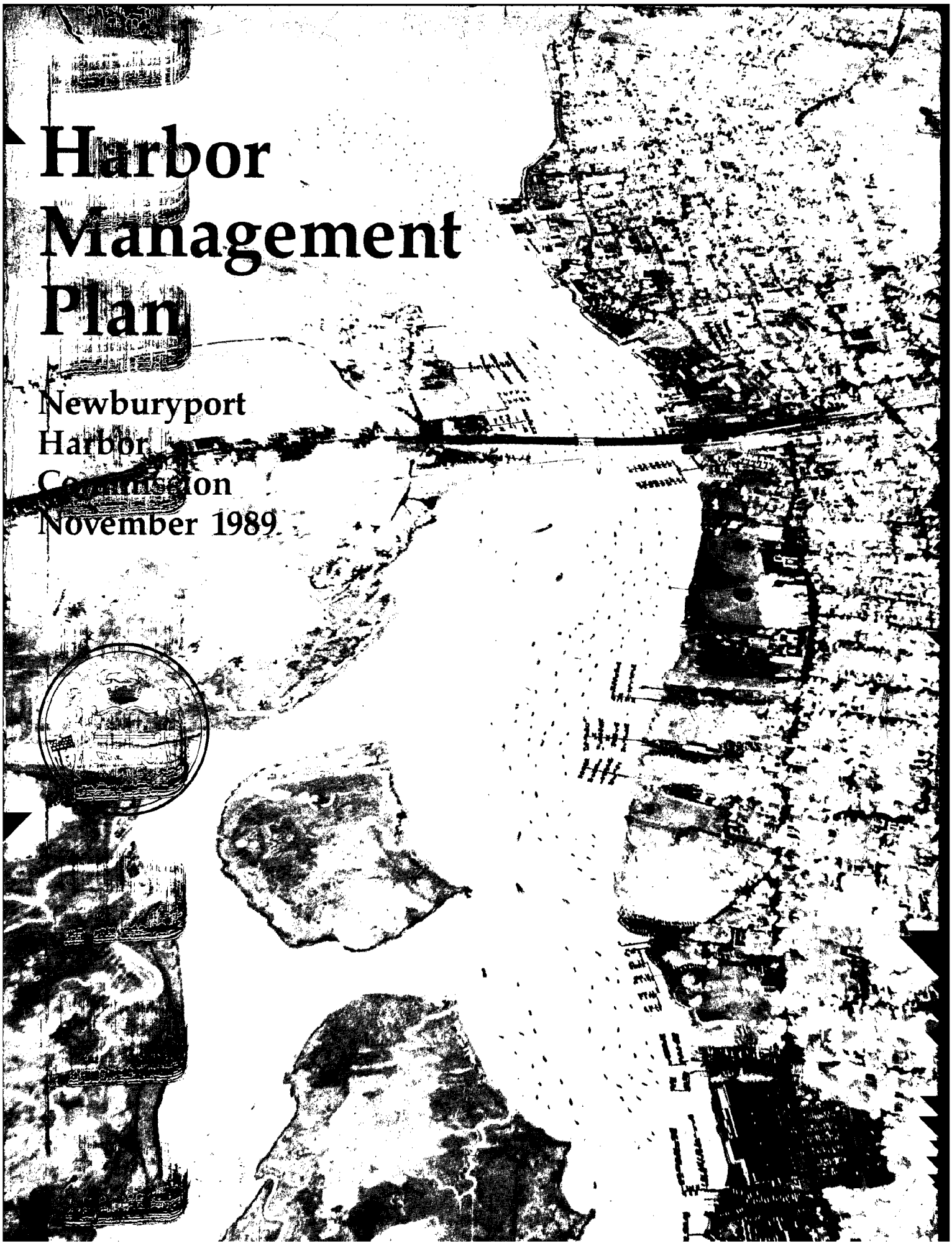

Harbor Management Plan

Newburyport Harbor Commission

November 1989

CITY OF NEWBURYPORT

HARBOR MANAGEMENT PLAN

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CITY OF NEWBURYPORT

HARBOR MANAGEMENT PLAN

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INTRODUCTION

INTRODUCTION

Urban waterfronts are significant due in part to the role they have played in history and to the diversity of land uses which tend to locate along the water's edge. Waterfronts are a limited resource which continue to undergo increasing pressures for development and privatization.

The proper planning and management of the City's harbors and waterfronts are of utmost importance as Newburyport enters the next decade.

Newburyport's waterfront has been reshaped over the past few years from the transformation of industrial land into multifamily developments, and from major recreational improvements made to the central waterfront. There are major projects now in the planning process including a hotel, a civic center and other commercial and mixed use ventures to be located on or in close proximity to the waterfront. A new municipal/commercial fishing facility which broke ground last fall at the east end of the downtown waterfront and several new/expanded marinas were recently reviewed by the Harbor Commission.

Recently, the City has adopted two waterfront zoning districts, one which mandates a percentage of marine dependent uses in a given development scenario and the other which encourages marine dependent and related uses on the central waterfront. The retention, expansion and future location of water dependent uses on Newburyport's waterfront is a primary goal of the City.

The challenge in creating a Harbor Management Plan for Newburyport is to develop effective policies and implementation strategies to satisfy the competing interests found in this diverse area.

Newburyport's Harbor Management Plan represents the first step in the City's efforts to design for the appropriate use and development of its harbor areas. Many of the proposed policies and recommended actions contained within the Plan require financial appropriations, legislative enactments and the continuing cooperation of all municipal boards, commissions and citizens of the City. A listing of government agencies with regulatory and advisory authority are attached as Appendix 1.

MISSION STATEMENT: INITIATIVES AND ACCOMPLISHMENTS

The mission of the City of Newburyport's Harbor Commission is centered around four goals:

- o Regulate the use of the harbor to:
  - o Protect existing and encourage future water dependent/related uses,
  - o Resolve conflicts between users,
  - o Provide for the safe, orderly and efficient use of the water and waterfront for passive and active recreation and commercial activities.
- o Maintain Newburyport's waterfront heritage by encouraging water dependent/water related uses.
- o Develop a systematic, local decision-making process for waterfront development and activities utilizing the Harbor Commission as the local clearinghouse.
- o Work cooperatively with the towns of Amesbury and Salisbury, and with state and federal agencies to implement the recommendations of the Harbor Management Plan.

The Newburyport Harbor Commission was established in June of 1986 and in a relatively short time period, has realized an impressive list of achievements. Major initiatives and accomplishments are as follows:

1. Developed a comprehensive five year Harbor Management Plan for the City of Newburyport.
2. Developed and received Newburyport City Council approval (March 1988) of a comprehensive set of rules, regulations and fees for harbor use and control (Appendices 2, 3 and 4).
3. Assisted and been an advocate for recent changes in zoning along the Merrimack River to strengthen water dependent and open space use of River frontage.
4. Implemented a channel designation plan and fairway system and improved aids to navigation in the Merrimack River; also installed private navigational aids to advise and enforce the no wake law.
5. Assisted the Newburyport Harbormaster to begin to develop:
   a. visibility of the Harbormaster patrols
   b. a record system for moorings
   c. a mooring grid system of the harbor.

6. Initiated action on and worked with the Newburyport Office of Planning and Development to obtain:

   a. grant funding for the municipal/commercial fishing facility
   b. grant funding to construct a public launching ramp
   c. grant funding of the Harbor Management Plan, related maps, charts and studies.

7. Worked cooperatively with federal, state and regional agencies, the towns of Amesbury and Salisbury, and local boards and other local interests who have expressed concerns about the Merrimack harbor area.

8. Assisted several private individuals and industries in obtaining information and assistance from various state and federal agencies regarding water related issues.

9. Reviewed and advised local, state and federal boards and agencies regarding issues relating to the Merrimack harbor.

10. Advocated and accomplished the transfer of the central waterfront floats from the Newburyport Redevelopment Authority to the City.

There are several additional areas upon which the Harbor Commission has continued to focus its efforts. Perhaps the single most dramatic and noticeable accomplishment to date has been the increase in public awareness as it relates to the protection of the City's harbor areas, and the tremendous amount of support from both City officials and the general public.

HISTORICAL PERSPECTIVE

HISTORICAL PERSPECTIVE

OVERVIEW

The Merrimack River has always played a major role in the development of the City of Newburyport. The River was the resource which initially attracted settlement of this area in the early 1600's. The "Old Port" of Newbury lent itself to boat building due to the sheltered harbor and its natural channels carved by the flow of the Merrimack River (Map 1). The River also offered rich fishing grounds abundant with salmon, sturgeon and bass.

Through the 17th and 18th centuries, the port grew in size and importance, first prominent in shipbuilding and later in commerce.

Fishing

The Merrimack River abounded in large stocks of salmon, shad, sturgeon, and alewives which were used by the early colonists for food and commerce. Sturgeon fishing was an important industry in the 1600's and lasted for over 200 years.[1] Although salmon were also extremely abundant, by the early 1700's, overfishing resulted in a decline of these fish. Other fisheries included shad, alewife and herring which are still present today.

The fishing industry of the Merrimack River created a landscape reflective of its activities. In 1642, the town of Salisbury granted two acres of upland area on Rings Island for a two year fishing operation. Fish staging for drying fish was constructed on the marsh. In 1644, a "fish house" was constructed at the foot of Federal Street in Newburyport. By the close of the 1600's, both salmon and sturgeon were becoming scarce and by the late 1700's the General Court passed laws to protect these fish.[2]

The fishing industry in Newburyport grew in importance and by the 1830's, the offshore fishing fleet consisted of 140 vessels and 1000 to 1500 individuals. A large fish drying yard was built around 1840 which occupied the area between Marlboro and Madison Streets to Purchase Street. By 1851 the industry was in decline and the fleet had dropped to 90 vessels employing 985 people and by 1910 only 200 individuals were employed in the industry.[3]

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1 p. 38 Division of Marine Fisheries Monograph Series, Number 1, June 1965.

2 Ibid.

3 p. 120 Planning & Development Small Harbor Areas 1977.

The construction of dams at the various mills in Lowell and Lawrence contributed to the decline of anadromous fish populations. Historically, anadromous fish thrived in the Merrimack River Basin. Indians traveling through or residing by the basin depended on the fish and wildlife resources of the area. In the spring, following long winter months, the return of Atlantic salmon and American shad provided a time for feasting and celebrations. These early settlers pursued the fish at such places as Pawtucket Falls, and the Falls at Amoskeag, Hooksett and Penacook.

Following colonization of the River basin by the English in the 1600's, and until the late 1700's, the anadromous fish species continued to prosper. However, during a relatively short time, Atlantic salmon and many other species returning from the sea to spawn, were effectively eliminated from the River. Overfishing helped to reduce the numbers of returning fish, while the construction of impassable dams, which blocked migratory pathways, prevented them from reaching important spawning grounds. Likewise, the industries which began to locate along the water dumped huge volumes of waste into the River.

The record harvest of salmon during this period of rapid development in the Merrimack River Valley, also helps to dramatically document the decline of the salmon populations. According to several historical records kept by Charles Ramsey of Amesbury, it was not uncommon for him to catch 60 to 100 salmon a day in the lower Merrimack during the late 18th century. In 1805, a catch of ten salmon per day was considered exceptional. No catches were recorded in the 1850's. What nature had maintained for perhaps thousands of years had been destroyed by people in five decades.

Efforts to reintroduce and restore a self sustaining salmon population during the period of 1886 through 1896 met with initial success. Fish passage facilities were constructed at heretofore impassable dams, juvenile salmon were released into the River by the tens of thousands, and many adult salmon returned to the Merrimack to reproduce. However, this endeavor eventually failed due to a number of factors including overfishing, water pollution, ineffective fish passage facilities and construction of new dams.

Shipping and Shipbuilding

By 1660, shipbuilding became an established industry in Newburyport. Coffin's history of the area states that small fishing and coasting shallops were first built on the Parker River and that by 1652, shipbuilding was underway on the Salisbury side. Toward the close of the century, many ships were built immediately upstream from the central waterfront. To accommodate travel between Salisbury and Newburyport, a ferry landing was

built on the central waterfront in the late 1600's.[4]

During the 1700's, the demand for waterfront land increased. At this time, Water Street was laid out and new land grants were made. Waterfront land outside the central area, which had not previously been granted for shipbuilding and wharves, was allotted to the proprietors[5] (Map 2). This era also witnessed the growth of trade and an increase in demand for ships. From 1681 to 1714, approximately 130 vessels were built on the Merrimack. The majority were sloops, ketches, and brigantines of 20 to 50 tons, designed for local or coastal seas. By 1776, 72 vessels were under construction at one time along the waterfront.[6] At the peak of this phase of the industry, ten shipyards were in use east of the central waterfront[7] (Maps 2 & 3).

The shipbuilding industry declined for over 50 years following the American Revolution, but in the 1840's it was revived due to the onset of the Clipper Ship era, and Newburyport actively joined in the production of these ships. Wider trade routes demanded swifter vessels and boatyards on the Merrimack rose to the demand for the Clipper Ships. During this time, most of the commercial enterprises on Water and State Streets were oriented to the boatbuilding trade. The last Clipper Ship constructed in Newburyport was a packet type, the Dreadnaught. By 1901, the last Newburyport built schooner, the Adelaide Barbour, was launched, marking the end of one of the port's earliest industries.[8]

Privateering

In 1764, Newburyport was incorporated as the City of Newburyport. During the American Revolution, two of the first American naval vessels, the Hancock and the Boston, were built at Newburyport. Privateering became a lucrative business and Newburyport became its major home base. Shipyards along the Merrimack were kept busy with the re-outfitting of commercial vessels for use as privateers. In 1790, the first United States Coast Guard vessel was launched in Newburyport.

Commerce

Although the years following the American Revolution witnessed a decline in the shipbuilding industry, they also witnessed a

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4 Archaeology: 100.

5 Currier 1902: 24.

6 Ibid.

7 Archaeology: 105.

8 Cheney 1964: 162.

boom in mercantile trade.

Contemporary accounts depict that there was insufficient room on the wharves for all of the shipping activities, and vessels had to anchor and wait their turn. During this time, Newburyport was serving as the regional trade center to the more rural inland communities.

Industrial Development

Newburyport's waterfront in the 1870's was lined with a series of stone and wooden wharves which extended onto the Merrimack River and housed stores, warehouses and storage areas.

The advent of the Industrial Revolution witnessed the abandonment of once active shipyards, many of which were sold to mill and factory owners. Construction of the Newburyport City Railroad in 1872 had a dramatic and lasting effect on the physical landscape of the Merrimack River banks and the function of Newburyport's harbor. For maximum accessibility to incoming vessels, the railroad was laid out along the ends of the wharves and ran parallel to Water Street. Industrial wastes and other assorted materials were used to fill in the numerous wharves.

By 1900, the wharves area was synonymous with the "wrong side of town."[9] Junk dealers, coal pockets, tenements, saloons, and dilapidated buildings constituted the area's new image. The 20th century witnessed a further decline of the waterfront as its economic importance began to deteriorate.

In the 1960's, urban renewal reached the Newburyport waterfront. With an increased demand for waterfront access, pedestrian walkways were built along the River, parks were planned and implemented, and a renewal of public recreational use came into being. It is this latest demand of public access that has fueled a major objective of the Harbor Management Plan.

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[9] Archaeology: 155.

EXISTING CONDITIONS

EXISTING CONDITIONS

PHYSICAL SETTING

The Merrimack River forms the northern corporate boundary of the City of Newburyport comprising approximately 7.5 miles of direct river frontage. Newburyport and Salisbury share a common harbor located near the mouth of the Merrimack River, the largest River in eastern Massachusetts. This area represents the northernmost portion of the Massachusetts shoreline.

The Newburyport harbor is set in a nearly landlocked estuary. Longshore currents have built up huge sand bars along Plum Island and Salisbury Beach, which protect the harbor. The estuary has a shallow depth of less than ten feet during mean low water and the River is characterized by a swift current (in excess of 3 knots on an ebb tide) and a high flushing rate (56%). The channel through the bar is narrow and quite shallow with several navigational hazards (Map 4).

The shallow depth of the River when combined with its high average tidal range, results in a dramatic change in the water surface during tidal cycles. At mean high water the water surface is approximately 3,900 acres and at mean low water the water surface is 2,100 acres. This difference results in an exposed intertidal zone of 1,847 acres or 47% of the total estuarine area.[10]

Navigation

The mouth of the Merrimack is formed by two nearly parallel jetties extending nearly due east. The channel between the jetties is narrow and subject to both shifting and shoaling. During a northeasterly blow with high seas, the water can and does break over the north jetty. A dangerous situation is created when an easterly wind is combined with an outgoing tide near its ebb. Under such circumstances, there can be breaking waves over the shoal, the inner bar and in the main navigation channel. Most boaters usually avoid the outer part of the main channel, and instead, follow a course close by the north jetty. In all seasons, the north jetty is nearly submerged at very high tide and the lack of a light or even a radar reflector at the jetty end can make it difficult to find in conditions of reduced visibility.

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10 1981, Massachusetts Department of Environmental Quality Engineering and Merrimack Valley Planning Commission. Sanitary Survey of Merrimack River Estuary and its Tributaries.

The United States (U.S.) Army Corps of Engineers periodically performs maintenance dredging of the mouth of the River but it still continues to experience shoaling. The shoaling may take as long as three or four years or may occur soon after dredging during a major storm or strong spring tide.

The Federal Channel

The mouth of the Merrimack River consists primarily of wide expanses of very shallow intertidal flats and salt marshes with only a very narrow natural channel.

The present designated channel location is shown on the U.S. Army Corps of Engineers Map 4. The channel is twelve feet in depth at the bar and nine feet within the harbor itself. The channel width is 200 feet. The channel is subject to shifting and shoaling and as a result, the effective width of the channel is less than the designation. Additionally, over the years, the navigable channel has changed its course and does not follow the designated channel in many areas.

Tidal Range and Winds

The Merrimack River has a tidal range of approximately eight feet and currents can be as high as three knots on the flood tide and in excess of three knots on the ebb. The ground tackle for fixed moorings must be very heavy due to the tidal range and the currents.

Predominant winds are from the northwest except during the summer when they arrive from the southwest. Wind speeds in excess of 15 knots occur 36% of the time. The ten year extreme wind is estimated at 70 mph and the 100 year extreme wind at 95 mph. A northeasterly storm coupled with an outgoing tide near its ebb can cause conditions at the shallow mouth of the River that make it impassable.

Flood Plains and Floodways

The entire shoreline of Newburyport is located within the Flood Hazard Zone as defined by the Federal Emergency Management Act and is subject to flooding during coastal storms. The area which stretches from the U.S. Route 1 Bridge out past Plum Island to the Atlantic Ocean is subject to velocity wave action. The base flood elevation ranges from elevation 9 immediately adjacent to the shoreline to elevation 14 just northwest of Plum Island in the Merrimack River.

Ice

During the winter months and early spring, flow ice and sheet ice pose problems. Ice floes of several tons are not uncommon on the River and have caused extensive damage to boats

and fixed structures on the waterfront. The ice flows downriver on the outgoing tide as well as upriver on the incoming tide. This upriver ice movement can arise either by upriver floes getting trapped in the eddies near the harbor mouth and then moving upriver again on tide reversal, or by sheet ice from the extensive tidal marshes.

COASTAL RESOURCES

Shoreline Characteristics

The shoreline of Newburyport changes dramatically throughout its length. Beginning at the Atlantic Ocean the shoreline is characterized by Plum Island, a barrier land mass which contains extensive areas of sand dunes and beach grass. The Island is forked at its northern boundary with "The Basin" separating its two points. The Island is separated from the mainland by extensive marsh and tidal flats and the Plum Island River with a series of small islands in between (Map 5). The Donald Wilkinson Drawbridge, located on the Plum Island Turnpike, connects the Island with the mainland.

The area between Plum Island Point and the beginning of the federal turning basin near the American Yacht Club is known as Joppa Flats. This is the largest and most productive shellfish area in the harbor. The water's edge in this area is fairly natural with the exception of the portion along Water Street.

The developed portion of the waterfront begins just west of the Yacht Club where the water's edge begins to exhibit structural alterations including bulkheads, piers, boat ramps and fill areas. This relatively densely developed urban edge of the River extends from the Yacht Club to just west of the Gillis Bridge (connecting Newburyport to Salisbury). This area contains the downtown waterfront with various institutional, recreational and commercial land uses.

Traveling west from the River's Edge condominium complex to the Chain Bridge (connecting Newburyport to Amesbury), development along the water's edge becomes less dense although it is still characterized by structural alterations. This portion of the water's edge is dotted with scattered marinas, riprap slopes, and old wooden bulkheads. A boat launching ramp and pier are located at Cashman Park. The presence of salt marsh areas begin to occur just west of Cashman Park and remnants of old wooden crib bulkheads and piers dot the shore. Beyond Jefferson Court (Yankee Marine) heading west, the shoreline is principally in its natural state. Four of the River's islands are located along this segment and waterfowl is abundant.

From the Chain Bridge beyond I-95 to West Newbury, the area contains very large single family development lots and the 400+

acre Maudsley State Park. The shoreline in this segment of the waterfront is predominantly in its natural state.

Beaches

There are sandy beaches on both sides of the Merrimack River near its mouth which are used for strolling, sunbathing and surfcasting.

Fisheries

A study conducted by the Massachusetts Division of Marine Fisheries in 1964 and reported on in 1965, identified seventeen species of finfish including the blueback herring, alewife, American smelt, American eel, carp, spottail shiner, brown bullhead, mummichog, squirrel hake, threespine stickleback, ninespine stickleback, northern pipefish, white perch, bluegill, American sand lance (sand eels), Atlantic silverside and the winter flounder. The prime fishing season extends from June through November.

The most abundant species collected in the 1964 testing was the sand lance. A limited number of freshwater species was collected and large populations of forage or bait species were collected. The most important forage species include the sand eel, alewife, blueback and mummichog. These fish attract predacious commercial and sport finfish such as striped bass, mackerel, pollock and cod which visit the River to feed. In the early 1970's, bluefish began to appear in the River.

Tidal Flats

The Merrimack River tidal flats are some of the richest shellfish producing areas in the Commonwealth. However, the clam flats on both sides of the River are closed due to pollution problems. The State's Department of Environmental Management, Division of Marine Fisheries, operates the Shellfish Purification Plant which is located on Plum Island.

There are about 220 acres of clam flats on the Salisbury side and about 530 acres on the Newburyport side of the Merrimack River. All of Newburyport's productive flat areas are located east of the developed waterfront.

There are three major flat areas in Newburyport separated by Woodbridge Island and the Plum Island River (Maps 6 & 7). The Joppa and Port Arthur Flats comprise approximately 59% of the total flat areas. The Flat Grounds, Northeast Sands, Humpsand Mussel Bed, and the Humpsands, all lie north of Woodbridge Island and west of the Plum Island River. These flats comprise 23% of the total flat areas. The Basin, Old Point Flat, Old Point Mussel Bed, Ball's Flat and the Sound comprise the remaining 18%

of the Newburyport flats.[11]

Species other than clams which are associated in the flats include the duck clam, blue mussel, clam worm and bloodworm. The worms are dug and sold locally for bait. They are used for smelt in the winter months and striped bass and flounder in the spring and summer.[12]

Pollution of the Flats

Pollution has had a devastating effect on the soft clam production in Newburyport. The study prepared by the Commonwealth's Division of Marine Fisheries states that in 1964, the total bushels treated at the Purification Plant were 1,470 as compared to 100,000 bushels harvested annually at the turn of the century.[13]

Approximately 82% of all of the flats in the Merrimack Harbor are currently classed as grossly contaminated and all harvesting is prohibited. Clam flats are classified as approved, restricted, or prohibited, depending upon bacteria levels found in testing. Traditionally, the State's Department of Environmental Quality Engineering was responsible for the classification of the flats and the Division of Marine Fisheries was responsible for approving clams for sale after harvest. Due to recent efforts to streamline regulation of the shellfish industry, the Division of Marine Fisheries assumed the responsibility for also classifying clam flats on the North Shore, beginning in 1988.

In those areas where the taking of shellfish is allowed, they must be treated at the Shellfish Purification Plant on Plum Island.

In 1981, the State's Department of Environmental Quality Engineering and the Merrimack Valley Planning Commission conducted a sanitary survey of the Merrimack River. The study evaluated the lower three miles of the 6.7 mile Merrimack River estuary extending from the Gillis Bridge to the mouth of the Merrimack River.

The survey revealed that domestic and industrial pollution of the River during the first decades of the century resulted in the closure of the flats in 1925. Since that time, the flats have only been intermittently opened. Appendix 5 illustrates the annual yields from 1950 to 1980. The survey also identified thirty six potential and nine definite sources of pollution. Of

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[11] p. 67 Division of Marine Fisheries Monograph Series, June 1965.

[12] p. 75 Ibid.

[13] p. 73 Ibid.

the nine definite sources, most were located along Merrimac and Water Streets in Newburyport and Route 1 in Salisbury (Map 8).

Appendix 6 lists the definite and potential sources of pollution as outlined by the 1964-65 study conducted by the Massachusetts Division of Marine Fisheries.

The economic losses due to the pollution of the tidal flats are substantial. The 1981 sanitary survey calculated that the combined area of the six flats examined (Plum Island Sound, Salisbury Flat, Northeast Sands, Ball's Flat sections 1 and 2, and Old Point Flat) equalled 285 acres containing 40,000 bushels of legal sized clams, which when extrapolated over all the flats in the estuary, would produce a yield in excess of 122,400 bushels. In 1981, this equated to a market value of 3.7 million dollars. The Joppa and Port Arthur Flats which are more expansive than the others, were not surveyed.

More recently, testings by the Commonwealth's Department of Environmental Quality Engineering have indicated a decrease in levels of contamination. However, until more dramatic measures are taken to abate the pollution of the flats, the economic benefit of this resource will not be realized.

Waterfowl

The Merrimack River estuary is heavily utilized by waterfowl of all species. There are about 7,000 to 8,000 ducks present at the peak periods in fall and early winter which feed on seed clams.

Flora

The Merrimack River contains a variety of plant life. The Division of Marine Fisheries Monograph in 1964-65 catalogued six species of green algae, two red algae, six brown algae and twelve species of vascular plants (Appendix 7).

The primary importance of plant life in the Merrimack River is its contribution to the food chain. Fish and shellfish alike feed on the algae and decayed plant bodies. Additionally, plants also provide shelter and protection for the fish and function as nurseries for many species.

The species which is of the most importance in terms of constraining development of the waterfront is the vascular plant, salt water cord grass (spartina alterniflora). Within the corporate limits, there is a vast supply of this cord grass most notably east of the Chain Bridge and east of the American Yacht Club.

There are thousands of acres of spartina alterniflora within the Merrimack and Parker River estuarine systems.

Islands

The Merrimack River harbor area contains seven islands, most of which are located just outside City limits. Two of the larger islands are owned by the Massachusetts Department of Environmental Management. There are no public facilities on these state owned islands, and as a result, they experience minimal use. The remaining five islands are all privately owned. Of these five, only two are actually located within the City's corporate limits.

Both Woodbridge Island and Chaces Island offer some of the finest waterfowl hunting due to their proximity to the Parker River National Wildlife Refuge.

Streams and Rivers

The Merrimack River is fed by various streams and rivers throughout its length. In the City of Newburyport, the Artichoke River is the only major body of water which flows into the Merrimack.

Anadromous/Catadromous Fish Runs

The Merrimack River is home to a number of anadromous fish species including Atlantic salmon, American shad, blueback herring, alewife, rainbow smelt and the sea lamprey.

Anadromous fish restoration efforts commenced in 1969 when the state fishery agencies of Massachusetts and New Hampshire, the United States Fish and Wildlife Service and the National Marine Fisheries Service mutually agreed to support an anadromous fisheries restoration and management program. The objectives of that agreement were two-fold: "to strive for the realization of the full potential of the anadromous and resident fishery resources of the River in order to provide the public with high quality sport fishing opportunities and, to assist in providing for the long term needs of the human population for food through development and management of the commercial fishery resources." The United States Forest Service formally joined the effort in 1982.

Today, the Merrimack River provides spawning and nursery habitat for a number of anadromous fish separates including: alewife, American shad, Atlantic salmon, Atlantic sturgeon, blueback herring, rainbow smelt, sea lamprey and white perch. Although two other anadromous species, shortnose sturgeon (endangered species) and stripe bass are found in the Merrimack, evidence of their spawning has not been documented. American eels, a catadromous species, are quite abundant in the Merrimack Basin and have been commercially fished in recent years.

Although the restoration program is progressing quite well, it will be a number of years before the goal of full restoration is achieved. Fish passage facilities recently constructed by the dam owners at the Essex Dam in Lawrence, and the Pawtucket Dam in

Lowell, now allow fish access to spawning areas up to the base of the Amoskeag Dam in Manchester, New Hampshire. In the spring of 1988, a fish passage facility was completed at Amoskeag and is now fully operational. All other mainstem dams and the dams on many tributaries are included in a fish passage plan that will lead to full utilization of available spawning habitats.

The annual anadromous fish runs in the Merrimack River occur primarily during the period from mid March to the end of June. As a result, activities which generate excessive turbidity should be scheduled so as not to coincide with these fish runs.

Historically Filled Tidelands

Not surprisingly, the City of Newburyport like many older urban seaports on the east coast, has a good number of historically filled tideland areas. To accommodate the construction of wharves for shipping and shipbuilding activities, filling and construction of various wooden crib bulkheads occurred. As discussed in the Historical Perspective section of this Plan, most of the major filling efforts occurred during the construction of the railroad spur on the waterfront.

The presence of filled tidelands is important with regard to the Massachusetts General Laws Chapter 91 Waterways Licensing Statute. Chapter 91, administered by the Department of Environmental Quality Engineering, Division of Waterways, is the oldest waterways licensing statute in the nation and was passed by the Massachusetts legislature in 1866 as a tool for managing coastal development. This law protects, among other things, the publics' "common" rights in tidelands. Tidelands are defined as those lands found seaward of the high tide line, including those which have been previously filled. They include land between high and low water known as private tidelands and the land seaward of the low water line known as Commonwealth tidelands. The Commonwealth tidelands are public property which are held in "trust" by the state for the use and benefit of all citizens.

In administering these regulations, the state places a high emphasis on the provision of public access and favors the development of water dependent versus non-water dependent uses on the tidelands.

HARBOR USES

HARBOR USES

EXISTING ZONING

The zoning along the Merrimack River includes almost every designation in the City of Newburyport (Map 9). The west end of the waterfront to the I-95 Bridge and including Moseley Pines east of I-95 is zoned Agricultural/Conservation (Ag/Con). In addition, the land waterward of the Plum Island Turnpike including Woodbridge Island, Seal Island, the tidal flats, the marsh areas along the Island and the extreme easterly side of Plum Island are also zoned Agricultural/Conservation. The purpose of this zoning district is to preserve agricultural land and to encourage low density residential development in areas lacking infrastructure.

A single family residential district (R-1) extends from the Chain Bridge to Jefferson Court (Yankee Marine) on Merrimac Street. Single family uses on half acre lots are allowed in this district.

Surprisingly, a multifamily residential zone (R-3) is found on Plum Island. This zoning allows single and two family residences by right and multifamily structures by special permit.

Two areas of "pocket industrial" zoning districts (I-2) are located on Merrimac Street. The area which includes Gould Manufacturing and its associated parking across the street comprises one of the districts and the area which includes the Towle Manufacturing Complex is another. The purpose of these districts was to legalize and encourage the retention of existing industrial developments. The re-use of these areas to non-industrial uses is presently prohibited without a use variance.

Prior to the adoption of the two new Waterfront Zoning districts in late March of 1988, the downtown business district (B-2) comprised an extensive area of the waterfront extending easterly from the seawall at the corner of Marlboro and Water Streets westerly to the Merri-Mar Yacht Basin (excluding Towle) at the corner of Ashland and Merrimac Streets. This zoning district allows a multitude of uses ranging from retail stores with 100% lot coverage to multi-family residences by special permit.

The new waterfront zoning consists of two districts: W-1 Marine Dependent and W-2 Mixed Use. The Marine Dependent zone is found in two areas, one which extends from Jefferson Court (Yankee Marine) to the U.S. Route One Bridge (excluding Gould and Towle Manufacturing), and one which extends from the easterly boundary of Bailey's wharf property to the seawall on Water Street. The Mixed Use District contains that area bounded by Merrimac Street to the south, the Gillis Bridge to the west and the U.S. Coast Guard Station to the east.

The marine dependent zone was created to preserve existing and encourage new marine dependent establishments along the waterfront. Only a certain percentage of non-marine dependent uses can be developed in this district. In addition, special consideration is given to a developer who dedicates land for public access.

The mixed use district recognizes the function of this area as the downtown waterfront, and also encourages the location of water dependent uses.

The City of Newburyport Planning Board adopted site plan review criteria which govern the placement of structures on the lot in an attempt to protect and encourage views.

LAND USES

Land uses along Newburyport's waterfront change dramatically as one travels from the mouth of the River to the Newburyport/West Newbury corporate boundary (Map 10). For purposes of this section, the Newburyport waterfront will be divided into various use areas.

Plum Island

Plum Island in Newburyport is characterized by single, two and multifamily residential housing which has undergone substantial improvements and conversions to year-round housing over the past few years. Small commercial enterprises are also found in scattered locations on the Island, as is a popular fishing/passenger boat facility, which is located on the northern tip of the Island. Plum Island is not serviced by either public water or sewer, which compounds the problems inherent to the environmentally fragile barrier beach.

The State's Department of Marine Fisheries, Shellfish Purification Plant is located on Plum Island and provides for the processing of soft shelled clams which are dug for human consumption. The Headquarters for the Parker River National Wildlife Refuge is presently located on the northern tip of Plum Island. However, plans for the relocation of this facility to the Plum Island Turnpike are in the process of being developed.

An abandoned U.S. Coast Guard Station which is used by the Coast Guard Auxiliary is also located on the northern tip of the Island. The State's Department of Environmental Management has a sublease with the City of Newburyport to manage and utilize the old Coast Guard parking lot located on the northern tip of the Island. The parking lot provides access to the State owned beach area found on the northeastern portion of the Island.

South End

From the Plum Island Turnpike to Hale Park on Water Street, the land use continues as predominantly residential. This area is rather densely developed with only small amounts of land area located between Water Street and the Merrimack River. A good deal of salt marsh is located in this vicinity.

Central Waterfront

From the intersection of the old B&M railroad right of way near the bottom of Marlboro and Water Streets to just before the Gillis Bridge, the waterfront becomes increasingly urban in nature. The majority of the land uses in this area are either marine dependent or related. Land uses include the Sewage Treatment Plant, American Yacht Club, scattered residential structures, the Massachusetts Electric substation, the U.S. Coast Guard Station, Tri-Coastal Fishing Co-op, Atkinson Lumber and Fuel, the Waterfront Park and Promenade, seafood restaurants, private marinas, boatyards and passenger boat areas.

Mixed Use/Marine Dependent Waterfront

This area extends from the Gillis Bridge to Jefferson Court (Yankee Marine), just south of the Jefferson/Merrimac Street intersection. This area is characterized by a mixture of marine dependent or related and non-marine dependent land uses. Land uses starting from the Bridge include the River's Edge condominium complex with its associated small marina, scattered multifamily dwellings along Merrimac Street, the 12 acre Cashman Park, various commercial enterprises including Leary's Liquor Store, Effie's Restaurant, Towle Manufacturing Complex, the North End Boat Club, single and two family residences, City Boat Works, Webster's Complex including a marina, retail and dairy, Merri-Mar Yacht Basin, Gould Manufacturing and Yankee Marine.

North End

Area One

The North End Area 1 extends from Jefferson Court (Yankee Marine) to the Chain Bridge. This area is almost exclusively residential with one pocket of industrial use on Merrimac Street (Geonautics). The majority of the residences are single family.

Area Two

From the Chain Bridge to the West Newbury/Newburyport corporate boundary, the area consists of very large single family residence lots and vast amounts of public open space. The City owned Moseley Pines Park is located just north of the Chain Bridge and the state owned Maudsley Estate is located north of Route I-95. Other land uses include the City water treatment facility and

extensive land holdings of the City's Water Commission.

Bridges

Four bridges cross the Merrimack River. The Gillis Drawbridge spans the River to Salisbury, Massachusetts. It has an opening of 80 feet over the River channel and a clear height of 35 feet above mean high water. The bridge is manually operated. Adjacent to this vehicular bridge is an old railroad bridge owned by the Massachusetts Bay Transportation Authority (MBTA). This bridge was constructed in 1882 and has been unused since the early 1960's. The MBTA repaired the existing bridge, foundations, and fender system. The work involved the removal of existing track, ties, and piles, driving of new piles and re-grouting of granite piers. The repairs were made due to safety reasons and the fact that the MBTA plans to re-institute commuter rail to Newburyport and may someday expand the service to New Hampshire.

A second vehicular bridge, the Chain Bridge, was constructed in 1810 which provides access to Amesbury from Newburyport. The third vehicular bridge spanning the Merrimack in Newburyport is the Interstate Route I-95 Bridge.

Utilities

Sewer

Neither Plum Island nor the area west of I-95 are serviced by municipal sewer. Both Merrimac and Water Streets are serviced by sewer but most of the smaller streets extending from Merrimac Street to the River do not have public sewer because they slope down to the River.

Water

Plum Island is not serviced by a public water supply. Both Ferry Road and Spring Lane in the West End are serviced by public water as are Merrimac and Water Streets. All of the small streets which extend from Merrimac Street to the River are also serviced by municipal water although the lines are only six inches in diameter. The road between Cashman Park and Towle Manufacturing has a six inch line which "dead-ends." The Newburyport Redevelopment Authority central waterfront does not have an adequate water line to service any new construction on the site. The proposed municipal/commercial fishing facility may incorporate a new twelve inch water line for the entire length of its site to assist the City in looping the line through Market Landing Park to Merrimac and Fair Streets off Water Street. This connection would provide a by-pass to the existing six inch main which services the Market Square area.

Public Parking

Presently, two public parking areas are located on the waterfront. The first parking lot is located on the northern tip of Plum Island. This lot is used primarily in the summer season by beach visitors. The facility is operated by the City under a lease agreement with the Massachusetts Department of Environmental Management.

A second public parking area is located on land owned by the Newburyport Redevelopment Authority on the central waterfront. Presently, both sides of Market Landing Park are used for public parking. The Newburyport Redevelopment Authority recently selected a developer for one side of the central waterfront area and the final design is being developed and is under review at this time.

WATER USES

Similar to land uses, water uses change significantly from the mouth of the Merrimack River to the West Newbury/Newburyport corporate boundary. The Merrimack River contains a substantial number of structures located below mean high water including slips, piers, and moorings, public and private docks, and jetties and bulkheads. The general location of these structures in relation to the federal channel and coastal resource area is shown on Map 11.

The U.S. Army Corps of Engineers maintains the federal navigation channel, which is 200 feet wide in the River and increasing to 400 feet in the outer channel at the mouth of the River. The channel has a dredged depth of nine feet in the River and twelve feet in the outer channel. The channel was dredged in 1987 and will probably need to be dredged again in three or four years due to anticipated sedimentation and shoaling. Disposal of the dredged material has historically occurred near shore off of Plum Island.

Recreational Boating

The Channel

The Newburyport Harbor is viewed by the U.S. Army Corps of Engineers as a recreational harbor and in principle, the maintained channel depth is only nine feet.

The physical characteristics of the federal channel in the Merrimack River constrain the size of vessels which can navigate the area. The conditions at the mouth "remain the major physical constraint of the harbor, and barring a major capital dredging project coupled with significant jetty modifications, the largest vessels that can be serviced here are 65 foot draggers drawing up

to 11 feet fully loaded."[14]

Newburyport's Vessels

Commercial fishing vessels which operate on a regular basis out of the Merrimack River are all under 50 feet in length and draw a maximum of 6 feet. However, vessels up to 70 feet in length drawing up to 11 feet, have operated out of Newburyport in the recent past. Vessels of this length and draft continue to utilize boatyards on the River for repairs, maintenance and yearly haul out.

Private Marinas and Boat Clubs

Presently, there are eight private marinas located along the Merrimack River in Newburyport. From west to east these include Yankee Marine, Merri-Mar Yacht Basin, 3R Marina, City Boat Works, River's Edge, Michael's Harborside, Windward Yacht Yard, and Hilton's. There are two private boat clubs, the North End Boat Club off Merrimac Street and the American Yacht Club off Water Street. Most of the existing marinas are servicing larger sized boats (25 feet and over).

Nearly all of the private marinas would like to expand their operations. Newburyport Harbor has a 540 boat capacity at various commercial slips.

There are limited marina opportunities for the smaller classed boats. At present, 3R Marina primarily services smaller sized boats (under 25 feet). The design and layout of the existing facility precludes the servicing of larger boats. The City should encourage private marina owners to plan for some docking areas and related upland facilities for these types of boaters.

o Yankee Marine

Yankee Marine is the westernmost marina on the Merrimack River in Newburyport. The marina is full service and consists of a floating dock, a launch facility and a travel lift. Electricity, water and lighting are provided to the floats and are included in slip rental fees. Winter storage is provided. The basin has a depth of 8 to 25 feet and presently berths 68 power boats and 25 sailboats. The marina does not have any expansion plans but is in need of maintenance dredging.

o Merri-Mar Yacht Basin

Merri-Mar Yacht Basin is a full service marina. The basin has a depth of 12 feet at low water and presently berths 68 power

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14 p. 21 Massachusetts Department of Community Affairs Planning and Developing Small Harbor Areas.

boats and 25 sailboats. The marina consists of floating docks and a travel lift. Electricity, water and lighting are provided to the floats and are included in slip rental fees. Winter storage is provided. This marina has maintenance dredging needs and tentative plans for future expansion. The expansion would involve dredging an old embayment area approximately 200 feet by 210 feet to a depth of nine feet. The marina presently has a waiting list of between 12 to 24 boats.

o 3R Marina

3R Marina services the smaller classed boats in the Merrimack generally under 25 feet. There is a bait and tackle shop and snack bar at the marina. The facility consists of a 35 foot wide launch ramp and floats providing berthing for 75 slips and moorings. Limited electricity is available but there is no lighting on the docks.

o City Boat Works & Marina

City Boat Works is a full service marina with the exception of fuel, and has on its premises, a payphone and shower facilities. The marina consists of a float system which extends 280 feet beyond mean high water and there is a deep water ramp with a hydraulic trailer which can haul power boats up to 50 feet and sailboats up to 40 feet in length. Power and water are available on the floats. The facility has about 100 slip spaces and 25 moorings. The winter storage capacity is 150 vessels of any mix of power and sail. A waiting list of 25 vessels is maintained. The depth of the basin ranges from 4 to 14 feet. No dredging is planned at present. There are, however, plans to connect two facilities with the construction of a bulkhead as well as plans for the expansion of the number of slips through a reconfiguration of the slip system.

o River's Edge Marina

This facility is adjacent to a residential condominium complex and consists of floating docks for 64 boats, primarily power.

o Tournament Wharf (Michael's Harborside)

This facility has a wet storage capacity of 25 boats on floating docks. One boat per slip is provided. Water, lighting and electricity are provided at the docks. There are no launch facilities and parking is provided at the Windward Yacht Yard. There are no plans for expansion and a waiting list of approximately twelve is maintained. The bulkhead of this facility is in drastic need of repair and/or replacement.

o Windward Yacht Yard

Windward Yacht Yard services five power boats and six sailboats on floating docks. Water, power and lighting are provided at the docks. The facility has a 25 ton hoist which can handle boats up to 90 feet in length. The marina is presently seeking permits from the state and federal governments to expand the wharf and remove old railways.

o Hilton Strout Fishing and Boating Center, Inc.

This facility provides slip space for 24 vessels in a 3 foot deep basin. The facility provides electricity and water with slip rental and sells both diesel and gasoline fuels. There is lighting at the facility. A 75 ton hoist is used and can haul boats up to 100 feet in length. There is a waiting list of approximately 10 boats. This facility has a problem with silt build-up since the Gillis Bridge was constructed. Maintenance dredging needs to occur in the near future.

o North End Boat Club

The North End Boat Club is a private boat club which provides floating docks and a 14 foot wide ramp which can handle a 40 foot long boat. Approximately 38 vessels are berthed on the floats in a basin which is approximately 4 1/2 feet deep at mean low tide. Electrical service and lighting are provided at the docks. There is a clubhouse which has a payphone and a bar. The club would like to add a third line of floats sometime in the future. The floats are designed to accommodate two boats per slip.

o American Yacht Club

This is a private boat club which caters to sailboats. A fifteen foot wide boat launch ramp is used for smaller boats up to twenty five feet in length. There are also six docks which are anchored by piles. There is a public telephone, and restrooms and moorings are available for guests. The existing bulkhead is in need of repair and/or replacement in the very near future.

Marine Services

In the past, Newburyport's various marinas had full marine service facilities with full time employees of the marinas performing the various engine, painting and mechanical type of work. Today, due to the high costs of running a marina, there is not a large marine service operation on the River in Newburyport. Yankee Marine, Merri-Mar, City Boat Works, Windward Yacht Yard and Hilton's all provide limited marine services. Yankee Marine has a 50 ton hoist, Merri-Mar a 35 ton hoist and hydraulic crane, City Boat Works has a crane and hydraulic lift, Windward Yacht Yard has a 25 ton hoist and hydraulic crane and Hilton's has a 75 ton hoist. Most marine services can be obtained at all of these

facilities. Large jobs such as a big engine overhaul, or complicated radar/loran installations usually require a specialist.

Fueling

Presently, there are fueling facilities in the City of Newburyport. The American Yacht Club has gasoline which is used primarily for club business, although it does sell to the public on occasion. A second facility is at Hilton's dock which caters to commercial (passenger and fishing) boats and larger vessels and sells diesel and gasoline. Lastly, Yankee Marine provides gas and diesel for marine use.

Marine Supply

The City of Newburyport offers a good range of marine supply facilities. The two major marine supply facilities are Hudson's and Rowe Marine located on the central waterfront. Both of these facilities offer a full array of supplies ranging from charts to life jackets and marine hardware and equipment such as electronics and paint. Hudson's extensive marine store particularly caters to small boat operators.

Merri-Mar and Yankee Marine both have small ship stores at their facilities which offer a limited variety of stock.

Public Marine Area Facilities

The public marine areas in the City are primarily mooring areas and include the following: Cashman Park which has approximately 100 moorings and a state owned boat launching ramp, the Central Waterfront which has 30 moorings, the American Yacht Club which has approximately 120 moorings (but no public shoreside facilities) and Plum Island Basin with 75 moorings.

In terms of berthing, the central waterfront has a float system and embayment area and the new municipal/commercial fishing facility will have a pier, floats and embayment area.

There are no public restrooms or showers on the waterfront nor is there a public supply of water or electricity at the central waterfront.

Launch Ramps

Approximately 690 boats are kept on trailers in Newburyport, some of which are kept at owners' homes, while others are kept at private marinas or storage lots. Prior to 1986, there were four launch ramps in operation in the City, two public and two private. The public ramps are located at Cashman Park and the Hale Park ramp is located along the seawall on Water Street. Both of these ramps are under-designed for their actual use. One private ramp is located at the 3R Marina and the other is Hudson's ramp adjacent

to the Captain's Quarters Restaurant.

Within the past two years, Hudson's boat ramp facility has been closed for regular use, and as a result, the demand for boat ramp access has increased dramatically. The continued existence of the ramp at 3R Marina is also uncertain due to the recent sale of the property.

Approximately 750 boats were launched from Cashman Park in 1986. The Hale Park ramp is poorly designed and used primarily by sailboarders. The ramp services approximately fifteen to twenty boats annually. Hudson's ramp serviced four to five hundred boats in 1986, but the ramp was closed for this type of usage in 1987. The closure of Hudson's ramp has led to an estimated doubling of launchings from Cashman Park. No counts were taken from the Park in 1987. However, 1,327 boats were launched in 1988.

Presently, fees are not collected for the use of the public ramps.

Central Docks (transients)

The Newburyport Redevelopment Authority has management over the floating docks located off Market Landing Park. These floating docks were conveyed to the City in March of 1989 (Appendix 8). The docks total 450 linear feet and provide for temporary dockage of pleasure craft. In the summer of 1988, $9,000. in fees were collected for this service; $6,000. was collected in 1987, and $2,000. in 1986.

Public and Commercial Moorings

There are a total of 647 moorings in Newburyport's harbor. Of these, 497 are public mooring spaces, and 150 are commercial moorings which are issued to various commercial marinas on an annual basis.

The harbormaster issued 215 mooring permits in 1986 and 647 permits in both 1987 and 1988. The City permits the rights for moorings but individuals must install and maintain the moorings themselves. The City began to charge for the mooring permits in 1989. Presently there are no public moorings set aside in the public mooring area for transient boaters.

The placement of moorings on both sides of the Merrimack River has not occurred under any locally approved mooring grids or plans. As a result, some of the existing moorings in the River may be encroaching in the federal anchorage area. In addition, the U.S. Army Corps of Engineers has begun to require a twenty-five foot setback on each side of proposed marine structures which has not always occurred in the past.

Passenger Boats

Sport Fishing

Sport fishing in the Merrimack River has its origins in the mid 1800's. Since the second World War, the popularity of the Merrimack River for sport fishing has steadily increased. Striped bass, mackerel, pollock and blackback flounder fishing are abundant in the estuary and adjacent ocean waters.[15]

Mackerel fishing in the Plum Island area and offshore fishing in passenger boats for ground fish are popular. Tuna are also taken by sport and commercial boats. Catching blue fish has also become a popular casting or trolling sport since its appearance in the River in the early 1970's. In addition to the surfcasting for stripers along the Plum Island and Salisbury beaches, passenger boats for striped bass fishing are in great demand. Thousands of stripers are taken from the River mouth to Chain Bridge and beyond.

A limited sand eel fishery is conducted near the mouth of the River and is an important bait fishery.

Newburyport's passenger boat industry consists of both larger and smaller scale operations. There are approximately eighteen large capacity passenger boats running out of Newburyport Harbor. In addition, the smaller six passenger boats total around sixteen.

Newburyport's larger scale passenger boat operations include Hilton's Deep Sea Fishing, Captain's Fishing Parties and Harbor Tours. The larger capacity boats range in size from 60 to 100 feet with a capacity ranging from 40 to 150 passengers. Medium size boats average around 45 feet in length with a capacity ranging from 15 to 50 passengers. These charters include both half day and full day expeditions. Most of the boats have a galley, and rods and reels are usually supplied for a rental fee.

The six passenger boats range in size from 30 to 50 feet in length.

Generally, the larger operations own their own real estate and perform their own marketing while the smaller, independently owned boats secure dockage at either the larger passenger boat facilities or various marinas, and market their services through the locally operated "Charter Services" company.[16]

The season generally runs from May to November with the peak months being June, July and August. A 1978 study prepared by the Interstate Passenger Boat Association (I.P.B.A.) revealed that it

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15 I.P.B.A. (Interstate Passenger Boat Association).

16 p. 57 Division of Marine Fisheries Monograph.

is necessary to run the boats at 100% capacity during these three months to adequately subsidize the spring and fall months.[17]

Whale Watching

Whale watching cruises are also an important part of the passenger boat industry in the Merrimack River. For example, the whale watching service at Hilton Strout's is used by local and regional educational entities including universities and colleges. A naturalist is on board the vessel to provide an informative description of the habitats of the whale population.

Research groups and recreational users also take advantage of this service. The whale watching season runs from Memorial Day to Labor Day with the highest demand by educational users being late May/early June and early September. The schedules include day and evening cruises throughout the season.

Cruising/Touring

The only full time large capacity tour boat on the Merrimack River is the 45 foot Yankee Clipper operated by Harbor Tours. This facility leases space from the Newburyport Redevelopment Authority at the central docks.

There are also a small number of independently owned and operated sailboats which provide charter cruise services out of the River.

Cocktail cruises are offered by the larger passenger boat operations on a chartered basis.

This sector of the passenger boat industry has perhaps the greatest untapped economic potential in the Merrimack River. Recent reports have shown that this type of cruise service has grown tremendously along the eastern seaboard.[18]

To effectively tap into this market, the Merrimack River would need to be dredged upriver to provide a calm, smooth cruise to Haverhill. Fall foliage excursions, sightseeing and cocktail cruises, could all benefit from such a dredging program.

Commercial Fishing

Newburyport has a relatively small commercial fishing industry. In the fall of 1986, the commercial fleet consisted of 25 vessels: five lobster boats, six gilnetters, and 14 otter trawlers. The fleet has a combined length of 988 feet and a replacement value

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17 p. 10 I.P.B.A. (Interstate Passenger Boat Association).

18 George Hilton, Passenger Boat Owner.

of 3.2 million dollars. Fifty-five people are directly employed by the fishing industry and seven to ten are employed in unloading and shipping. The winter fleet consists of 18 vessels with a combined length of 700 feet. Presently, there is only one groundfish and tuna dealer in Newburyport, Tri-Coastal Tuna Co-op. It also contains the only ice facility in the River.

The Tri-Coastal operation is basically an unloading facility which has a bulkhead for tie-up and an electric winch to haul the fish. Facilities for culling and sorting the fish are available as well as cooling and icing areas. The fish can be held for one to two days but generally are transported the same day to Boston. Three trucks are maintained by the operation which bring the fish to Boston for sale to a dealer or are presold by Tri-Coastal to distributors.

In calendar year 1985, groundfish landings in Newburyport totalled 2.9 million pounds. In the ten month period through October 1986, only 1.7 million pounds of groundfish were landed by Newburyport boats at the Tri-Coastal facility.

In 1985, Tri-Coastal handled approximately 60,000 pounds of blue fin tuna landed by Newburyport vessels. Not all Newburyport boats sell to Tri-Coastal, so actual figures for the tuna industry may be 10 to 20% higher.

Lobster landings from directed lobster fisheries and incidental catches from otter trawlers and gillnetters were estimated to be 40,000 pounds in 1985.

In general, the Newburyport fleet is in good shape. Most boats are equipped with state of the art electronics and hydraulics and are less than ten years old. The captains and crews are, for the most part, deeply committed to the industry. Captains have kept abreast with the latest advances in the industry and have shaped the fleet accordingly, employing efficient, high-speed vessels in the 35 to 45 foot class. Such boats are capable of fishing up to fifty miles offshore from mid-April to early October (dependent on weather).

Support industries include a considerable resource network of welders, carpenters, and mechanics knowledgeable in the maintenance and repair of commercial vessels. There is also a pool of experienced captains and deck hands who can fill vacancies or provide an extra hand if and when needed.

The commercial fishing fleet is in need of a dedicated berthing facility. Presently, the winter fleet ties up at the existing embayment on the central waterfront, and at Hilton's Dock and Bridge Marina in Salisbury. By a legal agreement between the City and the Federal Land and Water Conservation Fund (which financed the improvements to the Waterfront Park), the commercial boats traditionally were not allowed in the embayment area. In

1989, the Newburyport Harbor Commission secured the approval by the state to allow winter berthing, for a fee, at the embayment facility. Compounding this problem is the demand for docking larger recreational boats which are more profitable to a marina owner than a commercial fishing boat.

In the past five years, four boats, each of which stocked over 125,000 pounds per year or over 500,000 pounds collectively, have left the River. These boats continue to fish the same ground they did when operating out of Newburyport, but now hail from New Hampshire ports.

In the recent past, the fishing fleet of Newburyport had access to three unloading, marketing and shipping options. Presently however, Tri-Coastal Tuna Co-op is the only fish dealer in the River. Tri-Coastal's unloading dock is presently overused, and in addition, with only one fish dealer on the River, a lack of competitiveness in the industry has been experienced. If the fleet is to expand in the future, additional unloading space is required.

The number of year-round fishing vessels has doubled over the past ten years, from nine to eighteen, with no concurrent increase in the supply of winter berthing. A municipal/commercial fishing facility with safe winter berthing is needed and may be the critical factor in the continued vigor and future prosperity of the industry. The commercial fishing industry is the only year-round user of the River.

The industry remains healthy, having displayed continual growth and upgrading of equipment during the past ten years, despite the fact that its shore facilities were experiencing drastic reductions during this same period.

Institutional and Cultural

There are several institutional uses located on the waterfront including the previously discussed Department of Environmental Management Shellfish Purification Plant and the Parker River National Wildlife Refuge Headquarters on Plum Island. In addition, the U.S. Coast Guard Station is also located on the River off of Water Street. The U.S. Coast Guard Station in Newburyport was constructed in 1973 and is staffed by 24 persons. The station handles over 300 cases annually. The Station is equipped with five boats, the largest being a 44 foot motor life boat which is self-righting and carries a crew of four. The second largest boat is a 41 foot UTB which is used in high seas. The boat can reach speeds of up to 26 knots and is primarily used for Search and Rescue and Maritime Law Enforcement. A newer boat is a 30 foot self-righting surf rescue boat which is designed for immediate rescue that requires a fast and efficient approach effort. It carries a crew of three. The Station also has 15 foot and 22 foot Boston Whalers used for Search and Rescue in shallow waters.

The Custom House Maritime Museum is located on the central waterfront and provides cultural and educational programs for the community.

Other Recreational Uses

Other recreational uses of the Merrimack River include naturalists who visit Plum Island, the surrounding wetlands and Maudsley State Park. Surfboarders and sailfish boaters also use the area.

Special Events

A number of special events are held on and adjacent to the Merrimack River primarily during the summer months.

The first festival in the calendar year is the Salmagundi. This festival is host to various artisans who display and vend arts, crafts and food. The event is held in Market Square and on the central waterfront on Memorial Day Weekend.

Yankee Homecoming, which attracts visitors from all over the region, is held the last week in July. Activities are scheduled throughout the entire ten day event. It includes antique car and costume parades, sailboat races at the American Yacht Club and Windward Yacht Yard, sidewalk sales and a large parade on the last day of the event. Harborfest combines festivals at Plum Island and the downtown waterfront and includes the annual power boat race and Custom House Maritime Museum rowing and canoe races on Labor Day.

An annual boat parade begins at the North End Boat Club and travels upriver to the Crescent Yacht Club in Haverhill in late September. This event marks the end of the traditional boating season.

In mid October, the Harvestfest, similar to the Salmagundi, is held in Market Square.

Finally, Santa Claus arrives by boat on the first Sunday in December as part of a Christmas event.

HARBOR PLANS

HARBOR PLANS

GOALS, OBJECTIVES AND ACTION PLAN

The goals, objectives, and recommended actions of this Plan were developed through discussion by Harbor Commission members and from a variety of sources including documentation from previous studies, meetings with representatives of state and federal agencies and the holding of a public meeting on October 7, 1987 with area residents and other interested parties.

The goals, objectives, and recommended actions presented here are viewed as a blueprint toward the completion of the Harbor Management Plan. In addition to forming the base of the Plan, perhaps their most important function is that they represent a community consensus on how area residents want the harbor to develop in the future both onshore and offshore.

The goals, objectives and recommended actions can be referred to by other regulatory Boards and Commissions in the City to assist in the preparation of legislation, budgets and decision making for activities located in, on and along the Newburyport waterfront.

They are organized by topic as follows:

- o Harbor Management
- o Natural Resources
- o Land Use
- o Navigation
- o Recreational Boating
- o Commercial Marine Industries and Facilities
- o Access
- o Public Awareness

TOPIC AREA: Harbor Management (HM)

GOAL #(1) Assure orderly, safe and efficient use of designated mooring areas, fairways and other navigation areas.

****

OBJECTIVE # (1)

****

Designate the Harbor Commission as the local "Clearinghouse" for issues relating to the waterfront.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Request the City Council to amend city ordinances to require that the Harbor Commission is informed of proposed activities including development projects relating to the waterfront.

****

RESOURCE NEEDS/COSTS

****

HM 1-1.1	FY-90	No Direct Cost

****

TOPIC AREA: Harbor Management (HM)

GOAL #(1) Assure orderly, safe and efficient use of designated mooring areas, fairways and other navigation areas.

****

OBJECTIVE # (2)

****

Develop and adopt a set of harbor management regulations which will be enforced by the Harbormaster.

Encourage segregated use areas for different users of the River including wind surfers, dinghy docks, bird watchers and similar activities.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 One comprehensive set of harbor regulations will be developed for the various use areas including general regulations and special use areas; mooring regulations, Cashman Park, the central docks and the municipal/commercial fishing facility.

.2 Develop and recommend adoption of regulations by ordinance to the City Council.

.3 Request the City Council to designate the Harbormaster department, under the auspices of the Harbor Commission, with management responsibility for the general harbor, moorings, municipal/commercial fishing facility, central docks and Cashman Park.

****

RESOURCE NEEDS/COSTS

****

HM 1-2.1	Completed FY-89	No Direct Cost
HM 1-2.2	Completed FY-89	No Direct Cost
HM 1-2.3	Completed FY-89	No Direct Cost

****

TOPIC AREA: Harbor Management (HM)

GOAL #(1) Assure orderly, safe and efficient use of designated mooring areas, fairways and other navigation areas.

****
OBJECTIVE # (3)
****

Develop a set of emergency procedures with telephone numbers, agencies responsible and contact persons according to the type of emergency.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 A set of emergency procedures (with telephone numbers, agencies responsible and contact persons according to the type of emergency) will be developed and periodically updated by the Harbor Commission. These procedures will be widely promulgated.

****
RESOURCE NEEDS/COSTS
****

HM 1-3.1 FY-89 Estimated Cost $500.

****

TOPIC AREA: Harbor Management (HM)

GOAL #(2) Ensure the proper management and maintenance of publicly owned/regulated marine facilities.

****
OBJECTIVE # (1)
****

Establish a harbor fund which will provide monies for the Harbormaster's budget as well as maintenance and upgrading of all public waterfront facilities.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Draft an ordinance for submission to the City Council which would require the deposit of all fees collected into the Waterways Account. Retain two separate accounts, one for the Cashman Park ramp (which already exists) and one for all other sources of income.

.2 Develop an annual capital improvement program for the public waterfront facilities.

.3 Advocate and support funding of the Harbormaster's budget for the protection of the boating public.

****
RESOURCE NEEDS/COSTS
****

HM 2-1.1	Completed FY-89	No Direct Cost
HM 2-1.2	FY-90	No Direct Cost
HM 2-1.3	FY-90	Estimated Cost $31,500.

****

TOPIC AREA: Harbor Management (HM)

GOAL #(2) Ensure the proper management and maintenance of publicly owned/regulated marine facilities.

****

OBJECTIVE # (2)

****

Initiate a fee structure and associated penalties for City owned and controlled moorings and docks to be implemented by the Harbormaster.

Develop and implement regulations for the management and fee collection at the docks on the central waterfront.

Develop and implement a management scheme and fee structure for the municipal/commercial fishing facility.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 The City Council has approved a fee schedule for moorings, slips and launches at Cashman Park.

.2 The City Council has been requested to approve dock fees for the central waterfront area.

.3 A public hearing has been held with representatives of the commercial fishing industry to gain their input in the establishment of regulations and fees for the municipal/ commercial fishing facility.

.4 As a result of these actions, a fee structure and management collection process is now being fully developed.

****

RESOURCE NEEDS/COSTS

****

HM 2-2.1	Completed FY-89	No Direct Cost
HM 2-2.2	Completed FY-89	No Direct Cost
HM 2-2.3	To be Completed FY-90	No Direct Cost
HM 2-2.4	Completed FY-89	No Direct Cost

****

TOPIC AREA: Harbor Management (HM)

GOAL #(3) Initiate a public facility improvement/construction program for marine use and services along the waterfront.

****
OBJECTIVE # (1)
****

Construct public restrooms and install drinking fountains at major public use areas on the harbor.

Construct a Harbormaster's office/storage area on the waterfront.

Provide an area for storage of public floats.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Public restrooms and drinking fountains will be constructed and installed at major public use areas on the harbor.

.2 A Harbormaster's office/storage area will be constructed on the waterfront.

.3 An area/facility will be provided to ensure the safe winter storage of the central waterfront floats.

****
RESOURCE NEEDS/COSTS
****

HM 3-1.1	FY-91	Estimated Cost $20,000.
HM 3-1.2	FY-90	Estimated Cost $ 5,000.
HM 3-1.3	FY-90	No Direct Cost

****

TOPIC AREA: Natural Resources (NR)

GOAL #(1) Protect and enhance the environmental resources of the waterfront.

****
OBJECTIVE # (1)
****

Identify sources of water pollution and develop methods to improve the water quality of the harbor.

Develop a local system for monitoring compliance with conditions placed on environmental permits.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Encourage appropriate local and state agencies to conduct investigatory studies to identify sources of pollution that affect the Merrimack River.

.2 Based on the results of those studies, the Harbor Commission will advocate for the necessary corrective actions to be taken. It is expected that these actions will improve the water quality of the harbor.

.3 The Harbor Commission will work with other local Boards and Commissions to develop a local system for monitoring compliance with conditions placed on environmental permits. This system will then be recommended to the City Council for adoption.

****
RESOURCE NEEDS/COSTS
****

NR 1-1.1	Annual	No Direct Cost
NR 1-1.2	Annual	No Direct Cost
NR 1-1.3	Annual	No Direct Cost

****

TOPIC AREA: Natural Resources (NR)

GOAL #(1) Protect and enhance the environmental resources of the waterfront.

****

OBJECTIVE # (2)

****

Encourage regional cooperation in management and enforcement of sewage treatment plant discharges.

Encourage monitoring and enforcement of sewage treatment plants.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 The Harbor Commission will seek to work with regional and state agencies to advocate the construction and proper operation of municipal and industrial sewage treatment plants.

.2 The City should continue its program of monitoring the industrial wastes entering the Sewage Treatment plant.

.3 In addition, other direct waste discharges should be investigated and necessary corrective actions taken as needed.

.4 Through this effort, it is anticipated that the water quality of the Merrimack River will be enhanced and improved.

****

RESOURCE NEEDS/COSTS

****

NR 1-2.1	Annual	No Direct Cost
NR 1-2.2	Annual	No Direct Cost
NR 1-2.3	Annual	No Direct Cost
NR 1-2.4	Annual	No Direct Cost

****

TOPIC AREA: Natural Resources (NR)

GOAL #(1) Protect and enhance the environmental resources of the waterfront.

****
OBJECTIVE # (3)
****

Encourage the development of aquaculture in appropriate areas.

Encourage the re-opening of the clam flats and the development of the shellfish industry.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

The successful implementation of this objective is in part, contingent upon the criteria in Objectives 1 and 2 of the Natural Resources section.

.1 The Harbor Commission will support periodic monitoring by the state's Department of Public Health and Division of Marine Fisheries to sample and test the quality of the fish and shellfish in the Merrimack River harbor area.

The Shellfish Purification Plant, located at Plum Island Point, is a crucial ingredient to the continuation of the shellfish industry.

****
RESOURCE NEEDS/COSTS
****

NR 1-3.1	Annual	No Direct Cost

****

TOPIC AREA: Natural Resources (NR)

GOAL #(1) Protect and enhance the environmental resources of the waterfront.

****
OBJECTIVE # (4)
****

Provide for the enhancement and conservation of wildlife habitat for game and non-game species where appropriate.

Preserve and enhance wetland areas where possible.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The Merrimack River Basin provides an ideal habitat for hundreds of species of fish and fowl. Over time, the natural state of the area has been degraded by land use policies, industrial development and modern-day contaminants. The Harbor Commission will seek to preserve the remaining natural areas and to protect from further misuse, those areas which have experienced encroachment.

****
RESOURCE NEEDS/COSTS
****

NR 1-4.1	Annual	No Direct Cost

****

TOPIC AREA: Natural Resources (NR)

GOAL #(1) Protect and enhance the environmental resources of the waterfront.

****
OBJECTIVE # (5)
****

Support House Bill 2150 which is designed to provide monies for conservation officers in local coastal communities.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The Harbor Commission will contact area legislators to recommend their support for passage of this needed legislation.

****
RESOURCE NEEDS/COSTS
****

NR 1-5.1	FY-89	No Direct Cost

****

TOPIC AREA: Land Use (LU)

GOAL #(1) Encourage a mixture of water dependent/water related uses along the waterfront and work to maintain the marine heritage of the waterfront.

****

OBJECTIVE # (1)

****

Promote future development which protects existing marine dependent use and review development projects as to their impact on existing and future marine uses.

Modify existing land use controls to impose view corridors, height restrictions, public access and parking.

Encourage a limited number of non-marine dependent use of the waterfront when it is necessary to support the development of marine dependent uses such as boatyards or public access.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Future development which protects existing marine dependent use will continue to be promoted. Development projects will be reviewed with regard to their impact on existing and future marine use. Existing land use controls will be modified as appropriate to impose view corridors, height restrictions, public access and parking. A limited number of non-marine dependent uses of the waterfront will be encouraged when it is necessary to support the development of marine dependent uses such as boatyards or public access.

In March of 1988, the City of Newburyport revised its zoning ordinance to place the majority of the land adjacent to the Merrimack River in two new zoning districts, waterfront marine and waterfront mixed use. This change is expected to help protect and encourage marine dependent uses.

****

RESOURCE NEEDS/COSTS

****

LU 1-1.1	Annual	No Direct Cost

****

TOPIC AREA: Land Use (LU)

GOAL #(1) Encourage a mixture of water dependent/water related uses along the waterfront and work to maintain the marine heritage of the waterfront.

****
OBJECTIVE # (2)
****

Assure adequate shoreside facilities for water dependent activities such as marinas, public launching ramps, the municipal/commercial fishing facility and an area for passenger boats.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Designate areas on the Land Use Map which would allocate land to assure adequate shoreside facilities for various water dependent activities.

****
RESOURCE NEEDS/COSTS
****

LU 1-2.1	FY-89	No Direct Cost

****

TOPIC AREA: Land Use (LU)

GOAL #(1) Encourage a mixture of water dependent/water related uses along the waterfront and work to maintain the marine heritage of the waterfront.

****

OBJECTIVE # (3)

****

Encourage the continued location of the U.S. Coast Guard Station in Newburyport; the expansion of the state's Department of Environmental Management, Division of Marine Fisheries Shellfish Purification Plant on the northern tip of Plum Island; and encourage the expansion of existing water dependent uses such as the Tri-Coastal Co-op seafood handling facilities and the various marinas.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 These three facilities are essential to provide safety for the general boating public and to maintain the commercial fishing and shellfishing industries.

****

RESOURCE NEEDS/COSTS

****

LU 1-3.1	Annual	No Direct Cost

****

TOPIC AREA: Land Use (LU)

GOAL #(1) Encourage a mixture of water dependent/water related uses along the waterfront and work to maintain the marine heritage of the waterfront.

****
OBJECTIVE # (4)
****

Improve public infrastructure to the waterfront including water, sewage and electrical services.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Install sewer lines where necessary to construct restrooms at publicly owned areas.

.2 Install a new twelve inch water service loop between the central waterfront and the vicinity of the Atkinson Lumber Company to by-pass the existing six inch service in Water Street.

.3 Continue to support the Sewer Commission in its efforts to secure Environmental Protection Agency funding to correct existing deficiencies in some of the streets (the downhill side of Merrimac Street should be corrected by the City).

****
RESOURCE NEEDS/COSTS
****

LU 1-4.1	FY-91	Estimated Cost	$60,000.
LU 1-4.2	FY-91	Estimated Cost	$60,000.
LU 1-4.3	FY-91	Estimated Cost	$372,000.

****

TOPIC AREA: Land Use (LU)

GOAL #(1) Encourage a mixture of water dependent/water related uses along the waterfront and work to maintain the marine heritage of the waterfront.

****
OBJECTIVE # (5)
****

Work with local, state and federal agencies in identifying and mapping jurisdictional areas such as previously filled tidelands and harbor lines; and re-identify historic public ways to the waterfront.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 A collaborative arrangement with state and federal agencies will be developed for assistance in identifying and mapping jurisdictional areas such as previously filled tidelands and harbor lines; and re-identifying historic public ways to the waterfront.

****
RESOURCE NEEDS/COSTS
****

LU 1-5.1	FY-90	Estimated Cost $5,000. FY-89 Harbor Grant (see also A 3-3.1)

****

TOPIC AREA: Land Use (LU)

GOAL #(1) Encourage a mixture of water dependent/water related uses along the waterfront and work to maintain the marine heritage of the waterfront.

****

OBJECTIVE # (6)

****

Encourage the future relocation of uses which are not compatible with the waterfront to other, more suitable locations.

Encourage the creative and adaptive re-use of abandoned structures and facilities into water dependent/related uses.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Uses which are not compatible with the waterfront will be encouraged to be moved to other, more suitable locations.

.2 Abandoned structures will be reviewed for possible transformation into water dependent/marine related facilities.

****

RESOURCE NEEDS/COSTS

****

LU 1-6.1	Annual	No Direct Cost
LU 1-6.2	Annual	No Direct Cost

****

TOPIC AREA: Navigation (N)

GOAL #(1) Protect and enhance the navigability of the Merrimack River.

****
OBJECTIVE # (1)
****

The Merrimack River harbor entrance is known to be one of the most treacherous boating areas in New England. In an attempt to alleviate this condition, the Harbor Commission will advocate for continuous maintenance dredging of the outer channel by the U.S. Army Corps of Engineers.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 On an annual basis, the City's Harbormaster, with the cooperation of the local fishing and passenger boat industries, will perform an annual monitoring of the depth of the River and make a request to the U.S. Army Corps of Engineers for dredging assistance.

.2 Continue to work with the state and federal governments in securing the proper and cost effective disposal of the channel dredged material.

.3 Request the U.S. Army Corps of Engineers to dredge the harbor entrance and the large spit area which has formed near the south jetty.

****
RESOURCE NEEDS/COSTS
****

N 1-1.1	Annual	Estimated Cost $500. per year
N 1-1.2	Annual	No Direct Cost
N 1-1.3	FY-93	Estimated Cost $300,000.

****

TOPIC AREA: Navigation (N)

GOAL #(1) Protect and enhance the navigability of the Merrimack River.

****

OBJECTIVE # (2)

****

Investigate the possibility of re-designating the federal channel so that it will align with the actual navigable channel, and review the necessity of maintaining the federal turning basin.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 A plan will be developed to re-designate the federal channel so that it will align with the actual navigable channel.

.2 Recommend that the City petition the United States Congress to abandon a portion of the federal turning basin running parallel with the shore from the central waterfront eastward to the American Yacht Club. Develop plan requirements and other criteria for persons wishing to place structures in this area.

****

RESOURCE NEEDS/COSTS

****

N 1-2.1	FY-90	FY-89 Harbor Grant $1,600.
N 1-2.2	FY-90	FY-89 Harbor Grant $1,600.

****

TOPIC AREA: Navigation (N)

GOAL #(1) Protect and enhance the navigability of the Merrimack River.

****

OBJECTIVE # (3)

****

Continue to work with the U.S. Coast Guard in realizing safety of the water with the installation of aids to navigation.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 On an annual basis, the City should continue to work with the U.S. Coast Guard to ensure the marking of the navigable channel.

.2 Work with the U.S. Coast Guard to continue to ensure safety of the water with the installation of aids to navigation.

.3 Continue to work toward alternative methods of construction to ensure the installation of an entrance light at the Merrimack River north jetty.

.4 Ensure the continued installation of a private aid to navigation at the dike near the entrance to the Plum Island River.

****

RESOURCE NEEDS/COSTS

****

N 1-3.1	Annual	No Direct Cost
N 1-3.2	Annual	No Direct Cost
N 1-3.3	FY-90	No Direct Cost
N 1-3.4	FY-89	$500.

****

TOPIC AREA: Navigation (N)

GOAL #(1) Protect and enhance the navigability of the Merrimack River.

****
OBJECTIVE # (4)
****

Continue to enforce the no wake laws and install additional signs where necessary.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The City has adopted the revised harbor regulations which provide more stringent guidelines on speed and wake than that which heretofore existed.

.2 Install a buoy at the entrance to the Plum Island River and install a no wake sign in the Basin near the dike.

****
RESOURCE NEEDS/COSTS
****

N 1-4.1	FY-90	FY-89 Harbor Grant $2,000.
N 1-4.2	FY-89	$ 500.

****

TOPIC AREA: Navigation (N)

GOAL #(1) Protect and enhance the navigability of the Merrimack River.

****

OBJECTIVE # (5)

****

Provide fairways as required for adequate access to the shore and federal channel.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Designate a local 200 foot wide navigable channel which extends through the entire corporate limits of the City.

.2 Designate a 100 foot wide fairway running parallel with the shoreline extending from the Gillis Bridge to the American Yacht Club. The fairway would be 100 feet wide and would be located on the channel side of existing marinas. In the vicinity of Hilton's and Michael's Harborside, the fairway would narrow to seventy five feet between the outside floats and the mooring areas. A seventy five foot turning area would also be maintained in front of Michael's Harborside.

.3 Designate two fairways to provide access/egress from the channel as follows: One 400 foot wide fairway in front of the U.S. Coast Guard Station and a portion of the Mass Electric property, and one 200 foot wide fairway at an angle in front of the Custom House Maritime Museum and municipal/ commercial fishing facility.

****

RESOURCE NEEDS/COSTS

****

N 1-5.1	FY-89	No Direct Cost
N 1-5.2	FY-89	No Direct Cost
N 1-5.3	FY-89	No Direct Cost

****

TOPIC AREA: Navigation (N)

GOAL #(1) Protect and enhance the navigability of the Merrimack River.

****

OBJECTIVE # (6)

****

Establish regulations which require specific setbacks between all new structures and any designated channel, turning basin, fairway, mooring or anchorage area.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Incorporate the following proposed regulations into the existing harbor regulations as follows:

In order to provide for safe and adequate maneuverability (swing) and navigability, the placement of structures in the Merrimack River shall comply with the following minimum dimensional requirements:

a. All structures shall be setback a minimum of twenty-five feet from projected property lines to provide a swing area, unless a lesser setback is mutually agreed upon by the adjacent property owner and submitted in writing to the Harbor Commission. All structures shall be setback a minimum of twenty feet from the federal channel, navigable channel, fairways and federal turning basin.

b. Structures requiring a U.S. Army Corps of Engineers General Permit:

All structures requiring a General Permit from the U.S. Army Corps of Engineers (including boats) shall project not more than 200 feet into the Merrimack River from the shore (to be measured perpendicular from the mean high water mark of the outermost portion of the property).

In certain geographic locations, constraints posed by narrowness or shallowness of the channel and/or severity of the current may not allow the project to extend the full 200 feet into the River.

The Harbor Commission shall review for approval all general permits on a case by case basis.

Navigation (N) 1-6; Continued

c. Structures requiring an Individual Permit from the U.S. Army Corps of Engineers:

All structures requiring an Individual Permit from the U.S. Army Corps of Engineers will be reviewed for approval on a case by case basis by the Harbor Commission to determine maximum projections into the River.

****

RESOURCE NEEDS/COSTS

****

N 1-6.1	FY-89	No Direct Cost

****

TOPIC AREA: Navigation (N)

GOAL #(1) Protect and enhance the navigability of the Merrimack River.

****

OBJECTIVE # (7)

****

Acquire accurate base maps for the federal channel, mooring areas, shellfish beds, etc.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Accurate base maps for the federal channel, mooring areas, shellfish beds, etc. will be acquired.

.2 Maps should include the following information: the federal channel and anchorage area/turning basin, the local navigable channel and fairways, mooring grids, shellfish beds, barrier beaches, floodplain (Federal Emergency Management Act) and historic harbor lines where known.

.3 Other maps which should be included in the Plan are the Water Use Map (a reduction of the existing map with the addition of local use areas including transient, passenger boat and commercial fishing, mooring/docking and berthing), the Land Use Plan indicating the continuous riverwalk and scenic overlooks, public land, etc.

****

RESOURCE NEEDS/COSTS

****

N 1-7.1	FY-90	Requested FY-89 Harbor Grant
N 1-7.2	FY-90	Requested FY-89 Harbor Grant
N 1-7.3	FY-90	Requested FY-89 Harbor Grant

****

TOPIC AREA: Recreational Boating (RB)

GOAL #(1) Work to maintain a planned pattern and program of efficient utilization of the water's surface by recreational boaters.

****
OBJECTIVE # (1)
****

Provide adequate mooring and dockage space for the public and sufficient anchorage with shore access for transient boaters.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The Harbormaster will continue to refine the current system of allocating moorage and dockage space for the public. The Harbormaster should investigate the need for transient/guest moorings for visiting boaters and develop a plan to accommodate this need.

.2 Install a dinghy dock facility at the central waterfront. With the installation of three (25 foot by 8 foot) floats, approximately twenty skiffs could be accommodated in this area. Seasonal spaces could be rented for a fee.

****
RESOURCE NEEDS/COSTS
****

RB 1-1.1	FY-90	Estimated Cost	$500.
RB 1-1.2	FY-89	Estimated Cost	$20,000.

****

TOPIC AREA: Recreational Boating (RB)

GOAL #(1) Work to maintain a planned pattern and program of efficient utilization of the water's surface by recreational boaters.

****
OBJECTIVE # (2)
****

Encourage the development of marine recreational facilities including holding tank pump out equipment and launch ramps.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Identify alternative locations for the future construction of launch ramps for skiffs and associated parking areas to access the moorings in the central waterfront and at Plum Island.

.2 Encourage all new marina facilities or expansions at existing facilities to design their ramp/float system so that parallel access along the River for passive boaters is provided.

.3 The development of marine recreational facilities including holding tank pump out equipment will be encouraged.

.4 Determine the feasibility of the City acquiring an easement from Mass Electric for the purpose of creating a launch ramp in the bulkhead or public berthing and associated parking at their property on the waterfront.

****
RESOURCE NEEDS/COSTS
****

RB 1-2.1	FY-90	No Direct Cost
RB 1-2.2	Annual	No Direct Cost
RB 1-2.3	Annual	No Direct Cost
RB 1-2.4	FY-91	No Direct Cost

****

TOPIC AREA: Recreational Boating (RB)

GOAL #(1) Work to maintain a planned pattern and program of efficient utilization of the water's surface by recreational boaters.

****

OBJECTIVE # (3)

****

Designate various use areas for different users such as fairways, mooring areas, wind surfers, dinghy docks, etc.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Various use areas for different users such as wind surfers, dinghy docks, clam flats, etc., will be designated on the Water Use Map.

.2 Identify alternative locations for ramp/float/parking areas for windsurfers.

****

RESOURCE NEEDS/COSTS

****

RB 1-3.1	FY-89	No Direct Cost
RB 1-3.2	FY-90 and FY-93	No Direct Cost

****

TOPIC AREA: Recreational Boating (RB)

GOAL #(1) Work to maintain a planned pattern and program of efficient utilization of the water's surface by recreational boaters.

****
OBJECTIVE # (4)
****

Investigate the use of Cashman Park as a recreational marina facility.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Continue to work with the state to ensure the completion of the new boat launch ramp facility at Cashman Park.

.2 Install a float adjacent to the existing pier at Cashman Park to allow recreational boats to load and unload passengers and locate a dinghy dock in this area.

.3 Install restroom facilities (or repair existing) at Cashman Park.

****
RESOURCE NEEDS/COSTS
****

RB 1-4.1	FY-90	Estimated Cost $250,000. State Funds
RB 1-4.2	FY-92	Estimated Cost $11,000.
RB 1-4.3	FY-92	Estimated Cost $20,000.

****

TOPIC AREA: Commercial Marine Industries and Facilities (CM)

GOAL #(1) Protect and enhance the commercial fishing fleet.

****
OBJECTIVE # (1)
****

Ensure the timely completion of the municipal/commercial fishing facility.

Determine future service needs for the commercial fishing industry and secure funds for their development.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The Harbor Commission will work toward helping to ensure the timely completion of the municipal/commercial fishing facility.

.2 Determine future service needs for the commercial fishing industry and secure funds for their development. Identify funding for buildings, ice facilities and new land area if the need arises in the future.

.3 Designate a future tie-up area for repairs to commercial vessels.

.4 The future possibility of using Cashman Park by commercial haulers should be investigated including an analysis of adequate fees.

.5 The future feasibility of providing a cooling facility to hold the commercial catch for transporting at a later date (refrigerated area for holding after boxed) should be explored.

.6 Encourage the development and expansion of the private sector co-op concept.

.7 Provide City assistance to the commercial fishing industry by preparing permit applications and financing paperwork. Support legislation on all levels that helps promote or fund commercial fishing efforts.

Commercial Marine Industries and Facilities (CM) 1-1; Continued

RESOURCE NEEDS/COSTS

CM 1-1.1	FY-89	Estimated Cost	$1,500,000.
CM 1-1.2	Annual	No Direct Cost	
CM 1-1.3	FY-90	No Direct Cost	
CM 1-1.4	FY-89	No Direct Cost	
CM 1-1.5	FY-91	Estimated Cost	$3,000.
CM 1-1.6	Annual	No Direct Cost	
CM 1-1.7	Annual	No Direct Cost	

TOPIC AREA: Commercial Marine Industries and Facilities (CM)

GOAL #(2) Encourage the proper growth and stability of the commercial passenger boat industry.

****

OBJECTIVE # (1)

****

Encourage the development of a public passenger boat facility with adequate parking and other services.

Investigate the feasibility of dredging upriver to Haverhill to create a protected water cruise boat industry base.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 The future development of a public passenger boat facility with adequate parking and other services will be encouraged.

.2 Allow passenger boat operations to utilize an area of the new municipal/commercial fishing facility on a trial basis. Use should be restricted to loading and unloading of passengers only, with no long term tie up allowed. All users should be required to carry liability insurance. A system for the pre-approval of qualifications of captains and boats should be developed. Fees for the facility should be similar to the commercial fishing fees with an allowance for "seasonal use" reduction.

.3 The City of Newburyport should work with other communities to encourage the state or federal government to conduct a feasibility study of dredging upriver to Haverhill.

.4 Evaluate and review possible dredging at Cashman Park to provide a facility for passenger boats.

****

RESOURCE NEEDS/COSTS

****

CM 2-1.1	Annual	No Direct Cost
CM 2-1.2	FY-91	Estimated Cost $11,000.
CM 2-1.3	FY-93	Estimated Cost $40,000.
CM 2-1.4	FY-91	Estimated Cost $12,000.

****

TOPIC AREA: Commercial Marine Industries and Facilities (CM)

GOAL #(3) Encourage the proper growth and stability of the commercial marinas and ancillary uses.

****
OBJECTIVE # (1)
****

Support marina expansion or new marina development when the plans are found to be safe and environmentally sound, including parking, fueling and other considerations.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The City should be encouraged to assume an advocacy role to support the expansion or development of sound marina proposals.

.2 Support mixed use developments which incorporate marine dependent uses.

.3 Investigate the possibility of promoting off-site parking for the entire waterfront area with a seasonal shuttle service.

.4 Help promote the installation and upgrading of environmentally sound fueling facilities. Make available the appropriate regulations issued by the State Fire Marshal's Office for marina developers.

****
RESOURCE NEEDS/COSTS
****

CM 3-1.1	Annual	No Direct Cost
CM 3-1.2	Annual	No Direct Cost
CM 3-1.3	Annual	No Direct Cost
CM 3-1.4	Annual	No Direct Cost

****

TOPIC AREA: Commercial Marine Industries and Facilities (CM)

GOAL #(3) Encourage the proper growth and stability of the commercial marinas and ancillary uses.

****
OBJECTIVE # (2)
****

Investigate the need for providing a holding tank pump out station for the harbor.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 A holding tank pump out station at the municipal/commercial fishing facility will be investigated and installed if appropriate.

****
RESOURCE NEEDS/COSTS
****

CM 3-2.1 FY-90 Estimated Cost $2,500.

****

TOPIC AREA: Commercial Marine Industries and Facilities (CM)

GOAL #(3) Encourage the proper growth and stability of the commercial marinas and ancillary uses.

****
OBJECTIVE # (3)
****

Evaluate the feasibility of off-site boat storage.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Evaluate the feasibility of boat storage off-site and encourage private enterprise to develop off-site boat storage. Encourage the City Council to amend the new zoning ordinance to include boat storage in the industrial district.

****
RESOURCE NEEDS/COSTS
****

CM 3-3.1	FY-90	No Direct Cost

****

TOPIC AREA: Commercial Marine Industries and Facilities (CM)

GOAL #(3 **)** Encourage the proper growth and stability of the commercial marinas and ancillary uses.

****
OBJECTIVE # (4)
****

Support the "Boatyard Preservation Act" and similar legislation which protect and enhance marine dependent facilities.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The City should work towards introducing legislation which would help eliminate environmental absolutes when such regulations prove so restrictive that a marine dependent use is prohibited.

.2 Support the "Boatyard Preservation Act" and similar legislation which protect and enhance marine dependent facilities. The City should continue to support this and other bills to protect marine dependent uses. The City should also encourage realistic funding for their implementation.

****
RESOURCE NEEDS/COSTS
****

CM 3-4.1	Annual	No Direct Cost
CM 3-4.2	FY-89	No Direct Cost

****

TOPIC AREA: Commercial Marine Industries and Facilities (CM)

GOAL #(4) Encourage the rejuvenation of the shellfish industry in the harbor.

****
OBJECTIVE # (1)
****

Work towards improving the water quality of the River and identify those problems which can realistically be addressed.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The Harbor Commission will work with local, regional, state and federal agencies to develop a plan for improving the water quality of the River and identify those problems which can realistically be addressed.

****
RESOURCE NEEDS/COSTS
****

CM 4-1.1	Annual	No Direct Cost

****

TOPIC AREA: Commercial Marine Industries and Facilities (CM)

GOAL #(4) Encourage the rejuvenation of the shellfish industry in the harbor.

****
OBJECTIVE # (2)
****

Work towards constructing a functional boat ramp area on Plum Island or along the Turnpike for use by commercial clam diggers.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The Harbor Commission will work towards constructing a boat ramp area on Plum Island or along the Turnpike for use by commercial clam diggers and small recreational boats. The City should work with the town of Newbury to fund a boat ramp facility near the off-ramp adjacent to the Wilkinson Bridge at the Plum Island Turnpike. A second alternative is to investigate the possibility of a ramp at Plum Island Point.

****
RESOURCE NEEDS/COSTS
****

CM 4-2.1	FY-90	No Direct Cost

****

TOPIC AREA: Access (A)

GOAL #(1) Encourage increased use of the waterfront and public facilities on the waterfront.

****

OBJECTIVE # (1)

****

Identify and establish a program for maintenance and management of public parks and facilities such as Waterfront Park and Cashman Park.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Encourage the City, through its Department of Public Works, to establish a program for maintenance and management of public parks and facilities such as Waterfront Park and Cashman Park.

.2 Provide landscaping, trash containers and furniture at public facilities.

****

RESOURCE NEEDS/COSTS

****

A 1-1.1	Annual	No Direct Cost
A 1-1.2	Annual	Estimated Cost $1,000. per year

****

TOPIC AREA: Access (A)

GOAL #(1) Encourage increased use of the waterfront and public facilities on the waterfront.

****
OBJECTIVE # (2)
****

Develop a re-use plan for Cashman Park which increases the marine use of the area.

Provide adequate parking and sanitary facilities for harbor area users.

Work with the state to increase and enhance water related use of Maudsley State Park.

Encourage the continued passive recreational use of the Parker River National Wildlife Refuge.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Evaluate the potential and develop a plan for re-use of existing public areas to enhance their marine use.

.2 Continue to support the City's efforts to secure funds for the facility improvements at Cashman Park including marine facilities, stabilization of the shoreline with riprap and a boardwalk/walkway. Lighting should also be installed along with public restrooms and drinking fountains.

.3 Adequate parking and sanitary facilities for harbor area users will be provided at the central waterfront.

.4 The City will seek to collaborate with the state's Department of Environmental Management which controls Maudsley State Park and the Trustees of Moseley Pines to increase and enhance water related uses.

.5 The passive recreational use of the Parker River National Wildlife Refuge will continue to be encouraged and the Harbor Commission will investigate the joint use of the proposed headquarters for the National Wildlife Refuge near Rolfes Lane.

Access (A) 1-2; Continued

RESOURCE NEEDS/COSTS

A 1-2.1	Annual	No Direct Cost
A 1-2.2	FY-91	Estimated Cost $270,000.
A 1-2.3	FY-91	Estimated Cost $75,000.
A 1-2.4	Annual	No Direct Cost
A 1-2.5	Annual	No Direct Cost

TOPIC AREA: Access (A)

GOAL #(1) Encourage increased use of the waterfront and public facilities on the waterfront.

****

OBJECTIVE # (3)

****

Encourage and improve passive recreational use of the public lands between Plum Island Point and the south jetty on Plum Island.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Encourage increased use of public lands between Plum Island Point and the south jetty on Plum Island by various associations for activities such as kite flying and other passive activities throughout the year and during festivals such as Yankee Homecoming Week. Make necessary repairs and improvements to the parking lot at Plum Island Point.

****

RESOURCE NEEDS/COSTS

****

A 1-3.1 FY-92 Estimated Cost $37,000.

****

TOPIC AREA: Access (A)

GOAL #(2) Develop better linkages between Water and Merrimac Streets and the harbor.

****
OBJECTIVE # (1)
****

Encourage the provision of public access in any new development or re-development plans along the waterfront to install pedestrian walkways to and from the street and waterfront, through review of such plans by the Harbor Commission and other city agencies.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The provision of public access in any new development or redevelopment plans along the waterfront will be encouraged with pedestrian walkways to and from the street and waterfront.

****
RESOURCE NEEDS/COSTS
****

A 2-1.1	Annual	No Direct Cost

****

TOPIC AREA: Access (A)

GOAL #(3 **)** Provide additional public access to the waterfront.

****

OBJECTIVE # (1)

****

Work towards creating a continuous public walkway system on or around the waterfront including such efforts as designating the ends of streets as scenic outlooks and providing a system ofnature trails and small fishing piers through land acquisition and donations.

****

ACTIONS/METHODS/OUTCOME CRITERIA

****

.1 Designate areas on the Harbor Map where scenic views are important and develop strategies to preserve them.

.2 Create an annual capital expenditure program for developing walkways, fish piers and river outlooks including walkways to and from the street and waterfront.

.3 Prepare an improvement program for the public property adjacent to and including the seawall on Water Street which would include such items as landscaping, street furniture, alternative parking design and installation of informative plaques and river overlooks.

.4 Investigate the ownership of the small land parcels extending from Simmons Beach to Sportsman's Lodge. Trails for bird-watching, strolling and parking and/or pull-over spaces for viewing from autos should be constructed in this area. Maintenance efforts should be initiated to cut and clear brush.

****

RESOURCE NEEDS/COSTS

****

A 3-1.1	FY-90	FY-89 Harbor Grant
A 3-1.2	FY-91	Estimated Cost $15,000.
A 3-1.3	FY-92	Estimated Cost $40,000.
A 3-1.4	FY-92	Estimated Cost $10,000.

****

TOPIC AREA: Access (A)

GOAL #(3 **)** Provide additional public access to the waterfront.

****
OBJECTIVE # (2)
****

Acquire B&M Railroad Rights of Way which are no longer in use.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Evaluate the potential to use the B&M Railroad Right of Way behind Tiger Marine on Water Street for public uses such as parking and sailboard launching.

.2 The City should begin efforts to acquire any B&M Railroad Rights of Way which are no longer in use and dedicate these areas for access.

****
RESOURCE NEEDS/COSTS
****

A 3-2.1	FY-92	No Direct Cost
A 3-2.2	FY-93	Cost unknown at this time.

****

TOPIC AREA: Access (A)

GOAL #(3) Provide additional public access to the waterfront.

****
OBJECTIVE # (3)
****

Investigate, map and reinstitute historic ways to the waterfront where feasible.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 Conduct a study to investigate, map and regain historic ways to the waterfront where feasible.

****
RESOURCE NEEDS/COSTS
****

A 3-3.1	FY-90	Estimated Cost $5,000. FY-89 Harbor Grant (see also LU 1-5.1)

****

TOPIC AREA: Access (A)

GOAL #(3) Provide additional public access to the waterfront.

****
OBJECTIVE # (4)
****

Investigate the feasibility of creating a land bank to acquire land along the River.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The feasibility of creating a land bank to acquire land, development rights and/or conservation easements along the River will be investigated.

****
RESOURCE NEEDS/COSTS
****

A 3-4.1	FY-90	No Direct Cost

****

TOPIC AREA: Public Awareness (PA)

GOAL #(1) Encourage public awareness of various activities occurring in, on and along the waterfront.

****
OBJECTIVE # (1)
****

Help to educate the general public regarding public safety issues, cultural activities, the natural resources of the harbor and facilities that are available for the boating public.

****
ACTIONS/METHODS/OUTCOME CRITERIA
****

.1 The Harbor Commission will work with various public agencies to develop and distribute as appropriate, general information and educational pamphlets to the public. These brochures will include information on "laws of the waterways," use of the facilities such as at the Parker River National Wildlife Refuge and publicly owned facilities, and other environmental and/or conservation oriented material to help educate the public.

****
RESOURCE NEEDS/COSTS
****

PA 1-1.1	Annual	No Direct Cost

****

LAND USE PLAN

The Newburyport waterfront is a community resource which differs from other development sites by virtue of its proximity to the water. The harbor includes an area held under the public trust doctrine for the benefit of Massachusetts citizens. This area includes lands seaward of the historic extreme low water mark (which includes certain filled lands and wharves).

The many small marine enterprises as well as the open spaces and institutional uses typical to Newburyport's waterfront all contribute to the character of the harbor.

Because the waterfront is a unique area and a community resource, there is a need to protect and enhance the diverse land use pattern which has historically characterized the area.

The study area for development of the Land Use Plan includes all the waterfront land extending from the water's edge to Water Street, Merrimac Street and Curzonmill Road on the south and the corporate boundaries on the east and west.

The proposed Land Use Plan is illustrated on Map 12.

Marine Dependent/Marine Related Use Areas

In the past few years, pressure to develop or re-develop the waterfront for residential and other non-water related uses has accelerated. As a contemporary analysis of the working waterfront suggests, "To drive off a central waterfront any vestige of marine business lessens that community's link with its past, rubs out a chance for citizens and visitors to become acquainted with traditional skills and enterprises, and diminishes the area's diversity of activity."[19]

Realizing the uniqueness of Newburyport's waterfront, the Harbor Commission voiced as one of its major goals of the Harbor Management Plan, to protect and enhance the existing marine dependent uses and to attract new marine uses.

To implement this goal, the Harbor Commission's Land Use Plan designates two areas of the waterfront as marine dependent/ marine related development areas. These areas coincide with the recently adopted waterfront zoning districts.

The suggested marine dependent areas extend from Jefferson Court (Yankee Marine) to the U.S. Route One Bridge and the U.S. Coast Guard Station to the seawall on Water Street.

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19 Caution: Working Waterfront, The Impact of Change on Marine Enterprises 1985.

Uses in these areas should be marine dependent with a limited amount of non-marine dependent uses allowed. For example, if a parcel of land were to be developed or re-developed, the proposal would have to contain a majority of the development devoted to marine dependent use(s) such as a marina, boatyard, passenger boat operation or similar activities. Secondary, non-marine dependent uses would be allowed to a limited extent if the primary use is marine dependent. A development which includes a marina/ boatyard could also include some residential or a marine related business in its proposal.

Downtown Waterfront

The downtown area of Newburyport is located in the vicinity of what is known as the "central waterfront." This area exhibits typical downtown mixed uses and generally extends from the Route 1 Bridge to beyond the Atkinson Lumber Company on Water Street. Due to the relationship between this portion of the waterfront and the City's central business district, uses which will enhance the civic, cultural and business nature of the downtown in conjunction with marine type uses are encouraged. Marine dependent and related uses are encouraged in this area and structures devoted solely to residential uses are not allowed.

Conservation and Agricultural

There are large waterfront areas in the City which are enjoyed for their conservation, agricultural and/or open space qualities.

In most cases, the existing zoning designation of these areas adequately protects the uses. However, the Moseley Pines area and the land owned by the Water Commission (between Moseley Pines and Route I-95, and on the westerly side of Route I-95) are presently zoned for two family development.

These areas have been designated on the Land Use Plan as open space/conservation areas and include the Maudsley Estate, land held by the Water Commission, Moseley Pines, the various tidal flats, Woodbridge and Seal Islands, the wetlands abutting Plum Island and the state owned portion of the northeastern tip of Plum Island.

Residential Areas

The last two areas which were analyzed by the Harbor Commission are presently residential in nature and will remain that way for the foreseeable future. The area which extends from Spofford Street to Jefferson Court (Yankee Marine) is primarily single family residential and should remain this way. Development of the lower water side portion of much of this area is prohibited due to the need for sewage pumping stations and the proximity of the 100 year flood elevation.

The second residential area is Plum Island. The existing zoning designation of this area is inappropriate in that it allows for multifamily development by special permit. For future development purposes, the City should change this zoning designation to single family due to the lack of public water and sewer and the existing pattern of very small lot, densely developed areas.

Public Access

A major goal of the Land Use Plan is to encourage and increase public access to and from the waterfront. Public access should be created where possible. One of the long range goals of this Plan is to create a riverwalk along the length of the Merrimack River.

The riverwalk system should incorporate connections from the street to the riverwalk. The form of the riverwalk may involve different widths and types of treatments. For example, along Water Street near the Joppa Flats, the riverwalk might be a wooden walkway through the marshes and in Maudsley State Park, the riverwalk might be in the form of a nature trail. Conversely, the walkway in the downtown area should be in the form of a durable, hard surface such as wood or brick. Where security or other measures prohibit such a riverwalk scenario, the walkway can be developed along the street side of the River. A signage system should also be developed.

The Land Use Plan also calls for the construction of small fish piers and/or river outlooks at various locations along the River.

Public Facilities

The location of public restrooms/shower facilities and a harbormaster's building are suggested at the future municipal/ commercial fishing facility and/or Cashman Park. Other harbor needs include a pump-out station for boats to be located either at the municipal/commercial fishing facility or in the vicinity of the sewage treatment plant.

A parking facility near or in conjunction with the future headquarters of the Parker River National Wildlife Refuge to be located on the Plum Island Turnpike, to service passive recreational use of the flats and salt marsh areas is also proposed.

Public Marine Uses

This Plan also identifies specific preferred uses for some areas including the re-development of Cashman Park with marine dependent uses such as additional boat ramps and a passenger boat facility. The relocation of the Parker River National Wildlife Refuge to the proposed Ocean Avenue/Plum Island Turnpike site is strongly encouraged. The development of an adequate parking area

at this site to service the facility as well as the expanded use of the surrounding area for passive recreation is encouraged.

Protection of Views

Protection of views and visual access to the waterfront is another goal of the Land Use Plan. Historically, the development pattern on the waterfront was in the form of relatively low buildings placed perpendicular to the waterfront. This pattern of development provided both physical and visual access to the water and protected views to the waterfront. New developments located in any of the waterfront zones should have criteria for the construction of perpendicular buildings with height restrictions to protect these historic amenities.

Specific Land Use Areas

Due to the diversity in urban form, natural resource and economic functions, the Land Use Plan divides the waterfront into five use areas. The areas include from east to west, Plum Island, the Flats, the South End Marine Area, the Downtown Mixed Use Area and the North End Marine Area (Map 10).

The proposed Land Use Plan for these areas is described as follows:

Plum Island

The Land Use Plan calls for the retention of Plum Island as a residential and recreational area. The institutional uses of the area which should be retained include the Coast Guard Auxiliary use of the old Coast Guard Boathouse located at Plum Island Point, the city managed use of the state owned parking lot and beach area and the Shellfish Purification Plant.

The multifamily residential use of the Island should be restricted, and only single family development should be allowed. Finally, an area for a launch facility for clam diggers should be identified and developed.

The Flats

The area which extends from Plum Island to the seawall on Water Street should be protected as a conservation area. The relocation of the Parker River National Wildlife Headquarters should include adequate parking to service future development of a river outlook and boardwalk over the marsh areas.

South End Marine Area

This area extends from the seawall to and including the Atkinson Lumber Company on Water Street. It is characterized almost exclusively by water dependent and related uses including

the American Yacht Club and U.S. Coast Guard Station, with the exception of residential uses along Water Street. Future development in this area should be marine dependent or related. A pedestrian riverwalk should be developed along the entire length of the B&M railroad right of way to and including the Atkinson property.

Downtown Mixed Use Area

The downtown mixed use area extends from the future municipal/ commercial fishing facility behind Atkinson's to the B&M Railroad Bridge. This area is the cultural and civic center of the City. It is also the most visible and publicly used area of the entire waterfront. The area also contains various marinas and marine service facilities and their expansion is encouraged. A continuous, hard surface riverwalk should be developed in this area.

North End Marine Area

This area extends from the B&M Railroad Bridge to and including Jefferson Court (Yankee Marine). The Land Use Plan calls for the development of marine dependent related uses with a certain percentage of non-marine uses allowed per project. This area contains River's Edge, Cashman Park, Towle Manufacturing, the North End Boat Club and residential neighborhoods.

Launch Ramps

Cashman Park

As noted, the state will be constructing a new double ramp launch facility within the next two years.

Sailboarders

Joint use of the new headquarters parking facility of the Parker River National Wildlife Refuge should be investigated. If this is possible, a new float system could be installed across the street extending a good distance into the Merrimack River.

The existing layout of the seawall on Water Street should be evaluated to determine if additional parking can be accommodated. In addition, the use of the B&M railroad right of way behind Tiger Marine on Water Street should be evaluated for use by the sailboarders.

Clam Digger Ramp

A feasibility study needs to be conducted for the location of an improved ramp/parking area for the clam diggers on Plum Island or near the Wilkinson Bridge on the Plum Island Turnpike.

Publicly Owned Riverfront Land

Cashman Park

Cashman Park is a twelve acre community park which has 1,200 linear feet of frontage on the Merrimack River. Presently, the Park contains one boat launch ramp and a dilapidated pier, both of which are owned by the state of Massachusetts. Large pieces of granite block secure the shoreline and the area contains a paved parking lot. The Park also contains a baseball field, a lighted, heavily used softball field, a tot lot, two tennis courts, two basketball courts and a few benches. An old boathouse was located at the Park but was torn down due to excessive vandalism.

To enhance the marine use of this facility, a feasibility study should be prepared. The study should evaluate the possibility of creating a berthing area for passenger boats which would not interfere with the existing use of this facility. In any event, the shoreline along the Park should be stabilized with riprap and a boardwalk/walkway with lighting should be installed.

Central Waterfront

The use of the existing and proposed waterfront promenade for interpretive programs in conjunction with the Custom House Maritime Museum and educational institutions should be developed. Interpretive use of the waterfront could include educational programs of the historical heritage of Newburyport as well as contemporary waterfront issues.

Seawall

The use and potential of this area should be reviewed and studied. Additional maintenance (cutting grass, removal of trash) is needed, as is additional police coverage. An investigation should take place to determine if more public parking could be made available in this area. An information plaque, additional landscaping and street furniture should also be installed.

Simmons Beach to Sportman's Lodge

This area, which is located on the River side of Water Street, provides a natural point for viewing the Merrimack River mouth and is easily accessible by car. Birdwatchers and general viewers use this area heavily on a twelve month basis. This area is either in private or unknown ownership and its potential should be investigated for purchase by the City. The City should put additional emphasis on cutting and cleaning this area and possibly, provide adequate parking and/or pull-over spaces.

Moseley Pines

Moseley Pines does not experience the amount of public use

of which it is capable. Although the Park contains several linear feet of frontage on the Merrimack River, the Park is not oriented to the water. There are no ramps or piers at this facility and access to the Park from the River is limited due to the existing steep slopes. There is a picnic area located on a bluff which overlooks the River at this facility. A study should be prepared to evaluate the potential of creating a marine orientation to this Park. The potential for developing an interpretive nature or hiking trail should be evaluated.

Plum Island State Park

This area could be utilized for kite flying and other passive activities throughout the year during various festivals such as Yankee Homecoming Week.

The passive recreational use of this area should be encouraged. The parking lot should be clearly delineated to visibly mark public from private parking areas.

Maudsley State Park

The City should work with the state to increase and enhance water related use of Maudsley State Park. The City should become closely involved in the current master planning efforts of the state for this facility.

WATER USE PLAN

The Water Use Plan is illustrated on Map 13 and represents the Harbor Commission's recommendations for conservation, development and use of the harbor. The Water Use Plan will be referred to by the Harbor Commission as it reviews proposed projects which involve the placement of structures and/or moorings into the River.

The Water Use Plan calls for the expansion of existing marinas and boatyards as well as protection and conservation of all the clam flats and protection of designated salt marsh areas.

Navigation

This Plan establishes a local fairway (channel) designation with fairways running perpendicular to and from the shoreline. Additionally, mooring areas have been designated along the River. The Water Use Plan also calls for the establishment of minimum setbacks between structures on the River.

Presently, the Merrimack River contains a federal channel which does not coincide exactly with the navigable channel. The U.S. Coast Guard marks the navigable channel through the placement of buoys in the middle of the deepest part of the designated federal channel. This federal channel also contains a very large

turning basin which runs just east of the Gillis Bridge to just beyond the easterly boundary of the American Yacht Club. The turning basins vary in width from a maximum of 600 feet to 400 feet.

Because the federal channel is not necessarily the navigable channel, there is a need to designate the navigable channel as such. The designation of local fairways to, from and along the shoreline to the channel is very important in order to maintain proper ingress and egress to the channel and along the shoreline. Such a designation would prohibit the placement of moorings and/or docks and would ensure the continued access to and from the channel.

The U.S. Army Corps of Engineers has a policy at present that no commercial structures may be placed in either a federal channel or turning basin. New structures can be placed in the fairway paralleling the shoreline as long as the fairway can be relocated to the channel side of the structures. The abandonment or retention of the federal turning basin must be evaluated as to its impact on the boating public.

Two access/egress fairways are designated in the central waterfront area with one 200 foot wide fairway in front of the Custom House Maritime Museum, and a 400 foot wide one in front of the U.S. Coast Guard Station.

A parallel fairway is designated in the central waterfront area to relieve congestion and help ease the difficulty of maneuvering in the moorings. Neither parallel nor perpendicular fairways are designated upriver because of the relatively low amount of public use areas. In the future, the designation of both perpendicular and parallel fairways may also be needed in this area.

While the function of the federal turning basin maneuvering area for very large ships is no longer valid, the Newburyport Harbor Commission does not recommend abandonment of this area at the present time. In addition, by virtue of the turning basin being under federal jurisdiction, the ability to have the area dredged in the future could be seriously compromised if the Commission abandoned the turning basin.

Shellfish

Areas which should be protected for shellfish resources have been shown on the Water Use Plan. The placement of structures such as docks, pilings, breakwaters, groins and seawalls should not be placed in the shellfish area. Limited uses and structures may be placed in the salt marsh areas as long as resource impacts are minimal and no feasible alternatives exist.

Salt Marsh

The Merrimack River contains extensive areas of salt marsh. Some salt marsh areas are located on or adjacent to existing marinas. Some of the salt marsh areas have been transported during the spring through ice or water movement from upriver islands and shorelines.

Massachusetts General Laws Chapter 131, Section 40, The Wetlands Protection Act, regulates work done in and around wetland areas. This law is enforced via regulations promulgated under CMR 310 paragraph 10.00.

Paragraph 10.32 of CMR 310, regulates activities resulting in the "dredging, filling, removing or altering" of salt marsh areas. This section basically mandates that salt marsh shall not be destroyed or altered nor shall the productivity of a salt marsh be destroyed or adversely affected. The regulations do not provide any threshold, but rather, they simply prohibit any modification to salt marsh (with the exception of individual catwalks). The only method available to a property owner to alter or destroy any existing salt marsh is to petition for a variance as allowed under paragraph 10.36. The variance process is presently estimated by the Department of Environmental Protection (DEP) to take in excess of two years. Furthermore, the regulations state that a variance should only be granted in rare cases when the public need is overwhelming. Additionally, prior to requesting a variance, the applicant must first file a Notice of Intent with the local Conservation Commission, have the project denied, request a Superseding Order of Conditions and be provided the opportunity to have an adjudicatory hearing. It is only at this point in the process that a request for a variance may be filed with the Commissioner of DEP.

By a literal reading of these regulations, it is apparent that any existing salt marsh growing in, near or around any existing marinas must remain in its present state, regardless of where the salt marsh is located in proximity to the needed work, or how small an area of salt marsh is in question. The City has also found, through experience, that it makes no difference if the salt marsh is native to the site or if it was recently transported by ice floes.

The Harbor Commission considered the potentially conflicting policies of encouraging the expansion of marine dependent/related activities while also protecting the important salt marsh resources of the Merrimack River. Based on these discussions, areas of the City have been mapped to indicate where the salt marsh should be protected and areas where salt marsh is interfering with existing operational and expansion needs of marine dependent uses.

Existence of salt marsh in a marine dependent facility could have an adverse effect on the economic viability of the continued existence and expansion of these types of land uses. To resolve

this potential problem, the Harbor Commission plans to file a Notice of Intent with just cause with the local Conservation Commission and request that a determination be made as to whether the salt marsh resource areas found in the marine dependent areas of Newburyport are insignificant to the interests outlined in CMR 310 10.32 (1) (to the protection of marine fisheries, wildlife habitat and the protection of land containing shellfish, prevention of pollution or storm damage prevention and ground water supply).

The reasons it is presumed that the ice borne, water borne and isolated areas of salt marsh are insignificant to the resources outlined are as follows:

a. The growth, composition and distribution of these isolated areas of salt marsh, separated from much larger salt marsh systems and relatively isolated, are not conducive to the production of large amounts of organic matter and do not significantly contribute to the export of detritus and dissolved organices to the Merrimack River. Because of this, these resources are not significant food webs supporting marine orine organisms, including finfish and shellfish as well as bird species. There are much larger, more extensive areas of salt marsh both upriver and downriver from the central waterfront which contain significant salt marsh resources.

b. The isolated areas of salt marsh are too small to provide significant spawning and nursery habitat for various forage finfish nor do they provide important food, shelter, breeding areas, or migratory and overwintering areas for many wildlife species. There are extensive areas of salt marsh in the Merrimack River and Plum Island Sound which provide food, shelter, breeding and migratory habitat for various wildlife species. There is a National Wildlife Refuge located on Plum Island which was created for this purpose.

c. These areas do not affect the flow and level of tidal and fresh water protection nor do they significantly prevent pollution. The isolated salt marsh areas are located in the developed portion of the City of Newburyport's waterfront. Due to their small size, they do not absorb significant amounts of chlorinated hydrocarbons, heavy metals or retain nitrogen and phosphorous.

d. The presence and depth of peat in these areas is significant due to their small size and the fact that the majority of the salt marsh has been ice borne or water borne to a non peat environment. Thus, these areas do not protect the ground water supply, prevent pollution and/or provide storm damage protection. The isolated salt marsh areas are so small that the underlying peat does not serve as a barrier between fresh ground water landward of the salt marsh and the ocean and therefore does not contribute to maintaining the level of such ground water. Rather, the existing bulkheads

and other waterfront structures serve as the barriers between fresh water and ground water and the ocean waters.

e. The majority of the salt marsh is located in areas where the shoreline is altered. Given this, the salt marsh does not act as a dissipater of wave energy. This function is performed by the altered shoreline which serves as the buffer reducing wave damage.

CMR 310 10.32 (3) allows the local issuing authority to make such a determination on what is known as Form Seven (7) and the determination must be filed with the regional office of DEP on the date of issuance.

In making a written determination to such effect, the Conservation Commission will be asked to detail the specific geographic areas where the salt marsh may be determined insignificant to the protection of the resources outlined in CMR 310 10.32 (1).

In general, it is the Harbor Commission's opinion that the area includes the City of Newburyport waterfront 1 and waterfront 2 zoning districts which extend from the west end of the seawall on Water Street to Jefferson Court off Merrimac Street and encompass the marine based land use and economy of the community.

The Harbor Commission will work with the Conservation Commission, the Department of Environment Protection and Massachusetts Coastal Zone Management in developing local performance standards to allow the modification of salt marsh in these areas. Such performance standards will ensure that any alteration, dredging or removal of salt marsh in these areas will require the transplanting or replication on a 1:1 basis at a designated location in the Merrimack River. The Harbor Commission will propose that the alteration, dredging or removal of salt marsh be allowed under the following circumstances:

1. When the salt marsh has been ice borne and/or water borne and has been deposited at an operating marine dependent business or in municipal marine dependent use areas; or

2. When an established isolated salt marsh interferes with the regular day to day operation or seasonal maintenance of existing marine dependent businesses or municipal marine dependent use areas (such as under or in travel lift slips, embayments, launch ramps and along bulkheads which require periodic maintenance dredging); or

3. If water borne, ice borne or established isolated salt marsh interferes with the plans for a new marine dependent business or existing marine dependent business which desires to expand.

Furthermore, the Harbor Commission intends to pursue the development of a state policy with the DEP and CZM which would

allow the removal and/or transplanting of migrating salt marsh from marine dependent areas to a designated salt marsh replication area somewhere in the Merrimack River.

The Water Use Plan (Map 13) indicates those areas in Newburyport where the Harbor Commission believes the alteration of salt marsh is inviolate and cannot occur for any reason except those associated with navigational safety or shellfish resource needs. The Map also indicates the geographic area where the request for determination will be made as to whether the salt marsh is insignificant to the protection of resources outlined in CMR 310 10.32 (1) when the alteration of such areas is necessary for the protection of existing marine dependent uses and, under certain circumstances, the expansion of existing and development of new marine dependent uses.

Use Areas

Special use areas have been shown on the Water Use Plan including the use of the Joppa Flats area for sailboarders, an area for dinghy docks and an area for transient moorings.

The municipal/commercial fishing facility, now being constructed, is located on the downtown waterfront and is designated as the fishing complex. Finally, various mooring areas are also designated on the Water Use Plan.

Moorings

While the City has more than an adequate supply of mooring space, the ancillary facilities are inadequate in some cases. The City presently has two public launch ramp facilities for car trailer boat users, one at Cashman Park and one at the seawall. The ramp at the seawall can only be used at high tide. There is a need for skiff areas and ramps for skiffs for people who have their boats moored and do not belong to a private club which provides ferrying and/or ramp service. While the potential for the expansion of moorings in the Plum Island Basin is great, there is virtually no land side facility for people to use to access the moorings. Future boat ramp/parking facilities should be evaluated at Plum Island Point and in the vicinity of the downtown area. The windsurfers are also in need of an improved parking area and float system to provide access to the water.

Plum Island and Basin

There are public moorings located eastward to the old U.S. Coast Guard Station up to Ball Flats off Old Point and into the basin to the Newbury line.

The parking area at Plum Island Point has public access and parking for inflatable type or car top boats, but not for trailers. There is no launch facility currently in this area, but the development of one in the future is desirable. The City should

work with the state to evaluate the possibility of using this area for construction of a state ramp.

Utilization of Plum Island Basin for moorings has been light with approximately 75 moorings. With proper management, the number of moorings could be doubled. Protection is excellent for boats 30 feet and under.

American Yacht Club

This mooring area could accommodate a few public moorings, however access is limited. This area could accommodate up to twenty more moorings if members requested such use.

Due to the bulkheads, salt marsh and shallow water, this general area is not adequate for the construction of a launch facility. A possible location for the future construction of a launch ramp would be for the City to gain permission to use the Mass Electric bulkhead area. A launch ramp could be cut into the bulkhead for use by the public.

Central Waterfront

The area from Mass Electric on the eastward to the westward side of the central waterfront could accommodate a great number of additional public moorings. There are approximately 30 moorings in the area now and with proper management, another 30 moorings could be accommodated. This area is especially suited to large boats which have difficulty passing under the Gillis Bridge. This area can also accommodate commercial boats off the municipal/commercial fishing facility. Parking and public access are excellent. This area appears to be underutilized.

Hilton's/Windward Yacht Yard

This area from the western end of the central waterfront to the Gillis Bridge is full with approximately 30 moorings of larger boats serviced by the two marina facilities with a few public moorings interspersed. There is no public parking in this area.

Cashman Park

This area has approximately 100 public moorings and could easily accommodate 50 more. It has public parking and public access. Smaller boats which have shallow draft and can go under the Gillis Bridge can best utilize this area. A float should be built for the existing pier to allow boats to load and unload passengers.

North End Boat Club

This area has limited public access and now accommodates only a few public moorings. This area is basically full with the 60 moorings of the Boat Club.

City Boat Works

The area from City Boat Works westward to the 3R Marina has both public and commercial moorings. City Boat Works has approximately 40 moorings, 25 of which belong to the City Boat

Works, in front of their property. The upriver area is available for public moorings but with very limited access and no parking.

3R Marina, Merri-Mar Yacht Basin and Yankee Marine

These three marinas have a combined total of 70 moorings. This space is completely utilized by the marinas as there is no public access or parking. Westward of Yankee Marine there are several public moorings at the foot of Jefferson Court where there is public access but little or no parking.

Guest Moorings

Approximately 20% of the boats which are moored are off their moorings at any given time. The Harbormaster usually contacts private marinas to determine availability of moorings when guests arrive. If the marinas have available moorings, the Harbormaster will then assign these moorings as guest moorings.

There is also a privately owned guest mooring in the central waterfront which the owner allows the Harbormaster to use gratis for guest. There is presently no problem with assigning guest moorings and there should be no problem in the foreseeable future.

Moorings Summary

All slip space is presently full. Any expansion of slip space would reduce mooring space. It would appear that from 150 to 200 additional public moorings could be placed in the River. The Harbormaster's Office has granted requests for moorings in the past and there is no waiting list at the present time.

Dinghy Docks

The City needs to create facilities for dinghy docks in at least two locations -- Cashman Park and the central waterfront. Some of these spaces should be reserved for transients. In addition, public moorings should be acquired and installed for transient use in both of these locations.

The Harbor Commission is recommending the use of the central waterfront embayment area for the installation of a dinghy dock facility.

With the installation of three (25 foot by 8 foot) floats, approximately twenty skiffs could be accommodated in this area. A fee structure would be instituted for seasonal and transient use.

Holding Tank Pump Out Station

To encourage development of marine recreational facilities including a holding tank pump out station, the Harbor Commission

is recommending that a holding tank pump out station be included in the area of the central waterfront near or at the municipal/ commercial fishing facility. The installation of such a facility cannot be accomplished until a sewer system is present in the area.

Sailboarding

There is an organized sailboarding association group for the Merrimack River which has published a pamphlet and recommended areas for conducting this sport. Areas should be designated on the Water Use Map which encourage the use of these areas by sailboarders.

Commercial Fishing Needs

The most pressing need of Newburyport's commercial fishing fleet is the provision of a winter berthing area. The City is actively pursuing additional funding to complete this project which was approved by the state in 1988. The completion of this facility will provide a sheltered berthing area for nine to twelve vessels, parking and a loading/unloading dock area which will satisfy the present needs of the fleet.

Depending upon the success and growth of the commercial fishing fleet, future facility needs may include another unloading facility with adequate booms, an area for separating, handling and trucking the catch and the provision of ice facilities in the immediate area or the ability for trucks to deliver ice to the vessels at an ice loading area.

An additional future need will be a designated tie up area for repairs so vessels will be accessible for welding, mechanical repairs and other maintenance activities.

The development and expansion of the private sector co-op concept is encouraged. The co-op concept seems to be very suitable to the commercial fishing industry as the rules, regulations and prices are established by the users. Under this type of a cooperative program, facility expansion takes place as it is necessary and warranted.

Additionally, charges to the fishing industry are minimal and excess profits are returned to the members. The co-op concept also creates a self-policing attitude where producers are welcome and people who lack appropriate motivation fall by the wayside. The biggest benefit to the public is that a public subsidy is not necessary, and consequently, if the operation or facility is not profitable or no longer feasible, then other private ventures can intervene without the problems of up-front capital expenditures.

The commercial fishing industry in New England is no longer in a growth pattern and stock assessments and yield projections

point to a decline in the industry in the foreseeable future. The Newburyport fleet, however, in terms of both human and material resources is in a position to better weather an industry decline than many other New England ports of this size or larger. This is due primarily to the aggressive nature of many of its captains and the conditions of the fleet.

Passenger Boat Facilities

The passenger boat industry in Newburyport is in need of additional docking space. The possibility of creating a public area for passenger boat berthing and loading/unloading passengers should be analyzed. The proposed fee/lease/management structure would have to be investigated to parallel the commercial marinas.

For a variety of reasons relating to tourism and economic viability, the ideal location for a public passenger boat facility is in the vicinity of the central waterfront. Off-site parking would be necessary for the facility.

River Cruises

In other parts of the county, areas with calm, protected waters (such as the Merrimack River between Newburyport and Haverhill) have experienced a dramatic increase in the dinner/sightseeing/cruising industry. Although it would take a great effort in dollars to complete such an ambitious project, tourist dollars have historically proven to be a good investment. With the increased awareness of our natural resources and public access to water a priority, this project should be addressed.

The City of Newburyport should work with other communities to encourage the state and federal governments to conduct a feasibility study of such an undertaking. Issues which should be addressed in the study include: a projection of use; the need to construct public loading facilities at each end of the trek; potential sites for such loading areas; a cost projection of dredging and ancillary facilities; identification and cost projection for mechanizing or changing the characteristics of the Deer Island Bridge; and an estimate of additional marine services and land areas which would be needed.

Water Quality

The City should encourage the identification of sources of water pollution and develop methods to improve the water quality of the harbor. For example, the installation of a municipal holding tank pump out station at the new municipal/commercial fishing facility could alleviate some of the problems created through improper waste disposal by recreational boaters.

Local, federal and state agencies should be encouraged to work in collaboration to better monitor compliance with sewage

treatment plants and encourage regional cooperation in management and enforcement of sewage treatment plant discharges. As part of this effort, the City should continue its program of monitoring the industrial wastes entering the Sewage Treatment Plant.

Proposed Facilities

Proposed facilities are shown on Map 12. The Water Use Plan calls for the evaluation of the potential use of Cashman Park as a passenger boat facility. The future potential use of the Mass Electric property west of the U.S. Coast Guard Station as an area for smaller classed boats under 25 feet or for passenger boats is also recommended.

Three additional launch ramps, two at Cashman Park and one at Maudsley State Park, are described in the Plan. Two potential areas for dinghy docks are proposed, one at the central waterfront embayment area and the other at Cashman Park.

In addition, two possible locations of a pump out facility are designated on the Land Use Map (Map 12), one at the proposed municipal/commercial fishing facility and another in proximity to the sewage treatment plant.

An additional or improved ramp/parking facility for the clam diggers needs to be developed on the northern tip of Plum Island and/or in the vicinity of the Plum Island Turnpike in Newbury.

The Water Use Plan also calls for additional moorings for transients at the central waterfront, Cashman Park and Maudsley State Park.

DREDGING PLAN

Public and Private Marine Dependent Facilities

Under this section, an inventory of the existing commercial and public marine facilities and services and their expansion needs including the short and long term maintenance and new dredging needs, have been identified.

The specific dredging projects which are described include projects necessary for navigation through the channel, projects which by enhancing navigability would result in opening new economic markets and projects which would accommodate existing and future berthing and/or mooring of boats.

In arriving at the Dredging Plan, past dredging activities, the projected need for expansion of existing facilities, the need for new or re-use projects, an assessment of existing problems with navigation and new areas for dredging were analyzed.

The Newburyport Harbor Commission believes very strongly that the existing marinas and marine dependent uses in Newburyport must be allowed to maintain and under certain circumstances, expand their facilities, even if it means that alteration or dredging of salt marsh areas must occur. The City must ensure that these vital industries, critical to the economic development and stability of Newburyport, are able to stay in business.

On the Water Use Plan (Map 13), the areas where a request for determination will be made as to whether that salt marsh is insignificant to the protection of resources outlined in CMR 310 10.32 (1) have been shown.

Dredging Needs

Private Dredging Needs

A traditional activity at many private marinas is the occasional maintenance dredging and dredging for expansion. However, most marina owners in Newburyport are reluctant to go forward with their dredging plans due to the expensive, lengthy and bureaucratic procedures one must undertake to receive all the necessary permits. As waterfront specialist Neil Ross has put it, "Environmental regulatory constraints in some areas have severely curtailed maintenance dredging of existing marinas...To expand you may have to resort to 'midnight dredging,' or sell out for land development, or go out of business."[20]

Marina owners also point to the lack of an approved disposal site within close proximity to the mouth of the River as a critical cost obstacle which is a significant barrier to performing the necessary dredging. The major factor which has led to an accelerated schedule of maintenance dredging needs was the construction of the Gillis Memorial Bridge in the 1970's. Prior to construction of the bridge, maintenance dredging downriver was needed only every ten or more years. Construction of the bridge however, changed the direction of the flow of the Merrimack considerably in this area. Along with the change in flow, there is a problem on the southerly side of the River extending from the bridge to the City's central waterfront. A back eddy has been created by the bridge during an outgoing tide which has caused excessive siltation and has created a continual maintenance dredging problem for several facilities in this area.

The Harbor Commission polled the existing marinas to determine their immediate and long term dredging plans. These needs are outlined by facility as follows:

o Yankee Marine

Yankee Marine is in need of maintenance dredging in the

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20 Keeping Afloat Amidst the Gales of Regulation 1986, p. 15.

vicinity of its travel lift. At low or half tide, this marina cannot haul or launch some boats which use this service. The dredging area is approximately 100 feet by 100 feet to a depth of 2 to 3 feet or 1,111 cubic yards.

o Merri-Mar Yacht Basin

Merri-Mar is not in need of any maintenance dredging at this time. However, Merri-Mar would like to expand which would involve dredging an old embayment area approximately 200 feet by 210 feet to a depth of nine feet or 14,000 cubic yards.

o 3R Marina

3R is not in need of dredging at this time.

o City Boat Works

There are no dredging plans for this facility in the near future. There are plans, however, to connect two facilities with the construction of a bulkhead, and to reconfigure the float system.

o North End Boat Club

North End Boat Club needs maintenance dredging near its docks. The estimated area is 100 feet by 60 feet by 3 to 4 feet deep or approximately 670 cubic yards.

o River's Edge

Given that this is a new marina which is located west of the Route One Bridge, there should be no need for dredging in the near future.

o Tournament Wharf

This facility is not in need of any dredging at this time.

o Windward Yacht Yard

The Windward Yacht Yard needs maintenance dredging near its travel lift and around the service dock. There are areas near the dock that are totally submerged at low tide. The approximate area is 50 feet by 100 feet to a depth of 3 feet or approximately 560 cubic yards.

o Hilton's

The embayment area is in need of dredging in an area 150 feet by 100 feet to approximately 3 feet in depth or approximately 1,666 cubic yards.

o Potential Re-Use Areas

The area which extends from the American Yacht Club to the central waterfront is primarily devoted to non-water dependent uses with the exception of the U.S. Coast Guard Station, the Yacht Club and Tri-Coastal. In general, these areas will not need dredging should marine dependent uses locate there.

o Long Term Future Potential Re-Use Areas

There is a vast area east of the American Yacht Club (approximately 1000 to 1500 feet of waterfront), which if dredged, could create an entirely new area for marine complexes with nearly 50 acres of water area and ten acres for upland service.[21]

While such a project would not be expected to encroach on clamming areas, there is a vast amount of salt marsh which has located in this area over the past ten years.

o Total Private Dredging Needs

The private maintenance dredging needs total approximately 4,000 cubic yards of material (not including the American Yacht Club). The private dredging needs for expansion total 14,000 cubic yards. At this time, there are too many unknown factors to estimate the future potential dredging for new developments.

Public Dredging Needs

o The Outer Channel

The only public area of the Newburyport harbor which has been dredged in the past 25 years is the outer entrance channel, a designated federal channel.

The channel experiences shoaling. A study which involved the creation of a model of the dynamics of the Merrimack River to determine the means to reduce the need for triannual dredging was completed by the U. S. Army Corps of Engineers in the late 1970's. In summary, the analysis revealed that the most cost effective method was to continue the maintenance dredging of the channel. The study found that other structural changes to the channel were cost prohibitive and might not result in a reduced schedule of maintenance.

Dredging a deeper channel, realigning the jetties and changing the channel configuration were among the structural alternatives

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21 Massachusetts Department of Community Affairs Planning and Developing Small Harbor Areas.

which the model evaluated.

The U. S. Army Corps of Engineers concluded that the best program to ensure the safe navigation of the outer channel of the Merrimack River is to dredge the area once every three to five years.

The material which is dredged is a clean, coarse, silty sand. The various state and federal environmental agencies have imposed several conditions on the dredging operation over the years, most importantly, the approved dredging window which extends from November through March.

o The Merrimack River Project

The Merrimack River Project is presently being re-surveyed by the U. S. Army Corps of Engineers. While the outer channel of the Merrimack River continues to experience the need for maintenance dredging on a triannual basis, the Merrimack River channel has not been dredged since the early 1900's. Dredging of this area would provide a pleasant navigation channel upriver to Haverhill and would boost the tourist industry in communities which host unloading/off-loading facilities.

Should these areas be dredged, an analysis would have to be made to determine whether future shoaling would occur and how often maintenance dredging would need to occur. In addition, the costs and methods of disposing dredged material would have to be investigated.

o Plum Island Basin

Plum Island Basin could be dredged to accommodate additional moorings. The number of moorings presently in the Basin could be doubled however, without dredging.

In addition, the dredging of this Basin could have adverse effects on the flow of the Merrimack River and over time, could result in the breaching of Plum Island. As a result, no plans for dredging this area are recommended at this time.

o Public Use of Massachusetts Electric

If the City acquires the waterfront portion of the property in and around Mass Electric, the area may have to be dredged to some extent, but probably no more than a total of 1,500 cubic yards.

o Cashman Park

The Plan also calls for the long term potential to dredge in front of Cashman Park. If dredged, this area could be used for berthing of passenger boats and/or for the creation of a municipal

marina. Approximately 4,500 cubic yards of material would need to be dredged for an area 200 feet by 100 feet.

o Maudsley State Park

The state may need to dredge if water access to the Park by floats and ramps is desired.

o Central Waterfront Embayment Area

If this area is used for floats and skiffs only, dredging will not be necessary. If larger boats are to be berthed there, dredging will need to occur in the next few years for a total of approximately 1,000 cubic yards.

o Municipal/Commercial Fishing Facility

The City, with receipt of state grant funds, is now constructing the municipal/commercial fishing facility just east of the central waterfront. Part of this project involves the dredging of 4,800 cubic yards of material to create an embayment area for the fleet.

o Total Public Dredging Needs

The identified future municipal dredging needs total approximately 11,800 cubic yards of which only 4,800 have been targeted to occur by the end of 1989.

The maintenance dredging of the federal channel should amount to anywhere between 100,000 and 150,000 cubic yards every three to four years (Appendix 9).

Dredging Methods and Disposal Alternatives

o Small Scale Dredging

The various marinas in Newburyport have traditionally used a clam shell bucket to dredge their facilities. The dredged material would then be deposited on land and undergo a de-watering process. Upon completion of the de-watering process, the material would then be transported to the local landfill. For smaller projects, the clam shell dredge is still the preferred method for dredging.

o Federal Project Dredging

Dredging of the outer entrance channel of the River has historically been accomplished by a small class, self-propelled, government hopper dredge. The hopper dredge does not have to be anchored and as a result, is better suited to the swells and severe waves characteristic of this area.

Most hopper dredges and bucket dredges do not have a "pump

out" capability which precludes disposal of the material as beach nourishment. Some hopper dredges do have a pump out capability, but the U. S. Army Corps of Engineers has not used this system due to the additional costs incurred and the time required to pump out as opposed to discharging sand from the hoppers at sea. In a letter dated April 13, 1983, the U. S. Army Corps of Engineers stated to the National Marine Fisheries (NMF) Service, that should such an option become a reality, that the Corps policy requires that local interests -- in this case the City of Newburyport -- provide cost-sharing funds equal to the additional costs incurred to pump out the sand onto the beach.

The hopper dredge is still the preferred dredging method. The City agrees with many other agencies that funding provided, the dredge should have a pump out capability so that the material can be deposited onshore.

o Disposal Alternatives

The maintenance dredging activities at the outer channel of the Merrimack River have, since 1961, been deposited offshore, eastward of Plum Island (Map 14). From May, 1961 to May, 1981, 975,000 cubic yards were deposited in this location which is in a direct line with the mouth of the Merrimack River and in a dispersal zone. The state and federal reviewing agencies believe that the dredged material may be transported back to the channel as a result of the tides and currents at sea, in connection with this project. These agencies have contended that if the dredged material is migrating back into the channel, it may be advisable to move the disposal site eastward of the harbor entrance so that the major portion of the material can be dumped in waters deeper than 85 feet. This could lessen the possibility of channel-ward movement of dredge spoils.

Historically, material dredged from the entrance channel has been disposed of offshore in 70 to 90 feet of water. In 1983, the U. S. Army Corps of Engineers changed the location of the disposal site and disposed the 120,000 cubic yards of the dredged material by dumping in "windows" parallel to the northern 1 1/2 nautical miles of Plum Island Beach in depths of water varying from 18 to 30 feet at mean low water. Since 1977, the U. S. Department of the Interior, Fish and Wildlife Service, Ecological Services, has been on record recommending that the dredged material be used as beach nourishment. Beach nourishment is consistent with Massachusetts Coastal Zone Management (CZM) Policies.

In January of 1986, the U. S. Department of the Interior, Fish and Wildlife Service, again went on record stating that their preferred disposal site for dredged material is above the mean water line on either Salisbury or Plum Island Beaches. This disposal option would require changing the dredging dates to the November to March time period due to anadromous fish migrations.

Because little data on currents, near shore sediment motion or wave climate is available for Salisbury Beach, the U. S. Army Corps of Engineers disposed the dredged material offshore of Plum Island in 1987.

Dredge Disposal Recommendation

o Large Scale Dredging

The City agrees with the federal and state governments that a suitable site offshore on Salisbury Beach, north of the north jetty, should be evaluated for use as a disposal area. In addition, the state should consider providing a cost sharing with the federal government to deposit the sand onto both beaches under a beach nourishment program.

o Small Scale Dredging

An approved ocean disposal site either near shore or nearby offshore should be provided for the smaller marine enterprises to deposit maintenance dredged materials.

RESOURCE NEEDS/FISCAL PLAN

The following section outlines a five year Resource Needs/ Fiscal Plan based on the fiscal year beginning July 1, 1988 (Fiscal Year 1989). This is the most vital portion of the entire Harbor Management Plan. Through the initial implementation of this Plan, and continuous review and modification on an annual basis by the Harbor Commission, the goals and objectives will be able to be realized.

The actions are organized by year and by cost and non-cost activities. When the projects require funding, the costs and sources of funding are identified when known. Some actions (both cost and non-cost) will occur on a one time basis and others will occur annually.

The Harbor Commission will be the primary force in implementing this Plan. Many of the actions will require the Commission to petition other Boards and Commissions for legislative amendments, fiscal appropriations and the preparation of grant applications.

RECOMMENDED ACTION, COSTS, SOURCES OF FUNDING AND YEAR

Annual Non-Cost Action Items

1. Encourage appropriate local and state agencies to conduct investigatory studies to identify sources of pollution that affect the Merrimack River. (NR 1-1.1)

2. Based on the results of those studies, the Harbor Commission will advocate for the necessary corrective actions to be taken. It is expected that these actions will improve the water quality of the harbor. (NR 1-1.2)

3. The Harbor Commission will work with other local Boards and Commissions to develop a local system for monitoring compliance with conditions placed on environmental permits. This system will then be recommended to the City Council for adoption. (NR 1-1.3)

4. The Harbor Commission will seek to work with regional and state agencies to advocate the construction and proper operation of municipal and industrial sewage treatment plants. (NR 1-2.1)

5. The City should continue its program of monitoring the industrial wastes entering the Sewage Treatment plant. (NR 1-2.2)

6. In addition, direct waste discharges should be investigated and necessary corrective actions taken as needed. (NR 1-2.3)

7. Through this effort, it is anticipated that the water quality of the Merrimack River will be enhanced and improved. (NR 1-2.4)

8. The Harbor Commission will support periodic monitoring by the state's Department of Public Health and Division of Marine Fisheries to sample and test the quality of the fish and shellfish in the Merrimack River harbor area. (NR 1-3.1)

9. The Merrimack River Basin provides an ideal habitat for hundreds of species of fish and fowl. Over time, the natural state of the area has been degraded by land use policies, industrial development and modern-day contaminants. The Harbor Commission will seek to preserve the remaining natural areas and to protect from further misuse, those areas which have experienced encroachment. (NR 1-4.1)

10. Future development which protects existing marine dependent use will continue to be promoted. Development projects will be reviewed with regard to their impact on existing and future marine use. Existing land use controls will be

modified as appropriate to impose view corridors, height restrictions, public access and parking. A limited number of non-marine dependent uses of the waterfront will be encouraged when it is necessary to support the development of marine dependent uses such as boatyards or public access. (LU 1-1.1)

11. The U.S. Coast Guard Station, the Shellfish Purification Plant and Tri-Coastal Co-op are essential to provide safety for the general boating public and to maintain the commercial fishing and shellfishing industries. They will be encouraged to expand in the City of Newburyport. (LU 1-3.1)

12. Uses which are not compatible with the waterfront will be encouraged to be moved to other, more suitable locations. (LU 1-6.1)

13. Abandoned structures will be reviewed for possible transformation into water dependent/marine related facilities. (LU 1-6.2)

14. Continue to work with the state and federal governments in securing the proper and cost effective disposal of the channel dredged material. (N 1-1.2)

15. On an annual basis, the City should continue to work with the U.S. Coast Guard to ensure the marking of the navigable channel. (N 1-3.1)

16. Work with the U.S. Coast Guard to continue to ensure safety of the water with the installation of aids to navigation. (N 1-3.2)

17. Encourage all new marina facilities or expansions at existing facilities to design their ramp/float system so that parallel access along the River for passive boaters is provided. (RB 1-2.2)

18. The development of marine recreational facilities including holding tank pump out equipment will be encouraged. (RB 1-2.3)

19. Determine future service needs for the commercial fishing industry and secure funds for their development. Identify funding for buildings, ice facilities and new land area if the need arises in the future. (CM 1-1.2)

20. Encourage the development and expansion of the private sector co-op concept. (CM 1-1.6)

21. Provide City assistance to the commercial fishing industry by preparing permit applications and financing paperwork. Support legislation on all levels that helps promote or fund commercial fishing efforts. (CM 1-1.7)

22. The future development of a public passenger boat facility with adequate parking and other services will be encouraged. (CM 2-1.1)

23. The City should be encouraged to assume an advocacy role to support the expansion or development of sound marina proposals. (CM 3-1.1)

24. Support mixed use developments which incorporate marine dependent uses. (CM 3-1.2)

25. Investigate the possibility of promoting off-site parking for the entire waterfront area with a seasonal shuttle service. (CM 3-1.3)

26. Help promote the installation and upgrading of environmentally sound fueling facilities. Make available the appropriate regulations issued by the State Fire Marshal's Office for marina developers. (CM 3-1.4)

27. The City should work towards introducing legislation which would help eliminate environmental absolutes when such regulations prove so restrictive that a marine dependent use is prohibited. (CM 3-4.1)

28. The Harbor Commission will work with local, regional, state and federal agencies to develop a plan for improving the water quality of the River and identify those problems which can realistically be addressed. (CM 4-1.1)

29. Encourage the City, through its Department of Public Works, to establish a program for maintenance and management of public parks and facilities such as Waterfront Park and Cashman Park. (A 1-1.1)

30. Evaluate the potential and develop a plan for re-use of existing public areas to enhance their marine use. (A 1-2.1)

31. The City will seek to collaborate with the state's Department of Environmental Management which controls Maudsley State Park and the Trustees of Moseley Pines to increase and enhance water related uses. (A 1-2.4)

32. The passive recreational use of the Parker River National Wildlife Refuge will continue to be encouraged and the Harbor Commission will investigate the joint use of the proposed headquarters for the National Wildlife Refuge near Rolfes Lane. (A 1-2.5)

33. The provision of public access in any new development or redevelopment plans along the waterfront will be encouraged with pedestrian walkways to and from the street and waterfront. (A 2-1.1)

34. The Harbor Commission will work with various public agencies to develop and distribute as appropriate, general information and educational pamphlets to the public. These brochures will include information on "laws of the waterways," use of the facilities such as at the Parker River National Wildlife Refuge and publicly owned facilities, and other environmental and/or conservation oriented material to help educate the public. (PA 1-1.1)

Annual Cost Action Items

1. On an annual basis, the City's Harbormaster, with the cooperation of the local fishing and passenger boat industries, will perform an annual monitoring of the depth of the River and make a request to the U.S. Army Corps of Engineers for dredging assistance. (N 1-1.1)

2. Include an annual line item in the Harbormaster's budget for landscaping, trash containers and street furniture. (A 1-1.2)

Fiscal Year 1989 Non-Cost Action Items

1. One comprehensive set of harbor regulations will be developed for the various use areas including general regulations and special use areas; mooring regulations, Cashman Park, the central docks and the municipal/commercial fishing facility. (HM 1-2.1)

2. Develop and recommend adoption of regulations by ordinance to the City Council. (HM 1-2.2)

3. Request the City Council to designate the Harbormaster department, under the auspices of the Harbor Commission, with management responsibility for the general harbor, moorings, municipal/commercial fishing facility, central docks and Cashman Park. (HM 1-2.3)

4. Draft an ordinance for submission to the City Council which would require the deposit of all fees collected into the Waterways Account. Retain two separate accounts, one for the Cashman Park ramp (which already exists) and one for all other sources of income. (HM 2-1.1)

5. The City Council has approved a fee schedule for moorings, slips and launches at Cashman Park. (HM 2-2.1)

6. The City Council has been requested to approve dock fees for the central waterfront area. (HM 2-2.2)

7. As a result of these actions, a fee structure and management collection process is now being fully developed. (HM 2-2.4)

8. The Harbor Commission will contact area legislators to recommend their support for passage of House Bill 2150, which will provide necessary conservation officers to coastal communities. (NR 1-5.1)

9. Designate areas on the Land Use Map which would allocate land to assure adequate shoreside facilities for various water dependent activities. (LU 1-2.1)

10. Designate a local 200 foot wide navigable channel which extends through the entire corporate limits of the City. (N 1-5.1)

11. Designate a 100 foot wide fairway running parallel with the shoreline extending from the Gillis Bridge to the American Yacht Club. The fairway would be 100 feet wide and would be located on the channel side of existing marinas. In the vicinity of Hilton's and Michael's Harborside, the fairway would narrow to seventy five feet between the outside floats and the mooring areas. A seventy five foot turning area

would also be maintained in front of Michael's Harborside. (N 1-5.2)

12. Designate two fairways to provide access/egress from the channel as follows: One 400 foot wide fairway in front of the U.S. Coast Guard Station and a portion of the Mass Electric property and one 200 foot wide fairway at an angle in front of the Custom House Maritime Museum and municipal/ commercial fishing facility. (N 1-5.3)

13. Regulations which require specific setbacks between all new structures and any designated channel, turning basin, fairway, mooring or anchorage area will be established. (N 1-6.1)

14. Various use areas for different users such as wind surfers, dinghy docks, clam flats, etc., will be designated on the Water Use Map. (RB 1-3.1)

15. The future possibility of using Cashman Park by commercial haulers should be investigated including an analysis of adequate fees. (CM 1-1.4)

16. Support the "Boatyard Preservation Act" and similar legislation which protect and enhance marine dependent facilities. The City should continue to support this and other bills to protect marine dependent uses. The City should also encourage realistic funding for their implementation. (CM 3-4.2)

Fiscal Year 1989 Cost Action Items

1. A set of emergency procedures (with telephone numbers, agencies responsible and contact persons according to the type of emergency) will be developed and periodically updated by the Harbor Commission. These procedures will be widely promulgated. (HM 1-3.1)

2. Ensure the continued installation of a private aid to navigation at the dike near the entrance to the Plum Island River. (N 1-3.4)

3. Install a buoy at the entrance to the Plum Island River and install a no wake sign in the Basin near the dike. (N 1-4.2)

4. Install a dinghy dock facility at the central waterfront. With the installation of three (25 foot by 8 foot) floats, approximately twenty skiffs could be accommodated in this area. Seasonal spaces could be rented for a fee. (RB 1-1.2)

5. The Harbor Commission will work toward helping to ensure the timely completion of the municipal/commercial fishing facility. (CM 1-1.1)

PROPOSED BUDGET PLAN FOR FISCAL YEAR 1989

Action Items	Total Cost	State	Federal	City
Monitor Outer Channel	500.			500.
Landscaping/Furniture	1,000.			1,000.
Emergency Procedures/ Signs	500.			500.
No Wake Signs/Buoys	1,000.			1,000.
Docks Central Waterfront	20,000.			20,000.
Municipal/ Commercial Fishing Facility	1,500,000.	1,500,000.	-	-
TOTAL	**1,523,000.**	**1,500,000.**	**-**	**23,000.**

Fiscal Year 1990 Non-Cost Action Items

1. Request the City Council to amend city ordinances to require that the Harbor Commission is informed of proposed activities including development projects relating to the waterfront. (HM 1-1.1)

2. Develop an annual capital improvement program for the public waterfront facilities. (HM 2-1.2)

3. A public hearing has been held with representatives of the commercial fishing industry to gain their input in the establishment of regulations and fees for the municipal/commercial fishing facility. (HM 2-2.3)

4. An area/facility will be provided to ensure the safe winter storage of the central waterfront floats. (HM 3-1.3)

5. Continue to work toward alternative methods of construction to ensure the installation of an entrance light at the Merrimack River north jetty. (N 1-3.3)

6. Identify alternative locations for the future construction of launch ramps for skiffs and associated parking areas to access the moorings in the central waterfront and at Plum Island. (RB 1-2.1)

7. Identify alternative locations for ramp/float/parking areas for windsurfers. (RB 1-3.2)

8. Designate a future tie-up area for repairs to commercial vessels. (CM 1-1.3)

9. Evaluate the feasibility of boat storage off-site and encourage private enterprise to develop off-site boat storage. Encourage the City Council to amend the new zoning ordinance to include boat storage in the industrial district. (CM 3-3.1)

10. The Harbor Commission will work towards constructing a boat ramp area on Plum Island or along the Turnpike for use by commercial clam diggers and small recreational boats. The City should work with the town of Newbury to fund a boat ramp facility near the off-ramp adjacent to the Wilkinson Bridge at the Plum Island Turnpike. A second alternative is to investigate the possibility of a ramp at Plum Island Point. (CM 4-2.1)

11. The feasibility of creating a land bank to acquire land, development rights and/or conservation easements along the River will be investigated. (A 3-4.1)

Fiscal Year 1990 Cost Action Items

1. Advocate and support funding of the Harbormaster's budget for the protection of the boating public. (HM 2-1.3)

2. A Harbormaster's office/storage area will be constructed on the waterfront. (HM 3-1.2)

3. A collaborative arrangement with state and federal agencies will be developed for assistance in identifying and mapping jurisdictional areas such as previously filled tidelands and harbor lines; and re-identifying historic public ways to the waterfront. (LU 1-5.1)

4. A plan will be developed to re-designate the federal channel so that it will align with the actual navigable channel. (N 1-2.1)

5. Recommend that the City petition the United States Congress to abandon a portion of the federal turning basin running parallel with the shore from the central waterfront eastward to the American Yacht Club. Develop plan requirements and other criteria for persons wishing to place structures in this area. (N 1-2.2)

6. The City has adopted the revised harbor regulations which provide more stringent guidelines on speed and wake than that which heretofore existed. (N 1-4.1)

7. Accurate base maps for the federal channel, mooring areas, shellfish beds, etc., will be acquired. (N 1-7.1)

8. Maps should include the following information: the federal channel and anchorage area/turning basin, the local navigable channel and fairways, mooring grids, shellfish beds, barrier beaches, floodplain (Federal Emergency Management Act) and historic harbor lines where known. (N 1-7.2)

9. Other maps which should be included in the Plan are the Water Use Map (a reduction of the existing map with the addition of local use areas including transient, passenger boat and commercial fishing, mooring/docking and berthing), the Land Use Map indicating the continuous riverwalk and scenic overlooks, public land, etc. (N 1-7.3)

10. The Harbormaster will continue to refine the current system of allocating moorage and dockage space for the public. The Harbormaster should investigate the need for transient/guest moorings for visiting boaters and develop a plan to accommodate this need. (RB 1-1.1)

11. Continue to work with the state to ensure the completion of

the new boat launch ramp facility at Cashman Park. (RB 1-4.1)

12. A holding tank pump out station at the municipal/commercial fishing facility will be investigated and installed if appropriate. (CM 3-2.1)

13. Designate areas on the Harbor Map where scenic views are important and develop strategies to preserve them. (A 3-1.1)

14. Conduct a study to investigate, map and regain historic ways to the waterfront where feasible. (A 3-3.1)

PROPOSED BUDGET PLAN FOR FISCAL YEAR 1990

Action Items	Total Cost	State	Federal	City
Monitor Outer Channel	500.			500.
Landsceping/Furniture	1,000.			1,000.
Expand Harbormaster Budget				
A. F/T Harbormaster (1/2 Year)	12,500.			12,500.
B. P/T Dock/Ramp Help	15,000.			15,000.
C. Stickers/Supplies	3,000.			3,000.
D. Communication Equipment	1,000.			1,000.
Harbormaster Office/ Storage	5,000.			5,000.
Identify/Map Original Harbor Lines	7,000.	7,000.		
Prepare Base Map of Harbor	3,200.	3,200.		
Edit/Publish Maps Harbor Plan	2,000.	2,000.		
Cashman Park Launch Ramp	250,000.	250,000.		
Guest Moorings	500.			500.
Pump Out Station	2,500.	2,500.		
Study Recreational Future Use of Central Water-front to Sea-wall	13,760.	13,760.		
Map/Research Public Ways	5,000.	5,000.		
TOTAL	**321,960.**	**283,460.**	**-**	**38,500.**

Fiscal Year 1991 Non-Cost Action Items

1. Determine the feasibility of the City acquiring an easement from Mass Electric for the purpose of creating a launch ramp in the bulkhead or public berthing and associated parking at their property on the waterfront. (RB 1-2.4)

Fiscal Year 1991 Cost Action Items

1. Public restrooms and drinking fountains will be constructed and installed at major public use areas on the harbor. (HM 3-1.1)

2. Install sewer lines where necessary to construct restrooms at publicly owned areas. (LU 1-4.1)

3. Install a new twelve inch water service loop between the central waterfront and the vicinity of the Atkinson Lumber Company to by-pass the existing six inch service in Water Street. (LU 1-4.2)

4. Continue to support the Sewer Commission in its efforts to secure Environmental Protection Agency funding to correct existing deficiencies in some of the streets (the downhill side of Merrimac Street). (LU 1-4.3)

5. The future feasibility of providing a cooling facility to hold the commercial catch for transporting at a later date (refrigerated area for holding after boxed) should be explored. (CM 1-1.5)

6. Allow passenger boat operations to utilize an area of the new municipal/commercial fishing facility on a trial basis. Use should be restricted to loading and unloading of passengers only, with no long term tie-up allowed. All users should be required to carry liability insurance. A system for the pre-approval of qualifications of captains and boats should be developed. Fees for the facility should be similar to the commercial fishing fees with an allowance for "seasonal use" reduction. (CM 2-1.2)

7. Evaluate and review possible dredging at Cashman Park to provide a facility for passenger boats. (CM 2-1.4)

8. Continue to support the City's efforts to secure funds for the facility improvements at Cashman Park including marine facilities, stabilization of the shoreline with riprap and a boardwalk/walkway. Lighting should also be installed along with public restrooms and drinking fountains. (A 1-2.2)

9. Adequate parking and sanitary facilities for harbor area users will be provided at the central waterfront. (A 1-2.3)

10. Create an annual capital expenditure program for developing walkways, fish piers and river outlooks including walkways to and from the street and waterfront. (A 3-1.2)

PROPOSED BUDGET PLAN FOR FISCAL YEAR 1991

Action Items	Total Cost	State	Federal	City
Monitor Outer Channel	500.			500.
Landscaping/Furniture	1,000.			1,000.
Public Restrooms Central Waterfront	20,000.			20,000.
Sewer/Water Lines Central Waterfront	120,000.			120,000.
Expand Sewage System Riverfront	372,000.	334,890.		37,110.
Cooling Facilities/ Fish Holding	3,000.	1,500.		1,500.
Floats/Passenger Boats	11,000.			11,000.
Evaluate Dredging Cashman Park	12,000.	6,000.		6,000.
Cashman Park Improvements	270,000.	270,000.		
Parking/Sanitary Facilities Central Waterfront	75,000.	75,000.		
Walkways/Fish Piers/ River Overlooks	15,000.	15,000.		
TOTAL	**899,500.**	**702,390.**	**-**	**197,110.**

Fiscal Year 1992 Non-Cost Action Items

1. Evaluate the potential to use the B&M Railroad Right of Way behind Tiger Marine on Water Street for public uses such as parking and sailboard launchings. (A 3-2.1)

Fiscal Year 1992 Cost Action Items

1. Install a float adjacent to the existing pier at Cashman Park to allow recreational boats to load and unload passengers and locate a dinghy dock in this area. (RB 1-4.2)

2. Install restroom facilities (or repair existing) at Cashman Park. (RB 1-4.3)

3. Encourage increased use of the public lands between Plum Island Point and the south jetty on Plum Island by various associations for activities such as kite flying and other passive activities throughout the year and during festivals such as Yankee Homecoming Week. Study and make necessary repairs and improvements to the parking lot at Plum Island Point. (A 1-3.1)

4. Prepare an improvement program for the public property adjacent to and including the seawall on Water Street which would include such items as landscaping, street furniture, alternative parking design and installation of informative plaques and river overlooks. (A 3-1.3)

5. Investigate the ownership of the small land parcels extending from Simmons Beach to Sportsman's Lodge. Trails for birdwatching, strolling and parking and/or pull-over spaces for viewing from autos should be constructed in this area. Maintenance efforts should be initiated to cut and clear brush. (A 3-1.4)

PROPOSED BUDGET PLAN FOR FISCAL YEAR 1992

Action Items	Total Cost	State	Federal	City
Monitor Outer Channel	500.			500.
Landscaping/Furniture	1,000.			1,000.
Floats at Cashman Park	11,000.			11,000.
Public Restrooms Cashman Park	20,000.			20,000.
Parking Lot Repair Plum Island	37,000.			37,000.
Improve Seawall Area	40,000.	20,000.		20,000.
Simmon's Beach to Sportsman's Lodge	10,000.	5,000.		5,000.
TOTAL	**119,500.**	**25,000.**	**-**	**94,500.**

Fiscal Year 1993 Non-Cost Action Items

1. Arrive at a joint use agreement with the U.S. Park Service for a designated parking area for sailboarders at the proposed new Parker River National Wildlife Refuge Headquarters near Rolfes Lane. (RB 1-3.2)

Fiscal Year 1993 Cost Action Items

1. Request the U.S. Army Corps of Engineers to dredge the harbor entrance and the large spit area which has formed near the south jetty. (N 1-1.3)

2. The City of Newburyport should work with other communities to encourage the state or federal government to conduct a feasibility study of dredging upriver to Haverhill. (CM 2-1.3)

3. The City should begin efforts to acquire any B&M Railroad Rights of Way which are no longer in use and dedicate these areas for access. (A 3-2.2)

PROPOSED BUDGET PLAN FOR FISCAL YEAR 1993

Action Items	Total Cost	State	Federal	City
Monitor Outer Channel	500.			500.
Landscaping/Furniture	1,000.			1,000.
Dredge Harbor Entrance and Spit	300,000.		300,000.	
Evaluate Dredging to Haverhill	40,000.	20,000.	20,000.	
Acquire B&M Railroad Rights of Way	?	?	?	?
TOTAL	**341,500.**	**20,000.**	**320,000.**	**1,500.**

APPENDICES

Supplemental Narrative Materials
Maps
Bibliography

SUPPLEMENTAL NARRATIVE MATERIALS

Appendix 1: Jurisdictions

Appendix 2: Harbor Regulations

Appendix 3: Mooring, Slip and Launch Fees

Appendix 4: Central Waterfront Fees

Appendix 5: Annual Yields, Merrimack River Clam Flats

Appendix 6: Point and Non-Point Pollution Sources, 1964

Appendix 7: Species of Flora, Merrimack River Estuary

Appendix 8: Transfer of Floats

Appendix 9: Maintenance Dredging

Appendix 1

JURISDICTIONS

Several federal, state and local agencies have jurisdiction over various activities in, on and adjacent to the harbor. These authorities perform different, but often overlapping functions in the regulation of harbor activities. The key authorities with administrative control or interest in Newburyport's harbor include:

Federal

U.S. Army Corps of Engineers
U.S. Coast Guard

State

Executive Office of Environmental Affairs
- Department of Environmental Management
  - Division of Marine and Recreational Vehicles
  - Division of Marine Fisheries
  - Massachusetts Office of Coastal Zone Management
  - Public Access Board

Department of Environmental Quality Engineering
- Division of Water Pollution Control
- Division of Waterways
- Division of Wetlands

Municipal

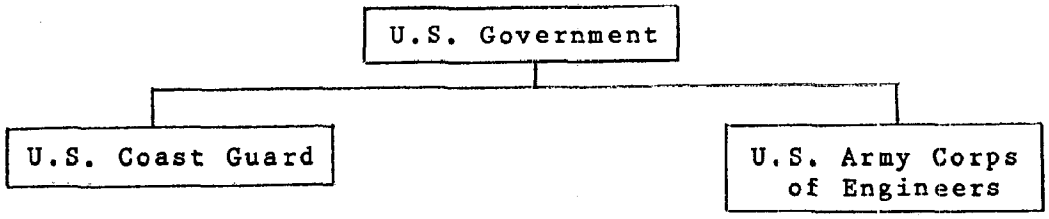
- Board of Health
- City Council
- Conservation Commission
- Fire Department
- Harbor Commission
- Harbormaster
- Planning Board
- Police Department
- Redevelopment Authority
- Sewer Commission
- Shellfish Warden
- Water Commission
- Zoning Board of Appeals

The flow charts on the following pages illustrate these various jurisdictional agencies.

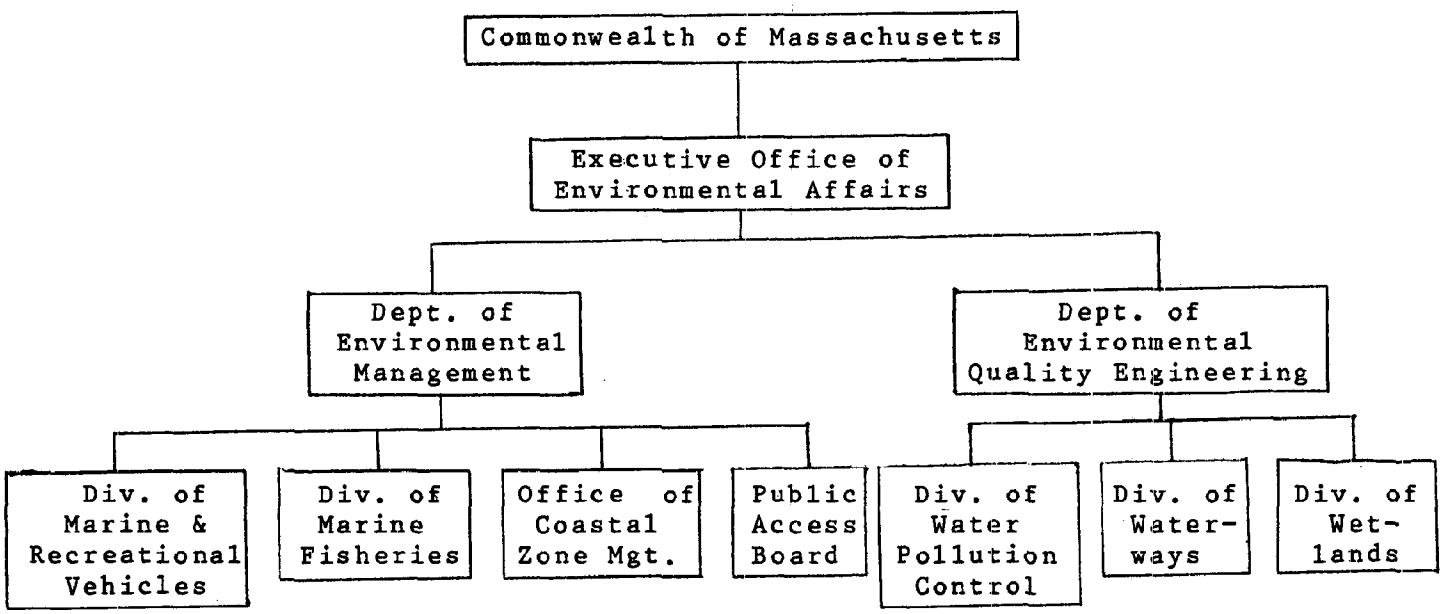
Appendix 1, continued

GOVERNMENTAL AGENCIES WITH REGULATORY AND ADVISORY AUTHORITY IN NEWBURYPORT'S HARBOR

Federal

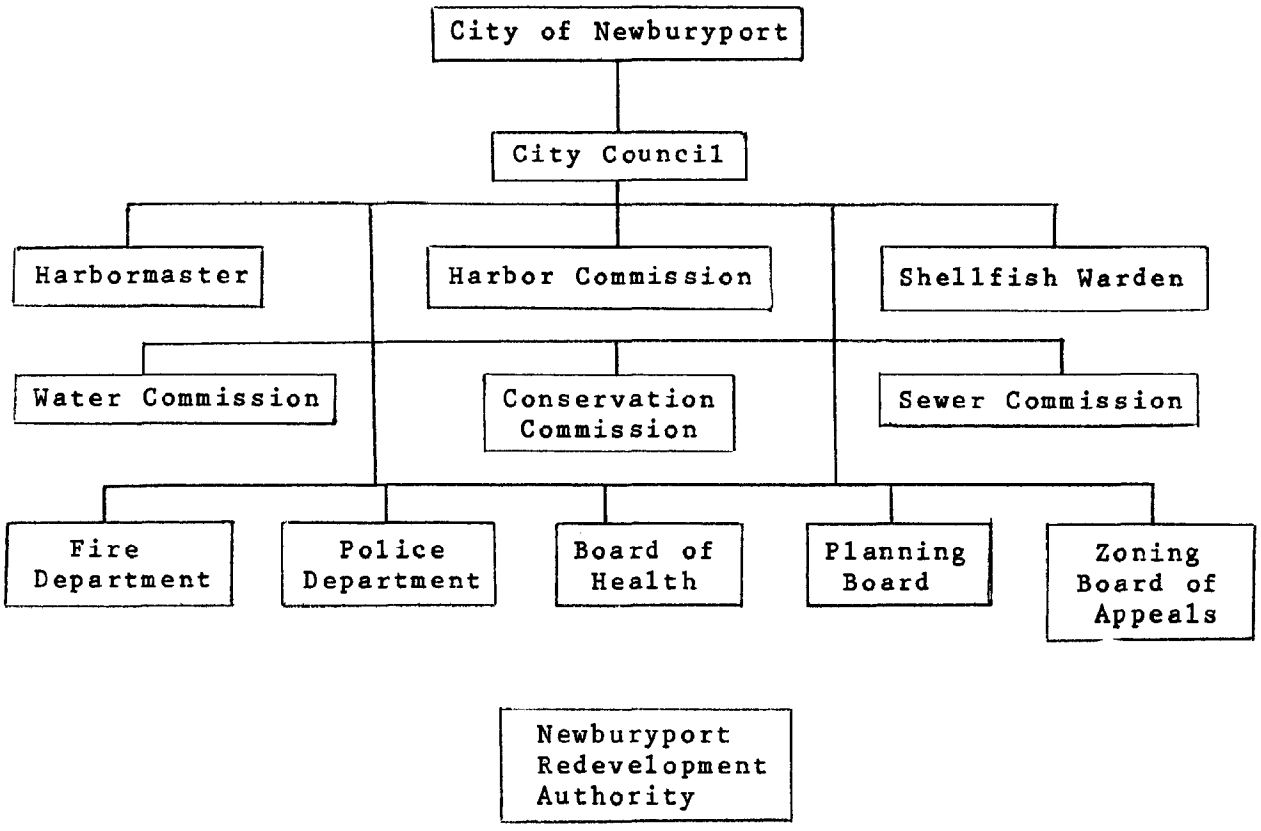


State



Appendix 1, continued

Municipal



Appendix 1, continued

FEDERAL GOVERNMENTAL AGENCIES

United States Army Corps of Engineers

Under Section 404 of the Clean Water Act as amended, a permit is required from the U.S. Army Corps of Engineers for the placement of dredged or fill material in waters of the United States. In addition, under Section 10 of the Rivers and Harbor Act of 1899, Army Corps authorization is required for the placement of structures in navigable waterways.

The landward limit of jurisdiction in tidal waters, in the absence of adjacent wetlands, is the high tide line and the landward limit of jurisdiction of all other waters, in the absence of adjacent wetlands, is the ordinary high water mark.

Types of Permits

There are three basic permits issued by this office.

Nationwide Permit

This permit is "automatically granted" without the approval of the Harbormaster for such things as individual moorings which are not for sale or rent and not part of a larger commercial facility. A Nationwide Permit will not be granted if a structure interferes with navigation in any way.

General Permit

This permit is issued for such things as commercial moorings used in conjunction with a waterfront facility (boat repair yard, marine supplies). These moorings cannot be rented or sold and must be associated with a permanent facility. Permits are subject to Harbormaster approval.

Individual Permit

This permit is issued for larger scale developments including commercial moorings for sale or rent and marinas and slips for sale or rent. A Chapter 404 permit cannot be issued by the U.S. Army Corps of Engineers if a state or local permit has been denied. Under this permit, the U.S. Army Corps of Engineers requests input from state and federal agencies including the EPA, U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

Appendix 1, continued

Grandfather Clause

Structures existing before 1968 are "grandfathered" as long as there is no change in use and as long as the use does not interfere with navigation and is not in a Federal project.

Additionally, because the Merrimack River contains a federal channel, the U.S. Army Corps of Engineers has additional regulations which are imposed.

1. The U.S. Army Corps of Engineers will use a locally adopted Harbor Management Plan as a guide in determining the appropriateness of a particular project.

2. Marinas or structures supporting slips or piers which provide docking/mooring space in the channel must allow the general public to apply and register for docking and mooring space.

   A. Waiting lists for such space must be available to the Newburyport Harbormaster.

   B. Docking/mooring space must be provided for transient vessels.

3. Facilities located in the channel cannot operate at a profit.

4. Facilities must provide equitable parking for vehicles and trailers.

United States Coast Guard

The Coast Guard is concerned with the general safety of the boating public and with navigational safety. This is accomplished primarily though the placement and maintenance of aids to navigation buoys and channel markers.

COMMONWEALTH OF MASSACHUSETTS

Massachusetts Department of Environmental Management

The Massachusetts Department of Environmental Management administers the Massachusetts Environmental Policy Act (MEPA) and requires the filing of an Environmental Notification Form for projects which exceed certain thresholds. Refer to CMR 310.

Appendix 1, continued

Division of Marine and Recreational Vehicles

This Division is principally concerned with rules and regulations for boaters to ensure the safety of the boating public.

Division of Marine Fisheries

- Regulates fishing and shellfishing industries.
- Conducts sanitary surveys of various harbor waters.
- Operates Shellfish Purification Plants.
- May require dredging "windows" as part of a project.

Massachusetts Office of Coastal Zone Management

The Massachusetts Coastal Zone Management Office provides public access assistance to communities through several programs. Specifically, MCZM has undertaken to:

- publish a series of access guides to the coast,
- inventory and map coastal resources including recreational areas,
- provide technical assistance in drafting model easements or planning bylaws for public access,
- consult with local planners and developers to assure that coastal projects adhere to the MCZM plan, including public access objectives,
- provide funds for public access improvement through the Coastal Facilities Improvement Program (CFIP), and
- provide a Harbor Planning Grant Program.

Public Access Board

Part of the Department of Fisheries, Wildlife and Recreational Vehicles, since 1962 the Public Access Board (PAB) has funded the construction of some 14 coastal, 9 river and 30 Great Pond facilities for boat launching purposes. While these facilities remain in state ownership, frequently a management agreement is executed between the PAB and the municipality for the operation and maintenance of the facility. These management agreements allow for revenues generated to be used for the upkeep of the facility. All facilities funded by the PAB must be available for public use on a non-discriminatory basis. The PAB may also provide funds for acquisition

Appendix 1, continued

of public rights of way, construction of parking areas, and for the construction of public trails and walkways to the shore.

Department of Environmental Quality Engineering

Division of Water Pollution Control

When a project in the harbor involves dredging, dredged material disposal and/or filling projects in waters of the Commonwealth, a water quality certificate must be secured from the Division of Water Pollution Control. The intent is to encompass dredging projects in the waters or wetlands area of the Commonwealth which are also subject to the jurisdiction of a federal agency under Section 401 of the Water Pollution Control Act of the Department of Environmental Quality Engineering, under Chapter 91, Waterways or MGL Chapter 131, Wetlands.

Relation to Section 401 Federal Water Pollution Control Act

Section 401 requires that an applicant must provide the U.S. Army Corps of Engineers with a certification from the state's water pollution control agency that the proposed discharge of fill will not violate applicable federal or state discharge limitations or water quality standards. Thus, such federally licensed projects require a Section 401 certification by the Division of Water Pollution Control.

Division of Waterways

The Division of Waterways administers Chapter 91 of Massachusetts General Laws (MGL) which governs licenses on tidelands owned by the Commonwealth of Massachusetts. The Commonwealth tidelands are defined as areas seaward of the historic, extreme low water line. Both water dependent and non-water dependent uses are regulated by the Division. This law protects the publics' common rights in tidelands, great ponds and certain rivers and streams.

Changes in the use of structures in the Commonwealth tidelands or any alterations or fillings will require a new license for the proposed use. All license requests are subject to a local zoning test. The municipal clerk of a city/town must certify that the proposed use is allowed by zoning. The local Planning Board must receive a copy of the application and may hold a public hearing to determine the appropriateness of the project in terms of public use and benefit.

Division of Wetlands

The Division of Wetlands enforces the regulations of MGL Chapter 131, the Wetlands Protection Act, when a proposed development

Appendix 1, continued

project results in any activity that involves filling, dredging, removing or otherwise altering any coastal wetland, coastal dune, tidal flat, coastal bank, land subject to coastal storm damage or tidal action. A Notice of Intent must be filed with the local Conservation Commission with a copy to the Department of Environmental Quality Engineering, Division of Wetlands.

The Division of Wetlands may issue a Superseding Order of Conditions if a local Conservation Commission's decision is appealed.

Appendix 2

CITY OF NEWBURYPORT

IN CITY COUNCIL

ORDERED February 13, 1989

An Ordinance Entitled an Ordinance to Amend an Ordinance Entitled "Boats, Docks, and Waterways."

Be it ordained by the City Council of the City of Newburyport as follows:

Chapter 5, Boats, Docks, and Waterways of the Revised Code of Ordinances of the City of Newburyport is hereby amended by striking out Chapter 5, Sections 1 and 2, in their entirety and inserting in place thereof the following new sections:

Section 5-3, Harbor Commission, of the Revised Code of Ordinances of the City of Newburyport shall now be known as Section 5-8, Harbor Commission.

(Please see Page 2. for the remainder of the ordinance)

In City Council, February 13, 1989:

Councillor Bell moved, seconded by Councillor Pramberg to approve. On roll call, 9 yes, 2 absent (Harnch,Leary). Ordinance approved first reading and ordered published.

Attest: Michael J. Sullivan
Michael J. Sullivan,City Clerk

In City Council, February 27, 1989:

Councillor Gurczak moved, seconded by Councillor Bell to table. So voted.

Attest: Michael J. Sullivan
Michael J. Sullivan,City Clerk

In City Council, March 13, 1989:

Councillor Gurczak moved, seconded by Councillor Hawrylciw to take from the table. So voted.

Councillor Gurczak moved, seconded by Councillor Pramberg to amend the ordinance by submitting the attached amendments: (see four typewritten sheets).

Amendments adopted by voice vote.

Councillor Welch moved, seconded by Councillor Hawrylciw to approve. On roll call, 10 yes, 1 absent (Leary). Ordinance approved second and final reading and ordered published.

Attest: Michael J. Sullivan
Michael J. Sullivan,City Clerk

Approved: March 14, 1989

Edward G. Molin
Edward G. Molin,Mayor

CITY OF NEWBURYPORT HARBOR REGULATIONS

GENERAL HARBOR REGULATIONS FOR THE CITY OF NEWBURYPORT

AN ORDINANCE ENTITLED AN ORDINANCE TO AMEND NEWBURYPORT CITY ORDINANCE, CHAPTER 5"

Be it ordained by the City Council of the City of Newburyport that Newburyport City Ordinance, Chapter 5.

5-1. PURPOSE

A. It is the intent of these regulations to establish regulations for marine activities within harbors, waterways and tidal waters of the City of Newburyport in order to ensure safety to persons and property, to promote availability and use of a valuable, public resource, and to provide for safe navigation.

B. Regulations governing the safe operation of vessels in the Harbor and regulations protecting the environment are also contained herein.

C. These regulations apply in all parts of Newburyport Harbor which are under the jurisdiction of the Newburyport Harbormaster as defined M.G.L. Ch. 90B and in Sec. 5-3 A. below.

D. The regulations promulgated herein are in addition to the requirements of state and federal law.

5-2 DEFINITIONS

A. Newburyport Harbor shall be all tidal waters under the jurisdiction of the Newburyport Harbormaster and lying within the corporate boundaries of the City of Newburyport.

B. Length Overall (LOA): The length of a vessel inclusive of bowsprits, booms and boomkins, pulpist, swim platforms, engines or extensions.

C. Mooring: Shall mean any structure or apparatus including floats and rafts held by anchors or bottom moorings.

D. Commercial Mooring: Shall mean any mooring placed in the Newburyport Waters for which a rental or service fee may be charged.

E. Individual Mooring: Shall mean any mooring placed in Newburyport waters for the owners private use.

F. Person: Shall include individuals, corporations, clubs, associations, partnerships, including their agents.

G. Vessel: Shall include any ship, boat, or any other type of watercraft including personal watercraft being used as a means of transportation on the water and other floating structures such as barges and rafts.

H. Operator: Shall mean any person engaged in the operation, and navigation of a vessel.

I. Harbormaster: Shall be considered to be the Harbormaster, Assistant Harbormaster or any authorized agent.

J. Navigable Channel: That area of water in the Merrimack River buoyed by the U.S. Coast Guard.

K. Channel: See navigable channel.

L. Fairway: Locally designated channels shown on the official Newburyport Harbor map as adopted by the Harbor Commission and City Council.

5-3 OPERATION OF VESSELS IN NEWBURYPORT HARBOR

A. Speed

It shall be unlawful to operate or suffer or permit the operation of any motor boat or other vessel propelled by machinery at a speed exceeding five (5) miles per hour and no disturbing wake shall be made in any waters of the Merrimack River lying within city limits.

B. Wake and Speed

Notwithstanding the speed limit established in paragraph A above, no vessel shall create a wake or operate at a speed which endangers life, safety or property of any person in Newburyport Harbor. In narrow channels, designated mooring areas, or where posted, the speed of all vessels shall be reduced to the minimum speed required for safe steerage of the vessel.

C. Unlawful Pollution and Discharges

No oil, petroleum products, untreated sewage, rubbish, debris garbage shall be disposed of within Newburyport Harbor. No cleaning of fish is permitted on City facilities except where designated by the Harbormaster.

D. Windsurfing, Waterskiing and Jetskiing

1. Winsurfers and waterskiers are not to operate in the navigable channel of the river or in mooring ares from the Ice Breaker to West of Carr Island.

2. Personal watercraft may operate in the channel or in mooring areas at a speed not to exceed 12 mph. Operators of personal watercraft must be in a seated or kneeling position and must proceed in a direct route without swithing back and forth in the channel.

3. If a Windsurfer or Waterskier is obliged to cross the marked channel he shall do so at right angles and with due care to the traffic flow in the marked channel so as not to create a hazard to river traffic.

E. Operation of Vessels

1. No person shall operate a vessel in Newburyport Harbor so as to endanger the lives, safety or property or others.

2. No person shall operate a vessel in Newburyport Harbor while under the influence of intoxicating liquors or drugs.

3. No person shall operate a vessel in a mooring area or within 300 feet of any beach or swimming area while towing waterskiers, aquaplanes or similar devices.

F. Obstructions

Obstructions including but not limited to derelict and/or abandoned vessels to safe navigation of the Merrimack River shall be subject to removal by the Harbormaster without notice. Obstructions removed and stored by the Harbormaster shall be at the expense of the owner.

G. Races and Regattas

1. No boat race or regatta shall be held in the Newburyport Harbor without first obtaining an U.S. Coast Guard Permit and notifying the Harbor commission and the Harbormaster; and providing the Harbor Commission and Harbormaster with a copy of the Coast Guard permit for said race or regatta.

2. All races and regattas in Newburyport Harbor must be operated under the supervision of a race or regatta committee. All such committees shall, prior to their activity, file a written statement with the Harbor Commission two months prior to the event, containing the following information:

a) The identity address and telephone number of the group or organization sponsoring the activity.

b) A brief description of the activity, time of commencement, a estimate of hours and/or days, location specifying the course to be run, date of the activity and any alternative dates in the

event of a weather postponement, and a listing of the fees to be charged.

c) A roster of the names and addresses and phone numbers of the members of the committee responsible for the organization and conduct of the activity.

d) A brief statement of the efforts by the committee to publicize the activity sufficiently such as will give reasonable notice to the boating public of the time, date, place and nature of the activity and thereby warn the public of courses to be run by participants and areas to be closed to the public during the activity. Warning the public can be accomplished thru notice to marina's. All races and regattas shall be accompanied by at least one motor-powered committee vessel. Committee boats must keep a constant monitor on VHF Channel 13 and have the ability to monitor on VHF Channel 16 for the duration of a race.

H. Fueling

Fueling is permitted only at licensed fuel docks in accordance with State Fire Marshal Code 527CMR 1-50.

I. City Liability

The City assumes no responsibility on account of fire theft or damage of any nature to any vessel or property connected therewith, nor for personal injury to any person arising out of the use of waterways under the jurisdiction of the City of Newburyport or any facility in or related to said waterways. Any person using any City facility for the conduct of a permitted activity shall file a statement with the Harbor Commission indemnifying and holding the City harmless from any lawsuit arising out of the conduct of the permitted activity by anyone.

J. Excise Tax & Fees

No mooring space or slip shall be assigned to any person who is arrears on any boat excise tax, mooring, slip or dockage fees, due and payable to the City, for any year present or previous. Proof of said payment shall be submitted with application for mooring/slip.

K. Accidents

1. The operator of a vessel involved in an accident shall render all practical and necessary assistance to persons affected by the accident to the extent possible without serious danger to life, crew, passengers, and vessel.

2. The Harbormaster shall be notified of all accidents which are required to be reported by M.G.L. Ch 90B Section 9 and shall also be notified of accidents which result in environmental

damage, or navigational obstructions.

The Harbormaster should be notified as soon as possible of the accident. A written report shall be submitted within five days of the accident if the accident results in loss of life, injury requiring medical attention, loss of consciousness, property damage in excess of $200, or disappearance of any person on-board under circumstances which suggest any possibility of injury or death. The operator and owner of the vessel(s) are responsible for this report. A copy of the report required by M.G.L. Ch. 90B Section 9 filed with the Harbormaster will satisfy the written report requirement.

3. No vessel, mooring or other object shall be abandoned, sunk or placed where it may constitute a hazard to navigation.

4. Any vessel, mooring or object constituting a hazard to navigation, and any vessel or object improperly secured, swamped, sunk, washed ashore or found in a restricted area, may be removed or relocated at the direction of the Harbormaster if corrective action is not taken by the owner immediately upon being notified by the Harbormaster.

5. The expense of such removal or relocation and liability therefore shall be the responsibility of the owner.

6. Nothing in these sections shall restrict earlier action by the Harbormaster or an Assistant Harbormaster, with or without notifying the owner if, in their judgment, such action is necessary to protect life or property.

5-4 Mooring and Float Regulations

A. Berthing permits for slips, floats, moorings or other docking mechanisms shall be issued by the Harbormaster according to the terms and requirements of the applications and available space and in accordance with Section 5.4 J above.

B. Fees for mooring permits issued by the Harbormaster shall be those authorized under Section 5-7 of this ordinance.

C. General Regulations for Placement of Moorings, Floats and other Structures.

1. All structures shall be setback a minimum of twenty five feet from the projected property line to provide a swing area unless a lesser set back is mutually agreed upon by the adjacent property owner and submitted in writing to the Harbor Commission for approval. All structures shall be set back a minimum of 20 feet from federal channel, navigable channel, fairways and federal turning basins.

2. Structures requiring an Army Corps General Permit

All structures requiring a GENERAL PERMIT from the Army Corps of Engineers (including boats) shall project not more than 200 feet into the Merrimack River from the shore (to be measured perpendicular from the mean high water mark of the outermost portion of the property).

In certain geographic locations, constraints posed by narrowness or shallowness of the channel and/or severity of the current may not allow the project to extend the full 200 feet into the river.

The Harbor Commission shall review for approval all general permits on a case by case basis.

3. Structures requiring and INDIVIDUAL PERMIT from the Army Corps of Engineers

All structures requiring an individual permit from the Army Corps will be reviewed for approval on a case by case basis by the Harbor Commission to determine maximum projection into the river. The setback between structures shall be required in 5-5 C.1. above.

D. Individual Mooring Permits

1. No person shall establish or maintain a mooring or float (including temporary floats) within the waters of Newburyport Harbor without first obtaining an annual mooring permit from the Harbormaster. Applications for mooring permits may be submitted to the Harbormaster from January 1 of any calendar year to June 1 and shall contain such information and shall be in such a form as prescribed by the Harbormaster. Applications may be obtained from the Harbormasters Office.

2. Floats, rafts, and the mooring of boats held by anchors or bottom moorings installed without permission from the Harbormaster shall be considered a public nuisance and may be removed by the Harbormaster at the expense of the owner in the event he/she fails to remove same after notice from the Harbormaster. For the purpose of this section, temporary shall mean no longer than to the end of any given calendar year.

3. No permit may be issued without prior payment of all appropriate fees by the applicant including, but not limited to, annual boat excise tax if applicable.

E. Issuance of Mooring Permit; Waiting List

1. Permits will be denied if the Harbormaster determines that the mooring will constitute a hazard to navigation, will not conform to the requirements of these regulations, or will otherwise not conform to the requirements of law or rights of the public. Permits will be issued for one calendar year only.

2. Individual mooring permits are not transferable.

3. Upon issuance of a permit, the Harbormaster will assess a mooring location and specify the marking and number of the mooring. Moorings shall be installed prior to June 1st each season for permits issued prior to May 7th. For permits issued after May 7th, moorings shall be installed within 15 working days following issuance.

4. The Harbormaster will keep a chart available for public inspection at City Hall which clearly indicates the mooring/areas permitted.

5. The Harbormaster shall keep a waiting list for available space and does not discriminate against any person based upon race, religion, sex, or other illegal distinction.

   Priority for the issue of permits to persons on the waiting list will be in this order: date of application and assignment to the waiting list, and subject to the size and type of boat related to the space available.

   Allocation of space shall be made based on date of application and subject to the size and type of boat related to the space available. Copies of the up-to-date waiting lists must be made available to the public by the Harbormaster upon request.

F. Group Mooring Permits

1. In lieu of obtaining individual permits, boating clubs or other organizations such as yacht clubs and marinas, may apply to the Harbormaster for a group mooring permit for a specified mooring area.

2. Commercial and group permits may be transferred with the approval of the Harbormaster and such approval shall not be unreasonably withheld provided that the Harbormaster shall find that the transfer is in the public interest.

3. The facilities of any marina located within the City of Newburyport shall be available for use by the general boating public, providing they abide by the marina's fee structure and all lawful regulations of the marina.

4. The maximum term of any contract or agreement relating to

slip facilities shall not extend beyond December 31st of any year of issue.

5. The marina owner shall maintain a waiting list of people applying for mooring/slip/berthing space. Available space must be allocated without discrimination against any based upon race, religion, sex or other illegal distinction.

6. Group permit/or slip/owners shall provide to the Harbormaster a list of the renters of moorings and/or slips to include: name, address and telephone number of owner, name of vessel, type of vessel, year and length of vessel, registration or documentation numbers, private and business address and phone numbers of renters by July 10th of each year. The Harbormaster shall send a copy of this list to the City Assessors to ensure imposition of Boat Excise tax.

7. Vessel owners at slips or moorings who have not paid their boat taxes shall be subject to the fines.

G. Guest Moorings

1. The Harbormaster will designate moorings to be used by transient guests. The length of stay shall be limited to 72 hours. Extensions shall be at the discretion of the Harbormaster. The fee shall be as outlined in Section 5-7 of this ordinance.

H. Abandonment; Forfeiture Removal

1. A permittee may relinquish his permit at any time upon notification to the Harbormaster. Any mooring tackle not removed within 30 days after receipt of such notification shall be considered abandoned and may be removed pursuant to paragraph 3 of this section:

2. A permittee may be deemed to have forfeited his/her permit by reason of any of the following if not corrected within 48 hours.

   a. Locating the mooring at a place other than that specified on the permits;

   b. Failure to pay annual mooring fee or excise tax when due;

   c. Failure to repair or replace a mooring within 30 days after being advised by the Harbormaster that the mooring is defective or within such lesser time as specified by the Harbormaster if circumstances should require;

   d. Failure to otherwise comply with the terms, conditions or restrictions placed on the permit by the Harbormaster.

Upon written notification of forfeiture by the Harbormaster, the permittee shall remove or otherwise dispose of the mooring.

3. Any abandoned or forfeited mooring, or any mooring installed in the waters of Newburyport Harbor without the permission from the Harbormaster shall be considered a public nuisance, and may be removed by the Harbormaster at the expense of the owner in the event he fails to remove same within 48 hours after notice in writing from the Harbormaster. Said notice shall be secured to the mooring and mailed to the owner's address as given in said owner mooring permit application.

I. Mooring/Dockage Specifications and Inspections

1. Mooring specifications

All mooring tackle shall be subject to inspection and approval by the Harbormaster prior to installation. The suitability of mooring tackle for a particular installation will be judged on a case-by-case basis with reference to the standards set forth in the most recent edition of Chapman's "Piloting and Seamanship".

2. Owner Inspections

Each permittee shall inspect or shall cause his/her mooring to be inspected each season. Winter logs or metal kegs shall not be used in the harbor.

3. Harbormaster Inspections

All moorings are subject to Harbormaster inspections at any time. No notice is required for underwater inspections. Notice of at least five working days will be given if a mooring is to be hauled for inspection. Mooring installations found defective will be subject to loss of mooring permit if not corrected within the time specified by the Harbormaster. The maximum time allowed shall be 48 hours.

Section 5.5

SPECIAL USE AREAS REGULATIONS

5.51 COMMERCIAL FISH PIER

A. General
The general operating policy of the Municipal Pier/Embayment facility shall be that the property is intended primarily for the berthing and loading/unloading of the Newburyport commercial fishing fleet.

B. Specific Use Regulations

1. Embayment Area Dockage

a. The embayment area dockage shall be designated for commercial fishing vessels only.

b. The number of vessels permanently assigned berthing space in the embayment area shall be determined annually by the Harbor Commission.

c. All vessels using the embayment area are required to pay the appropriate fee prior to accessing the facility (see Section 5.7 of this ordinance).

d. The Harbormaster will maintain a waiting list for any additional vessels wishing to secure space at the embayment area should a space become available. The Harbormaster shall keep a waiting list for available space and does not discriminate against any person based upon race, religion, sex, or other illegal distinction.

Priority for the issue of permits to persons on the waiting list will be in this order: date of application and assignment to the waiting list, and subject to the size and type of boat related to the space available.

Allocation of space shall be made based on date of application and subject to the size and type of boat related to the space available. Copies of the up-to-date waiting lists must be made available to the public by the Harbormaster upon request.

2. Pier and bulkhead usage

a. Only commercial fishing vessels shall be allowed to dock at the pier except as provided under paragraph "D" below.

b. All vessels docked for use of pier services shall do so at designated areas only and shall be subject to time limitations set by the Harbor Commission.

c. Because of the limited amount of docking/berthing space available, tie-up space is limited to the amount of time it takes to load or unload a cargo plus a length of time as determined by the Dockmaster. Vessels that are tied up at the pier after discharging or loading will be charged docking/berthing fee according to Section 5.7.

d. No vessel shall be allowed to stay at the pier or bulkhead/float area while repairing the vessel or any of its power, machinery or fishing gear without prior express permission of the Harbormaster.

3. Motor Vehicles and Use of Parking Areas

a. Vehicles shall be permitted on the pier only with the approval of the Harbormaster.

b. No person shall drive other than a legally registered motor vehicle on any portion of the municipal pier/embayment facility.

c. The parking of trucks, trailer trucks or parts of trailer trucks is prohibited on any portion of the pier without permission to do so having been first obtained from the Harbormaster.

d. The parking of pleasure cars within the municipal pier/embayment facility confines is prohibited, except for those vehicles having temporary business.

e. Trucks transporting fish must be properly covered.

f. Trucks transporting fish must be water tight thereby preventing leakage onto the pier.

g. All persons shall obey any requests made by Harbormaster officials relative to matters of safety and orderliness.

h. All fuel trucks making deliveries will have the proper authorization i.e. in accordance with State Fire Marshal Code 527CMR 1-50, and will fuel vessels in accordance with proper U.S.C.G. procedures.

C. Other Regulations

1. No trash and/or waste oil shall be placed or stored on or about the pier.

2. The City assumes no responsibility on account of fire theft or damage of any nature to any vessel or property connected therewith, nor for personal injury to any person arising out of the use of waterways under the jurisdiction of the City of Newburyport or any facility in or related to said waterways. Any person using any City facility for the conduct of a permitted activity shall file a statement with the Harbor Commission indemnifying and holding the City harmless from any lawsuit arising out of the conduct of the permitted activity by anyone.

2. No material or spare gear shall be stored on or about the pier.

3. No persons shall dive, swim, or fish from the pier, floats or bulkhead.

4. No soliciting shall be permitted on the pier.

5. All vessels shall reduce to headway speed when approaching or leaving the pier.

6. The Harbormaster shall have the authority to accept or reject any application for pier usage and/or berthing which appears, in the opinion of the Harbormaster to expose the pier, waters adjacent to the pier, or other vessels to undue risk.

D. Charter Boat

1. The loading of passengers for charter boats will take place only at floats designated by the Harbor Commission.

2. Schedule charter boats will arrive at said float within 15 minutes before loading time and will leave within 15 minutes after discharging passengers.

3. Charter Boats must comply with paragraphs B.3. a through c, E and F of Section 5.61 of this ordinance.

E. Fees

1. Fees shall be as established in section 5.7 of this ordinance.

2. The provision of this ordinance shall be posted in plain view at the floats and along the bulkheads at "The Commercial Fish Pier".

3. Enforcement of the provisions of these ordinances and collection of any and all docking fees created thereunder, shall be within the authority and responsibility of the Harbormaster and/or Treasurer of the City of Newburyport.

F. Insurance and Liability

1. When applying for a berthing permit, excepting daily transients, the applicant shall exhibit a certificate of insurance for review by the Harbormaster before permit approval or rejection. Minimum insurance requirements shall be set by the Harbor Commission. If accepted, a copy of the insurance certificate shall be filed with the Harbormaster.

5.52 CENTRAL WATERFRONT DOCKS

A. Use Regulations

The use of floats at the Central Waterfront shall be limited and regulated as follows:

1. No vessel shall be "rafted", (secured to another vessel) which is secure at any such docking location.

2. No vessel shall dock at the floats without first notifying and obtaining permission the dockmaster/wharfinger or Harbormaster if the dockmaster/wharfinger is unavailable.

3. No festival shall plan on the use of the floats and no person shall be given exclusive use of the floats without first getting approval for such use from the Harbor Commission.

4. No vessel shall remain secured at the floats in excess of seventy two (72) consecutive hours per docking, after which, at least twenty-four (24) hours shall have elapsed before the vessel may be permitted to re-secure except to load or unload.

5. Two floats (50' of space) shall be designated by the Dockmaster for loading and unloading, and shall be restricted to twenty minute use at no cost.

6. No vessel may be docked or secured at any location other than the floats without permission from the Harbormaster.

B. Fees

The Dockmaster shall inquire of the person in charge of any vessel to be secured to the floats, the intended length of stay and shall collect in advance the appropriate fee. Fees shall be as established in Section 5.7 of this ordinance.

C. Emergency docking

1. "Emergency" is a sudden unexpected happening requiring immediate emergency medical attention to the operator or a passenger of the vessel.

2. When necessary, due to any emergency, any vessel shall be permitted to secure to the bulkhead or floats, without charge, for up to four (4) hours, after which, docking fees will be assessed.

D. Other Regulations

1. Fishing and swimming

5.53 CASHMAN PARK LAUNCHING RAMP, PARKING FACILITY AND PIER

A. General

1. The usage of municipally owned and or controlled boat Launching ramps shall be controlled from time to time by rules established by the Harbor commission and approved by the ity Council. These rules may include control of temporary parking of boat trailers and motor vehicles at or near the approach to each ramp. Vehicles with boat trailers shall be parked in designated areas.

2. With the exception of charter or commercial fishing vessels or a storm/repair emergency, persons using ramps for hauling of larger vessels requiring cradles shall do so only with permission, in advance, in writing, from the Harbormaster. Cradles and/or vessels shall not remain on the town ramps for more than one (1) hour.

3. Swimming will not be allowed from the pier.

4. All vessels persons, and vehicles using the launch ramp shall abide by the rules and regulations contained herein and all other applicable laws, ordinances, rules and regulations concerning the operation of vessels and the use of the landing.

5. All persons, vessels and vehicles using the landing shall be responsible for the security of their own property.

6. The launch ramp shall be open to the general public from sunrise to sunset from April 1st to October 31st of each year.

7. The use of the launch ramp is primarily for the benefit of the general public engaging in recreational boating.

B. Fees

1. Fees shall be established as in Section 5.7 of this ordinance.

No person shall fish or swim from the floats or the bulkheads.

2. The provision of this section (5.62) of the ordinance shall be posted in plain view at the floats and along the bulkheads at "Market Square Landing Docks", on the Central Waterfront.

3. Enforcement of the provisions of this section (5.62) of the ordinances and collection of any and all docking fees created thereunder, shall be within the authority and responsibility of a Dockmaster, who shall be under the direction and control of the Harbormaster of the City of Newburyport.

Section 5.6 Fees

A. Establishment

The Harbor Commission shall establish fees and may amend them from time to time, for all the facilities governed by this ordinance. The Commission shall establish fees subject to the approval of the City Council. Said fee schedule shall be published and available to the public upon request.

B. ACCOUNTS AND APPROPRIATIONS

All of the fees collected under paragraph "A" above and any money generated through this ordinance shall be deposited into accounts designated by the City Council for the sole purpose of returning said fees to the management and operation of the harbor. REvenues shall not be appropriated from these accounts for any expense except harbor operation, maintenance to the harbor, capital improvements to the harbor and for matching state and local grants for harbor related projects. Approvale of the Mayor and City Council shall be necessary to appropriate said funds for harbor related operations.

Section 5.7 Fine and Penalties

A. Penalty for violations of the foregoing sections shall be punished by a fine of not less than $50.00 nor more than $300.00 per violation.

B. Prosecution shall be under Chapter 102, Section 25, of the Massachusetts General Laws.

C. Any fees which are not paid may be converted to a civil assessment payable to the City of Newburyport.

D. Non payment of berthing fee and/or removal of vessels for non payment of same shall result in loss of permanently assigned berthing for a minimum of one twelve month period.

Appendix 3

CITY OF NEWBURYPORT

IN CITY COUNCIL

ORDERED

February 13, 19 89

That the following fee schedules and accounts thereto be established for boats using Newburyport Harbor and that the Harbor Commission is hereby instructed to implement said fees effective as of March 1, 1989, with the exception of the slip fee. Said slip fee shall take effect March 1, 1990.

There shall be a mooring fee for all boats in Newburyport Harbor. Said fee shall be established at one dollar ($1.00) per foot per season. There shall be a minimum fee established of twenty dollars ($20.00) per season.

There shall be a slip fee for all boats in Newburyport Harbor. Said fee shall be established at one dollar (1.00) per foot per season. There shall be a minimum fee established of twenty dollars ($20.00) per season.

All mooring and slip fees collected shall be deposited into a fund referred to as "Reserve for Appropriation - Municipal Mooring Fees and Slip Fees". Said revenue shall not be appropriated from this account for any expenses except harbor operations, maintenance to the harbor, capital improvements to the harbor, and for necessary matching funds for any grants for harbor related projects.

There shall be a launch fee established for all recreational and commercial boats using the launch ramp(s) situated at Cashman Park. Said fee shall be established for recreational boats at three dollars ($3.00) per launch or thirty dollars ($30.00) per season. Said fee for commercial boat haulers shall be established at fifty dollars ($50.00) per launch or fifteen hundred dollars ($1,500) per season.

All launch fees collected at Cashman Park shall be deposited into an account known as the "Cashman Park Launch Ramp" Account. This is in accordance with a "Land Use Agreement" to be executed with the state and in accordance with the state grant to construct a new launch ramp at Cashman Park.

Said revenue deposited in the "Cashman Park Launch Account" shall not be appropriated from this account for any expenses except improvements to and/or repairs to the Cashman Park Launch ramp or improvements to and/or repairs to that portion of Cashman Park utilized by boaters in conjunction with the Launch Ramps.

Councillor William E. Gurczak, Sr.
William E. Gurczak, Sr.

In City Council, February 13, 1989:

Councillor Welch moved, seconded by Councillor Bell to approve. On roll call, 8 yes, 1 present (Nolan), 2 absent (Harnch,Leary). Order approved.

Attest: Michael J. Sullivan
Michael J. Sullivan,City Clerk

Approved, February 14, 1989

Edward G. Molin
Edward G. Molin,Mayor

Appendix 4

CITY OF NEWBURYPORT

IN CITY COUNCIL

ORDERED April 24 19 89

That in accordance with Section 5-6, Fees, of an ordinance enacted on March 13, 1989 entitled "General Harbor Regulations for the City of Newburyport", the following fees be established for the use of floats at the Central Waterfront Docks:

DAYTIME - a. For craft up to twenty (20) feet in length overall, $1.00 per hour or fraction thereof.

b. For craft twenty (20) feet to forty (40) feet overall, $2.00 per hour or fraction thereof.

c. For craft forty (40) feet to sixty feet overall, $3.00 per hour or fraction thereof.

d. For craft over sixty feet overall $5.00 per hour or fraction thereof.

OVERNIGHT- Any craft secured to the floats at 7:00PM or any time between 7:00PM and 7:00AM shall pay fifty cents (50) per feet overall length overnight docking fee for the period 7:00PM to 7:00AM.

TWENTY FOUR HOURS
Persons wishing to secure a craft for a twenty four 24 hour period shall pay a fee in advance of fifty (50) cents per foot overall length.

Councillor William E. Gurczak

William E. Gurczak, Jr.

In City Council, April 24, 1989:

Councillor Hawrylciw moved, seconded by Councillor Nolan to amend by deleting the entire section regarding the fees for twenty=four hours. So voted.

Councillor Lawler moved, seconded by Councillor Nolan to approve as amended. So voted.

Approved, April 25, 1989:

Edward G. Molin

Edward G. Molin,Mayor

Attest: Michael J. Sullivan

Michael J. Sullivan,City Clerk

Appendix 5

ANNUAL YIELDS 1950 - 1980

MERRIMACK RIVER CLAM FLATS

Year	Yield (Bushels)
1950	102
1951	8
1952	958
1953	1119
1954	853
1955	1116
1956	1514
1957	352
1958	105
1959	353
1960	666
1961	400
1962	346
1963	1205
1964	1470
1965	1469.5
1966	720.5
1967	327.5
1968	303.5
1969	146.5
1970 - 1980	0

Appendix 6

DIVISION OF MARINE FISHERIES MONOGRAPH

POINT AND NON POINT POLLUTION SOURCES 1964

A. Shoreline Survey

In all, 9 definite and 36 potential sources of pollution were identified.

Definite Sources of Pollution

Salisbury

D1 Chlorinated sewage discharge from Salisbury Water Company's 16" concrete outfall into Black Rock Creek, 200' west of rotary on State Reservation Road.

D2 Sewage leachate from failing septic system at Turnbuckle Lounge on Bridge Road.

D3 Sewage leachate from failing septic system at Riverview Restaurant on Bridge Road.

D4 Sewage discharge from 12' corrugated pipe emerging into ditch by Texaco Station on Bridge Road.

D5 Culvert on Ferry Road approximately 200 yards north of First and March Streets. Drains marshland receiving sewage leachate from failing septic systems on Route 1A.

D6 Sewage discharge from 4" C.I. pipe emerging from banking between transmission lines and old barge at Rings Island.

Newburyport

D7 Discharge from 36" concrete pipe between Michael's Harborside and Route 1A Bridge.

D8 Discharge from 36" concrete pipe at foot of Hudson's Boat Ramp.

D9 Discharge from 24" Sewage Treatment Plant outfall 200' from shore.

Appendix 6, continued

Potential Sources of Pollution

Salisbury

P1 Drainage ditch along the east side of State Reservation Road.

P2 Drainage ditch immediately north of rotary and gatehouse on State Reservation Road.

P3 Second drainage ditch north of rotary.

P4 Third drainage ditch north of rotary.

P5 Fourth drainage ditch north of rotary.

P6 Ditch behind Emerson's Electric Company on Bridge Road.

P7 Ditch behind Motorsports, Inc. on Bridge Road.

P8 36" concrete drainage pipe to left of Manson's Boat Yard 200 yards off Bridge Road.

P9 Culvert at the intersection of First and March Streets.

Newburyport

P10 8" combined sewer outfall on Merrimac Street between Spofford and Moulton Streets.

P11 8" combined sewer outfall between Coffin and Ashland Streets near 369 Merrimac Street.

P12 12" concrete pipe behind Gould Engineering.

P13 20" vc pipe and 16" drain behind Towle Manufacturing.

P14 16" drain upstream from Cashman Boat Ramp.

P15 24" concrete storm drain at the intersection of Plum Island Turnpike and Old Point Road.

P16 4" plastic pipe from house at #2 Plumbush Downs.

P17 4" C.I. pipe from house at #16 Plumbush Downs.

P18 8" C.I. combined sewer outfall between Beacon.

P19 Two (2) 18" concrete drainage pipes at southwest corner of Sportsman's Lodge parking lot.

Appendix 6, continued

P20 36" culvert off Plum Island Turnpike north of telephone pole #66.

P21 Drain opposite Peterson's Clam Shack.

P22 Three (3) 4" clay pipes emerging from Thurlow's Clam Shack.

P23 12" corrugated steel street drain behind #247 Water Street.

P24 12" corrugated steel street drain behind #243 Water Street.

P25 24" corrugated steel street drain behind #241 Water Street.

P26 12' vitrified clay pipe behind #235 Water Street.

P27 24" corrugated steel drain at east end of Water Street Boat Ramp.

P28 4' drains along bulkhead.

P29 12" concrete pipe with headwall approximately 150 feet east of boat ramp.

P30 24" concrete pipe with headwall approximately 150 feet from east end of bulkhead.

P31 36" concrete pipe at east end of bulkhead.

P32 12" C.I. pipe behind Atkinson Lumber.

P33 Clear flow behind Atkinson Lumber at base of landfill.

P34 Flow from base of bulkhead behind Atkinson Lumber at east side of inlet.

P35 8" clay pipe between Atkinson Lumber and Tri-Coastal Fisheries, Inc.

P36 12" concrete pipe under Coast Guard Pier behind Mass Electric.

Appendix 7

A CHECK LIST OF ALL SPECIES OF FLORA COLLECTED AND IDENTIFIED FROM THE MERRIMACK RIVER ESTUARY, 1963 - 1964

Scientific Name	Common Name
ALGAE	
Class: Chlorophyceae	green algae
Chaetomorpha sp.	
Derbesia vaucheriaformis	
Enteromorpha mathinata	
Monostroma sp.	
Ulothrix flacca	
Ulva latuca	sea lettuce
Class: Rhodophyceae	red algae
Chondrus crispus	Irish moss
Physodrys rubens	
Class: Phaeophyceae	brown algae
Agarum cribrosum	holed kelp
Ascophyllum nodusum	rock weed
Desmarestia aculeata	
Fucus spirals	rock weed
Fucus vesiculosis	rock weed
Laminaria saccarina	kelp
VASCULAR PLANTS	
Acorus calamus	sweet flag
Artemisia stelleriana	dusty miller
Eleocharis sp.	spike rush
Lythrum salicaria	swamp loosestrife
Pontederia cordata	pickerel weed
Sagittaria latifloia	duck potato
Scirpus americanus	three square bull rush
Scirpus validus	soft stem bull rush
Spartina alterniflora	salt water cord grass
Spartina patens	high water cord grass
Spartina pectin	fresh water cord grass
Zizania acquatica	wild rice

Appendix 8

CITY OF NEWBURYPORT

IN CITY COUNCIL

ORDERED March 13 1989

That the City of Newburyport, for the sum of one dollar, accept the transfer of all harbor floats from the jurisdiction of the Newburyport Redevelopment Authority.

Upon receipt of said harbor floats, they shall be remanded to the care of the Newburyport Harbor Commission for proper maintenance.

Councillor Laura Rowe

Laura Rowe

In City Council, March 13, 1989:

Acting President Rowe, with the approval of the members, relinquished the chair to Councillor Harnch in order to speak on this issue.

Councillor Rowe moved, seconded by Councillor Hawrylciw to table. So voted.

Attest: Michael J. Sullivan
Michael J. Sullivan,City Clerk

In City Council pril 10, 1989:
Councillor Rowe oved, seconded by Councillor Battis to take from the table. So voted, with Cou illor Hawrylciw voting no.
Councillor Rowe oved, seconded by Councillor Welch to approve. On roll call 10 yes, 1 no (H rylciw). Order approved.

Attest: Michael J. Sullivan
Michael J. Sullivan,City Clerk

Approved, Apri , 1989:

Edward G. Moli yor

A TRUE COPY ATTEST
Michael J. Sullivan
CITY CLERK
NEWBURYPORT, MASS.

Appendix 9

Maintenance Dredging

The U.S. Army Corps of Engineers has developed the following historic dredging profile:

Year	Material Dredged (cubic yards)
1987	158,000
1983	123,500
1981	102,633
1977	54,000
1974	93,650
1971	106,196
1969	86,000
1966	50,000
1964	131,102 (1)
1962	250,000 (1)

(1)
Quantity of material dredged computed on the basis of bin measurement rather than by comparison of pre-dredge and after dredge surveys. Bin measurement tends to overstate quantity of material dredged.

MAPS

Map 1: Changes in Harbor Entrance

Map 2: Mills and Shipyards

Map 3: Shipyards and North End

Map 4: The U.S. Army Corps of Engineers Federal Channel

Map 5: Plum Island: Barrier Beach Inventory

Map 6: Location and Names of Clam Flats: Merrimack River

Map 7: Location of Shellfish Flats and Contaminated Areas

Map 8: Location of Definite Sources of Pollution

Map 9: Existing Zoning

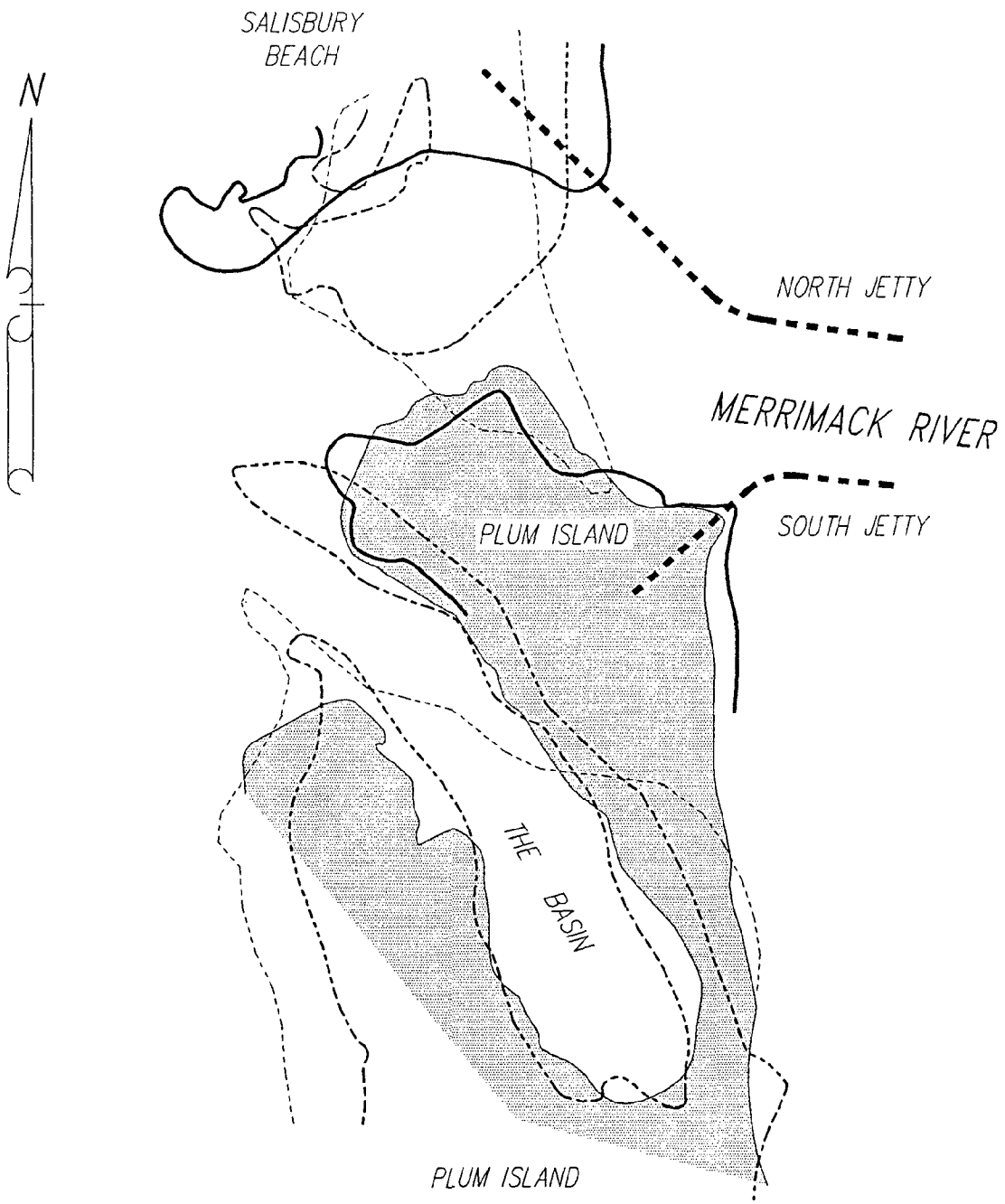
Map 10: Existing Land Use

Map 11: Existing Water Use

Map 12: Land Use Plan

Map 13: Water Use Plan

Map 14: Dredge Disposal Sites

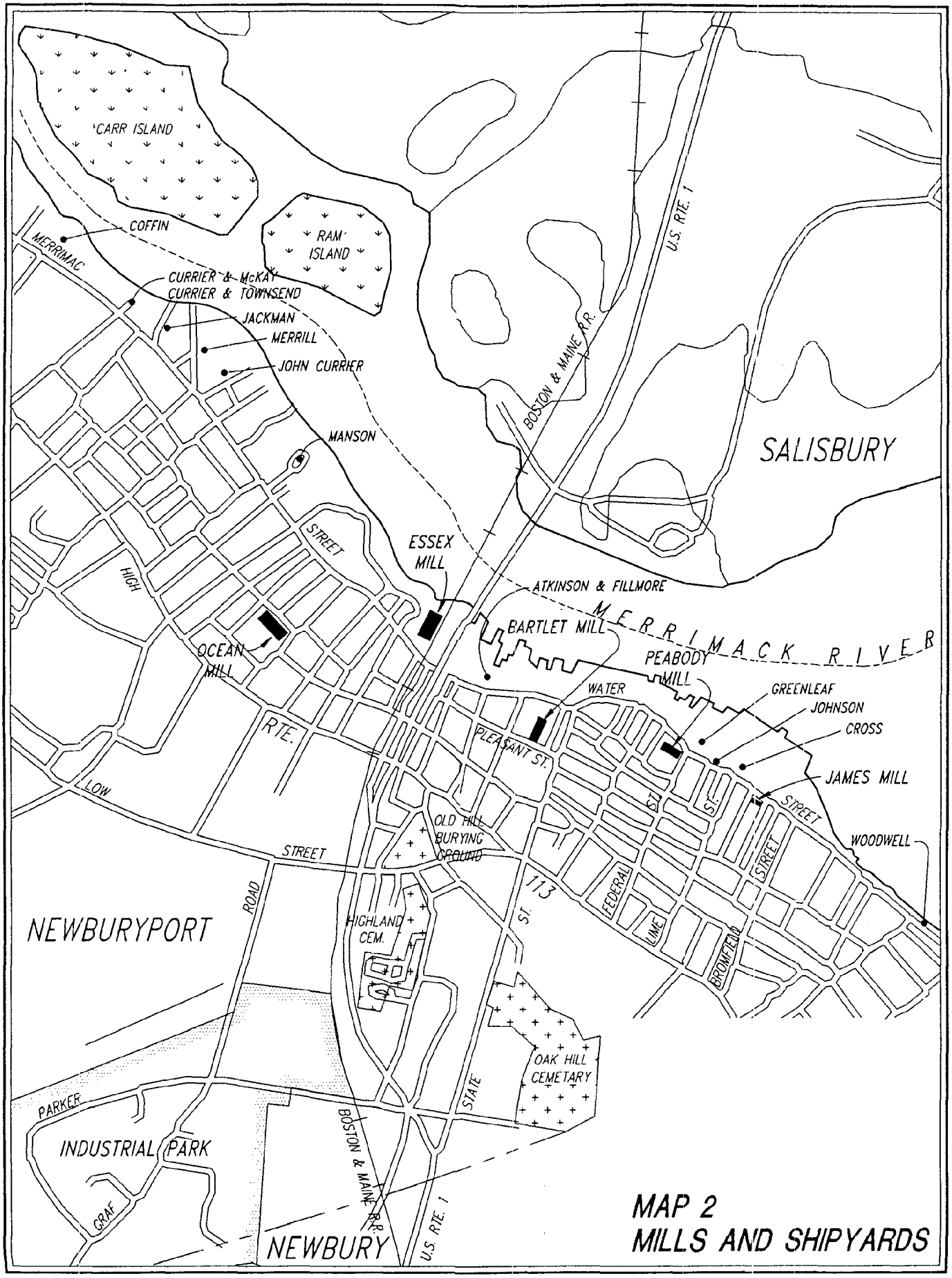


SHORE LINES AT MEAN HIGH TIDE

1827, U.S. ARMY ENGINEERS
1851, U.S. ARMY ENGINEERS
1916, U.S. ARMY ENGINEERS
1940, R.L. NICHOLS (PLUM ISLAND ONLY)

MAP 1
CHANGES IN HARBOR ENTRANCE

PREPARED FOR: CITY OF NEWBURYPORT - HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER



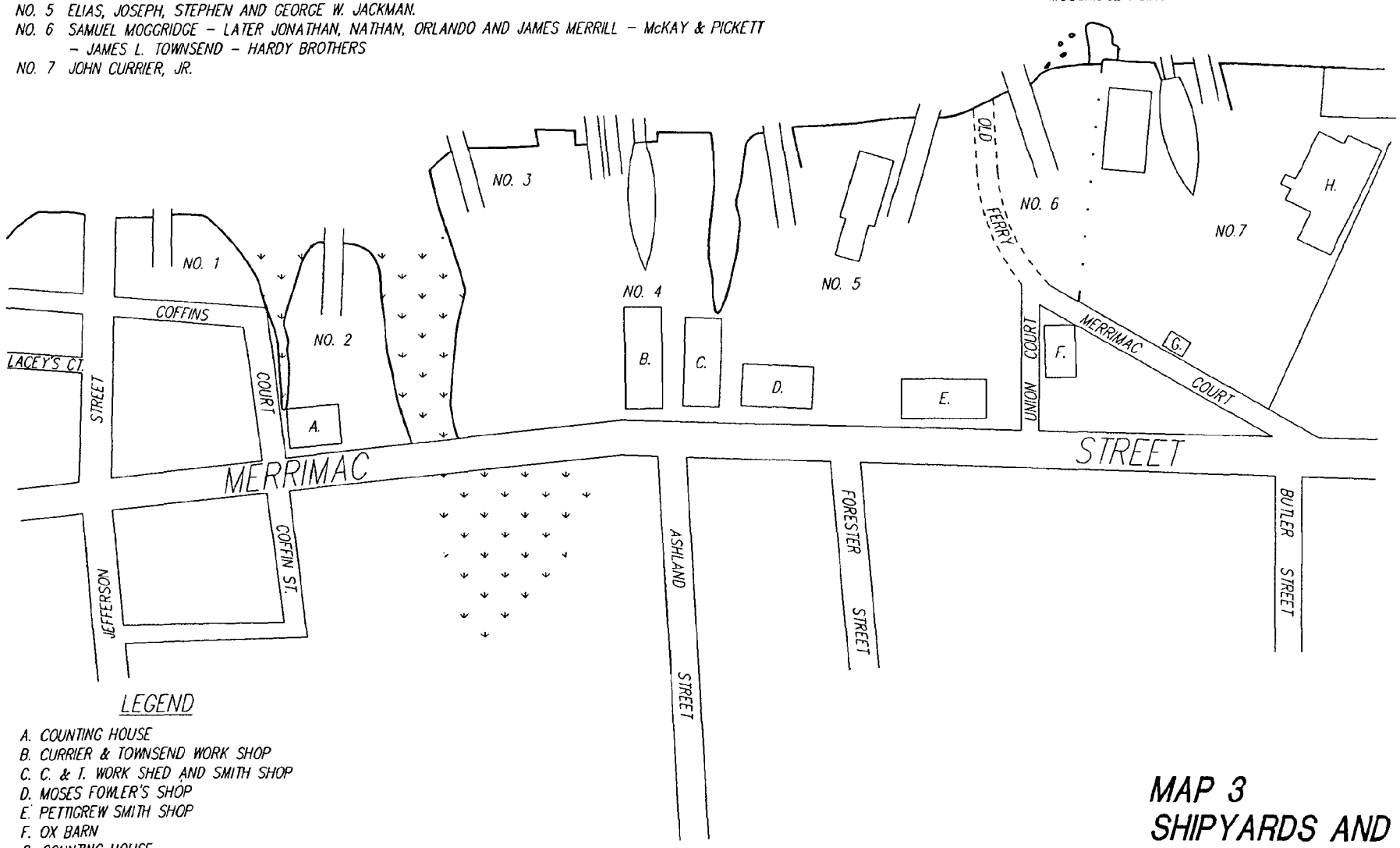
MAP 2
MILLS AND SHIPYARDS

PREPARED FOR: CITY OF NEWBURYPORT - HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER

PREPARED FOR: CITY OF NEWBURYPORT - HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER

LEGEND

NO. 1 SAMUEL COFFIN – LATER W. C. COFFIN – NAT. CHASE – C. COLLINS – JOSEPH COFFIN
NO. 2 JOSEPH COFFIN – LATER W. C. AND JOSEPH, SONS OF JOSEPH COFFIN – NAT. CHASE – EZRA TRUMBELL
NO. 3 JOHN CURRIER, 3RD
NO. 4 ELISHA BRIGGS – LATER CURRIER & McKAY – CURRIER & TOWNSEND – W. C. CURRIER – COLBY & LUNT – CHARLES H. CURRIER & CO. – GEORGE E. CURRIER & CO. – W. S. CURRIER
NO. 5 ELIAS, JOSEPH, STEPHEN AND GEORGE W. JACKMAN.
NO. 6 SAMUEL MOGGRIDGE – LATER JONATHAN, NATHAN, ORLANDO AND JAMES MERRILL – McKAY & PICKETT – JAMES L. TOWNSEND – HARDY BROTHERS
NO. 7 JOHN CURRIER, JR.

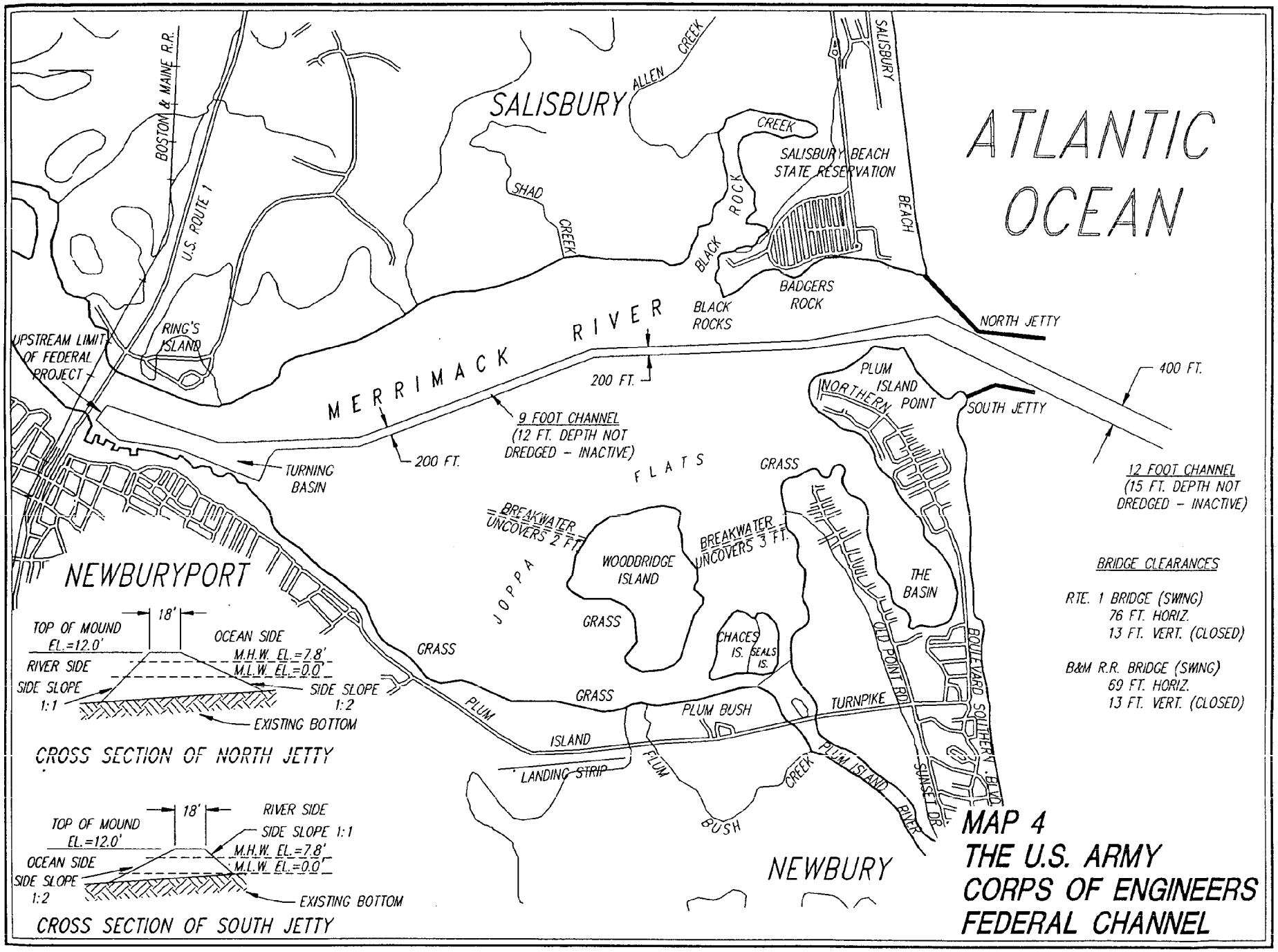


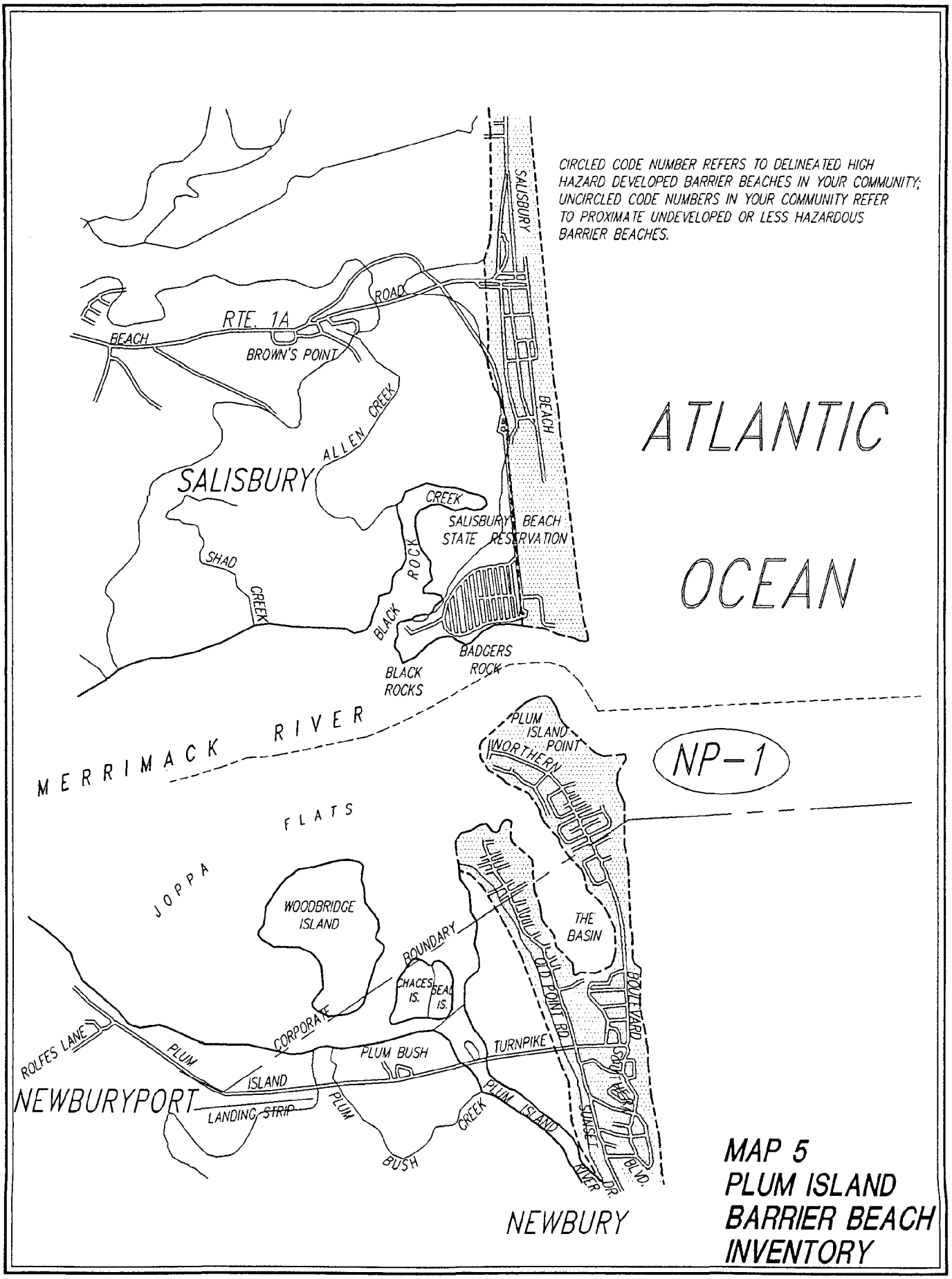
LEGEND

A. COUNTING HOUSE
B. CURRIER & TOWNSEND WORK SHOP
C. C. & T. WORK SHED AND SMITH SHOP
D. MOSES FOWLER'S SHOP
E. PETTIGREW SMITH SHOP
F. OX BARN
G. COUNTING HOUSE
H. J. CURRIER'S WORK SHOP

MAP 3
SHIPYARDS AND NORTH END

PREPARED FOR: CITY OF NEWBURYPORT - HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER





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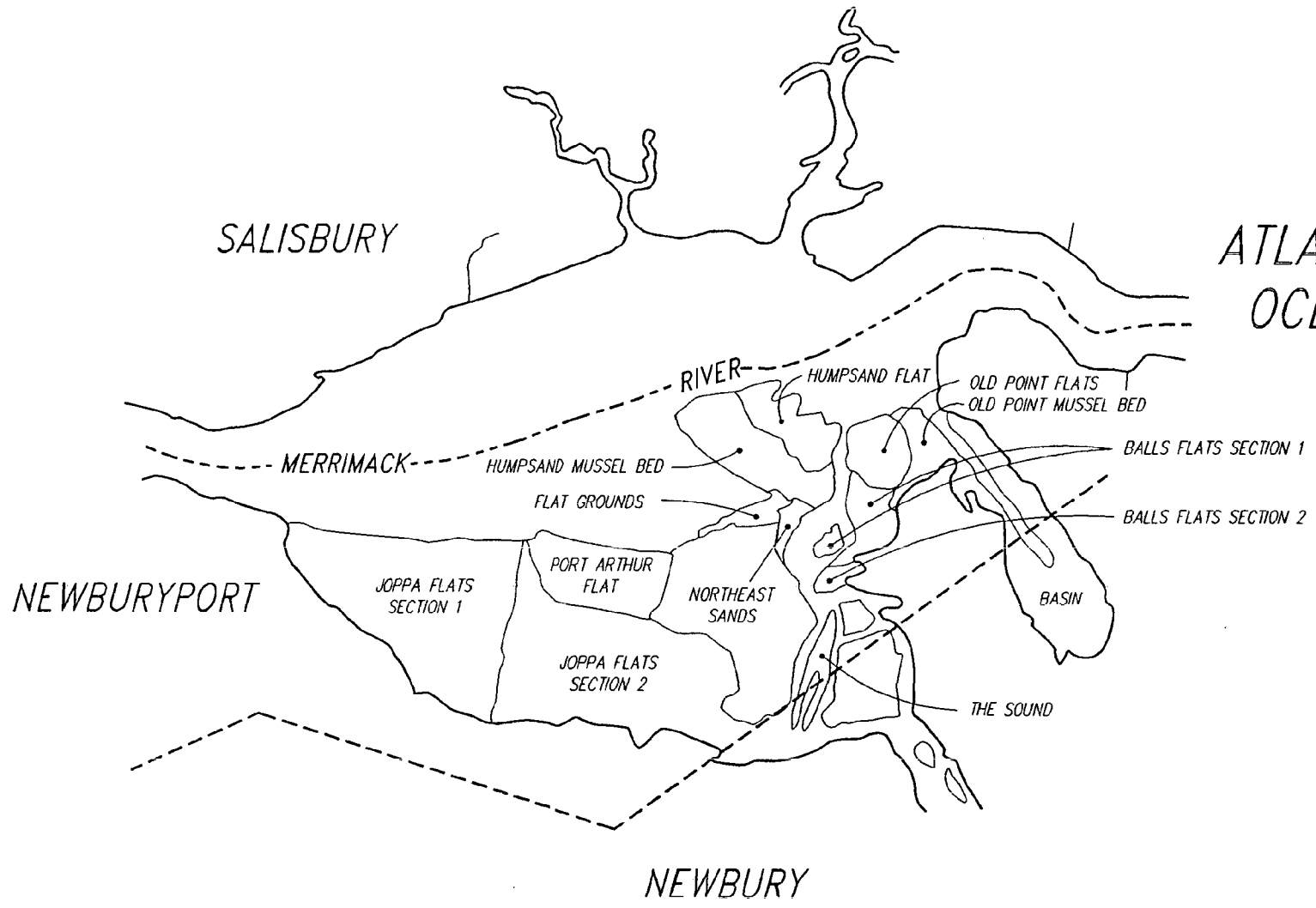
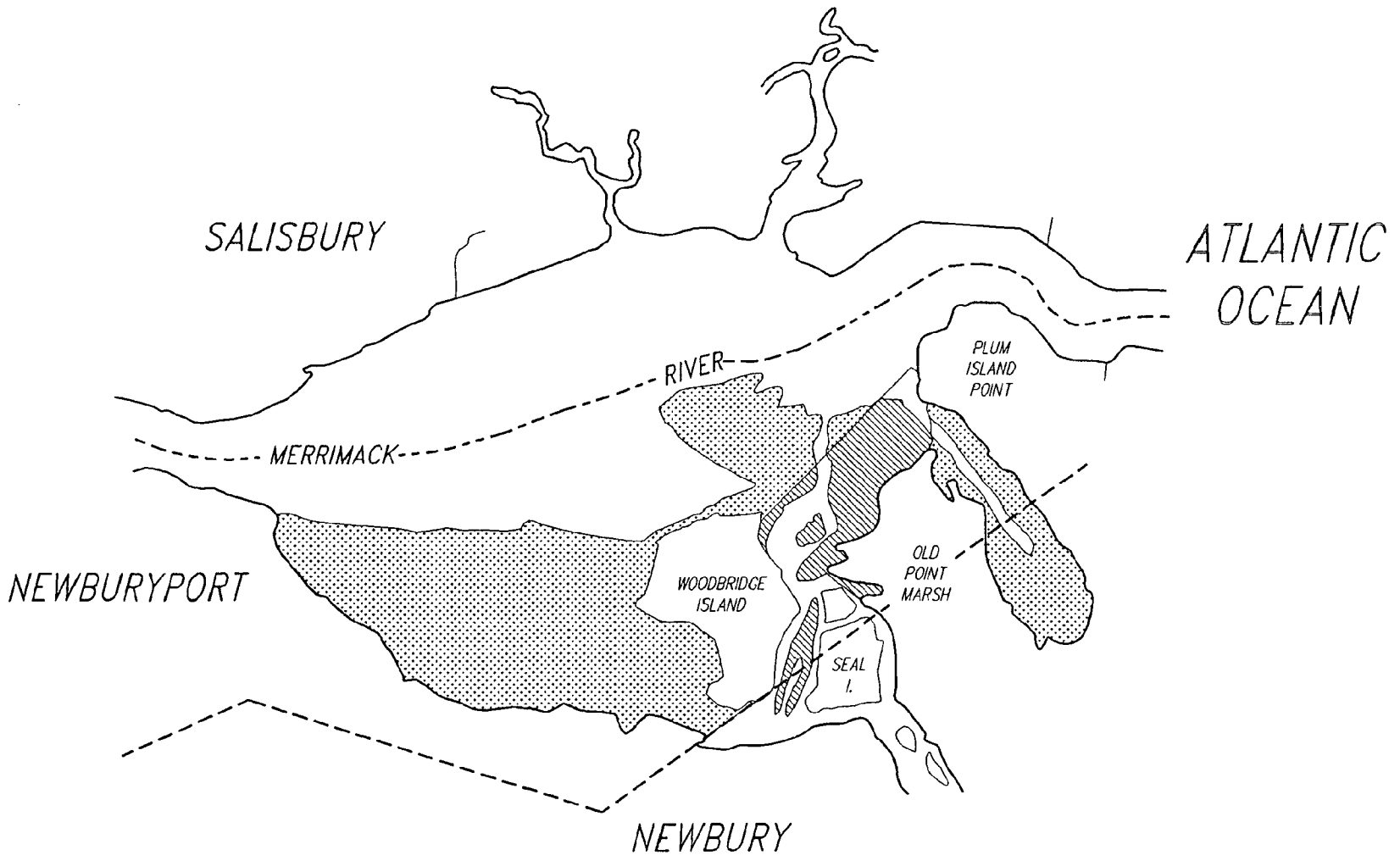


MAP 6
LOCATION AND NAMES OF CLAM FLATS: MERRIMACK RIVER

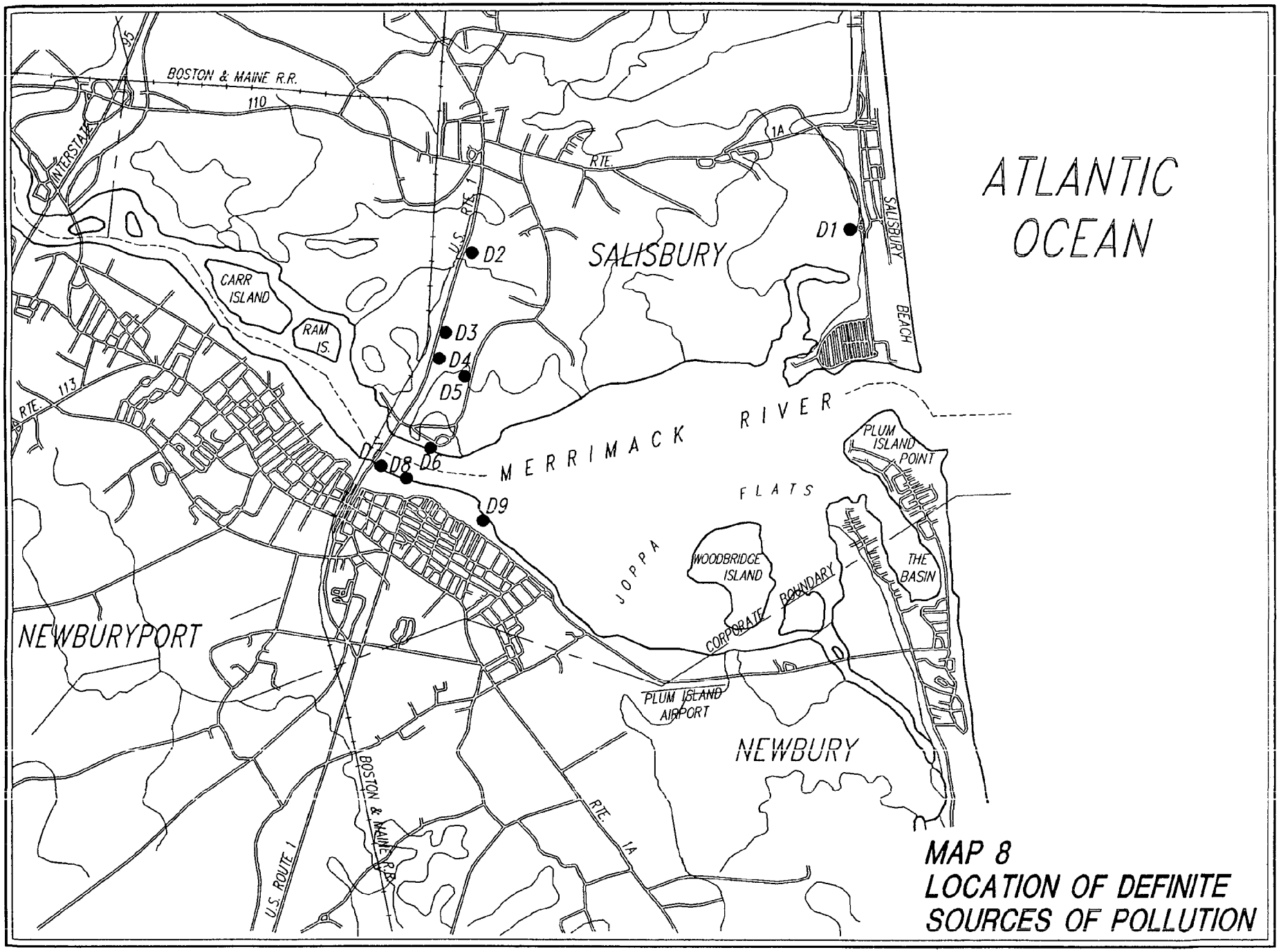
PREPARED FOR: CITY OF NEWBURYPORT - HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER



MODERATELY CONTAMINATED AREAS: 94.9 ACRES
(OPEN TO DIGGING WITH TREATMENT)

GROSSLY CONTAMINATED AREAS: 435.3 ACRES
(CLOSED TO ALL DIGGING FOR HUMAN CONSUMPTION)

MAP 7
LOCATION OF SHELLFISH FLATS AND CONTAMINATED AREAS



MAP 8
LOCATION OF DEFINITE SOURCES OF POLLUTION

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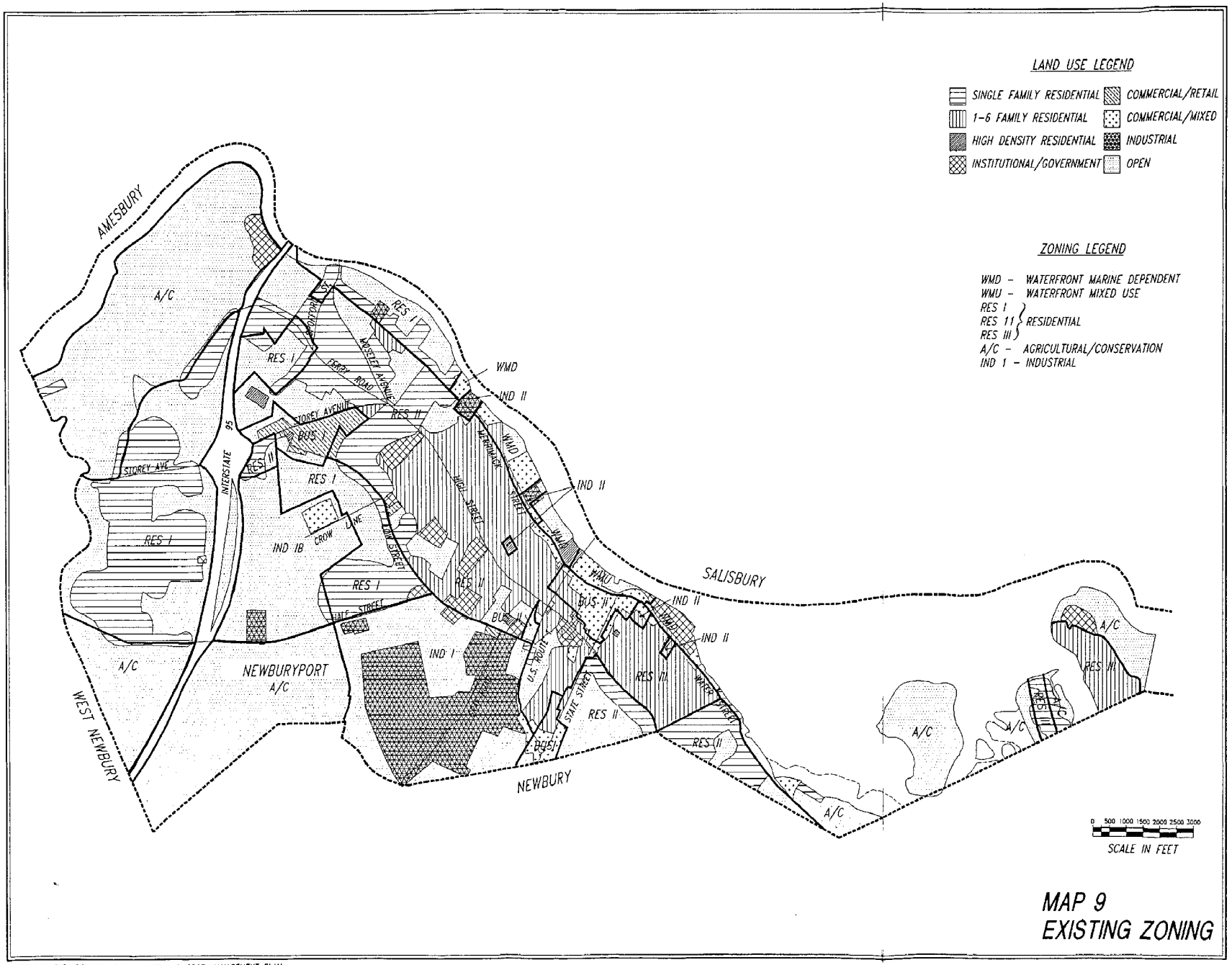
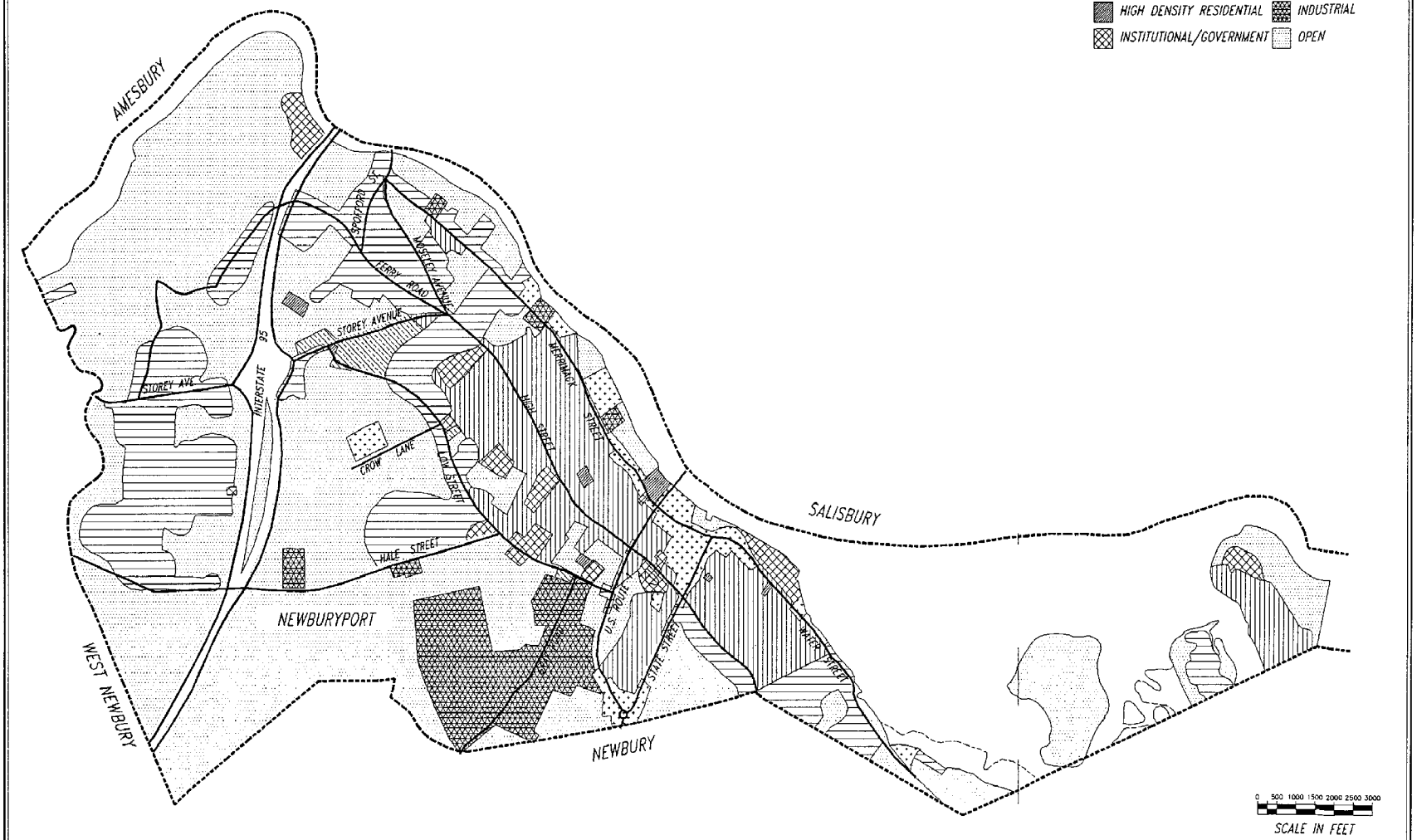
DRAWN BY: DRAFT MASTER



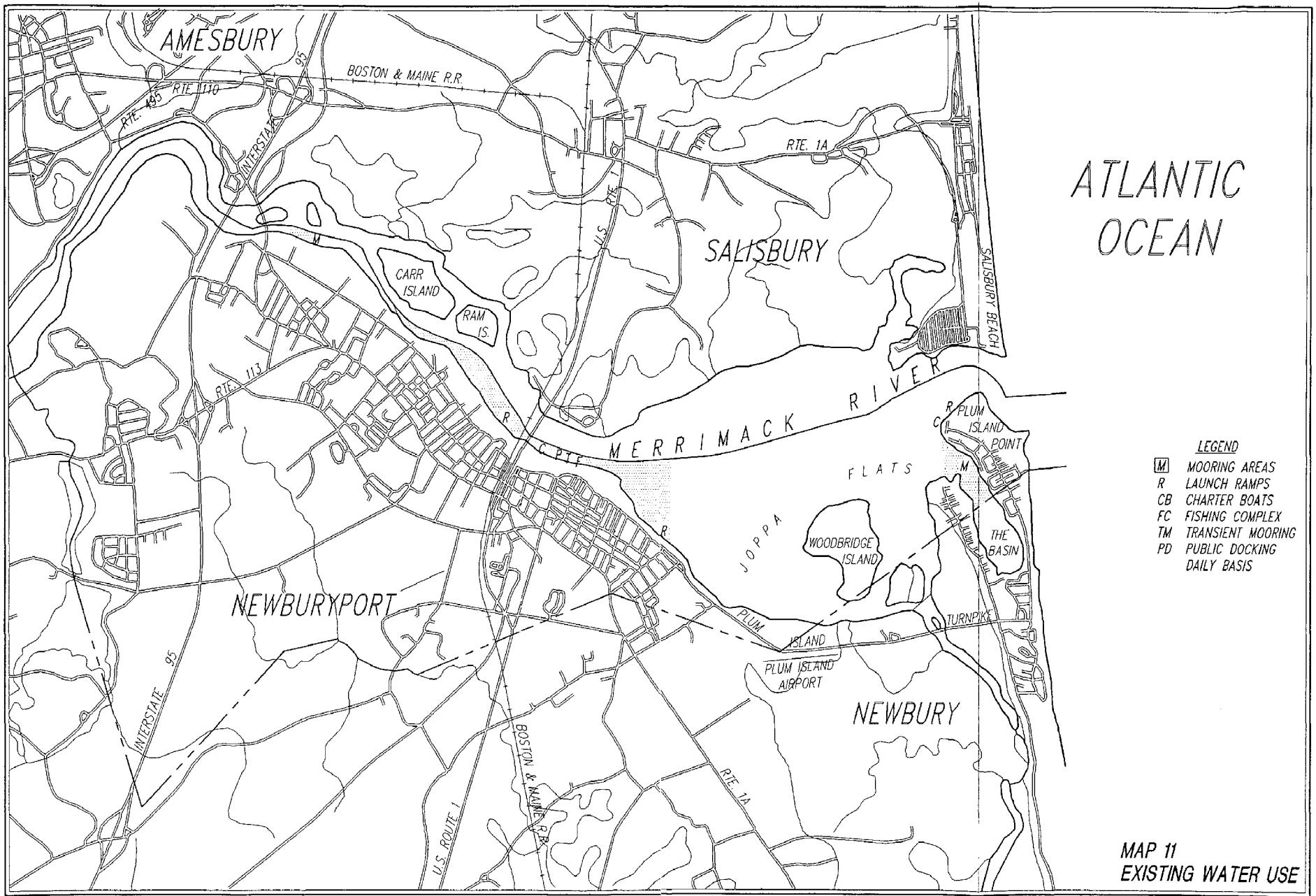
MAP 9
EXISTING ZONING

PREPARED FOR: CITY OF NEWBURYPORT - HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER



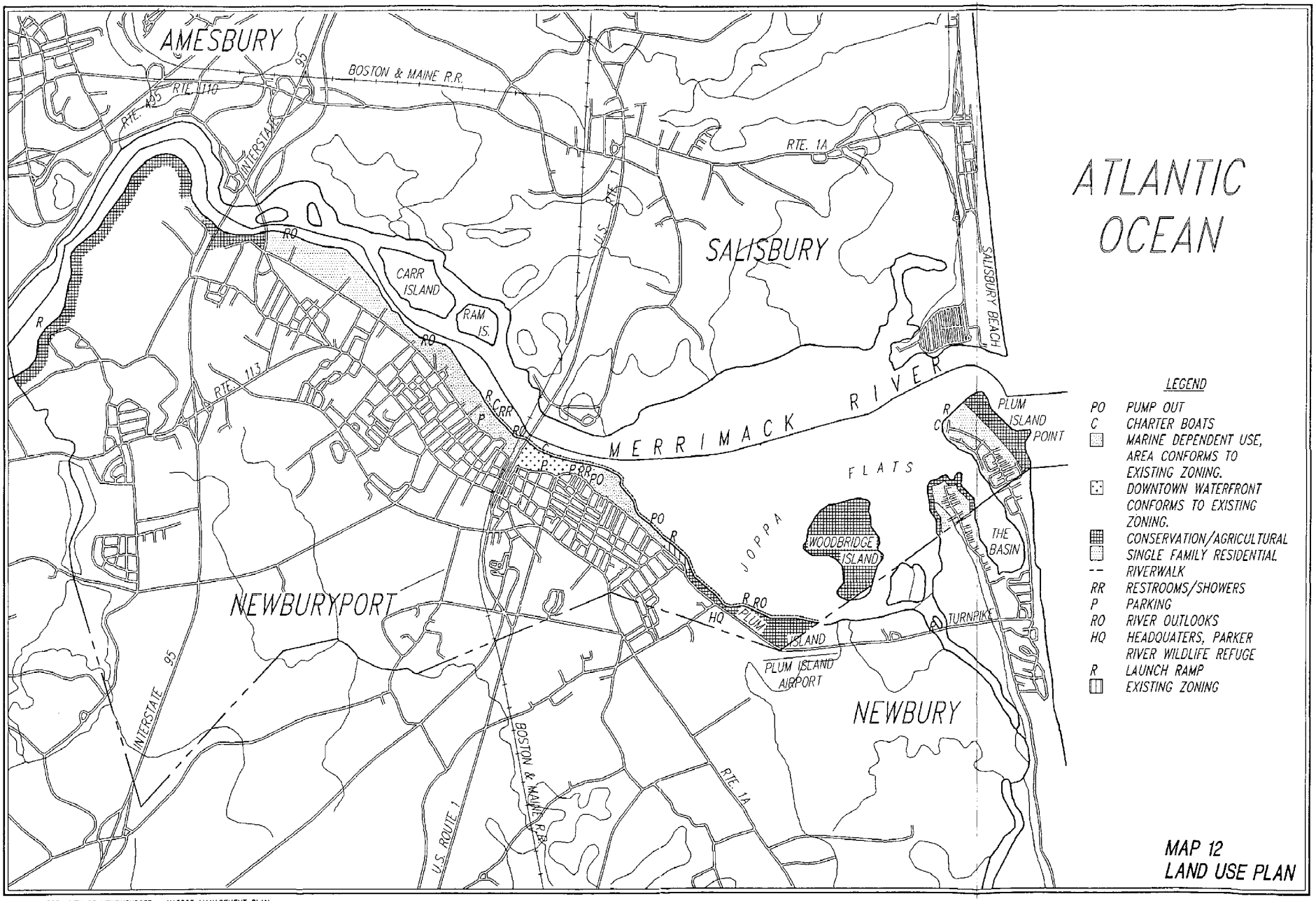
MAP 10
EXISTING LAND USE

PREPARED FOR: CITY OF NEWBURYPORT - HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER



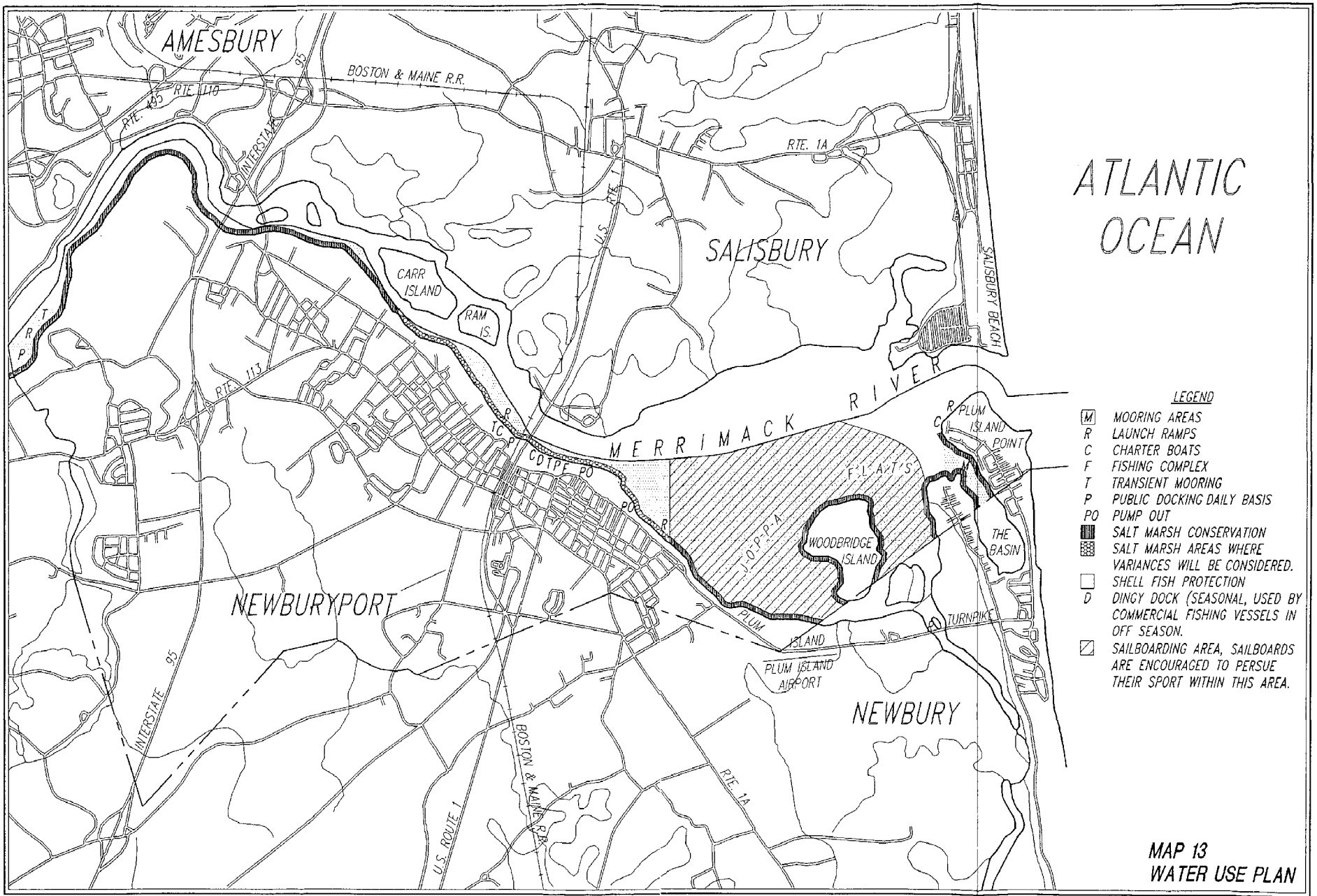
MAP 11
EXISTING WATER USE

PREPARED FOR: CITY OF NEWBURYPORT - HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER



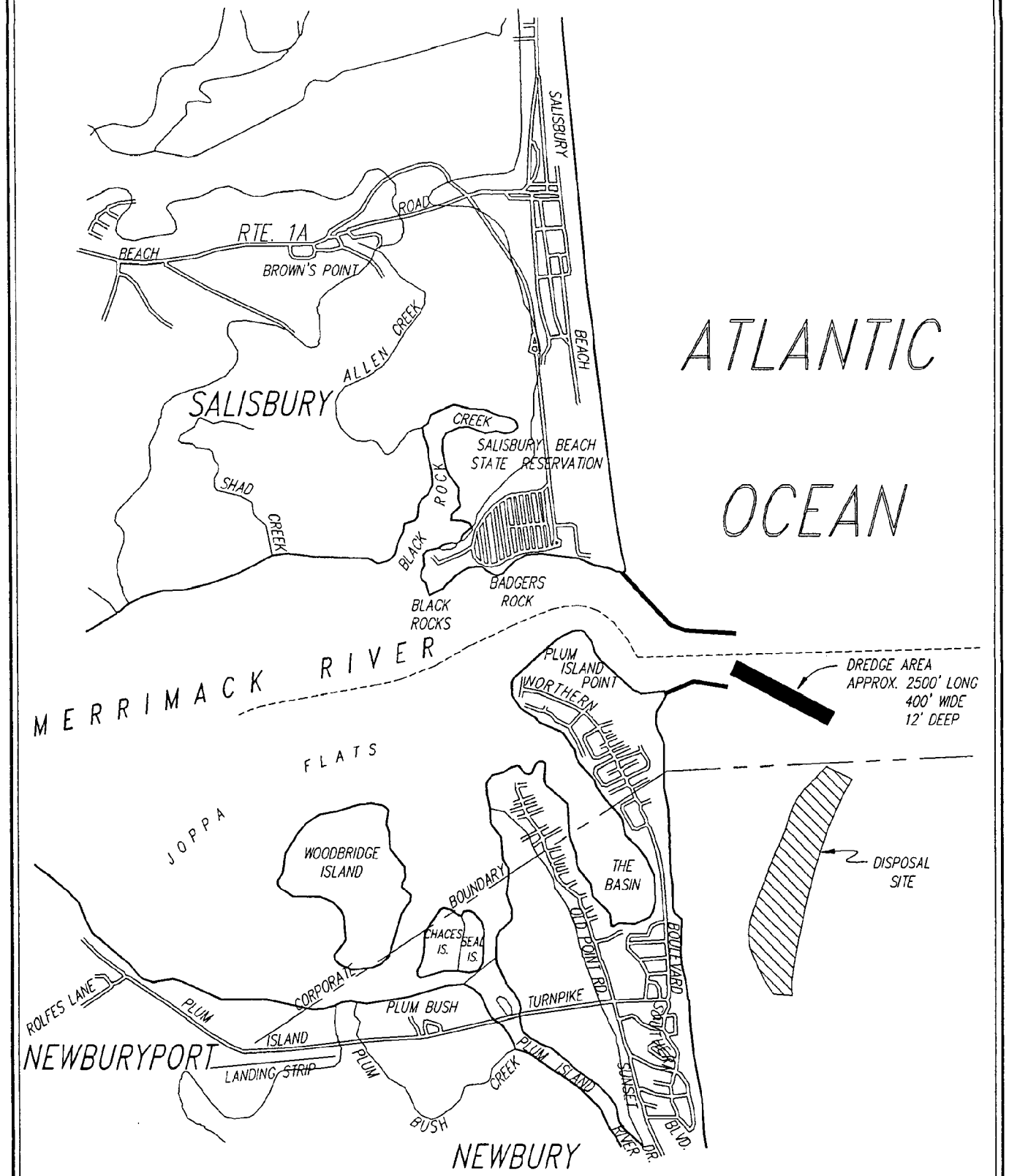
MAP 12
LAND USE PLAN

PREPARED FOR: CITY OF NEWBURYPORT – HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER



MAP 13
WATER USE PLAN

PREPARED FOR: CITY OF NEWBURYPORT - HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER



MAP 14
DREDGE DISPOSAL SITES

PREPARED FOR: CITY OF NEWBURYPORT – HARBOR MANAGEMENT PLAN
DRAWN BY: DRAFT MASTER

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