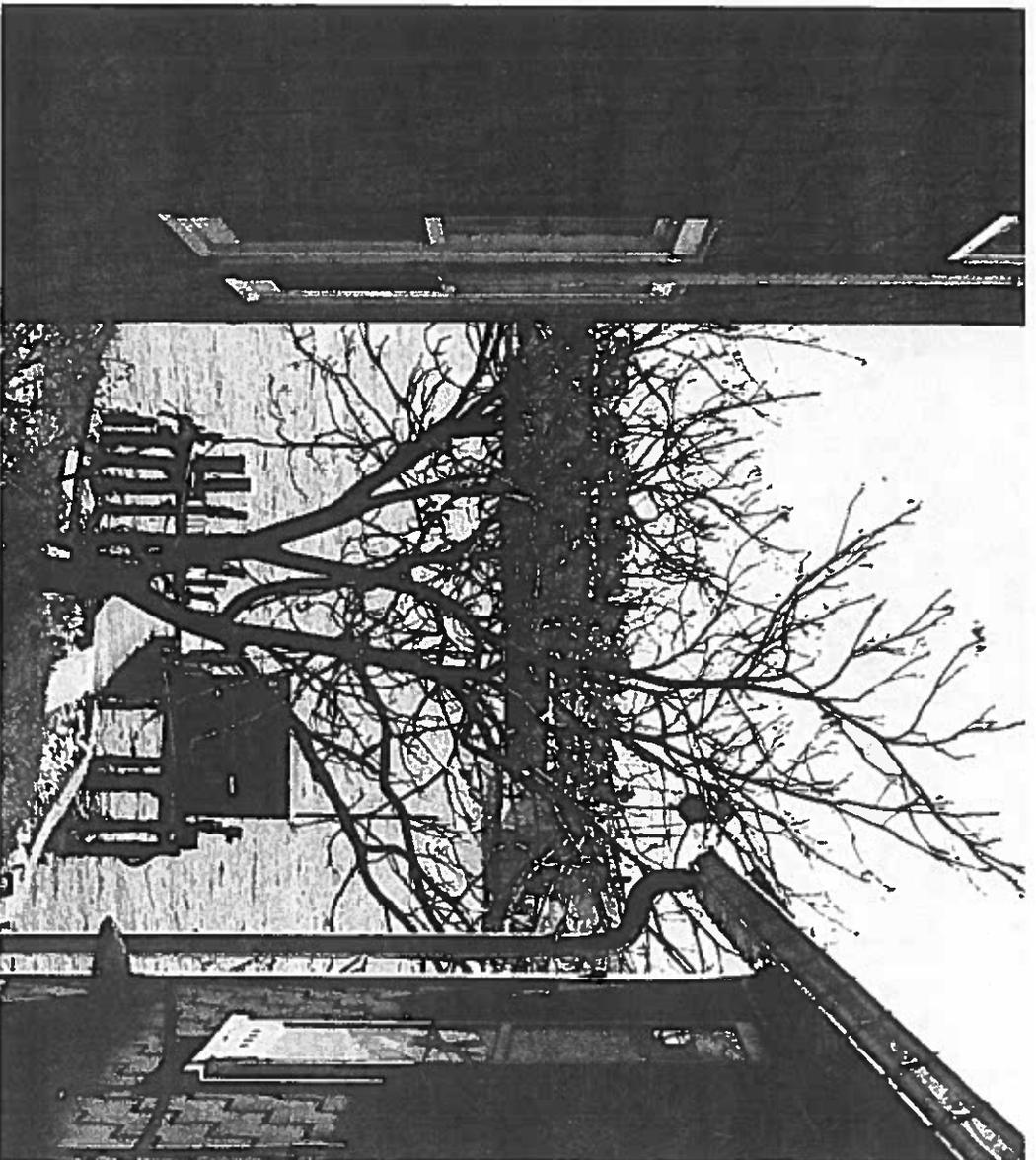


Final Report: October 31, 1982

Thames Street Study



Prepared for the City of Groton

Lane, Frenchman and Associates, Inc
Economics Research Associates
Vanasse/Hangen Associates, Inc.

Thames Street Study

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The preparation of this document was funded by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, under a grant to the State of Connecticut Department of Environmental Protection, Municipal Coastal Program, with additional support from the City of Groton.

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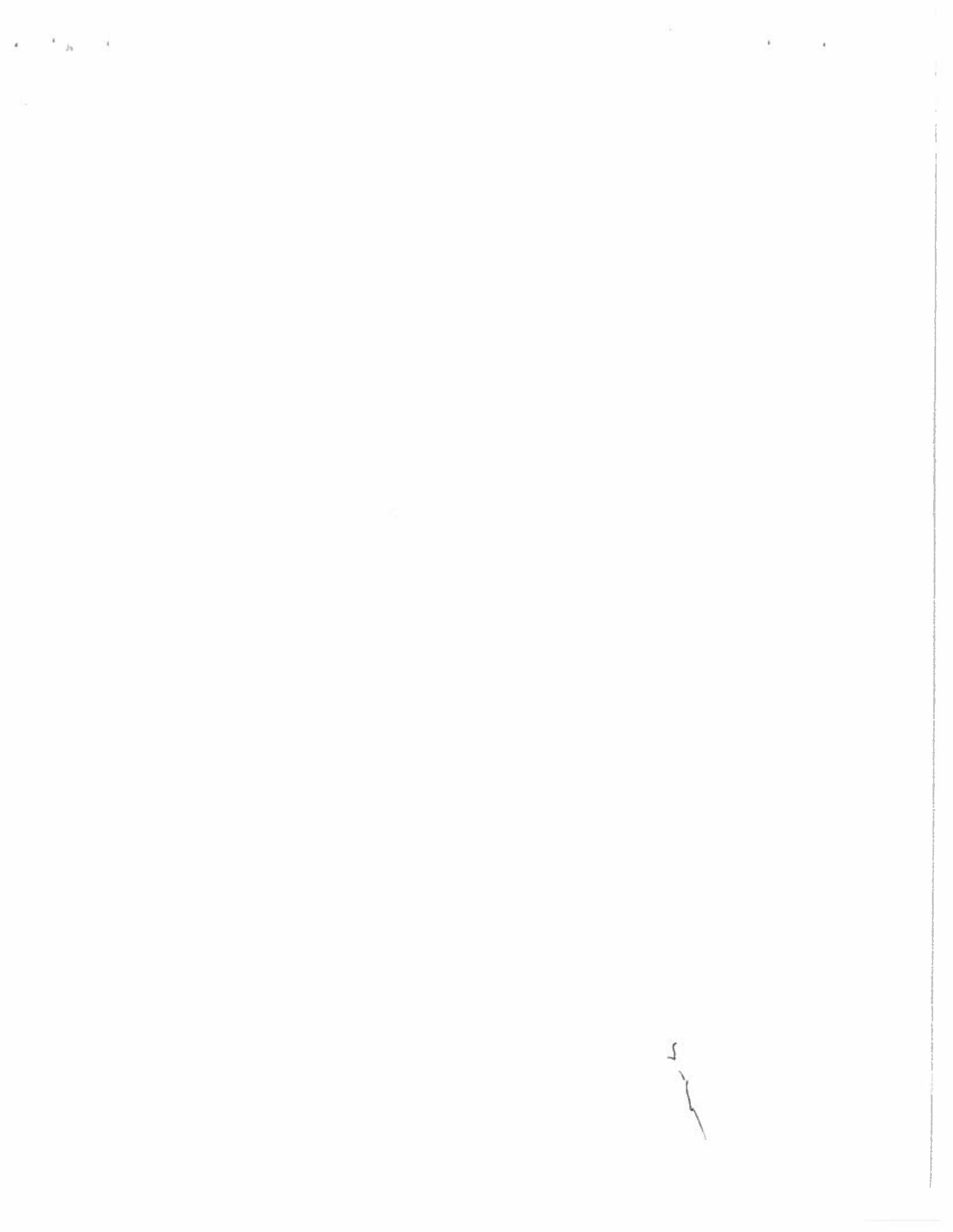
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I. INTRODUCTION

A. BACKGROUND

Thames Street is the heart of Groton. Hugging the Thames River, it winds past historic homes and buildings which reflect the City's maritime roots. Once it was the center of a bustling waterfront and a home for whaling captains and shipbuilders, but Thames Street today has little connection with the magnificent shoreline which lay just behind it. Out of the mainstream of regional growth, the area has remained remarkably intact, but historic buildings are in disrepair, maritime activity has almost ceased, and the river is largely inaccessible.

Beginning in the 1970's the City and local residents made a number of efforts to improve the quality and function of Thames Street. These included nomination of historic areas to the National Register of Historic Places and creation of a new zone for Thames Street which allows limited residential and commercial development, replacing its former industrial designation.

In 1980 the Department of the Navy announced that the USS Nautilus, the first nuclear submarine, would be permanently birthed at the Groton Submarine Base -- two miles north of Thames Street -- and opened for visitors. Potential problems and opportunities which will be created by this attraction, plus the advent of the Connecticut Coastal Area Management Process, led the City to adopt a series of Coastal Policies for the Thames Street district including:

- o revitalization of the economic base of the Street in a manner which preserves its historic charm;
- o expansion of waterfront access and use in commercial areas;
- o restriction of visitor parking and traffic along Thames Street, with tourist access to be provided by public transportation.

Subsequently, the City received a grant from the Connecticut Coastal Area Management Program to conduct this special study of the Thames Street area. The purpose of the study is to assist the City in determining how the Coastal Policies might best be realized by preparing a program for future use and development. Major elements of the study include:

- o an inventory of existing physical and traffic conditions;
- o a market study to determine the demand for future use;
- o analysis of assets, liabilities and constraints which will affect revitalization;
- o development of alternative concepts to assist in making choices about the future of the area and the best strategy for revitalization;
- o preparation of a Revitalization Plan to include: recommended uses, identification of key buildings and sites to serve as magnets, a design theme and facade treatment for existing structures, needed public improvements, and a strategy for implementation.

B. THE STUDY AREA

Thames Street extends for slightly over a mile from the piers of the Good Star Bridge to the General Dynamics Electric Boat Division Shipyard. The hillside to the east is principally a stable residential neighborhood of 19th century single family homes. To the west -- on the narrow and often steep riverbanks -- are a diverse collection of commercial uses and a number of apartments located in converted single family houses. The area is dominated by Fort Griswold and the Griswold Monument which crowns a 150 foot hill and offers magnificent views of the Groton Bank, Thames River, and New London. The study area, shown in Figure 1, has been defined to principally include properties to either side of Thames Street and the Fort Griswold State Park. Change within the adjacent residential community outside the study area is neither warranted or desirable, however, the impacts of proposals for Thames Street on residential sections have been carefully considered throughout the study process. The Thames Street corridor is almost completely developed and includes offices, numerous service and retail businesses, and the USS Croaker Memorial among other uses. Within the heart of the village, the street is narrow and there is almost no land available for development or expansion of existing structures. In spite of Groton's long history of maritime activity, few of the current uses are water dependent and there is little opportunity for public access to the water's edge.

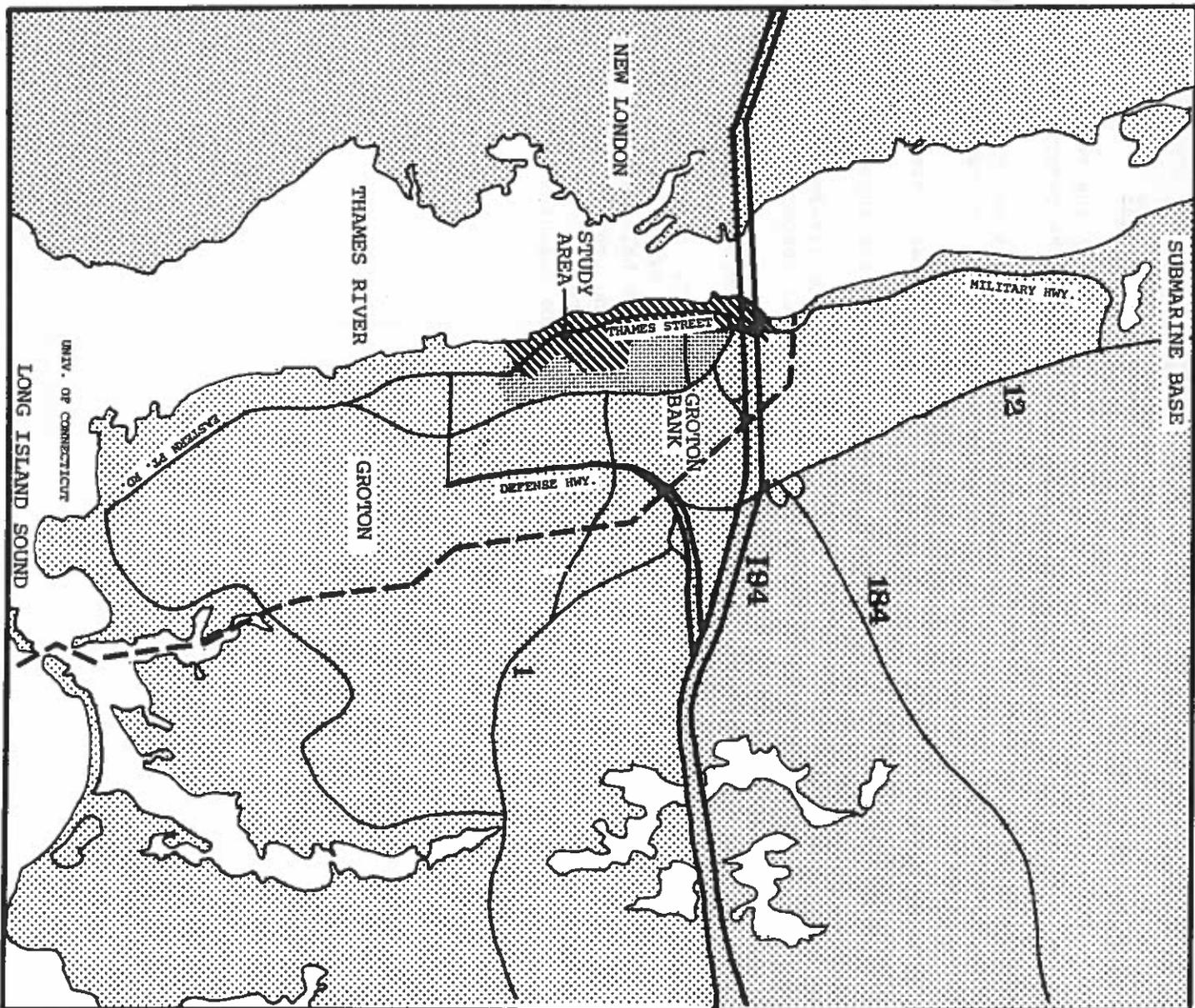


Figure 1: The Study Area

C. THE PURPOSE OF THIS REPORT

This Final Report documents the results of all phases of the Thames Street Study. The structure of the report is as follows:

- o Section 2 -- reviews statewide coastal policies and use guidelines and highlights those applicable to Thames Street.
- o Section 3 -- presents and interprets data collected during the Inventory.
- o Section 4 -- reviews findings of the Market Study.
- o Section 5 -- presents Alternative Scenarios for Thames Street and evaluates these across several comparative criteria.
- o Section 6 -- presents the Recommended Plan and strategies for implementation.

In preparing this report, numerous conversations were held with residents, businesspeople, public officials and agencies concerned with the future of the area. Public workshops held on three occasions throughout the planning process surfaced many ideas and preferences, some of which have been incorporated into the Plan. Continued commitment by the City Planning and Zoning Commission and local citizens will be essential if the recommendations of the Plan are to become a reality.

II. STATE COASTAL ZONE POLICIES

The "Coastal Management Act" for the State of Connecticut was adopted by the General Assembly in 1978. The intent of the act is to insure the wise use, development, and conservation of coastal resources. Virtually all of the Thames Street study area is within the delineated 1000 foot coastal boundary (see Figure 5) and is subject to the policies, procedures, and mechanisms of the Act.

The Connecticut Coastal Area Management Program has established three sets of policies to insure that the resources of the coastal zone are protected:

- o Coastal resource policies to identify and protect sensitive resources from adverse impacts;
- o Coastal use policies and guidelines to encourage appropriate use of the coastal areas;
- o Government process policies to insure that the activities of federal, state and local governments are coordinated insofar as they affect resources and uses within the coastal area boundary.

Based on the attributes of Thames Street and the existing or potential uses which may occur in the area, a review of these policies was undertaken to identify those which may have bearing on the study.

A. COASTAL LAND AND WATER RESOURCE POLICIES

The following policies relating to coastal land and water resources appear applicable to Thames Street:

- o General Resources --- The state policy is to preserve and enhance coastal resources, in accordance with the Coastal Area Management Act. To insure compliance, the state uses the Department of Environmental Protection (DEP) regulatory programs to insure that projects needing state approval are consistent with the defined policies toward the coastal zone. Further, the state requires that all municipal planning and zoning agencies act in a way

which is consistent with the broad general policies toward the coastal zone and must determine whether or not the adverse impacts of proposed activities on coastal resources and future water-dependent opportunities are acceptable. This means that in reviewing project plans for Thames Street, the Planning and Zoning Commission must determine whether such proposals enhance or restrict the potential for water-dependent or other appropriate uses of the coastline.

- o Coastal Hazard Areas -- are defined by the Coastal Management Act to mean those land areas inundated during coastal storms, including flood hazard areas as defined by the National Flood Insurance Act. It is the state policy to insure that development proceeds in such a manner that hazards to life and property are minimized. "Structural solutions" are permitted where necessary and unavoidable for the protection of infrastructural facilities, water-dependent uses or existing inhabitant structures, and where there is no feasible, less environmentally damaging alternative. Most parcels to the west of Thames Street include areas subject to flooding and any new development or alterations to existing buildings must be reviewed in the light of these policies.

- o Developed Shorefront Policies -- The state's broad policy is to promote, the use of existing developed shorefront areas for marine related uses, including but not limited to: commercial and recreational fishing, boating or other water-dependent commercial, industrial and recreational uses. Where feasible, the state's guidelines suggest reserving developed shorefront areas for such water-dependent uses. Additionally, the state suggests incorporating site planning and design features which limit or avoid negative visual impacts and which respect the unique and public nature of the waterfront. The guidelines suggest providing visual setbacks from the water for those structures which do not functionally require a shorefront location, using appropriate planting and architectural styles, and maintaining and improving visual access to the coast, and maintaining or enhancing public access to and along the shorefront. The redevelopment of built-up or vacant shorefront is preferable to the development of previously undeveloped shorefront. All of Thames Street is classified as a developed shorefront.

B. COASTAL USE POLICIES

The state defines policies which relate to activities which may be considered for coastal property. These establish use criteria for each activity and are

intended to serve as an early warning system to identify inappropriate or inconsistent proposals. The coastal use policies which appear applicable to Thames Street include:

- o General Development -- The policy is to insure that the development, preservation or use of the land and water resources of the coastal area proceeds without significantly disrupting either the natural environment or sound economic growth. State policy suggests that preference should be given to uses that minimize "adverse impacts" on natural coastal resources while providing long term and stable economic benefits. The state places the burden of determining whether or not adverse impacts of such activities are "acceptable" upon municipal planning and zoning agencies. Such decisions are presumably made during the coastal site plan review process.
- o Water-dependent Uses -- The state has a policy to give priority and preference to uses and facilities which are dependent upon proximity to the water or the shorelands immediately adjacent. Water-dependent uses are defined as those uses and facilities which require direct access to, or location in, marine or tidal waters and therefore which cannot be located inland.
- o Boating -- The state's policy is to encourage increased recreational boating use of coastal waters by providing additional berthing space in existing harbors, and limiting non-water-dependent land uses that preclude boating support facilities. The state also suggests that boating facilities minimize disruption or degradation of natural coastal resources and utilize existing developed areas towards that end. Also, state policy is to maintain existing commercial fishing and recreational harbor space unless the demand for these facilities no longer exists or adequate space has been provided elsewhere. Thames Street is affected by this policy because of existing recreational and commercial docks that are scattered along the waterfront. Also, opportunities exist to greatly expand marina use, as well as to improve facilities for commercial and industrial vessels.
- o Coastal Recreation and Access -- The state policy is to encourage public access to the Thames River, by expansion and development of state-owned facilities, through grants and aid, through coordination with municipal agencies, and through its permitting process. State ownership of the I-95 right-of-way and Fort Griswold State Park may offer unique opportunities for expansion of public access on or in the vicinity of these properties.

- o Cultural Resources -- The state's policy is to require reasonable mitigation measures where development would adversely impact historical resources that have been designated by the state historic preservation officer. A large portion of the study area, including properties between Broad and Fort Streets have been nominated to the National Register of Historic Places, and will shortly be designated. New development must be sympathetic with the character of the district.

C. GOVERNMENT PROCESS GUIDELINES

State coastal management policies within this category include the following key items:

- o To coordinate planning and regulatory activities of public agencies at all levels of government to insure maximum protection of coastal resources while minimizing conflicts and disruption of economic development. To implement this policy the DEP, other state agencies, and municipalities must determine whether or not the adverse impacts of proposed activities on coastal resources and future water-dependent development opportunities are acceptable. This policy will affect the City Planning and Zoning Commission.
- o The state also commits itself to consider in its planning process the potential impact of coastal flooding on coastal development so as to minimize damage to and destruction of life and property and reduce the necessity of public expenditure to protect future development from such hazards.

- o Residential Development -- Recent years have seen the construction of several small condominium projects off Main Street in the vicinity of Griswold State Park. Other parcels in this area are prime candidates for similar projects.
- o Sewage Treatment Plant -- The plant was constructed in the late 1960's and recently expanded to improve the quality of effluent. Large bulkheads have a negative visual impact on the adjacent Griswold landing. The odors are a cause for numerous complaints.

C. EXISTING CONDITIONS

Existing Use and Physical Condition

Figure 2 highlights the major uses within the study area and the Groton Bank district. Figure 3 depicts existing physical conditions along Thames Street. The street is bordered by a scattered mix of single family, multiple family, and commercial uses. Except in a few cases most of the properties are in rather good physical condition. Those in need of repair principally require only modest exterior maintenance and painting. In several locations, river edge areas behind commercial structures have been neglected and need attention. The Groton Bank neighborhood occupies most of the hillside overlooking Thames Street and the river. It includes handsome and well preserved mansions interspersed with modest 19th century cottages. In general, houses are well kept and nicely landscaped, although some are in need of painting and repair. The study area includes major public properties in the Fort Griswold vicinity and along the I-95 right-of-way. Principal observations relating to use and physical condition include:

- o Fort Griswold State Park -- The Park is managed by the State Department of Environmental Management and includes remains of the Fort and Lower Battery, the Groton Monument and Monument House, and the Ebenezer Avery House. State property includes an undeveloped right-of-way along Fort Street connecting to the historic Griswold landing site on the Thames River. The Park is a beautiful open space affording magnificent views of the Thames River and New

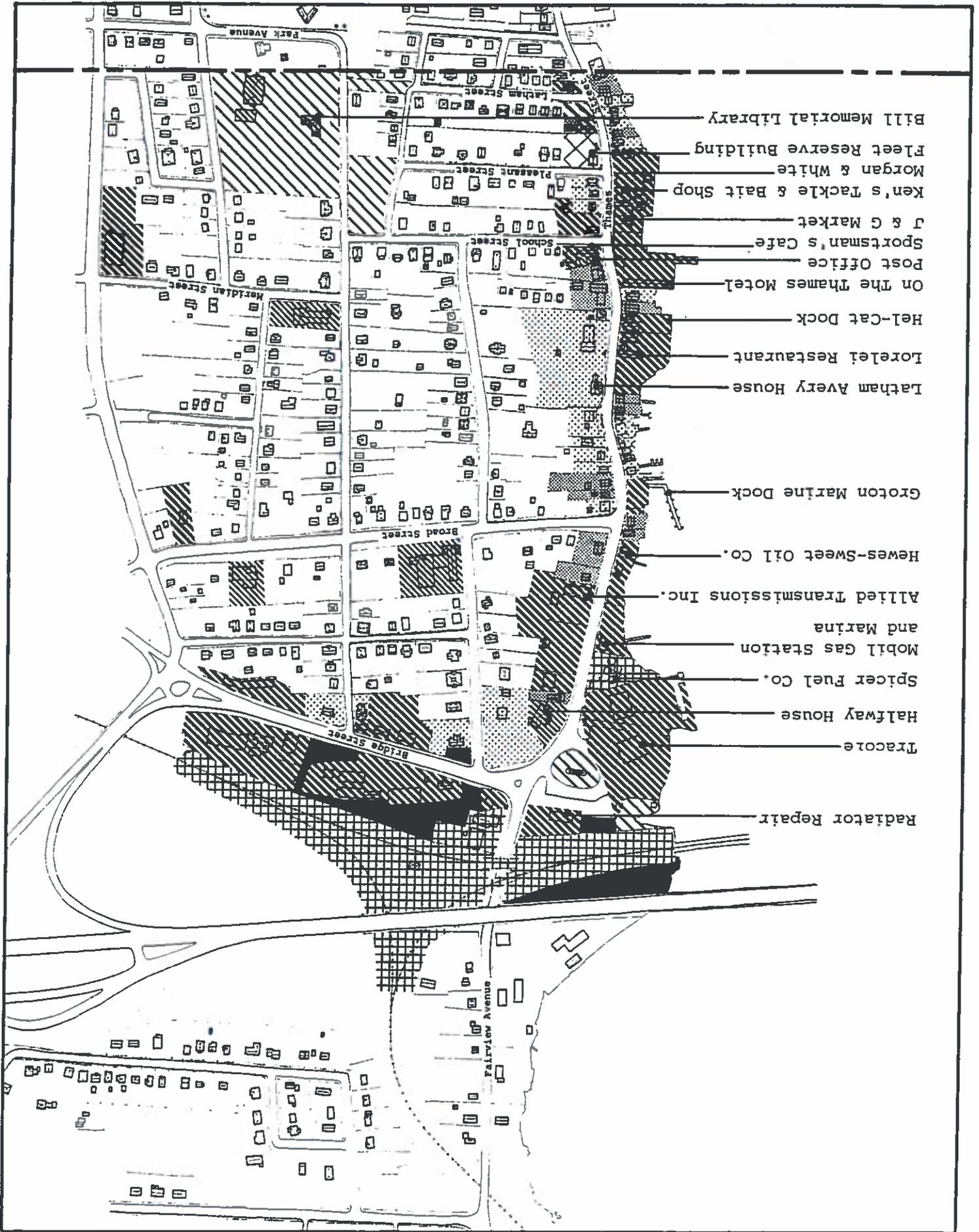
London. The State has plans to reconstruct and upgrade the Fort but action is not scheduled. While the Park landscape is well maintained, the Fort is weathered and has eroded with use. The Monument House is maintained by the Anna Warner Bailey Chapter of the DAR and includes memorabilia pertaining to the history of the area. The Ebenezer Avery House was moved to the Park from its original site on Thames Street in 1971 by the Avery Family Memorial Association. The house is open to the public. The combination of these elements currently attracts approximately 30,000 visitors a year, which is increasing. The educational value of the Park is greatly enhanced by the adjacent location of the Bill Memorial Library, which includes an excellent historical collection.

- o Commercial uses -- Business activity along Thames Street is roughly concentrated in three locations: in the vicinity of Bridge Street, where there is good access to I-95; near School Street, the historic center of the village; and to the south near Electric Boat. Commercial activities are highly diverse including general offices, professional offices, car repair, retail, a motel, marina, and several restaurants and bars. Because of this diversity, and the fact that individual parcels are interspersed with houses and other structures, there is no clearly identifiable "business district" anywhere along the street. Many small professional offices and shops are located in former single family homes which blend well with the overall character of the area. In several cases, business structures are not well maintained or have been poorly renovated detracting from the image of Thames Street.
- o Multi-family residences -- Multiple dwellings consist mainly of rooming houses and small apartments located in former single family homes. These cater principally to seasonal employees of Electric Boat. Two condominium projects have been developed in recent years on parcels in the vicinity of Fort Griswold State Park. These are well sited and do not intrude on the small scale character of the street.
- o Single family residences -- A number of single family homes survive on Thames Street and include some of Groton's most historic buildings. Most visible is the Latham Avery house and estate which is maintained in superb condition by the Avery family. It is one of the highlights of Thames Street and should be respected in future development. Located nearby are other significant homes including the Captain Rufus Avery house at 142 Thames Street, the "Mother Bailey" house at 108 Thames Street, and the gambrell roof colonial at 116 Thames Street -- all built in the 1700's. Most single family homes are in very good condition and some have been recently restored.

- o Water dependent uses -- Only a few water dependent uses currently exist on Thames Street. Costa's Fish Market deals in wholesale and retail seafood, serviced by six boats which are docked at the site. Groton Marine Dock provides 20 slips for recreational boats. The facility is in poor repair and access is difficult. The Spicer Fuel Oil storage facility includes five large tanks serviced by barge from the river. This facility is likely to remain in operation for many years. Improvements are needed on the Thames Street side of the facility which detracts from the image of the area. In addition to these, the Hel-Cat fishing boat offers charter service, and a number of boat slips are maintained behind various commercial and residential structures.
- o I-95 Right-of-Way -- The state currently owns several parcels in the vicinity of the I-95 interchange and beneath the Gold Star bridge. These areas are completely undeveloped and some are overgrown. The State is currently pursuing plans to develop a public boat ramp beneath the bridge which will include modest parking for cars and trailers.

Traffic and Parking

Traffic and parking considerations are illustrated in Figure 4. Thames Street is a narrow two lane thoroughfare intersected by many streets along its eastern edge. The street and all of the Groton Bank district is heavily affected by traffic from Electric Boat, Phizer, and other industries to the south, mainly during rush hour periods. A comprehensive "Topics" study of traffic operations was conducted by the City in cooperation with State Department of Transportation in 1972. The study indicated that traffic to and from Electric Boat flows principally along the three routes: the Defense Access Highway, Mitchell Street/North Street, and Main Street. The Defense Access Highway is an expressway-connector-type facility and carries an average daily volume of approximately 9,800 vehicles. Mitchell Street, although in reality a highly residential street with many intersections, is a more direct route from Electric Boat to I-95 and therefore carries 10,400 vehicles per day - even more than Defense Access Highway. By comparison, Thames Street in 1972 carried 5,500 vehicles. Recent traffic counts by the Police Department indicate a current average daily volume on Thames Street of approximately 5,050 vehicles. While overall traffic on Thames Street during the past decade has decreased, peak volumes -- 1,500 vehicles per hour during rush hours -- appear to have increased (estimated at



Bill Memorial Library

Fleet Reserve Building

Morgan & White

Ken's Tackle & Bait Shop

J & G Market

Sportsman's Cafe

Post Office

On The Thames Motel

Hel-Cat Dock

Lorelei Restaurant

Latham Avery House

Groton Marine Dock

Hewes-Sweet Oil Co.

Allied Transmissions Inc.

and Marina

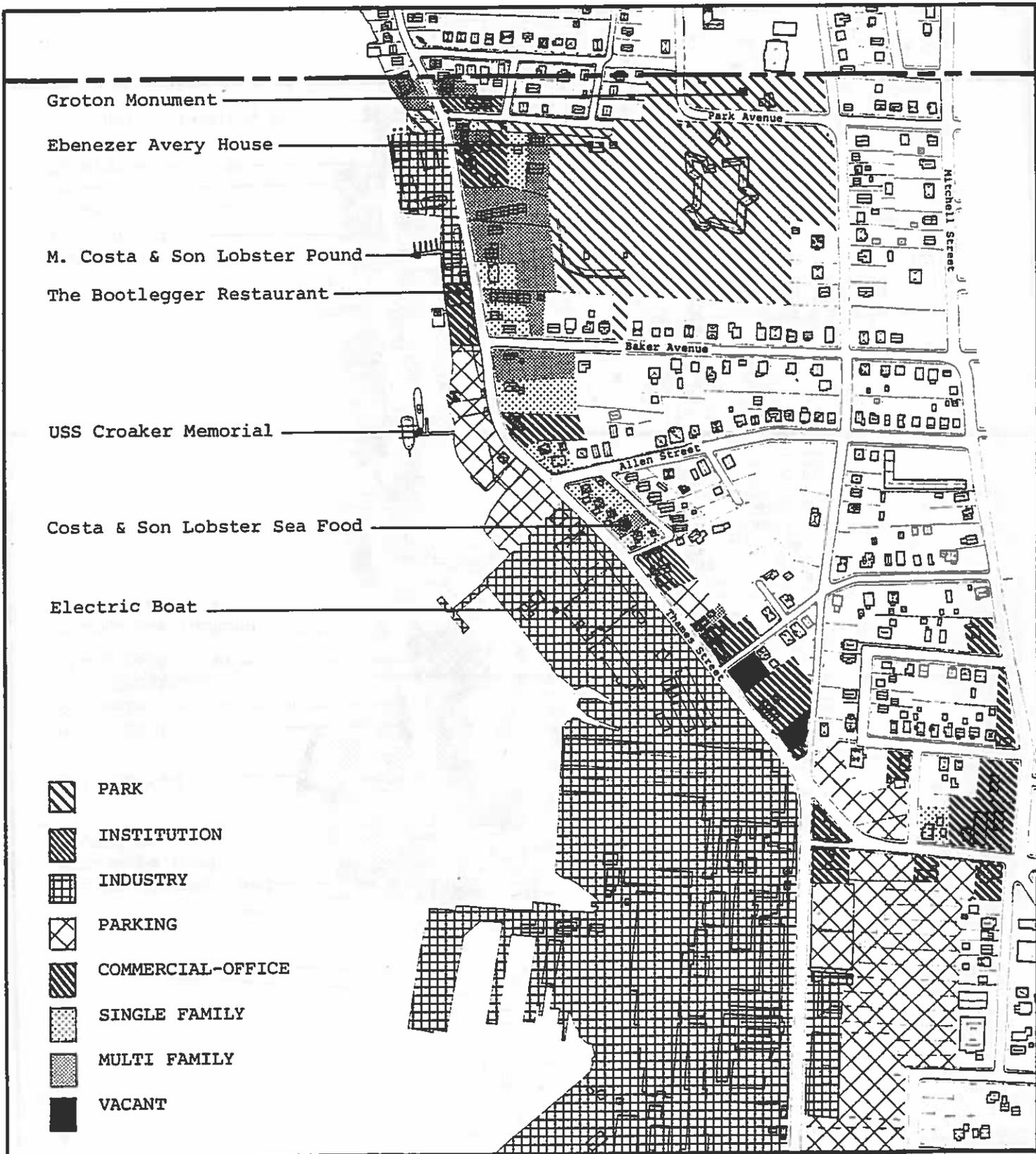
Mobil Gas Station

Spicer Fuel Co.

Halfway House

Tracore

Radiator Repair



Thames Street

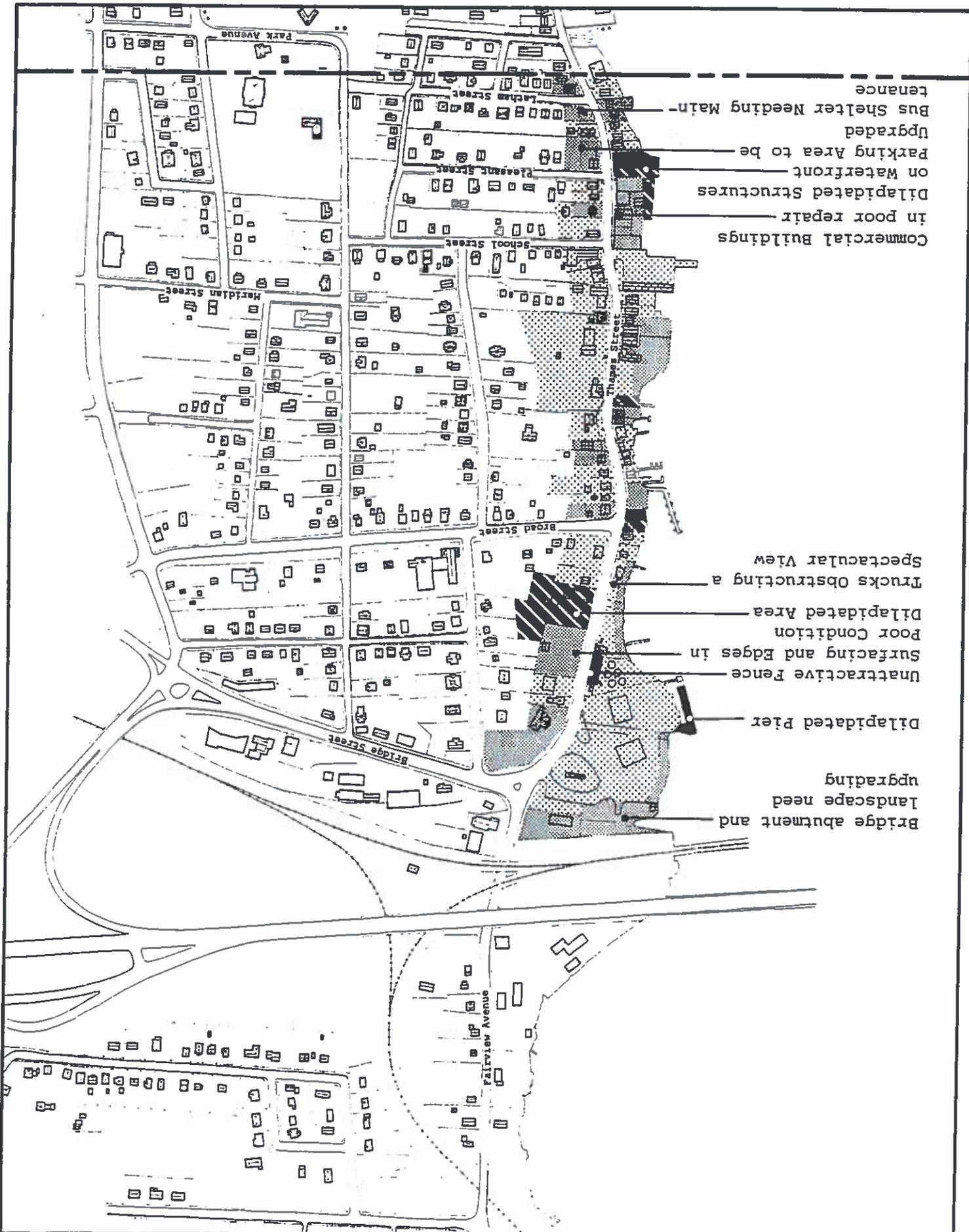
REVITALIZATION STUDY - CITY OF GROTON PLANNING & ZONING COMMISSION

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EXISTING LAND USE

2





Commercial Buildings
in poor repair
Dilapidated Structures
on Waterfront
Parking Area to be
Upgraded
Bus Shelter Needing Main-
tenance

Bridge abutment and
landscape need
upgrading
Dilapidated Pier
Unattractive Fence
Surfacing and Edges in
Poor Condition
Dilapidated Area
Trucks Obstructing a
Spectacular View

Bridge abutment and
landscape need
upgrading

Fairview Avenue

Bridge Street

Broad Street

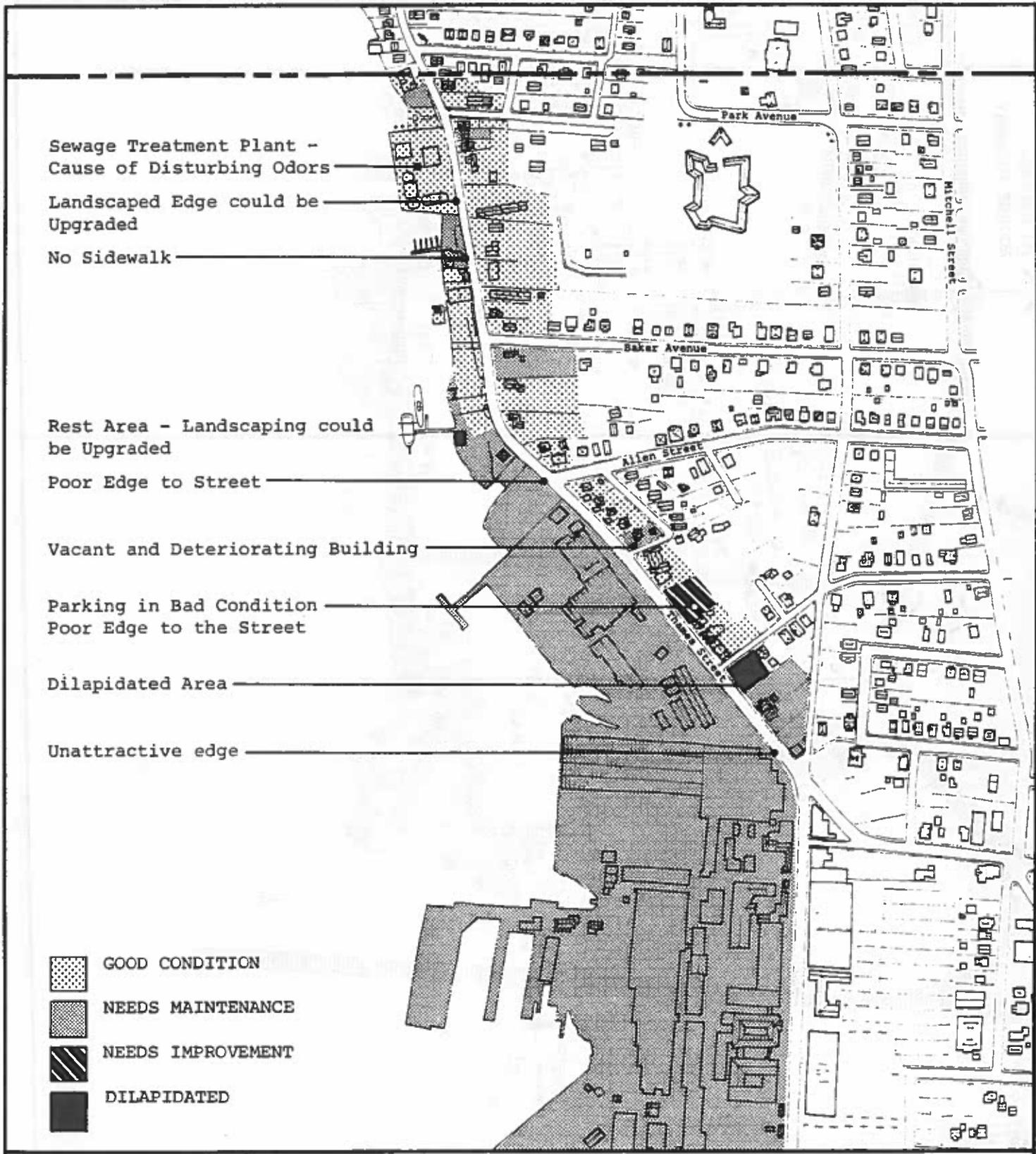
Herdian Street

School Street

Pleasant Street

Latham Street

Park Avenue



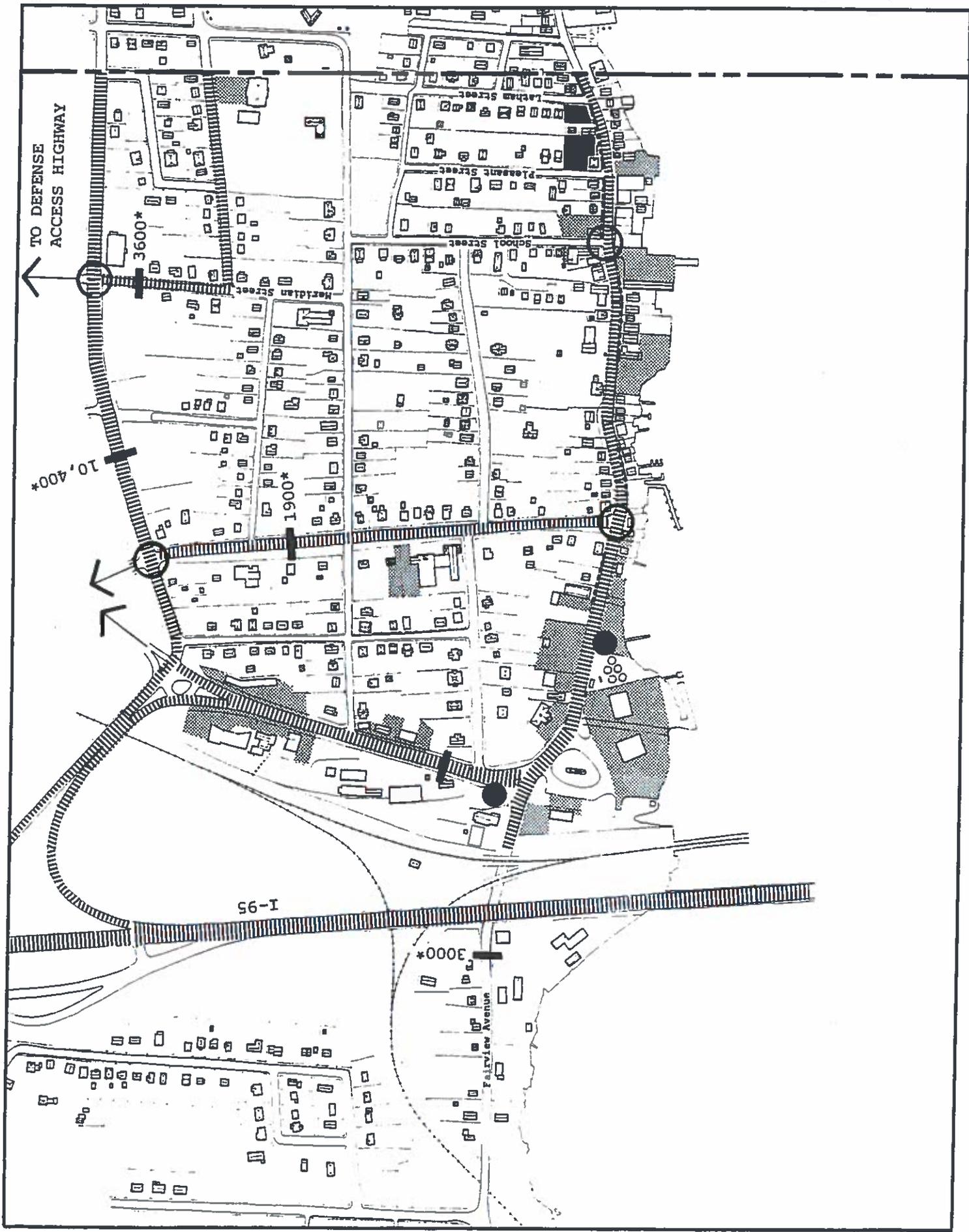
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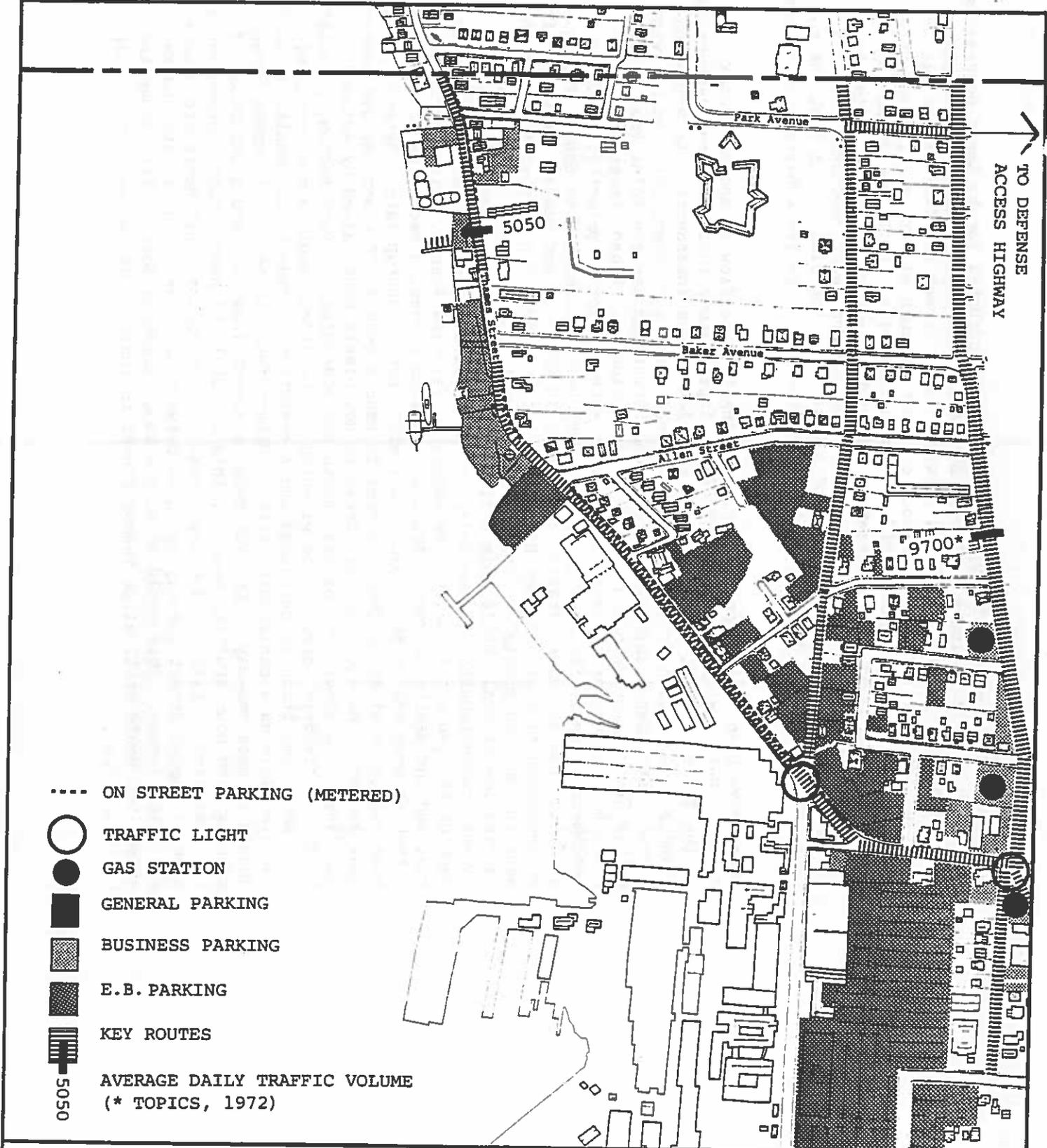
REVITALIZATION STUDY - CITY OF GAYTON PLANNING & ZONING COMMISSION

Lane, Frenchman and Associates, Inc.
 Economic Research Associates
 Vesper / Haugen Associates, Inc.

PHYSICAL CONDITIONS **3**







- ON STREET PARKING (METERED)
- TRAFFIC LIGHT
- GAS STATION
- GENERAL PARKING
- ▨ BUSINESS PARKING
- ▩ E.B. PARKING
- ▧ KEY ROUTES
- 5050 AVERAGE DAILY TRAFFIC VOLUME (* TOPICS, 1972)

Thames Street

REVITALIZATION STUDY - CITY OF GAITHERSBURG PLANNING & ZONING COMMISSION

Lane, Frenchman and Associates, Inc.
 Economic Research Associates
 Yonkers / Mangon Associates, Inc.

TRAFFIC AND PARKING **4**



1,200 vehicles per hour in 1972). This can be accounted for by their decreasing volume in general business on Thames Street and increasing employment at Electric Boat. Key connecting routes between Thames Street and I-95 are Bridge and Meridian Streets, although peak hour cars cut through virtually all residential streets in efforts to avoid traffic on major arteries. While the number of traffic accidents on Thames Street is not high, greater numbers of accidents have been recorded at the Bridge, Broad, and Eastern Point Road intersections. By far the most severe traffic hazard situation in the district is that the rotary intersection of Bridge and North Streets, where traffic converges to access I-95.

There have been many proposals for improving traffic flow on and to Thames Street. Principal recommendations of the Topics study included: reconstruction of the Thames Street, Bridge Street, Fairview Avenue intersection to allow continuous flow between Bridge and Thames Street with a T intersection to Fairview Avenue; and signal improvements at Broad Street and Eastern Point Road. The Bridge Street improvement was given a high priority. Broad Street and Eastern Point Road intersection improvements were rated of lowest priority. None of the recommended Thames Street improvements have been implemented to date. The Town of Groton has evaluated traffic conditions in the Town and placed first priority on reconstruction of Military Highway to better handle expected visitors to the Nautilus and add scenic overlooks. The present route is winding, narrow, and carries low speeds. While this will provide better connections to Thames Street, reconstruction of the Bridge Street intersection will be imperative as part of the project to allow easy access to Fairview Avenue. Given circumstances, and the desire to reduce traffic on Thames Street, direct flow to Bridge Street as proposed in the Topics study might not be appropriate. Several people have suggested widening Thames Street to handle peak traffic and improve commercial access. The width of the street in now highly constrained by adjacent buildings throughout most of its length and sidewalks are very narrow, especially in the historic core. Since widening of the street would almost certainly mean some demolition of buildings and a reduction in pedestrian amenities, we do not view this as a desirable option. Others feel strongly that Thames Street should be made one-way south, for ease of access from I-95 and elimination of evening rush hour traffic, however, this is likely to have serious consequences for businesses relying on two way access. A compromise would designate a section of Thames Street one way south -- between Baker or Allen Streets and Eastern Point Avenue. This would eliminate major Electric Boat traffic along the street but would still allow Thames Street to function as two ways in principal business areas.

Principal parking areas along Thames Street are illustrated in Figure 4. Major parking is currently available at the northern and southern boundaries of the study area, primarily for commercial and industrial users. Electric Boat provides over 3,000 parking spaces at its main facilities and additional spaces at outlying locations, connected by shuttle bus. A large number of additional spaces for Electric Boat employees are provided on scattered private lots, ranging in size from two to three vehicles to lots up to 200. Elsewhere on Thames Street, parking is provided for patrons and employees of specific concerns, including large lots serving the Tracore offices, Spicer Fuel, the Lorelei, On-the-Thames Motel, and the Bootlegger Restaurant/Croaker Memorial. Development of additional parking is highly constrained by the narrowness of the road and the tightness of adjacent parcels. Approximately 250 on-street parking spaces on Thames Street are available, most carrying one hour limits. No publically owned parking is provided, although cars are found on vacant lots on Pleasant and Latham Streets. At Fort Griswold, no off-street parking is provided and visitors use on-street spaces carrying a three hour limit.

Existing Zoning

In general, zoning regulations for the City of Groton reflect historical patterns of land use which were well established long before the original ordinance was adopted. Zones within the study area are depicted in Figure 5. The regulations were substantially revised in the 1970's, including the establishment of a mixed residential and commercial zone for much of Thames Street, eliminating its former industrial designation. The study area lies principally within four different zones, regulating intensity and type of development. Major constraints established by the ordinance in these zones include:

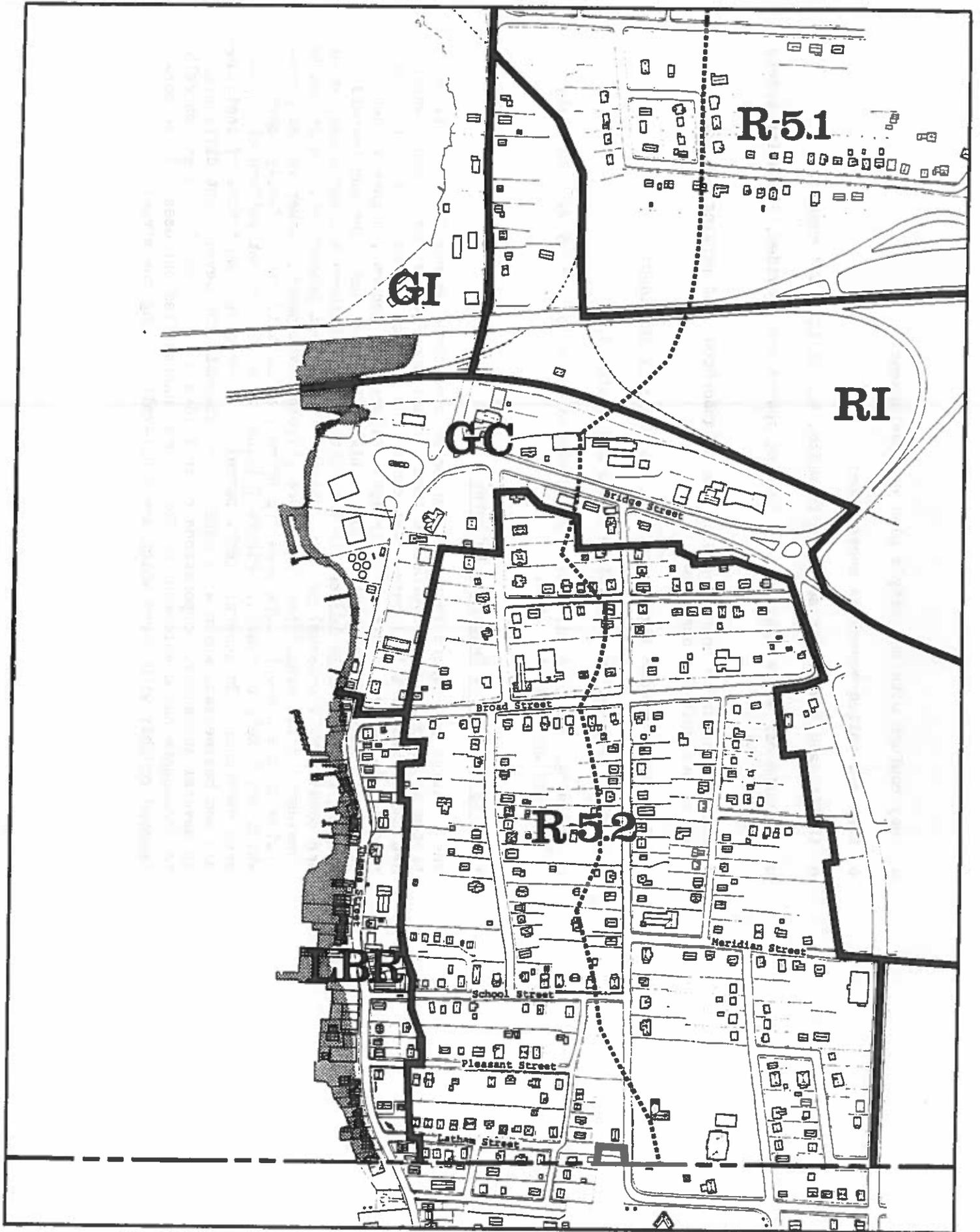
- o GC - General Commercial -- Allowable uses include: retail businesses, such as variety stores, eating and drinking establishments, and grocery stores; business services, such as banks, business and professional offices; personal services, such as barber shops and dry cleaners; repair services. Additional uses are permitted subject to special permit and site plan approval by the Planning and Zoning Commission, including: hotels and motels; drive-in establishments; recreation and entertainment facilities; gasoline stations and car dealers; docks and other marine facilities; mixed use buildings containing not more than two dwelling units and business uses on the first and basement levels. This zone includes no minimum lot or front yard requirements, but requires rear and side yard setbacks where the lot abuts a residential zone. Height is limited to a maximum of 35 feet and lot coverage to a maximum of 70%.

o LBR - Limited Business Residence -- All uses, except one and two family homes as defined in the R5.2 zone, require site plan approval by the Planning and Zoning Commission. Additional permitted uses include: retail shops, business services, personal services, repair facilities, and eating establishments. Uses requiring a special permit from the Planning and Zoning Commission include: docks and other marine facilities; hotels and motels on small lots; funeral homes. Lot areas must be a minimum of 4,000 square feet or 5,000 square feet, whichever is greater, and a minimum width of 40 feet. In general, the front yards must match the existing set-back of adjacent properties. There are no requirements for side or rear yards except where lots abut residential uses. Height is limited to a maximum of 35 feet.

o R-5.2 - Residence Zone -- Permitted uses include: single family dwellings, two family dwellings, parks and playgrounds. Additional uses subject to special permit and site plan approval include: churches, clubs, schools, public buildings. Lots must be a minimum of 5,000 square feet and 50 feet wide. In general, front and rear yards need not exceed 25 feet and side yards must be a minimum of 5 feet wide. Building heights are limited to 2 1/2 stories or 35 feet, whichever is less, and lot coverage must not exceed 25%.

o ROS - Recreation Open Space -- In the study area, this zone applies only to Fort Griswold State Park. Permitted uses include: parks and playgrounds, officially designated historic sites or buildings, athletic fields, land reserves. Additional uses subject to Special Permit and Site Plan approval by the Planning and Zoning Commission include: public buildings and schools, restaurants and concession stands which serve non alcoholic beverages. Lots must be a minimum of 40 square feet and 100 feet in width. Buildings must be set-back at least 50 feet from any front, side or rear lot line, be a maximum of 2 1/2 stories or 35 feet whichever is less, and cover a maximum of 10% of the lot.

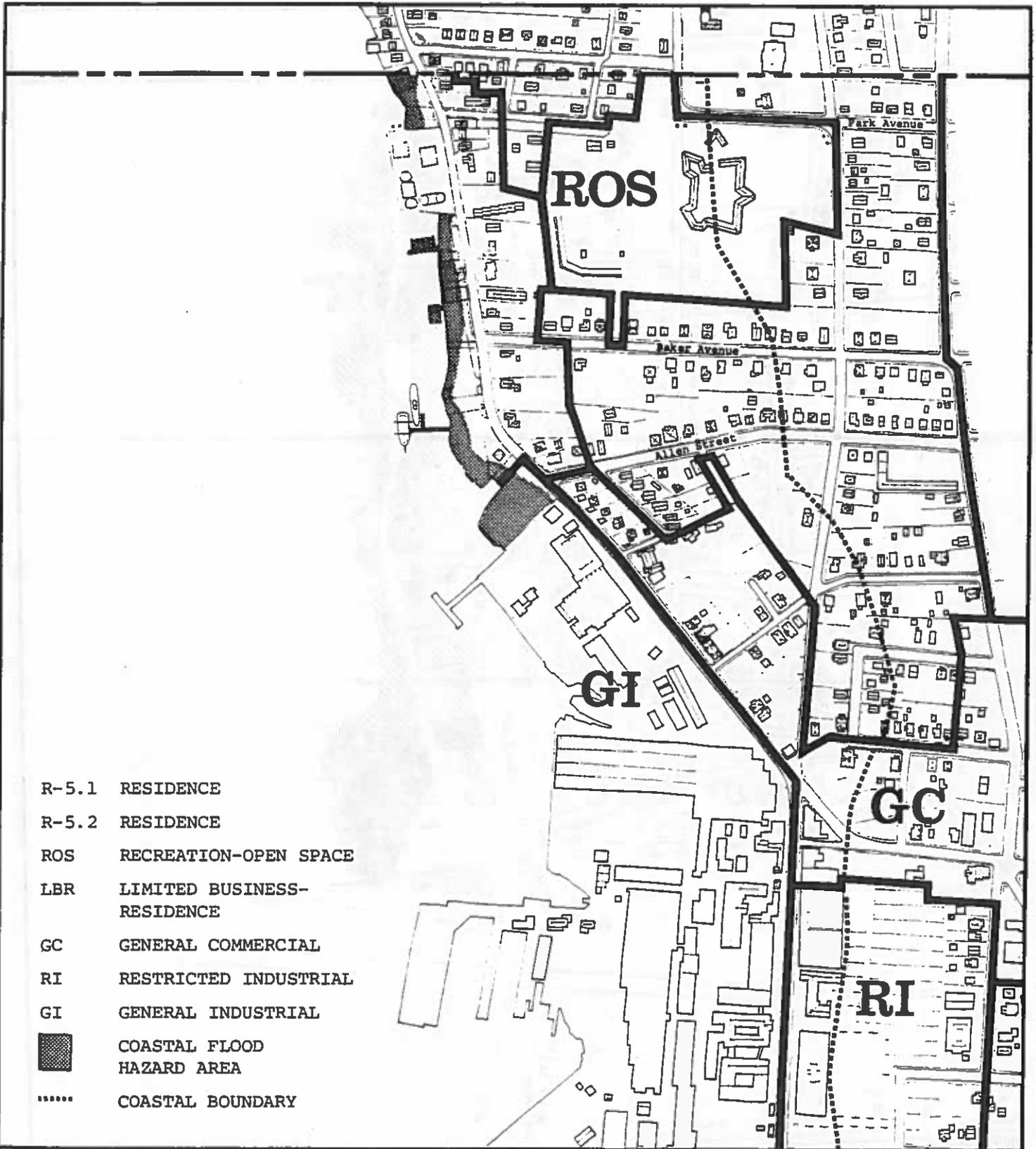
When Special Permits are required, project plans must be submitted to the Planning and Zoning Commission for review and a public hearing. Approval requires a determination that the project conforms to the City's plan of development, is in harmony with the use and character of surrounding uses and buildings, does not create serious parking or traffic problems, and does not impare adjacent property values. When Site Plan review is required, the project must be submitted to the Planning and Zoning Commission and other designated city agencies for review. Plans are reviewed to insure that:



- o they conform with the City's plan of development;
- o fire and police access is acceptable;
- o traffic accessways are adequate in width, visibility, and number;
- o adequate off street parking and loading spaces are provided, including safety considerations;
- o landscaping is in character with the neighborhood, and parking and service areas are suitably screened;
- o glare from outdoor lights and signs is properly shielded;
- o utility systems are suitably located and designed;
- o buildings are located, sized, and designed to be in harmony with the neighborhood and adjacent uses.

Property Values and Ownership Patterns

The relative per square foot value of properties along Thames Street is illustrated in Figure 6. The values reflect current property tax assessments which are calculated on a 1971 base. All properties are now in the process of being revalued to reflect their worth in 1981 dollars. In general, higher valued properties include new construction or high intensity uses. The map reveals several larger parcels located in the northern and southern gateway areas, which are considerably undervalued when compared to adjacent properties. These can be considered prime candidates for future private development. Lower valued properties in the historic core area are primarily historic single family homes which are likely to remain. Figure 7 illustrates the current pattern of property ownership. In general, small parcels are owned by a multitude of individuals and businesses, which will make future assembly for development difficult. In several instances, corporations or individuals have assembled larger parcels to accommodate new development or for future, unspecified purposes. These correspond roughly with areas which are under-valued along the street.



- R-5.1 RESIDENCE
- R-5.2 RESIDENCE
- ROS RECREATION-OPEN SPACE
- LBR LIMITED BUSINESS-RESIDENCE
- GC GENERAL COMMERCIAL
- RI RESTRICTED INDUSTRIAL
- GI GENERAL INDUSTRIAL
-  COASTAL FLOOD HAZARD AREA
-  COASTAL BOUNDARY

Thames Street

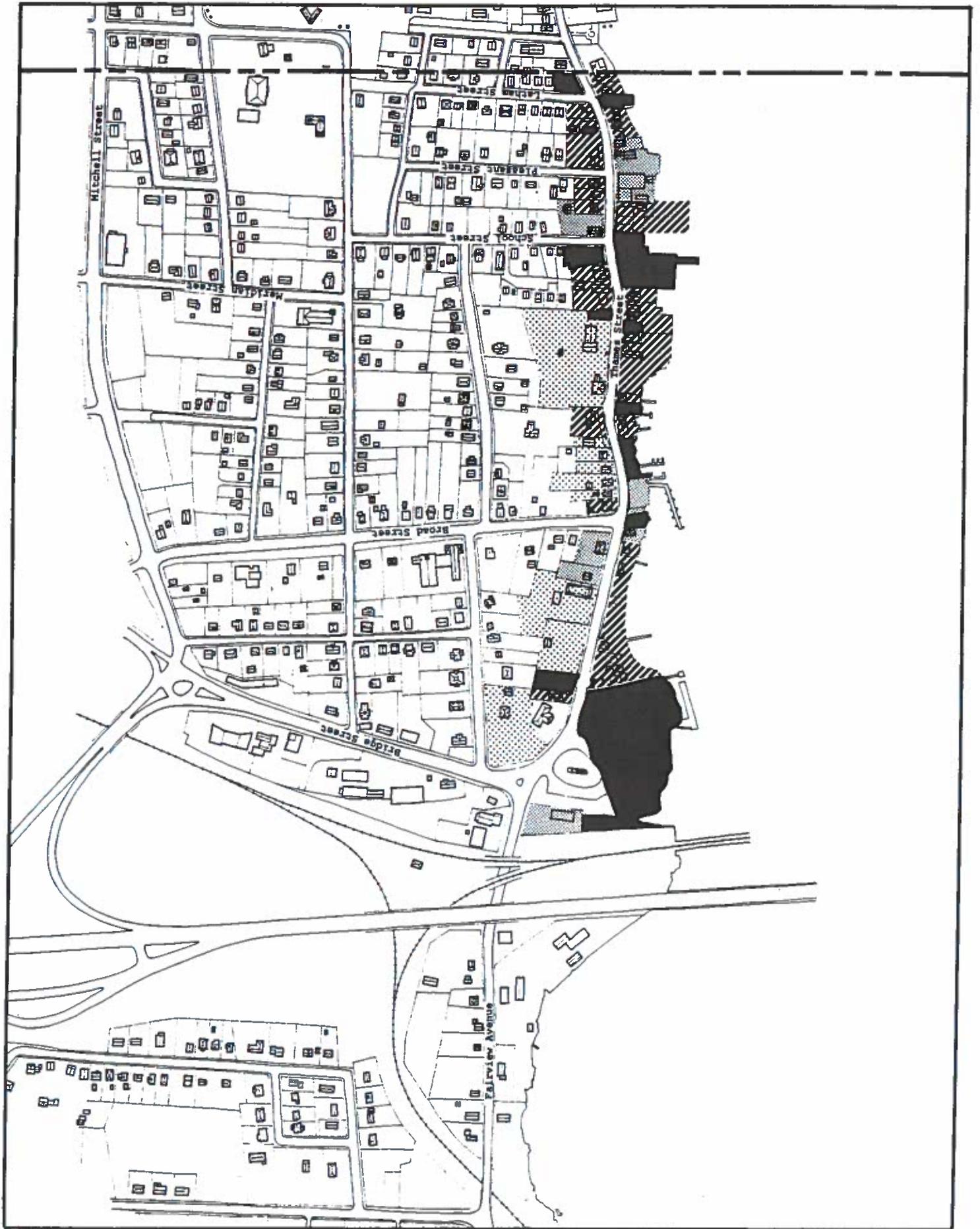
EXISTING ZONING AND COASTAL BOUNDARIES

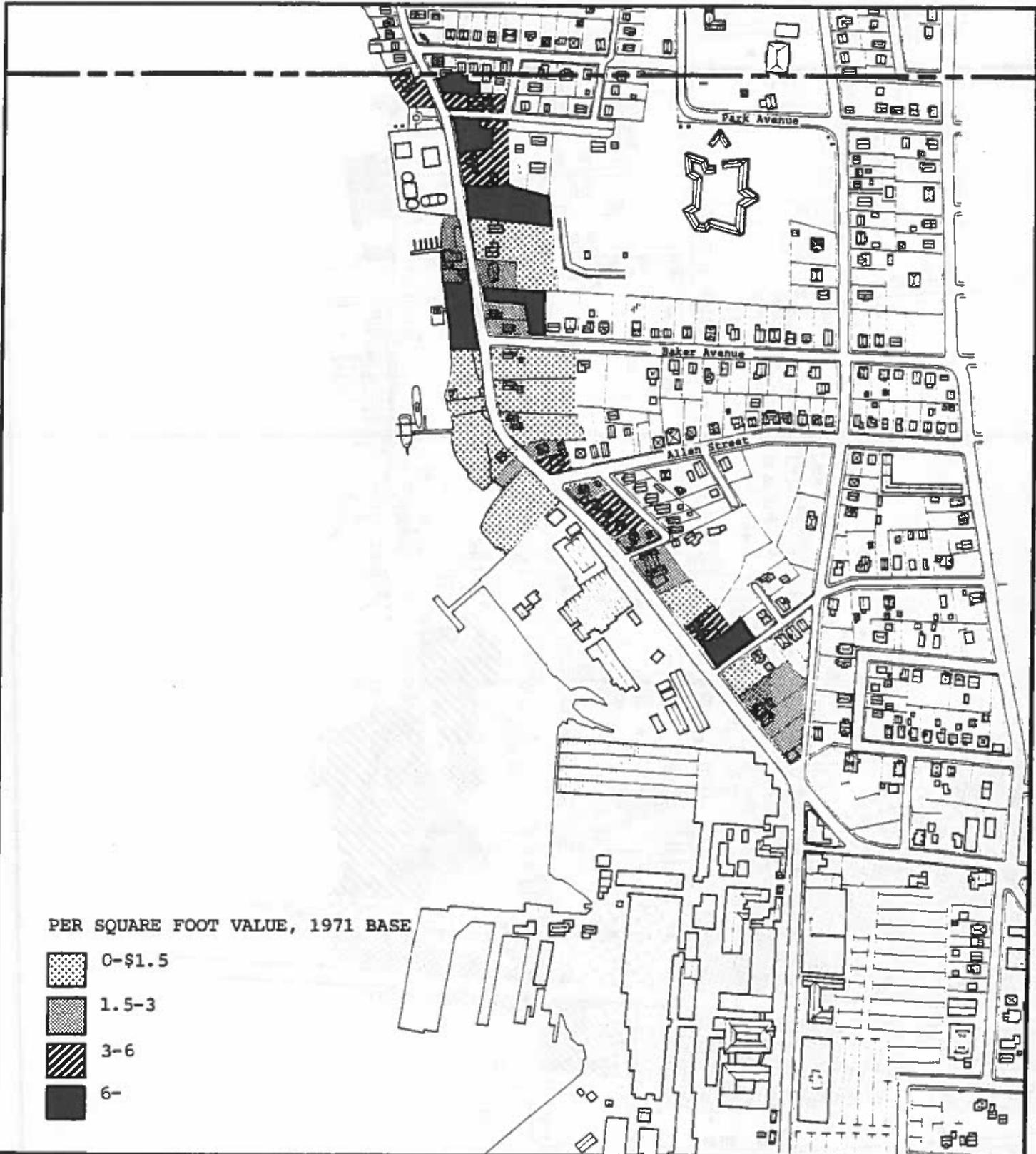
5

RENTALIZATION STUDY - CITY OF GROTON PLANNING & ZONING COMMISSION

Lane, Frenchman and Associates, Inc.
 Economic Research Associates
 Vannoy / Hoag Associates, Inc.







PER SQUARE FOOT VALUE, 1971 BASE

-  0-\$1.5
-  1.5-3
-  3-6
-  6-

Thames Street

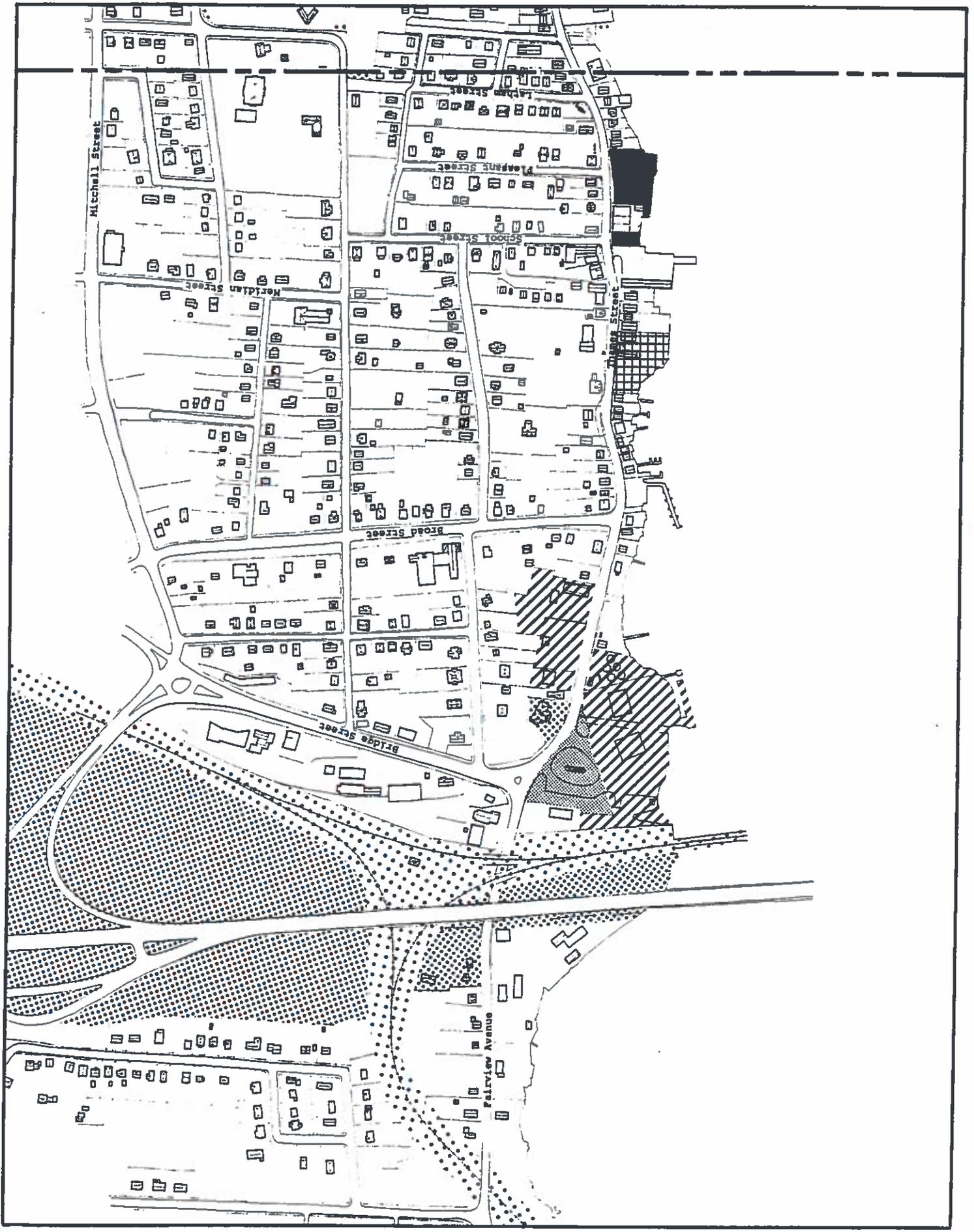
REVALUATION STUDY - CITY OF GROTON PLANNING & ZONING COMMISSION

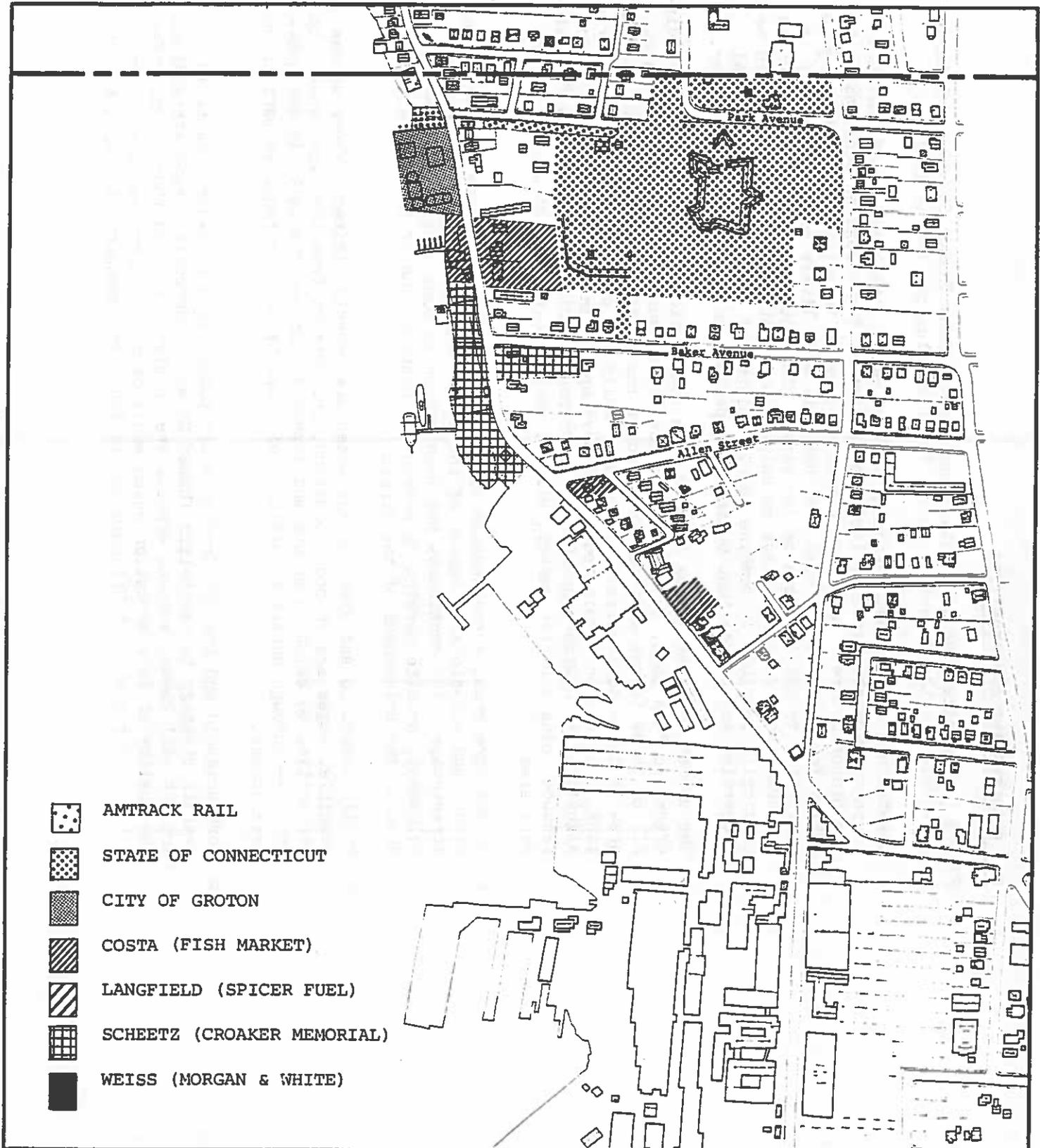
Lane, Frenchman and Associates, Inc.
 Economic Research Associates
 Traverso / Ruggie Associates, Inc.

PROPERTY VALUES

6







-  AMTRACK RAIL
-  STATE OF CONNECTICUT
-  CITY OF GROTON
-  COSTA (FISH MARKET)
-  LANGFIELD (SPICER FUEL)
-  SCHEETZ (CROAKER MEMORIAL)
-  WEISS (MORGAN & WHITE)

Thames Street

REVITALIZATION STUDY - CITY OF GROTON PLANNING & ZONING COMMISSION

Lane, Frenchman and Associates, Inc.
 Economic Research Associates
 Vantage / Morgan Associates, Inc.

OWNERSHIP PATTERNS **7**



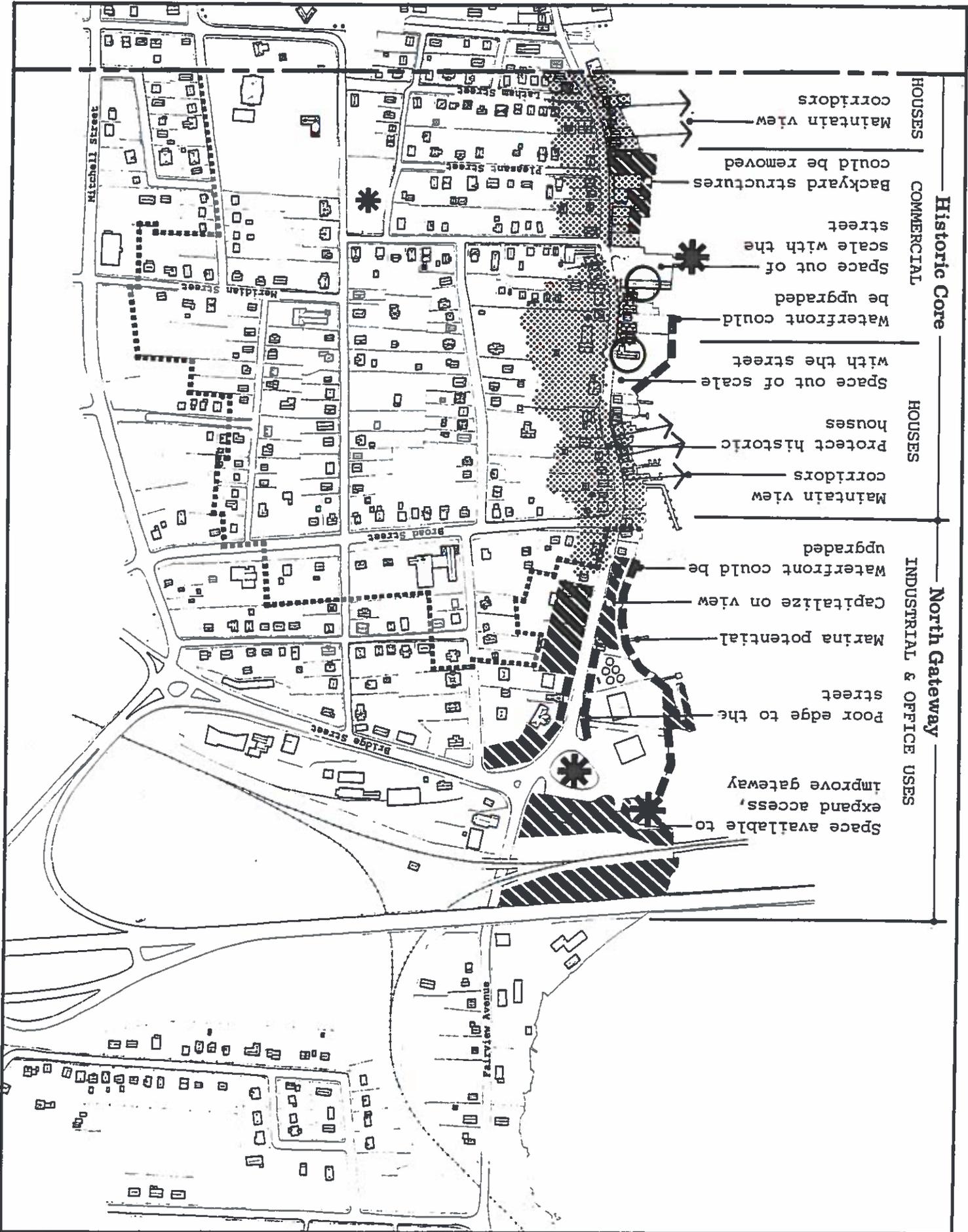
D. PROBLEMS AND OPPORTUNITIES

Figure 9 summarizes the liabilities and assets along Thames Street which have been revealed by the Inventory work. Major conclusions are as follows:

- o Constraints of parking, vehicular access, small parcel size, and multiple property ownership greatly limit the potential for expanding business within the historic core. Some opportunities do exist to upgrade and combine properties for higher commercial use, but this will likely be feasible only if visitation to the City can be increased, alternative access can be provided, and businesses can capitalize on unique and spectacular views. It would be physically possible to combine poorly maintained areas behind commercial properties and to reorient business to pedestrian spaces along the river.
- o The uneven image of Thames Street is a combination of poor maintenance, disorganized land uses, and the rather low visual quality of the gateway areas. All of these issues must be addressed if the physical quality of the study area is to be substantially improved. While the pattern of existing activities is likely to remain, potential development in the gateway areas could significantly upgrade appearance, if properly designed. Incentives for maintenance, plus a better market, will be needed to upgrade structures in the core area.
- o In the core area, a combination of historic buildings, narrow streets, topography, and occasional glimpses of the water produce a strong and cohesive streetscape. The continuity has been broken in some instances by recent development, on-site parking is provided. Continuation of this pattern will destroy the uniqueness of the street.
- o Public access to and views of the water are severely limited. Where access is possible, edges are in poor condition, and detract from the experience. Opportunities do exist to secure and expand access -- especially in the gateway areas -- through public acquisition of property or as a required part of new development.
- o Fort Griswold and the USS Croaker could potentially be major assets in an overall strategy to revitalize Thames Street. Currently, these attractions are not well known, various aspects are in disrepair, and they do not offer the quality of interpretation which would be most attractive to visitors. Future efforts at Fort Griswold should focus on reconstruction of the Fort

providing a better museum, and greater strengthening the linkage between the Fort site and Griswold landing on the Thames River. There is an excellent opportunity to make Thames Street the principle entrance for visitors, thereby encouraging greater patronage of Thames Street business. At the Croaker, the disheveled appearance of parking areas and water edges detract from what could be a first rate attraction. The opportunity to improve connections to Fort Griswold should be explored as well as ways to tie these sites thematically to the USS Nautilus facility.

- o The northern gateway area, with its underdeveloped private and public properties and direct access to I-95 has the greatest potential for redevelopment in the study area. In general existing new buildings are not sympathetic to the character of the district, however, further development may offer the opportunity to soften their impact. The pending construction of the state boat ramp in this area could provide a catalyst for expanded visitor, recreational and marine uses. The geometry of the cove area, to the south of the Spicer fuel tanks, plus available land in the vicinity offer one of the only opportunities to expand marine industrial and commercial uses on the waterfront.



Historic Core

HOUSES

Maintain view corridors

COMMERCIAL

Backyard structures could be removed
 Space out of scale with the street

HOUSES

Maintain view corridors
 Protect historic houses

North Gateway

INDUSTRIAL & OFFICE USES

Space available to expand access, improve gateway
 Poor edge to the street
 Marina potential
 Capitalize on view
 Waterfront could be upgraded

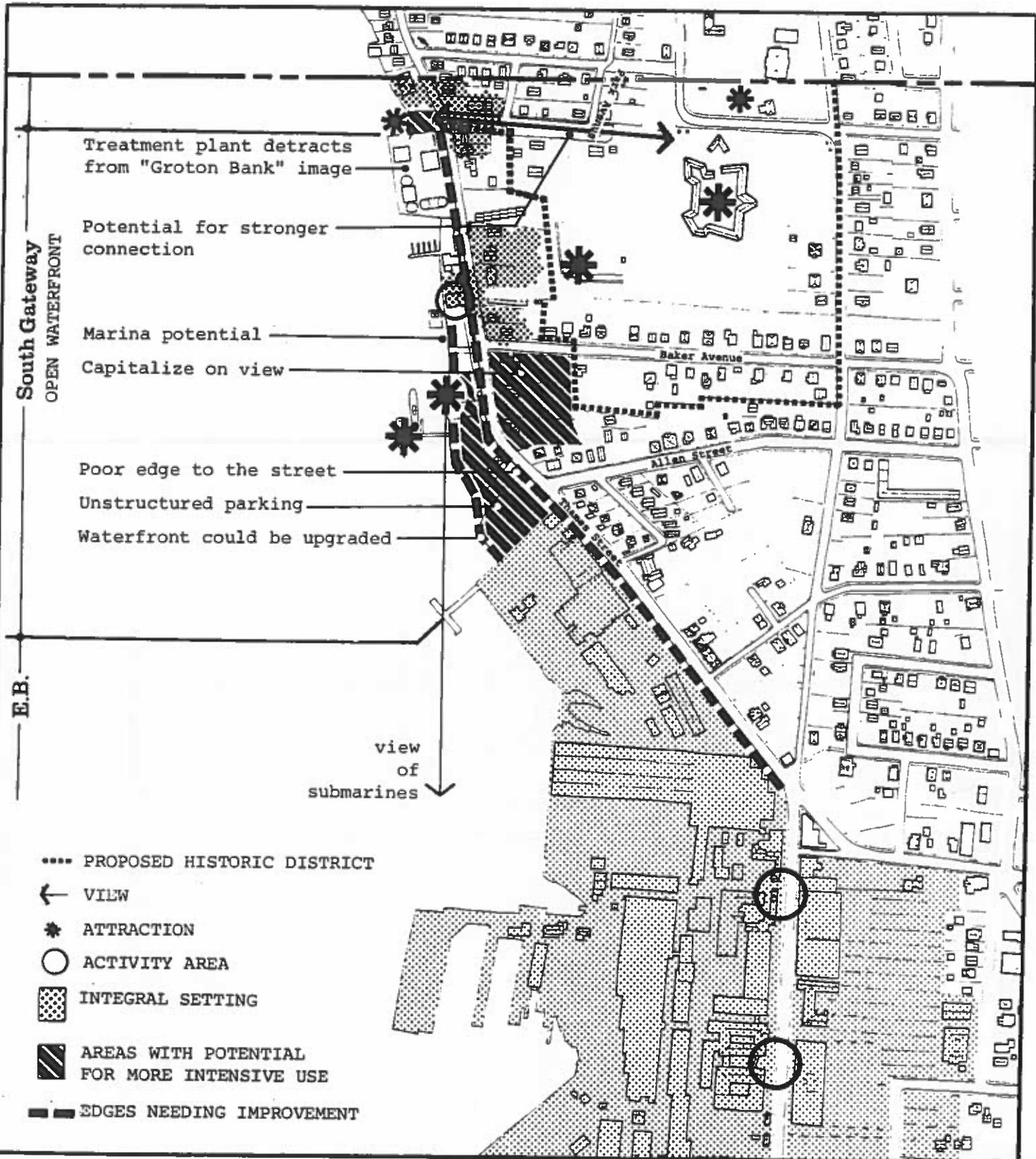
Mitchell Street

Herdian Street

Broad Street

Bidge Street

Fallyview Avenue



Thames Street

PROBLEMS AND OPPORTUNITIES

8

REVITALIZATION STUDY - CITY OF GROTON PLANNING & ZONING COMMISSION

Lane, Frenchman and Associates, Inc.
Economic Research Associates
Vanover / Sanger Associates, Inc.



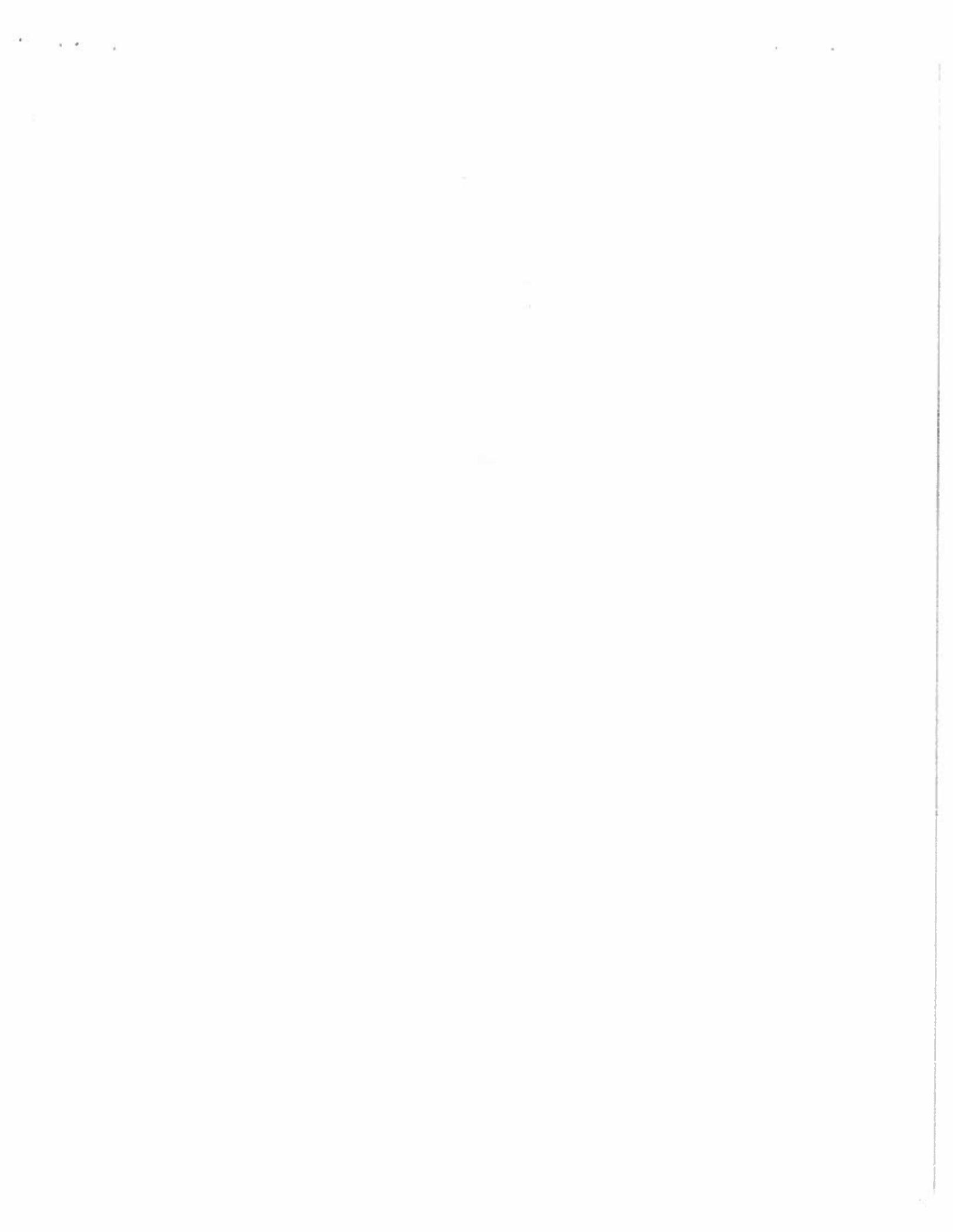


Figure 9: Convenience Trade Area
(Census Tract 7024)



TABLE 1: NEW LONDON-NORWICH LABOR MARKET AREA ^{1/} NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT

	March 1982	March 1981	Net Change From March 1981
Total	93,510	93,540	- 30
Percent Change	xxx	xxx	- 0.1
MANUFACTURING	34,540	36,140	-1,600
Percent Change	xxx	xxx	- 4.4
Metallic	25,970	27,110	-1,140
Nonmetallic	8,570	9,030	- 460
NONMANUFACTURING	58,970	57,400	+1,570
Percent Change	xxx	xxx	+ 2.7
Construction	3,770	3,380	+ 390
Transportation	2,040	1,950	+ 90
Communications & Utilities	1,650	1,560	+ 90
Trade	17,480	17,260	+ 220
Wholesale	2,470	2,420	+ 50
Retail	15,010	14,840	+ 170
Finance, Insurance & Real Estate	2,410	2,300	+ 110
Service	15,860	15,340	+ 520
Government	15,760	15,610	+ 150
Federal	4,300	4,330	- 30
State & Local	11,460	11,280	+ 180

^{1/} Labor Market Area includes Groton, New London, Stonington, Waterford, East Lyme, Old Lyme, Salem, Montville, Ledyard, North Stonington, Voluntown, Griswold, Preston, Norwich, Bozrah, Franklin, Sprague, and Lisbon.

Source: Connecticut Labor Department, Employment Security Division.

TABLE 2: POPULATION TRENDS AND PROJECTIONS SOUTHEASTERN CONNECTICUT

Municipality	Actual		Percent Change 1970-1980	Projected		Percent Change 1980-2000
	1970	1980		1990	2000	
Bozrah	2,036	2,135	4.9%	2,190	2,100	-1.5%
Colchester	6,603	7,761	17.5	8,940	9,510	22.5
East Lyme	11,399	13,870	21.7	14,860	15,300	10.3
Franklin	1,356	1,592	17.4	1,690	1,680	5.5
Griswold	7,763	8,967	15.5	9,470	9,970	11.2
Groton	38,244	41,062	7.4	41,830	42,780	4.2
Ledyard ^{1/}	14,837	13,735	-7.4	15,630	17,060	24.2
Lisbon	2,808	3,279	16.7	3,580	3,830	16.8
Montville	15,662	16,455	5.1	17,960	19,170	16.5
New London	31,630	28,842	-8.8	29,140	28,580	-0.8
North Stonington	3,748	4,219	12.6	4,120	4,020	-4.6
Norwich	41,739	38,074	-8.8	39,440	40,950	7.6
Preston ^{2/}	3,593	4,644	29.3	5,000	5,280	13.7
Salem	1,453	2,335	60.7	2,740	3,240	38.8
Sprague	2,912	2,996	2.9	2,930	2,860	-4.4
Stonington	15,940	16,220	1.8	17,350	18,360	13.2
Voluntown	1,452	1,637	12.7	1,780	1,940	18.5
Waterford	17,227	17,843	3.6	18,550	18,200	2.0
Totals	220,402	225,666	2.4%	237,200	244,830	8.5%

- ^{1/} 1970 without Navy equals 11,649. This population results in a growth of 2,086 persons or 17.9 percent.
- ^{2/} Includes 630 persons in Norwich Hospital. When this population is removed growth equals 421 persons or 11.7 percent for the decade.

Source: U.S. Census and Connecticut Office of Policy and Management.

TABLE 3: INVENTORY OF EXISTING RETAIL SPACE ON THAMES STREET

<u>Retail Category</u>	<u>Number of Stores</u>	<u>Square Feet</u>
<u>Comparison Goods</u>		
General Merchandise	0	0
Apparel	0	0
Furniture, Home		
Furnishings & Appliances	1	9,000
Miscellaneous Retail	3	2,400
		<u>11,400</u>
Total Comparison	4	
<u>Convenience Goods</u>		
Food	2	1,600
Drugstore	0	0
Hardware	0	0
Liquor	0	0
		<u>1,600</u>
Total Convenience	2	
<u>Eating and Drinking</u>		
	4	13,900
Total Retail	10	26,900

1/ Includes banquet space at the Lorelei Restaurant (3,400 square feet) and 1,200 square feet in the space formerly occupied by the Butterfly Cafe.

Source: Economics Research Associates.

TABLE 4: LIST OF RETAIL ESTABLISHMENTS ON THAMES STREET

<u>Store Name</u>	<u>Store Type</u>	<u>Square Feet</u>
Morgan & White	Appliances	9,000
Ken's Tackle	Fishing Gear	1,200
Gazebo Flower Shop	Flowers	600
Thrifty Shop	Thrifty Shop	600
J & G Market	Grocery	800
Costa Fish Market	Fish	800
Lorelei	Restaurant	7,000
Bootlegger	Restaurant	4,500
Sportsmen Cafe	Restaurant	1,200
Butterfly Cafe ^{1/}	Restaurant	1,200
Total		26,900

^{1/} Now out of business but to be reopened in August under new ownership.

Source: Economics Research Associates.

TABLE 5: SELECTED MAJOR RETAIL COMPETITION IN THE GROTON AREA

<u>Shopping Center/Location</u>	<u>Square Feet</u>	<u>Year Opened</u>	<u>Major Tenants</u>
Olde Mistick Village Route 27 at I-95 Mystic, Connecticut	100,000	1973	Specialty Theme Center
Groton Shopping Center Kings Highway and 2-95 Groton, Connecticut	135,000	1973	Caldor
Groton Shoppers Mart Route 1 Groton, Connecticut	125,000	1964	T.J. Max
Groton Shopping Plaza Long Hill Road Groton, Connecticut	115,000	1956	
Groton Shopping Center Associates Long Hill Road Groton, Connecticut	90,000	1960	Bradlees, Anderson-Little
New London Mall Route I-95 New London, Connecticut	290,000	1968	Two Guys From Harrison, Edward Malloy
New London Shopping Center Route I-95 New London, Connecticut	218,000	1957	Bradlees
Norwich Town Mall W. Town Street Norwich, Connecticut	259,000	1966	Caldor's

Source: Economics Research Associates.

Two of the major retail anchors on the street - Ken's Tackle Shop and Morgan and White Appliance Store - appeal to very different markets, but both draw from large trade areas reaching as far away as Hartford. Morgan and White has an old, established reputation in its present location and is known for its low prices. The restaurants, Costa's Fish Market and Ken's Tackle Shop, are all waterfront or marine-related - the restaurants take advantage of their waterfront views. Ken's Tackle Shop depends on fishermen in the area and Costa's retail and wholesale business is an active marine operation. The other miscellaneous retail stores are very small (500 to 600) square feet and have much smaller draws.

Competition

The major concentrations of retail space in the region are along Route 1 and Kings Highway in Groton and on Route 95 in New London (Table 5). Four shopping centers in Groton account for the largest concentration of retail sales in the New London-Norwich SMSA.^{1/} The major specialty shopping areas are in downtown New London, the village of Mystic and Old Mistick Village. A major new shopping mall is planned for Waterford which could alter area shopping patterns. Called Crystal Mall, this new center will have approximately 800,000 square feet of space and will offer retail opportunities presently unavailable in the region such as Jordan Marsh, Sears, and J.C. Penny's.

Competition for convenience goods stores on Thames Street is extensive at the aforementioned Groton malls and to a lesser degree on Bridge Street. These malls are very close to Thames Street and offer more convenient parking.

Retail Sales

Retail sales (Table 6) in the City of Groton account for 2 percent of SMSA sales. Retail sales in the Town of Groton and the City of New London account for 12 percent and 18 percent of SMSA sales respectively. ERA estimates Thames Street retail sales at approximately \$3.2 million or 0.3 percent of SMSA sales.

^{1/} Standard Metropolitan Statistical Area. For definition see footnote ^{1/} on Table 6.

Market Potentials

Thames Street penetration of area retail expenditures is very small. ERA has estimated existing capture rates of trade area expenditures by Thames Street businesses as shown in Table 7. The trade area for comparison goods is the SMSA/ and for convenience goods is census tract 7024, shown in Figure 9.

To determine these capture rates, ERA estimated present retail sales by retail category based on industry sales per square foot standards for retail categories (Thames Street merchants did not reveal sales levels to ERA). These estimated sales were then divided by the retail expenditure potentials for the appropriate trade area shown in Table 8. The expenditure potentials for each trade area were estimated by ERA based on population, income, and in-house consumer expenditure data. According to the 1980 Census, the median income for families and unrelated individuals in census tract 7024 was higher than in the SMSA, as shown in the text table below.

Median Income of Families and Unrelated Individuals, 1980

SMSA	\$8,184
Tract 7024	\$8,867

As seen in Table 7 comparison goods stores on Thames Street capture only 0.5 percent of trade area comparison goods expenditures. The one furniture and appliance store captures an estimated 3.0 percent of trade area furniture and appliance expenditures and miscellaneous retail stores capture only 0.1 percent of those expenditures. Convenience goods stores capture only 3.0 percent of trade area convenience expenditures. Eating and drinking establishments capture an estimated 2.0 percent of SMSA restaurant expenditures.

These figures illustrate that Thames Street is a very small shopping area capturing only a small share of area expenditures. It is unlikely that Thames Street could dramatically increase its capture of trade area sales given the following: the lack of parking on Thames Street, the physical configuration of the Street and the level of competition in the area.

TABLE 6: RETAIL SALES IN GROTON AREA, 1977 (Thousands of Dollars)

<u>Retail Category</u>	<u>City of Groton</u>	<u>Town of Groton</u>	<u>New London</u>	<u>New London - Norwich SMSA^{1/}</u>
<u>Comparison</u>				
General Merchandise	0	\$15,447	\$35,129	\$109,972
Apparel	\$1,054	8,406	6,957	33,645
Furniture, Home Furnishings, Appliances	2,166	1,754	8,372	37,514
Miscellaneous/Specialty	7,278	8,914	17,336	105,414
<u>Total Comparison</u>	<u>10,498</u>	<u>34,521</u>	<u>67,794</u>	<u>286,545</u>
<u>Convenience</u>				
Food	1,559	25,631	15,952	197,715
Drugstores	(D)	1,298	3,706	26,029
Hardware	0	4,124	5,496	38,805
<u>Total Convenience</u>	<u>(D)</u>	<u>31,053</u>	<u>25,154</u>	<u>262,549</u>
<u>Eating and Drinking</u>	<u>3,194</u>	<u>10,547</u>	<u>11,409</u>	<u>73,182</u>
<u>Automobile & Gas Station</u>	<u>(D)</u>	<u>26,348</u>	<u>50,219</u>	<u>245,106</u>
<u>Total Retail</u>	<u>\$18,507</u>	<u>\$102,469</u>	<u>\$154,576</u>	<u>\$867,382</u>

^{1/} SMSA: Standard Metropolitan Statistical Area includes New London, Groton, Stonington, Ledyard, Waterford, Montville, Bozrah, Norwich, Preston, Griswold, Lisbon, Sprague, East Lyme, Old Lyme, and Old Saybrook, Connecticut, and Westerly and Hopkinton, Rhode Island.

Source: Census of Retail Trade.

TABLE 7: THAMES STREET CAPTURE OF TRADE AREA RETAIL EXPENDITURES

<u>Retail Category</u>	<u>Trade Area</u>	<u>Estimated Capture Rate</u>
<u>Comparison Goods</u>		
General Merchandise	SMSA ^{1/}	0%
Apparel	"	0%
Furniture, Home Furnishings, Appliances	"	3%
Miscellaneous Retail	"	0.1%
Total Comparison	"	0.5%
<u>Convenience Goods</u>		
Food	Tract 70242 ^{2/}	4%
Drugstore	"	0%
Hardware	"	0%
Liquor	"	0%
Total Convenience	"	3%
<u>Eating and Drinking</u>	SMSA	2%

1/ Standard metropolitan statistical area. Includes Groton, New London, Norwich, Stonington, Ledyard, Waterford, Montville, Bozrah, Preston, Gislwood, Lisbon, Sprague, East Lyme, Old Lyme, and Old Saybrook, Connecticut; and Westerly and Hopkinton, Rhode Island.

2/ See Map in Figure 1.

Source: Based on estimates of Thames Street sales and trade area expenditures by Economics Research Associates.

TABLE 8: RETAIL TRADE AREA EXPENDITURE POTENTIAL, 1982 (000)

	<u>New London-Norwich SMSA</u>	<u>Census Tract 7024 Groton</u>
<u>Comparison Goods</u>		
General Merchandise	\$118,600	NA
Apparel	36,300	NA
Furniture, Home Furnishings, Appliances	52,200	NA
Miscellaneous Retail	113,600	NA
Total	321,000	
<u>Convenience Goods</u>		
Food	NA	3,200
Drugs & Proprietary	NA	400
Hardware	NA	600
Total		4,200
<u>Eating and Drinking</u>	93,200	NA

NA: Not applicable.
 Source: Economics Research Associates estimates.

The configuration of buildings along Thames Street makes it difficult to create a concentrated area of attractive shops large enough to achieve the "critical mass" needed for specialty retail development. The buildings with the greatest character and potential for specialty retailing are concentrated in a few middle blocks, and account for a very small amount of space. While this space is now occupied by retail uses, more intensive retail uses could replace some of the more marginal businesses there. Other locations for possible retail development are separated from these stores by stretches of Thames Street with no retail activity and little potential for retail development. This breaks up the continuity of the street, making it difficult to achieve the gross floor area needed for a specialty shopping area. A minimum (or critical mass) of 40,000 square feet is generally found in specialty shopping centers. Further, to be successful, retail developments on Thames Street will require adequate parking, which will be difficult to provide.

This is not to say that some additional retail space could not occur on Thames Street and be successful. Additional restaurants which take advantage of the waterfront view and the proximity of Electric Boat could be developed on Thames Street. A small amount of tourist-related retailing could also occur on the Street. Further, an existing specialty store which already had a loyal clientele or a new one which was able to develop a strong regional reputation could be successful on Thames Street if adequate parking were available.

ERA estimates that Thames Street could potentially support an additional 14,000 to 20,000 square feet of retailing, from a market standpoint. This includes an additional 5,000 square feet of space supported by tourists on Thames Street. (Tourist expenditures will be discussed in a later section.)

To achieve these potentials, the capture rates for miscellaneous and convenience retail stores, and for restaurants must double. Because these capture rates are in some cases so low, a few small stores could in effect "double" the trade area capture. Likely miscellaneous retail stores could include such stores as gift shops and marine hardware stores. Convenience stores could include such things as a bakery. Taking into account local and tourist markets, ERA estimates the range of market potentials for additional retail space as follows:

Estimates of Supportable New Retail
Space on Thames Street^{1/}
(square feet)

Miscellaneous Retail	4,000 - 6,000
Convenience Retail	600 - 1,000
Eating and Drinking	9,000 - 13,000
Total	13,600 - 20,000

RESIDENTIAL MARKET TRENDS

The immediate area around Thames Street is characterized by a high proportion of renters and a low vacancy rate. Many of the houses in the area are multi-family, and some are rooming houses. ERA estimates that well over 50 percent of the population of tract 7024 are renters.

The Thames Street area, like much of the entire Groton area, is influenced by the high turnover of people at Electric Boat and at the submarine base. This creates a strong demand for apartments and rooming houses. The rooming house is prevalent in the Thames Street area because of its proximity to Electric Boat, which has some temporary employees and others who work in Groton during the week and return home to their families on weekends. These rooming houses command quite high rents, averaging \$50 to \$70 per week per room.

Local real estate brokers estimate the rental vacancy rate in the immediate area at less than one percent. The rental vacancy rate for the Town of Groton in 1980 was 3.5 percent, compared to 6 percent in the Southeastern Connecticut Planning Region.^{2/} ERA estimates that an additional 75 to 100 rental units on Thames Street could be readily absorbed.

Condominiums in the Groton area have not sold as well as in other parts of the state and sales are currently suffering from the impact of high mortgage interest rates. Information on the characteristics of area condominium developments is shown in Table 9. The City of Groton has several condominium projects. Thames View on Thames Street has 12 units which were built in 1967. The resale value of these 2 bedroom

^{1/} Assumes average sales per square foot levels of \$125.

^{2/} Population and Housing 1980, Southeastern Connecticut Regional Planning Agency.

TABLE 9: CHARACTERISTICS OF SELECTED CONDOMINIUMS

<u>Name/Location</u>	<u>Date Sales Began</u>	<u>Number of Units</u>	<u>Sales Price</u>	<u>Original or Resale</u>	<u>Number Sold</u>	<u>Sales Per Year</u>
Soundbreeze Shennecosset Road Groton (City)	1975	104	\$50,000-52,000	Resale	104	1/
Thames View Thames Street Groton (City)	1967	12	\$50,000-55,000	Resale	12	NA
Laurel Glen Buddington Road Groton (Town)	1980	40	NA	Conversion	40	40
Harbare Mystic	9/81	6	\$73,900	Original	2	6
Mystic Square Route 27 Mystic	Fall '81	31	\$150,000	Original	6	6
Stonington Landing Stonington	1981	16	\$110,000+	Original	2	2
Ledyard	1981	150	\$40,000's	Conversion	86	86

1/ Project did not successfully sell in 1975 and became a rental apartment complex. These units were successfully converted to condominiums several years ago.

Source: Economics Research Associates.

units is between \$50,000 and \$55,000. Sandbreeze is a 104 unit condominium complex on Shennecosset Road built in 1975. The units were initially built as condominiums, but because of weak market demand, were rented out as apartments. Several years ago these units were successfully converted into condominiums, using very favorable financing. These two bedroom townhouse units are now selling in the \$50,000's. Amenities include a swimming pool and tennis court.

Several projects in Mystic and Stonington are currently being marketed and are experiencing a low sales pace. At Harbrae in Mystic, only two units have been sold in the past year. These \$74,000 units are offered with 12 percent financing for 3 years and a variable rate thereafter. Stonington Landing in the village of Stonington is also experiencing slow sales. At Mystic Square on Route 27 in Mystic, 21 luxury units came on the market in the fall of 1981. The sales price of these units is approximately \$150,000. Six units in this complex (which are on the Mystic River) sold quickly, but sales of remaining units have been slow.

According to local realtors, much of the problem in selling condominiums today is due to high mortgage interest rates. In addition, condominiums in this area have simply not caught on as well as in other parts of the state. However, most local real estate agents agree that condominiums which are on the water and have access to marina slips are in greater demand. Most realtors also feel that Thames Street is an excellent location for condominiums.

Based on these assessments, ERA is of the opinion that condominium units with access to dock facilities, and, at a minimum, a view of the Thames River could be successfully marketed. Their success, however, will depend on their location on Thames Street, the character of surrounding uses and the quality of the development and amenities. ERA's market opinion, based on a preliminary assessment of market conditions and not on a full market analysis, is that Thames Street could absorb between 50 to 75 waterfront condominiums. (This does not necessarily reflect the physical capacity of the street.) Condominiums should be developed which are of a scale and character suitable for Thames Street.

MARINA DEMAND

There are some 24 commercial marinas in the Town of Groton, including 4 in the City on the Thames River, 1 on Avery Point, 15 in Noank, and 5 in West Mystic. These marinas have a total of 1,064 slips and moorings (55 on the Thames River, 216 in Avery Point, 612 in Noank, and 181 in West Mystic). There are another 10 marinas with 600 slips on the Thames River in New London.

When yacht clubs are included in the inventory, the number of slips and moorings in the Town of Groton totals 1,662. An inventory of marina capacity in Connecticut in the late seventies showed Groton (Town) to rank fifth in marina capacity in the State.

Marina Capacity of Top Ten Towns
in Connecticut

<u>Rank</u>	<u>Town</u>	<u>Total Capacity(Moorings & Slips)</u>
1	Greenwich	3,776
2	Norwalk	2,083
3	Stamford	2,062
4	Stonington	1,984
5	Groton	1,622
6	Westbrook	1,277
7	Branford	1,176
8	Bridgeport	1,162
9	Fairfield	1,044
10	Chester	945
		<u>17,346</u> (or 68.5
		percent of all marina
		capacity in Connecticut)

Source: Pleasure Boating in Bridgeport, Connecticut, Higher Education Center for Urban Studies, the Bridgeport Urban Observatory.

There are 4 small marinas on the Thames River in Groton with a total of 55 slips (shown in Table 10). The largest is at the Groton Marine Dock at 107 Thames Street. There is one vacancy at this facility, and none at the others. Onshore facilities at these marinas are minimal. A survey of selected marinas in New London and Groton is shown in Table 10 and reveals 100 percent occupancy rates.

There is a significant national and regional (New England) demand for additional berthing space which has been unsatisfied because of problems inherent to the marina industry, including the lack of appropriate sites at reasonable prices, environmental restrictions, high interest rates and low return on investment. Proper management, good sites, adequate customer service and good maintenance of facilities are crucial to the financial success of marinas. In most instances, the onshore rate of return per dollar of investment is higher than offshore return. Thus, repairs, hardware, accessories, supply sales, fuel and restaurant facilities generate the greatest proportion of marina profits.

TABLE 10: CHARACTERISTICS OF SELECTED MARINAS IN THE GROTON AREA

Name/Address	Capacity			Vacancies	Waiting List	Facilities	Comments
	Total	Transient	Seasonal				
Martner's Dock 262 Pequot Avenue New London, CT.	90	0	90	0	Yes	Engine sales; boat repairs; showers; ice; snack bar, marine supplies, head	About 10 percent more marina space would be helpful.
Burr's Yacht Haven Inc. 244 Pequot Avenue New London, CT	200	5	195	0	No	Boat & engine sales, repairs, marine supplies, showers, restaurant, liquor, laundromat, head	There may be a need for more marina space in the area.
Crocker's Boat Yard Inc. 56 Howard Street New London, CT	200	5	195	0	Yes	Boat & engine sales, repairs; head, marine supplies, ice showers,	There is a definite need for more marina space.
Spicer's Marinas 916 Shennecossett Rd. Avery Point, Groton, CT	150	0	150	0	Yes	Boat & engine sales, repairs; head, showers, ice, marine supplies	Always a need for more slips. Slip space at this marina is not advertised, yet there is still a waiting list.
Groton Marine Dock (DeNoy's) 107 Thames Street Groton, CT	20	0	20	1	No	Head	There is a definite shortage of marina slips.
On-The Thames Motel/Boatel 193 Thames Street Groton, CT.	16	1	15	0	No	Head, showers, ice, motel, laundromat	
M. Costa & Son's 440 Thames Street Groton, CT.	6	0	6	0	N.A.		1 slip for their own use.
Santacroce Marina 53 Thames Street Groton, CT.	13	3	10	0	Yes	Engine repairs, head, ice	

N.A. Information not available.

Source: Economics Research Associates.

The Groton area has essentially a 100 percent occupancy rate and a large unserved demand for additional marina slips. However the Groton side of the Thames River is subject to heavy wave action from winds and passing marine traffic and is not as well protected as some other locations. ERA is of the opinion that additional marina slips on Thames Street could be absorbed if they were adequately protected through breakwaters or the use of stationary docks. The financial feasibility of such marina development would have to be determined through a more detailed study.

From a market standpoint, (not a physical capacity or financial feasibility standpoint) ERA is of the opinion that 100 to 150 marina slips could be absorbed on Thames Street if slips were developed which are adequately protected and which offered some onshore facilities such as boat and engine repairs, and fuel and supply sales.

OFFICE MARKET

Downtown New London, not Groton, has evolved as the major office center in the area. The two major office buildings on Thames Street are occupied by Tracor, a defense-related firm. Tracor, which currently occupies approximately 35,000 square feet at the northern end of Thames Street, plans to expand into a third building next year and a fourth at some future date. As area engineering firms and high technology firms expand, Thames Street could attract more office users. However, to be successfully marketed, office developments along Thames Street must provide adequate parking. Electric Boat does rent office space in the Groton area, and company management indicated that they would consider a Thames Street location if there were adequate parking and public transportation. Electric Boat currently rents approximately 20,000 square feet of office space in New London and 30,000 square feet in Groton. More detailed study is needed to estimate the level of supportable new office space on Thames Street.

TOURISM

According to the Greater New London Chamber of Commerce, tourism is the second largest industry in southeastern Connecticut. There are no estimates available of the total number of visitors to the region, but visitation levels at Mystic Aquarium and Mystic Seaport give an idea of minimum levels of tourism. Visitation at Mystic Seaport in 1981 was 440,000, and at Mystic Aquarium was 630,000. In addition, there are many other visitors to the area who visit other attractions and who take advantage of the boating and recreational activities along the water.

Visitation Levels at some of the area's major attractions are as follows:

Visitation Levels at Major Attractions 1981	
<u>Attraction</u>	
Mystic Seaport	440,000
Mystic Aquarium	630,000
Fort Griswold	29,000
Submarine Force Library	50,000-60,000
USS Croaker	80,000

The Mystic Seaport Museum is one of New England's major tourist attractions. Because of its proximity to Thames Street (15 minutes by car), understanding visitation trends and characteristics at Mystic may reflect characteristics of visitors to Thames Street. During the one year period of April 1976 through April 1977, a visitor survey was conducted at Mystic Seaport by museum staff.^{1/} The purpose of the survey was to establish a visitor profile, to determine visitor-origins, motivations and satisfaction, and to project future attendance patterns.

The monthly distribution of visitors for the survey year shows peak attendance occurred during August. Visitation at Mystic during the summer months (combined) comprised nearly 60 percent of the year's attendance whereas visits in January and December represented only one percent of the yearly total, as illustrated in the following text table.

Seasonal Distribution of Visitors to Mystic Seaport 1976-1977	
Spring	18.2%
Summer	59.9
Fall	18.3
Winter	3.7
	<u>100.0%</u>

^{1/} Mystic Seaport Museum Visitor Survey, Mystic Seaport Museum, Inc. June 1978.

Attendance during the survey year was also analyzed to determine weekend versus weekday distribution. The busiest day of the week at Mystic Seaport was found to be Saturday (20.2 percent of week total), and Sunday followed closely behind with 18.4 percent of attendance occurring on that day of the week.

Results of the survey indicated that the majority of visitors to Mystic (78 percent) travelled from areas in the Northeast - including New England, New York, New Jersey, and Pennsylvania. Local residents - from Connecticut, New Jersey, Long Island or the New York Metropolitan area - represented 45.8 percent of annual attendance. Connecticut residents alone comprised 17.6 percent of the total.

Origin of Visitors to Mystic Seaport

<u>Residence</u>	
Massachusetts	10.2%
Rhode Island	3.2
Connecticut	17.6
New Jersey	12.1
Long Island	8.8
Metro New York	11.1
Upper New York State	6.0
Pennsylvania	7.1
Mid-Atlantic	5.1
West Coast	3.2
Foreign	1.4
Other	14.2
Total	<u>100.0%</u>

Trips to Mystic Seaport tend to be part of a family vacation or a day's outing. The text table below classified the kinds of trips that brought survey-year respondents to the museum.

Vacation	43.2%
Day's Outing	35.9
Weekend Trip	9.5
Business in Area	2.0
Visiting Locally	3.5
On Way Elsewhere	4.7
Other	1.3
Total	<u>100.0%</u>

A recent study done for the U.S. Navy indicates that it is likely that the USS Nautilus Memorial and Submarine Force Library and Museum in Groton will have somewhat similar visitor characteristics. However, it is expected to have a higher level of group visitation and a higher percentage of visitors from the immediate region than are experienced at Mystic Seaport. Visitation at the USS Nautilus Memorial and Submarine Force Library is projected at between 275,000 and 375,000, with 42 percent of total attendance occurring in July and August.

The USS Croaker currently attracts approximately 80,000 people to Thames Street. The USS Nautilus Memorial, while only 2 miles away, will be a free attraction, and could adversely impact the visitation level of the USS Croaker, a paid attraction. However, packaging of both attractions and good linkages could mitigate this impact. There is a possibility of eventually locating the USS Croaker at the USS Nautilus Memorial, which would eliminate the major tourist attraction from Thames Street and reduce the level of tourism on Thames Street.

Officials at Fort Griswold estimate attendance there at 29,000. Fort Griswold, the only revolutionary war battlefield in the state of Connecticut, represents an important asset which could be improved to increase visitation levels. Other tourist attractions on Thames Street include the River Queen boat trips, the Hel-Cat fishing party boat, and the boat Envyrolab.

Thames Street itself is not and will not be a major regional attraction, but some of the activities and attractions which occur on it could draw more people to Thames Street. To realize its potential and to take advantage of visitation levels at the USS Nautilus, ERA recommends:

- o Packaging of multiple attractions in the region through tours, boat trips, water taxi service, etc.
- o Linkage of Thames Street attractions to other area attractions through regional marketing and promotion.
- o Better signage on the highway.
- o Improvement of interpretation of Fort Griswold.

If the above recommendations are implemented, and the USS Croaker remains at its present location, Thames Street attractions should be able to attract more than the approximately 80,000+ visitors who now tour the USS Croaker and Fort Griswold. Assuming the above recommendations are

implemented, Thames Street attractions might be able to attract 100,000-125,000 visitors per year to Thames Street, stimulating additional spending in stores and restaurants. ERA estimates that these visitors could support an additional 4,000-5,000 square feet of retail/restaurant space on Thames Street.^{1/}

SUMMARY AND CONCLUSIONS

The results of the market analyses do not point to drastic changes on Thames Street. The current mix of uses on Thames Street is an appropriate one, and future opportunities there will build upon those uses. The potentials for additional retail development are limited. Competition, parking problems, and limits of space will not permit Thames Street to become a specialty shopping district such as is seen in Mystic. However, given the increasing importance of the waterfront and tourism, there will be some potential for additional restaurants and tourist-related retail, such as gift shops and other miscellaneous retail stores. ERA estimates total additional supportable retail space on Thames Street at between 14,000 and 20,000 square feet.^{1/}

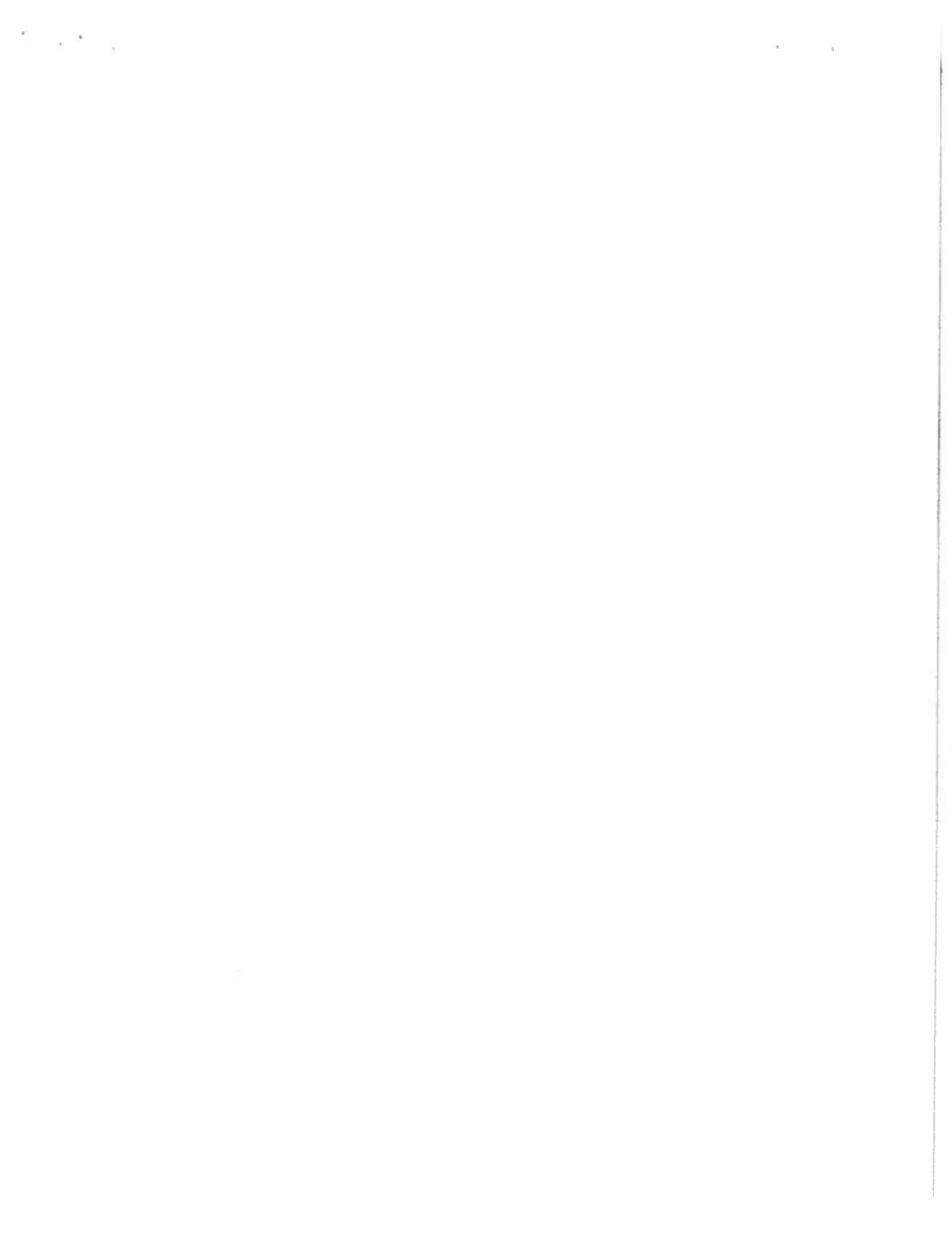
Preliminary judgements about the markets for residential, marina and office uses on Thames Street were made based on conversations with local realtors and on surveys of comparable facilities in the area, and not on detailed market analyses. Condominium sales are very sluggish in the region due to a combination of high interest rates and slow market acceptance of condominiums. However, Thames Street appears to be an excellent location for condominiums because of its proximity to the water. Sales of waterfront condominiums in the area have been much less affected by weakening market conditions. Condominiums in Thames Street should ideally have dock privileges and should maximize river views.

There is a persistent unmet demand for additional marina slips in the nation, in New England, and in the Groton area. Occupancy rates for marinas in Groton and New London are almost all 100 percent. The 55 marina slips on Thames Street in Groton are 98 percent rented, primarily on a seasonal basis. A large number of additional slips could be marketed on Thames Street if marina facilities were built which provided adequate protection from the wave action on that side of the river. Whether such developments are financially feasible given today's high interest rates and the high capital requirements and low return on

^{1/} Based on a projected per capita retail/restaurant expenditure of \$5.00 and sales per square foot of \$125,000.

Investment of marinas requires further analysis. From a market standpoint above, an additional 100 to 150 slips could be absorbed on Thames Street.

While downtown New London is emerging as the major office center in the region, there is a potential for further office development on Thames Street as a result of growth in high technology firms related to defense. However, more detailed study is needed to estimate the amount of supportable new office space on Thames Street. To be successfully marketed, office developments on Thames Street should provide adequate parking and major developments should have prior commitments from some tenants.



V. ALTERNATIVE SCENARIOS

A. GENERAL APPROACH

In preparing the Inventory, it became clear that conflicting objectives among constituent groups --- residents, businesspeople, and marine users --- would preclude the preparation of detailed design guidelines prior to decisions on a broad scale direction for Thames Street. Furthermore, major findings of the Inventory work indicate that access constraints, disorganized land uses, and a poor image represent interrelated problems that must be overcome to achieve revitalization. This section explores choices available to meet these problems, and to resolve conflicting objectives, by describing three scenarios for the future of the area. The scenarios illustrate different strategies for tapping the potentials of the waterfront to aid revitalization:

- o Scenario 1: Improving the Image --- focuses on upgrading water edges, enhancing the setting and appearance of existing buildings, and developing additional housing at gateways to the street;
- o Scenario 2: Linking Resources --- emphasizes capturing the tourism potential of the USS Nautilus by developing a ferry service to Thames Street sites and making them part of the attraction;
- o Scenario 3: Consolidating Activities --- illustrates how predominant uses in the district might be organized and concentrated to create more powerful magnets for private investment, tourism, and marine uses.

The scenarios represent increasing levels of visitation, commercial development, and complexity of implementation. They are not mutually exclusive. The scenarios are intended to provide a basis for discussion, and desirable elements from more than one may be combined in the final plan.

The scenarios are based on a series of assumptions, derived from the inventory work, market analysis, and goals expressed by local residents and businesspeople. These include:

TABLE 11: SUMMARY OF ALTERNATIVE SCENARIOS *

	North Waterfront	Historic Core	South Waterfront	Implementation
1. IMPROVING THE IMAGE	state boat ramp plus parking (30 cars)	facade, streetscape improvements	100-125 units	private/public facade loans
	public access improvements plus mini park	public access at selected sites	100 slip marina	City improve- ments of water front access: donated ease- ments and mini- mal acquisition
	office expan- sion Tracore (25,000 sq ft)	upgrade Fort; parking (50 cars)	public access improvements	State to up- grade Park; ex- pand Monument House
	15 - 20 units with docks			
2. LINKING RESOURCES	state boat ramp	facade, streetscape improvements	50 units	private/public facade loans
	central visitor parking (250 - 500 cars)	ferry docking plus public access	50 slip marina	City contribu- tions to devel- oping ferry in- frastructure
	ferry terminus and visitor center	upgrade Fort; linkage to Baker Street	upgrade Croaker site	City/State de- velopment of parking, visi- tor center
	50 slip marina	Museum at Fort Street	ferry docking plus public access	

North Waterfront Historic Core South Waterfront Implementation

marina service plus commercial (7,500 sq ft)	inn, commercial expansion (7,500 sq ft)	State to upgrade Fort, acquire and develop museum, provide ferry dock
office expansion, Tracore plus additional (35,000 sq ft)		

3.

CONSOLIDATING THE

State boat ramp	facade, streetscape improvements	expansion of state park to waterfront	private/public facade loans
central parking	ferry docking plus public access	ferry docking plus public access	City contributions to ferry infrastructure
ferry terminus and visitor center	expand State Park; new entrance, museum, parking	expansion of Croaker attraction	City/State development of parking, visitor center
harbor: 20 fishing boats, 150 slip marina	inn, retail, restaurant expansion (15,000 sq ft)	restaurant (10,000 sq ft)	State land acquisition for Fort expansion; upgrade facilities
industrial docking			public incentives for harbor development
harbor service, storage and commercial (40,000 sq ft)			
office expansion Tracore plus additional (50,000 sq ft)			

* All figures are for comparative purposes only.

TABLE 12: COMPARISON OF PROGRAM COMPONENTS *

	Marine Use	Expected Visitation/ Visitor Use	Commercial	Office/ Industrial	Residential
1. IMPROVING IMAGE	115 rec. boats	40,000/yr. museum	existing quantity	25,000 SF	145 units
		outdoor exhibits			
		parking for 50 cars at Fort			
2. LINKING RESOURCES	100 boats	120,000/yr.	15,000 SF	35,000 SF	50 units
		visitor center, State Park, museum			
		water taxi system			
		central parking for 250 - 500 cars			
3. CONSOLIDATING THE WATER-FRONT	150 rec boats	200,000/yr.	30,000 SF	75,000 SF	20 units
	20 fishing boats	visitor center			
	industrial docking	water taxi system			
		State Park museum			
		parking for 300 - 500 cars			

* All figures are for comparative purposes only.

- o Groton Bank is a magnificent historical resource, representing an almost intact 19th century seacoast village. This character is an asset, both because it provides a high quality environment for existing residents, and because it has the potential to aid in attracting visitors which will support business. The integrity of the core historic area, especially, should be preserved.
- o Available property in the area is highly constrained. Construction and improvements to existing buildings are desirable, but major new development including parking should be limited to the northern and southern areas of Thames Street, where land is available and access is better. Development of these gateway areas will have a strong influence on the future character of the historic core, and will shape the design theme and standards to be developed in the final plan.
- o The physical characteristics of the Thames River and its shoreline in Groton make construction of marine facilities an expensive proposition. Development of major marine activities will be feasible only in conjunction with supportive development on the land. Otherwise public subsidies or funding will be required.
- o Groton lay at the heart of an evolving network of visitor attractions in this area of Connecticut, including Mystic Seaport and the USS Nautilus. While these facilities will continue to raise the general level of tourism in the region, they do represent strong competition for Groton. Renovation, signage, and landscaping alone will not be sufficient to increase visitation. New attractions must be developed, and existing resources must be substantially upgraded if tourism is to provide a meaningful contribution to commercial revitalization.
- o If possible, development along the riverbank to the west of Thames Street should emphasize water dependent or enhanced uses. The City should encourage, as part of every development, expanded public access to the water's edge. Since little land is owned by the City, such access is only likely through the voluntary cooperation of individual property owners. If feasible, City and state participation in developing waterfront access would be a powerful incentive to encourage private response.

- o Development to the east of Thames Street should mesh with the character of the existing residential neighborhood. While this does not preclude other uses, development should be appropriately scaled and buffered from adjacent single family houses.
- o Traffic on Thames Street, especially from Electric Boat during the evening rush, is a recognized problem which may be aggravated by increased tourism. All of the scenarios include the proposal to make Thames Street one way, south between Baker Street and Eastern Point Avenue.

Each alternative scenario is described in detail below and illustrated in Figures 10, 11, and 12. A summary of the key features of each is presented in Table 11; program components including maritime, visitor, commercial, office/industrial and residential uses are compared in Table 12.

B. SCENARIO 1: IMPROVING THE IMAGE

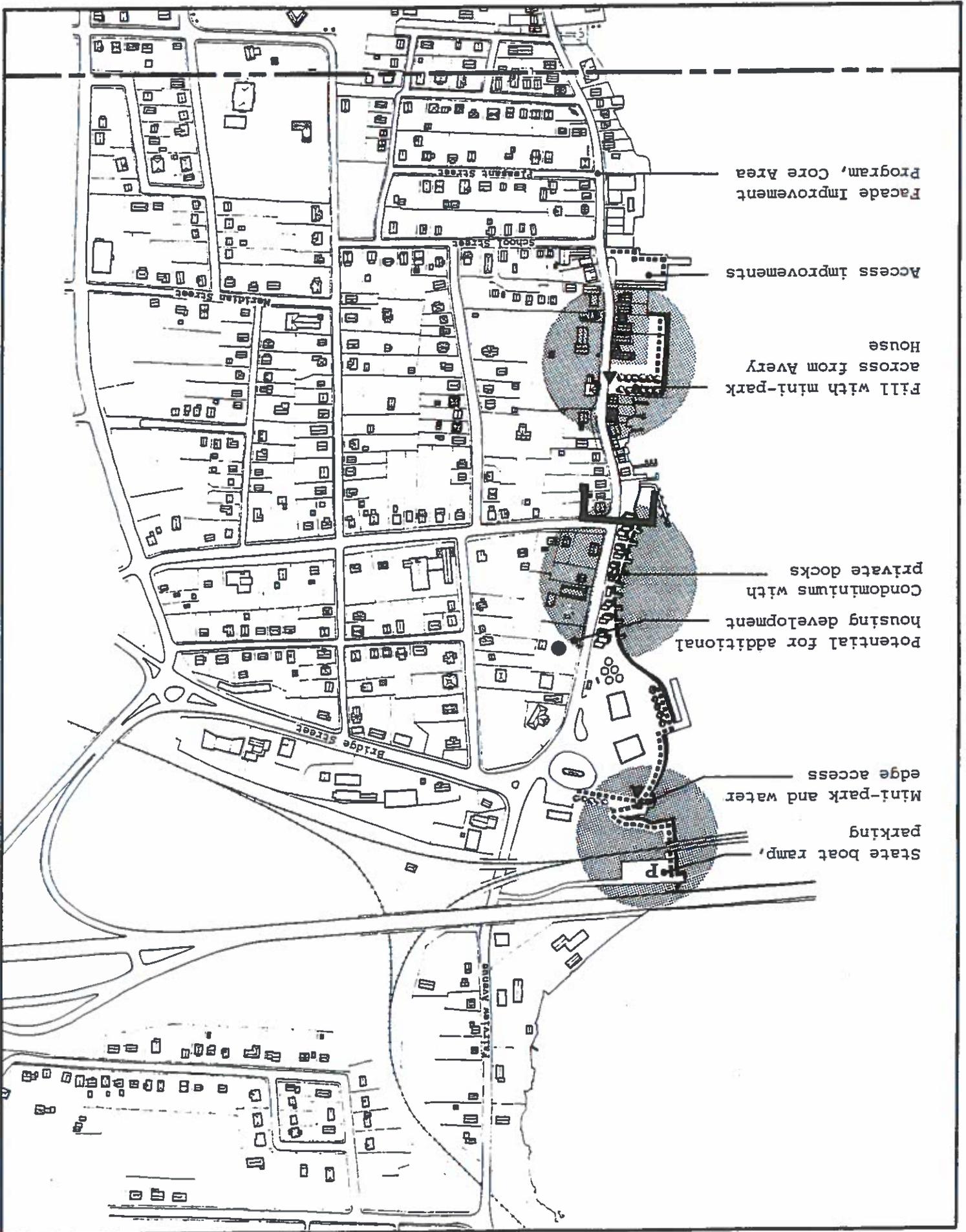
This scenario focuses on improving river edges, landscape, and the appearance of buildings on Thames Street. Efforts would be aimed primarily at stabilizing and improving the appearance of what exists, principally as a setting for residential use. New housing developments would be concentrated in the North and South gateway areas. This approach assumes a lower level of tourist activity than currently exists, although improvements would be made to Ft. Griswold and a framework for passive interpretation would be developed based on walking tours and simple outdoor exhibits. No substantial commercial expansion is envisioned. Efforts would be made to provide public access to the water by securing and improving available waterfront edges and developing connections and spaces between Thames Street and the river. Rush hour traffic on Thames Street would be reduced by making it one-way south between Baker Street and Eastern Point Avenue. Key features are described below:

- o Northern Gateway -- Expanded recreational access will be provided by pending construction of the state public boat ramp beneath the Gold Star Bridge. An access road to Fairview Avenue and modest parking for cars and trailers will be included in the project. An opportunity exists to develop a public walkway beneath the railroad bridge -- a dramatic view -- linking the boat ramp to a secluded cove adjacent to the old Thames River Bridge abutment. Public acquisition of the former bridge right-of-way would allow development of a

small mini-park. The park would include a magnificent overlook from atop the abutment, outdoor interpretive exhibits, and provide a more spacious backdrop for the National Submarine (USS Flasher) Memorial at the gateway to Thames Street. Additional water edge access might be developed to the rear of the Tracore parking lot. Waterfront properties to the south of the Spicer Tanks are now underdeveloped -- occupied by a gas station (about to be discontinued) truck storage, the Sweet Oil Company offices, and two old but very deteriorated houses. Given the high demand for waterfront housing, redevelopment of these properties for 15 - 20 luxury condominiums is worth consideration and may be an attractive investment for existing property owners. Such housing would offer spectacular views of the river, access to waterfront docks, and greatly improve the image of the area. Additional residential development might be pursued on the now vacant Spicer Fuel property located across Thames Street. Proposals for residential use on either side would require a zoning variance.

- o Historic Core -- Exterior improvements to existing buildings would be encouraged through a joint public and private low interest loan program. Loans would be available for commercial and residential properties along Thames Street. Opportunities to expand public access and water edge improvements exist at the Lorelei Restaurant and the On-the-Thames Motel. At the Lorelei site, modest additional fill would allow construction of a mini-park, providing a setting for the Avery House -- one of Groton's most beautiful seacoast mansions. The park would include interpretive exhibits and places for sitting and eating. The Fort Griswold complex would be renovated and improved to attract additional visitors. Under this scenario, parking would be provided at the eastern edge of the Fort property. The Griswold landing site on the Thames River would be reconstructed to include a planted buffer to the adjacent sewage treatment plant, interpretive exhibits, and several parking spaces. Fort Street would be similarly upgraded to improve pedestrian connections with the Fort. The existing Monument House should be expanded to provide space for better interpretation of the Fort and its history. Throughout the historic core, further development of small condominium or apartment projects can be expected on parcels to the east of Thames Street.

- o Southern Gateway -- This scenario assumes that the existing USS Croaker Memorial, and related visitor facilities, will be discontinued at their current location and moved to become part of the USS Nautilus installation at the Submarine Base. Removal of the visitor attraction, will allow redevelopment



State boat ramp, parking

Mini-park and water edge access

Potential for additional housing development

Condominiums with private docks

House across from Avery

Access Improvements

Facade Improvement Program, Core Area

Fairview Avenue

Bridge Street

Herdman Street

School Street

Pleasant Street

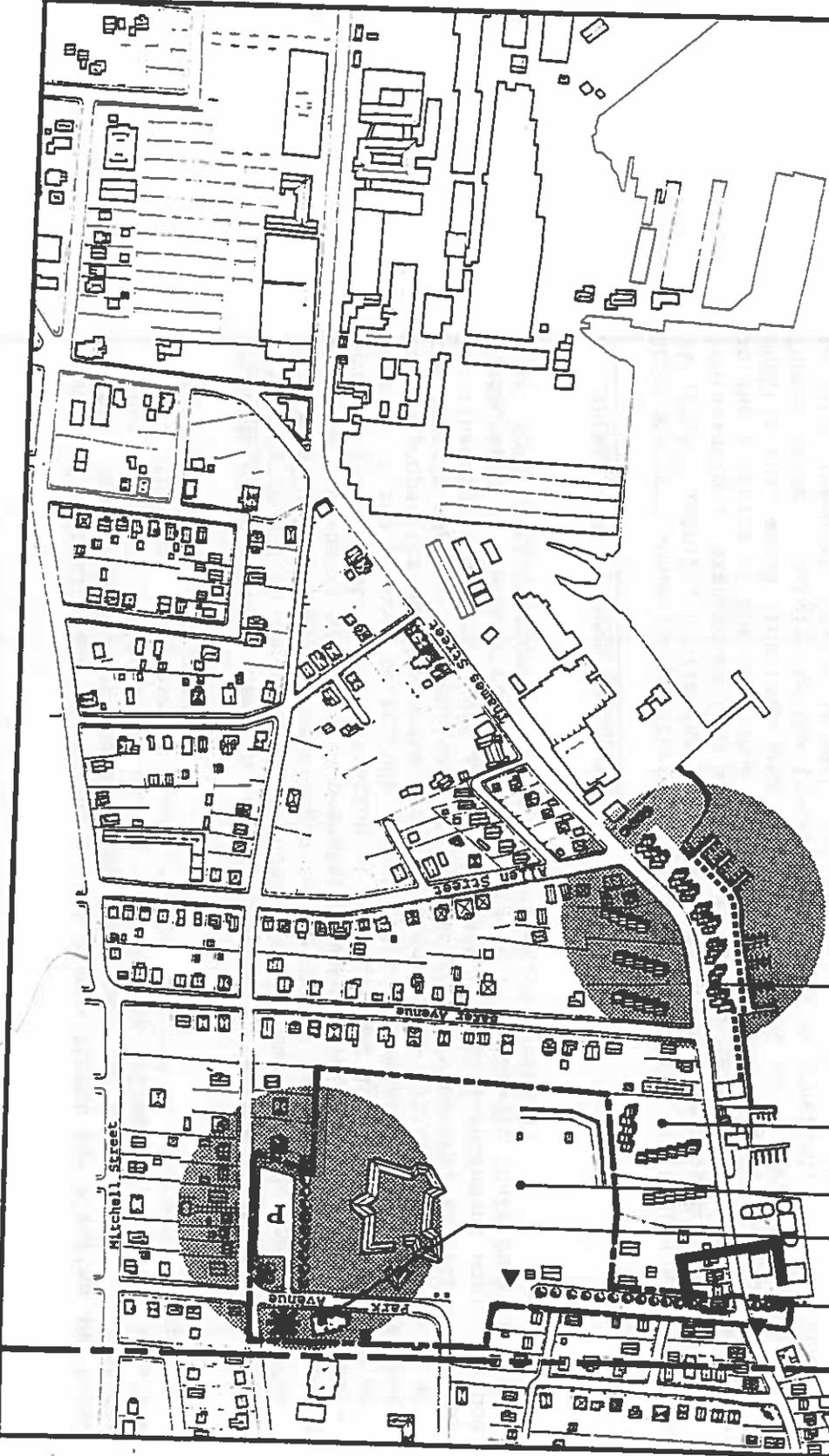
Thames Street

REVIATION STUDY - CITY OF OXFORD PLANNING & ZONING COMMISSION

Land, Planning and Associates, Inc.
 1000 North Main Street
 Oxford, Massachusetts, 01468

SCENARIO 1: IMPROVING THE IMAGE 10

- POTENTIAL SITE FOR FURTHER DEVELOPMENT
- BUFFERS AND PLANTINGS
- P PARKING
- ▼ INTERPRETIVE SIGNS
- PEDESTRIAN ROUTES
- * VISITOR SERVICES
- [] FACADE IMPROVEMENT PROGRAM
- KEY PROJECTS



New housing with marina

New Housing

Upgrade Fort and State Park
 Expanded museum and parking
 Fort Street, improve landing
 Pedestrian connection with

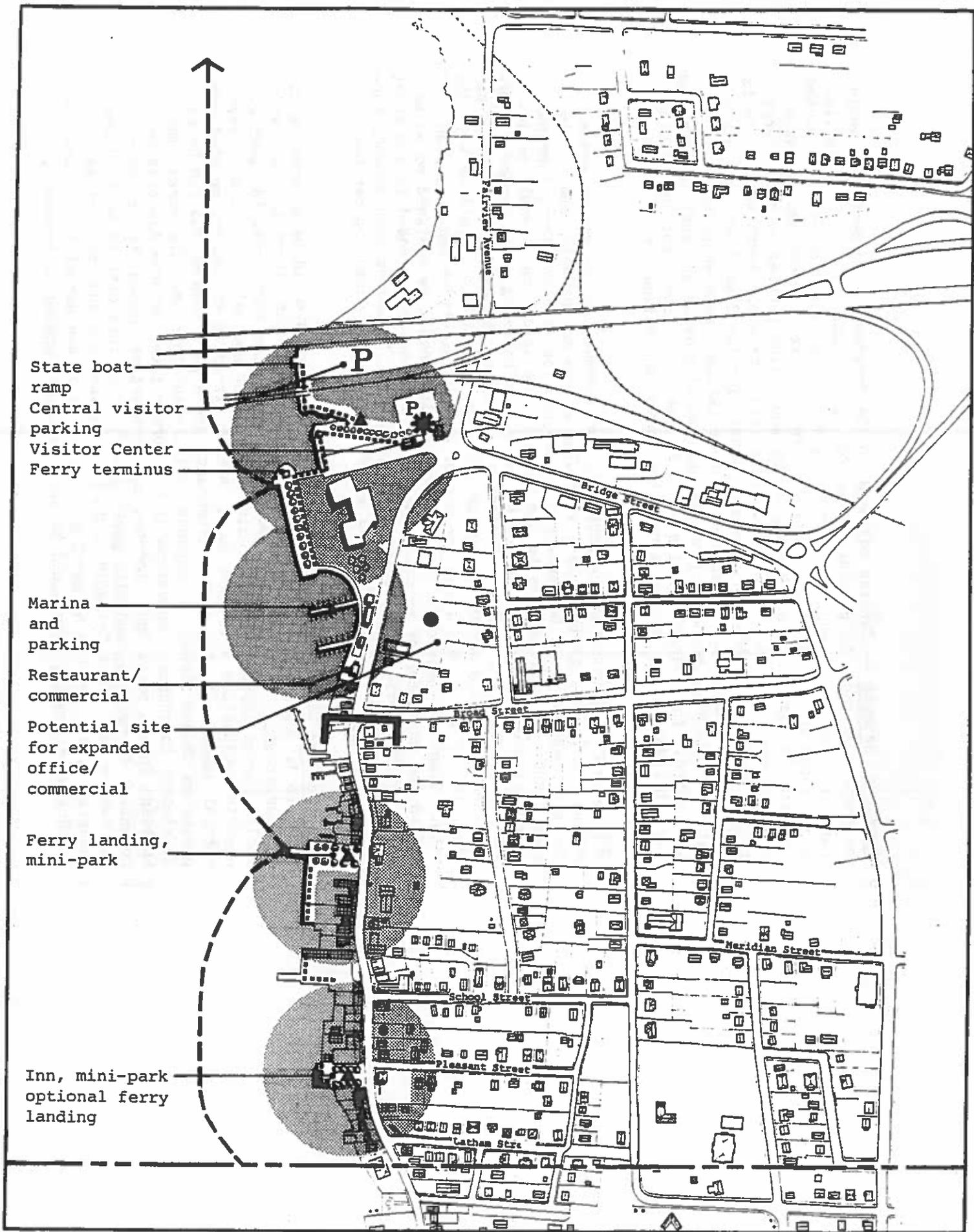


ment of this site and properties across Thames Street for a marina and housing. Some expansion of the existing restaurant can be expected. A considerable length of public water access -- including walkways, planting, interpretive exhibits, and views to Electric Boat -- could be incorporated with future private development.

Implementation of this scenario implies City participation in the low interest loan program and in securing and improving public access. The groundwork for such an effort has already been begun by the Groton Bank Historical Association, which is seeking to establish a privately funded revolving loan pool for residential improvements. Participation of the City and local banks may allow expansion of the program to include commercial improvements. The City may seek to obtain properties and easements for public access -- typically a 12' strip at the water's edge -- by donation from private property owners, in return for public financing of improvements and maintenance. State involvement would include development of the boat ramp, improvements to Ft. Griswold State Park, and perhaps, some participation in placing interpretive exhibits.

C. SCENARIO 2: LINKED RESOURCES

This Scenario would focus efforts on increasing tourist visitation to Groton (up to 120,000 yearly), by linking existing resources to the proposed USS Nautilus installation. Signage on I-95 would draw visitors to central parking facilities in the vicinity of the Gold Star Bridge. "Water taxi" (ferry) service and/or a shuttle bus, would link this area with the Nautilus and a series of stops along Thames Street. Service to New London might also be provided. The aim would be to offer frequent service in peak periods, provide "on board" interpretation, and to make the boat trip an attraction in itself. Visitor services in the vicinity of the Bridge would be developed to include an orientation and interpretive center and facilities for ticketing and "taxi" operation. Elsewhere on Thames Street, improvements would be focused on areas in the vicinity of taxi stops. Further traffic control on Thames Street in addition to the one-way segment proposed in Scenario 1 could be instituted to encourage use of alternative transportation. This might include reconstruction of the Bridge Street intersection to provide direct flow between Bridge Street and Lakeview Avenue, with a T intersection at Thames Street. Key features of this concept are described below:



State boat ramp
Central visitor parking
Visitor Center
Ferry terminus

Marina and parking
Restaurant/commercial
Potential site for expanded office/commercial

Ferry landing, mini-park

Inn, mini-park optional ferry landing

State Boat Ramp

Bridge Street

Broad Street

School Street

Pleasant Street

Lathan Street

Meridian Street

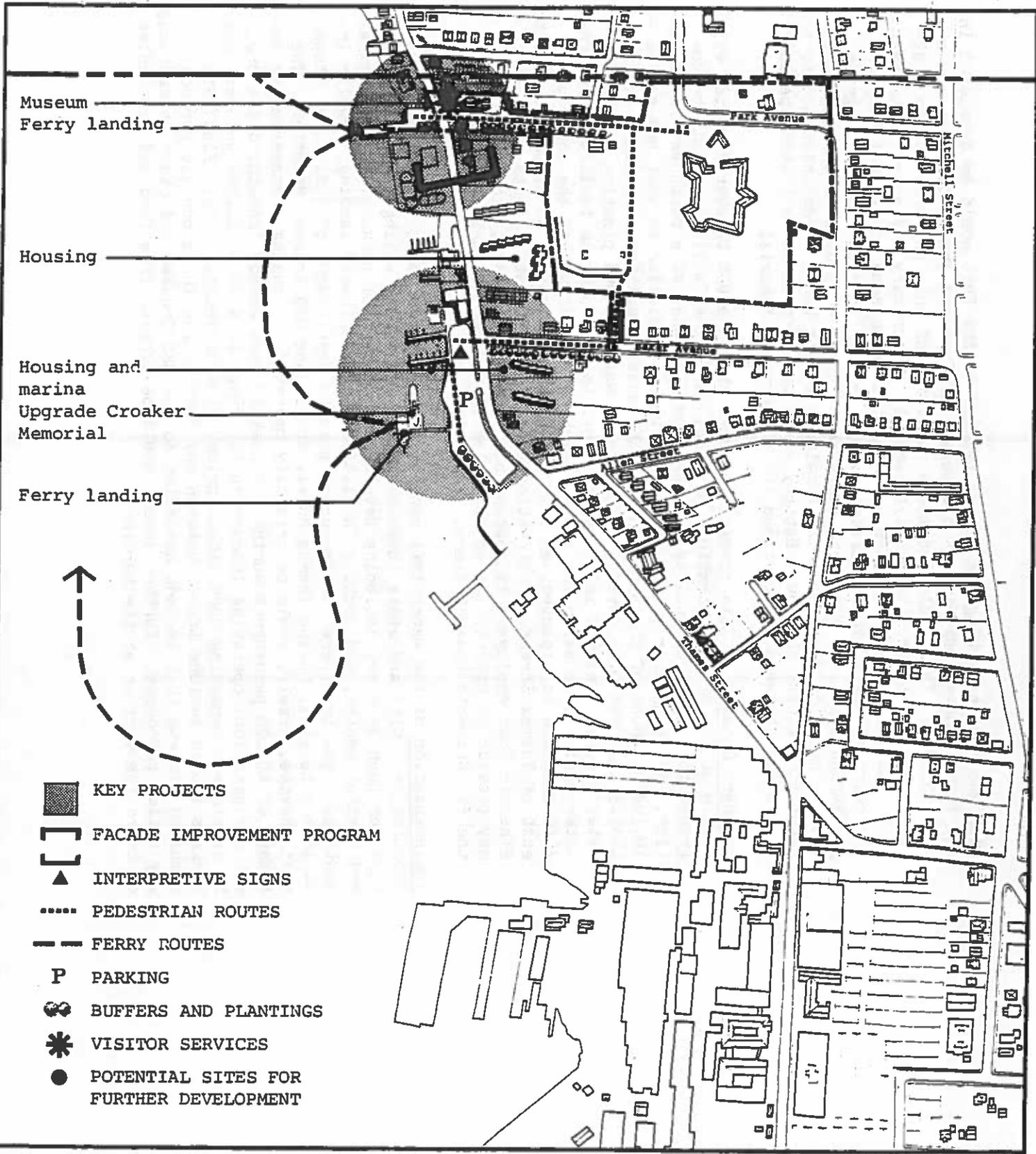
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o Northern Gateway -- Parking adjacent to the proposed state boat ramp would be greatly expanded to provide spaces for approximately 250 cars. Overflow parking areas for an additional 250 cars may be developed on existing unused state lands in the vicinity of the I-95 interchange. Pedestrian walkways at the water's edge and along Thames Street would link parking with the ferry terminus and a new visitor center. Here, visitors would learn what there is to see and do in Groton and purchase tickets for the "taxi" and area attractions. Acquisition and conversion of an existing garage adjacent to the National Submarine Memorial (USS Flasher) would provide an ideal location for the center. An alternative site would be the former State Police building, now a halfway house, located across the Thames and Bridge Street intersection.

This scenario illustrates the potential for expanded marine use of areas behind the Tracore offices where vehicular access to the water and parking for a new marina could be developed in conjunction with the ferry terminus (see Figure 11). Properties to the south of the Spicer tanks would be developed for commercial and restaurant uses, capitalizing on an expanded tourist and recreational market. Pedestrian access to the marina below would be provided. The City should encourage design of structures compatible with the character of the area through the use of design guidelines and site plan review. Planned expansion of the Tracore complex should be designed so as to soften the character of existing buildings, with new space added to the front and or rear of existing structures, if possible. Depending upon demand, further development of commercial may proceed on the now vacant Spicer Fuel properties across Thames Street.

o Historic Core -- Incentives for exterior improvements would be offered as in Scenario 1. Opportunities for "taxi" landings exist at either the Lorelei Restaurant site, the On-the-Thames Motel, and at the Fort Griswold landing. Public access improvements including landscaping and walkways would be developed in conjunction with each stop. Modest expansion of tourist related commercial uses, including small restaurants and a gift shop or two can be expected on Thames Street in response to increased tourism. The market may be sufficient to support renovation of the former Fleet Reserve Association building into a small Inn. Located in the heart of Thames Street, near a potential ferry stop, and with parking available, this site is well suited for such a use. Fort Griswold would be reconstructed and improved as in Scenario 1, but include no parking so as to encourage use of the central lot. The Griswold landing site would be substantially upgraded to include a ferry



Museum
Ferry landing

Housing

Housing and
marina
Upgrade Croaker
Memorial

Ferry landing

- KEY PROJECTS
- FACADE IMPROVEMENT PROGRAM
- ▲ INTERPRETIVE SIGNS
- PEDESTRIAN ROUTES
- FERRY ROUTES
- P PARKING
- ☉ BUFFERS AND PLANTINGS
- * VISITOR SERVICES
- POTENTIAL SITES FOR FURTHER DEVELOPMENT

Thames Street

REVITALIZATION STUDY - CITY OF GROTON PLANNING & ZONING COMMISSION

Lane, Frenchman and Associates, Inc.
Economic Research Associates
Vanasse / Hangen Associates, Inc.

SCENARIO 2: LINKING RESOURCES



stop and modest parking. A Museum related to the Fort would be developed in the former chapel building at the corner of Fort and Thames Streets, now a dance studio. This would require acquisition of this property by the State. Its conversion to an interpretive facility and primary entrance to the Park would attract visitors to Thames Street and bring some additional shoppers to the heart of the village. Efforts would be made to substantially upgrade pedestrian walks and landscape along Fort Street to provide a strong connection between the Museum and the remainder of the Park. Pedestrian access to Baker Street near the Lower Battery would be improved to facilitate pedestrian movement between the Fort and the USS Croaker Memorial.

- o Southern Gateway -- This scenario assumes that the USS Croaker Memorial will remain at its present location, however, land-side facilities would be upgraded to a level of quality commensurate with that of a permanent installation. The character of the attraction would be similar to what now exists -- including tours of the submarine and HMS Rose. Facilities would be substantially improved with paved parking areas, walkways and planting at the water's edge, expanded interpretive exhibits, and docking facilities for the water taxi. Some expansion of the existing restaurant and the snack bar/gift shop can be expected, as well as small scale marina development. To the east of Thames Street, construction of small apartment projects oriented to Electric Boat employees is appropriate. On Baker Street, such development may provide an opportunity to more clearly define pedestrian connections to the Ft. Griswold Lower Battery.

Implementation of the water taxi concept would require joint public and private cooperation. City and state investments may focus on creating the infrastructure for such service, including development of central parking, ferry terminal and visitor center, and docking facilities at the Griswold landing. Public incentives might be offered to encourage private development of additional stops -- at the Lorelei, On-the-Thames Motel, and/or the USS Croaker Memorial. The taxi service, itself, would be privately operated. Assuming a conservative estimate of 40,000 passengers during the peak 20 week season (one-third the projected visitation) operating incomes in the range of \$100 - 200,000 per year may be generated, depending upon ticket price, size of vessels, etc. Flat rate tickets should include travel between any destination for a one day period; combined tickets that include admission to the USS Croaker and other attractions may entice patronage. Further income would be derived from food and gift sales on board the taxi or at the terminal.

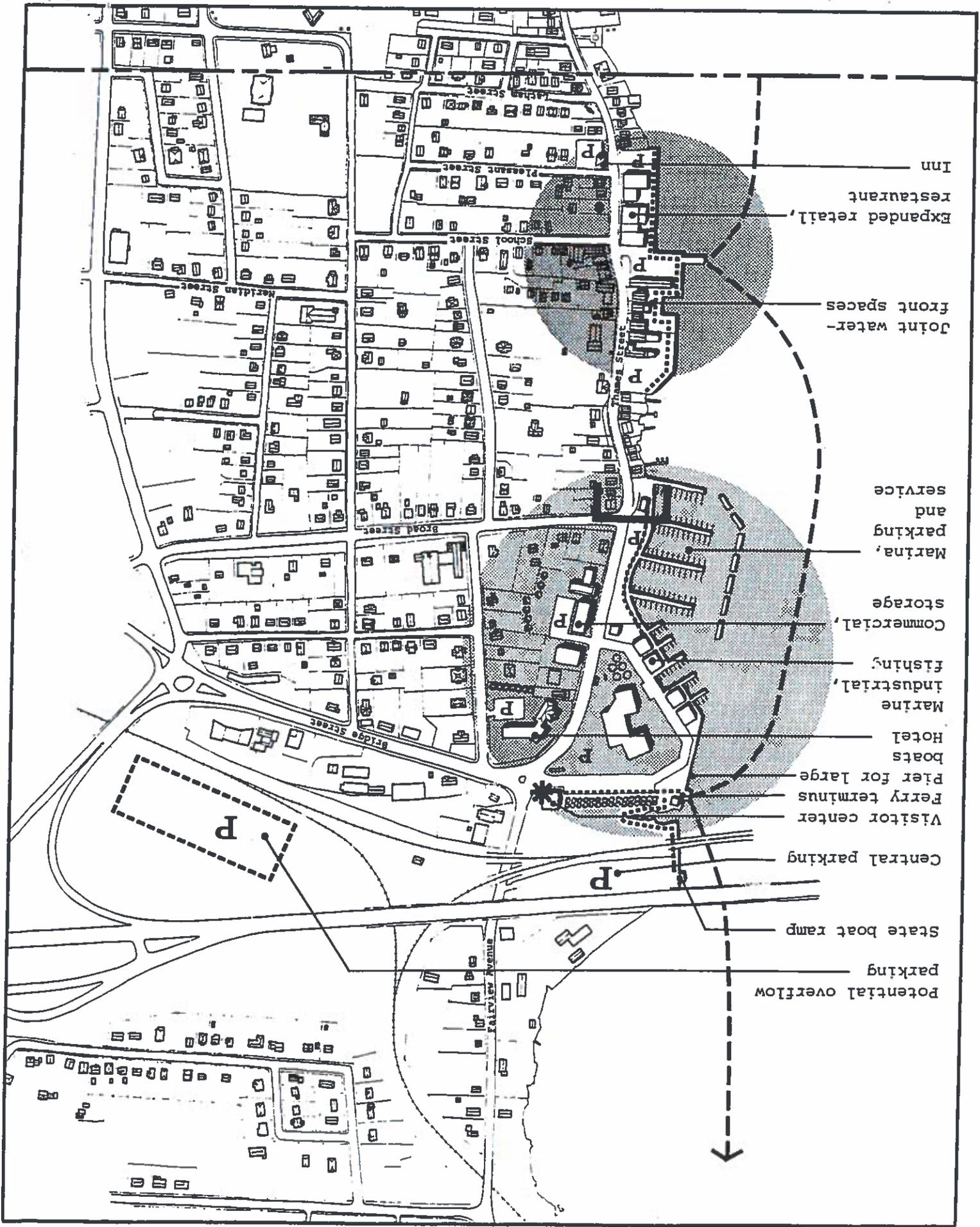
City owned land surrounding the National Submarine Memorial could be pivotal in helping to implement the visitor center and ferry terminus. City property includes the Memorial, surrounding access roads, and considerable frontage on Thames Street. The City may seek to exchange all or a portion of this site with the owner of the adjacent Tracore complex for a waterfront tract which incorporates the old Thames River Bridge abutment. This would provide a site for docking facilities, with a small mini-park and river overlook that joins directly with the proposed visitor center. It would also facilitate expansion of the Tracore complex towards Thames Street and construction of a new facade more compatible with the scale and character of the area. Presumably, the Memorial would be relocated to the visitor center site. Marina development would be a private venture, although public incentives could be made available to encourage this project.

A second option for the ferry terminus, with less City involvement, would be to seek construction of docking and service facilities as part of the state boat ramp project. This would be less desirable, since this location is not visible to incoming cars on Bridge Street and offers no opportunity to integrate a visitor center.

D. SCENARIO 3: CONSOLIDATING USES

This Scenario illustrates maximum leverage of river views, deep water access, and the tourist trade to encourage redevelopment. Efforts would focus on concentrating uses into a new working harbor in the northern gateway area; organizing a major tourist attraction that integrates Fort Griswold with the USS Croaker Memorial at the southern gateway; and developing a water orientation for retail shops and restaurants in the historic core. This Scenario assumes successful operation of the water taxi concept described in Scenario 2 and a level of visitation substantially above what currently exists (150 - 200,000). Traffic restrictions and further preservation measures may be required to maintain the integrity of the historic core. Key features of the approach are described below:

- o Northern Gateway -- Proposals for central parking, state boat ramp, ferry terminus and visitor center are similar to Scenario 2. The cove south of the Spicer tanks would be redeveloped to create a small harbor servicing commercial, industrial and recreational users. While several design schemes for the harbor are possible, they each involve varying amounts of fill behind the



Potential overflow parking

State boat ramp

Central parking

Visitor center

Ferry terminus

Pier for large boats

Hotel

Marine Industrial, fishing

Commercial, storage

Marina, parking and service

Joint water-front spaces

Expanded retail, restaurant

Inn

P

P

VALLEY AVENUE

BRIDGE STREET

BROAD STREET

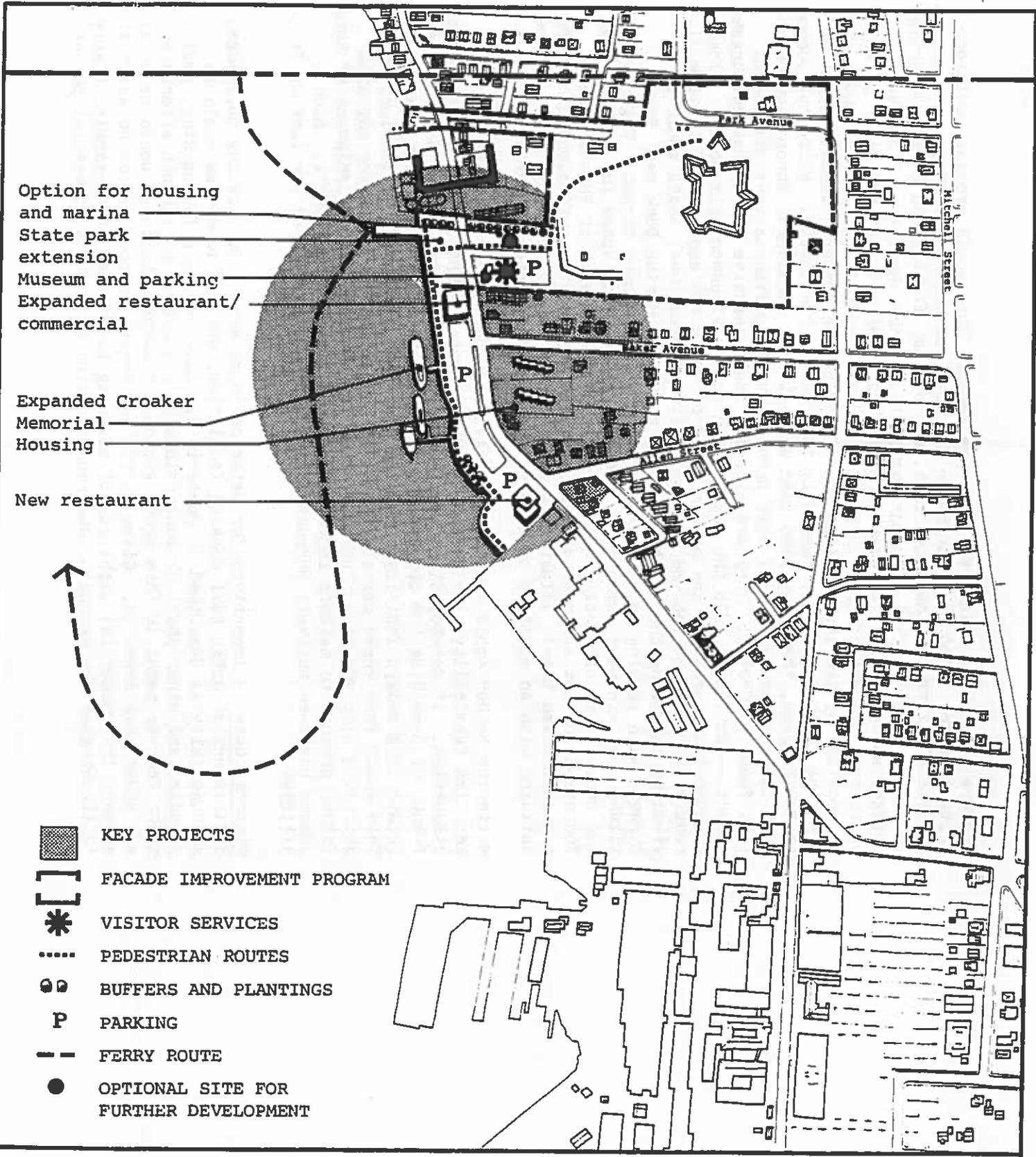
SCHOOL STREET

PLEASANT STREET

MATSON STREET

WORLDMAN STREET





Option for housing
and marina
State park
extension
Museum and parking
Expanded restaurant/
commercial

Expanded Croaker
Memorial
Housing

New restaurant

-  KEY PROJECTS
-  FACADE IMPROVEMENT PROGRAM
-  VISITOR SERVICES
-  PEDESTRIAN ROUTES
-  BUFFERS AND PLANTINGS
-  PARKING
-  FERRY ROUTE
-  OPTIONAL SITE FOR FURTHER DEVELOPMENT

Thames Street

REDEVELOPMENT STUDY - CITY OF GASTON PLANNING & ZONING COMMISSION

Lane, Frenchman and Associates, Inc.
Serrano Research Associates
Yacuzzi / Hagen Associates, Inc.

SCENARIO 3: CONSOLIDATING USES

12



Tracore office and Spicer Fuel storage tanks. This would provide additional protection for a 150 boat marina in the cove, as well as docking space and a service platform for the water taxi, oil barges, fishing and other commercial vessels. Required fill need not extend beyond the shoreline of adjacent bridges and would not represent a significant narrowing of the river in this vicinity. Protection from ship wakes and waves due to prevailing winds could be provided by the installation of a floating breakwater. These consist of floating concrete boxes permanently anchored to the bottom. While not common to New England, they have been used with success throughout Europe and on the West Coast to protect small boat harbors in circumstances very similar to that found in Groton. They are also far less expensive than permanent breakwaters -- as low as 1/10 the cost -- and more environmentally sound. Access to commercial areas of the harbor would be via a new access road linking directly to Bridge Street and the I-95 exit. Recreational boats would be serviced by improving the existing access to Groton Marine Dock near Broad Street, with parking on adjacent parcels west of Thames Street. Figure 12 illustrates expanded commercial, storage, and parking space for harbor related business on currently vacant properties to the east of Thames Street. Increased tourist and recreational activity may provide sufficient market for a medium sized hotel, illustrated as a conversion of the former State Police building with an addition on adjacent commercially zoned property.

While the harbor would require extensive engineering and economic study to test its feasibility, the concept is sufficiently compelling to be raised for discussion. If developed, it would alter the complexion of the Groton waterfront, by providing the opportunity for existing scattered marine uses to relocate in a modern facility with excellent access space for expansion, etc. This would free these parcels for other development. The harbor may also attract a wide variety of new marine activity to the City -- shipment of Long Island produce to markets in Providence and Boston, for example. Such a scheme has been actively pursued in the past, but foundered for lack of facilities.

- o Historic Core -- Incentives for exterior improvements to existing buildings, development of water taxi docking facilities, and public access would be substantially as described in Scenario 2. Lack of space for parking, small parcels, and other physical constraints will continue to inhibit efforts at major redevelopment in this area, although pressures to do so would be greatest under this scenario. Given sufficient market, opportunities do exist to enhance the commercial viability of existing buildings. For example, Figure 12 illustrates the expansion and reorientation of certain commercial proper

ties towards the water, with wateredge pedestrian connections to a ferry dock at the On-the-Thames Motel. Outdoor dining, entertainment and other visitor related activities could be developed behind existing buildings without destroying the village character of Thames Street. Of course, implementation of such a concept would require a developer to acquire all properties or cooperation among existing owners.

Fort Griswold would be upgraded as in Scenario 2. However, as part of the revitalization project, the State Park site would be expanded by acquiring several single family houses separating the Lower Battery from Thames Street. This would improve the setting and visibility of the Fort and provide a strong connection between it and the Croaker Memorial. The existing Baker Street access would be closed. Parking would be provided directly off Thames Street, and one of the houses converted into a park headquarters and museum. By shifting reception to this site, many visitors could be accommodated with little disruption of residential areas.

- o Southern Waterfront -- This scenario assumes that the Costa fishing operation and market will relocate to the new harbor. The market site would be acquired along with single family properties to the east of Thames Street, which are under the same ownership. The existing pier would be converted to handle water taxis and pedestrian connections would be developed along the waterfront to the USS Croaker Memorial. The remainder of the parcel may be landscaped as an extension of the Fort grounds, or jointly used to provide service for a small marina. Efforts would be made to substantially expand the USS Croaker Memorial as a visitor attraction and educational resource. Parking, landscape, and interpretive improvements could be supplemented by the acquisition of additional vessels including, for example, an additional submarine of another type or vintage, or other underwater craft. The potential of moving the Nautilus to the site for a "coming home" celebration a few weeks each summer might be explored. Expansion of the existing Bootlegger Restaurant as well as the development of new restaurant and entertainment uses on adjacent parcels could be expected under this scenario.

Implementation of this scenario would involve public commitments to aid in developing the ferry infrastructure, public access, and parking as described in Scenario 2. Clearly, creation of the harbor would require financial resources beyond those of the City. However, the City and state could make significant

incentives available to the private sector to undertake such a project. Included might be the use of low interest industrial development revenue bonds, public finance of roadways and access, zoning incentives that allow increased density on commercial parcels if marine development is included, tax abatements for waterfront improvements.

Expansion of Fort Griswold State Park would represent a major commitment by the State to this facility, commensurate with its historic significance to Connecticut. An option to acquiring the Costa properties might include joint development by the existing owner for residential uses and a marina, designed so as to allow public access to, and views of the Lower Battery. Expansion of the Croaker Memorial would be executed by its current private, non-profit operating corporation. Public assistance to improve waterfront edges would be appropriate.

E. COMPARISON

Table 13 indicates a simplified evaluation of the above alternatives across four criteria:

- o Preservation of village character -- is a subjective rating of the potential impact of each alternative on the existing quality of life on Thames Street and in the surrounding residential district. As visitation and marine use increase, so will the general level of activity, traffic and pressure for development. Scenario 1 was given the highest rating (4) because it emphasizes residential improvement and upgrading existing structures. Scenario 2 was rated lower (3) because visitors would be required to move through residential areas to and from Fort Griswold. Scenario 3 is least desirable (2), since it requires the removal of several residential structures and is likely to expand pressures for redevelopment in the historic core.
- o Development of marine potential -- rates the amount of recreational and commercial boating along with general use of the water. Higher ratings were given to Scenario 2, because of the water taxi which would draw attention to the river as well as improve access into the core, and Scenario 4, which would add a marine harbor.

TABLE 13: EVALUATION OF SCENARIOS

	Improving Image	Linking Resources	Consolidating Activities
Preservation of Village character	4	3	2
Development of marine potential	2	3	4
Public access to the water	1	3	3
Revitalization potential	2	3	4
Visitor attraction	1	3	4
Ease of implementation	4	3	2

Key : 4 excellent
3 Good
2 fair
1 poor

- o Public access to the water -- rates both the amount and quality of access including the potential of each scenario to draw people to the water. Scenario 1 was rated poor, since the location and type of access provided is unlikely to be used.
- o Revitalization potential -- reflects the number of additional patrons and the amount of new commercial and other uses that would be drawn to Thames Street. The ratings are a subjective comparison of market demands likely to be generated by each scenario.
- o Visitor attraction -- indicates both the number of visitors which would be drawn to Thames Street and the quality of the experience. Scenario 1 was rated poor (1), since loss of the Croaker would result in a net decrease from current levels. Option 3 was given the highest rating (4), because expansion of Fort Griswold State Park and facilities at the Croaker would form a unique, integrated attraction, likely to expand visitation beyond isolated improvements at each site.
- o Ease of implementation -- is a highly subjective rating of the degree of complexity, level of public commitment, and length of time required to execute each scenario.

VI. RECOMMENDED PLAN

A. FEATURES OF THE PLAN

Based on public discussion and consideration, Scenario 2 was chosen by the Groton Planning and Zoning Commission as the basis for the recommended Plan. This approach will link existing resources in Groton to the proposed USS Nautilus installation by development of a "water taxi" with stops at key locations on Thames Street. These locations will become the focus of waterfront access, tourist services, and private investment. In preparing the recommended Plan, elements of Scenario 2 -- as described in Section V -- have been refined and modified to reflect implementation considerations, public concerns, and the desires of the Planning and Zoning Commission. The Plan provides a framework for future public and private decisions concerning Thames Street as well as a program for action by the City to encourage appropriate development. Major features of the Plan are illustrated in Figures 13, 14, and 15 and described below:

o Waterfront Access -- The Plan envisions almost continuous public access to the Thames River within the northern and southern gateway areas, by creating a series of walkways and associated spaces on public and privately owned parcels. Additional access would be provided where possible at several locations in the historic core area. At the northern gateway, the existing state boat ramp beneath the Gold Star Bridge would be improved to include a fishing pier. At the water's edge, a wooden walkway will connect the pier -- passing beneath the railroad bridge -- to a proposed ferry terminus and Visitor Center in the vicinity of the Old Thames River Bridge abutment. At this site, a small park and overlook will provide passive recreation, interpretive signage, and magnificent views of the Thames River. Additional access could be developed by constructing walkways and planting at the top of the existing embankment to the rear of the Tracore Office and Spicer Fuel properties. Land between the Spicer Tanks and Broad Street, now used for truck storage, is envisioned as the future site for a waterfront park.

Within the southern gateway, continuous access could be developed between the USS Croaker Memorial and the Fort Griswold Landing site. Owners of the Croaker/Bootlegger and M. Costa & Sons fish market have already indicated their willingness to allow public access. At the Costa property, a public

MATCH LINE

Inn, mini-park
optional ferry
landing

Ferry landing,
mini-park on fill

expand marina
Upgrade and
commercial

office/
for expanded
potential site
Waterfront and park

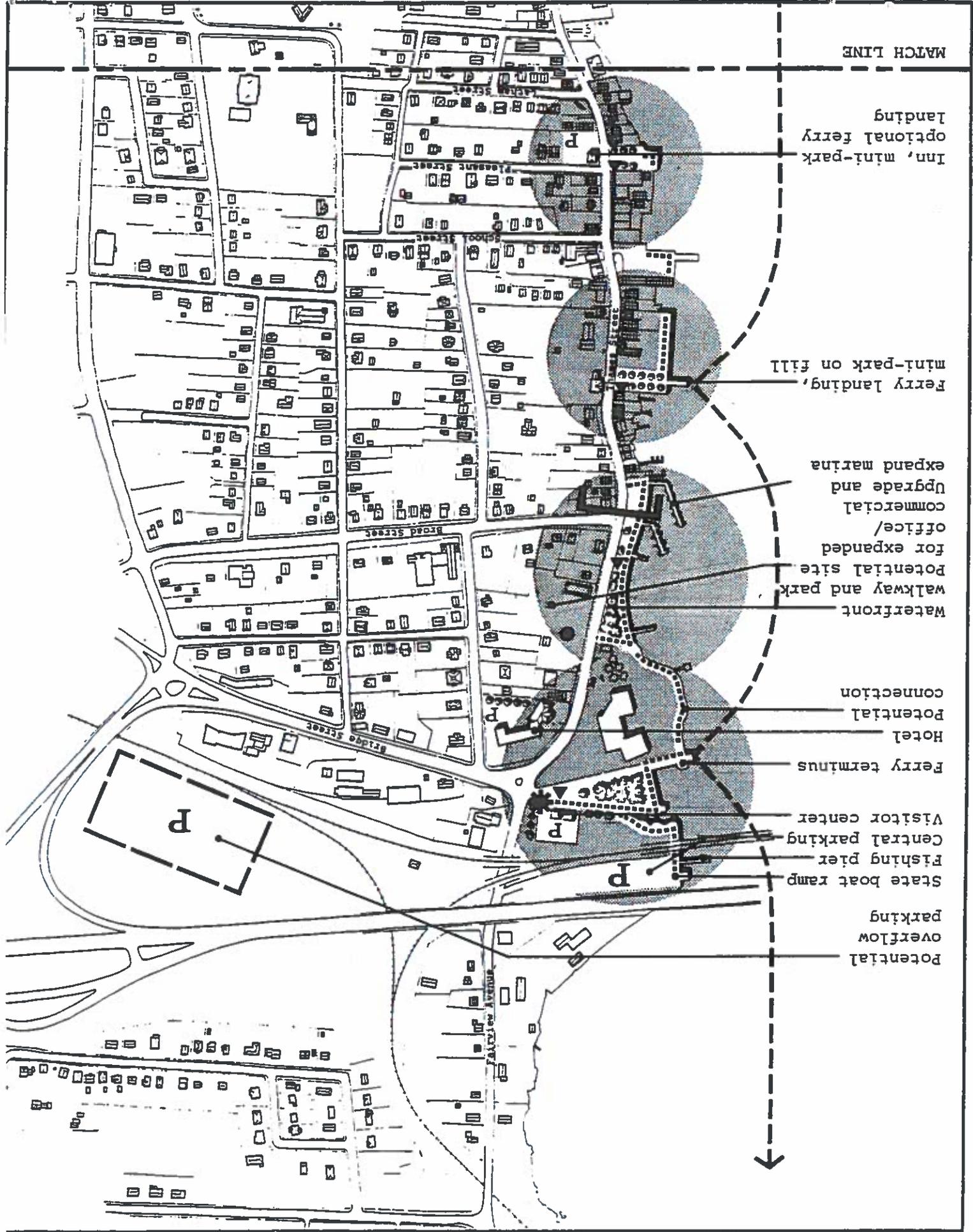
Potential
Hotel
connection

Ferry terminus

Visitor center
Central parking

Fishing pier
State boat ramp

Potential
overflow
parking



MATCH LINE

Museum

Ferry landing

Upgrade Fort
and State Park
Housing

Expanded fishing and
public access on land-
fill

Housing and
marina

Upgrade Croaker
Memorial

Ferry landing

Apartments, marina
Segment one-way south
of Baker Avenue, to
Eastern Point Avenue

-  KEY PROJECTS
-  FACADE IMPROVEMENT PROGRAM
-  INTERPRETATIVE SIGNS
-  PEDESTRIAN ROUTES
-  FERRY ROUTES
-  PARKING
-  BUFFER AND PLANTINGS
-  VISITOR SERVICES
-  POTENTIAL SITES FOR FURTHER DEVELOPMENT

Thames Street

REVITALIZATION STUDY - CITY OF GROTON PLANNING & ZONING COMMISSION

Lane, Frenchman and Associates, Inc.
Honorable Members Association
Yasacco / Bangor Associates, Inc.

RECOMMENDED PLAN **13**





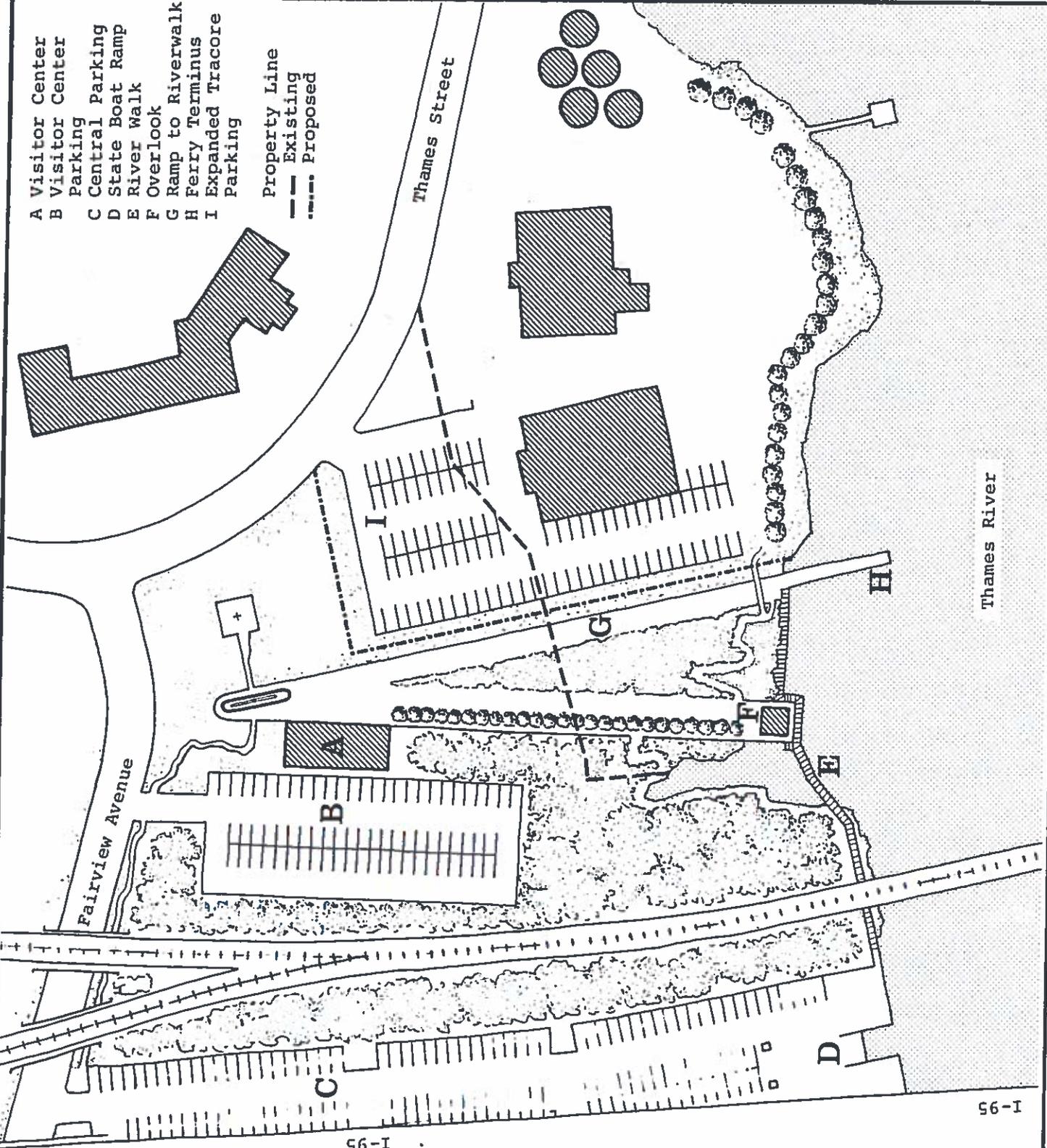
14 ILLUSTRATIVE SITE PLAN: VISITOR CENTER AREA

Thames Street

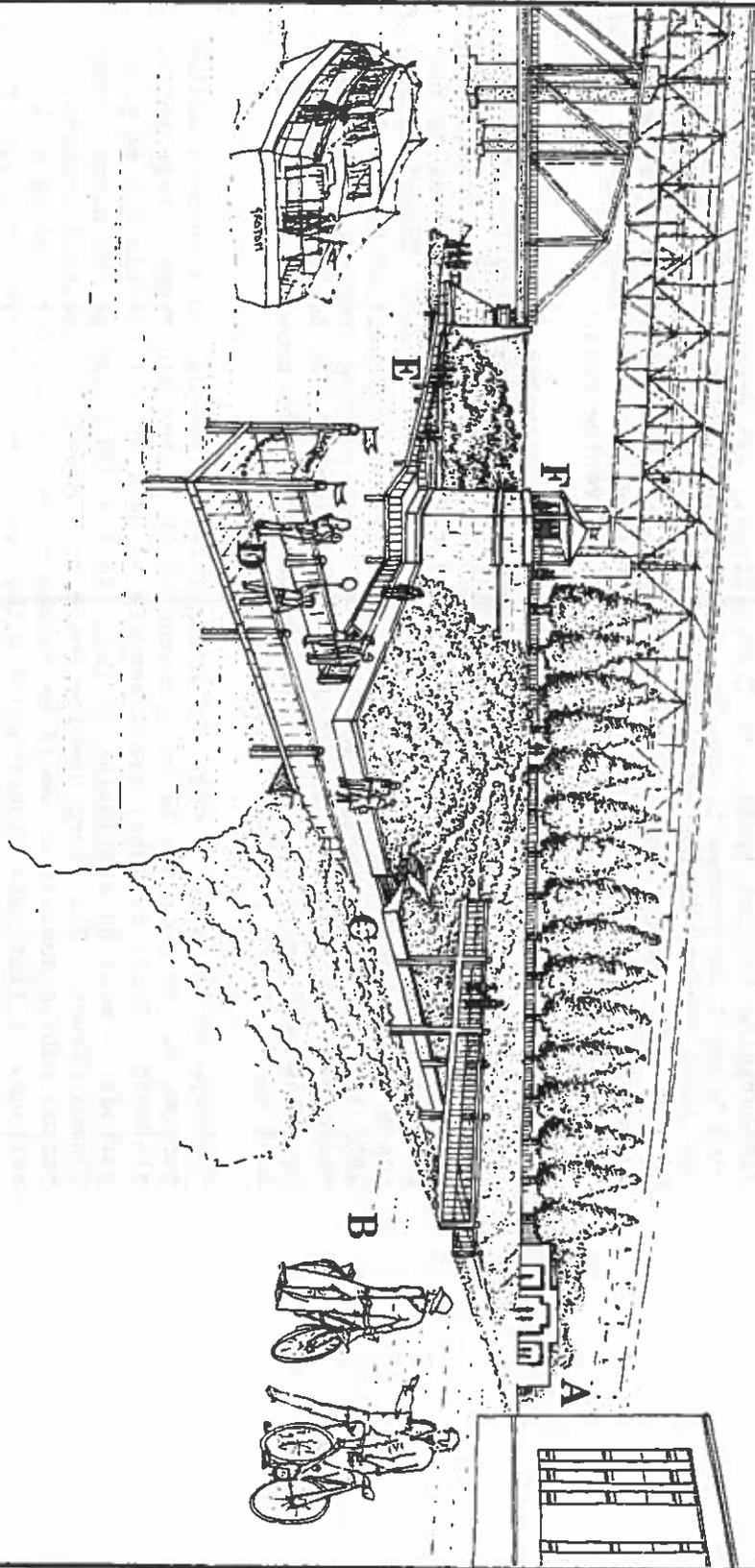
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- A Visitor Center
- B Visitor Center Parking
- C Central Parking
- D State Boat Ramp
- E River Walk
- F Overlook
- G Ramp to Riverwalk
- H Ferry Terminus
- I Expanded Tracore Parking

- Property Line
- Existing
- - - - Proposed



Thames River



Thames Street

REVITALIZATION STUDY - CITY OF GNOTON PLANNING & ZONING COMMISSION

Lane, Frenchman and Associates, Inc.
 Economic Research Associates
 Yancey / Bangor Associates, Inc.

VIEW: VISITOR CENTER AREA

- | | |
|-----------------------|---------------------------------------|
| A. Visitor center | E. Riverfront walk to State boat ramp |
| B. Tracore parking | F. Overlook at bridge abutment |
| C. Ramp to waterfront | |
| D. Ferry terminus | |

walkway would be incorporated into plans for additional fill and expansion of the existing fishing operation. Connections to Griswold Landing would be provided by a wooden walkway constructed around the perimeter of the sewage treatment plant.

In the historic core area, access may be developed at the Lorelei Restaurant, where modest additional fill would allow construction of a mini-park and waterfront setting for the Avery House. Other potential access locations include the On-the-Thames Motel and the now vacant lot across from the former Fleet Reserve Association building.

o Transportation Improvements -- Proposed traffic and parking improvements are aimed at limiting the use of Thames Street by employees of Electric Boat, discouraging tourist traffic on Thames Street, and encouraging use of water born transit for access to the USS Nautilus and Groton Bank attractions. An important recommendation of the Plan is to make Thames Street one-way south between Baker Street and Eastern Point Avenue. This would preserve two-way access to businesses in the historic core area, while discouraging the use of Thames Street as a route to I-95 during the evening rush.

Tourists destined for the Groton area would be directed by new signage on I-95 and other principal routes to a central parking facility for approximately 250 cars, located beneath the Gold Star Bridge. Parking would be developed on state owned land in the bridge right-of-way and adjacent to the proposed Visitor Center, both accessed via Fairview Avenue. Signalization of the Bridge Street, Thames Street, Fairview Avenue intersection may be desirable to facilitate tourist traffic to and from parking areas and eliminate the current situation of direct flow from Bridge Street to Thames Street. Overflow parking for an additional 250 cars could be provided on available land south of the I-95 exit ramp.

Walkways at the water's edge and along Fairview Avenue would connect central parking to the proposed ferry terminus south of the old Thames River Bridge abutment. Here, frequent ferry service -- half hour intervals during peak periods -- will be available for trips to the USS Nautilus and stops along Thames Street. The ferry service would be a privately operated venture, although public assistance would be necessary to develop ferry stops at key locations. A flat rate ticket would allow travel to or between any stop for a

day's time. It is estimated that two boats with a capacity of 60 - 100 passengers each would be sufficient to provide a desirable level of service. The boats would offer refreshments for sale and interpretation, with the aim of making the trip an attraction in itself. Potential stops on Thames Street would include: one in the historic core area, at either the Lorelei or On-the-Thames Motel; Griswold Landing, developed in conjunction with improvements to the State Park; and at the USS Croaker Memorial.

o Visitor Services and Attractions -- Major tourist activities will be concentrated at the northern gateway, focusing on a new Visitor Center and in the southern gateway, where efforts will be made to upgrade and link facilities at Fort Griswold State Park and the USS Croaker Memorial. The plan does not envision the historic core as a major tourist destination although some visitors can be expected to stroll along Thames Street to view historic houses and browse in local shops. A ferry stop in the core area should be provided to encourage such activity for those who desire it.

The Visitor Center will be developed in an existing building located at the head of Bridge Street and clearly visible to on-coming visitor traffic. The building is currently a garage which would need to be acquired and renovated. Services available at the center would include: orientation to what there is to see and do in Groton, interpretive exhibits on the history of the City, ticket sales for the ferry, restrooms, etc. The Visitor Center grounds would provide parking for 75 cars, access to the ferry landing, river overlook, and a small park.

Visitors to Fort Griswold State Park would arrive principally via Thames Street and a ferry stop at Griswold Landing. Interpretation of the site will be focused at a new museum to be developed in the former chapel, now a dance studio, located at the corner of Bridge and Thames Street. The museum will tell the history of the Fort, the reason for its design, how it was constructed, and its importance to the defense of New London and the Thames River. From the museum, visitors will proceed on foot up Fort Street to the Ebenezer Avery House and the Fort site. New walkways, stairs, and interpretive signage will make the walk more enjoyable and convenient. Improvements to the Park should include reconstruction of the Fort and Lower Battery and restoration of the Monument, Monument House, and landscape. Additional interpretive signage would help to explain what can be seen from this vantage point and

the critical relationship between the Fort and the river. Visitors leaving the site may proceed back down Fort Street or via Baker Avenue to the USS Croaker Memorial. The existing accessway to Baker Avenue should be improved for pedestrian use, including better landscaping and walkways connecting to the Fort and Lower Battery. Sidewalks should be provided on at least one side of Baker Avenue to improve pedestrian safety and connections to the USS Croaker.

Improvements to the USS Croaker Memorial would principally include the installation of permanent, paved parking and improvement of the water's edge by constructing walkways and planting. Connection of the site by ferry to the USS Nautilus should be sufficient to maintain or slightly increase current levels of visitation. However, the operators of the Memorial should be encouraged to expand the existing attraction by providing higher quality interpretation or acquiring additional vessels. The Croaker facility represents an important anchor for visitor use on Thames Street and its continued existence may be essential for successful operation of the ferry service as envisioned. "Marketing" of the site as a World War II counterpart to the USS Nautilus experience would help to tap the visitor market and encourage use of the ferry.

o Facade Improvements -- A low-interest incentive loan program is recommended, targeted to encourage improvements to commercial properties in the Historic Core. A residential improvement program is already in place, supported by Community Development (Small Cities) funds made available to the Town and the City through the Connecticut Department of Housing. This has resulted in the improvement of a number of houses along Thames Street and in Groton Bank. Many commercial buildings remain poorly maintained and, in some instances, signage detracts from the image of the area. With rather modest effort, these buildings could be improved strengthening the historic character of the street and complementing work underway on nearby homes. Such improvement is essential if tourists are expected to visit Thames Street, providing additional support for existing and new businesses. Recommendations to finance the program are described in the next section.

Loans should be made available for exterior renovations to historic structures or improvements to landscape or signage which meet specific guidelines to be established by the City. To the degree practical, buildings should be

returned to their original appearance by replacing missing architectural details and removing false facades or signs which obscure parts of the building. The aim should not be an authentic historical restoration, which could be expensive and discourage participation, but maintenance and reinforcement of the general character of local architecture. In effect, the original style and design of an existing structure is the best prototype for its future renovation. In this context, detailed criteria and standards are less desirable to individual guidance or renovation which should be provided on a building by building basis, as part of the facade easement program. Due to the breadth of issues being addressed in the Thames Street study and its focus on an overall approach to the waterfront, detailed renovation criteria have not been included as a part of this report. Loans should not be used to support "modernization" of buildings by, for example, erecting false facades, covering up original siding or brickwork which can be saved, or installing new storefronts which change the original design of the structure.

o Private Development -- In response to increased tourist demand and general improvement in the image of Thames Street, modest new private development can be expected, principally in the northern and southern gateway areas. The Market Analysis indicated a rather strong demand for housing with water views and the Plan illustrates the development of 50 condominium units in the southern gateway area on parcels to the east of Thames Street, which are currently zoned for such use. This represents a continuation of the current trend. There is also a need for apartments oriented to the short term needs of Electric Boat employees who now occupy many rooming houses at high rents. Twenty five apartment units are illustrated on land adjacent to Electric Boat and oriented to the water. Approximately 100 marina slips could be developed in this area in association with housing units and to service a strong regional demand. Additional slips could be provided by expanding and upgrading the existing Groton Marina Dock in the northern gateway area. Approximately 7,500 square feet of additional retail and restaurant use can be expected in the historic core, where existing businesses may expand and small houses on the waterfront may be converted into new shops. Additional modest retail and restaurant development (7,500 - 10,000 square feet) is likely on available parcels in the northern gateway in response to planned tourist concentrations in that area. Increased tourism may also generate a market for hotel space although the current demand in Groton does not appear high. The Plan illustrates development of a 75 room motel facility by converting and expanding

the former State Police building located across from the proposed Visitor Center. This would require acquisition of the adjacent commercially zoned parcel. Additional rooms may be provided by development of an inn in the former Fleet Reserve Association building in the heart of Thames Street. This building, which includes on-site parking, is well suited to such a use and could provide gracious accommodations for those wishing a taste of Groton's historic ambiance. Office construction to house expansion of the Tracore Corporation is already planned, and some additional space can be expected in the northern gateway area. Design of future space to enhance the compatibility of existing structures is a key need.

B. IMPLEMENTATION

While the above scenario represents an achievable plan for the future of Thames Street, it cannot be realized without the sustained commitment and leadership of the City of Groton. The Plan must be viewed as a program of action for Thames Street and not simply a passive vision of its future. Financing of every component is clearly beyond the means of the City. However the City can provide a strong catalyst for change by seeking and orchestrating the participation of state agencies, by leveraging private investment to achieve public goals, and by providing assistance where necessary to link and integrate private efforts. A recommended program for City action is summarized in Table 14. Key roles of the City and resources available to implement each feature of the Plan are described below:

Coordinate Public Sector Activity

There is a good opportunity for state participation in implementing the revitalization program. The entire study area lies within the coastal boundary; it includes large state-owned parcels; Fort Griswold is one of Connecticut's most important historical sites. However, little action can be expected without pressure and direction from the City, since Groton must compete with 168 other cities and towns throughout Connecticut for limited state resources. In preparing the Plan, all state agencies and programs with a potential role in the revitalization effort were contacted. In general, officials were receptive to the projects being proposed and felt that state participation would be possible, if

the City's case is forcefully stated and followed-up by effective political action. This is likely to be a difficult task, given the current administrative structure of the City which has no Planning or Community Development organization and must rely on the Town to provide a conduit for state funds. As a long term measure, we recommend that the City reevaluate this relationship and seek to establish its own staff which can negotiate directly for state aid. Normally such positions are funded largely from grants received, at little cost to the municipality. As a short term measure, continued outside professional assistance appears necessary, if components of the Plan are to be achieved.

State agencies and initiatives which may be pursued in implementing the Plan include:

o Department of Environmental Protection -- DEP manages Fort Griswold State Park and the state boat ramp now being installed beneath the Gold Star Bridge. Efforts in the boat ramp area should concentrate on further improvement of the site to include a fish pier, water edge connections to the proposed ferry terminus, and expanded parking for joint visitor and recreational use. The Office of Parks and Recreation has existing plans for upgrading Fort Griswold which have not been implemented due to lack of funds and disagreement with the City over management and use of the site. This Plan should clarify the City's position on future development of the Park, but funding remains a problem, since normal operating expenditures will not cover the improvements envisioned. The most effective approach may be to directly petition the Connecticut Legislature for an appropriation to reconstruct and expand the site. Such an initiative would require support of local legislators, an effective lobbying effort, and a strong case that Fort Griswold is of great value and demands attention. Related improvements such as the proposed museum, central parking, improvements to the boat ramp area, and ferry terminus might be included in the package.

o Department of Economic Development -- Two programs are of note. The Office of Tourism offers Historic Asset Grants for rehabilitation of historically significant buildings which will aid tourism. Rehabilitation of the former Fleet Reserve and other core area structures would likely qualify, but funds are limited and competition is great. The Connecticut Development Authority offers low interest financing through the use of state, tax exempt, industrial development revenue bonds, at a rate approximately 70% of prime. Ell-

gible projects on Thames Street may include: expansion of fishing and other marine industrial operations, development of the ferry service and associated piers, hotel and other commercial uses which are not retail or entertainment related.

- o Department of Transportation -- DOT controls the I-95 right-of-way, including approach ramps and adjacent interchange properties, being proposed as the sites for central and overflow parking. Use of these properties will require DOT approval. Financial assistance in developing the lots is possible, but unlikely.

Leveraging Private Investment

The Planning and Zoning Commission will have authority to review site plans for almost all private projects envisioned by the Plan by virtue of local zoning and the Coastal Area Management process. We recommend that the Plan of Development be amended to include the recommendations of this report to provide more specific guidelines for future review of development proposals. In addition, the status and effectiveness of existing zoning were reviewed as part of the inventory work. In our view, the limited business and residence zone -- established for the majority of Thames Street in 1980 after considerable study and debate -- is an appropriate designation for the mixed use character of this area. Site plan review for virtually all projects, and special permit requirements for marine facilities, hotels and motels on small lots, and other uses, should insure appropriate design. No amendments to the existing ordinance are proposed as part of this Plan.

The review process, City participation in low interest funding, plus potential public contributions to selected projects can provide significant leverage over the design and uses to be included in private development. Key opportunities include:

- o Waterfront Access -- Public access and maintenance of views to the River should be incorporated in all future development. We recommend that the City seek to acquire permanent easements -- typically a 12 foot strip at the water's edge -- through donation where possible. Public assistance may be offered to develop walkways and planting, and to support maintenance.

o Visitor Center -- City owned land surrounding the National Submarine Memorial could be pivotal in helping to implement the Visitor Center and ferry terminal. City property includes the Memorial, surrounding access roads, and considerable frontage on Thames Street. The City may seek to exchange all or a portion of this site with the owner of the adjacent Tracore complex for a tract which incorporates the old Thames River Bridge abutment. As illustrated in Figures 14, and 15, this would provide a site for docking facilities, with a small mini-park and river overlook that joins directly with the proposed Visitor Center. It would also facilitate expansion of the Tracore complex towards Thames Street and construction of a new facade more compatible with the scale and character of the area. Presumably, the Memorial would be relocated to the Visitor Center site.

o Facade Improvement -- Funds for the improvement program would come from a combination of public and private sources. Participation of local financial institutions to administer the program, such as the Electric Boat Credit Union and local banks, would be sought and to provide a portion of required capital. Typically, such institutions are willing to offer funds at slightly below market rate for community oriented efforts which will enhance the image of their trade area. Community Development funds made available to the Town and City by the state may be used to subsidize a further substantial reduction in these rates, or to insure loans. Additional low interest capital may be sought by donation from local industries or sources such as the Bill Memorial Foundation. Loans would be made available for qualifying properties and renovations which meet guidelines established by the City.

City Sponsored Improvements

Local funds available for capital improvement projects are severely limited by tax and fiscal constraints. The key source of funds for community development efforts of the type envisioned in the Plan is likely to be through the Community Development Small Cities Grant program. The City and Town under a cooperative agreement are currently receiving a total of \$1 million over a two year period ending in FY 1983 under this program. All currently available funds have been earmarked largely for housing improvements to qualifying owners in target areas. A special emphasis has been placed on the Fort Hill neighborhood, although many areas in the City of Groton are eligible.

Applications for available Small Cities funds are competitive state wide and the deadline for FY 1983-84 funding is in June, 1983. We recommend that the commercial facade improvement program and waterfront access proposals outlined in the Plan be targeted for top priority in the next round of funding. As mentioned previously, the City of Groton may consider applying for a Small Cities Grant on its own to insure that City goals are met and to provide support for building an in-house planning and community development capability.

C. Coastal Area Management

The Recommended Plan has been designed to meet the guidelines of the City of Groton Municipal Coastal Program and the policies of the Connecticut Coastal Management Act. The municipal program conducted an extensive review of environmental constraints affecting future development of the Thames Street waterfront. Key guidelines of the program which have been reflected in the Plan include:

- o development of central tourist parking;
- o preservation of the Thames Streets historic character;
- o encouragement of marina development north of Electric Boat along the Thames River;
- o encouragement of deepwater docking for ferries, tugs, commercial fishing;
- o expanded waterfront access to the Thames River in commercial areas.

In general, the Plan illustrates projects which will achieve these objectives with only minor modifications to the existing shoreline configuration, which will have little or no impact on existing environmental conditions. However, several proposed projects will require permits from the U.S. Corps of Engineers and the Connecticut Department of Environmental Protection (DEP), as well as site plan review by the Groton Planning and Zoning Commission. The Corps is principally concerned with maintaining the quality of navigable waterways and unrestricted access for commercial and military vessels. Approval is required for any action below the mean high tide line in regulated waters. Proposals in the Plan for waterfront walkways, piers, marinas and fill have been informally reviewed with the Corps and appear to be acceptable.

The DEP Coastal Area Management Program administers policies and use guidelines promulgated under the Coastal Area Management Act (summarized in Section II). Under the act, Thames Street has been classified as a "developed shoreline", a harbor area which has "been highly engineered and developed resulting in the functional impairment or substantial alteration of their natural physiographic features of systems". The state's general policy for such areas is to encourage water dependent uses, such as marinas, commercial fishing and boating facilities. However, the adverse impact of such developments must be evaluated with respect to water quality, water circulation, erosion or sedimentation patterns, ground water flow, flood hazard, visual quality, wildlife or fish habitats, degradation of wetlands and beaches. In its review of the Recommended Plan, CAM has highlighted two proposed actions which warrant such consideration:

o Additional fill -- proposed at the Lorelei Restaurant, to expand public access, and at the M. Costa and Sons fishmarket, to expand fishing operations and provide public access. Such projects could conceivably alter water circulation or sedimentation patterns. However, the recommended extent of fill into the water would not exceed that which already has occurred elsewhere on the Thames Street waterfront. Proper design of filled areas -- to include a convex shape to the water, rounded corners, sloped and stabilized edges -- will minimize interference with existing sedimentation and erosion patterns. At the Lorelei, existing state and local approvals will allow an additional 20 - 30 feet of fill which would be sufficient to achieve the objectives of the Plan. At M. Costa and Son, an additional 40 - 50 feet of fill would require state approval. However, fill in this area may alleviate current adverse impacts resulting from the expansion by fill of the sewage treatment plant, which is adjacent to the Costa property. The extent of the fill into the water and its perpendicular concrete walls with square corners have created a back bay to the south which may be disrupting natural water flow and increasing erosion and water damage in this area. Properly designed fill at the Costa site would result in a clean, straight shoreline from the treatment plant to the U.S.S. Croaker Memorial site, enhancing water flow and reducing sedimentation problems.

o Marina development -- proposed at the U.S.S. Croaker Memorial site. The Plan recommends construction of approximately 100 slips, in conjunction with nearby residential development. The steep banks and deep water of the Thames River make it ideal for marina development. However, the exposed location of

Thames Street to southwest winds and ship wakes will require design of amply sized slips, to allow for boat movement, and may require additional protection, such as the floating breakwaters as described in Section IV, p. 76. Environmental impacts of dock construction are minor. At the Croaker site, federal and state DEP approvals have already been granted for a marina of the size recommended, as well as construction of a 314 foot commercial pier. Municipal site plan approval of the project is yet to be obtained. We recommend that the City work with the owner to insure that appropriate public access and landscape improvements to the water's edge, as described in the Plan, be included in the project if it is to be pursued.

D. NEXT STEPS

If the Plan is to be effective, sustained effort by the City will be necessary, as well as a demonstrated commitment to carry out the revitalization process. A central actor will be the Groton Planning and Zoning Commission. As an initial step, we recommend that this Plan be adopted as an amendment to the Plan of Development to provide a basis for future zoning decisions and site plan review. Follow-up in many of the areas outlined in the preceding section will be difficult, given the current level of staffing available to the Commission. Serious consideration should be given to a City application for Community Development funds, beginning in FY 1983-84 (due June, 1983), which if successful, would provide capital funds for projects and support for additional staff.

To mobilize projects and to maintain momentum over the coming year, we believe there is a need for additional outside professional support, and recommend continuation of the efforts begun by this study. To date, funding for the revitalization program has been provided largely through the Connecticut Coastal Area Management Program. Further support may be provided by the City in parallel with private donations from local industries and institutions. We estimate that a total of \$40,000 will be required to mobilize the following high priority projects:

- o preparation of a Small Cities grant application of one half to \$1 million to fund Thames Street improvements and additional staff;