to another.

Whether sea level appears to be rising or falling in any given area is dependent on whether the land is rising or sinking due to isostatic changes in land level. Isostatic changes can be on the scale of continental landmasses or as localized as a river basin.

Whatever the change in absolute sea level, in areas where relative sea level is rising, there can be significant impacts on the shoreline, including shoreline retreat, coastal erosion, flooding, property destruction and saltwater intrusion into bays, rivers and groundwater supplies. It is estimated that a one-foot increase in sea level will typically displace 100 feet of shoreline and in some regions the figure can be as high as 1,000 feet.

Shoreline retreat and coastal erosion are similar yet distinct results of sea level rise. Erosion will tend to occur in areas with steep slopes or in areas exposed to moderate levels of wave action. Rising sea level subjects these areas to new levels of activity,

causing rapid physical erosion of bluffs and shorelines. Shoreline retreat occurs in more calm and protected areas, such as the coves of Essex. In these areas where wave erosion is minimized, marshes develop and have been able to accumulate enough sediment to stay ahead of sea level rise. As sea level rise accelerates, the marshes recede landward as the high tide reaches further inland and the marsh plants are submerged for longer periods of time. Increased submergence eventually kills off the plants in the deeper areas as well as the land plants which are now exposed to saltwater or periodic flooding and allows for the colonization of marsh plants in the formerly upland area. In areas where the shoreline has been developed, this migration of the marshes cannot occur and the coastal wetlands become a lost resource. The EPA predicts a loss of 600 square miles of coastal wetlands for the Northeast alone with a 3.3 foot rise in sea level.

Rising sea level will also cause a rise in the water table in coastal areas. This has two significant impacts in terms of development and planning. Septic system leaching fields in the coastal areas may become saturated and useless and freshwater sources may be infiltrated by saltwater and become unusable for drinking purposes. The amount of saltwater intrusion and the associated problems are dependent on the amount of sea level rise, but saltwater infiltration of freshwater sources can be accelerated by excessive demands on the groundwater supply. If too much water is drawn out of an aquifer for consumption, salt-laden water (or other undesirable substances) can be drawn into the system by induced infiltration leading to contamination of the water supply. There are two responses to sea level rise - "fight or flight." Fighting sea level rise takes the form of armoring the coastline with seawalls, revetments and the like, while flight refers to practices such as implementing setbacks, government acquisition of waterfront properties in critical areas, planning for such projects as storm sewers and sanitary waste treatment with rising sea level in mind and the like. In Essex, many sections of the shorefront already have seawalls and revetments because of the steep topography of these properties. Some of these existing seawalls are already underwater during periods of extra high tides and may become problems with significant increases in sea level as the tide climbs over these walls and begins to erode from behind.

THE NATURAL RESOURCES INVENTORY

The Natural Resources Inventory (NRI) is a summary in map form of the committed and uncommitted open space lands, the water resources, and the natural and cultural areas designated for preservation in the town of Essex. The NRI is a tool provided the towns in Middlesex County by the University of Connecticut Cooperative Extension System and the Rockfall Foundation of Middletown, Connecticut to help officials establish priorities and plan for areas to preserve as well as to build. In this way, development can take place within an open space network that preserves the rural character of the town for the enjoyment of succeeding generations.

Town Base Map

In preparing the NRI as well as all other maps used in the Plan of Development for the town of Essex, a Base Map was needed. This map was derived from the USGS Topographic quadrangle maps containing the town of Essex. As these maps do not follow political boundaries but are based on standard quadrangles, three were required to form the Base Map for Essex - the Essex, Deep River and Lyme quadrangles. These paper maps were cut and pasted together and reproduced on mylar. These maps are

originally prepared at a scale of 1"=2000', but for the purposes of the Plan of Conservation and Development, the Essex Base Map was photographically adjusted to the larger scale of 1"=1000'. This means that one inch on the map is equal to one thousand feet on the ground.

The Base Map indicates the political boundaries of the town, as well as man-made features, such as roads, railroads, buildings and cemeteries, and natural features, such as wetlands, streams, rivers and lakes (See Base Map).

Committed Open Space Map

The Committed Open Space Map for the town of Essex shows the lands in town which are predominantly open and are likely to remain so in the future. These include state, municipal and quasi-public lands, as well as cemeteries. Cemeteries have been shown to be important links in wildlife corridors especially in urban areas. See the table below for the properties contained on this map (See Committed Open Space Map).

Uncommitted Open Space Map

The Uncommitted Open Space Map for the town of Essex contains lands in private ownership which are presently used for commercial or private recreation but which can be developed at anytime. In Essex, these lands include a campground and a number of marinas. Also included in this category are utility transmission lines and private water company properties. Like cemeteries, utility transmission lines have been shown to be important wildlife corridors. See the table below for a listing of these properties (See Uncommitted Open Space Map).

Water Resources Map

The Water Resources Map delineates the surface and subsurface water in the town of Essex. Included on this map are lakes and ponds, perennial and seasonal streamcourses, dams, water quality, direction of flow arrows, public wells and coarse-grained stratified drift aquifers. A discussion of the various aspects of Essex's water resources can be found in previous sections of the Natural Resources chapter of the Plan (See Water Resources Map).

Natural Areas Designated For Preservation Map

A Natural Area is defined in Section 23-5b of the State Statutes as "an area of land or water, or land and water, containing, or potentially containing, plant or animal life or geological features worthy of preservation in their natural condition." The information plotted on this map was derived from the various studies that have been done on the town of Essex. These include previous Plans and reports from various agencies and boundaries for the Connecticut River Gateway and the Coastal Area Management Zone. Except for the two boundary lines, information shown on this map does not necessarily have precise boundaries and is not site specific (See Natural Areas Map).

Cultural Areas Designated For Preservation Map

A Cultural Area is defined by State Archaeologist, Dr. Nicholas Bellantoni, as "an area distinguished by archaeological significance, including prehistoric, historic, and industrial

sites, and architectural districts and land, which constitutes an interpretive and educational resource for the public." In Essex, this includes a number of buildings on the State and National Historic Registers, historic factory buildings in the Smithsonian Inventory, areas of high archaeological sensitivity and known archaeological sites as determined by the State Archaeologist. As on the Natural Areas Map, this information may not be plotted with precise boundaries and may not be site specific (See Cultural Areas Map).

Historic buildings and factories are indicated by symbol on the Cultural Areas Map. The State and National Historic Registry listings can be obtained from the State Historical Commission.

SOLAR ENERGY

During the energy crisis of the 1970s, interest in solar energy was at its peak. Connecticut Statutes concerning solar energy include Sections 8-2, 8-25, 12-81, 12-412 and 16a.

Section 12-81 exempts solar collectors purchased after 10-1-77 from state sales tax and provides a 15 year local property tax exemption for solar energy systems on new or existing buildings if a municipality passes an ordinance authorizing the exemption.

Section 8-25 enables Planning Commissions to consider energy efficient patterns of development, the use of solar and other renewable forms of energy and energy conservation.

Sections 8-2, 8-25 and 12-81 address solar energy subdivision regulations that insure that any person submitting a subdivision plan has considered using passive solar energy techniques.

Since the relaxation of the energy crisis, interest, concern and use of solar energy have waned, but the energy crisis will return as fossil fuel resources are exhausted or become inaccessible. Community planning should include provisions for this inevitability. Development can take place which gives access to the use of solar energy. Often, this involves nothing more than a street layout which orients lots in a way that provides maximum window exposure and roofs which can be used for the installation of solar energy systems. Site design techniques for maximum solar heat gain should also include vegetation, natural and man-made topographical features and protection of solar access.

*The geological summary was provided by Essex resident Sidney Quarrier of the Connecticut State Geological and Natural History Survey, Department of Environmental Protection.

* *The coastal summary was provided by Heather Crawford, University of Connecticut Cooperative Extension Educator-in-Residence. .

August 20, 1991

APPENDIX V
ESSEX NATURAL HAZARD MITIGATION PLAN (PENDING
APPROVAL)

(This is a separate document on file in the Zoning Land Use Office)

Energy Sustainability:

Supplemental Chapter to Town of Essex Plan of Conservation and Development (2005)

Overview

“Sustainability” as a concept is the logical progression of the conventional idea of “stewardship,” or the careful, long-term management of the community’s land and resources. It provides for a careful balance of conservation while allowing for healthy economic development and growth. Activities can be described as sustainable if they can be maintained over time without depleting the natural resource base. Overall, a successful approach to sustainability provides a high quality of life for all residents in a way that maintains and enhances the ecological process upon which that life depends.

For the Town of Essex to successfully move into the future and ensure a continued quality of life and character, a continual re-examination of behaviors and policies relating to conservation and development should be undertaken. This examination should include an assessment of ways to develop cleaner energy sources, reduce current levels of consumption and waste generation, and implement development practices that are friendlier to the natural environment.

In 2008, the Essex Board of Selectmen, acting with the support of the Essex Citizens for Clean Energy, approved a resolution to join the International Council of Local Environmental Initiatives (ICLEI) and its program “Local Governments for Sustainability.” The overall objective of this program is to reduce municipal, business, and residential greenhouse gas and air pollution emissions throughout the community while simultaneously reducing our dependence on the burning of fossil fuels to produce energy.

Following up on this initiative, in 2009, the Planning Commission created an ad-hoc “Energy Sustainability Subcommittee” to make recommendations for municipal improvements that could be incorporated into the Essex Plan of Conservation and Development.

Implementation

1. Continue support of ICLEI goals of reducing greenhouse gas emissions to 10% below 1990 levels by 2020 and to 80% below 2001 levels by 2050.
2. Pursue additional funding opportunities and set municipal funds aside to support home- and business-owner implementation of energy efficient technologies and building upgrades.
3. Require municipal building projects to exceed energy efficiency standards of the State Building Code and to meet guidelines of LEED certification.
4. Encourage Planning and Zoning Commissions to incorporate energy efficiency and other sustainable practices into Zoning and Subdivision Regulations.
5. Pursue funding and set aside municipal funds to incorporate sustainable energy upgrades such as geothermal heating/cooling, photovoltaic solar panels, wind turbines and/or fuel cell technology into municipal facility construction or improvement where feasible.
6. Explore methods of promoting innovative wastewater recovery, use of heat exchangers to waste heat, and the recycling of graywater for non-potable purposes.

7. Consider the acquisition or conversion of municipal vehicles to alternative fuel sources such as liquid natural gas, hybrid engine technologies or biodiesel.
8. Modify Zoning and Subdivision Regulations to promote more compact, efficient development and the orderly flow of transportation as well as enabling pedestrian and nonmotorized transportation options.
9. Work with regional groups to promote expanded public transportation, including passenger rail and the use of multi-modal facilities.

Ivoryton Center Revitalization:

Supplemental Chapter to Town of Essex Plan of Conservation and Development (2005)

Overview

As one of the three historic villages of Essex, Ivoryton has a rich industrial and cultural heritage, and holds unique community and architectural character. Since the closing of the Pratt, Read & Co. piano factory in the 1950's, Ivoryton has undergone a slow decline in economic vitality. Seeking to recapture and enhance the vibrant village center that is home to the historic Ivoryton Playhouse, the Planning Commission established an ad-hoc subcommittee in 2008 to study the area and make recommendations. A full report was developed and submitted to the Planning Commission in July, 2009. Analysis of Ivoryton Center focused on three key areas:

- A. Economic Revitalization** – The study found that the variety of uses in Ivoryton Center was both healthy and desirable, including residential, retail, office/commercial, arts, food/beverage, and public uses including park, post office and library facilities. A continued strengthening of this mix, with the addition of more retail/residential combinations and the redevelopment of several parcels would greatly benefit the area. Implementing Zoning Regulations and other municipal policies to help encourage and enable this appropriate development and redevelopment should be a top priority.
- B. Sewage Disposal** – The lack of sewer lines or the availability of a proximate area for a large-scale community wastewater disposal facility is the most significant structural barrier to redevelopment of Ivoryton. Most properties in Ivoryton either do not meet current health codes for wastewater disposal or just barely comply, with no opportunity to expand or intensify use. A full redevelopment of Ivoryton Center, including the Pratt, Read & Co. Piano Factory, could mean wastewater flows 3-5 times current levels, which is not possible with current system availability. A Town-led process to link properties together in a standard or alternative community wastewater system is needed to help move Ivoryton forward.
- C. Parking Availability** – As a traditional village center that developed both before the advent of the automobile and the advent of zoning regulation, it is not surprising that most commercial, retail, and multifamily properties in Ivoryton do not have enough parking to meet Zoning requirements. More troubling, most of these properties do not have enough parking to meet current peak demand, let alone the potential parking demand for a fully-redeveloped Ivoryton. Better managed on-street parking, the relaxing of zoning requirements and allowance of shared parking areas will help in the short term. In addition, the creation or location of several smaller parking areas can be cobbled together to assist current and growing demand. The establishment of a permanent public parking area will assist in the long-term with the redevelopment of Ivoryton Center.

Implementation

- 1. Adopt Ivoryton Center Zone regulations to encourage a mixed-use center, relax setbacks and parking requirements, and encourage compatible development and re-development (Responsible body: Zoning Commission)
- 2. Undertake a landscape improvement and street-tree planting program to develop a “complete” streetscape along Main Street (Responsible body: Tree Warden and ZEO)

3. Explore a public-private partnership to redevelop the vacant property adjacent to the existing service station, including the creation of a office/retail building fronting Main Street and a public parking facility to the rear. This exploration would include any necessary environmental testing and analysis of development feasibility. (Responsible body: Board of Selectmen and Planning Commission)
4. Explore and pursue community wastewater disposal that will allow properties in Ivoryton Center to tie in and fully develop properties. Study can be partially funded by leveraging an existing \$17,000 in DEP funds with a minimum \$13,000 municipal match. Explore potential public-private partnership with Pratt, Read & Co. facility and other potential larger users of wastewater system. (Responsible body: Board of Selectmen, WPCA, Planning Commission)
5. Develop a permanently-available municipal parking area either to the rear of the lot adjacent the service station or on a portion of the Moeller Instrument Company property to allow for “park once and walk” access to the Ivoryton Playhouse and most other retail/office/food facilities in the Village center. (Responsible body: Board of Selectmen and Planning Commission)
6. Investigate other shared parking options with Ivoryton Village Restaurant, Ivoryton Fire Company, Ivoryton Inn, Burdick property, and Pratt, Read & Co. piano factory property. (Responsible body: Board of Selectmen and Planning Commission)
7. Promote Ivoryton Center as retail and tourist destination. (Responsible body: Economic Development Commission)