

NEW YORK CITY COMPREHENSIVE WATERFRONT PLAN

Reclaiming the City's Edge



DEPARTMENT OF CITY PLANNING ■ CITY OF NEW YORK

NEW YORK CITY
COMPREHENSIVE WATERFRONT PLAN
Reclaiming the City's Edge

For Public Discussion
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CONTENTS

EXECUTIVE SUMMARY	i
1 INTRODUCTION: SETTING THE COURSE	1
2 PLANNING FRAMEWORK	5
HISTORICAL CONTEXT	5
LEGAL CONTEXT	7
REGULATORY CONTEXT	10
3 THE NATURAL WATERFRONT	17
WATERFRONT RESOURCES AND THEIR SIGNIFICANCE	17
Wetlands	18
Significant Coastal Habitats	21
Beaches and Coastal Erosion Areas	22
Water Quality	26
THE PLAN FOR THE NATURAL WATERFRONT	33
Citywide Strategy	33
Special Natural Waterfront Areas	35
4 THE PUBLIC WATERFRONT	51
THE EXISTING PUBLIC WATERFRONT	52
THE ACCESSIBLE WATERFRONT: ISSUES AND OPPORTUNITIES	63
THE PLAN FOR THE PUBLIC WATERFRONT	70
Regulatory Strategy	70
Public Access Opportunities	71
5 THE WORKING WATERFRONT	83
HISTORY	83
THE WORKING WATERFRONT TODAY	85
WORKING WATERFRONT ISSUES	101
THE PLAN FOR THE WORKING WATERFRONT	106
Designation Significant Maritime and Industrial Areas	107
JFK and LaGuardia Airport Areas	114
Citywide Strategy for the Working Waterfront	115

6	THE REDEVELOPING WATERFRONT	119
	THE REDEVELOPING WATERFRONT TODAY	119
	THE IMPORTANCE OF REDEVELOPMENT	122
	WATERFRONT DEVELOPMENT ISSUES	125
	REDEVELOPMENT CRITERIA	127
	THE PLAN FOR THE REDEVELOPING WATERFRONT	128
7	WATERFRONT ZONING PROPOSAL	145
	WATERFRONT AREA	146
	ZONING LOTS	147
	CALCULATING FLOOR AREA ON WATERFRONTAGE LOTS	148
	DEFINITION OF WATER DEPENDENT & WATERFRONT ENHANCING USES	148
	WATERFRONT USE REGULATIONS	152
	FLOATING (IN-WATER) STRUCTURES	154
	OVERWATER STRUCTURES (PIERS AND PLATFORMS)	156
	WATERFRONT PUBLIC ACCESS	162
	VISUAL CORRIDORS	166
	HEIGHT AND SETBACK, OPEN SPACE AND YARD REQUIREMENTS	168
	PARKING WITHIN THE WATERFRONT AREA	182
8	NEXT STEPS: IMPLEMENTATION STRATEGIES	185
	PUBLIC PARTICIPATION	185
	ZONING REFORM	185
	CITY MAP CHANGES	186
	WATERFRONT REVITALIZATION PROGRAM REFORM	187
	PUBLIC INVESTMENT	187
	COORDINATION	189

APPENDICES

- A Summary of Reach Recommendations
- B Waterfront Revitalization Program Policies
 - Bibliography
 - Acknowledgements
 - Credits

MAPS

2.0	Coastal Zone Boundary	12
3.0	Wetlands	19
3.1	Significant Coastal Fish & Wildlife Habitat Designations	23
3.2	Erosion Hazard Areas	25
3.3	New York Harbor Water Quality Goals	27
3.4	Water Pollution Control Plants	29
3.5	Combined Sewer Overflow Abatement Program	31
3.6	Jamaica Bay Special Natural Waterfront Area	37
3.7	Staten Island Special Natural Waterfront Area	43
3.8	Long Island Sound Special Natural Waterfront Area	46
4.0	Existing Waterfront Public Access/The Bronx	54
4.1	Existing Waterfront Public Access/Manhattan	56
4.2	Existing Waterfront Public Access/Queens	59
4.3	Existing Waterfront Public Access/Brooklyn	60
4.4	Existing Waterfront Public Access/Staten Island	62
4.5	Waterfront Greenways	67
4.6	Public Waterfront Recommendations/The Bronx	73
4.7	Public Waterfront Recommendations/Manhattan	75
4.8	Public Waterfront Recommendations/Queens	77
4.9	Public Waterfront Recommendations/Brooklyn	79
4.10	Public Waterfront Recommendations/Staten Island	81
5.0	Existing Waterfront Manufacturing Zoning Districts	86
5.1	Maritime and Water Dependent Industrial Uses	89
5.2	Marina Uses	92
5.3	Commercial Cruise and Excursion Uses	94
5.4	Water-Dependent Transportation	96
5.5	Highway/Rail/Intermodal Network	98
5.6	Utilities and Municipal Water-Dependent Uses	100
5.7	Harbor Drift Project	105
5.8	Significant Maritime/Industrial Areas	108
6.0	Existing Waterfront Residential and Commercial Zoning Districts and Approved Redevelopment Projects	120
6.1	The Plan for the Redeveloping Waterfront/The Bronx	135
6.2	The Plan for the Redeveloping Waterfront/Brooklyn	137
6.3	The Plan for the Redeveloping Waterfront/Manhattan	139
6.4	The Plan for the Redeveloping Waterfront/Queens	141
6.5	The Plan for the Redeveloping Waterfront/Staten Island	143

FIGURES

2.0	WRP Consistency Review	13
7.1	Waterfront Area	147
7.2	Waterfront Zoning Lot	149
7.3	Calculating Floor Area	149
7.4	Piers/Platforms: Configuration	157
7.5	Proposed Envelope and Public Access Requirements for Pier Development: High Coverage	159
7.6	Proposed Envelope and Public Access Requirements for Pier Development: R1-R6 Zones	159
7.7	Proposed Envelope and Public Access Requirements for Pier Development: R7-R8 Zones	161
7.8	Proposed Envelope and Public Access Requirements for Pier Development: R9-R10 Zones	161
7.9	Waterfront Public Access (Higher-Density Development)	165
7.10	Waterfront Access Plan with Visual Corridors	165
7.11	Waterfront Yard (Lower Density Development)	167
7.12	Visual Corridors	167
7.13	Urban Design Case Study: Existing R6A Regulations	170
7.14	Urban Design Case Study: Existing R6 Height Factor Development Regulations	171
7.15	Urban Design Case Study: Proposed R6 Height & Setback Regulations	173
7.16	Waterfront Zoning Lot	176
7.17	Bulk Diagrams: R6 Districts	177
7.18	Bulk Diagrams: R7 Districts	178
7.19	Bulk Diagrams: R8 Districts	179
7.20	Bulk Diagrams: R9 Districts	180
7.21	Bulk Diagrams: R10 Districts	181

TABLES

6.0	Bronx: Existing Projects & Proposed Redevelopment Opportunities	134
6.1	Brooklyn: Existing Projects & Proposed Redevelopment Opportunities	136
6.2	Manhattan: Existing Projects & Proposed Redevelopment Opportunities	138
6.3	Queens: Existing Projects & Proposed Redevelopment Opportunities	140
6.4	Staten Island: Existing Projects & Proposed Redevelopment Opportunities	142
7.1	Water Dependent Uses	150
7.2	Waterfront Enhancing Uses	151
7.3	Parking for Docks, Sightseeing and Excursion Vessels, and Ferries	154
7.4	Height Controls for Developments Requiring a Special Permit on Floating Structures	155
7.5	Height and Setback Regulations for Piers	158
7.6	Waterfront Public Access Requirements	163
7.7	Lot Coverage, FAR and Density	172
7.8	Maximum Height and Packing Requirements	175

EXECUTIVE SUMMARY

NEW YORK CITY COMPREHENSIVE WATERFRONT PLAN

New York City's waterfront is a valuable but still untapped resource. Decades of declining maritime activity have left much of the city's waterfront dormant. Today, after years of neglect and revitalization attempts stalled by the clash of competing interests, New Yorkers are coming together to fulfill the public's claim to productive use and increased enjoyment of this resource.

The Comprehensive Waterfront Plan proposed by the Department of City Planning responds to this extraordinary planning opportunity. For the first time in the city's history, it provides a framework to guide land use along the city's entire 578-mile shoreline in a way that recognizes its value as a natural resource and celebrates its diversity. The plan presents a long-range vision that balances the needs of environmentally sensitive areas and the working port with opportunities for waterside public access, open space, housing and commercial activity.

The plan envisions a 21st century waterfront where:

- parks and open spaces with a lively mix of activities are within easy reach of communities throughout the city;
- people once again swim, fish and boat in clean waters;
- natural habitats are restored and well cared for;
- maritime and other industries, though reduced in size from their heyday, thrive in locations with adequate infrastructure support;
- ferries crisscrossing the city's harbor and rivers, and interconnected systems of bikeways and pedestrian pathways help lessen traffic congestion and air pollution;
- panoramic water views of great beauty are preserved or created; and
- the city's needs for new housing and jobs for people of diverse income levels are satisfied in attractive and safe surroundings.

Fortunately, all of these needs and opportunities can be accommodated in suitable locations on what is arguably the longest and most diverse municipal waterfront in the nation. The city's waterfront encompasses coastal beaches and pristine wetland habitats, small homes set beside lagoons and creeks, high-rise apartments and office buildings with magnificent views of bridges and skylines, parks and esplanades, airports and heliports, and bulkheaded areas active with shipping, industry and a variety of municipal uses.

The plan capitalizes on the size and diversity of the city's waterfront to address the historic competition between commerce and recreation for use of waterfront land. It seeks to balance these competing interests by recognizing the importance of environmental values, by adjusting to the decline of traditional working waterfront uses, by protecting the city's important maritime assets, and by identifying new opportunities for expanding public use of the waterfront and for increasing its economic value.

The Comprehensive Waterfront Plan builds on the experience of the past. At the same time, the plan addresses today's conditions and works within a myriad of legal and regulatory parameters affecting the use and development of the city's waterfront. The concept of "public trust", which establishes that certain waterfront benefits are held in trust for all the people, is fundamental to the plan. The federal Coastal Zone Management Act of 1972, which led to the creation of the city's Waterfront Revitalization Program (WRP), is another important legal basis for the waterfront plan. Although WRP has been a positive influence on waterfront development for almost a decade, a revised and enhanced WRP would better articulate the city's goals for differing sections of the waterfront.

The plan is organized around the four principal functions of the waterfront:

- **The Natural Waterfront**, comprising beaches, wetlands, wildlife habitats, sensitive ecosystems and the water itself.
- **The Public Waterfront**, including parks, esplanades, piers, street ends, vistas and waterways that offer public open spaces and waterfront views.
- **The Working Waterfront**, where water dependent, maritime and industrial uses cluster or where various transportation and municipal facilities are dispersed.
- **The Redeveloping Waterfront**, where land uses have recently changed or where vacant and underutilized properties suggest potential for beneficial change.

The plan for each of these waterfront uses describes its goals, resources and major issues, and proposes short- and long-term strategies to guide land use change, planning and coordination, and public investment. Each plan, though presented separately, is interwoven with the others so that, together, they create a comprehensive vision for the entire waterfront.

The plan highlights three of the city's preeminent natural areas — encompassing roughly 30 percent of the waterfront — and proposes public policies to preserve and enhance their outstanding natural features. All over the city, neighborhoods would be reconnected to the waterfront. More than 100 sites are recommended for new or improved waterside public spaces: nearly 50 new public parks and existing parks where new attractions could be created at the water's edge; 25 public street ends that, with modest improvements, could provide points of access for nearby residents and workers; and another 40 sites where public access would be a mandatory component of new residential or commercial development.

In response to the decline in manufacturing and the derelict condition of many waterfront industrial properties, the plan recommends that some 500 acres of manufacturing-zoned land be rezoned for residential, commercial and recreational use. Based on proposed densities, 50,000 to 75,000 housing units could be built on the parcels recommended for rezoning and on those that have already been approved (e.g., Hunters Point and Arverne). Even with these bold initiatives, the plan ensures that sufficient land will be available to meet the needs of industry and the working waterfront. Thirty percent of the city's shoreline is presently zoned for industrial use. Most of that zoning would remain in place, particularly in six Significant Maritime and Industrial Areas with an estimated total of 4,000 waterfront acres, where land use and public investment strategies would support and promote working waterfront uses.

As an essential counterpart to land use guidelines, the plan proposes an unprecedented set of zoning reforms that address the unique qualities of waterfront property. Waterfront zoning regulations, to be incorporated in a new section of the Zoning Resolution, would streamline the waterfront regulatory process, increase public access, facilitate water dependent uses, and encourage appropriately scaled waterfront development with a compatible and lively mix of uses.

A summary of the plan's principal recommendations follows.

THE NATURAL WATERFRONT

To protect and enhance the city's natural resources, the plan for the Natural Waterfront distinguishes between waterfront areas characterized by a convergence of significant natural features and those with less environmental value which serve important social and economic functions. The plan presents a set of strategies to address natural waterfront issues citywide, and it designates three natural areas with special significance, which merit heightened attention and strategies tailored to their unique environments. WRP policies would be modified to give added weight and greater specificity to natural resource values in these areas.

Citywide Strategies

For the city's tidal and freshwater wetlands, enhanced regulatory coordination and management strategies are proposed to establish wetland acquisition priorities; consider appropriate development controls; reduce illegal dumping; and develop realistic mitigation alternatives for actions that would adversely affect existing wetlands.

The plan supports designation, as proposed by the Department of State, of 15 Significant Coastal Fish and Wildlife Habitats and suggests the development of specific buffer and stormwater runoff controls adjacent to these areas.

To combat coastal erosion, the plan calls for continuation of the federal government's beach nourishment program for Rockaway and Coney Island, including Seagate and Plumb Beach, and recommends the city's participation in the Long Island South Shore Monitoring Program.

The plan endorses continuation of the city's water quality improvement programs including upgrading water pollution control plants, advancing the Combined Sewer Overflow Abatement and Floatables Programs, and increasing water conservation efforts. It advocates a contaminated sediment dredging program to clean up Newtown Creek, Gowanus Canal and Coney Island Creek; and a coordinated citywide strategy to address non-point stormwater runoff pollution.

Special Natural Waterfront Areas

Jamaica Bay is one of the few remaining intact natural ecosystems in New York City. The plan for Jamaica Bay recommends policy and program coordination in cooperation with the public-private Jamaica Bay Task Force to deal with buffer and non-point stormwater runoff standards, tidal circulation within the bay and illegal dumping in wetland and buffer areas. Disposition strategies are proposed for seven large city-owned sites. Parkland designation is recommended for much of this land; where development is proposed, guidelines would be imposed to protect natural features.

The Harbor Herons Complex, in the industrial northwest corner of Staten Island, is comprised of an interconnecting network of tidal and freshwater wetlands along the Arthur Kill. The plan proposes establishment of a management and research program, continued acquisition of sensitive ecosystems, development of specific buffer and stormwater runoff standards, and development of additional land use controls within this area, if determined to be necessary.

The Long Island Sound/Upper East River area is characterized by natural intertidal rocky shorelines, shallow bays, and tidal and freshwater wetlands. The plan calls for transfer of the most sensitive city-owned property to the Department of Parks and Recreation, limited acquisition of private property, street demapping in wetland areas and the development of specific buffer and stormwater runoff guidelines. The plan also acknowledges the potential for environmental restoration of Flushing Bay.

THE PUBLIC WATERFRONT

Waterfront views and easy access to the waterside for recreation and relaxation are eagerly sought amenities in cities everywhere. New York City is fortunate to have a vast, unique system of public parks that cover more than 40 percent of its shoreline. Another legacy — undeveloped waterfront parkland, derelict harborfronts, and unevenly distributed waterfront access opportunities — has left many of the city's communities with little or no connection to the water's edge.

One of the overriding principles of the waterfront plan is to reestablish the public's connection to the waterfront by creating opportunities for visual, physical and recreational access. New waterfront public access can be created throughout the city as a result of redevelopment, along with improved access at existing waterfront parks, and limited opportunities for new waterfront parks.

Regulatory Strategy

To ensure development of a more publicly accessible waterfront, the Zoning Resolution would be amended to establish mandatory waterfront access requirements in all medium- and high-density residential and commercial developments, and in large, low-density developments in multifamily zoning districts. It would also allow for the mapping of Waterfront Access Plans where local conditions warrant special consideration.

The public access provisions would require:

- continuous access parallel to the shore;
- upland connectors perpendicular to the shoreline;
- additional publicly accessible open space as part of large developments;
- no-build setbacks along all residential and commercial shoreline development;
- minimum design standards; and
- view corridors located to ensure visual access to the water.

Public Access Opportunities

The plan calls for waterfront access improvements in all five boroughs. The improvements would:

- provide public waterfront access for adjacent underserved communities;
- create linkages to extend the existing network;
- promote tourism and provide visual relief in densely developed areas;
- promote use of the water as a recreational resource; and
- provide safe, usable and well-maintained waterside public spaces.

In the **Bronx**, linear public access corridors are proposed along the Hudson River, the Harlem River, Soundview Park and Ferry Point Park. A new connection to Randalls Island would increase access to this underutilized recreational resource. Development of point access, in the form of street ends and waterfront park nodes, is recommended along Eastchester Bay and at strategic locations in the industrial South Bronx.

The plan for **Brooklyn** proposes waterfront access along the East River and Upper Bay in conjunction with new waterfront development, and the use of public land and street ends to create public open spaces for communities that are presently cut off from their waterfronts. To the south, the plan recommends the eventual completion of a waterfront greenway along Shore Parkway, Coney Island, and Jamaica Bay. No public access is proposed along Newtown Creek or Gowanus Canal, major industrial areas.

Manhattan would be the most highly developed public shoreline owing to its density and the extent of its existing parks and esplanades. Continuous public access is recommended around virtually the entire borough. Gaps in the East Side public access system would be addressed by interim and long-term strategies. The plan recognizes the impracticality of continuous public access along the Harlem River and proposes bridge connections to an esplanade on the Bronx side of the river.

The plan for **Queens**, particularly along the East River, would incorporate new public access opportunities in redevelopment, and would link existing open spaces. Additional waterfront opportunities are possible at several locations along Flushing Bay and Long Island Sound. Along Jamaica Bay and the Rockaways, where most of the waterfront is public beach or environmentally-sensitive, there are nevertheless some opportunities to extend public access.

Several redevelopment opportunities along **Staten Island's** north shore would facilitate development of the North Shore Esplanade proposed by City Planning in 1988. Staten Island's public access system may also benefit from combined rail/trail use of the North Shore and Travis railroad rights-of-way and the eventual closure of the Fresh Kills Landfill. Improvements to the Island's south shore beachfront from Conference House Park to Fort Wadsworth will enhance this important recreational resource.

THE WORKING WATERFRONT

The city's working and industrial waterfront uses include four categories of water dependent uses: maritime, maritime support and industrial; marina and marina support; commercial excursion and boating; and transportation uses (ferries, airports, heliports and rail car float facilities). The working waterfront also includes municipal and utility uses, some of which are water dependent, and industrial uses that are not water dependent.

Certain water dependent uses tend to cluster in particular areas because of locational criteria or hydrographic conditions. Others are dispersed along the waterfront according to market or service catchment areas. Industrial uses for the most part are concentrated in areas with manufacturing zoning and good access to Manhattan.

Most of the port's ocean-going shipping is centered in New Jersey. Only portions of the Staten Island and Brooklyn waterfronts remain useful for this purpose. However, the city's side of the harbor contains several marine terminals, many of the port's maritime support services, and an increasing number of commercial excursion boats, marinas and ferries.

Fundamental objectives of the waterfront plan are to facilitate and encourage water dependent uses and to ensure the retention of sufficient manufacturing-zoned land to accommodate future needs. In support of these goals, the plan identifies infrastructure improvements necessary to sustain working waterfront uses, and opportunities for waterborne transportation of goods and people and for intermodal connections involving water, rail, highway and airport linkages.

Significant Maritime and Industrial Areas

Based upon criteria relating to the present and future needs of water dependent industries, the plan designates six Significant Maritime and Industrial Areas to protect and encourage concentrated working waterfront uses.

- The Kill Van Kull in Staten Island from Howland Hook to Snug Harbor
- The Brooklyn waterfront from Erie Basin to Owls Head
- The Brooklyn waterfront from Pier 6 through the Red Hook Containerport
- The Brooklyn Navy Yard
- The Queens and Brooklyn shores of Newtown Creek
- The South Bronx (Port Morris and Hunts Point)

A number of actions are recommended for the Significant Areas to guide land use decisions, land disposition policy and public investment strategies, and to promote better interagency coordination to facilitate intermodal development. Maintaining the manufacturing zoning in these Significant Areas would ensure sufficient land to accommodate the future needs of the working waterfront. Disposition of publicly-owned property and municipal facilities proposed for locations within the Significant Areas should encourage the inclusion of water dependent elements and use of intermodal facilities. Access improvements are identified to provide better connections to the region's highway network for the movement of goods.

Airports

The plan recognizes the importance of Kennedy and LaGuardia airports to the local and regional economy and the need to ensure their safe operation. It calls for improvements that would support their operations and air cargo facilities, including better ground access and waterborne transportation of goods and people.

Citywide Strategy

In addition to strategies for the Significant Areas and Airports, the plan recommends capital investment, financing, and regulatory strategies for other waterfront industrial areas and for dispersed working waterfront uses. A proposed inter-agency task force would develop a long-range port improvement and investment program, including development priorities for port-related infrastructure. The Zoning Resolution would be amended to facilitate new water dependent developments by increasing the number of locations in which ferries, excursion boats, marinas and marina support facilities would be permitted. Public access in waterfront industrial areas would be encouraged only for public projects where safety could be assured and access designed to avoid interference with industrial uses.

THE REDEVELOPING WATERFRONT

With the decline of industrial and maritime uses on the waterfront, some areas currently zoned for manufacturing, as well as areas zoned for residential and commercial development, offer opportunities for redevelopment that would revitalize the waterfront. Redevelopment of these areas for residential, office, retail and community facility uses could create important opportunities for public access and open space.

In addition to identifying locations where new residential or commercial development is currently permitted and no further discretionary planning approvals are needed, the plan proposes changes in land use for large vacant or underutilized sites where new development would be appropriate. Many of these sites are in manufacturing zones where the land is not needed for industrial development and where reuse would generate jobs, revenues and new residential communities.

Past rezonings and other discretionary actions for waterfront redevelopment have highlighted the inadequacies of the Zoning Resolution in regulating waterfront development, particularly with respect to public access and open space, design controls, and view corridors. Waterfront revitalization also has been constrained by regulations that limit water-related uses such as ferries, accessory marinas, floating restaurants, and seasonal commercial uses along esplanades.

Regulatory review and infrastructure capacity also affect the timing, location, use and density of new waterfront development. The waterfront plan can facilitate redevelopment by establishing land use policies and zoning controls that provide a predictable framework for new construction.

Redevelopment Opportunities

The goals of waterfront redevelopment can be achieved in large part by two mechanisms: amending the text of the Zoning Resolution to better regulate waterfront development, and applying the amended regulations to specific areas appropriate for rezoning.

The land use criteria considered in determining areas appropriate for reuse include the presence of substantial amounts of vacant or underutilized land; absence of unique or significant natural features or, if present, the potential for compatible development; proximity to residential or commercial uses; the potential for strengthening upland residential or commercial areas and for opening up the waterfront to the public; the availability of neighborhood services; and the number of jobs potentially displaced balanced against the new opportunities created by redevelopment.

In the **Bronx**, several sites on vacant or underutilized land along the Harlem River would be suitable for medium-density residential development. There are fewer redevelopment opportunities along the East Bronx waterfront which is lined with major parks, natural areas and built-up residential neighborhoods. Previously approved lower-density residential projects in the East Bronx include Shorehaven and Castle Hill Estates.

The **Brooklyn** waterfront from Newtown Creek south to Owls Head Park is zoned for manufacturing. Although the zoning would be retained along most of this waterfront, several privately-owned sites in Greenpoint and Williamsburg meet the criteria for residential reuse. Brooklyn Piers 1 through 5 and a portion of the Red Hook peninsula also provide redevelopment opportunities. To the south, opportunities include the rebuilding of Steeplechase Amusement Park and housing development in Coney Island, and commercial development to complement the "fishing village" character of Sheepshead Bay.

In **Manhattan**, specific redevelopment opportunities along the West Side and in Lower Manhattan will be shaped largely by several planning efforts under way. Redevelopment nodes on the West Side have been designated to allow for a balanced revitalization program. The East Side and Lower Manhattan offer locations for a mix of water-related and publicly-oriented uses, for example, a reconstructed ferry terminal with stores and restaurants. Feasibility studies are being conducted for the proposed Harlem on the Hudson project at West 125th Street, and a portion of the Sherman Creek industrial area is recommended for rezoning.

In western **Queens**, the Hunters Point mixed use project and the nearby East River Tennis Club project were previously approved, and residential reuse of selected sites north of these projects is recommended. On the Flushing River, a portion of underutilized M3 land presents opportunities to extend the downtown to the waterfront and provide open space. In addition to the approved Arverne residential project in the Rockaways, redevelopment and revitalization is recommended in the Edgemere section through construction of housing, support services and infrastructure improvements.

Along **Staten Island's** north shore, the St. George Ferry Terminal and the adjacent Chessie Rail Yard site provide opportunities for a new civic, transportation and visitor center, as well as medium-density residential and commercial development. Several lower-density projects are under way or have been approved for the Outerbridge area and the south shore near Tottenville. Sections of the industrially-zoned area south of the Outerbridge Crossing may be suitable for lower-density housing and water-related uses.

The redevelopment opportunities identified in each borough represent a diversified mix of uses and densities. The choice of areas balances waterfront planning objectives by taking into consideration the needs and goals of the working, natural and public waterfronts.

WATERFRONT ZONING PROPOSAL

In accordance with comprehensive plan recommendations, the waterfront zoning proposal would introduce mandatory public access requirements, encourage water dependent and waterfront-enhancing uses, and ensure that the scale of development is appropriate for the waterfront. The proposed regulations, which would apply primarily on waterfront blocks, would require public access and view corridors in most non-industrial developments. They would establish specific height and setback requirements and regulate uses, bulk and height on piers and platforms. Many of the specific controls would exempt water dependent and industrial uses; others would be modified to foster water dependent uses like ferries and marinas and water-enhancing recreation and commercial activities in more locations.

The proposed changes generally would be applicable only when areas are rezoned or redeveloped for residential or commercial use. To the extent possible, the proposal incorporates as-of-right regulations to streamline the regulatory process, make zoning more predictable, and minimize the cost of development and city regulation.

Waterfront Use Regulations

The proposal would foster water dependent and water-enhancing uses by expanding the range of zoning districts in which they are permitted. For example, sightseeing or excursion boats, now permitted only in manufacturing districts, would also be permitted in several commercial districts. Ocean-going passenger ships would be permitted in central business districts as well as manufacturing districts, to expand the uses permitted where the ship terminals are presently located or where they would be desirable. To broaden opportunities for marina development, the proposal would permit marinas constructed as part of a residential development to be used by non-residents as well.

Floating Structures

Water dependent uses, small restaurants and cultural activities would be encouraged on floating structures. Special permits would be required for other water-enhancing uses and such uses as government facilities and power plants.

Waterfront Public Access

The proposal would establish mandatory requirements for public access on waterfront zoning lots in mid- to high-density residential and commercial developments, and in large residential developments in lower-density zoning districts permitting multifamily development. Public access requirements would not be imposed on industrial uses. Although public access generally would not be required in lower-density residential developments, developments would be required to maintain a no-build zone along the waterfront for future public access should the city choose to provide it.

Residential and commercial developments would be required to provide public open space at the water's edge at the time of development, and public access and visual connections to these areas from the first upland street. Additional public open space would be required in certain instances. The generic requirements could be modified by mapping waterfront public access plans where the local context warrants a site-specific plan (e.g., to enhance a significant scenic view or to connect public parks).

Floor Area

To control the scale of waterside development, floor area would no longer be generated by lands under water beyond the bulkhead line, except for that portion of the lot covered by existing piers and platforms. Most of the underwater land, particularly in Manhattan, is owned by the city. The possible transfer of bulk generated by piers and platforms to the upland portion of the zoning lot would be limited.

Piers and Platforms

New bulk controls and public access requirements would limit height, achievable floor area, and the placement of development on existing piers. Water dependent uses would be exempt from these requirements. Existing platforms would be subject to the same use, public access, visual corridor and bulk regulations as the upland lot. New piers and platforms would be permitted only for the development of water dependent and waterfront enlivening uses.

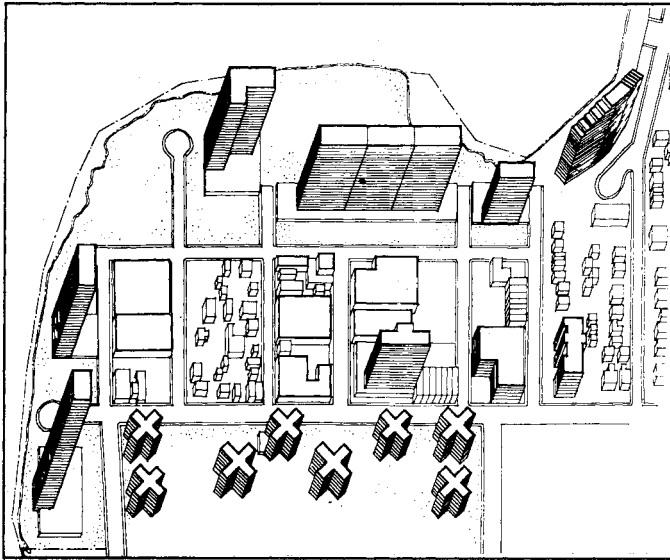
Height and Setback

In lower-density (R1 through R5) districts, the existing zoning regulations, which limit height to 40 feet, would ensure appropriately scaled waterfront development. In mid- to high-density (R6 through R10) zones, two options would be available: either the existing Quality Housing contextual zoning which encourages relatively low buildings, or a new set of bulk regulations tailored to the unique conditions of a waterfront setting. The existing "height factor" zoning in non-contextual R6 through R10 districts permits towers that might be excessively tall at the water's edge. If contextual regulations were used exclusively, however, they might not produce an interesting, varied and visually open waterfront.

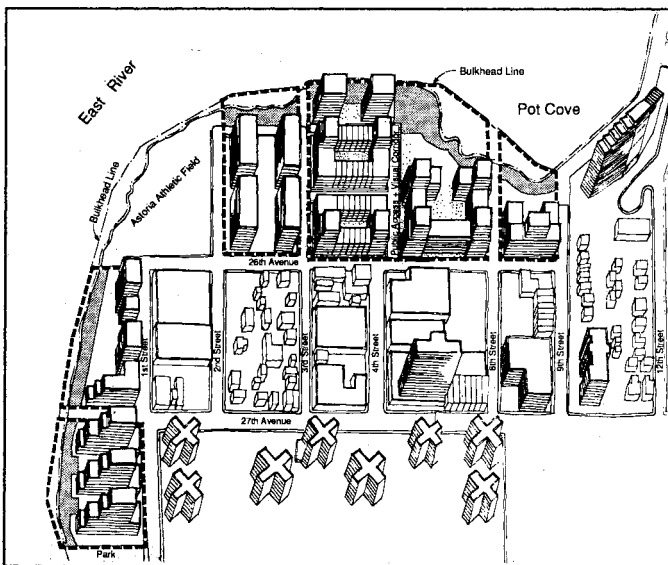
The proposed waterfront bulk regulations would replace height factor zoning in non-contextual mid- to high-density residential districts and their commercial equivalents. The new mandatory regulations would be flexible enough to permit the lower building forms of contextual zoning, but would also allow taller buildings of varied designs that maintain an urban context. Unlike height factor zoning, maximum height limits would be established and at least one-half the floor area in each building would have to be located below a certain height to reinforce the traditional street wall character and provide "eyes on the street". The proposed regulations would require building setbacks at specified levels to place the tower elements (if included) further from streets, visual corridors and public areas on the waterfront.

Parking

Parking regulations would exclude parking from public access areas and open spaces, and parking areas on waterfront blocks would have to be screened from public spaces. To provide greater site planning flexibility, the proposal would permit accessory parking to be located off-site if it met certain location, size and screening conditions.



*Permitted
development
under the
CURRENT R6
zoning regulations*

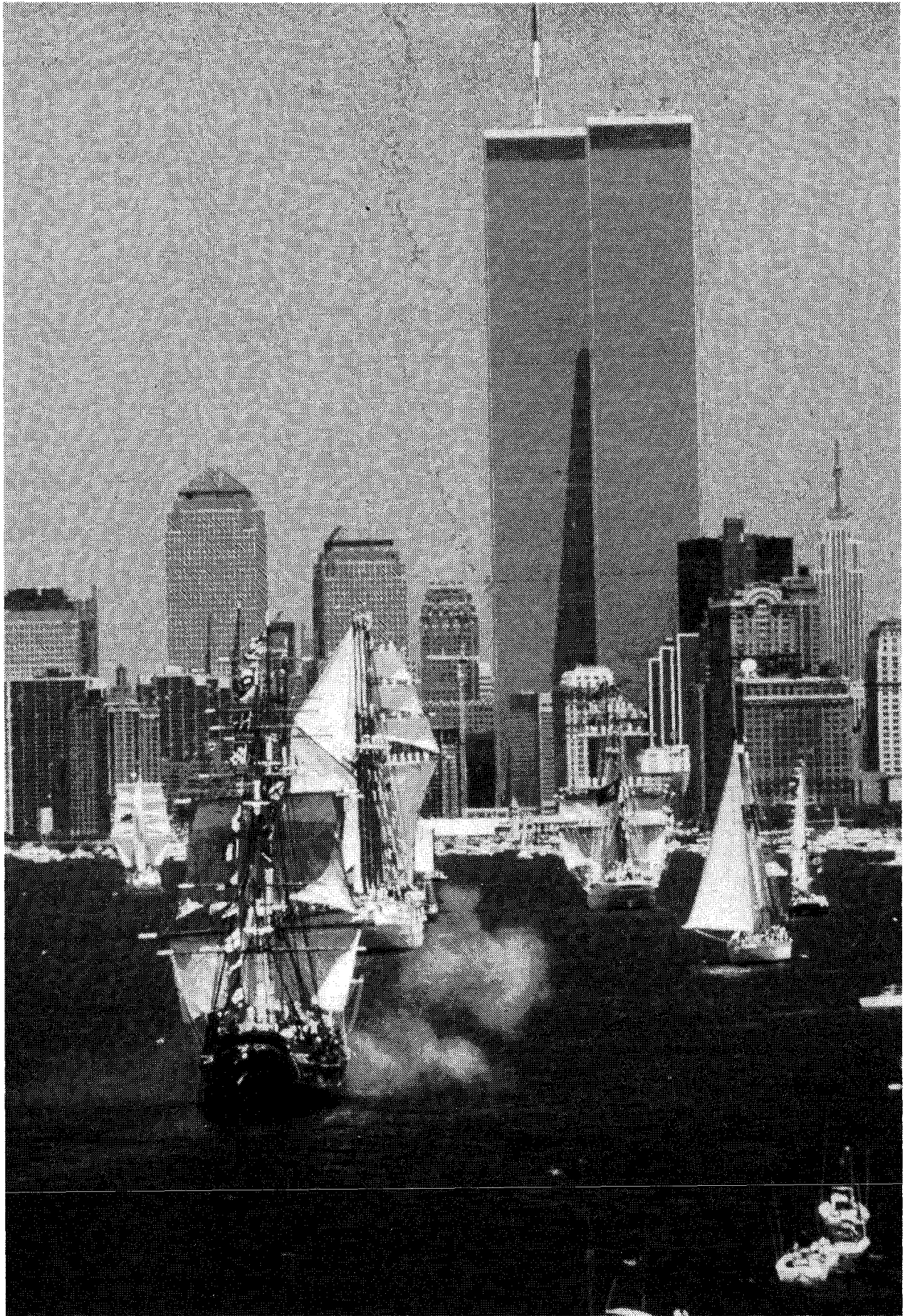


*Permitted
development
under the
PROPOSED R6
zoning regulations
with public access
indicated in gray*

CONCLUSION

Taken together, the land use changes, zoning text amendments, public investment strategies and regulatory revisions recommended in this plan signal a new beginning for the city's waterfront. The collaborative process that guided development of the plan will continue this fall when the Department of City Planning convenes a series of public meetings with community boards, public officials and agencies, and civic and neighborhood organizations. In response to the ensuing dialogue, the Department will modify the plan as appropriate, file zoning text amendments for public review, and revise the Waterfront Revitalization Program.

The challenge ahead is to set a realistic course of action that will preserve our natural resources, strengthen our economy by providing new housing and jobs, and reclaim the city's edge for public use and enjoyment.



1

SETTING THE COURSE

"The waterfront is so important to New York City that a plan for the waterfront's future is a plan for the city's future," Report of the Commission on the Year 2000.

It has been widely accepted for some time that New York City's waterfront is a vast, untapped resource. Some have called it our last frontier, a place where change is possible and the promise of public benefit is great. For decades, ever since the emergence of the nation's environmental movement and the concurrent decline of traditional maritime and industrial activity along our shores, planners and policy makers have called for revitalization of this valuable resource.

Yet, despite an incomparable legacy of public parkland and some notable successes like Battery Park City and the South Street Seaport, many sections of the city's waterfront remain dormant and derelict, or inaccessible for public use and enjoyment.

The reasons for the slow pace of revitalization are complex: obsolete zoning regulations that ignore the unique qualities of the city's edge and inadequately address waterfront planning issues; an often confusing, lengthy and uncertain regulatory process that adds to the cost of both public and private redevelopment; a chronic shortage of public funds, even in the best of economic climates, for waterfront infrastructure and recreational improvements; and a longstanding tension between competing needs and uses for waterfront land that can stymie revitalization plans. These complexities result in a great missed opportunity to create new employment, housing and recreational benefits for all the people of this city.

The Comprehensive Waterfront Plan proposed by the Department of City Planning addresses this missed opportunity. For the first time in the city's history, it provides a

framework to guide land use along the city's entire shoreline in a way that recognizes its value as a natural resource and celebrates its diversity. The plan presents a long-range vision that balances the needs of environmentally sensitive areas and the working port with opportunities for waterside public access, open space, housing and commercial activity.

The plan envisions a 21st century waterfront where:

- parks and open spaces with a lively mix of activities are within easy reach of communities throughout the city;
- people once again swim, fish and boat in clean waters;
- natural habitats are restored and well cared for;
- maritime and other industries, though reduced in size from their heyday, thrive in locations with adequate infrastructure support;
- ferries crisscrossing the city's harbor and rivers, and interconnected bikeways and pedestrian pathways help lessen traffic congestion and air pollution;
- panoramic water views of great beauty are preserved or created; and
- the city's needs for new housing and jobs for people of all income levels are satisfied in attractive and safe surroundings.

Fortunately, all these needs and opportunities can be accommodated in suitable locations on what is probably the longest and certainly

among the most diverse municipal water frontages in the nation. The commonly accepted estimate of its length is 578 miles, and it is unusually varied in both use and physical setting. The city's waterfront encompasses coastal beaches and pristine wetland habitats, small homes set beside lagoons and creeks, high-rise apartments and office buildings with magnificent views of bridges and skylines, parks and esplanades, airports and heliports, and bulkheaded areas active with shipping, industry and a variety of municipal uses.

The comprehensive plan capitalizes on the size and diversity of the city's waterfront to address the historic competition between commerce and recreation for use of waterfront land. It seeks to balance these competing interests by recognizing the importance of environmental resources, by coming to grips with the decline of traditional working waterfront uses, by protecting the city's important maritime assets, and by identifying opportunities for expanding public use of the waterfront and for increasing its economic value.

As an essential counterpart to land use guidelines, the plan proposes a set of zoning reforms that can streamline the waterfront regulatory process and encourage appropriately scaled waterfront development with a lively and compatible mix of uses.

A plan of this scope would not have been possible without a foundation of programs, plans, and policies that have been evolving over the past 25 years. Federal legislation in the early 1970s was the first step in arousing the public's waterfront conscience. The Water Pollution Control Act of 1972 required construction of sewage treatment facilities; the city invested billions to upgrade its plants and build new ones; and soon the waters of the harbor improved. In the same year, Congress passed the Coastal Zone Management Act which encouraged state and local participation in programs to preserve, protect and enhance coastal resources.

In 1982, New York City became the first locality in the state to adopt a Waterfront Revitalization Program (WRP) to guide zoning and land use actions on the waterfront. The program established a Coastal Zone Boundary within which all discretionary actions are reviewed for consistency with WRP coastal policies. Administered by the Department of City Planning for the past ten years, the program has had a substantial positive effect on waterfront development in the city.

Under WRP auspices, the Department undertook a number of studies and plans that expanded its knowledge and understanding of waterfronts throughout the city. These studies, ranging from an analysis of trends in the Maritime Support Services Industry to an examination of the inadequacies of the 1961 Zoning Resolution with respect to the waterfront, have contributed to the development of this plan. Other City Planning studies (analyses of industrial trends and open space needs, for example) were also valuable sources of information. These studies informed and were informed by land and water use studies of local waterfront segments. For study purposes, the entire waterfront was divided into 22 "reaches" (a nautical term suggesting distance sailed), each with common characteristics. (See Appendix A for summaries of the Reach Studies. Other pertinent works are listed in the selected Bibliography.)

The plan has been informed as well by the ideas, expertise and guidance of a broad range of public and private participants in the planning process. A citywide Waterfront Advisory Committee, established a year ago, brought together a panel of 35 representatives of city, state and federal agencies, public officials and civic organizations with interests in natural resources, parks and open space, maritime and industrial uses, and housing and economic development. The committee worked with the Department throughout the year to identify and debate issues and opportunities affecting the future of the city's waterfront.

On the local level, consultation with borough and community boards throughout the plan's development brought an understanding of community concerns and opportunities for change along specific segments of the waterfront. A variety of task forces, such as the Jamaica Bay Task Force and the Manhattan Borough President's Waterfront Task Force, were especially helpful in shaping the strategies for those portions of the shoreline.

The Comprehensive Waterfront Plan, the culmination of a two-year effort, was made possible by generous grants from the United Nations Development Corporation and the New York State Department of State Coastal Management Program.

The plan starts with the framework upon which it rests — the historical, legal and regulatory contexts shaping the future use and development of waterfront land. The concept of "public trust," which establishes that certain waterfront benefits are held in trust for all the people, and other legal regimes are described to illuminate current public protections, private rights, and municipal powers.

Chapters 3 through 6 synthesize the citywide plan for each of the waterfront's principal functions.

- The Natural Waterfront, comprising beaches, wetlands, wildlife habitats, sensitive ecosystems and the water itself.
- The Public Waterfront, including parks, esplanades, piers, street ends, vistas and waterways that offer public open spaces and waterfront views.
- The Working Waterfront, where water-dependent, maritime and industrial uses cluster or where various transportation and municipal facilities are dispersed.
- The Redeveloping Waterfront, where land uses have changed recently or where vacant and underutilized properties suggest potential for beneficial change.

Each chapter sets forth the goals for that waterfront use, describes its existing resources and major issues, and proposes a plan of action with short- and long-term strategies. Though presented separately, each plan is interwoven with the others. Together they create a comprehensive plan for all of the city's waterfront.

Chapter 7 presents an innovative proposal for waterfront zoning reform, the chief tool for advancing many of the plan's recommendations. The proposed zoning text amendments aim to enliven the city's edges with appropriately scaled development and a harmonious mix of uses and public spaces.

The final chapter sums up the strategies for realizing the plan's recommendations for land use change, zoning text reform, public investment, and program and policy coordination. It sets out the next steps for public review and discussion of the plan so that it may be modified to reflect diverse public views and concerns.

The Comprehensive Waterfront Plan proposed in this report is presented for public discussion. By continuing the public and private collaboration that has guided its development, a consensus can emerge to put an end to years of indecision and wasted potential. It is an ambitious plan that will take decades to realize, but its vision can become a catalyst for the changes needed to reclaim the city's edge.



2

PLANNING FRAMEWORK

The Comprehensive Waterfront Plan builds on the history of New York Harbor. At the same time, the plan addresses today's conditions and works within a myriad of legal and regulatory parameters affecting the use and development of the city's waterfront. This chapter summarizes the history of our ever-changing waterfront; briefly describes the major federal, state and local laws and regulations that affect its development; and outlines the planning process for projects within the coastal zone, to illustrate the complexities of the approval process.

The historical concept of "public trust," which establishes that certain waterfront benefits are held in trust for all the people, is fundamental to the plan's objectives for public access and recreational use of the water's edge. The federal Coastal Zone Management Act of 1972, which led to the creation of state and local Coastal Zone Management Programs, provides another important legal basis for the waterfront plan. Coastal zone management establishes a variety of policy guidelines on natural resources, waterfront public access, maritime and water-dependent uses, and economic development in the coastal zone.

HISTORICAL CONTEXT

Throughout its history, New York Harbor has played an important role in the region's ecology and its physical and economic development.

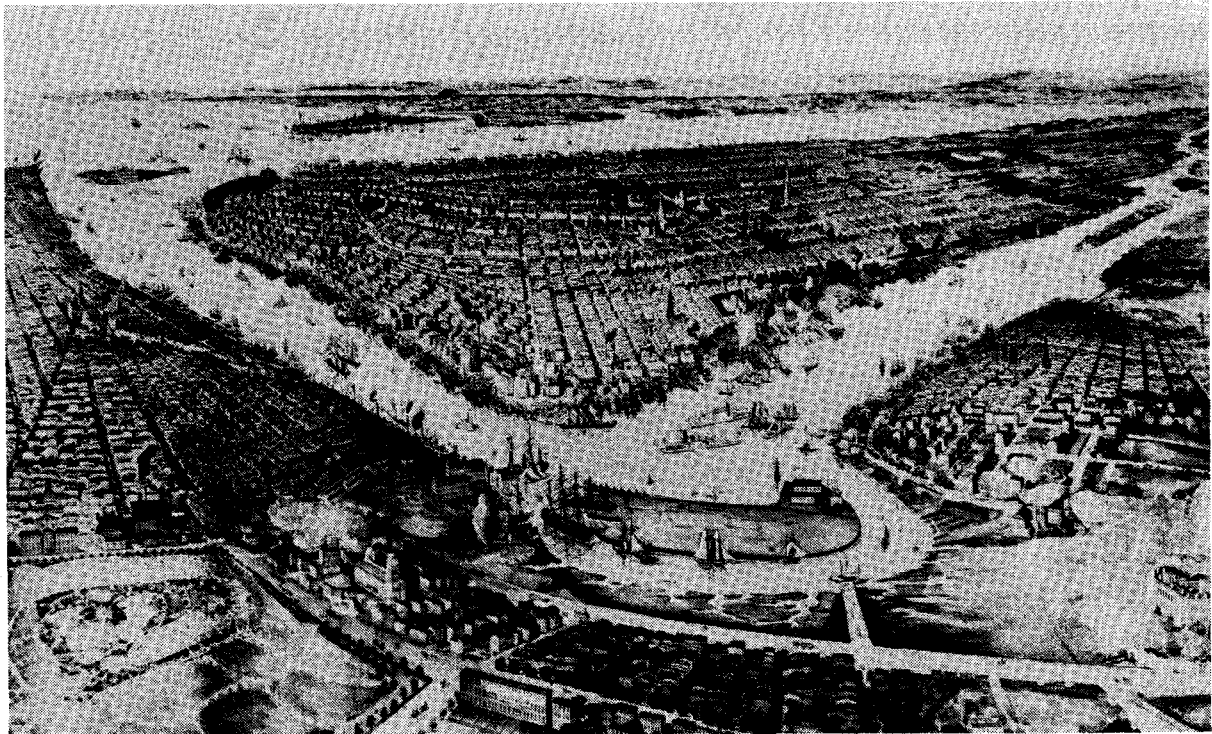
Thousands of years ago, glaciers created much of the estuary as they scraped and scoured the region. As the glaciers receded, they left behind marshes, barrier beaches and islands along the shoreline. The ocean, rivers and sound converged to form an environment that became home to a wide variety of flora and fauna, establishing the estuary as a place of unique biological diversity. Native American tribes, including the Wieckquaesgecks, the Algon-

quins, the Karnisi, the Rockaways and the Siwanoy, lived for thousands of years sustained by the natural bounty of the region.

The Dutch who settled the area in the 1620s began to alter the natural shoreline by filling in lowlands and constructing wharfs and docks to ease transport between the new world and the old. Wooden piers grew in size and number as industries like shipbuilding and commercial fishing became mainstays of the local economy. The harbor bottom and the courses of streams and rivers were altered continually to accommodate more and larger ships. The natural shoreline began to disappear, mainly along the eastern and western shores of lower Manhattan, and in Brooklyn and Queens along the East River.

By the mid-1800s, the Port of New York had become the nation's largest. Its vast expanse of shoreline provided tremendous growth potential for port and industrial facilities that imported raw materials and exported manufactured products. The harbor bustled with activity; ferries carried passengers and goods across the rivers and the bay. In the mid-19th and early 20th centuries, the waterways served as the means of entry for waves of immigrants to this country. The Port expanded beyond Manhattan to Brooklyn, Staten Island and New Jersey; it included hundreds of miles of developed facilities accommodating thousands of vessels.

Over the last 50 years, however, this pattern of waterfront and port use has changed radically. The invention of the automobile and the growth in trucking diminished the importance of waterways for transporting goods. Construction of bridges and tunnels linking New York City and New Jersey sharply reduced the need for ferries. Air transportation replaced ocean liners for intercontinental travel. Changes in maritime technology, specif-



View of East River, c.1859, looking west from Brooklyn to Manhattan

Source: Brooklyn Historical Society

ically containerization, increased the speed and efficiency of cargo shipment. Fewer but larger sites were required for shipping, contributing to the change in land use patterns along the waterfront. As water-dependent uses declined, large areas of the industrial waterfront became dormant.

During the 19th century, New York City's waterfront became a place of "health and pleasure" as well as a place for "the convenience of commerce." The idea of the waterfront as recreational space did not come easily given the shoreline's importance for commercial ventures. The Battery in lower Manhattan emerged in the early 1800s as one of the first waterfront parks where residents could take in the sights and fresh air of the harbor. Until the mid-1800s, further attempts to reserve waterfront acreage for public amenities met resistance on the ground of lost commercial opportunity. In the 1860s, however, Frederick Law Olmsted began planning for Riverside Park between West 72nd and West 129th Streets,

and soon the public was clamoring for more waterfront open space. Rowing clubs along the Harlem River began to use the water for active recreation and, by the turn of the century, Coney Island and Rockaway had become booming seaside resorts.

The recreational waterfront again underwent dramatic change beginning in the 1930s as Robert Moses, then the parks commissioner, created or rebuilt scores of parks, beaches and parkways along the city's waterfront, which significantly expanded public access in all five boroughs. Sometimes, however, the new parkways limited access to the water's edge.

In the late 1960s and early 1970s, the environmental quality of the waterfront became part of the nation's agenda. The federal Water Pollution Control Act of 1972 required the construction of sewage treatment facilities, and the waters of the harbor began to improve after decades of unconstrained pollution. City residents once again began to view

the water as a valuable resource for open space and recreation. Improved water quality, combined with large tracts of vacant land, fueled the desire to live, work and play near the waterfront.

Today, the city's waterfront — more than 500 miles of oceanfront and land along diverse bays, inlets, rivers and tributaries — is still used chiefly for recreation and commerce. Fully 42 percent of the waterfront is city, state or federal parkland which includes hundreds of acres of natural or undeveloped land, active recreation areas and narrow strips along highways and rail lines. Another 31 percent, or more than half the city's non-parkland waterfront, is zoned for industrial use, a figure that has remained relatively constant since the zoning amendments of 1961 were adopted. The steady decline since then in industrial and maritime uses has left portions of these areas vacant and underutilized. The remaining waterfront is divided between residential and commercial zoning districts: 20 percent residential, primarily lower-density districts; and about six percent commercial, primarily C3 zoning which permits water-related uses and lower-density residential development.

LEGAL CONTEXT

The law governing use of the New York City waterfront is an amalgam of common law, regulatory and statutory regimes that were formulated over the course of the city's history. A review of these legal regimes and their interactions clarifies current municipal powers, private rights and public protections.

THE PUBLIC TRUST DOCTRINE AND PRIVATE RIPARIAN RIGHTS

Historically, the common law provided that, absent other state action, the property rights of private upland owners ended at the mean high water line. The state had clear title (owned the fee) to the "wet sand" between high and low water, underwater land and the water itself. Ownership of these lands and the water was in

the form of a trust held by the state for the common public good. Members of the public were permitted to occupy the wet sand and water for fishing, navigation and water-related commerce, and the state was responsible for preserving water and shoreline resources for the common enjoyment. The public right of access to and use of the foreshore and waters — the public trust doctrine as it has been termed — is based on the conviction that this type of property has unique characteristics associated with a public purpose.

When the concept of public trust embodied in English common law moved to the Americas, trusteeship of the waters went to the colonies and then to the newly formed states. Over time, states have deeded parts of the shoreline to municipalities, so that New York City, for example, holds title to the greater part of its waterfront.

Concurrent with the state's trust, the riparian owner (the owner of land adjoining the water) had the right to use the wet sand and water for purposes of fishing, navigation and water-related commerce. The riparian owner did not hold title to the lands under water. The riparian right of the upland owner consisted chiefly of the right of access to the lands under water to build a dock or pier from the upland, and the right to make other improvements that would allow navigation, fishing or recreation.

The common law recognized that the public trust and the riparian rights of private owners often were in conflict. As riparian owners made more elaborate improvements to the shorefront for their private purposes, public access to the wet sand and water diminished. When cases of conflict came to the courts, the courts weighed, case by case, whether the primary purpose of furthering navigation, commerce and fishing was better served by riparian or public uses. The balance shifted with the circumstances.

In most areas, exercise of private riparian rights traditionally has been limited in order to preserve public access. For instance, the size of

piers was limited to allow public passage, and fences across the wet sand were prohibited. In urban port and manufacturing areas, however, riparian owners could construct improvements that effectively foreclosed public use and passage.

PRIVATE ACQUISITION OF WATER LOTS

English common law held that the sovereign had no authority to sell or give away waterfront land bound by the public trust. Soon after American Independence, however, government recognized that urban port development could be encouraged by granting areas of wet sand and underwater lands to private owners who would agree to fill in the land and make navigational and commercial improvements such as bulkheads or piers. New York state and city gave numerous such "water lot" grants to private upland owners. The early grants stipulated that ownership would revert to the state if the private purchaser failed to make the required improvements. Later, grants were given without express requirements that improvements be undertaken, but it is usually clear from other documents that such improvements were anticipated.

Over the years, the courts have held that the state and city were powerless to alienate the public trust, despite the express language or the implied intent of such grants. Thus, it can be asserted today that residual public rights of access remain in all waterfront lands granted as water lots, particularly in those areas where port improvements did not take place.

REGULATORY BULKHEAD AND PIERHEAD LINES

The city, state and federal governments mapped bulkhead and pierhead lines along lengthy stretches of the New York City shoreline, so that the waterfront could be developed for commerce and navigation. The bulkhead line marks the limit of permissible landfill; the pierhead line is the farthest point to which a pier can be built without obstructing the sea lanes. The lines limit both the common law riparian rights of private upland owners and the development rights of water lot owners.



Passenger ship moving up Hudson River to docks

Source: Municipal Archives, Department of Records and Information Services, City of New York

CITY-OWNED WATERFRONT LANDS

Over its history, the city retained and sometimes reacquired waterfront lands in order to accomplish specific public purposes including development and maintenance of port facilities, preservation of open lands and park lands, and development of residential, commercial, manufacturing and public facilities. The city adopted several Charter provisions to clarify the nature of its title and to provide for orderly administration of its waterfront lands.

The major provisions appear in Chapters 52 and 56, Sections 1150 and 1301, as amended and renumbered in 1991. These provisions describe two categories of land:

- (1) waterfront property, which is all city-owned property fronting tidal waters, including underwater land and upland to the line of the first street or first adverse (other than city) owner; and
- (2) wharf property, which is any land that was under the jurisdiction of the Department of Docks (later Ports and Trade) in 1938 or was later assigned to that department. Wharf property includes all improvements such as piers and bulkheads.

The intent of this distinction appears to have been a recognition that "wharf property" was needed for active port use and improvement and that "waterfront property" could be available for other public uses. The distinction became less clear when the Department of Ports and Trade was later transformed into a development agency with wider jurisdiction than port facilities.

The Charter of 1975 (Section 704(g)) described the power of the Department of Ports and Trade (then Ports and Terminals) to lease wharf property as "primarily for purposes of waterfront commerce." This language implied an authority to lease such property for other purposes. In the 1991 revision, the power of the new Department of Business Services expressly includes the power to lease "for purposes other than waterfront commerce" (Charter of 1989 Sec. 1301(f) as amended 1991).

The issue of "alienability" of city-owned waterfront land also is addressed by the City Charter. Section 383 provides that "the rights of the city in and to its waterfront, ferries, wharf property . . . land under water . . . wharves, docks . . . water [and] waterways" are inalienable. Such properties cannot be sold without enabling state legislation. The provision is consistent with the common law public trust.

THE 1961 ZONING RESOLUTION

The Zoning Resolution, as a general regulation governing all development in the city, applies to all waterfront lands. The 1961 Zoning Resolution made reference to the pierhead line as the boundary line of a "block," as defined in Section 12-10. Based on this definition, the pierhead line has been viewed as the boundary line of any zoning lot that encompasses underwater lands. The practical effect of this definition has been to allow permitted upland uses to be placed on piers, platforms, filled lands or floating structures. It also has extended "floor area" to land under water.

THE CONTEMPORARY WATERFRONT

These various common law, regulatory and statutory regimes suggest that the city's waterfront has four components:

- (1) areas that remain in close to their natural state where the public trust doctrine provides for public access to the wet sand and water for fishing and recreation, and where private riparian rights are limited to the placing of a dock or pier for limited boat launching, fishing and recreation;
- (2) areas that remain in active industrial and port-related uses where the exercise of any public right of access or use is outweighed by the rights of riparian owners;
- (3) areas such as vacant piers and uplands in waterfront manufacturing zones where, through grants or regulation, there was an expectation of port or industrial use, but such uses have never been established or have ceased to function; and
- (4) areas and properties under city or state ownership.

In categories (3) and (4), the public right of access should be reestablished in any subsequent redevelopment for residential and non-water-related commercial uses. In circumstances where the "wet sand" will continue to be obliterated by bulkheads or other improvements, a walkway, esplanade or park-like area may appropriately be required as a substitute.

In the past two decades, the public trust doctrine has evolved to include recreation, aesthetic enjoyment and environmental protection in addition to the historic considerations of fishing and navigation. Although the New York courts have not articulated this definition of the public trust in a detailed manner, the expanded definition of public access should be recognized as part of New York law.

Zoning on the waterfront can be changed to better reflect the rights of private owners under common law and the regulatory regime. Current zoning practice, which recognizes uses and counts floor area out to the pierhead line, is inconsistent with these laws and, in effect, has conferred upon riparian owners a "bonus" of rights that they could not otherwise claim.

Between the bulkhead line and pierhead line, the riparian owner possesses no right to make any use other than improvements for navigation, fishing or recreation (a pierhead or similar structure). The Zoning Resolution need not permit any other active commercial, industrial or residential use beyond the bulkhead line, and it need not recognize any right to floor area based on underwater lands stretching to the pierhead line. The Zoning Resolution could be amended to include a provision that recognizes the bulkhead line as the line of farthest permissible development (except for navigational uses). As an alternative, a new development boundary line could be mapped.

REGULATORY CONTEXT

The regulatory framework guiding the Comprehensive Waterfront Plan is based principally on federal, state and city coastal zone management goals and policies. In fact, the plan is a milestone in the continuing evolution of coastal zone management, a set of regulations that already has profoundly influenced the use and development of New York City's waterfront.

COASTAL ZONE MANAGEMENT

The Federal Coastal Zone Management Act

A decade or more of federal concern for the coastal zone and its resources preceded passage of the Coastal Zone Management Act of 1972. A series of scientific studies throughout the 1960s emphasized the need for protection and wise use of important national resources. Concurring that a specific program was needed to protect and manage the nation's coastal lands and water, Congress passed the Act by an overwhelming majority.

The Act established the Federal Coastal Zone Management Program to encourage and assist the states in preparing and implementing management programs to

" preserve, protect, develop and, where possible, to restore or enhance the resources of the nation's coastal zone."

In adopting the Act, Congress assigned administrative responsibility to the Secretary of Commerce who in turn designated the National Oceanic and Atmospheric Administration (NOAA) as the managing agency. The Act identified 30 coastal states and four coastal territories as the governmental bodies that would carry out its programs, and offered a number of incentives for achieving program objectives. To encourage the participation of coastal states, the Act stipulated that federal actions and federally funded actions within the coastal zone must be, to the maximum extent feasible, consistent with approved state management programs.

A number of other federal statutes affect the coastal zone. Among the most important for New York City are the Water Pollution Control Act, the Clean Air Act and the National Environmental Policy Act.

The State Coastal Management Program

Pursuant to the federal Coastal Zone Management Act of 1972, New York State, in 1981, adopted the Waterfront Revitalization and Coastal Resources Act (WRCRA) which created the New York State Coastal Management Program (CMP) under the direction of the New York State Department of State (DOS).

The goal of the WRCRA is to establish a framework for coordinating state laws and rationalizing decisions of federal, state and local governments in the coastal area. That framework, embodied in the Coastal Management Program, is built on 44 policy statements addressing problems and opportunities associated with a wide range of coastal issues including: aesthetics, agriculture, air quality, economic activity, energy, fish and wildlife, flooding and erosion, development, public access, recreation and water quality.

The 44 state coastal zone policies contained in the CMP, and the accompanying standards, express the intent of the state legislature that there be a balance between economic development and preservation that will permit the beneficial use of coastal resources while preventing the loss of living marine resources and wildlife, diminution of open space areas or public access to the waterfront, shoreline erosion, impairment of scenic beauty or permanent adverse changes to ecological systems.

Many of the state policies are supported and implemented by programs administered by the New York State Department of Environmental Conservation (DEC). For example, DEC regulatory programs seek to protect tidal and freshwater wetlands, and air and water resources. Other agencies, such as the New York State Office of Parks, Recreation and Historic Preservation, administer programs that provide coastal facilities for recreation, economic development or environmental protection.

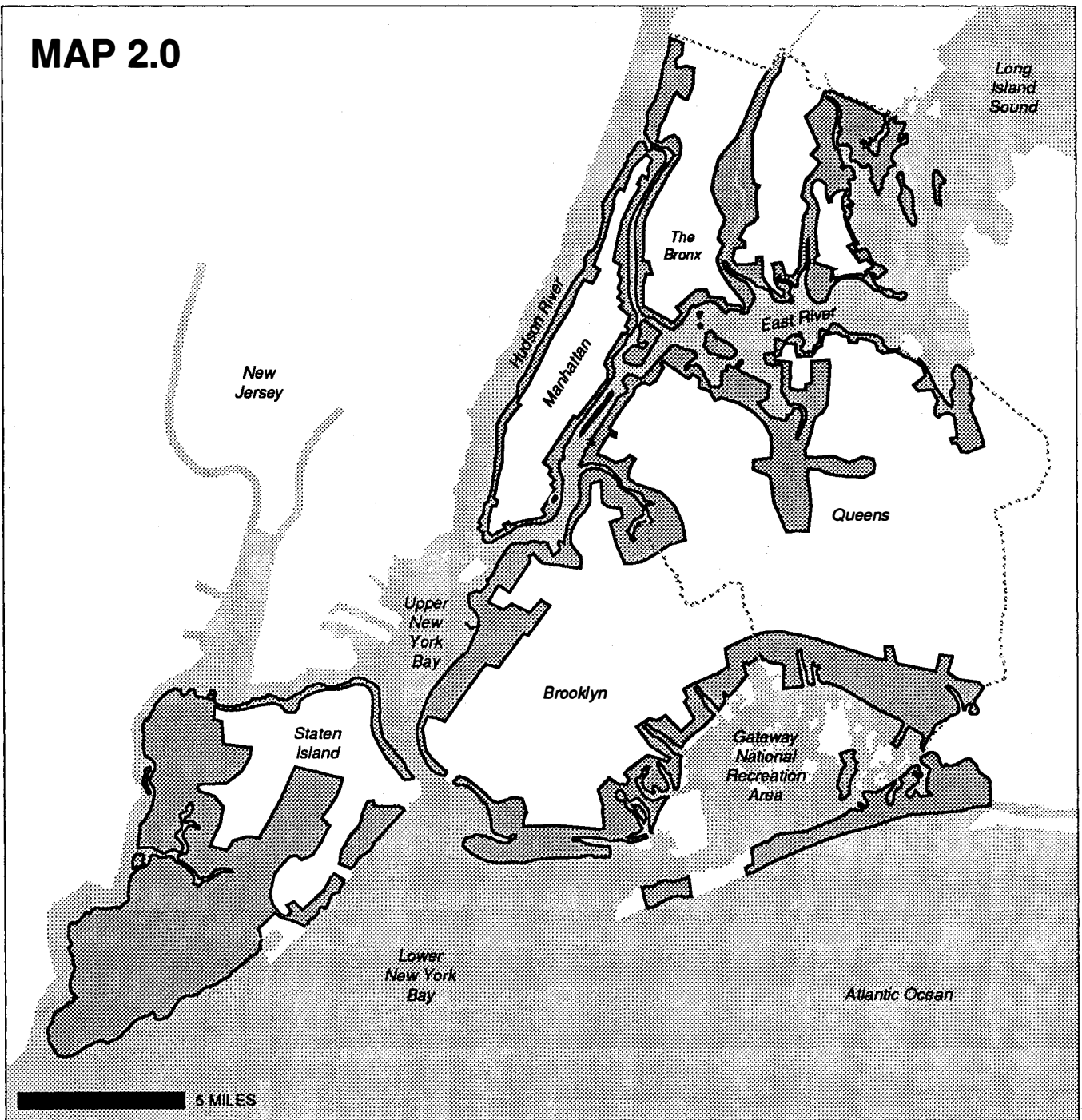
New York City Waterfront Revitalization Program

The state's legislation authorized the approval of local programs to return at least partial control of the coastal area to the municipalities — the level of government most familiar with and affected by local conditions. In 1982, New York City received approval from the state for its local Waterfront Revitalization Program (WRP) which was based on state and federal coastal zone policies. New York City's WRP contains 12 policies relating to local issues, in addition to guidelines for local application of the 44 state policies. (See Appendix B for list of WRP policies.)

The city's WRP established a Coastal Zone Boundary (Map 2.0) within which all discretionary waterfront actions must be reviewed for consistency with coastal zone policies. For the past ten years, this program has served as a framework for balancing the city's waterfront goals for economic development, natural resource protection and public access.

The City Planning Commission, acting as the City Coastal Commission, is the decision-making body for the local Waterfront Revitalization Program, with the Department of City Planning (DCP) serving as staff. Local discretionary actions, including those subject to the city's land use, environmental and variance procedures, and other plans within the coastal zone are reviewed for consistency with the 56 WRP policies. Review of local actions is built into the existing regulatory process and in most instances occurs concurrently. DCP and the City Coastal Commission also conduct consistency reviews for federal and state actions, such as the issuance of a U.S. Army Corps of Engineers dredging permit or a state DEC tidal wetlands permit. If a federal action is found inconsistent by the City Coastal Commission and the finding is upheld by the Department of State, the permit may not be issued. State agency actions are required to be consistent to the maximum extent practicable with the policies of approved local WRPs.

MAP 2.0

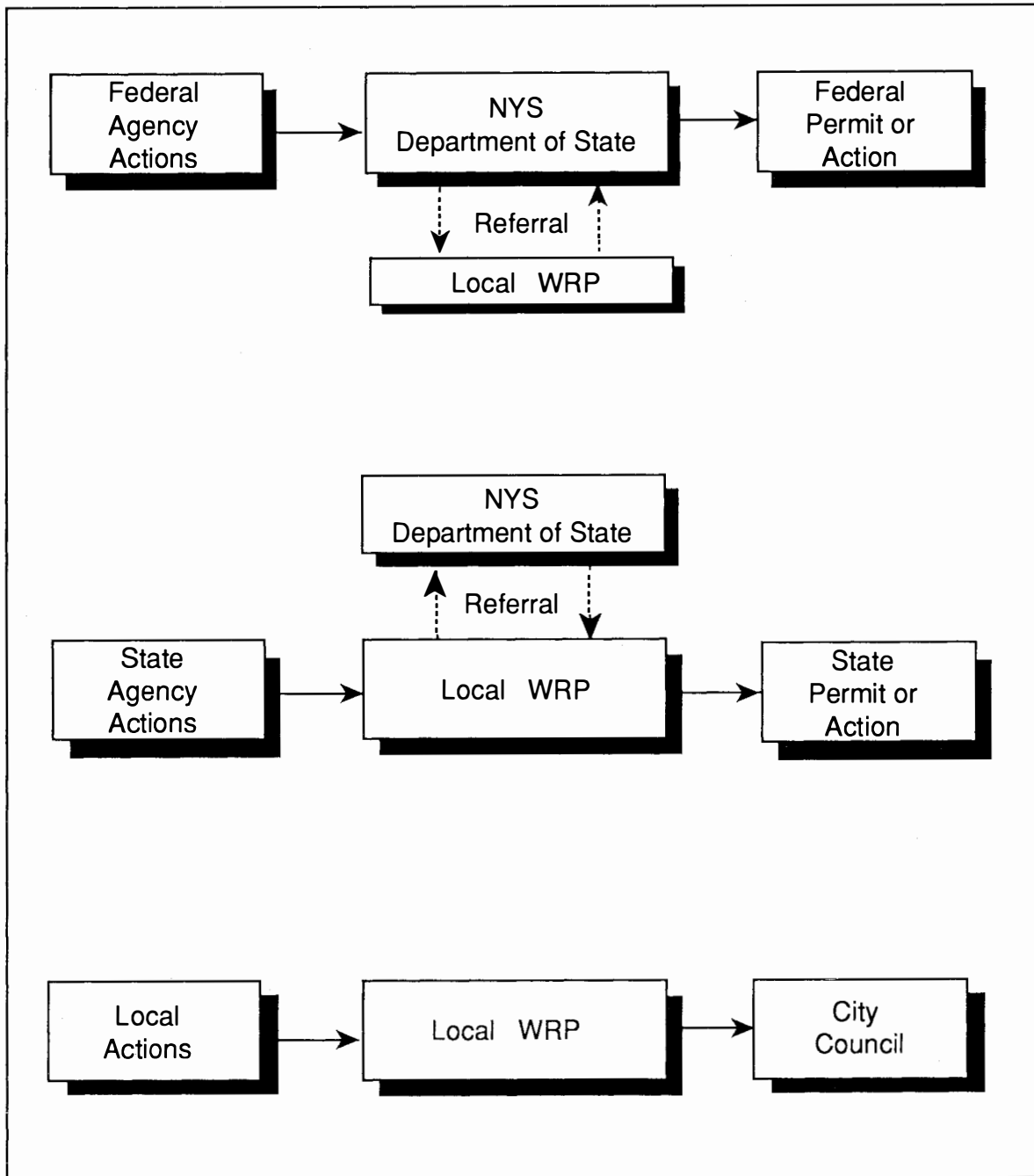


Coastal Zone

 coastal zone boundary

NOTE: Upland boundaries extend to the upland limit of zoning districts, natural area districts, parks, and natural drainage basins. Federal property is excluded.

FIGURE 2.0
Waterfront Revitalization Program Consistency Review



The Coastal Zone Management (CZM) Program has played a significant role in regulating waterfront development. It is, however, a difficult program to administer because equal weight must be given to sometimes competing policies without regard to the city's objectives for differing sections of waterfront. The Comprehensive Waterfront Plan provides an opportunity to enhance the WRP with a set of guidelines and criteria for waterfront development that are based upon detailed study of New York City's waterfront. The recent report issued by the Governor's Task Force on Coastal Resources found that, after nearly a decade of experience with the administration of the CZM program, comprehensive planning and active advancement of coastal policies envisioned in the WRCRA have not fully materialized.

The Task Force report recommends revision of the Coastal Management Program to provide a clear vision for the waterfront in each of the state's coastal regions. New York City is identified as one of six proposed coastal regions. A revised and enhanced WRP is needed, using this plan as a foundation, to articulate the region's characteristics and priorities and give specificity to the application of WRP policies.

THE WATERFRONT DEVELOPMENT PROCESS

Coastal Zone Management is only one of many regulatory programs affecting waterfront planning and development in New York City. At the federal and state levels alone, an estimated 50 separate laws guide development in the coastal zone, for example, the federal Flood Disaster Protection Act and Endangered Species Act or the state's Environmental Conservation Law and Navigation Law. In addition, complex environmental and land use review procedures govern discretionary actions in the city.

Because waterfront projects vary widely in the scope and type of actions involved, one project may require reviews from any number of federal, state or local agencies, whereas another may not. For example, an Army Corps of Engineers permit would be required for a waterfront project that involves the construction of a pier, but not for a project with no in-water work. In all instances where a project within the Coastal Zone requires a discretionary review, however, a Waterfront Revitalization Program consistency review is required. A project within the Coastal Zone requiring a zoning change would be subject to the city's Uniform Land Use Review Procedure and, consequently, a WRP consistency review.

The complexity of the regulatory process has long been criticized as an impediment to waterfront revitalization. Many of the required approvals stem from federal and state legislation and are beyond the city's ability to control or change. Nevertheless, the Comprehensive Waterfront Plan proposes a number of reforms aimed at creating a more predictable and integrated planning process.

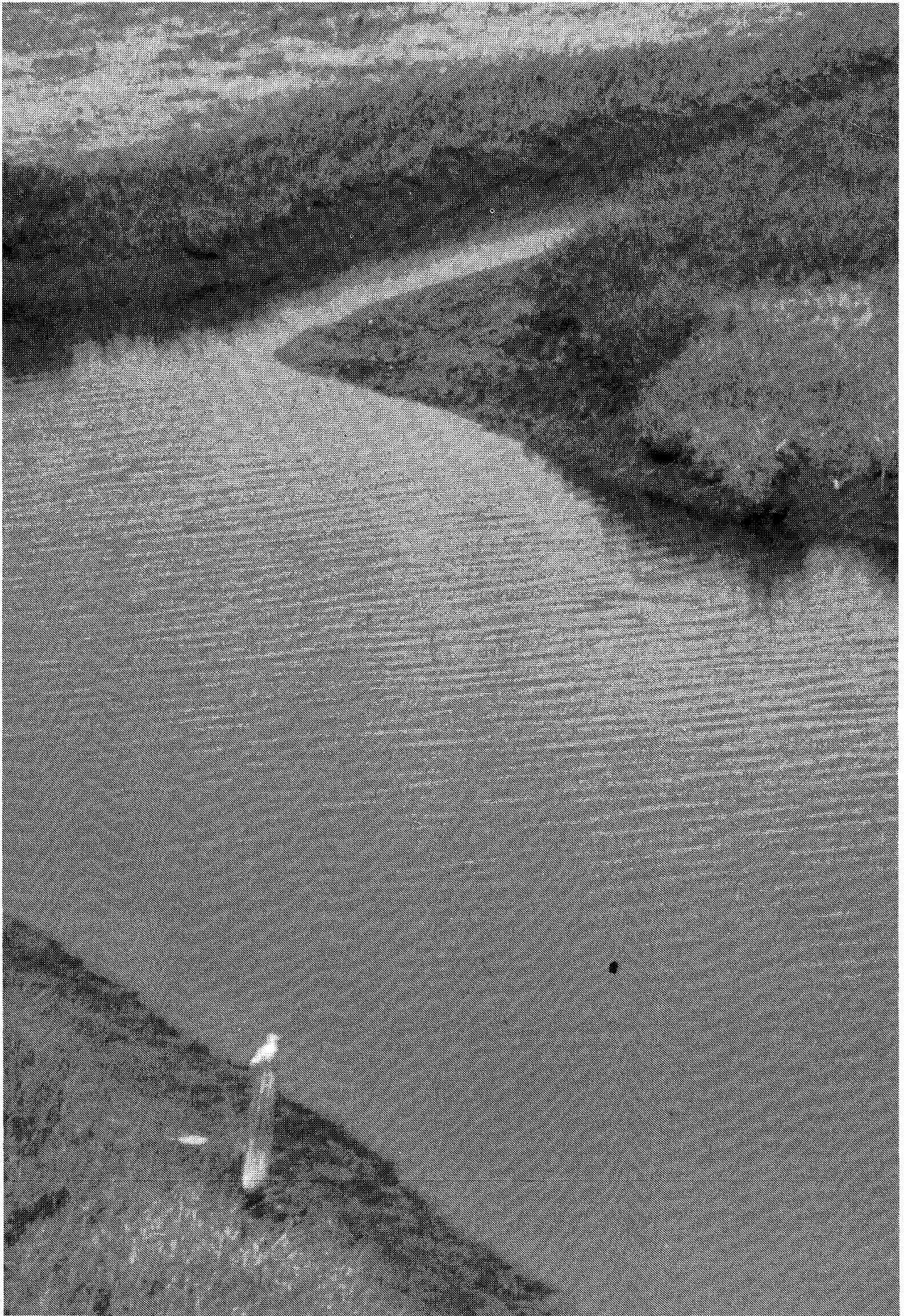
Much of the inefficiency in the review process arises from the absence of clear priorities and guidelines for waterfront planning and development. This lack of clear direction leads to delayed and redundant project review, adding substantially to the cost of development on the waterfront. The long-term vision for the city's waterfront proposed in this comprehensive plan will establish the priorities and principles that can streamline the planning and development process.

Waterfront zoning text reform to allow appropriate as-of-right development is one important way to simplify the regulatory process. This reform would reduce the frequency of local discretionary actions, including land use and environmental reviews and variance applications. Zoning text changes aimed at minimizing project-specific discretionary review are discussed in detail in Chapter Seven.

Revision of the Waterfront Revitalization Program, as recommended by the Governor's Task Force, is another means of setting clear guidelines for the waterfront. Revision of the local WRP would allow for a more predictable application and review process by presenting policies to federal, state and local regulatory agencies and to the development community in a way that clearly defines the city's priorities for differing sections of the waterfront.

Reform must include streamlining a process in which applicants must fill out numerous forms and submit applications to several different agencies, with no agency responsible for coordination and interagency communication. It must also address the issue of enforcement. Lack of follow-up and enforcement of WRP requirements has resulted in situations where, for example, public access commitments are not fully satisfied.

The Comprehensive Waterfront Plan may be able to act as a catalyst for coordination.



3

THE NATURAL WATERFRONT

New York City is a dense urban forest of steel, concrete, stone and glass. It is also a deep water world port, white sand beaches, extensive tidal systems and the home of nearly eight million people who are dependent upon this complex natural, social and economic infrastructure.

Protecting and enhancing the city's natural waterfront is a paramount goal of the Comprehensive Waterfront Plan. As a result of federal and state legislative programs, wetlands and water bodies are no longer indiscriminately filled, and dumping raw sewage into our waterways has been largely curtailed. Government actions spurred by the environmental movement have led to greatly improved water quality and a cleaner harbor. Indeed, new opportunities for waterfront recreation, housing, and mixed commercial uses have been made possible as a result of these often dramatic improvements.

This is not to say that existing legislation and programs are completely adequate or that New York City has fully integrated its environmental values with those of commerce and private land use. The need to balance environmental values with other legitimate social and economic needs still requires attention.

How much of the remaining natural waterfront is necessary to sustain city, regional and national interests? What are the intrinsic values of the natural waterfront in terms of food chain, flood protection, water quality and quality of life? How are the economic, social and health values of the natural waterfront factored into land use decisions? Are there natural areas which merit special protection?

To address these questions, the plan for the Natural Waterfront seeks to:

- articulate the values of natural waterfront resources and increase public awareness of their importance;
- control the land and water uses that could conflict with or impair natural waterfront values;
- define areas of special environmental significance; and
- bring together local, regional, state and federal programs to form an effective strategy for protecting and enhancing natural areas and resources.

WATERFRONT RESOURCES AND THEIR SIGNIFICANCE

Living organisms need an abundant supply of clean air, food, sunshine and water to survive in health. As responsible land stewards, we need to safeguard for future generations the life support systems of surface and ground water, plant communities and animal habitats.

Natural waterfront resources are clearly precious in our dense urban environment. For centuries New York City filled in many of its wetlands and waterways, and released the by-products of business and communities directly into surrounding waters. Until relatively recently, the environmental legacy of this great city was compromised without restraint.

The reemergence of significant fish and shore bird populations is evidence of water quality improvements. Wetlands and shallow waters within Jamaica Bay, the Arthur Kill and Pelham Bay Park offer superb feeding and breeding habitat for vast numbers of resident and migratory shorebirds. The waters of the Hudson River support many fish species, including striped bass. Natural areas interspersed with other uses along the shore provide important flood protection, opportunities for commercial fishing and recreation, and scenes of great natural beauty.



Wetlands in Jamaica Bay

WETLANDS

Wetlands are areas frequently inundated or saturated by surface water or groundwater. Saltwater tidal wetlands and inland freshwater wetlands are among the most productive environments in the world, from two to eight times more productive than the most intensively farmed land. They support an amazing variety of plant and wildlife species; they absorb and dissipate wind-driven storm waves and act as flood water storage areas; and they trap sediment to naturally cleanse urban runoff of phosphorus, nitrogen and other water pollutants. (Map 3.0.)

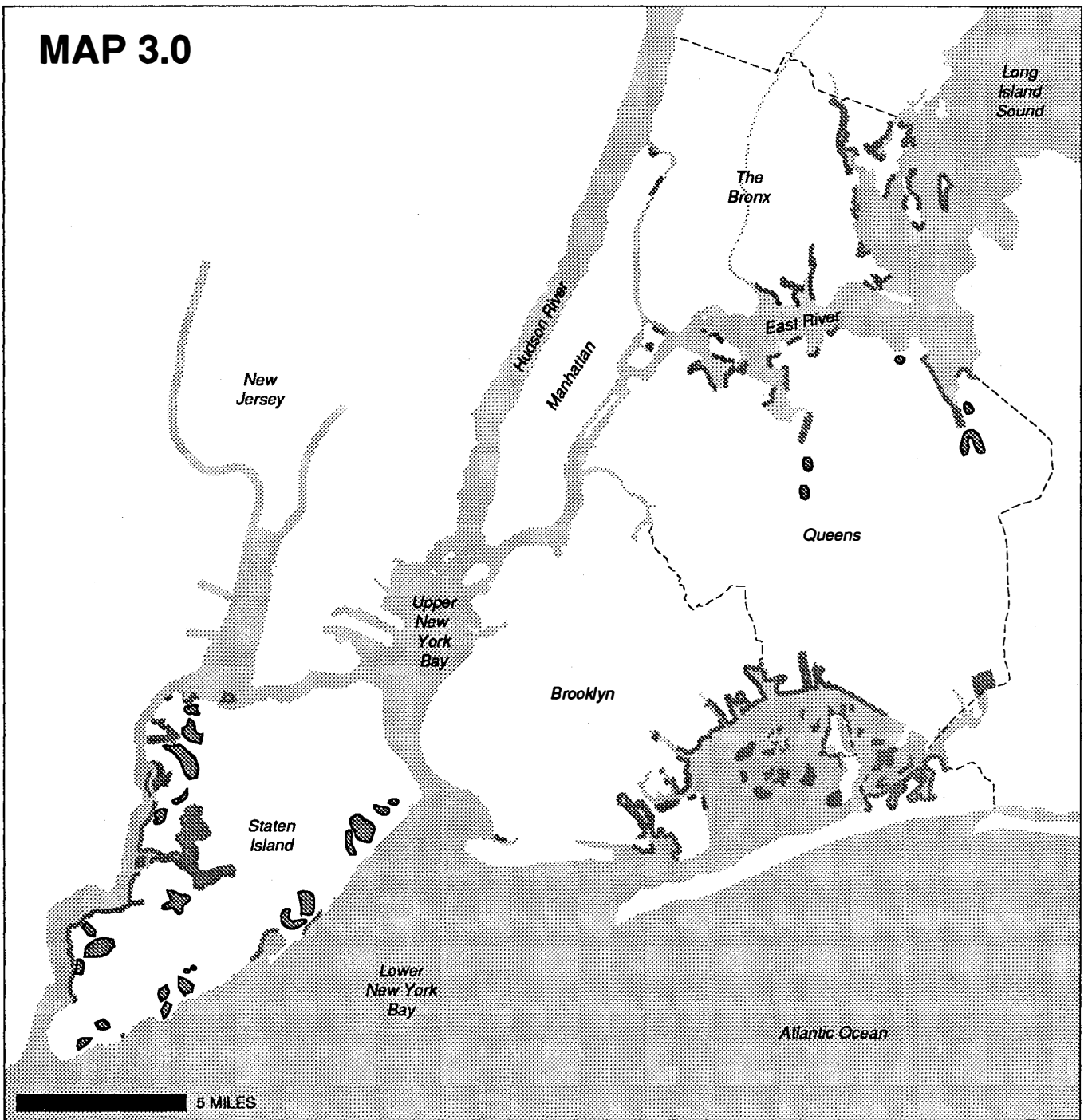
Wetlands were once viewed as wastelands and sources of disease that were to be filled in and destroyed. Of the estimated 224,000 acres of freshwater wetlands in the area of New York City before the American Revolution, less than 3,000 acres exist today. Of the original 16,000 acres of tidal wetlands in Jamaica Bay, only 4,000 acres remain.

It was not until the 1960s that the value of wetlands began to be recognized.



Heightened public attention translated into federal legislation in 1970 with the passage of the National Environmental Policy Act and the Clean Water Act soon after. The State of New York followed with its own Environmental Conservation Law, Articles 24 and 25, which regulate land use in both tidal and freshwater wetlands and their adjacent buffer zones. The 1977 amendments to the Clean Water Act (Section 404) authorize federal regulation of the placement of dredge and fill materials. Section 404 is administered jointly by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency (EPA).

Both state and federal regulations require permits to develop within wetlands.

MAP 3.0



Wetlands

-  major tidal wetlands
-  major freshwater wetlands within the Coastal Zone

Source: NYS Department of Environmental Conservation

Tidal Wetlands

The State Department of Environmental Conservation (DEC) regulates virtually all actions in mapped tidal wetlands and within a 150-foot buffer area adjacent to them. Exceptions to the buffer requirement occur when the elevation of the adjacent area exceeds ten feet above mean high water or when a man-made structure such as a bulkhead exists. DEC uses its own tidal wetland maps to determine whether a permit is required for any proposed activity within tidal wetland areas. A proposed action may also require an application to the U.S. Army Corps of Engineers, which determines the type and level of permit review needed.

Most of New York City's tidal wetlands, which constitute almost 20 percent of the state's 25,000 acres, are located in Jamaica Bay. Other large concentrations of tidal wetlands are found along the Arthur Kill, at Fresh Kills, at Pelham Bay Park and along the intertidal shorelines of Long Island Sound. Small areas of tidal wetlands and inter-tidal mud flats are also found along the shorelines of all five boroughs. In addition to tidal wetlands, lands under water support a great variety of plants and organisms that are integral to the food chain for fish, shellfish and other wildlife. These areas are under state jurisdiction and are being inventoried by DEP.

Freshwater Wetlands

DEC regulates activities occurring within designated freshwater wetlands and within a 100-foot buffer area. Staten Island is the only area within the city's coastal zone that contains DEC-designated freshwater wetlands; however, DEC recently released a draft map of freshwater wetlands in Queens, some of which are in the coastal zone. DEC's jurisdiction covers wetland areas over 12.4 acres and smaller wetlands of "unusual local importance."

Staten Island's 2,000 acres of freshwater wetlands have been designated by DEC because their hydrologic connections provide important storm water management benefits, enhance water quality, and serve as important wildlife and bird habitat corridors. The city's Departments of Parks and Recreation (DPR) and Environmental Protection (DEP) are ac-

quiring many of Staten Island's freshwater wetlands and stream corridors to control flooding and pollution and to protect important habitats.



Restricted area signage

Wetland Issues

Although wetlands are regulated by several agencies, overlapping and often confusing regulatory regimes may not adequately protect them. For example, the Corps of Engineers does not regulate adjacent areas, and DEC does not regulate upland areas adjacent to wetlands if they are the result of fill and are more than 10 feet above sea level. Construction in these unregulated areas can generate runoff and other disturbances that may harm adjacent wetlands. Even when regulated, some buffer areas may not be deep enough to protect the wetland ecosystem which may contain important grassland and woodland habitats.

Although many of the city's wetlands, both tidal and freshwater, are within parks and therefore can be managed and protected properly, others may warrant special attention to avoid cumulative impacts from surrounding land uses. The effects of development on the integrity of the larger watershed must be considered, and stepped-up state and federal surveillance and monitoring may be necessary to enforce regulations.

Because the exact boundaries of wetlands are not always clearly defined by the agencies that regulate them, landowners may not know how much of their property can be developed and, consequently, wetland values may be impaired by inadvertent filling. The current wetland maps, dating back to 1974, are at a scale that makes accurate delineation difficult. DEC is revising the maps (by transferring them to the State Plane mapping system) to allow for easier and more accurate interpretation.

For wetlands outside city, state and federal parklands, the lack of clear jurisdictional responsibility often makes them a no-man's-land subject to illegal fill, unsightly dumping and vandalism. Some of these wetlands eventually will be annexed to adjacent parks; other isolated wetlands face a continuing need for maintenance and management.

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS

Significant coastal fish and wildlife habitats are areas needed by certain species, either seasonally or permanently, if they are to survive and

flourish. These areas usually provide a combination of environmental and biological conditions well-suited to the needs of threatened or rare species. Fisheries and aquatic habitats include shellfish beds, surf clam areas, prime fishing areas and finfish migratory pathways. Significant wildlife habitats occur within specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding and migrating.

In response to the Department of State's commitment to designate significant coastal fish and wildlife habitats throughout New York, DEC has identified, evaluated and recommended areas it considers significant coastal fish and wildlife habitats. DEC defines a habitat as significant if it exhibits one or more of the following characteristics:

- It is essential to the survival of a large portion of a particular fish and wildlife population.
- It supports populations of species that are endangered, threatened or of special concern.



Black-crowned Night Heron, Four Sparrows Marsh, Brooklyn

Source: Mike Feller DPR-NRG

- It supports fish and wildlife populations that have significant commercial, recreational or educational value.
- It is of a type not commonly found in the state or the New York City region.

Based on DEC's evaluation, the New York Department of State's Division of Coastal Resources and Waterfront Revitalization has proposed 15 New York City coastal fish and wildlife habitat areas for designation under the city's Waterfront Revitalization Program. The proposed designations are: Lemon Creek, Fresh Kills, Prall's Island, Sawmill Creek Marshes, Goethals Bridge Pond, Shooter's Island, Lower Hudson River, North and South Brother Islands, Pelham Bay Park Wetlands, Little Neck Bay, Alley Pond Park Wetlands, Udalls Cove, Meadow and Willow lakes, Jamaica Bay and Breezy Point. Breezy Point, North and South Brother Islands, Prall's Island and Shooter's Island provide upland nesting and roosting shorebird habitat; the other designated areas are open water and wetlands. All are within the WRP Coastal Zone. (Map 3.1.)

Designation of these areas would provide locational specificity to WRP Policy 7, which states that "significant coastal fish and wildlife habitats will be protected, preserved, and, where practical, restored so as to maintain their viability as habitats." Proposed actions within the city's coastal zone boundary would then be reviewed for their potential to harm a designated habitat.

Coastal Fish and Wildlife Habitat Issues

The Department of State expects to adopt the Significant Coastal Fish and Wildlife Habitat designation program later this year. Questions remain, however, as to the completeness of the designations and the scope and interpretation of environmental impact assessment guidelines which have been proposed for each area. The designation program employs a Habitat Impairment Test which establishes thresholds to determine a proposed activity's potential to significantly impair or destroy a habitat. The program provides Impact Assessment Guidelines for each designated area, with generic examples of activities that could impair the habitat.

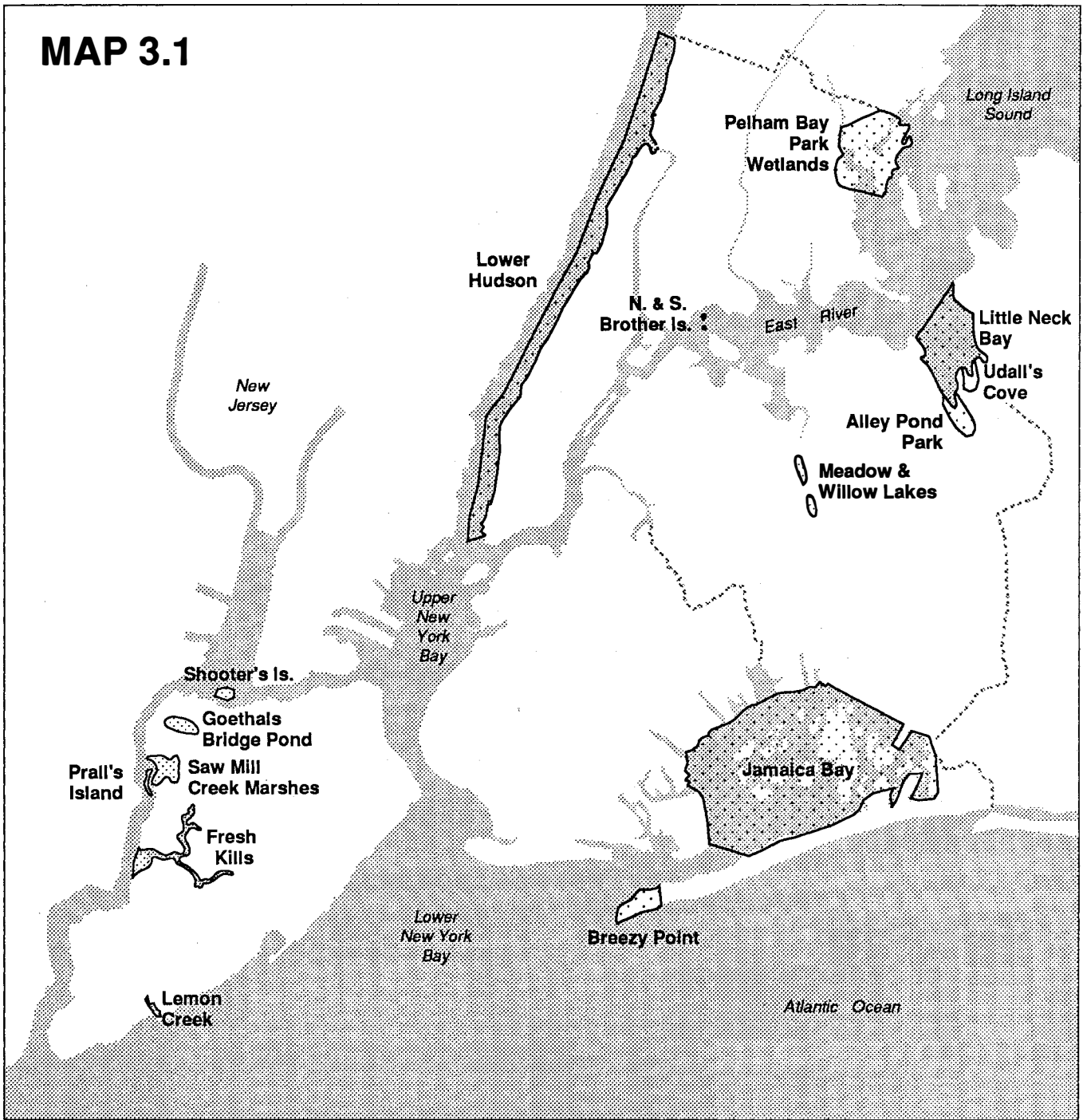
The city has raised concerns about the need to balance protection of significant coastal resources with economic and social goals. Designated habitats in parks and lower-density residential areas generally do not present a problem. Where proposed habitats coincide with important economic generators like JFK Airport and the West Side Passenger Ship Terminal, however, a balanced approach is essential. A case in point is the proposed Hudson River designation — a significant aquatic resource adjacent to a highly urban waterfront with active port facilities, existing and planned mixed use development, and opportunities for greatly expanded waterborne transportation and waterside public access and recreation. In response to the city's concerns, the state's draft impact assessment guidelines for the Hudson River support habitat protection goals and, at the same time, acknowledge the special navigational requirements of the passenger ship terminal. The draft guidelines are also consistent with the planning goals of the West Side Waterfront Panel.

In other proposed habitats, such as Lemon Creek, the guidelines must be flexible enough to allow for recreational activity as well as habitat enhancement. To the extent that the guidelines for the Significant Coastal Fish and Wildlife Habitat designations are sensitive to these distinctions, they will become a model for revising and refining WRP policies.

BEACHES AND COASTAL EROSION AREAS

Natural features such as beaches, bluffs, dunes and near-shore shallow waters absorb wave energy and protect coastlines from wind and water erosion and storm-induced high water. Beaches and bluffs are a source of sand for other beaches and for offshore sandbar and shoal building. Dunes and their associated vegetation provide additional protection from storm-driven waves and high water, and they provide nesting sites for waterbirds such as terns and plovers.

MAP 3.1



Significant Coastal Fish and Wildlife Habitat Designations

 Area proposed for designation

Source: NYS Department of State (1991)

Protection of these shoreline features is regulated by Article 34 of the State Environmental Conservation Law, the Coastal Erosion Hazard Areas Act. Pursuant to the act, DEC has mapped coastal erosion areas in New York City where coastal storm damage is likely to happen.

New York City is fortunate to have a significant stretch of Atlantic Ocean beachfront along the Rockaway Peninsula and Coney Island. The south shore of Staten Island also faces seaward across the wide mouth of the Raritan Bay. All three areas are characterized by eroding sand beaches buffeted by coastal storms and wind-blown waves; all three are state-designated coastal erosion hazard areas. Other shorelines in the city, though not designated hazard areas, sustain intermittent erosion damage. (Map 3.2.)

Coastal Erosion Issues

Effective management of the city's Atlantic Ocean shoreline requires a balance between a

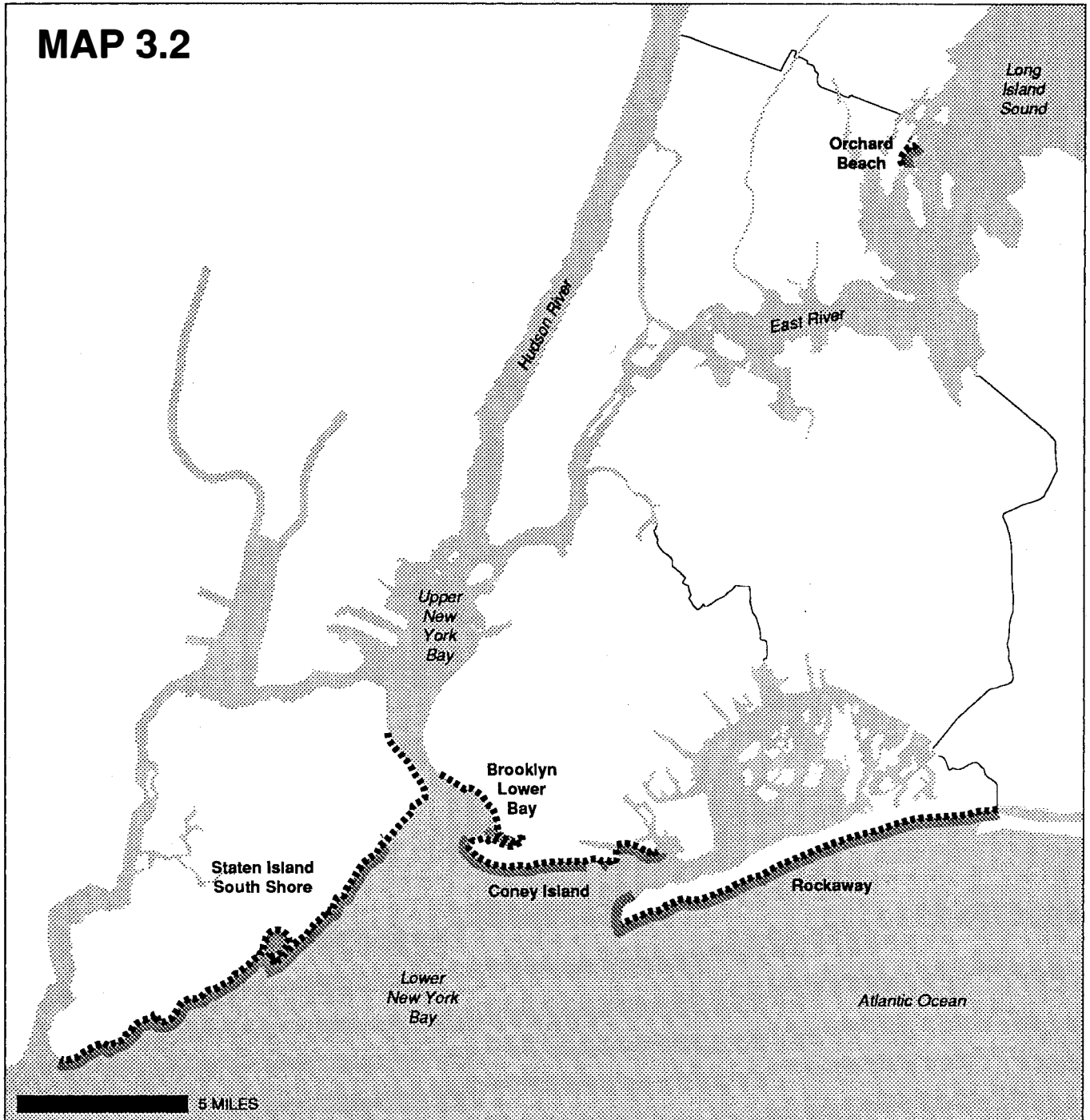
changing environment of shifting sands and a relatively static environment of buildings and infrastructure. Beaches, boardwalks and shore-front communities are valuable assets that must be protected and maintained. If placed inappropriately and without effective shore protection, these assets can be destroyed or become prohibitively expensive to maintain.

In its August 1989 Flooding and Erosion Report for the Arverne Urban Renewal Area, the Department of City Planning reviewed techniques for shore and flood protection along Rockaway's Atlantic shoreline. The report found that without aggressive shore management, the shoreline would retreat considerably over the next 30 years. The Arverne report recommended a variety of nonstructural erosion control measures including beach nourishment, dune field creation, and siting all development upland of the DEC Coastal Erosion Hazard Line.



Coastal erosion at Plumb Beach, Brooklyn

MAP 3.2



Erosion Hazard Areas

- designated coastal erosion hazard areas
- ▨ sandy beaches

Source: NYS Department of Environmental Conservation

Another important coastal erosion planning study, Proposed Long Island South Shore Hazard Management Program, 1989, examined the exposure and vulnerability of Long Island's south shore. The report called for a comprehensive, coordinated, long-term approach to erosion and flooding problems, and it assessed erosion management options similar to those explored in the Arverne study. It recommended the establishment of an erosion monitoring program, including data base maintenance, beach profile surveys, aerial photography, wave gauge deployment and shoreline response modelling. The program would extend from Coney Island to Montauk Point.

New York City has been invited to participate in the Long Island South Shore Monitoring Program as a member of a technical advisory committee. DCP's 1992 aerial photographs of the city's entire natural coastline will provide valuable base data for the program. The committee will provide advice, technical oversight, and coordination of action plans, interagency agreements and funding efforts.

At Coney Island, the Army Corps of Engineers is proposing a beach nourishment project, which over the next 50 years will deposit nearly nine million cubic yards of sand to build and maintain the beaches. The new beaches will provide storm protection and recreational benefits.

The south shore of Staten Island, though a designated coastal erosion hazard area, is not currently included in the Long Island monitoring program. Several other areas in Staten Island, including portions of the Kill Van Kull, and Alice Austen Park shorelines have significant erosion problems due to unprotected and exposed shorelines. These areas are affected principally by vessel-generated wakes and by wind-driven waves and high water. Along the Kill Van Kull, erosion is so severe that portions of the inactive North Shore rail track have been undermined.

WATER QUALITY

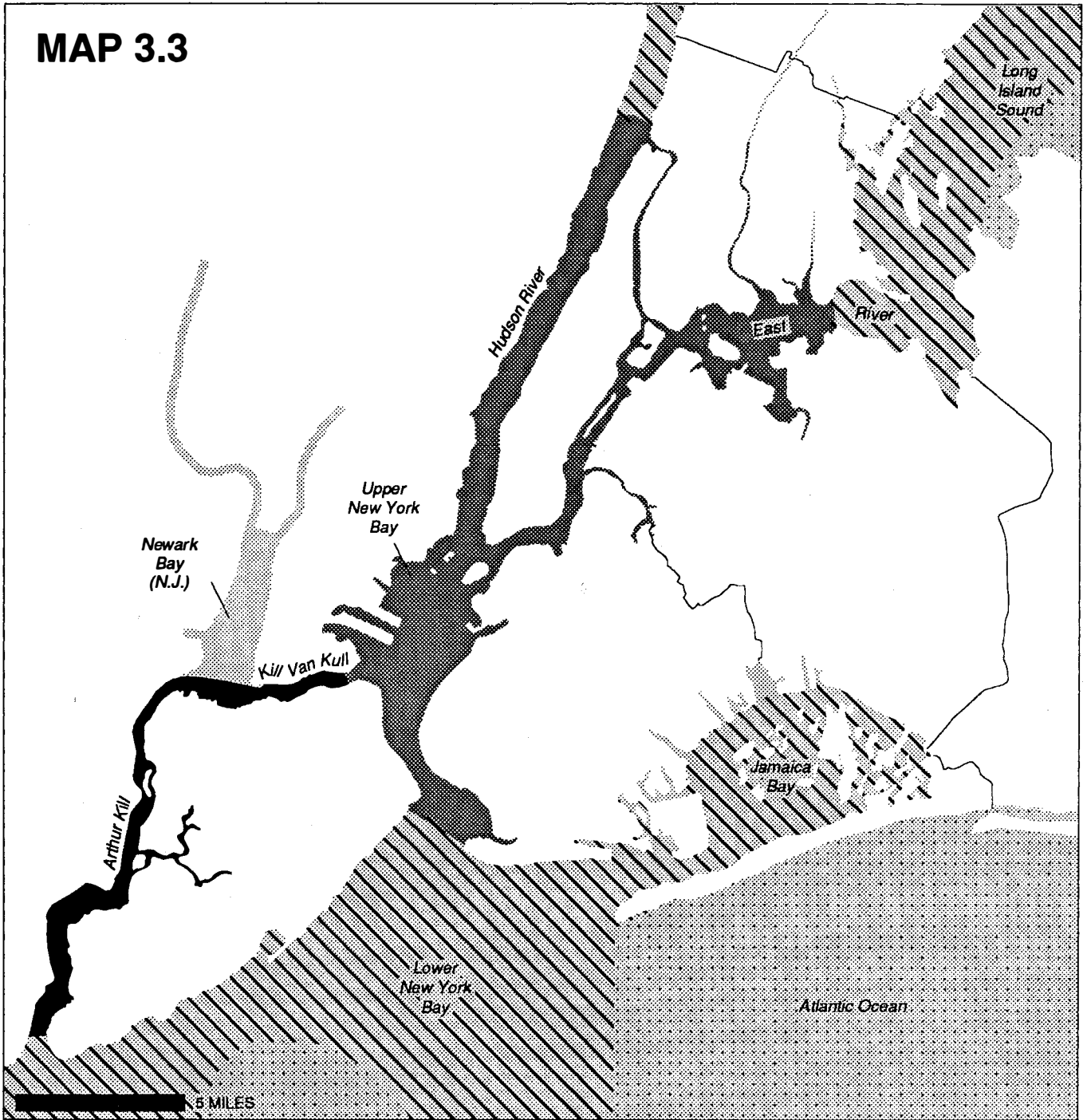
New York Harbor, or more accurately the Hudson-Raritan estuary, lies at the center of a large integrated coastal system consisting of the Hudson River, a network of tidal straits (Arthur Kill, Kill Van Kull, Harlem River, East River), open and enclosed bays (Raritan, Jamaica and New York bays) and Long Island Sound.

New York Harbor is subject to large loadings of municipal and industrial wastewater and non-point runoff from city streets and the surrounding urban complex. Water quality conditions have significantly improved in most areas of the harbor in the last 20 years, primarily because of the city's investment in enhanced control of sewage and industrial discharges.

Signs of water quality improvement include increased striped bass stocks; increases in dissolved oxygen; decreases in lead concentrations, PCBs and insecticides; and dramatic decreases in sewage bacteria. Wood-borer infestation of marine pilings, re-establishment of peregrine falcon and osprey breeding populations, and the re-opening of Seagate Beach on Coney Island after 40 years provide further indications that water quality is improving.

The Federal Water Pollution Control Act requires all waters of the United States to be fishable and swimmable to the maximum extent practicable. DEC has classified the waters of New York Harbor based on four categories of best usage, each with corresponding water quality standards. Shellfishing is the highest use category; bathing, fishing and fish survival require successively less stringent water quality standards. Bathing waters are called for in the Long Island Sound, the Hudson River above Riverdale, the South Shore of Staten Island, Coney Island, Jamaica Bay and the Rockaways. The city's compliance with water quality standards in 1990 was the highest ever recorded. (Map 3.3.)

MAP 3.3



New York Harbor Water Quality Goals

- | | |
|---|--|
| 1.  shellfish harvesting | 3.  fishing |
| 2.  bathing | 4.  fish survival |

Source: NYSDEC, Best Use Classifications for New York Harbor (1991)



Recreational boating in Long Island Sound

In areas of the city that are served by septic systems, Staten Island in particular, ground and surface waters may be negatively affected when systems are not designed properly or when ground water tables are close to the surface. DEP is refining septic regulations to deal with this problem.

Sewage Treatment

Since the 1930s, New York City has been a national leader in the design and operation of wastewater treatment facilities. New York pioneered the use of modern wastewater treatment technology with the construction of the Coney Island treatment plant in 1935. Three additional plants were constructed on the East River by 1938, and two plants discharging into Jamaica Bay were operating by 1942. Five more plants, for a total of 11, were completed during the next 10 years. In 1967, the Newtown Creek plant became the city's 12th and largest plant. The 13th and 14th plants, which complete the city's sewage treat-

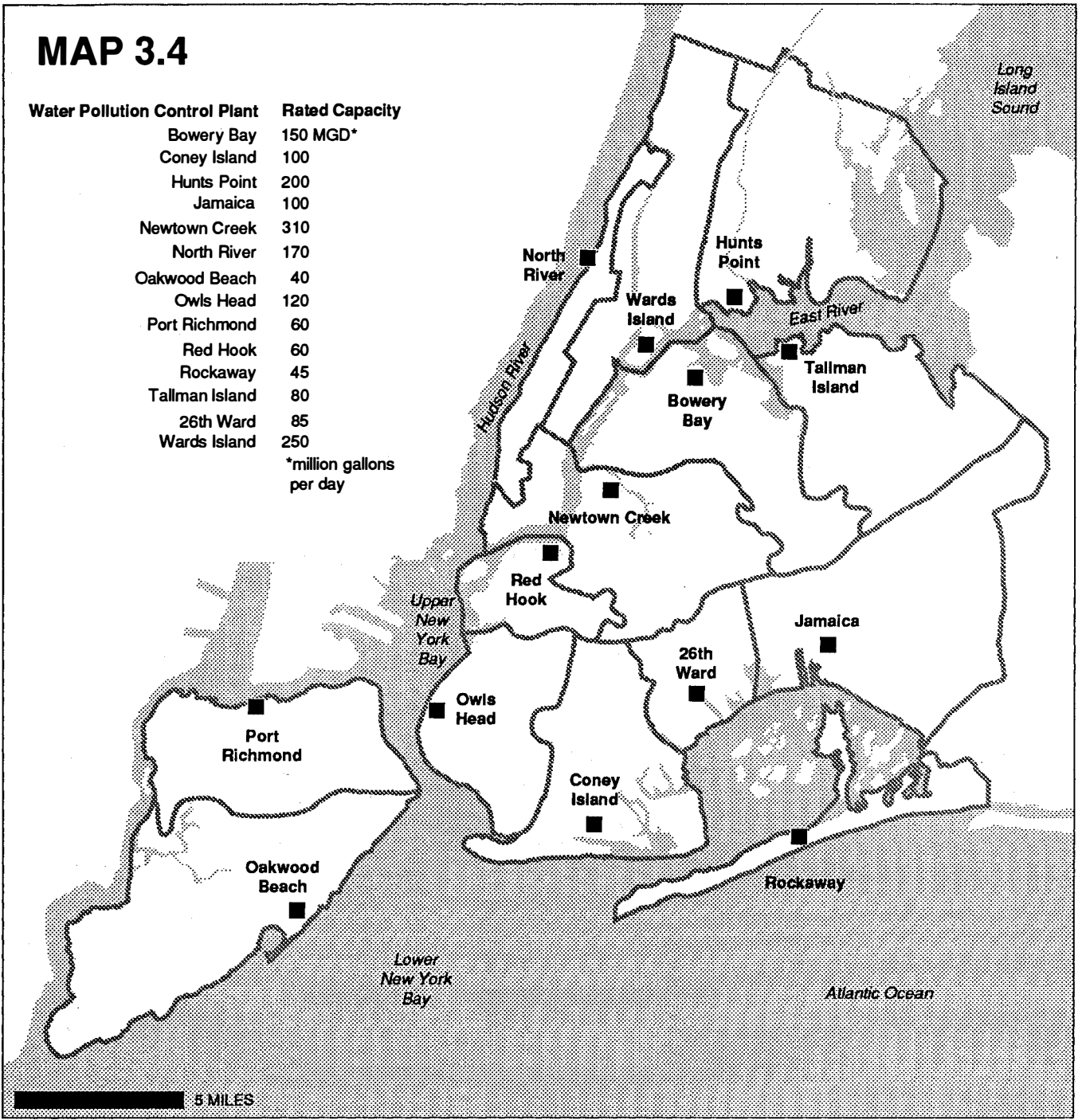
ment master plan, were constructed at a cost of \$1.4 billion: the North River plant began operations in 1986 and the Red Hook plant in 1987. (Map 3.4.)

In fiscal year 1991, the city's 14 water pollution control plants processed 1,611 million gallons per day (MGD) or 159 MGD less than their total State Pollution Discharge Elimination System (SPDES) permit. Although most of the city's plants have excess permitted capacity, two of them — Wards Island and North River — currently exceed their permit capacity. The Coney Island and Owls Head plants are operating at capacity. The city's water conservation efforts are beginning to show positive results. Newtown Creek flows have decreased more than 20 MGD over the last 12 months, which has brought it within the limits of its permit capacity. Other treatment plant flows should show similar improvements as the water conservation program is expanded citywide.

MAP 3.4

Water Pollution Control Plant	Rated Capacity
Bowery Bay	150 MGD*
Coney Island	100
Hunts Point	200
Jamaica	100
Newtown Creek	310
North River	170
Oakwood Beach	40
Owls Head	120
Port Richmond	60
Red Hook	60
Rockaway	45
Tallman Island	80
26th Ward	85
Wards Island	250

*million gallons per day



Water Pollution Control Plants

- water pollution control plant
- service area of plant

Source: NYCDEP, NYC's Combined Sewer Overflow Program, (1991)

Eleven of the city's plants are operating at secondary treatment levels. The upgrading to secondary treatment standards of the Owls Head and Coney Island plants is under way and will be completed by 1995; the Newtown Creek plant upgrading will extend into the next century.

Combined Sewer Overflows

Combined sewer overflows (CSOs) and stormwater discharges are a major source of pathogens and floatable material now entering New York Harbor. Combined sewer systems (75 percent of the city's 6,000 miles of sewers) transport both stormwater and sewerage in the same pipes, which discharge into the treatment plants. During heavy rainfall, however, untreated effluent bypasses the plants and is discharged directly into waterways.

The city's CSO abatement program is intended to eliminate unacceptable levels of water pollution in vulnerable tributaries, bays and inlets. Retention tanks will store combined system effluent during rainfall and pump it back to treatment plants after the rain. Disinfecting facilities also are envisioned as part of the CSO program. DEP anticipates that 12 retention facilities will be required, which will take 10 to 15 years to complete at a cost of approximately \$1.5 billion. Planning for two projects, Flushing Bay and Paerdegat Basin, is near completion. The first CSO abatement facility began operation in 1972 at Spring Creek in Brooklyn and has resulted in a measurable improvement of the Creek's water quality. (Map 3.5.)

Floatables Action Program

Floatables discharged into the harbor are a problem for aesthetic reasons and because they can hurt or kill marine mammals, seabirds and fish. It is estimated that 25,000 pounds of floatable material, much of it plastic, is discharged from combined sewer overflows each warm weather month. This material is primarily street litter.

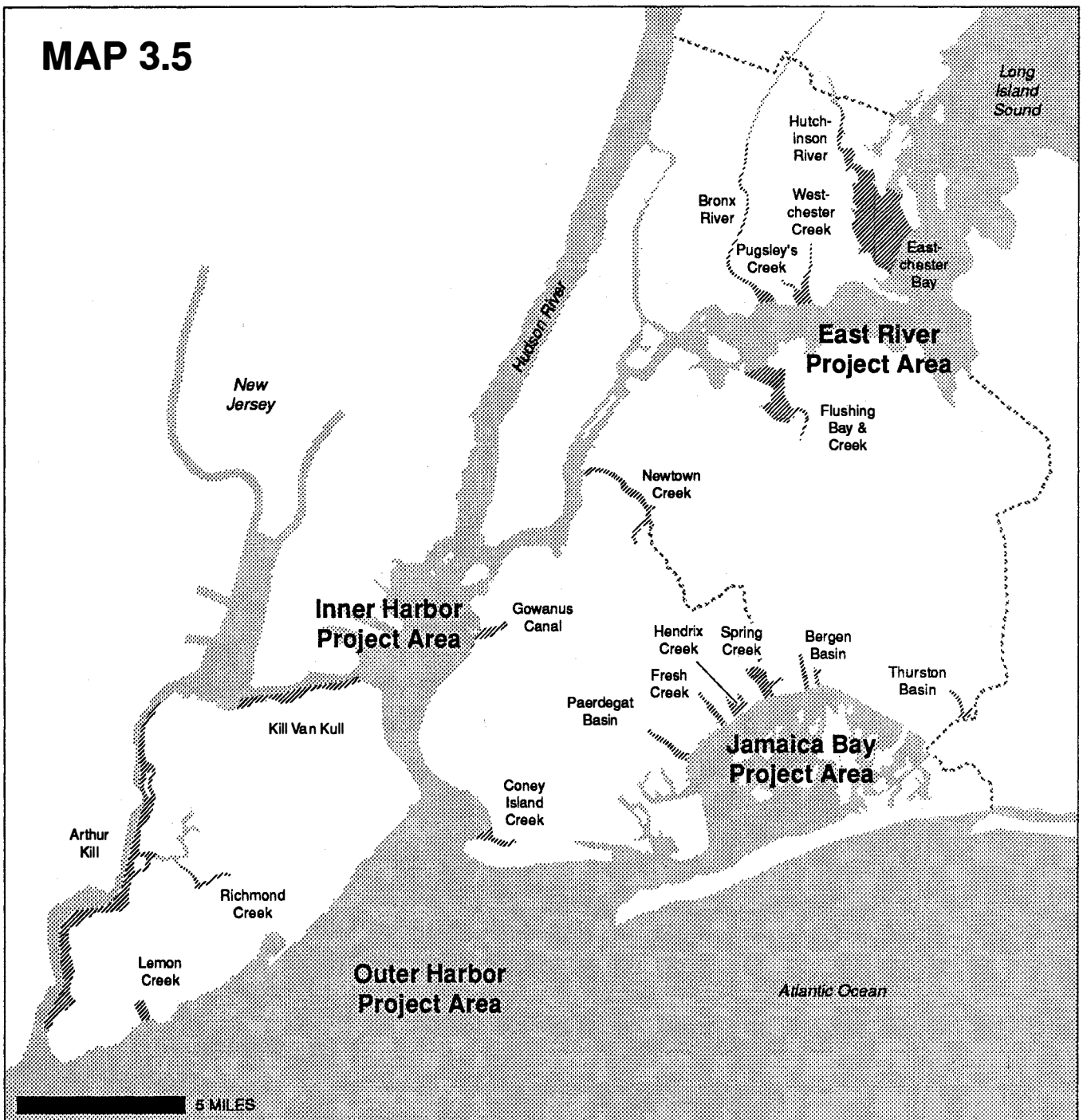
The city's DEP, in cooperation with federal, state, local and private interests, initiated a Floatables Action Program in 1989, in response to widely publicized beach closings the previous summer. In that year almost 60 miles of beaches in New York and New Jersey were closed several times at an estimated loss of \$2 billion to marine and recreation businesses. The Floatables Action Program, which attempts to capture materials at their source, skims them from harbor waters and cleans beaches, has been successful. Virtually no beaches have been closed in the last two summers due to floatables.

Non-Point Sources of Water Pollution


Non-point pollution is caused by runoff from land surfaces. Runoff comes from residential lawns, highways and urban streets, seeping septic tanks, leaking landfills, construction sites and chemical spills. It is a major factor in the continuing degradation of many coastal waters. New York City's Local Law 7 (Section P110.0) sets standards for the design of stormwater systems; its focus, however, is primarily on structural systems and efficient removal of stormwater, rather than on non-structural methods to minimize the effects of pollution on receiving waterways.

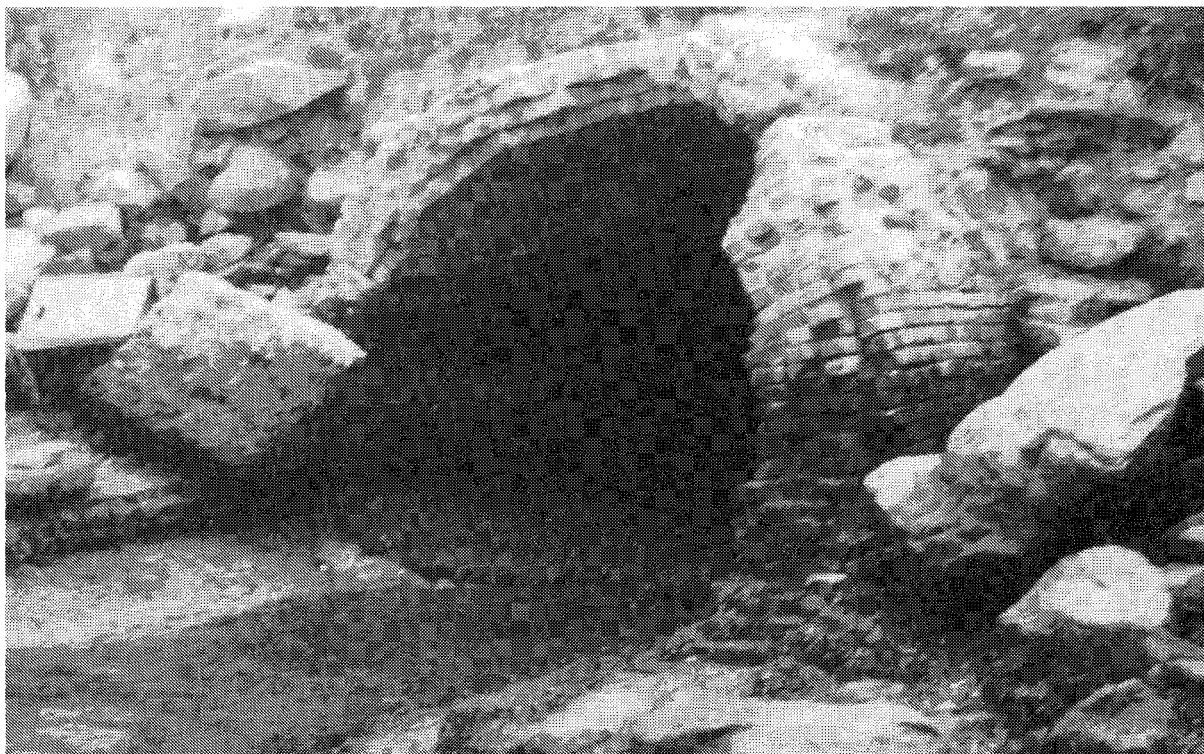
Runoff in New York City is typically captured in stormwater systems that eventually discharge through one of 448 outfalls to the waters of the harbor. Most of these outfall structures are not regulated by permit although they are conduits for much of the city's non-point pollution. DEP is embarking on a program to identify and classify stormwater discharges resulting in water quality impairment and develop management standards to control them. In addition, illegal connections to storm sewer pipes are estimated to contribute 1.9 million gallons of raw sewage per day to the harbor. DEP has completed a Shoreline Survey Program to identify sources of illegal discharge.

MAP 3.5



Combined Sewer Overflow Abatement Program

- East River Project Area** area-wide projects
- Lemon Creek tributary projects
-  waterway targeted for improvement



Stormwater outfall

Recognizing this important issue, in 1990 Congress established the Coastal Non-Point Pollution Control Program (Section 6217) which requires the coastal states to implement policies and management measures to control non-point sources of coastal pollution. Both the Department of State and DEC (in consultation with DEP and DCP) will need to develop non-point programs by the end of 1994, as required by Congress.

Water Quality Issues

The quality of New York City's waterways has improved steadily and substantially as a result of the city's aggressive environmental leadership and billions of dollars of investment in environmental infrastructure. Programs in place — CSO abatement, treatment plant upgrading and industrial pre-treatment — are addressing the principal contributors to pollution in the city's harbor and tributaries. Nevertheless, continuing vigilance will be necessary to counter a number of outstanding problems.

For example, two Staten Island beaches, South and Midland, are consistently off limits to swimmers because of persistently high bacterial levels. PCB and dioxin contamination have caused a ban on the consumption and sale of 18 species of fish caught in the harbor. Except in portions of the Lower Bay, shellfish harvesting is severely restricted because pathogens and toxic chemicals may be present — a legacy of past industrial practices.

Removal of harmful sediments has been hampered by lack of agreement on safe dredging practices and disposal sites. This has been a particular problem in channels like Newtown Creek, where dredging is essential to the industrial operations along its shores.

One of the more intractable problems is the hundreds of small outfalls which discharge wastewater, stormwater runoff and street litter into the open waters of the harbor. Existing state and local laws and programs do not appear adequate to control these numerous, diverse sources of coastal pollution.

Public policies concerning water quality standards need to be sharpened and refined so that they are better understood, more predictable, and better tied to goals for individual water bodies. WRP policies relating to water quality, for example, make no distinction between the costs and benefits of water quality improvements in Jamaica Bay and in the Gowanus Canal — water bodies with vastly different uses and values.

New waterfront development will place additional demands on the city's wastewater treatment system. To control and reduce the quantity of wastewater entering the plants that exceed permitted capacity the city is evaluating and pursuing several methods: accelerated water conservation programs, including metering, to reduce flow; better use of excess plant capacity where available; and expanded plant capacity when necessary. Adequate wastewater treatment capacity is a citywide need that is not unique to the waterfront; it is essential to the city's growth and prosperity and to the conservation of its valuable coastal resources.

THE PLAN FOR THE NATURAL WATERFRONT

The plan for the city's Natural Waterfront is presented in two parts: a set of strategies to address natural waterfront issues citywide; and the designation of three natural areas with special significance which merit heightened attention and strategies tailored to their unique environments. This plan, along with the plans for the public, working and redeveloping waterfronts, form a balanced and comprehensive vision for the future of the city's entire waterfront.

CITYWIDE STRATEGY

Wetlands

Because activities in most wetlands are already regulated by state and federal law, the appropriate protection strategy for the city's tidal and freshwater wetlands is not additional regulation. Rather, a set of management strategies is needed to deal with land acquisition priorities and regulatory coordination.

- Wetlands acquisition, though not feasible universally, is the preferred alternative where management mechanisms are available. A coordinated acquisition program should include continued support for DEP's acquisition of Staten Island freshwater wetlands as a means of storm water management and pollution control; and, as funding is available, DPR's continued acquisition of valuable wetlands where existing natural area parks can be expanded or new ones created. In addition, DCP will explore a Transfer of Development Rights program to shift development from ecologically sensitive areas to less vulnerable sites.
- A realistic and achievable strategy is needed to attain the goal of "no net loss" of wetlands, which has been proposed as an amendment to the Clean Water Act by the National Wetlands Policy Forum. DEC and interested city agencies should define acceptable mitigation alternatives for proposed actions that would adversely affect an existing wetland, and develop a database and tracking system to monitor changes in the city's wetland inventory. A mitigation program would include an inventory of potential sites and design standards for mitigation projects.
- City agencies, including the Departments of Sanitation, Transportation, Parks and Recreation, and Environmental Protection, should pursue a clean-up and guardrail program designed to stop illegal access and dumping in the most vulnerable wetlands. The city should explore using the Department of General Services' Land Reclamation Program, which cleans and greens large tracts of inner-city vacant land, to maintain wetland areas unsuitable for parkland.

Significant Coastal Fish and Wildlife Habitats

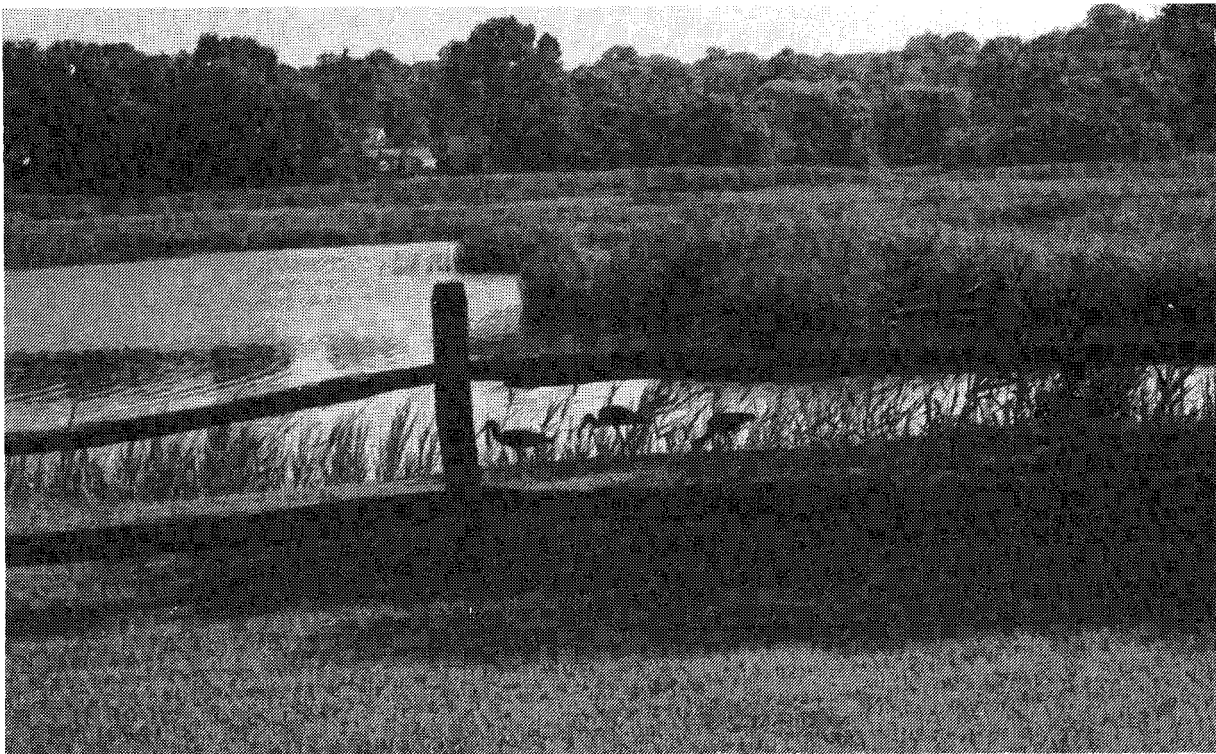
- The city should support the state's proposed Significant Fish and Wildlife Habitat designations, provided that:

DEC, the Department of State and the Army Corps of Engineers agree on coordinated, flexible and achievable standards for harbor dredge and maintenance programs, which appropriately balance resource protection and economic development goals; and the program is refined to clarify the scope and interpretation of the proposed impact guidelines and provide for reassessment of the program every five years.
- The city's Waterfront Revitalization Program should be amended to incorporate the designations, and in the interim, the designations should be used to guide the application of WRP Policy 7 relating to habitat preservation.
- For wetlands that are adjacent to or part of Significant Coastal Fish and Wildlife

Habitats, DEP, DCP and DEC should reexamine minimum buffer requirements applying to tidal wetlands adjacent to filled land more than 10 feet above mean sea level, explore selective expansion of the 150-foot buffer area, and develop "best management" practices to control runoff and guide development of storm-water management systems.

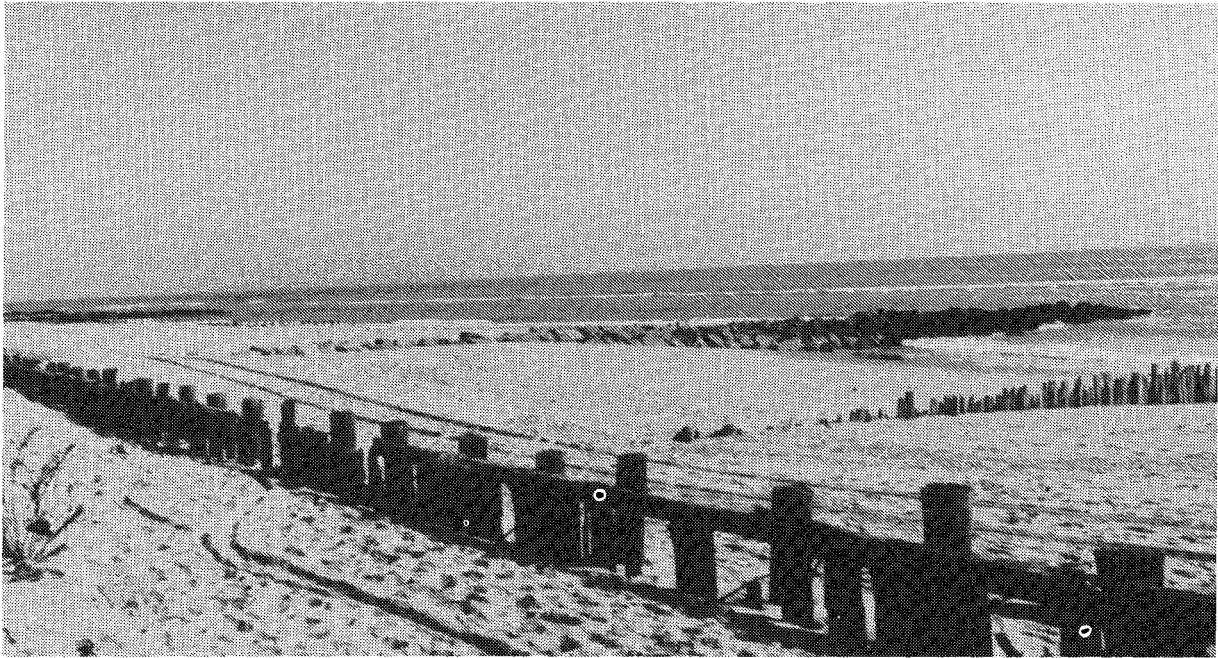
Coastal Erosion

- The federal government should provide uninterrupted funding cycles to maintain beach nourishment programs at Rockaway and Coney Island, including Sea Gate and Plumb Beach. The state and city should explore other approaches, such as dune building, off-shore sand bar building and other innovative programs, which may reduce erosion.
- The city should participate in the Long Island South Shore Monitoring Program and extend such a program to eroding Staten Island shorelines as well.



Wildlife habitat at Udalls Cove Preserve, Queens

Source: Aurora Gareiss



Shore protection jetties at Fort Tilden, Rockaway

Water Quality

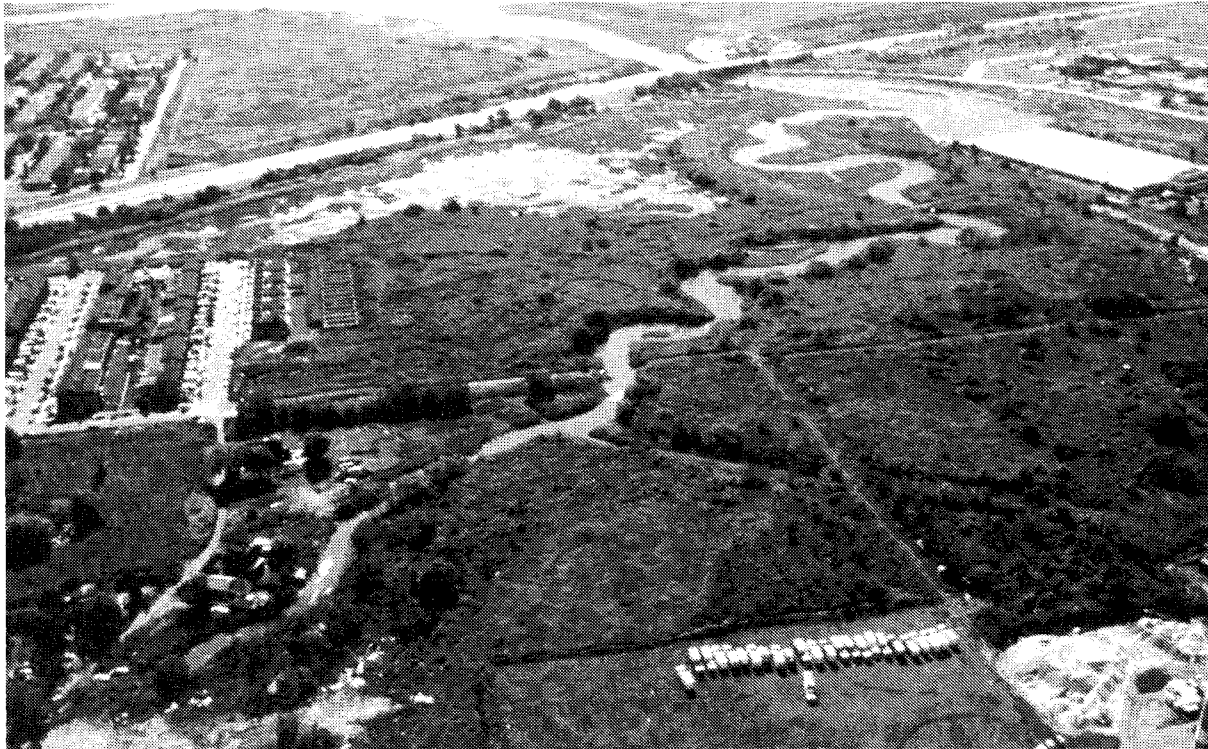
- The city should continue upgrading its water pollution control plants, increase water conservation efforts to lessen the volume of wastewater entering the plants, and advance the CSO Abatement Program. Where feasible, CSO facilities should be designed to accommodate waterfront recreation and access and, if appropriate, environmental education.
- DEP and DCP should accelerate their inter-agency coordination efforts by establishing a land use and infrastructure working committee to develop accurate demand forecasts that would ensure adequate wastewater treatment capacity for all development.
- DEC, DEP, the Army Corps and the Port Authority should develop a safe, expeditious and realistic dredging program to remove and dispose of contaminated sediments, particularly within Newtown Creek, Gowanus Canal and Coney Island Creek.
- DCP and DEP, in coordination with the New York Soil and Water Conservation

Board, should develop a citywide strategy to address non-point sources of pollution, including stormwater runoff guidelines to be incorporated in local law, as necessary.

- Water quality enhancement programs including CSO and non-point runoff abatement, should be directed to the waterways that provide coastal significant fish and wildlife habitat, support recreational use, or presently impede redevelopment efforts.

SPECIAL NATURAL WATERFRONT AREAS

Three geographic areas within New York City possess special assemblages of significance for the natural waterfront. They are the Jamaica Bay/Rockaway Peninsula; portions of the Staten Island coastline; and sections of the Long Island Sound shorelines of Queens and the Bronx. Each has a combination of important natural features that are recognized and protected under a variety of regulatory programs, including proposed Significant Coastal Fish and Wildlife Habitats, Coastal Erosion Hazard Areas, and Tidal and Freshwater Wetlands.



Jamaica Bay and Spring Creek, Queens and Brooklyn

The Special Natural Waterfront Areas designated in this plan are areas in which natural values assume particular importance. Major portions of all three areas are mapped parkland. In large parts of the remaining sections, development is controlled by zoning and other regulations aimed at protecting natural resources. The designations call attention to these enclaves of natural beauty which offer environmental benefits to all the city's citizens. It is a foundation for identifying gaps in protection, opportunities for enhanced protective measures, and improved program and policy coordination.

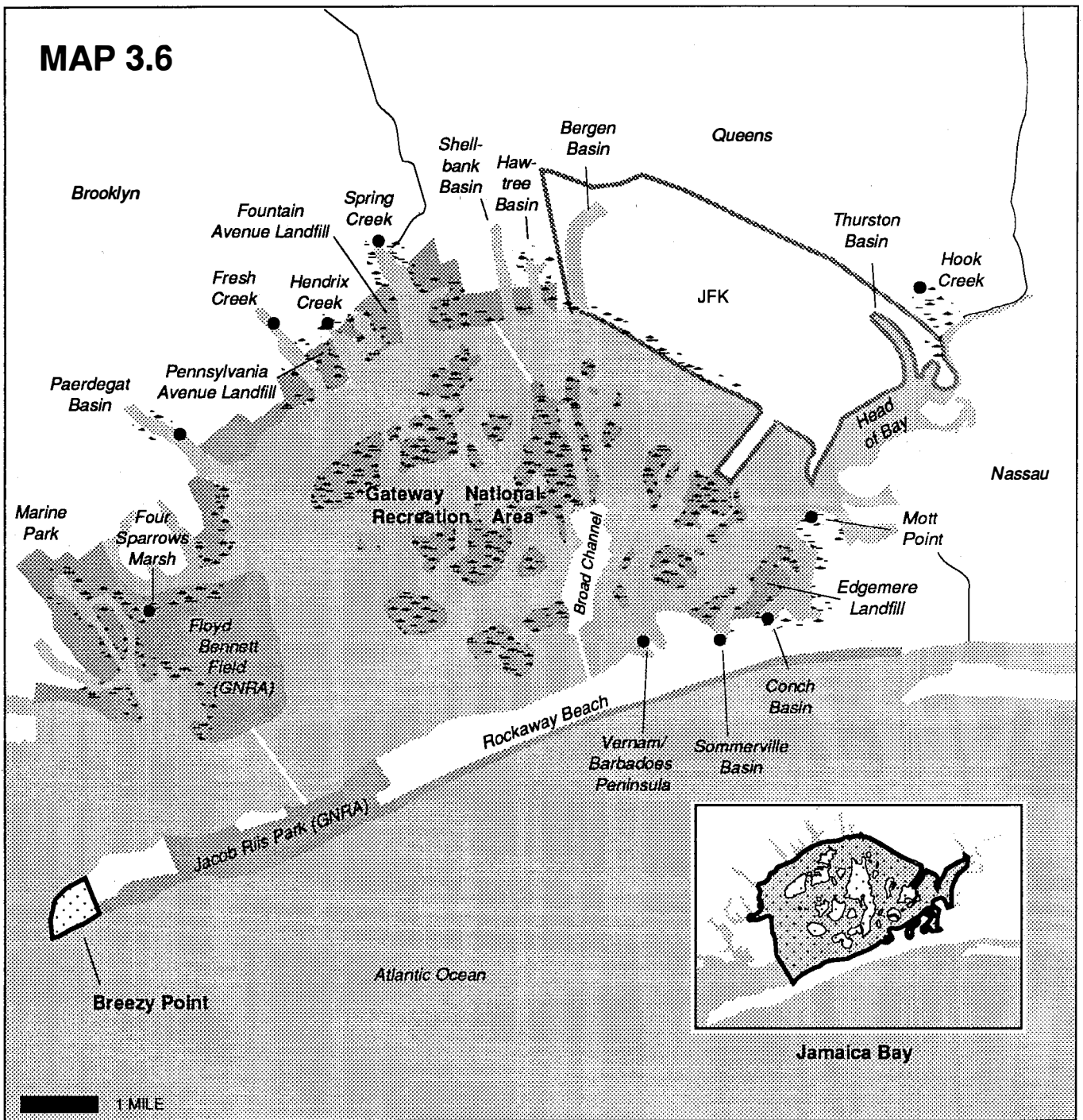
In addition to strategies specific to each area, enhanced protection for all three would be provided by modifying WRP policies to give added weight and greater specificity to natural resource values in these areas. For example, WRP Policy 7 would be revised to include review guidelines specific to each area with respect to its designation as a Significant Coastal Fish and Wildlife Habitat. Guidelines would include such considerations as buffer

requirements for surrounding land uses, appropriate dredging cycles to minimize impacts on aquatic life, access limitations during bird nesting periods, and restrictions on fill, excavation and shoreline construction that would result in the loss of productive habitat in previously undisturbed areas.






Jamaica Bay Special Natural Waterfront Area

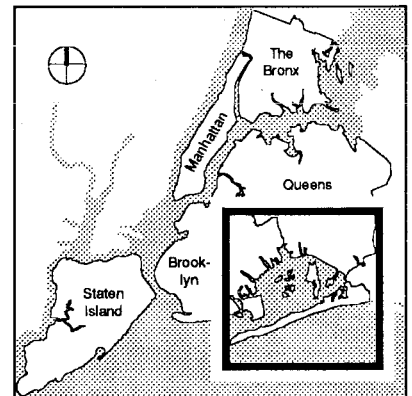
The quality and relationship of its natural features, including wetlands, shallow water habitats and coastal beaches, make Jamaica Bay one of the few intact natural ecosystems in New York City. The shoreline surrounding Jamaica Bay is mostly parkland, either part of the Gateway National Recreation Area or under the jurisdiction of the New York City Department of Parks and Recreation. Low- to mid-density residential uses (R2 - R6 zoning), large tracts of vacant city-owned land, JFK International Airport and some industrial and commercial uses occupy the remainder of the bayfront.

MAP 3.6



Jamaica Bay Special Natural Waterfront Area

-  tidal wetlands
-  proposed Significant Coastal Fish & Wildlife Habitat
- bold name**
-  park
-  city-owned property
-  airport



Two of the 15 proposed Significant Coastal Fish and Wildlife Habitats are located in the Jamaica Bay/Rockaway Peninsula Area. The Jamaica Bay designation is the largest in the city. The open waters and tidal marshes of Jamaica Bay are within the Atlantic Flyway, one of the major pathways in the western hemisphere for migratory birds; the bay supports more than 300 species of birds. It is also a productive area for marine finfish and shellfish. It serves as a nursery and feeding area for winter flounder and bluefish, among other species, and it supports shellfish populations including hard clams, soft clams, mussels, rock crabs and summer feeding of Kemp Ridley turtles, an endangered species. The second proposed habitat designation, Breezy Point, is one of the few areas of undeveloped barrier beach habitat in New York State and is home to a number of endangered species including the least tern and piping plover. (Map 3.6.)

The area contains one of the two coastal beaches in New York City, and much of the shoreline around the bay is tidal wetland. Many of the wetlands are on the islands in the bay's interior, which are part of the Gateway preserve. Large expanses of former wetland fringing the bay have been filled to create developable upland. Much of the Flatlands and Canarsie sections of Brooklyn, JFK International Airport, the Park Landfill and the Fountain and Pennsylvania Avenue landfills are located on filled areas originally occupied by salt marsh, meandering tidal creeks, and the open waters of the bay.

In addition to the protections offered by parkland and wetland designations, and the proposed Significant Coastal Fish and Wildlife habitats designations, DEC designated the bay as a Critical Environmental Area in 1990. The designation requires closer scrutiny of potential environmental impacts (under state and city environmental review procedures) for discretionary actions within the bay or DEC-regulated wetlands.

Despite this panoply of protective regulation, the waters of Jamaica Bay receive pollutants from various sources. Leachate enters the bay from the inactive Fountain, Pennsylvania Avenue and Edgemere landfills. Untreated stormwater entering the bay from both point and non-point sources contains petrochemicals and floatables that contribute to the overall degradation of water quality. The construction of JFK and the 1962 extension of a runway into Grassy Bay has impaired water quality by interfering with the bay's natural counterclockwise circulation.

DEP's Combined Sewer Abatement Program—including the Jamaica Bay area-wide program and the retention facilities planned for its tributaries including Paerdegat Basin—will address one of the major sources of pollution in the bay.

Further efforts to protect and improve the quality of the bay's rare ecosystem are made possible by a fortunate combination of circumstances. The first is the existence of an active Jamaica Bay Task Force of public and private members committed to coordinated policy and program development. Task Force members include federal, state and city agencies, universities and institutions, community and environmental organizations, elected officials, community boards and individual citizens. A second important advantage is that most of the bay's natural systems are in public ownership, allowing greater control and sensitivity in the disposition, development and management of these parcels.

The strategy for Jamaica Bay capitalizes on these assets. It attempts to resolve competing proposals for the use of city-owned land, and it looks to the Jamaica Bay Task Force as the principal agent for coordinating responses to area-wide issues.



Illegal dumping at Edgemere, Queens

Strategy for Jamaica Bay Special Natural Waterfront Area

Policies and Programs

- The city in consultation with the Jamaica Bay Task Force should develop specific buffer and non-point runoff guidelines for Jamaica Bay. The guidelines would be incorporated into applicable WRP policies for review of discretionary actions in the area and, if appropriate, would be added to other local regulations.
- The city, in consultation with the task force, should develop interim and long-range strategies to maintain and protect isolated wetlands and other natural resources inappropriate for parkland designation. Measures should include stepped-up enforcement of the Department of Sanitation ban on illegal dumping, installation of bollards or fences to prevent vehicles from entering the areas, and participation of community boards and local civic and homeowner associations as land stewards.
- An inter-agency committee (DCP, DEP, EDC and the National Parks Service) should work with the Port Authority to minimize and reverse adverse water quality impacts caused by JFK operations. It is important, however, to balance this objective with the airport's safety requirements and its critical role in the city's economy.
- The Department of Sanitation and Environmental Protection should develop and initiate containment plans for the Edgemere, Pennsylvania Avenue and Fountain Avenue landfills, including consideration of innovative bio-technology approaches.

Land Disposition

As a general policy, this plan recommends consolidation and transfer of the most ecologically sensitive sites, including adequate upland buffers, to the Department of Parks and Recreation, which would serve as land steward. Other sites, i.e., those that are highly disturbed wetlands or previously filled areas,

may be developed for other uses provided that care is taken to ensure that development is sensitive to the surrounding natural areas. In accordance with the city's property disposition procedures for sites deemed "significant," site planning guidelines would be developed by DCP in consultation with DPR, DEP and other affected agencies. The guidelines would ensure appropriate relationship of development and natural features by addressing such considerations as the use, density and configuration of development; adequate buffer areas; non-intrusive access locations; and runoff management.

The following strategies are recommended for each bayfront area with a significant concentration of city-owned vacant land. The recommendations are informed, in part, by the 1987 Buffer the Bay report issued by the Audubon Society and the Trust for Public Land, and subsequent analysis of the bay's natural systems by DCP.

- Four Sparrows Marsh, a 77-acre site, contains a large, vigorous and undisturbed wetland along Mill Basin Creek. Because it is one of the finest natural areas in the city, most of the site should be transferred to DPR and mapped as park. Development of an elevated boardwalk along the wetland edge would allow for non-intrusive public access to connect to Flatbush Avenue. A 12-acre upland parcel adjacent to Flatbush Avenue, zoned C-3, can be developed for residential uses under R3-2 zoning regulations, provided an appropriate buffer is maintained.
- Paerdegat Basin has been dredged and channeled and most of its adjacent marshes filled. The quality of its badly polluted waters will improve with the planned installation of a CSO facility at the head of the basin. The remaining wetland on the southwestern shore should be transferred to DPR as an addition to adjacent McGuire Park. Once the CSO facility is in place, some of the remaining city-owned land can be redeveloped for housing with generous open space buffers and public access provided along both banks.
- Spring Creek, straddling the Brooklyn-Queens border, contains one of the most important wetlands in Jamaica Bay as well as extensive upland vacant parcels. The wetlands complex, with a meandering natural creek, is about 40 acres in size. The area generally south of Flatlands Avenue, which contains Old Mill Creek, associated tidal wetlands and buffer areas, should be mapped as an addition to Spring Creek Park. To consolidate the parkland assemblage, several privately-owned parcels should be acquired and certain streets demapped. The remaining upland parcels lack ecological significance and are appropriate for a variety of uses. Vegetated buffers along Hendrix Creek should be included in the Spring Creek Urban Renewal Plan and around the proposed sludge dewatering facility on the western side of Hendrix Creek.
- The Hook Creek area near JFK and the Nassau County border contains more than 100 acres of undeveloped city-owned land mapped as Public Place. The parcel is mostly undisturbed tidal wetlands and should be consolidated under DPR jurisdiction.
- Mott Point in Far Rockaway offers an opportunity to connect valuable wetland habitat to state and city parks that occupy most of the shoreline. Acquisition of an intervening private parcel by the city or state and street demapping are recommended.
- Conch and Sommerville Basins on either side of the Edgemere landfill are edged by tidal wetlands. The newly established Dubos Point wildlife sanctuary frames Sommerville Basin to the west. DCP's Edgemere Neighborhood Land Disposition Plan recommends the designation of additional parkland as well as natural shoreline preservation areas to preserve the shorefront within the proposed Edgemere Urban Renewal Area.

- Vernam/Barbadoes Peninsula contains 24 acres of city-owned land with intertidal marsh along its perimeter and an upland habitat of open shrub land. The parcel, which is zoned for light manufacturing use, can be appropriately developed if development is restricted to the previously disturbed upland area to the maximum extent practicable, and is buffered to preserve the wetlands and upland habitat.

Staten Island Special Natural Waterfront Area

The southern and northwestern portions of Staten Island are enriched by a confluence of freshwater and tidal wetlands, coastal beaches and wildlife habitats. The northwestern quadrant, currently the least protected natural area, merits designation as one of the three Special Natural Waterfront Areas in the city. The Raritan Bay shoreline is predominantly beachfront parkland mixed with low-density residential development. The western coast along the Arthur Kill is zoned mostly for manufacturing use and is dominated by the 3,000-acre Fresh Kills landfill and extensive wetlands, with scattered residential enclaves inland. (Map 3.7.)

Staten Island contains most of the city's designated freshwater wetlands. They were once contiguous systems, but road and rail development has separated them, impeding the flow of water between them. The wetlands continue, however, to be hydrologically interconnected, serve the functions of flood control and ground water purification, and are important marine and bird habitats. Most of Staten Island's freshwater wetlands are within city and state parks, and many others are being acquired or transferred, if city-owned, to DEP to implement its "bluebelt" natural storm water management program. Other important woodland or wetland habitats are being acquired by DPR as funding becomes available.

Because much of Staten Island's shoreline was not bulkheaded, vast portions of it remain in a relatively natural state. These natural sections support a broad system of tidal wetlands primarily along the Arthur Kill, Fresh Kills and the south shore, with the largest concentrations in the northwest quadrant of the island. The southeastern shore contains significant stretches of coastal beachfront including South Beach, Midland Beach, Oakwood Beach and Great Kills Park. Large sections of this beachfront are designated Coastal Erosion Hazard Areas by DEC.



Con Edison power plant on the Arthur Kill, Staten Island

These sensitive natural features are afforded additional protection by the city's zoning regulations. The Special South Richmond Development District, encompassing the southern portion of the island, regulates development with respect to tree removal, curb cuts, parking lots and street trees. The special district protects valuable wetlands and woodlands through a system of Designated Open Spaces intended to remain in their natural state. In addition, Special Natural Area Zoning Districts, with a required review procedure for development, encompass the steep slopes, ponds, lakes, swamps and creeks of the island's central section.

The least protected of the island's natural resources are in the northwest along the Arthur Kill and the western portion of the Kill Van Kull. This area, bounded by the Isle of Meadows in the south, Holland Avenue, South Avenue and the West Shore Expressway on the north and east, contains one of the harbor's most extensive wetlands systems. It has recently been colonized by several species of herons, egrets and ibises and is identified as "the single most important colonial waterbird rookery complex in New York State" by the Trust for Public Land and the Audubon Society in their Harbor Herons Report. The 1990 report recommends acquisition and management of the most sensitive areas as the primary means of protection.

Six of the 15 Significant Coastal Fish and Wildlife Habitats proposed by the Department of State are in Staten Island. Five of the six are located in the northwest section of the island—the Harbor Herons Complex. All or portions of these proposed habitat areas are publicly-owned or slated for acquisition as parkland or open space, which provides added protection.

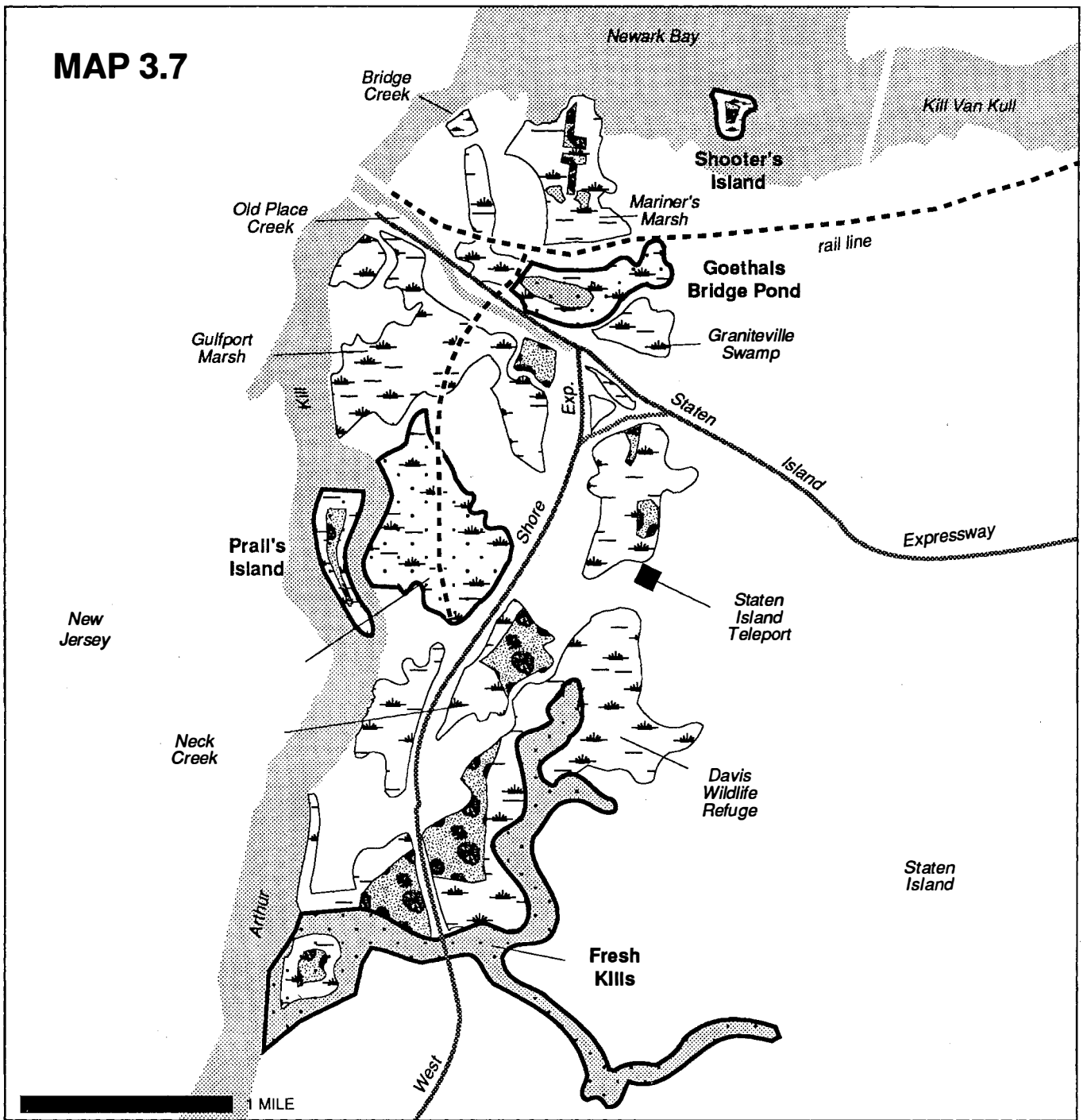
- Fresh Kills includes the William T. Davis Wildlife Refuge (part of the Staten Island Greenbelt) and other open water and wetland areas. The 260-acre wildlife refuge sustains more than 100 different species of birds. The former Mohlenhoff

Nursery, which has been acquired and transferred to DPR, is a link between the wildlife refuge and the rookeries and foraging grounds in the Harbor Herons Complex.

- Prall's Island is a breeding area for herons and other waterbirds. The 80-acre island is under DPR jurisdiction and is managed by the NYC Audubon.
- Saw Mill Creek Marshes, including Chelsea Marsh, contain tidal and freshwater wetlands which are presently compromised by abandoned cars and a junkyard located along the shoreline of the creek. Most of the city-owned marshes are to be transferred to DPR.
- Goethals Bridge Pond, a 33-acre parcel, consists almost entirely of freshwater wetlands. The pond is a feeding site for wading and waterbirds; it has been acquired by the Trust for Public Land for conveyance to DEC, with management to be provided by DPR. Efforts continue to acquire privately-owned parcels in the pond's watershed.
- Shooter's Island; in the Kill Van Kull near Port Ivory, is a significant colonial waterbird rookery. The island is uninhabited and surrounded by derelict vessels and the remains of a World War One shipbuilding facility. Ownership of Shooter's Island is split: the northern portion is owned by two New Jersey counties and the southern two-thirds by New York City, which manages the island under a Management Agreement.

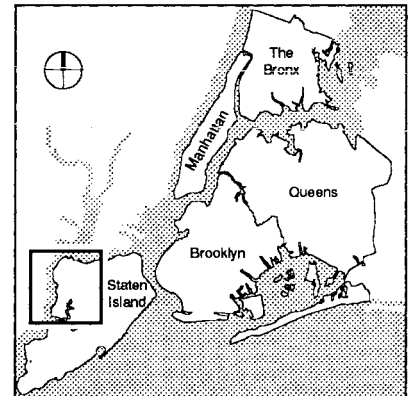
The northwestern section of Staten Island is blanketed with an interlocking network of creeks, tidal and freshwater wetlands, swamps and marshes. From north to south, they include: Mariner's Marsh, a fragile complex of freshwater marshes and ponds, meadows, woods and streams near the Arlington Yards; Graniteville Swamp, a mostly privately owned intact swamp forest north of the Staten Island

MAP 3.7



Staten Island Special Natural Waterfront Area

- | | | | |
|--|--|--|------------|
| | wetlands | | open water |
| | shrub / grasslands / woods | | highway |
| | proposed Significant Coastal Fish & Wildlife Habitat | | rail line |





Howland Hook cargo cranes, Staten Island

Expressway; Old Place Creek, a drainage outlet for an extensive watershed and a feeding ground for egrets and other wading birds; Gulfport Marsh surrounded by an enormous oil tank farm; Neck Creek, a highly productive tidal and freshwater marsh complex and foraging link between Prall's Island and the Davies Wildlife Refuge; and Isle of Meadows at the mouth of Fresh Creek south of the landfill, a rookery for several species of wading birds.

Staten Island Corporate Park (SICP) is part of the watershed that drains into Old Place Creek and Saw Mill Creek. The southern portion of the park, occupied by Teleport, contains significant wetlands and cattail marshes. Large areas of swamp forest containing rare plant species surround the marshes. At one time subject to frequent dumping, the wetlands are currently fenced off for protection. The SICP wetlands help control flooding and filter water that

eventually drains into Saw Mill and Old Place Creeks. Development intruding into these areas could subject the marshes of Old Place Creek and Saw Mill Creek to spring floods, lower summer water levels and increased pollution.

The Howland Hook Container Port and other inactive or underutilized industrial facilities occupy the northernmost portion of this special Natural Waterfront Area, and contain both fresh and tidal wetlands.

Strategy for the Staten Island Special Natural Waterfront Area

An array of zoning regulations, environmental regulations and land acquisition programs provide a remarkable level of protection for natural features in most of Staten Island. In these areas, the strategy focuses on continued implementation of existing and planned programs. (See Appendix A, Summary of Reach Recommendations for South Shore and Arthur Kill South.) Only in the Harbor Herons Complex is a more integrated approach necessary to ensure adequate protection and management of its unique resources.

- The city should explore the establishment of a natural resource management and research program for the Northern Arthur Kill area. Various state and federal funding sources should be examined. The rare mix of active maritime uses and industry in this large and varied ecosystem creates a unique opportunity for coordinating best management practices with resource protection and economic development.
- As proposed in the Harbor Herons Report, the city should continue active efforts to acquire land in the areas recommended. The acquired land, together with the most sensitive portions of city-owned property, including adequate upland buffers, should be transferred to DPR or sold to private land trusts for care.

- Development of city-owned property in environmentally sensitive areas should be guided by "significant site" controls imposed prior to disposition. Site Planning guidelines would be developed by DCP in consultation with DPR, DEP and other affected agencies
- The Department of City Planning should examine the suitability of land use controls to guide industrial development on private land in a manner that protects drainage corridors and natural features.
- DEP and DCP should work with the Soil and Water Conservation Board to develop buffer and non-point runoff guidelines for the Staten Island Special Natural Waterfront Area. Guidelines should be incorporated into WRP policies and, if appropriate, into other city regulations.

Long Island Sound/Upper East River Special Natural Area

The north shore of Queens and the southeastern shore of the Bronx along the upper East River and Long Island Sound have a concentration of natural features including tidal wetlands, estuarine rivers, bays and lagoons that warrant designation as the city's third Special Natural Waterfront Area. This portion of the city's waterfront has regional significance because Long Island Sound extends eastward along the coasts of Connecticut and Nassau and Suffolk counties.

The shores of northern Queens and southeastern Bronx are lined by inlets and coves surrounded by wetlands. The rocky intertidal shoreline is a geological extension of the New England Coast and provides a habitat type rare in New York State. Fragments of once extensive swamp forest are scattered in Udalls Cove and Alley Pond Park in Queens and along the mouths of the Bronx and Hutchinson rivers in the Bronx. In addition to its habitat value, this special area offers a natural setting of scenic and recreational value, providing opportunities for swimming, fishing, boating and wildlife observation. (Map 3.8.)

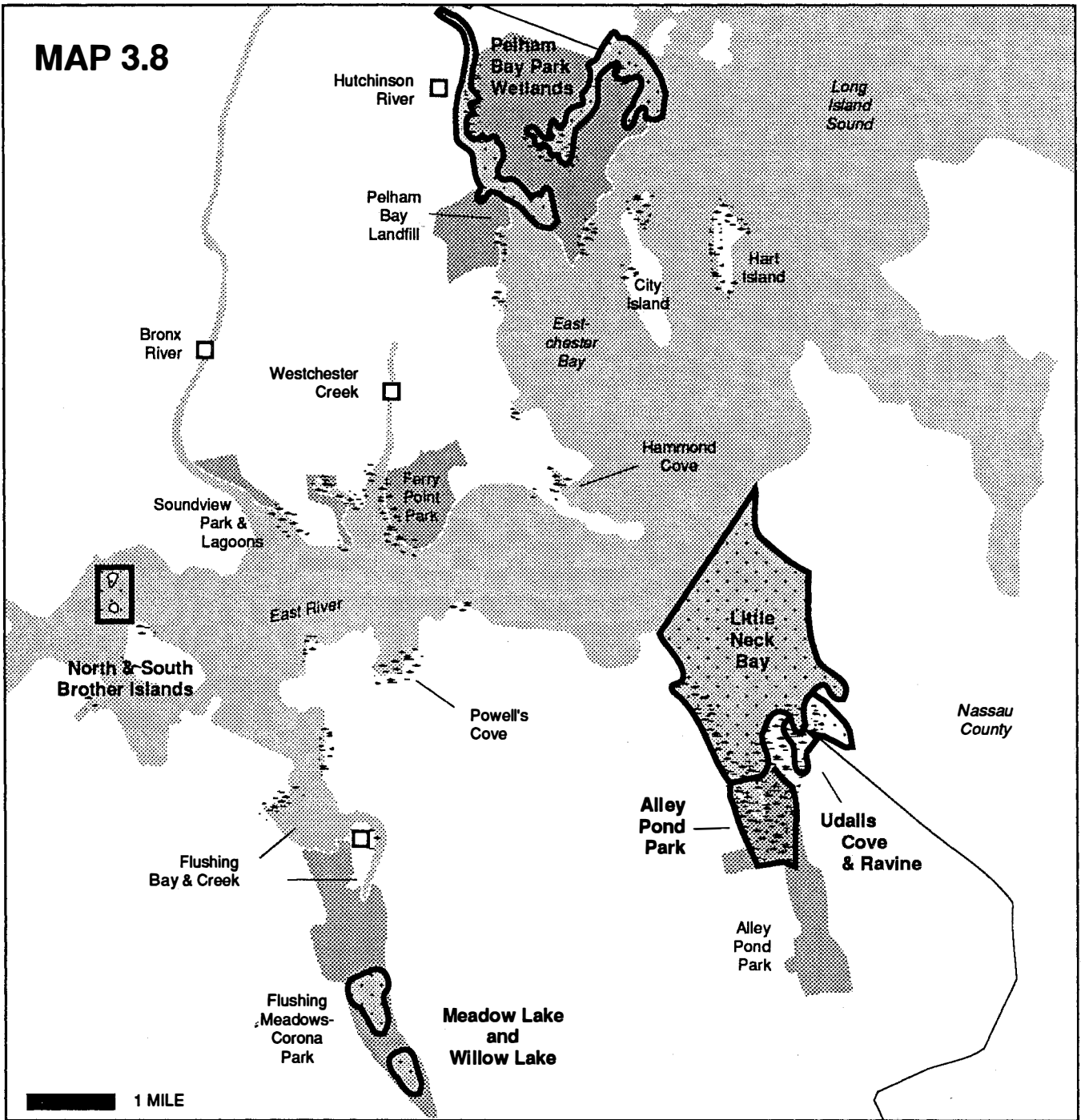
Like those in Jamaica Bay and Staten Island, this Special Natural Area is characterized by extensive stretches of mapped parkland, including Pelham Bay, Soundview, Ferry Point and Pugsley's Creek parks in the Bronx and Alley Pond, Udall's Cove and Little Bay parks in Queens. The remaining shoreline is mostly lower-density residential with industrial uses concentrated in College Point and scattered elsewhere.

In spite of extensive land filling, small pockets of tidal wetlands remain along the Queens shoreline near College Point, along Fort Totten, and along the eastern edge of the Cross Island Parkway. There are also some freshwater wetlands in Alley Pond Park.


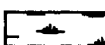
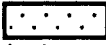



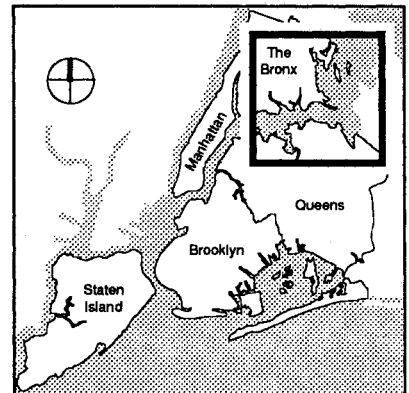
Pelham Bay Park shoreline

MAP 3.8



Long Island Sound Special Natural Waterfront Area

-  major waterfront park
-  wetlands
-  proposed Significant Coastal Fish & Wildlife Habitat
-  waterway targeted for CSO abatement
- bold name**



Tidal wetlands as well as important upland habitat in the Bronx are concentrated in Pelham Bay Park along Goose Creek Marsh on the Hutchinson River.

This section of the waterfront contains only one beach; Orchard Beach is a manmade facility developed in the 1930s. However, degraded water quality threatens its integrity. The Pelham Bay landfill, closed in 1978, is a primary source of polluting leachate. DEP is developing an abatement program to reduce landfill leachate.

Six of the 15 proposed Significant Coastal Fish and Wildlife Habitats are located within the East River/Long Island Sound area. Four of the six — Meadow and Willow Lakes, Little Neck Bay, Alley Pond Park and Udalls Cove — are in Queens. Two, Pelham Bay Park Wetlands and North and South Brother Islands, are located in the Bronx.

- Little Neck Bay, located between Fort Totten and Little Neck, comprises approximately 1,400 acres. This open water fish and wildlife habitat extends to Willets Point on the west and the village of Kings Point on the east. It is one of five major waterfowl wintering areas on Long Island's north shore, and a productive area for finfish and shellfish.
- Alley Pond Park, located at the southern end of Little Neck Bay, is one of the few parks in New York City offering both active recreation and a natural setting of wetlands and wildlife habitat. The 654-acre park contains forests, several ponds, salt marshes and Alley Creek, which is one of the few undisturbed marsh systems in the city. The Grand Central Parkway, Long Island Expressway, Northern Boulevard, Cross Island Parkway and the Long Island Railroad traverse the park, severely limiting the ranges of reptiles, amphibians and mammals.
- Udalls Cove and Ravine, in the northeastern corner of Queens includes one of the last undeveloped tidal salt marshes

left along the Queens side of the Long Island Sound, providing habitat for numerous species of water and wading birds. Most of this area is owned by New York State and the city. All publicly owned land is managed by DPR under a license agreement with DEC. The proposed Coastal Fish and Wildlife Habitat for this area encompasses approximately 120 acres of tidal shallows and undeveloped upland areas.

- Meadow and Willow Lakes in Flushing Meadows Corona Park are one of the largest expanses of freshwater in New York City. Meadow Lake is approximately 100 acres; Willow Lake is approximately 40 acres. Willow Lake provides a combination of wildlife habitats rarely found in the metropolitan area and both lakes support a relatively productive warm weather fishery.
- Pelham Bay Park, the city's largest green space, contains natural areas that support a wide variety of plant and animal life. The park is edged by extensive coastal wetlands; 661 of the park's 2,764 acres are under water. Along its 13 miles of shore are 195 acres of salt water marsh and 161 acres of salt flat. The 489-acre Thomas Pell Wildlife Sanctuary, which includes Goose Creek Marsh, supports wading birds such as herons and cormorants.
- North and South Brother Islands are located just outside the Special Area in the East River west of Riker's Island. South Brother Island is approximately 10 acres in size, uninhabited, rocky and wooded; North Brother Island is 15 acres in size, with a mix of abandoned buildings and deciduous woods. Both islands are city-owned and together they comprise one of the three largest waterbird rookeries in the region.



Wetlands at Hammond Cove, the Bronx

Many of the natural features in this area are protected by DEC wetland regulations, their location in public parks and the proposed Significant Coastal Fish and Wildlife Designations. In addition, the Fort Totten Special Natural Area District is mapped near the mouth of Little Neck Bay. It was mapped to facilitate the orderly redevelopment and proper use of the land in the event that the federal government disposed of the property. Its natural resources include wetlands, forested areas, historic sites and the steep rocky shoreline. The district protects them through established development guidelines for review of land use actions.

Powell's Cove, located in the northern portion of College Point, covers approximately 31 acres of private and publicly owned land; 16 acres are under water. The shoreline contains tidal wetlands that appear to be in good condition but may be affected by discharge from two combined sewer overflows and a storm drain

outfall. DPR has proposed a waterfront park at the eastern end of Powell's Cove and has obtained 1986 Environmental Quality Bond Act funds to purchase private parcels. With proper planning, the site could support both a waterfront park and natural conservation areas.

The city-owned Soundview Lagoons in the Bronx are salt marshes between Soundview Park and the Harding Park neighborhood that support various water birds and marine life. The recently upgraded sewer system in Harding Park has greatly improved the water quality in the lagoons and may allow for the creation of new wetlands. Hammond Cove, also known as Locust Point Harbor, has an intertidal marsh on its west shore and a narrow band of intertidal marsh and a triangle of high marsh on the east shore. Mapped but unbuilt city streets traverse the wetlands.

Strategy for Long Island Sound/ Upper East River Special Natural Waterfront Area

The issues affecting natural areas in this section of the city are typical of an urban environment. They include degraded water quality caused by oil spills, leachate from closed landfills, combined sewer discharge and runoff from adjacent developed areas. Combined sewer discharge is of particular concern in the Flushing Bay and River where 14 combined sewer outfalls spill 60 million gallons or more of wastewater during an average rainstorm. Cleaning up these sources of pollution and providing undeveloped upland buffers are effective ways of protecting these natural resources.

- The city should transfer the most sensitive city-owned portions of Powell's Cove, including wetlands, water areas and adequate upland buffers, to DPR for preservation as coastal fish and wildlife habitats. Waterfront park development would be appropriate on the remaining upland portions of the site provided that there is adequate protection from runoff.
 - A portion of land on the eastern side of Udalls Cove and in the Ravine should be acquired and transferred to DPR.
 - City, state, and federal agencies should develop buffer and non-point runoff guidelines for development near significant natural features in the Long Island Sound/East River Special Waterfront Area. The guidelines, developed pursuant to the federal 6217 program, would be incorporated into WRP policies.
 - Under the auspices of the Flushing Bay Task Force, city agencies should work with the Port Authority to develop environmental controls and mitigation strategies to improve water quality in the bay, while permitting necessary safety and other operational improvements at La Guardia Airport.
- The mapped but unbuilt streets traversing the Hammond Cove wetlands in the Bronx should be demapped.
 - DPR should develop a wetlands restoration and management plan for the city-owned Soundview Lagoons and incorporate them into Soundview Park.
 - DEP should finalize and begin implementation of a containment program for the Pelham Bay landfill, including consideration of innovative techniques such as using man-made wetlands to filter leachate.



4

THE PUBLIC WATERFRONT

Waterfront views and easy access to the water-side for recreation and relaxation are eagerly sought amenities in cities everywhere. New York City is fortunate to have a vast, unique system of public parks that covers more than 40 percent of its shoreline. A Sunday afternoon picnic in Pelham Bay Park, a swim in the Atlantic, an evening jog along the East River Esplanade, and a view of the harbor from the Brooklyn Heights Promenade are among the most inviting experiences New York City offers its residents and visitors.

Against this remarkable backdrop, there is another legacy — undeveloped waterfront parkland, derelict harborfronts, and unevenly distributed waterfront access opportunities that have left many of the city's communities with little or no connection to the water's edge.

The west side of Manhattan south of Riverside Park, once a bustling shipping hub lined with piers, has become a virtual no-man's-land of rotting piles and parking lots, cut off by highway traffic from densely populated upland communities. Vacant but inaccessible waterfrontage, which once was port-related, lines much of the Queens and Brooklyn East River shoreline. Even where there is waterfront parkland — along the Cross Island Parkway in Queens or Brooklyn's Shore Parkway, for example — major transportation corridors often separate neighborhoods from the water's edge.

The conflict between developing the waterfront for commerce and developing it for public use has been with us since 1811 when the plan for Manhattan was laid out. Commercial use, considered incompatible with recreation, was given clear preference. Later, in 1835, in a discussion about the potential development of Stuyvesant Cove for a park, it was argued that it would be a waste of "a great front for shipping on the East River."

Today, the balance between commerce and public access is shifting. With the decline of the city's manufacturing base, the shipping industry in particular, new economic uses of waterfront land are emerging. Most are compatible with and often are enhanced by public spaces and activities.

An overriding principle of this waterfront plan is to re-establish the public's connection to the waterfront by creating new opportunities for visual, physical and recreational access. This goal can be realized in various ways: by extending and improving a network of public spaces through parks, street ends and numerous publicly owned properties along the shoreline; and by enhancing and connecting these spaces with public access along the waterfront on private properties where compatible redevelopment is taking place. Consequently, the plan for the Public Waterfront seeks to:

- identify opportunities for improved linkages to and along the waterfront;
- ensure high quality public spaces at the water's edge by establishing design guidelines;
- encourage publicly oriented waterfront-dependent and waterfront-enhancing uses;
- preserve and enhance visual corridors from the upland to the waterfront and special views seen from the water's edge;
- retain and expand recreational opportunities that are enhanced by a waterfront location; and
- plan for the development and future maintenance of the public waterfront.

THE EXISTING PUBLIC WATERFRONT

The publicly accessible waterfront comes in many forms. It may be a continuous linear corridor along the water's edge for hiking, strolling or cycling, from a highly urban esplanade like the one at Battery Park City to a simple trail along the Bronx River or northern Queens shoreline. Public access may also be "point access" — a path that takes people to the water, most often a street that ends at a pier or small sitting area. It may be a recreational hub that capitalizes on a waterfront location or, where direct access is not possible, a vista or visual corridor that provides a broad panoramic view over the water or a more fleeting glimpse of open sky and water from a street or public way.

New York City is more fortunate than many other cities planning for renewal of their waterfronts because so much of its shoreline is in public ownership, mostly parkland. Some parts of the waterfront are easily accessible. Other parts are difficult to reach because they are far from population centers or separated by topographical or land use barriers. The extent to which the waterfront is used by the public depends upon its accessibility and physical characteristics, and the density of adjacent communities.

To plan for the extension and enhancement of the public waterfront, it is important to understand its distribution, its relation to population density, the locations of water-related recreational activities, and the problems and opportunities associated with waterfront access in each borough.



Fishing from a rip-rap shoreline, Brooklyn

THE BRONX

Northeastern Bronx enjoys a rich and varied public waterfront with extensive views and many opportunities to get to the water. Most of the population in the Bronx, however, is concentrated in the western and southwestern sections where the waterfront is dominated by industry (the South Bronx) or rendered inaccessible by the steep slopes and transportation corridors next to the Harlem and Hudson rivers. (Map 4.0.)

The East Bronx, from Pelham Bay Park to Soundview Park, is well served with 3,421 acres of mapped parkland covering more than 20 linear miles of waterfront, although much of it is undeveloped. The northernmost park, Pelham Bay, which includes Orchard Beach, is separated from Co-op City by the Hutchinson River, and local access points to the park are limited. City Island, a major boating center, is connected by a bridge to the mainland at Pelham Bay Park.

From Pelham Bay Park to the Soundview peninsula, the protected waters of Eastchester Bay and the East River support numerous boating facilities. Low-density residential communities between Pelham Bay Park and Ferry Point Park can reach the waterfront only at a few street ends and at a neighborhood park. Population density increases on the Soundview peninsula where much of the acreage along the waterfront is either undeveloped park or in its natural state.

West of the Bronx River and along the Harlem River, shoreline land use changes to industrial with limited public open space, except for a few mostly undeveloped street ends. Industrial uses, the railroad and the Bruckner Expressway make this section of the waterfront difficult to reach. The upland communities in this part of the Bronx are among the least served by open space in the city. Randalls Island, with extensive recre-



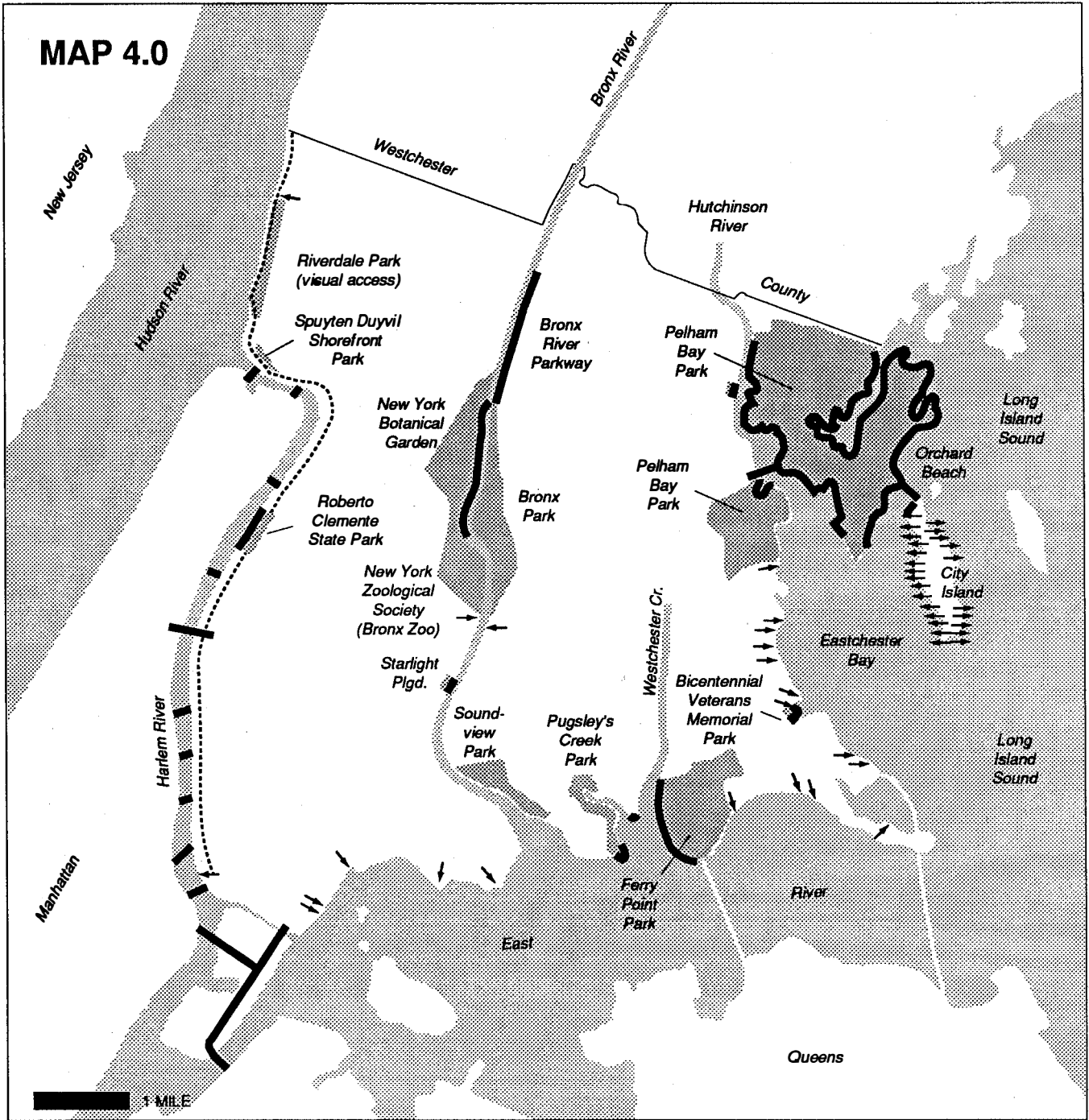
Orchard Beach, Bronx

ational facilities, is close to the Bronx shoreline, but the only public connection is via the Triborough Bridge, more than a half mile from the nearest residential area.





Transportation corridors and steep slopes create barriers to the waterfront for upland communities along the entire length of the Harlem River. A notable exception is Roberto Clemente State Park which has a waterfront esplanade.

The 97-acre Riverdale Park extends along most of the Bronx portion of the Hudson River but offers only visual access to the water because active railroad tracks intervene along the shore. The upland Riverdale community is low-density residential and is well served by open space.

MAP 4.0



Existing Waterfront Public Access / The Bronx

-  existing continuous or general public access (including bridges with pedestrian access)
-  upland extent of major waterfront park
-  existing point access
-  significant barrier (highway, rail, slope, etc.)



East River piers, lower Manhattan

MANHATTAN

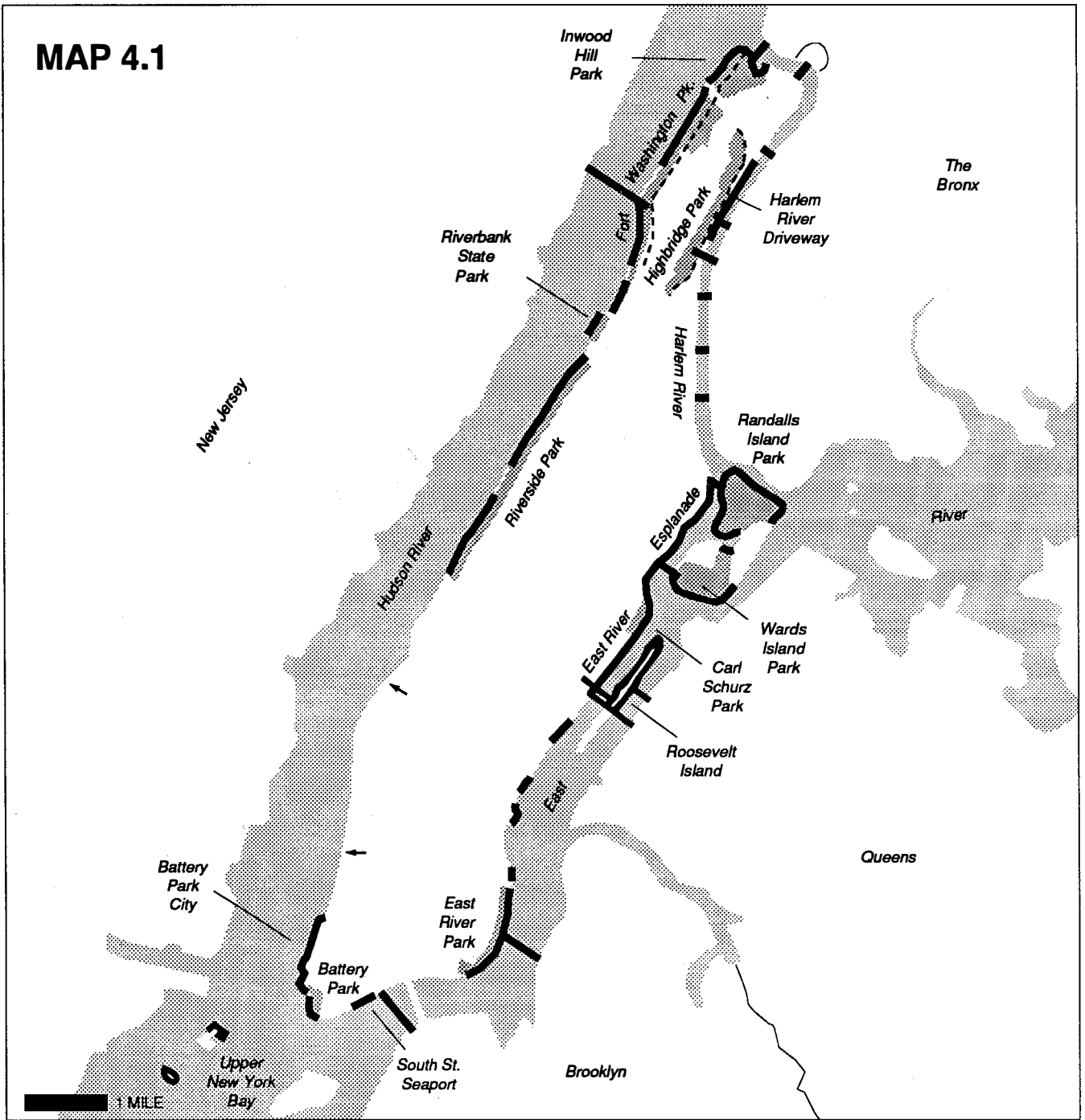
Much of the waterfront in Manhattan is publicly owned but, as in the other boroughs, recreation areas are unevenly distributed. Lower Manhattan has no extended linear waterfront parklands (except for East River Park) because it was first developed as a commercial seaport. It does, however, contain several unconnected public waterfront spaces that are unsurpassed in historical significance and the variety of experiences offered to the public: South Street Seaport, Battery Park, Battery Park City Esplanade and the recently completed North Park, and the national parks at Ellis Island and the Statue of Liberty. (Map 4.1.)

The northern end of the island, on the other hand, is almost entirely ringed by waterfront parks: Riverside, Fort Washington, Inwood Hill and Highbridge. These quite remarkable linear parks provide much of the open space for the nearby residential communi-

ties. However, barriers such as steep slopes, the railroad on the Hudson River, and the Harlem River Drive limit direct access to the waterfront.

Although the borough is encircled by arterial highways, it has long stretches of esplanade that link many of the waterfront parks. The East River Esplanade runs continuously from East 60th Street to East 125th Street, and small sections have been completed farther south. The Battery Park City Esplanade will soon connect to Battery Park and the planned visitor's center on Pier A, part of the city's Harbor Park system. (The other Harbor Parks, part of the state's Urban Cultural Parks Program, are the Snug Harbor Cultural Center in Staten Island, Fulton Ferry Park in Brooklyn and Liberty and Ellis Islands.) Major proposals along the west side offer the promise of an almost continuous route along the Hudson River shoreline.

MAP 4.1



Existing Waterfront Public Access / Manhattan

-  existing continuous or general access (including bridges with pedestrian access and Roosevelt Island tramway)
-  upland extent of major waterfront park
-  existing point access
-  significant barrier (highway, rail, slope, etc.)

Visual access to the water in Manhattan is possible at many locations because the street grid and topography provide many streets with water views and grade-level access to the water's edge.

The Roosevelt Island open space plan provides considerable waterfront open space, a waterfront esplanade, and water views from the developed northern section. The southern part of the island contains much undeveloped open space with great potential for waterfront activities. Here, the aerial tram offers spectacular views of the river and skyline, as do the many East River bridges.

Randalls/Wards Island contains many recreational facilities and an opportunity for more. Access to the island is difficult, however, which limits its use.

BROOKLYN-QUEENS

The Brooklyn-Queens shoreline is the longest continuous stretch of waterfront in the city and serves many communities. The most common barriers to the waterfront are highways and industrial or municipal uses such as utility and water pollution control plants. (Maps 4.2 and 4.3.)

Northeastern Queens has an abundance of public open space, including an esplanade on the west shore of Little Neck Bay along the Cross Island Parkway. Farther west, Flushing Meadow/Corona Park, a 1,257-acre regional facility, has a waterfront promenade separated from the rest of the park by an arterial roadway.



Socrates Sculpture Park, Queens



Shore Parkway esplanade and bikeway, Brooklyn

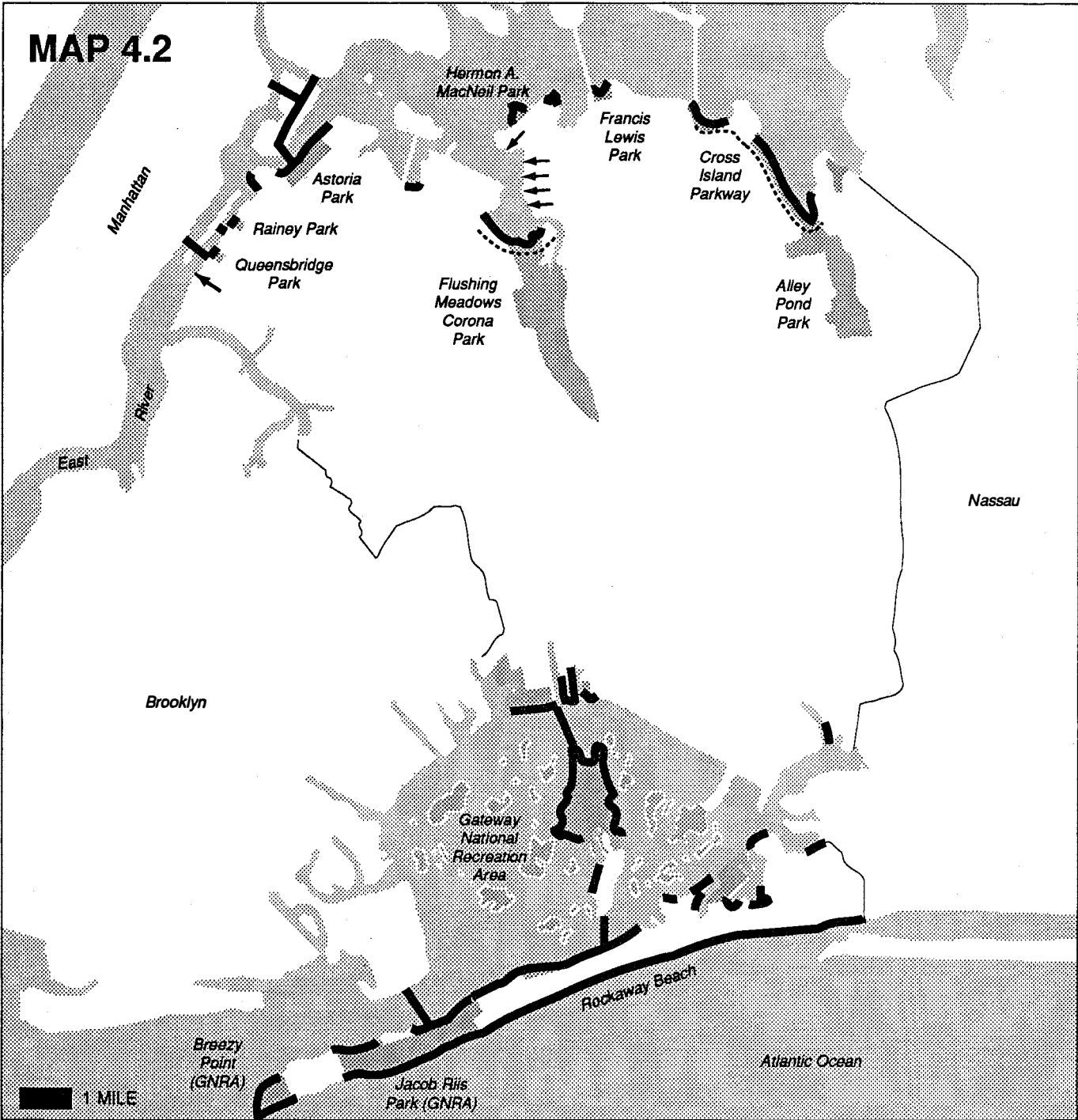
From Flushing Meadow/Corona Park westward to Astoria Park, the northern shoreline is dominated by La Guardia Airport and industrial uses; access to the waterfront is extremely limited. Astoria Park and several others with esplanades afford magnificent views of the East River and Hell Gate. From the Queensborough Bridge to the Brooklyn border, there is limited access to the waterfront because of its current use as industrial land. This situation could change dramatically with the redevelopment approved for Hunter's Point and the RAK Tennis Club site, both of which would provide public access.

From the Brooklyn boundary at Newtown Creek south to Owls Head, access is limited by major roadways and industrial areas. Densely populated upland communities have few opportunities to enjoy the water. Empire Stores State Park (Fulton Ferry) between the Brooklyn and Manhattan bridges is the only sizable park directly on the waterfront, but it is underutilized because of its distance from residential communities. The Brooklyn Bridge pedestrian walk and the Brooklyn Heights Promenade are well used local amenities and tourist attractions.

Owls Head Park, overlooking the harbor, is the northern terminus of the Shore Parkway esplanade and bicycle path, which extends just over four miles to Bensonhurst Park. Several highway overpasses provide access to this important waterfront resource. Dreier Offerman Park and Coney Island Boat Basin have some playing fields, but large portions of the park remain unimproved.

Coney Island's famous beaches and boardwalk are heavily used public open spaces of regional and local significance. An esplanade runs along much of Sheepshead Bay, a major commercial and recreational boating center.

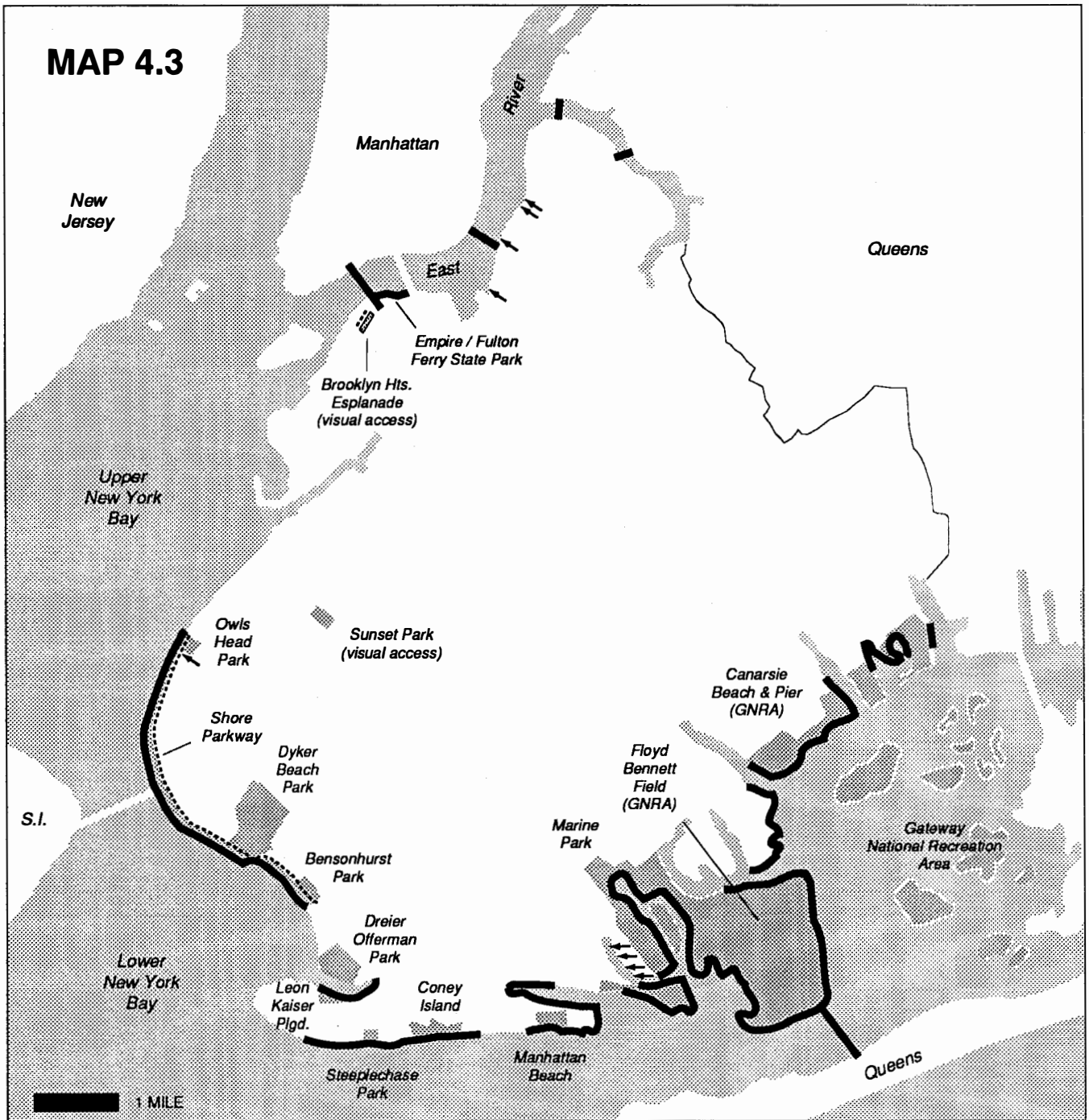
The public waterfront along Jamaica Bay is a mix of street ends and city, state and federal parkland. The bay's numerous small islands, meadows and marshes are protected on the south by the Rockaway Peninsula. Although the sensitive ecosystems of Jamaica Bay generally restrict public access, the National Park Service is rehabilitating the Canarsie Pier for recreational use. Rockaway's Atlantic beachfront offers magnificent white sand bathing beaches and a public boardwalk. The waters of the bay are a major regional fishing and recreational boating resource.







Existing Waterfront Public Access / Queens

- | | | | |
|--|--|--|--|
| | existing continuous or general public access | | existing point access |
| | upland extent of major waterfront park | | significant barrier (highway, rail, slope, etc.) |

MAP 4.3



Existing Waterfront Public Access / Brooklyn

-  existing continuous or general access
-  upland extent of major waterfront park
-  existing point access
-  significant barrier (highway, rail, slope, etc.)

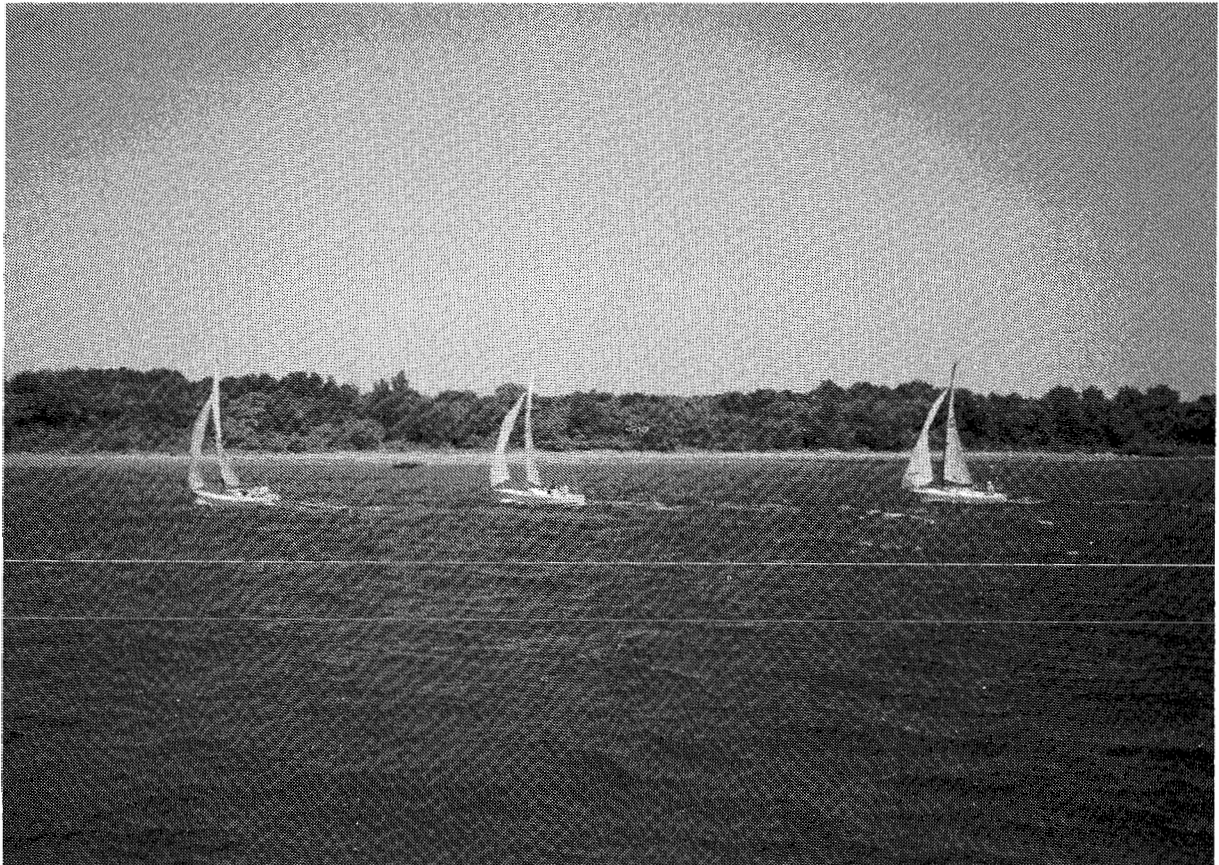
STATEN ISLAND

Staten Island's extensive public waterfront is on the south shore of the island; the northern and western shores are largely inaccessible. (Map 4.4.)

Along the north shore, from Snug Harbor to Fort Wadsworth, there is limited public access to the waterfront because of barriers formed by rail lines and grade changes. However, three of the city's most dramatic waterfront parks are located along this section: Alice Austen and Von Briesen parks and the Snug Harbor Cultural Center. South of Fort Wadsworth, continuous public beaches line the waterfront down to Great Kills, which is part of Gateway National Recreational Area. Great Kills and Lemon Creek accommodate most of the marinas and yacht clubs in Staten Island.

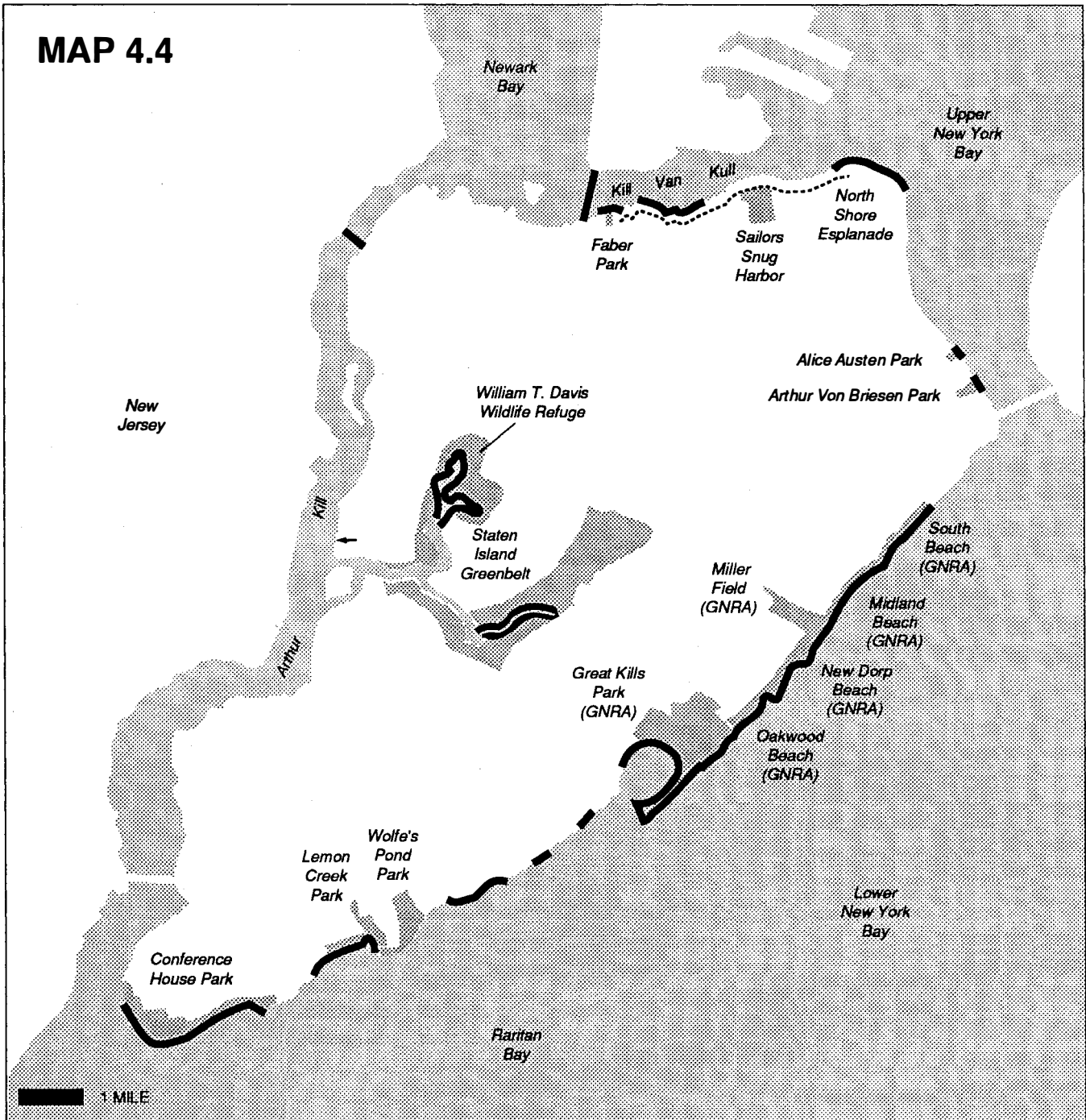
The waterfront from Great Kills south to Conference House Park, which extends more than two miles along the waterfront at the southern tip of the island, is relatively undeveloped and natural in character. Public access is limited from Conference House Park north along the western shore. The Arthur Kill shoreline north of the Outerbridge Crossing is both industrial and remote. Although most of this area is zoned for manufacturing, much of it is in a natural state supporting valuable wetlands and intertidal habitat. In general, this shoreline does not provide public access, and the upland is sparsely populated.

The Kill Van Kull shoreline is industrial. Public access is limited, but unlike the Arthur Kill, it is adjacent to residential communities. Faber Park, serving the Port Richmond community, has recently been renovated and includes a swimming pool and public esplanade.



Sailing off Conference House Park, Staten Island

MAP 4.4



Existing Waterfront Public Access / Staten Island

- | | | | |
|---|--|---|--|
|  | existing continuous or general public access |  | existing point access |
|  | upland extent of major waterfront park |  | significant barrier (highway, rail, slope, etc.) |

THE ACCESSIBLE WATERFRONT: ISSUES AND OPPORTUNITIES

The city's considerable public waterfront resources can be expanded, and more equitably distributed, through both public and private redevelopment.

The public sector can ensure that its properties — parks, streets, bridges and municipal facilities — maximize public access to and along the waterfront. Over time, judicious investments can fill missing links in otherwise continuous esplanades and bikeways; provide modest street end improvements in industrial areas and communities with no other options for reaching the water; create new water-related activity centers in formerly underused or inaccessible parks; and improve or create pedestrian and mass transit connections to the water. In certain instances, municipal agencies that have responsibility to manage city owned waterfront property may not have sufficient resources to respond to public access goals. Criteria for establishing public expenditure priorities will be necessary in view of competing needs for limited public funding.

In addition to a limited number of opportunities for creating new parkland, expanded public access to and along the waterfront will result from the conversion of manufacturing-zoned land to residential and mixed uses. The shift away from a maritime and manufacturing shoreline in New York City has occurred along most of the nation's urban waterfronts. Boston Harbor, Baltimore's Inner Harbor, the Miami River, Seattle Harbor, and the Hudson shoreline of New Jersey are examples of this transformation, in which public access is integrated with new land uses.

How successfully these public spaces are joined with other land uses will depend on the establishment of realistic and predictable standards for their configuration, use, design and management. As the number of privately developed public spaces increases, issues of maintenance, management and enforcement of public access requirements will assume greater importance.

Waterfront Parks

Waterfront parks serve a variety of active and passive recreational needs, including access to and along the waterfront. Fully developed parks, such as Roberto Clemente and Astoria parks, provide many different park uses. Some waterfront parks, such as Ferry Point Park, are partially or totally undeveloped. Other parks are primarily natural preserves in which human intrusion is limited to protect sensitive ecosystems. A few parks, like Alley Pond and Marine, combine active recreational uses with wildlife conservation areas.

The city's waterfront parks are primarily under the jurisdiction of the New York City Department of Parks and Recreation (DPR). State parks, managed by the Office of Parks, Recreation and Historic Preservation, include Roberto Clemente in the Bronx, Fulton Ferry in Brooklyn and Riverbank in Manhattan. The National Park Service oversees the extensive Gateway National Recreation Area properties on Staten Island and Jamaica Bay, as well as the Statue of Liberty, Ellis Island and Castle Clinton. Each of these agencies has devoted considerable attention to enhancing its waterfront parks. In addition to master plans for individual parks, for example, DPR has issued a citywide management plan for its waterfront parkland to promote water-related activity and better connections between parks.

As the parks are developed or redesigned, waterfront access and water-related activity can be incorporated into the plans. For instance, the master plan for Soundview Park will capitalize on its waterfront location by providing inland links to the shore and walkways along the shore. In some large, deep or hilly parks, the shoreline is far away or inaccessible from centers of activity inside or outside the park. Because safety is an important concern, waterfront areas must be visually and physically connected to centers of activity, with frequent, direct and safe paths to supervised areas or public streets. In some parks, ferries bringing people to the water could enhance park usage and safety.



Brooklyn Bridge walkway and bicycle lane

Some city parks, such as Battery Park, Astoria and Pelham Bay, offer superb waterfront views. With suitable redesign and landscaping treatment, visual corridors can be created in other waterfront parks as well, particularly those in which direct access to the water would be unsafe or excessively costly.

Even some inland parks can provide waterfront views. Spectacular views of New York Harbor and lower Manhattan are the main attraction of the Brooklyn Heights Promenade. The view from the promenade over a highway and piers is so valued that a special zoning district was created to protect it.

Financing the development and maintenance of such waterside improvements is a

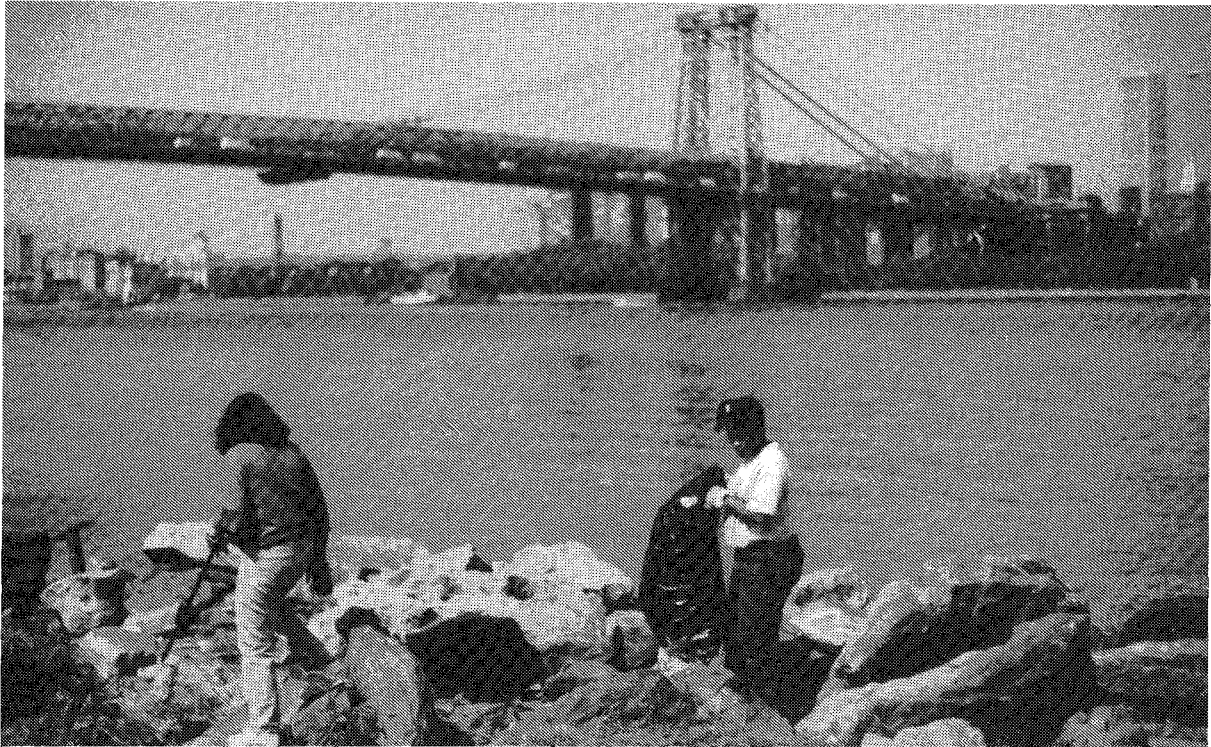
major issue. Even in the best of times, it is difficult to provide sufficient funding for maintenance of the city's enormous parkland inventory. In difficult economic times, open space maintenance is a tempting area in which to reduce spending.

Alternative funding sources are sometimes available. Large portions of the East River Esplanade were rehabilitated with private funding and an endowment fund was established to provide for routine maintenance under DPR direction. This technique was possible because several development projects adjacent to the esplanade were required to provide environmental mitigation. Revenue-producing activities on waterfront public lands, the proceeds of which could be dedicated to maintenance, may be another funding source.

Other Publicly-Owned Waterfront Properties

Aside from parkland, much of the remaining waterfront is publicly owned. Many of the properties are actively used by municipal facilities, some are partially occupied and others are vacant. Because this land is in the public domain, it presents opportunities for waterfront public access when municipal facilities are developed or improved. Public access suited to individual site conditions can be incorporated if it is considered early in the planning process and made an integral part of the design. Although it is not feasible or appropriate to provide access at all municipal facilities (for example, at marine transfer stations), some facilities, such as the Tallman Island Sewage Treatment Plant in Queens, have successfully incorporated public space along the water's edge.

As a general rule, public access on city-owned property to be used for industrial-type functions should be considered only when it would not compromise the facility's operations and security or the safety of potential users. When access is feasible in connection with non-industrial facilities, however, its configuration and design should be guided by the zoning standards proposed in this plan.



Volunteer clean-up at East River street end, Brooklyn

Although the city is obligated to maintain these public spaces, it does not always have the money to do so. Problems similar to those regarding park maintenance may develop, with only the most heavily used access points receiving attention. City-owned land that is leased to private developers also can encounter maintenance problems.

The Street Network

The street network can help or hinder access to the waterfront. Public roadways along the shoreline sometimes provide continuous waterfront access and sometimes prevent it. Streets perpendicular to the shoreline provide links from points inland and connections with the rest of the street system. Streets that terminate at the waterfront present opportunities for point access, or scenic overlooks. These vantage points may be the only form of public access in low-density residential areas and waterfront manufacturing zones.

Mapped but unimproved streets offer potential for securing access to the water. Street

demapping proposals require a discretionary review that allows communities, planners and elected officials to consider a street's potential value for visual and physical access. In some areas, demapping an unimproved street should be considered only when an alternative access system is available or can be provided. In other areas, demappings are appropriate to protect sensitive natural areas such as wetlands. In general, however, the city's street system and, in particular, streets that terminate at the water's edge should be considered an important public resource to be preserved and enhanced.

Because streets are no-build areas, they function as visual corridors at intervals as regular or irregular as the street grid itself. Criteria are needed to provide adequate sightliness, spacing and width for visual corridors. Where streets terminate at the first upland property, it may be necessary to carry the view corridor through the intervening property in order to prevent "walling off" of the view.

Some large waterfront parcels with development potential do not have a street grid. As part of the discretionary review for these parcels, consideration should be given to increasing access by mapping public streets, upland public access connectors and view corridors.

When highways and major arterial roadways block the waterfront, access can be achieved by at-grade crossings, signalization or pedestrian bridges. Even though Manhattan is surrounded by arterial highways, its well used East Side Esplanade has been made accessible by a series of bridges and crossings. Improvements developed in conjunction with the proposed Riverside South project and the reconstruction of Route 9A will enhance access to the Hudson River shoreline.

Responsibility for maintaining public streets and pedestrian bridges rests with the Department of Transportation. Maintenance of these spaces must compete for funding with other transportation maintenance and improvement needs. The identification of specific street ends and bridges that could provide direct or visual waterfront access to neighboring communities would allow for a concerted approach to the improvement, signage and maintenance of these valuable but often overlooked resources.

Boroughwide and Interborough Waterfront Trails

Bicycling and walking are growing in importance as recreational activities. They have potential as environmentally friendly alternatives to motorized transportation. New York State is developing a program of urban bikeways and pedestrian routes that could be funded under the 1991 Federal Interstate Surface Transportation Efficiency Act (ISTEA). To qualify for these funds, New York City has formed a bicycle and pedestrian working group of public and private organizations to develop a plan for on-road bikeways, off-road multi-use trails, and other programs. Some parts of the proposed trail system are adjacent to the waterfront, some provide access to waterfront recreational areas, and others are inland links connecting waterfront trails. The major components of the proposed trail system are shown on Map 4.5 and described below.

The **Hudson River Trail**, part of the proposed Hudson River Greenway from New York to Albany, would run from the Battery in Manhattan to Westchester County. The trail would be part of the proposed Boston to Washington East Coast Greenway. Some parts of the system exist and major sections are in various stages of planning, but several connectors are needed to complete the trail.

The **East River Trail** in Manhattan would create a continuous bike/pedestrian trail from Battery Park to 145th street. It would have connections across the East River bridges to Brooklyn, Queens and Randalls Island, and it could be linked to the proposed Bronx routes. Because of the limited width of the Esplanade, and significant gaps in its continuity, upland alternative connections may be appropriate, at least in the short-term.

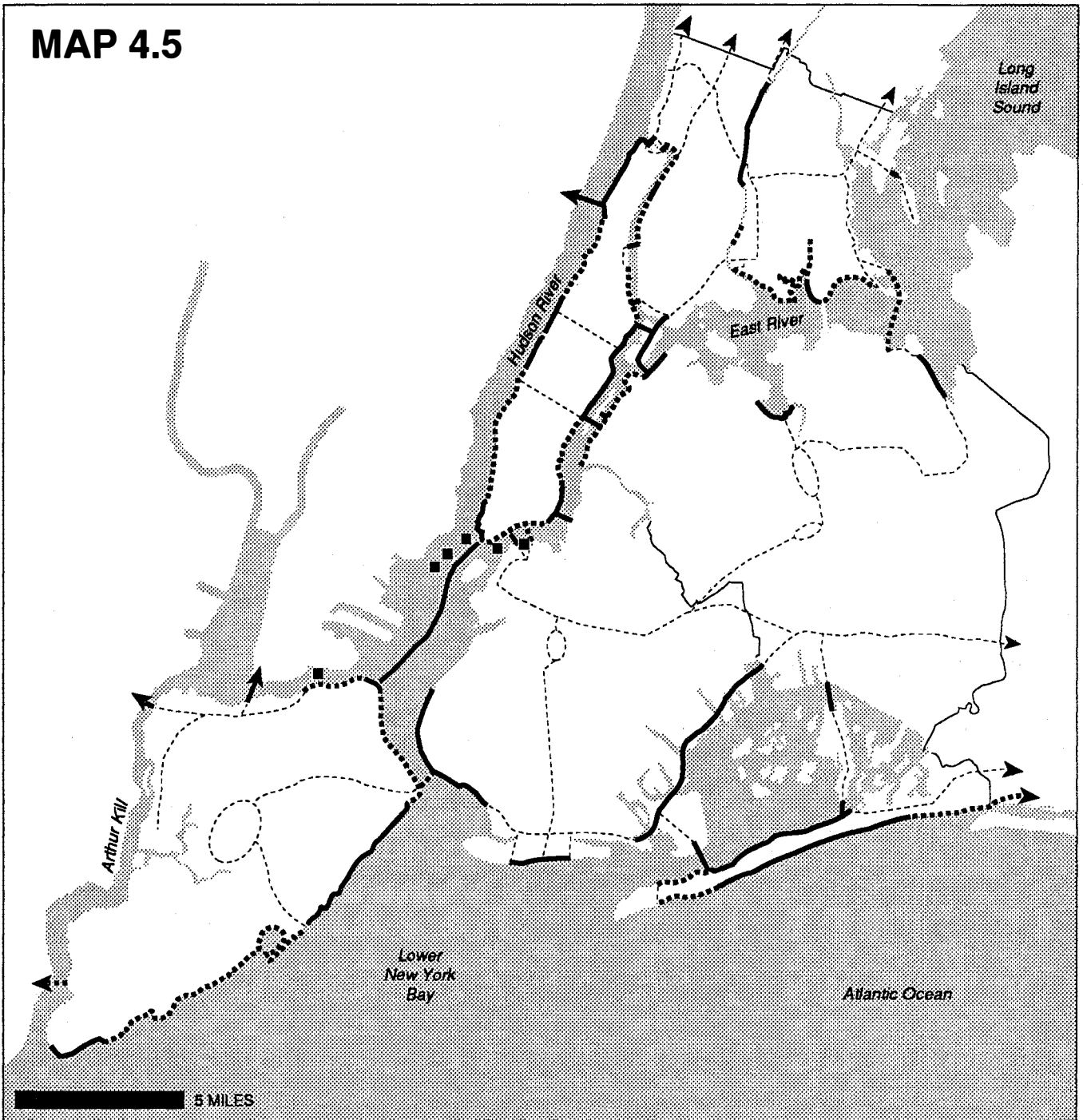
The **Brooklyn-Queens Greenway** would provide a connection between Long Island Sound at Fort Totten in Queens and the Atlantic Ocean at Coney Island.

The **Shore Parkway Bikeway**, one of the few remaining bike paths developed by Robert Moses, is being upgraded by DPR with state Environmental Quality Bond Act funding. One section reaches from Owls Head Park to Bay Parkway; another portion travels through Gateway National Park along the shores of Jamaica Bay. This trail could connect with the Brooklyn-Queens Greenway and with the Verrazano Narrows Bridge for access to Staten Island.

The **North Bronx Bikeway** includes the Pelham Parkway bike path, which could be extended at both ends to link the Hudson River with Pelham Bay Park. It would provide important access to Orchard Beach and City Island for Bronx and Manhattan residents.

The **South Bronx Bikeway** would include an improved bridge to Randalls Island and would connect Soundview Park and the Bronx River trail with inland communities.

MAP 4.5



Waterfront Greenways

- | | | | |
|-------|------------------------------|---|-------------------------------|
| — | existing waterfront greenway | — | borough boundary |
| | proposed waterfront greenway | → | potential regional connection |
| ----- | major upland connection | → | |
| | | ■ | existing Harbor Park site |

The West Queens bike route would provide a north-south link from northern Astoria along the East River to the Queensborough Bridge and the East River Trail.

The Staten Island Bike System would use the abandoned Staten Island North Shore rail line and various parks to create a loop system for both transportation and recreational uses. The rail line would be used on an interim basis and perhaps permanently if the trail could coexist feasibly with a planned commuter and freight line. The trail would connect many island institutions and provide a link to Manhattan via the ferry and to New Jersey's Delaware and Raritan Canal trail to Trenton.

The city's many bridges can offer the pedestrian and cyclist marvelous water views and, in some cases, fishing opportunities. However, many waterways crossings are not open to pedestrians and cyclists.

Encouraging Water-Dependent Recreation

Water-dependent recreational uses include boating, swimming and fishing. The city's swimming beaches are at Orchard Beach, Coney Island, Rockaway, Gateway and the south shore of Staten Island. Major boating waters are Long Island Sound, Jamaica Bay, Lower Bay, Raritan Bay and the Upper Harbor. Recreational boating includes fishing, waterskiing, cruising and use of non-motorized craft such as sailboats and row boats.

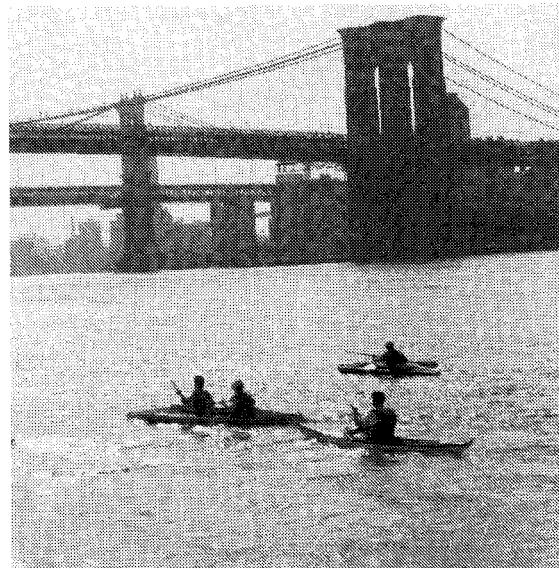
Additional docking facilities would encourage boating in residential areas. Docking facilities are limited by zoning regulations that allow docking slips in residential zones to be used only by the residents of a development to which they are an accessory use. The use of small boats is limited also by the lack of public boat launching areas, which could be provided on city-owned property.

Land-based fishing occurs in almost any New York City waterbody, although areas with good water quality are more popular. This activity could be encouraged by providing additional public piers in popular fishing areas.

Land Use and Public Access

Although much of the waterfront is held in public ownership, private land undergoing

redevelopment can be a resource for public access to the waterfront. Under current zoning regulations, public access areas can be achieved only case-by-case for discretionary actions subject to WRP consistency review. A predictable method is needed to reestablish appropriate public access on private land that can be redeveloped as-of-right or is suitable for rezoning from manufacturing use to residential and mixed use.



Kayaks on the East River

The amount and type of public access that is appropriate varies with land use and density. Each land use presents its own opportunities and constraints. In general, as density of development increases, so does the need for public access and the financial feasibility of developing it.

In low-density residential zones, the benefits of linear public access must be balanced with demand for public open space. The burden on small property owners of requiring physical access would be high compared to the benefits obtained. Visual access and point access through the street network are generally more appropriate. Waterfront access or connections to the upland may be necessary only in the case of large-scale development. In most cases, public access along the water's edge in low-density residential areas is necessary only to link adjacent waterfront parks or to bridge a small gap in an otherwise continuous linear walkway.

Higher-density residential development has a greater need for open space and for access to the waterfront. Waterfront access areas and upland connectors are necessary for all high-density development.

Waterfront public access is compatible with commercial use and often makes it more successful. In some places, such as South Street Seaport, the waterfront is the major attraction. Similar rules should apply for commercial as for residential uses, i.e., selective access for low-density zones, mandatory physical and visual access for higher-density zones. Nevertheless, large-scale commercial uses in low-density districts and in manufacturing districts should provide public waterfront access.

Mandatory public access generally is not appropriate for industrial uses because of limited demand and safety or operational considerations. Street ends or nearby public land can be preserved or improved, particularly in areas where upland residential populations do not have other waterfront access options.

Ensuring the Quality of Waterfront Public Spaces and Views

To ensure that public access areas look and feel public, standards are needed for each type of access (such as walkways, overlooks and upland connectors), particularly when access is provided in conjunction with private development. The standards need to establish minimum dimensions, fixtures, landscaping and other amenities, and permitted obstructions. Standards related to the density of as-of-right development would set a benchmark for local access plans and discretionary reviews.

Views to and along the water add to the economic value of development and to the quality of life in both public and private spaces. Skylines, bridges and landmarks are perhaps most memorable when reflected in the water against a changing sky. Waterfronts are among the few places the city that offer wide vistas.

The city's zoning regulations lack generic controls to preserve views and visual corridors to and along the waterfront. Streets generally provide visual corridors at fairly regular intervals, but the standard street and block configurations do not exist in many waterfront areas.

Other conditions unique to the waterfront such as development on extremely large or elongated zoning lots, also can block access. A predictable means of providing visual connections is needed, particularly for as-of right development.

Building form can enhance or detract from a visual corridor. Buildings set back from the waterfront and waterfront yards would provide a greater sense of openness and expanded visual access along the shoreline.



Queens Bridge Park, Queens

Guidelines are required for locating floating structures and other in-water and over-water structures so they do not block visual corridors unnecessarily. Development over the water, for example on piers, can have a substantial effect on views along the waterfront, either by adding interest to a featureless area or by blocking a scenic view. Regulations to establish height, setback, yard and public access areas are necessary for new in-water and over-water development.

Establishing Realistic Management Procedures

Establishing a maintenance and management program for the public waterfront is as important as providing the space itself. Too

often, concern for the usefulness and quality of public spaces stops at the point of construction and does not take into consideration day-to-day operation and maintenance. Without a well-conceived plan for upkeep, public spaces can fall into disrepair, and become less inviting to users. New York City has a wealth of experience in this area as a result of its plaza programs, business improvement districts (BIDs), and the work of the Department of Parks and Recreation and open space conservancies and advocacy organizations. The programs provide a solid foundation from which to develop comprehensive management and maintenance programs for waterfront public access areas.

Because private lands are scattered and are owned by many parties, it is difficult to coordinate the documentation, enforcement and maintenance of privately owned public access areas.

The ability to enforce the right of public access across private property begins with the ability to identify the properties and the required amenities. There is now no requirement for registering public access spaces. A readily available repository of information on all required access and amenities is necessary. For projects that provide public access pursuant to the Zoning Resolution, registration should be a condition for obtaining a certificate of occupancy. In addition, permanent on-site signage listing the access requirements can make the public aware of its rights and responsibilities.

Maintaining private lands is the responsibility of the property owner. However, the city's experience in enforcing access to public spaces that were required in private development under incentive zoning programs is not encouraging. Even in midtown Manhattan, where open space is at a premium and has high visibility, public spaces do not always provide the required amenities. Some plazas and indoor public spaces are closed, ill-maintained, privatized, or operated in a manner that makes them uninviting to the public. The growing number of privately developed

public waterfront spaces, some relatively small or scattered, could exacerbate maintenance problem and liability issues.

The gap between "paper" requirements and what is actually provided comes about because enforcement resources are scarce. Unless this problem is resolved, adding more public space requirements to the Zoning Resolution could be a hollow promise.

Approaches worth exploring include the creation of a privately financed public or non-profit entity with responsibility for maintaining private spaces. One financing option would be pooled contributions of annual fees from adjoining development, similar to the way a BID functions. It remains to be seen how these fees would affect the broad array of development projects, many of which would occur as-of-right at a small scale. The potential costs and benefits of such a program would have to be studied.

THE PLAN FOR THE PUBLIC WATERFRONT

Recommended actions to increase public access to the waterfront include broad regulatory changes and site-specific proposals for each borough. The regulatory recommendations would ensure that public access is provided with all new mid- to high-density residential and commercial development.

REGULATORY STRATEGY

The city's main tool to ensure that development occurs in an appropriate manner is the Zoning Resolution. The Resolution requires all development to meet standards that vary by zoning district and establishes criteria for developments subject to discretionary review. To foster usable and attractive public spaces on the waterfront, the zoning regulations must be amended. Two zoning techniques are proposed: generic requirements applicable throughout the city, and local area plans where conditions warrant special consideration.

For mid- to high-density development, and large-scale multi-family development in lower-density areas, these revisions would include:

- Continuous linear waterfront public access located parallel and adjacent to the shore. No-build buffer zones adjacent to these access areas would ensure privacy and a transition between private and public uses.
- Upland connectors "perpendicular" to the shoreline to allow access from the first upland street or other public area to a linear waterfront public access area. A no-build buffer zone adjacent to this access would be necessary.
- A minimum percentage of lot area (inclusive of all public access areas), aggregated to provide usable public open space as part of any large development.
- No-build setbacks along the shoreline in low-density districts, which need not be publicly accessible, to keep development away from the shoreline and to allow for future public acquisition should access be deemed appropriate.
- Minimum standards for the development of all public access areas regulating dimension, paving, seating, landscaping, lighting, signage and other amenities to ensure the quality of public access.
- Minimum standards for visual corridors to provide unobstructed waterfront views.

The size and type of access areas would vary by land use and level of development. Public access would not be required in manufacturing districts, except for large commercial developments along the shoreline.

Waterfront Access Plans would provide predictable controls tailored to special local conditions. These local area plans would be adopted by the City Planning Commission and the City Council and mapped as part of the Zoning Resolution. The plans could supplement or modify the generic requirements in zoning districts that permit multi-family residential or commercial development.

Chapter 7 describes the zoning revisions proposed to implement the Comprehensive Waterfront Plan, including recommendations for

the public waterfront. The proposed amendments include height and setback requirements to ensure that, among other objectives, new development allows room for physical and visual access. The proposed design standards would help to ensure that the public area feels public and is usable, enjoyable and safe.

Mechanisms for the maintenance and management of publicly accessible areas in private developments need to be developed. Relevant city agencies, including the Departments of City Planning, Buildings and Parks and Recreation, should develop guidelines for the management of these properties, not least to ensure that required public spaces are constructed as planned, properly maintained and kept open to the public. Liability issues also must be examined.

Public agencies that manage city owned waterfront properties should be given the necessary resources to properly maintain and support public access goals.

PUBLIC ACCESS OPPORTUNITIES

The waterfront reach studies, summarized in Appendix A, identify numerous opportunities to preserve or enhance waterfront public spaces and views, and to create new points of access throughout the city. Some new access areas would be integrated in new waterfront developments in accordance with the proposed zoning regulations. Others would come about as a result of future rezonings, as recommended in the plan for the Redeveloping Waterfront. Still others are beyond the scope of redevelopment activity and would have to be provided by the city. To determine investment priorities for public actions, consideration should be given to the extent to which each proposed access improvement would:

- correct imbalances in the availability of waterfront open space for adjacent communities;
- extend the existing network by linking unconnected segments of the system;
- promote tourism and provide visual relief in highly developed areas;

- improve the possibilities for in-water activities;
- create safe, well-used and adequately maintained public spaces.

Specific recommendations for the city's public waterfront, by borough, are shown on maps 4.6 - 4.10 and described below and on subsequent pages.

Bronx

An upland bicycle path in Riverdale, and a connection over the Henry Hudson Bridge, are recommended for the Hudson River shoreline as part of the Hudson River Greenway. The Spuyten Duyvil Shorefront Park would be expanded by the acquisition of the Penn Central Triangle, at the mouth of the Hudson River. A Harlem River waterfront esplanade, in conjunction with redevelopment, would extend north from High Bridge.

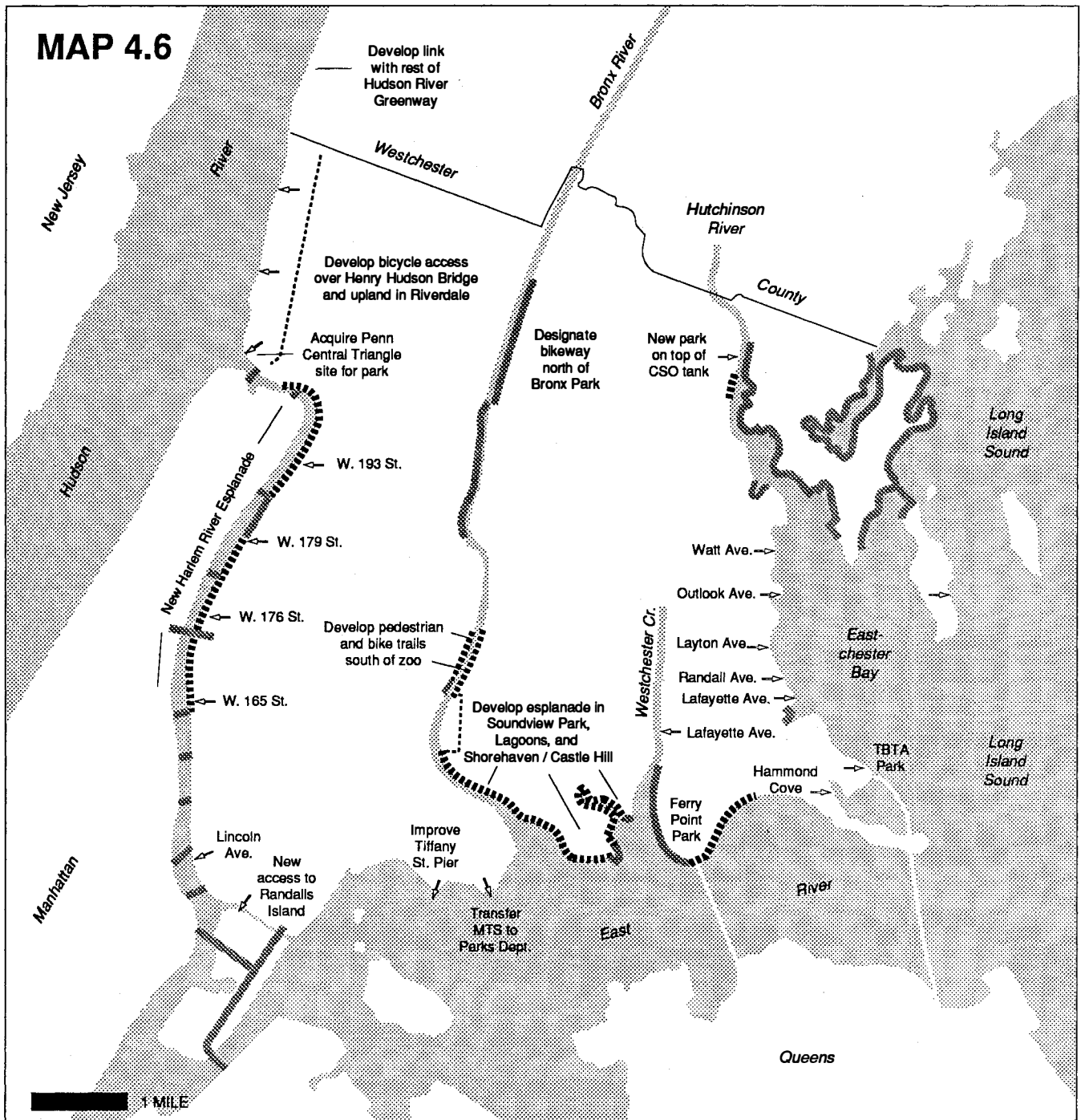
In the industrial waterfront of the South Bronx, improved street end access is proposed at several locations. A new access route to Randalls Island would be provided through the Harlem River Yards site. A new park is recommended for the Hunts Point Marine Transfer Station site, when that facility is vacated by the Department of Sanitation. Along the Bronx River, a number of improvements and extensions of the existing park and parkway system are proposed.

Improvements, including esplanades, boat launches, and fishing piers, are proposed for Soundview, Ferry Point, and Pugsley Creek parks in the East Bronx. A series of street end access points are proposed for the lower-density residential neighborhoods of the East Bronx. (Map 4.6.)



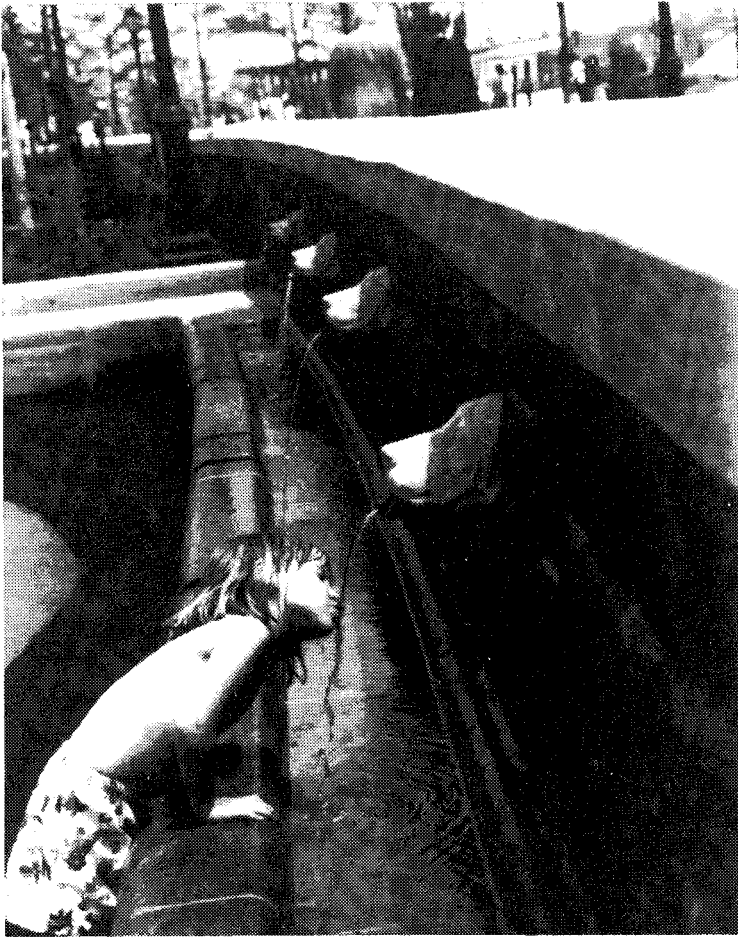
Amtrak rail line along Riverdale Park, Bronx

MAP 4.6



Public Waterfront Recommendations / The Bronx

-  existing continuous or general public access
-  proposed continuous or general public access
-  proposed or improved point access or crossover
-  upland connection



Children's play area at newly opened Hudson River Park, Manhattan

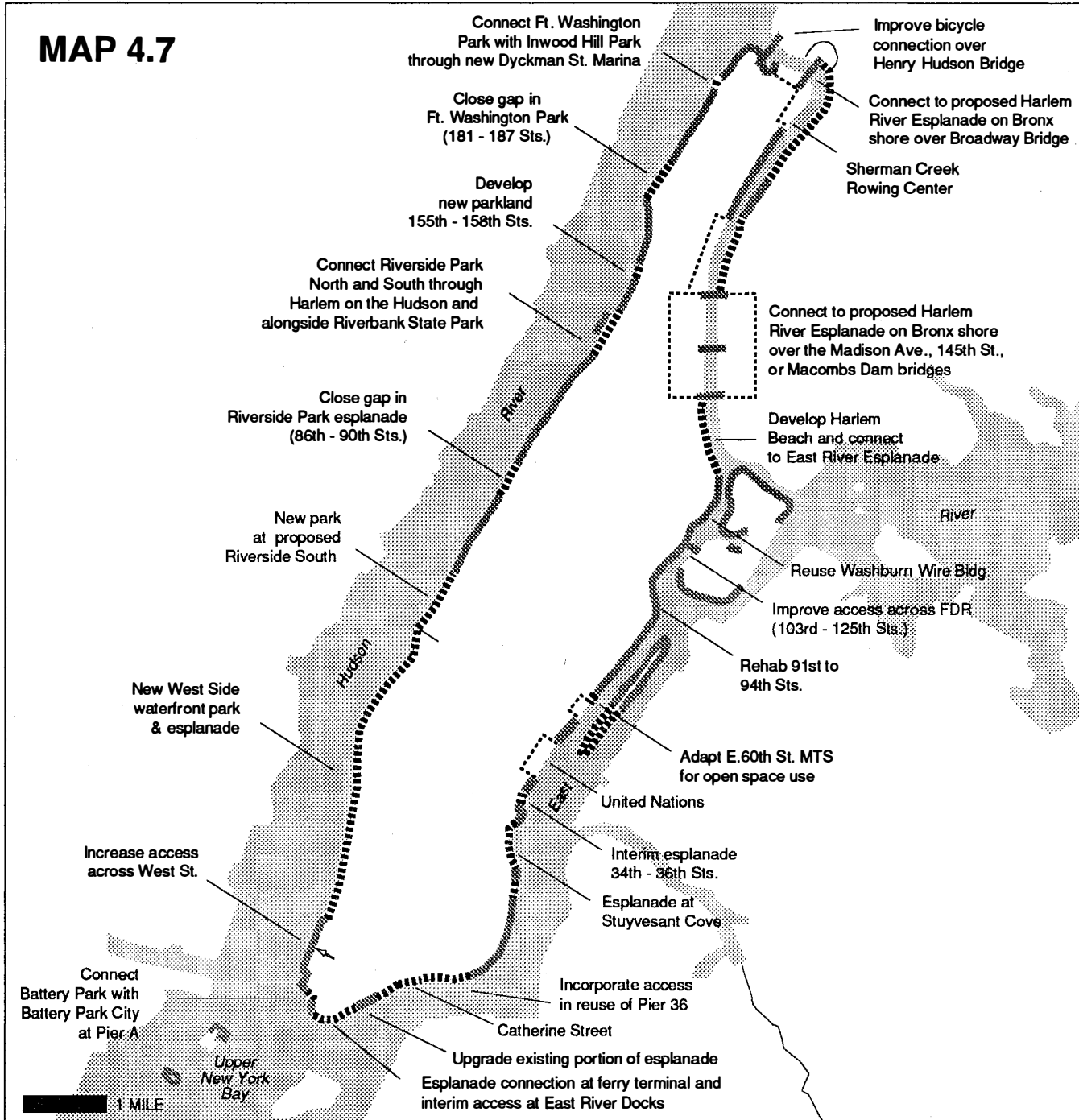
Manhattan

The plan for Manhattan's public waterfront envisions an esplanade encircling the island, consistent with the draft recommendations of the Manhattan Borough President's waterfront plan. A new West Side Waterfront Park would extend from Battery Park City to 59th Street. North of 59th Street, a waterfront esplanade component of the proposed Riverside South development would extend to Riverside Park at 72nd Street. The gap between the northern and southern portions of Riverside Park would be closed by Riverbank State Park and the Harlem-on-the-Hudson development at West 125th Street.

Links over the Harlem River would connect to the Hudson River Greenway and the Bronx Harlem River Esplanade. South of the Macombs Dan Bridge, the esplanade would continue through an improved Harlem Beach to the existing East River Esplanade. Gaps in the East River Esplanade would be closed by waterfront or upland connectors.

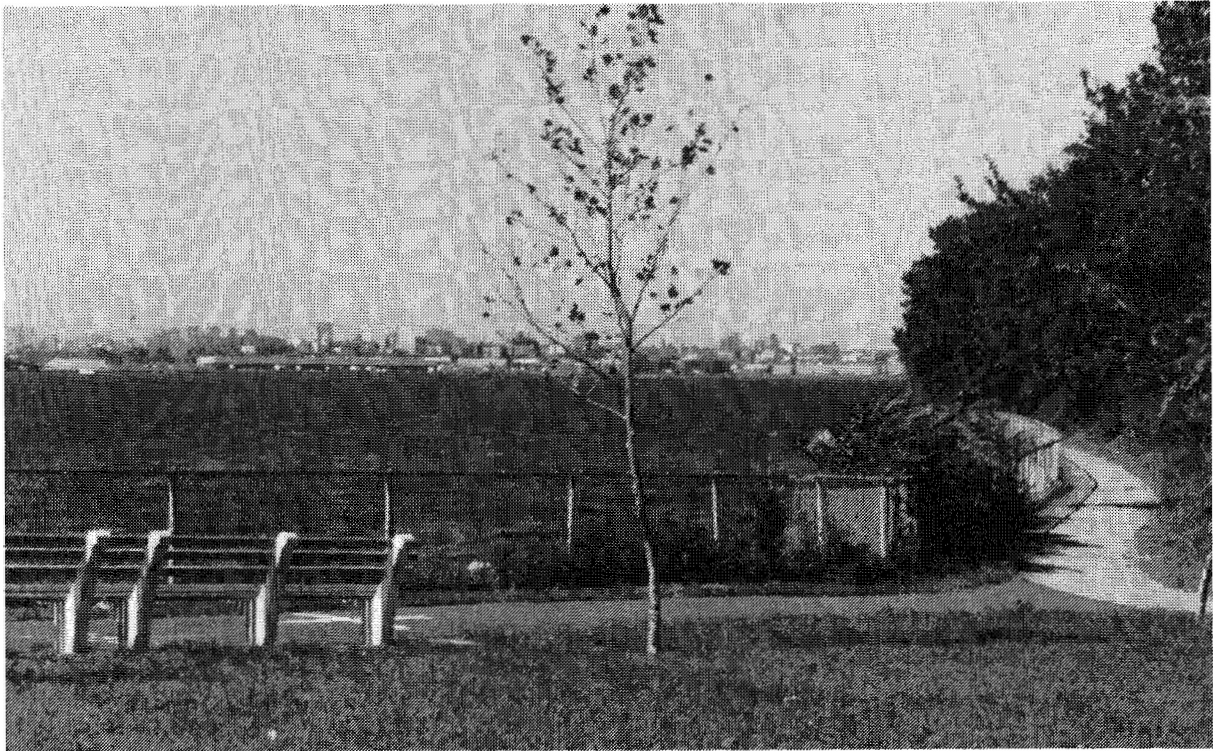
At the southern tip of Manhattan, access improvements across West and South streets, renovation of existing esplanades and publicly-oriented waterfront features are recommended. Additionally, gaps in public access at Pier A, the Ferry Terminal, the Battery Maritime Building, and north of the South Street Seaport, should be closed. (Map 4.7.)

MAP 4.7



Public Waterfront Recommendations / Manhattan





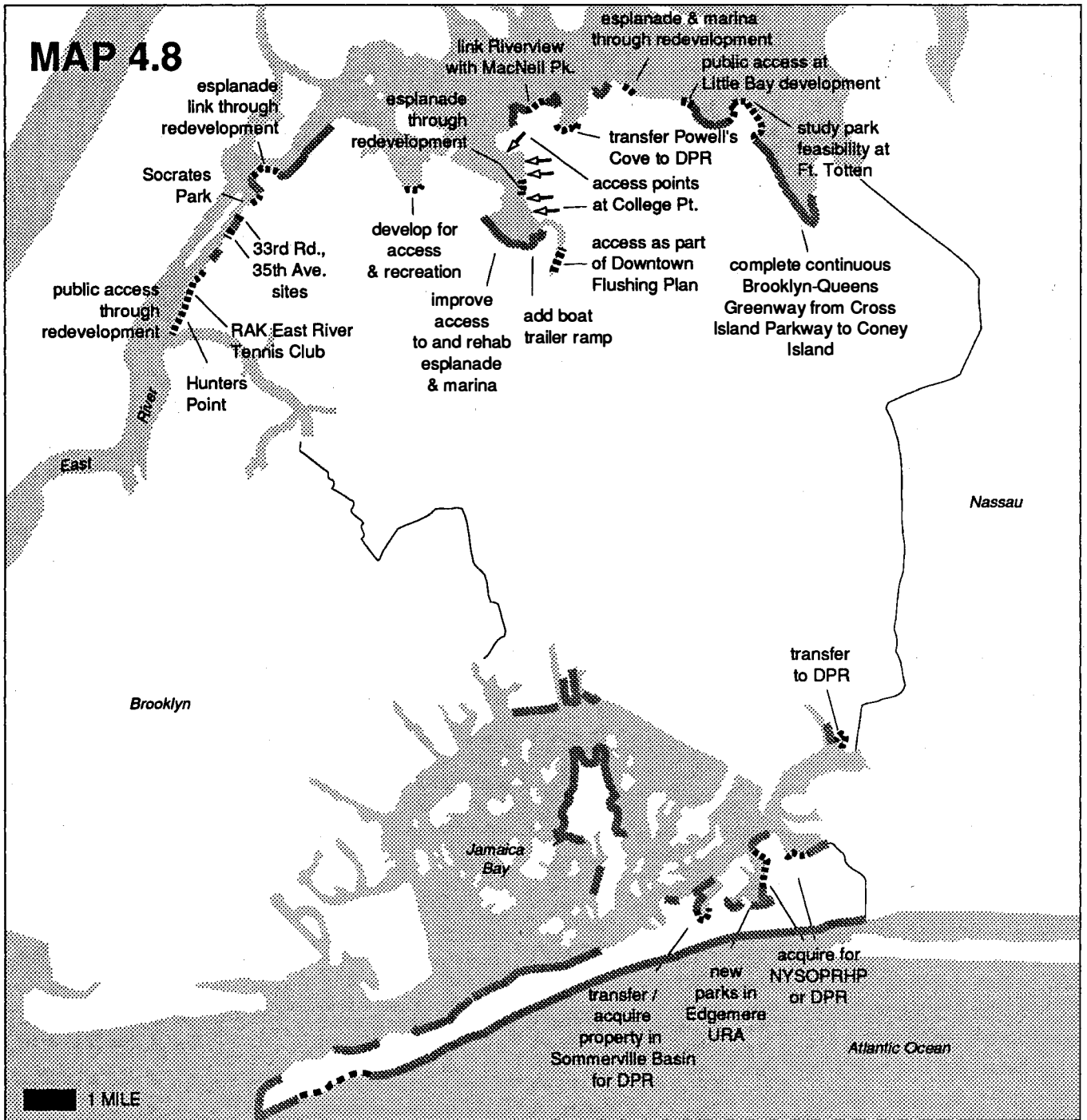
Poppenhusen Avenue street end park, Queens

Queens

Redevelopment of the Long Island City waterfront can increase public access opportunities and link existing public spaces. On the north shore, rehabilitation of the Flushing Bay Marina and Esplanade should include a boat trailer ramp and improved access at Harper Street. The Port Authority ballfield at 19th Street and Bowery Bay can be enhanced for recreation and public access.

Street end point access is recommended for the College Point industrial area, and new public waterfront spaces can be provided at a number of redevelopment sites. The feasibility of park use of the historic batteries at Fort Totten should be explored. Expanding the existing bikeway from Northern Boulevard would improve access to the fort. Appropriately designed public access to Udalls Cove and Ravine and the wetlands at Powell's Cove would provide opportunities for environmental education and passive recreation.

In Jamaica Bay, limited public access should be provided to the bay's natural shorelines. New public boat-launch sites within the bay would increase recreational opportunities. Public and privately owned natural areas on Jamaica Bay's Rockaway shoreline are appropriate for environmentally-oriented park use. (Map 4.8.)



Public Waterfront Recommendations / Queens

- | | | | |
|-------|--|-----|--|
| ----- | existing continuous or general public access | → | proposed or improved point access or crossover |
| | proposed continuous or general public access | --- | upland connection |

Brooklyn

New parks and mixed-use developments can increase public use of the East River and Upper Bay waterfront. Currently, opportunities are limited by the area's industrial nature. In Greenpoint, the WNYC Transmitter site should be developed for park use, and the Noble Street Pier, when vacated by the Sanitation Department, should be rehabilitated for public access. Public access would also be provided at former industrial sites that are suitable for redevelopment.

Farther south, improvements to Fulton Ferry/Empire Stores State Park, and complementary uses on adjacent city-owned parcels, are proposed. Redevelopment of Piers 1-5 beneath Brooklyn Heights should include substantial open space. Public access should be a component of redevelopment in Red Hook, from Van Brunt Street to Wolcott Street, including the new recreational Coffey Street Pier. There may also be opportunities for limited public access in conjunction with new industrial development in Sunset Park.

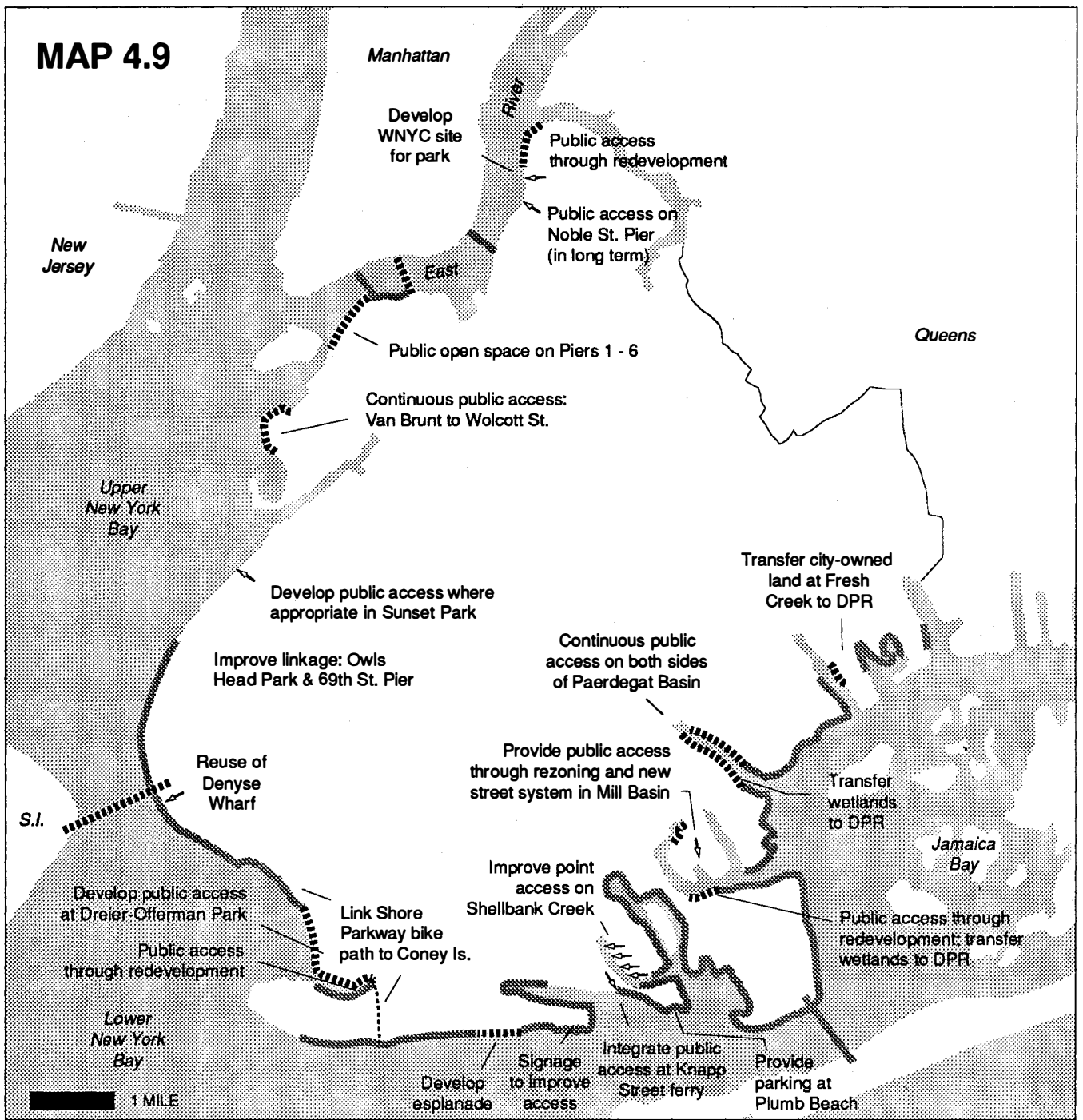
Proposed enhancements to the Shore Road Esplanade include an improved link to Owls Head Park, development of Denyse Wharf for educational/recreational use, and extension of the bike path to Stillwell Avenue and Coney Island. Access to the water should be incorporated in the development of Dreier-Offerman Park, which should be linked to the bike path and to a public access component or residential development in the White Sands area.

Public access along Manhattan Beach's seawall should link Brighton Beach and Manhattan Beach Park. Improved signage would increase public awareness and use of Kingsborough Community College's waterfront esplanade. A new parking area and improved visual access are recommended in the Shell Bank Creek/Plumb Beach area. In the Jamaica Bay area, environmentally sensitive public access should be provided at Four Sparrows Marsh, Paerdegat Basin and Fresh Creek. (Map 4.9.)



Brooklyn Heights Promenade

MAP 4.9



Public Waterfront Recommendations / Brooklyn

- -
- existing continuous or general access
 proposed or improved point access or crossover
- proposed continuous or general access
 upland connection

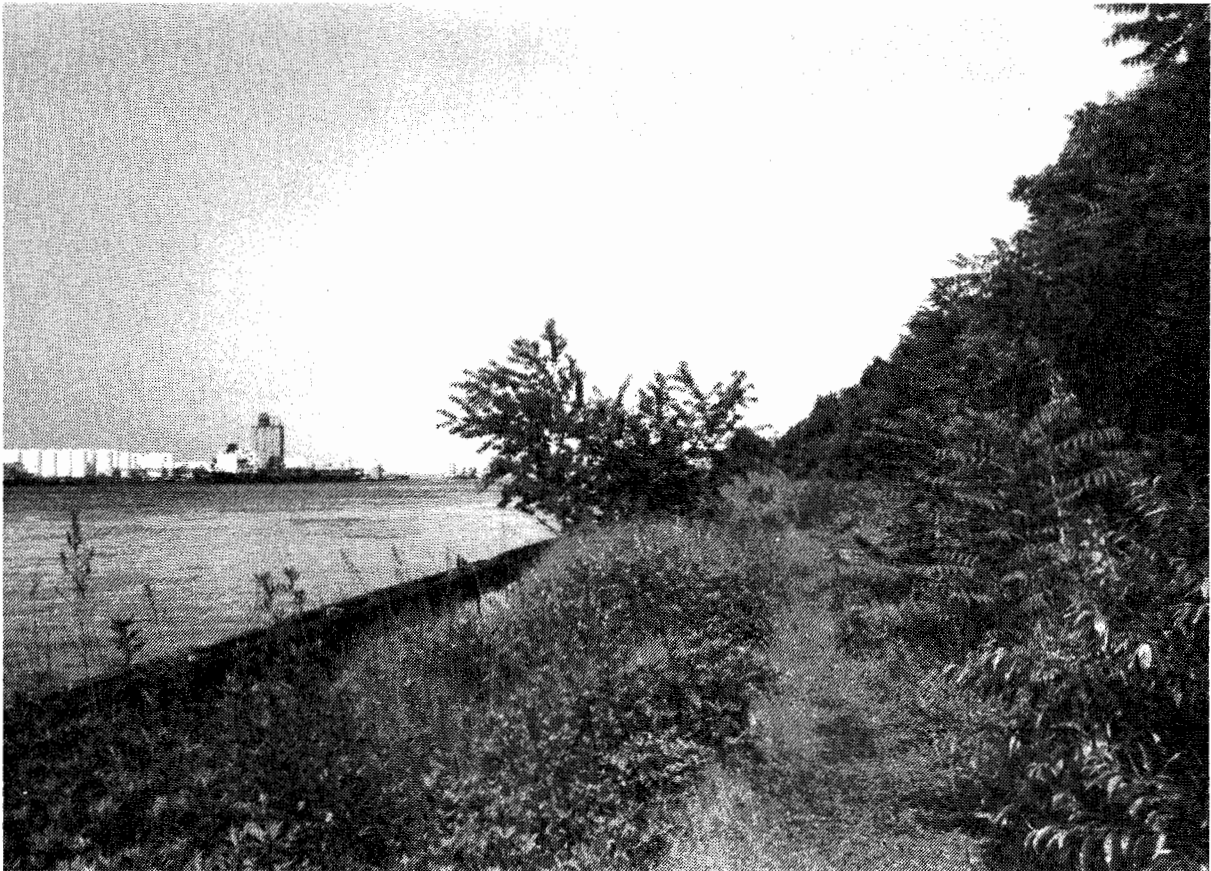
Staten Island

The plan recommends completion of the North Shore Esplanade in accordance with DCP's 1987 proposal. Redevelopment of the Chessie site, adjacent to the Ferry Terminal, should include public open spaces and visual access from upland streets. Improvements are also recommended for Snug Harbor, Alice Austen Park, Von Briesen Park, and Battery Weed. Along the South Shore, a new beach at Cedar Grove Avenue and a series of street end and parkland improvements would supplement the substantial stretches of publicly accessible waterfront.

Redevelopment in the Outerbridge area would provide new public access opportunities to the Arthur Kill. A public boat launch is proposed for the end of Ellis Avenue, along with enhancement of street end access at Victory Boulevard.

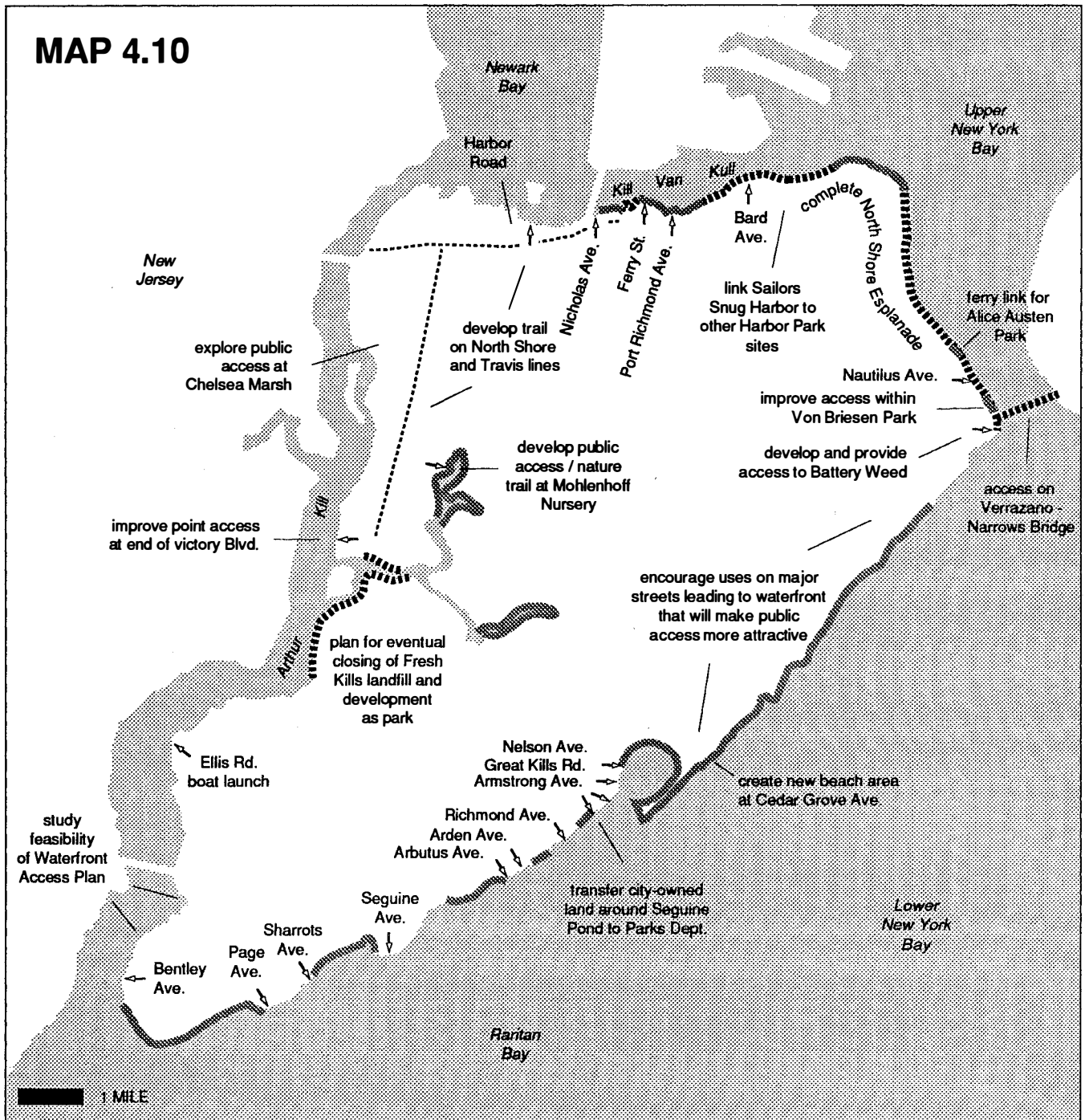
Public access to the environmentally sensitive areas of the Arthur Kill must be designed to be compatible with natural resources. Access to Main Creek is proposed for the Mohlenoff Nursery property. Saw Mill Creek in Chelsea Marsh may be suitable for a passive viewing area. As areas of the Fresh Kills Landfill are closed, they are being treated for eventual park use.

The city should acquire the North Shore Rail Line and the Travis Line for interim trail use and for possible re-establishment of freight and/or commuter service. Combined rail/trail use of a reactivated rail line is a possibility. (Map 4.10.)



Inactive rail line along Kill Van Kull, Staten Island

MAP 4.10



Public Waterfront Recommendations / Staten Island

- existing continuous or general public access
- proposed continuous or general public access
- upland connection
- proposed or improved point access or crossover



5

THE WORKING WATERFRONT

Historically, New York City's growth and prosperity were inseparable from its waterfront. As one of America's major ports of entry for people and goods, the waterfront flourished throughout the 18th and 19th centuries and well into the 20th. Today, the working waterfront has changed dramatically as a result of structural changes in the economy, technological advances in maritime activities, changes in the movement of freight, the shift of most port operations to New Jersey, and the steady decline of manufacturing in the city. These changes have left many older piers abandoned and considerable shorefront property vacant and derelict. Nevertheless, the port remains crucial to the city's economy.

New York City's Working Waterfront contains a range of water-dependent uses including maritime and maritime support operations, marinas, waterborne transportation and commercial recreational boating. It also contains industrial and municipal uses many of which do not use or depend upon the water for their operation.

Although reduced in size and economic significance, these working waterfront activities still play an important part in the city's economy. The Comprehensive Waterfront Plan seeks to promote water-dependent and industrial waterfront uses in areas that are well-suited to them. Specifically, the working waterfront goals are to:

- retain sufficient waterfront land to accommodate existing, and attract future industrial, maritime, municipal, and other working waterfront uses;
- identify infrastructure improvements and other investments necessary to sustain these uses;

- identify opportunities to encourage ferries, excursion boats, marinas and other water-dependent uses;
- encourage waterborne transportation of goods and people, and maximize inter-modal linkages;
- ensure that working waterfront uses are developed in an environmentally sound manner; and
- provide public access where appropriate and feasible.

The plan for the working waterfront classifies working waterfront uses, analyzes their geographic concentration and dispersion, and projects future needs. It then proposes citywide and area-specific strategies for accommodating the future needs of working waterfront uses and facilitating their development.

HISTORY

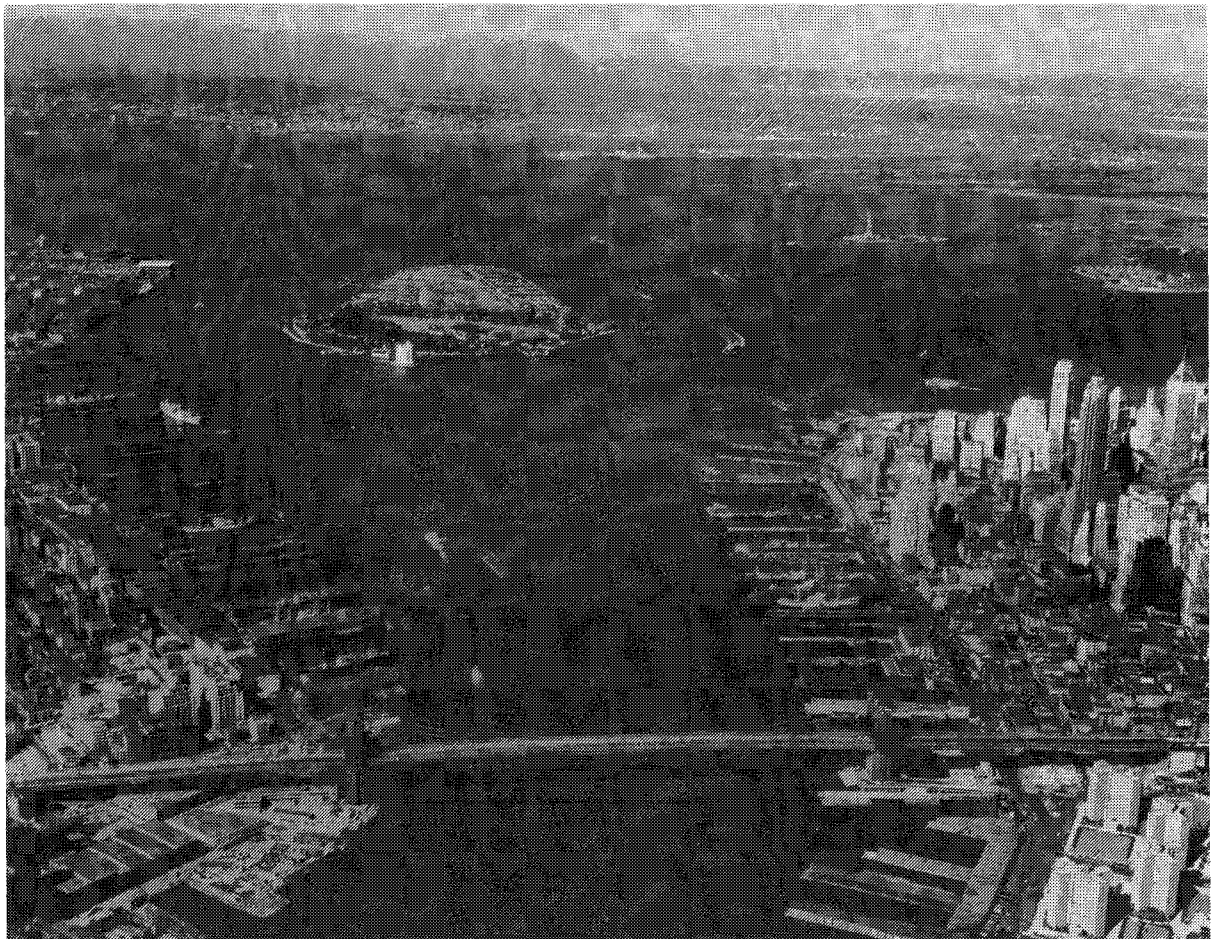
One key to the economic and physical growth of New York City has been its extraordinary harbor, which has provided deep water access, shelter from the open sea, and a gateway to other parts of the country. These unique attributes make New York Harbor one of the finest in the North Atlantic.

The Port of New York emerged as a major economic force in the 18th century. To accommodate it, the lower Manhattan waterfront underwent extensive landfill and wharf construction. The East River and later the Hudson River were active with shipping. Steam ferries moved passengers and goods between Manhattan, Brooklyn and New Jersey. New York's dominance of 19th century shipping was the result of farsighted infrastructure investment such as the completion of the Erie Canal and

construction of railroads connecting the port to the nation's interior. By 1870, the Port handled 57 percent of the nation's trade and was the largest port in the country. It continued to expand until the 1920s, encompassing hundreds of miles of developed facilities, and using more than 5,000 barges, 1,000 tugs, several hundred ferries, passenger boats and freight boats to handle commerce.

Port operations changed when trucks began to capture an increasing share of commercial traffic. As manufacturing in the port region declined and the interstate highway system emerged, the number of vessels needed to distribute goods decreased and ferry use declined sharply. Airplanes replaced ocean liners for intercontinental travel.

Over the past 30 years there has been a steep, continuous decline in the city's industrial sector¹ employment, in contrast with non-industrial growth. The greater part of the decline, nearly 75 percent, is due to a loss of manufacturing, although employment in transportation, communication and public utilities (TCPU) and wholesale trade also has declined. Since 1963, shortly after the current Zoning Resolution was adopted, manufacturing employment has declined by more than 55 percent, and total industrial sector employment by more than 42 percent. New York's maritime industry suffered a similar decline, and certain water-dependent industrial sectors showed even sharper drops.



View of East River Working Waterfront, 1956

Source: Brooklyn Historical Society

Major factors in this decline were the rapid growth in "containerization," which revolutionized shipping, and the shift of most of the port operations to the New Jersey side of the harbor. The change in maritime technology from the labor-intensive break-bulk shipment to containerization² required fewer but larger port facilities with modern containership piers, warehousing and distribution facilities. The Port Authority developed extensive facilities on the New Jersey side of the harbor, which had sufficient land for these port facilities and superior access to the nation's rail lines and interstate highways. As a result, most port cargo activity shifted to New Jersey.

With the exception of northwest Staten Island and portions of the Brooklyn waterfront, New York City was considered a poor location for modern marine terminal development. In 1960, the city handled 75 percent of the port's cargo; by 1990 its share had dropped to 15 percent. According to the Port Authority, the port's maritime industry contributes \$18 billion to the gross regional product and supports 180,000 jobs in the region. The port is the second largest in the country (Los Angeles/ Long Beach is the largest) based on volume of imports.

Large sections of the city's waterfront land deteriorated as industry declined and the role of waterborne and rail freight diminished. Access to the waterfront or a rail line was once an essential requirement for industry; access to the nation's highway system is now more important, which is due in part to the dispersion of households and businesses, both in the city and elsewhere, and trucking's superior cost competitiveness for short-haul freight.

Over the last several decades, industrial uses that often do not need waterfront locations have replaced some traditional water-dependent maritime uses. Municipal uses, often not water-dependent, have developed on some of these sites. In many instances, properties have been "landbanked" by both public and private owners. Some of these properties have been occupied by temporary uses such as parking;

others have remained vacant. Many have suffered from serious neglect and deterioration. Even in strong industrial areas, such as Long Island City, much of the waterfront has remained underutilized.

THE WORKING WATERFRONT TODAY

ZONING

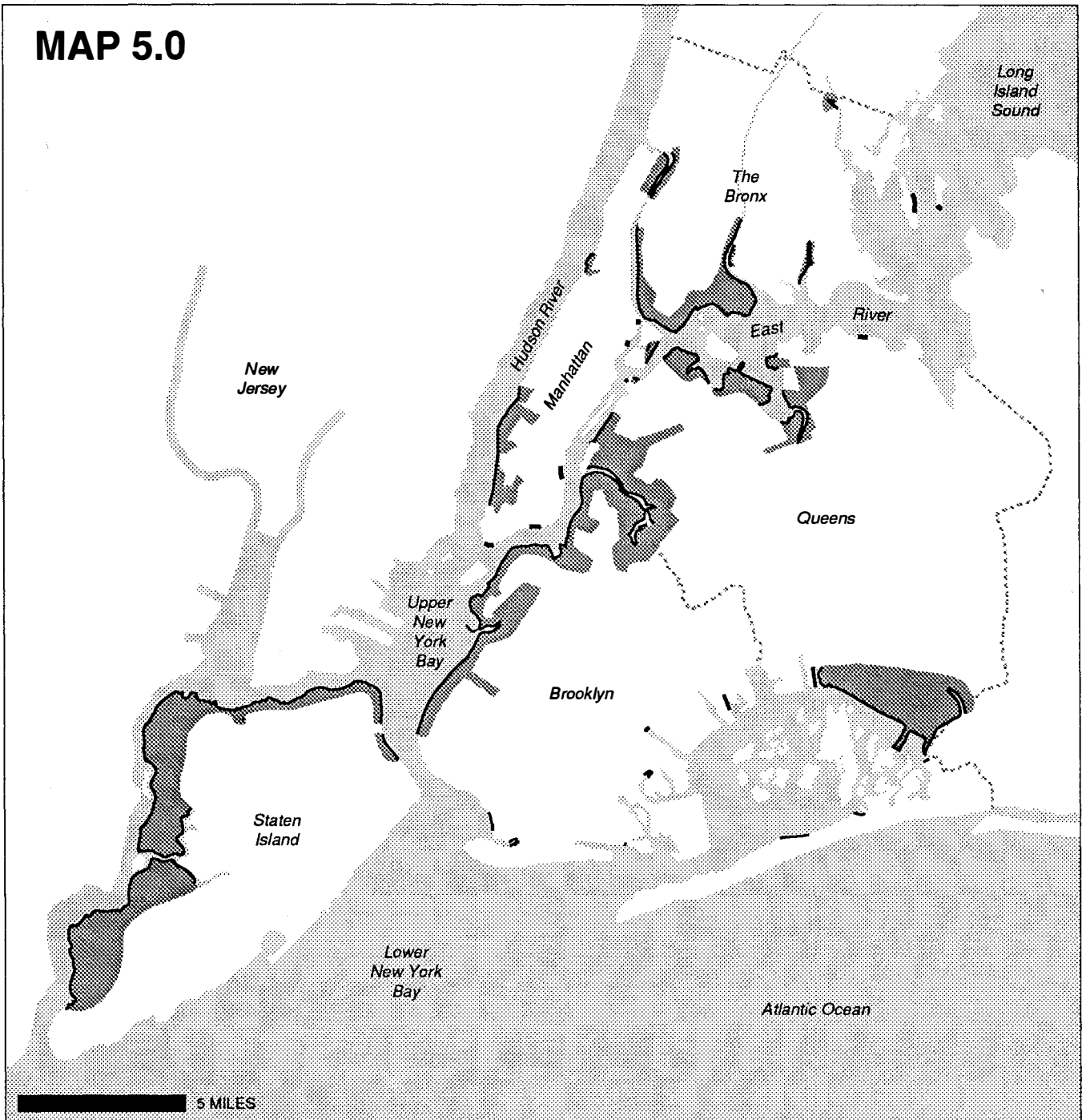
The manufacturing districts mapped on the waterfront in 1961 have remained largely unchanged. Approximately one-third of the waterfront is zoned for industrial uses. Many of these waterfront areas adjoin upland industrial areas. Some waterfront industrial areas are close to residential uses because housing was built there for industrial workers. Some are separated from upland areas by railroad tracks, arterial highways or grade changes. Most working waterfront uses require industrial zoning. (Map 5.0.)

In the Bronx, major waterfront industrial areas are located in Port Morris and Hunts Point in the South Bronx. These areas contain concentrations of M3 zoning (heavy industrial uses permitted). Smaller and narrower industrial zones with less area upland are located along the Harlem River, the lower portion of the Bronx River and the upper portion of the Hutchinson River.

Manufacturing districts are mapped along the Brooklyn waterfront from Newtown Creek to Owls Head and along the Gowanus Canal. The Sunset Park, Red Hook, Navy Yard and Newtown Creek industrial areas contain relatively deep M3 zoning districts. Portions of the Navy Yard and Greenpoint-Williamsburg East River waterfront industrial area have residential and mixed use areas in closer proximity.

Much of the waterfront and piers on the west side of Manhattan (except for parkland), and portions of the east side, are zoned for manufacturing. In Upper Manhattan, waterfront areas and adjoining upland in the vicinity of West 125th Street and Sherman Creek are zoned for industry.

MAP 5.0



Existing Waterfront Manufacturing Zoning Districts



waterfront manufacturing zoning district

In Queens, a portion of Long Island City, one of the city's largest industrial areas, abuts the East River. Industrial zoning extends along the Upper East River shoreline from Astoria to Flushing Bay and LaGuardia Airport. Industrial zoning, much of it M3, is located along the Flushing River and Newtown Creek and in College Point. Kennedy Airport (JFK), located in southern Queens near Jamaica Bay, is mapped M1.

The north and west shores of Staten Island are zoned primarily M3. The industrial area along the Kill Van Kull tends to be narrow with residential uses nearby. The West Shore industrial areas are considerably deeper, but large portions are unusable for industrial development because of concentrations of tidal and freshwater wetlands.

WORKING WATERFRONT USES

Today's working waterfront encompasses four categories of water-dependent uses: maritime, maritime support and certain industrial uses;

marina and marina support; commercial excursion and boating; and transportation uses (ferries, airports, heliports and rail car float facilities). The working waterfront also includes municipal and utility uses, some of which are water dependent, and industrial uses that are not water dependent.

The geographic distribution of these uses varies considerably. Certain water-dependent uses tend to cluster in specific geographic areas because of technological requirements, locational criteria, and hydrographic conditions (water depth, currents and wave action). Other water-dependent activities are dispersed along the waterfront according to market or service catchment areas. Industrial uses for the most part are concentrated in areas with manufacturing zoning and good access to Manhattan.

The following sections describe these working waterfront uses, their siting requirements, future trends and space needs, the constraints they face and opportunities ahead.



Red Hook Marine Terminal, Brooklyn

Maritime, Maritime Support, and Industrial Water-Dependent Uses

These uses include port facilities for the sea/land transfer of cargo (e.g., containerports and break-bulk docks); maritime support facilities such as tugs, barges, ship service and repair; and industrial uses that receive or deliver materials or products by water. (Map 5.1.)

Maritime Facilities

The city's port facilities have deep water, reasonably good transportation access, and available upland for storage and operations. They include the Red Hook Marine Terminal, the South Brooklyn Marine Terminal (SBMT), the 23rd Street Terminal and 25th Street Pier in Brooklyn; the vacant Howland Hook Marine Terminal and the Homeport Naval Base in Staten Island; and Manhattan Pier 42.

☞ The Red Hook Marine Terminal is the city's only active containerport. The volume of cargo handled by this 118-acre facility has increased over the last decade, and it is now operating at full capacity. It handles container and break-bulk operations for several firms importing from southern Europe, South America and elsewhere. Red Hook has been particularly successful in attracting consumer commodities such as food, furniture and clothes destined for the metropolitan market.

The 187-acre Howland Hook Marine Terminal is the largest marine terminal on the New York side of the harbor. It has been virtually unused since 1990. The Port Authority is completing major repairs and improvements for use of Howland Hook as a full service containerport. It is marketing the facility for both container and break-bulk shipping.

The 110-acre SBMT was occupied until 1986, and is partially occupied today by the cocoa port. It is the nation's second largest import center for cocoa. The city is seeking to expand cocoa operations and to attract other commodities such as fruit and meat to the SBMT. The 16-acre 23rd Street Terminal also is used as a break-bulk terminal for receiving and

warehousing coffee and cocoa. The 25th Street Pier is a vacant five-acre site for which EDC is seeking a long-term maritime use.

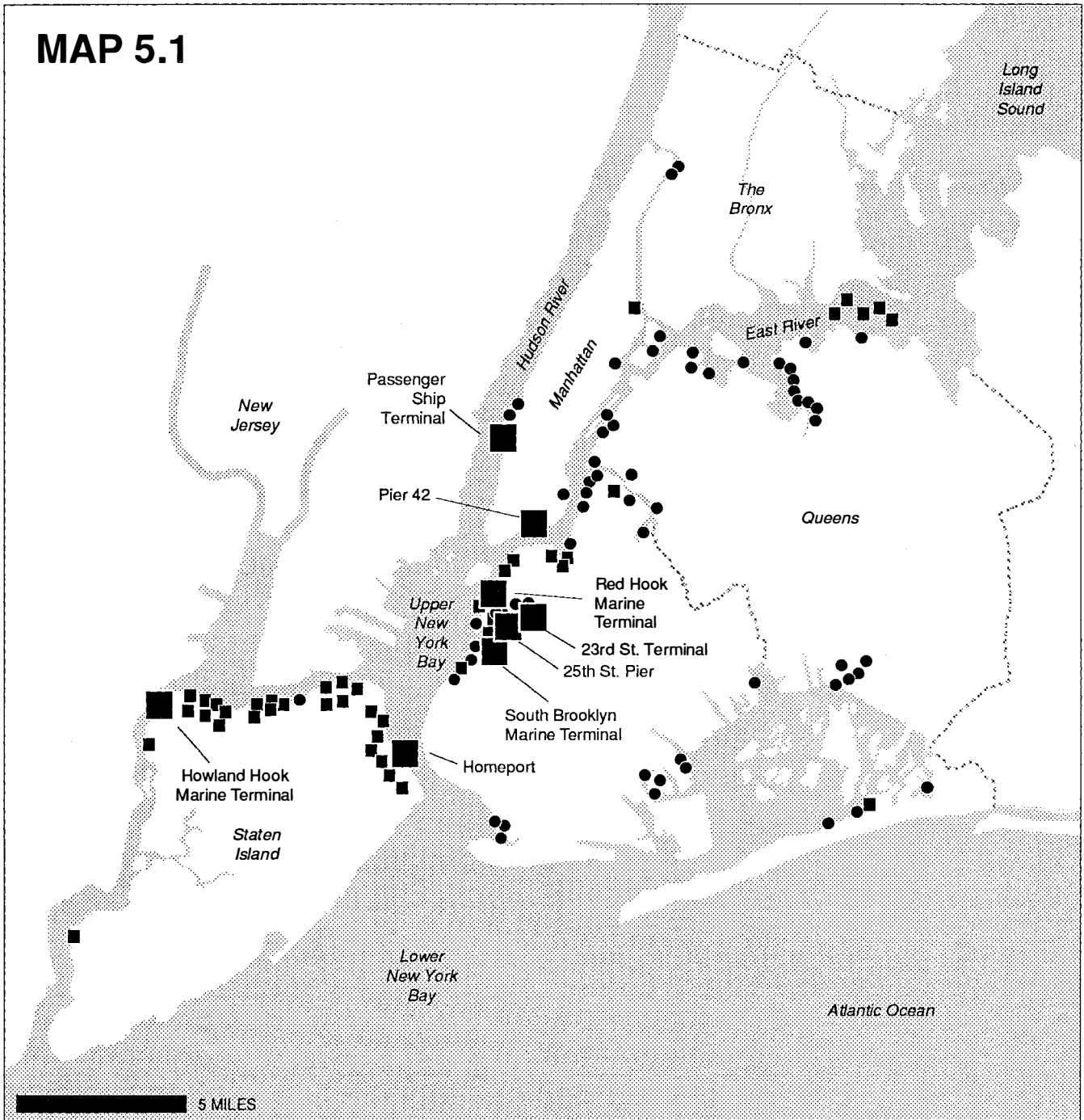
Manhattan Piers 36 and 42, known as the "banana piers," were used for fruit shipment until the 1970s. They have been used primarily for warehousing and storage since then. The city recently signed a lease with an operator to use Pier 42 for importing and warehousing coffee. Pier 36 is expected to continue to be used for non-water dependent municipal uses.

Brooklyn Piers 1-6 are used for warehousing and vessel tie-up. For the past several years, the Port Authority has been considering alternative uses for Piers 1-5.

The Homeport Navy Base on the eastern shore of Staten Island has its operational center in Stapleton and support functions in Fort Wadsworth.

Because of excess capacity, no new port facilities are needed in the city. The city and public agencies are seeking greater utilization of existing facilities by identifying "niche" markets best served by New York locations, and by targeting marketing efforts. Attracting new development will depend on improved transportation access. Because the reconstruction of the Gowanus Expressway will adversely affect trucks serving the Red Hook Marine Terminal and nearby industries, the Port Authority and New York State have instituted a barge service that floats freight to New Jersey from Red Hook. Efforts to revitalize the car float operations at the 65th Street railyard in Brooklyn (operations are currently located at 51st Street) are expected to improve freight movement and the marketability of maritime and warehouse space. In addition, the city is exploring the purchase and rehabilitation of the Staten Island Railroad Corporation right-of-way to provide rail service from New Jersey to Howland Hook Marine Terminal and a new intermodal facility at the adjoining Arlington Yard.

MAP 5.1



Maritime and Water-Dependent Industrial Uses

- maritime terminal or pier
- water-dependent industrial use
- maritime support

Source: NYCDCP, *Water-Dependent Use Study*, (1991).

Maritime Support and Water-Dependent Industrial Uses

Maritime support uses such as tugboats and floating construction equipment tend to cluster in manufacturing zoned areas that are close to major shipping channels and port facilities. Their siting needs include deep water and protection from waves and currents. Existing concentrations are the Kill Van Kull, the Brooklyn waterfront from Erie Basin to Owls Head and from the Red Hook Marine Terminal through Pier 6, the Brooklyn Navy Yard, both sides of Newtown Creek, and the lands under water off the Throgs Neck peninsula (for mooring of vessels). Tug boat operations require dispersed locations for tie-up.

Maritime support services, many of which are located on the New York side of the harbor, are crucial to the health of the port. They provide services to cargo ships, and they transport goods from large distribution cen-

ters to satellite centers or users. Approximately 260 maritime support firms employing 4,200 workers are located in, and serve the port. More than 700 large vessels and 100 pieces of floating construction equipment, with a value in excess of \$2.5 billion, are based in the port.

Water-dependent industrial uses, such as bulk oil storage facilities, utilize the water for receipt of materials or shipment of goods. In recent decades there has been a significant decline in traditional maritime and industrial water-dependent activity in the city. A 1965 U.S. Army Corps of Engineers survey of port uses recorded 673 water-dependent uses in New York City. A 1988 update documented 369 such uses — a decline of 45 percent. Despite this decline, there may be opportunities for modest growth in certain uses such as maritime support as the region's economy expands.



The Amstar Sugar Refining Company along the East River in Williamsburg



Full-service marina on City Island, Bronx

According to the Maritime Support Services Location Study, growth in oceanborne trade is expected to average about five percent per year. The report estimates a modestly growing need for new tugs, deck and tank barges, and floating construction equipment. The projected additional land requirement for maritime support services in the city is relatively small, involving one nautical mile of berthing space and 40 acres of upland. The study concludes that these needs can be accommodated in existing areas of concentration. Much of the new berthing space will come with development of the Bargeport at Erie Basin in Red Hook. Industrial areas like Sunset Park, the Kill Van Kull, Newtown Creek and the Brooklyn Navy Yard also offer suitable hydrographic conditions and upland to accommodate existing and future needs.

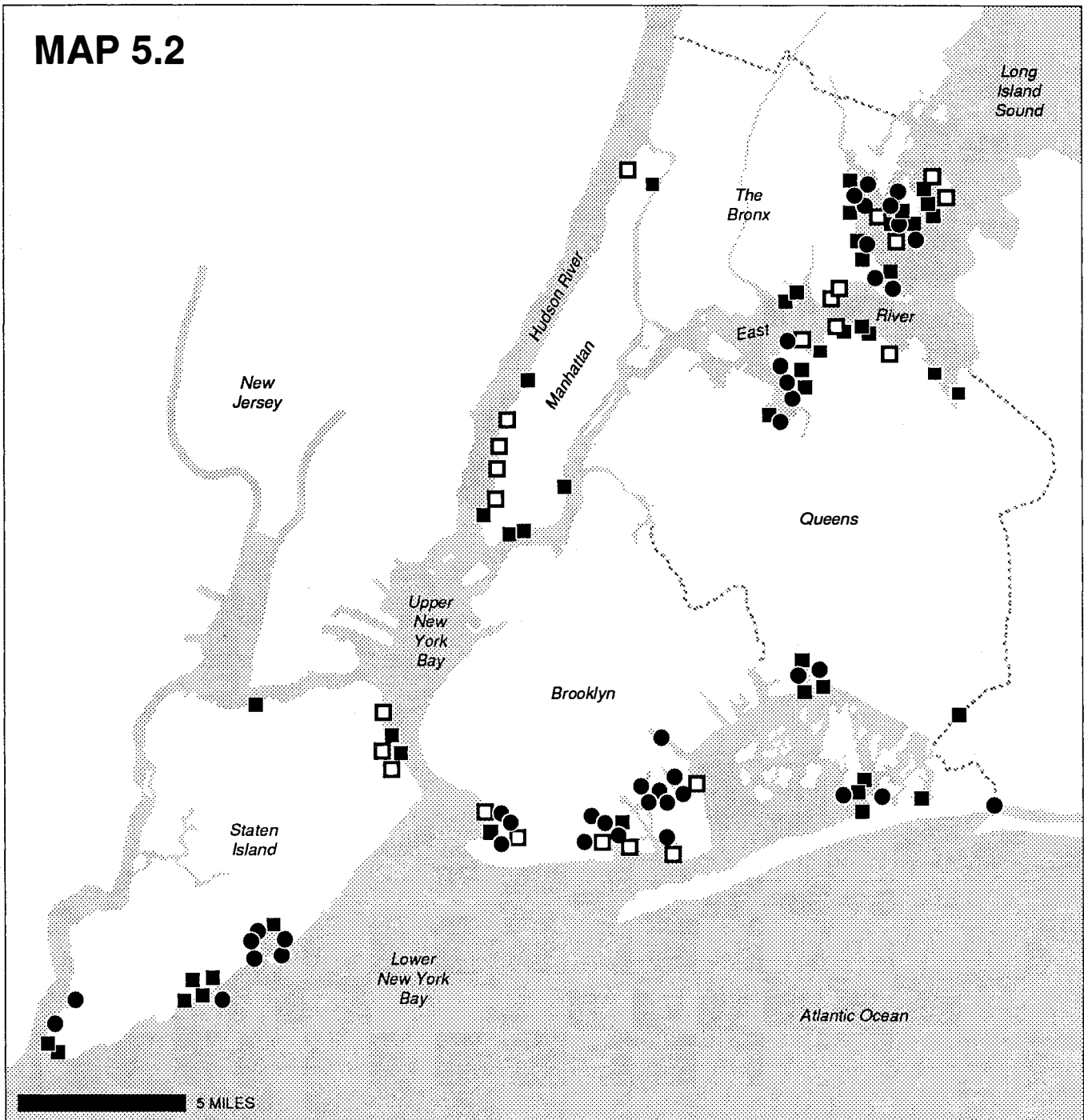
Marina and Marina Support Uses

Marina uses include full-service marinas, accessory docks, and single docks for private

recreational vessels. Marina support activities include boat repair and maintenance, boat storage, fuel, waste pumpout, and sail making and repair. Marinas and marina support activities tend to cluster in areas with moderately deep water protected from currents, strong winds and wave action, and where conflict with maritime and maritime support vessel activity is minimal.

Because full-service marina support facilities (e.g., fuel, pumpout, repair, boat sales, and winter storage) frequently generate noise and odors, they are allowed only in manufacturing zones and in certain commercial zones. Limited-service marinas could be compatible with uses in residential zones but are not now permitted. Areas of marina and marina support activity are: Jamaica Bay, Sheepshead Bay, City Island (including the Long Island Sound area off the East Bronx), and the south shore of Staten Island from Great Kills Park to Raritan Bay.

MAP 5.2



Marina Uses

- existing full service marina
- existing yacht club or marina (not full service)
- proposed marina or yacht club

Source: DCP, NY / NJ Harbor Estuary Water Use Management Study, 1991.



Circle Line excursion boat passing under the Brooklyn Bridge

Although the number of commercial marinas declined 30 percent (from 102 to 71) between 1970 and 1991, the number of boat slips increased by 30 percent to about 13,000, indicating an industry trend toward larger marinas. Marina support services declined with the decline in marinas, but increased numbers of slips and boat registrations suggest demand for additional boating facilities in the city. Should there be a significant increase in new accessory slip marinas, more marina support facilities might be required. These operations, like maritime support facilities, require C3 districts or industrially zoned land and maintenance dredging to sustain operations. (Map 5.2.)

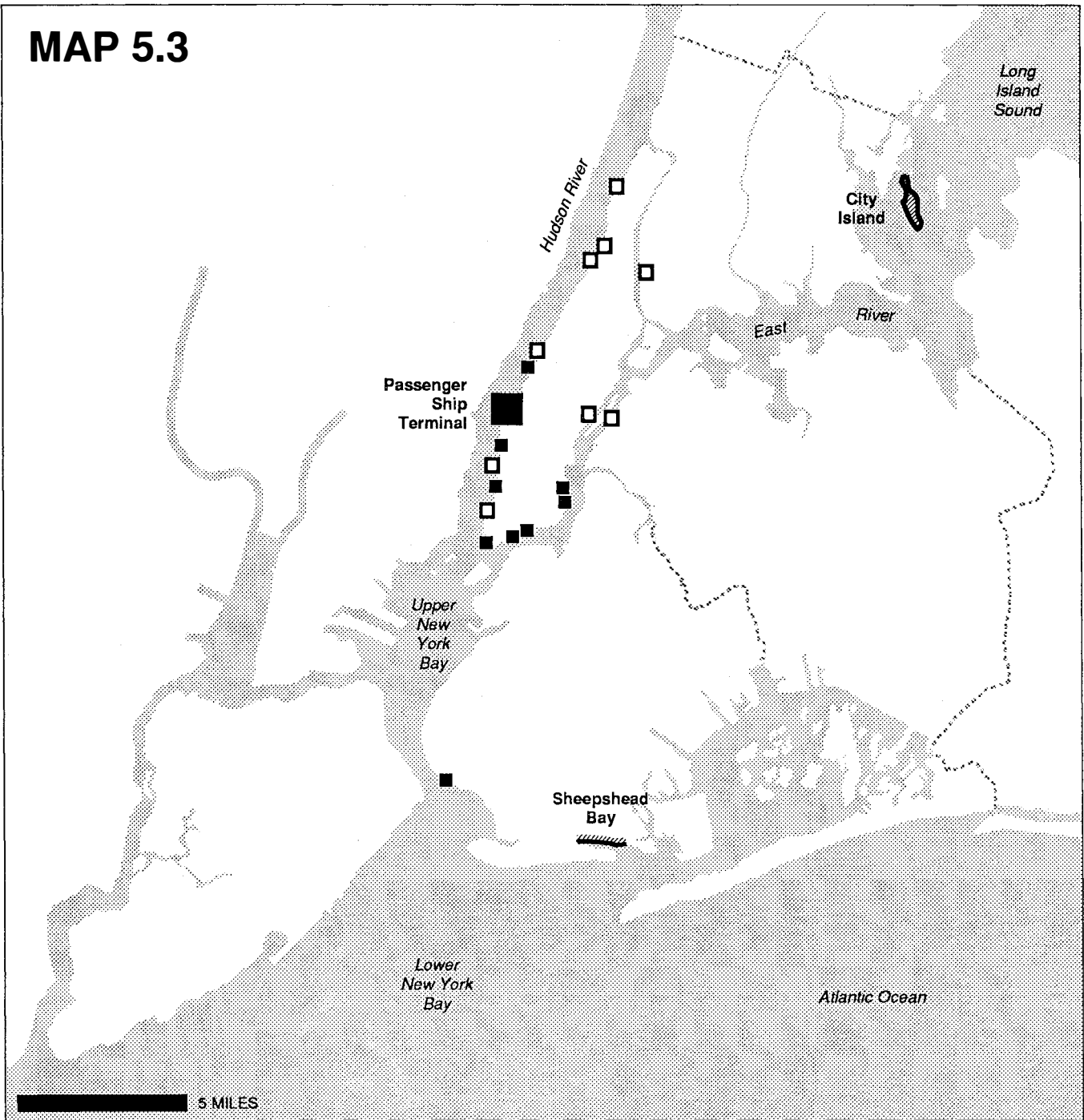
Commercial Excursion Uses

Commercial excursion uses include waterborne leisure and sporting activities (e.g., fishing, overnight cruises and dinner cruises) which depend on proximity to coastal waters, and commercial-recreational boating activity (e.g., commercial vacation cruises, excursions, and



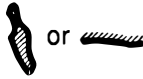

sight-seeing). They are permitted in manufacturing and certain commercial zones. Clusters of commercial excursion uses are in lower and midtown Manhattan, Sheepshead Bay and City Island; others are dispersed throughout the waterfront. Because commercial excursions are an important tourist draw and a recreational amenity for the city's residents, many of these uses could be integrated into a wider range of commercial and mixed-use zoning districts. (Map 5.3.)

Although harbor cruise and sightseeing excursion activity declined sharply starting about 50 years ago, it increased in the past decade. Cruises to the Statue of Liberty, which have been in continuous operation since the late 1800s, have been joined by other operations such as Circle Line, World Yacht, the South Street Cruise Lines, the Spirit of New York, the Pioneer, the Petrel and numerous smaller operations. In 1991, 32 operations with 65 vessels were providing excursion boating. Many of these operations are located in or

MAP 5.3



Commercial Cruise and Excursion Uses

-  commercial cruise ships
-  existing excursion, sightseeing boats, etc.
-  or concentration of commercial sport fishing boats
-  proposed excursion, sightseeing boats, etc.

Source: DCP, NY / NJ Harbor Estuary Water Use Management Study, 1991.

near to, and are compatible with, commercial developments or parks. The number of excursion boats for day hire or charter is expected to increase modestly in the future, as are sightseeing, excursion, and cultural/education vessels. Growth in these activities would require additional docking locations. Potential opportunity sites are shown on Map 5.3.

Oceangoing cruise ship activities once helped define New York City's image; only 14 cruise ships, generating about 200 trips annually, now call at the Port Authority Passenger Ship Terminal. Cruise ship activity is unlikely to expand.

Most commercial sport fishing operations are located in City Island in the Bronx, and in Sheepshead Bay in Brooklyn. They require upland area primarily for parking and are usually located near major commercial streets. There are 30 commercial fishing vessels in New York.

Transportation Uses

Transportation uses include the public ferry service between Manhattan and Staten Island, private ferry lines, heliports, airports, and rail and car float facilities.

Ferries

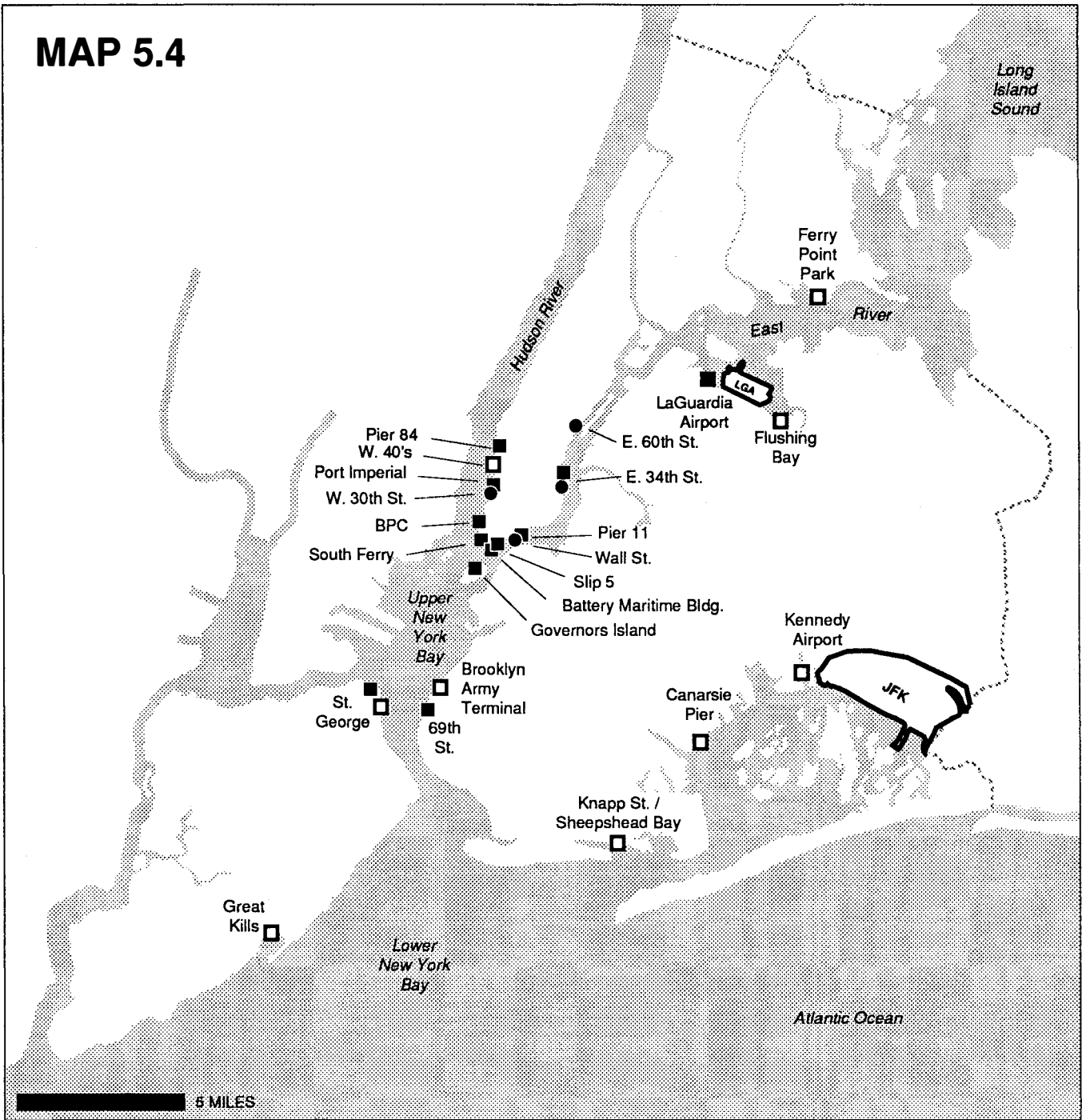
Ferries tend to have dispersed points of origin although most ferry operations terminate in Manhattan. All ferry services except one currently dock at publicly owned piers. Ferries require easy access to their markets; parking is usually important for stops outside of Manhattan. Ferries can be compatible with commercial and residential developments and are often viewed as traffic impact mitigation or as marketing tools for new development. (Map 5.4.)

The publicly operated Staten Island ferry is the oldest and largest of the ferry services. It has a daily ridership of approximately 65,000. Private ferries were non-existent in 1985, but by 1991, 7 private ferry routes carried more than 16,000 riders daily.



Ferry shuttle to LaGuardia Airport leaving Pier 11 in Lower Manhattan

MAP 5.4



Water-Dependent Transportation

- existing ferry stop
- proposed ferry stop
- heliport
- ✈️ airport

Source: DCP, NY / NJ Harbor Estuary Water Use Management Study, 1991.

Private ferry routes are expected to increase in the future, particularly those providing commuter service to Manhattan destinations. Recent studies by DCP, DOT and the former Department of Ports and Trade identified locations that offer good shore and dock conditions, available upland for parking, transit access and access to residential populations. These locations include Ferry Point Park in the Bronx, Flushing Bay Marina in Queens, Canarsie Pier and the Brooklyn Army Terminal in Brooklyn, and Great Kills Harbor in Staten Island. A new ferry service between St. George, Staten Island and midtown Manhattan is being developed by DOT. Parking facilities at non-Manhattan ferry stops and coordination with mass transit can enhance the success of new ferry operations. Lack of adequate capital for improvements such as dredging and dock rehabilitation can undermine the viability of ferry service before ridership has a chance to develop.

The use of ferries for "fast freight" goods movement within the region may be economically viable for some routes, for example, between the airports and the CBD. Studies by DCP and DOT identified five pairs of possible sites: Laguardia Airport and Pier 42; Port Newark and JFK; Greenville Yard, New Jersey and the New York airports; Greenville Yard and the SBMT; and Port Newark and Pier 42. (Map 5.4.)

Airports

For reasons of safety and available space, both LaGuardia and Kennedy (JFK) airports are located along the waterfront. New York's airports are crucial in keeping New York competitive in the global economy. In 1990, JFK handled 29 percent of the nation's international air cargo. Expansion of JFK and LaGuardia, including runway extensions and distribution facilities, is being considered by the Port Authority. The city, state and Port Authority are examining ways to improve water, rail and highway access to the airports.

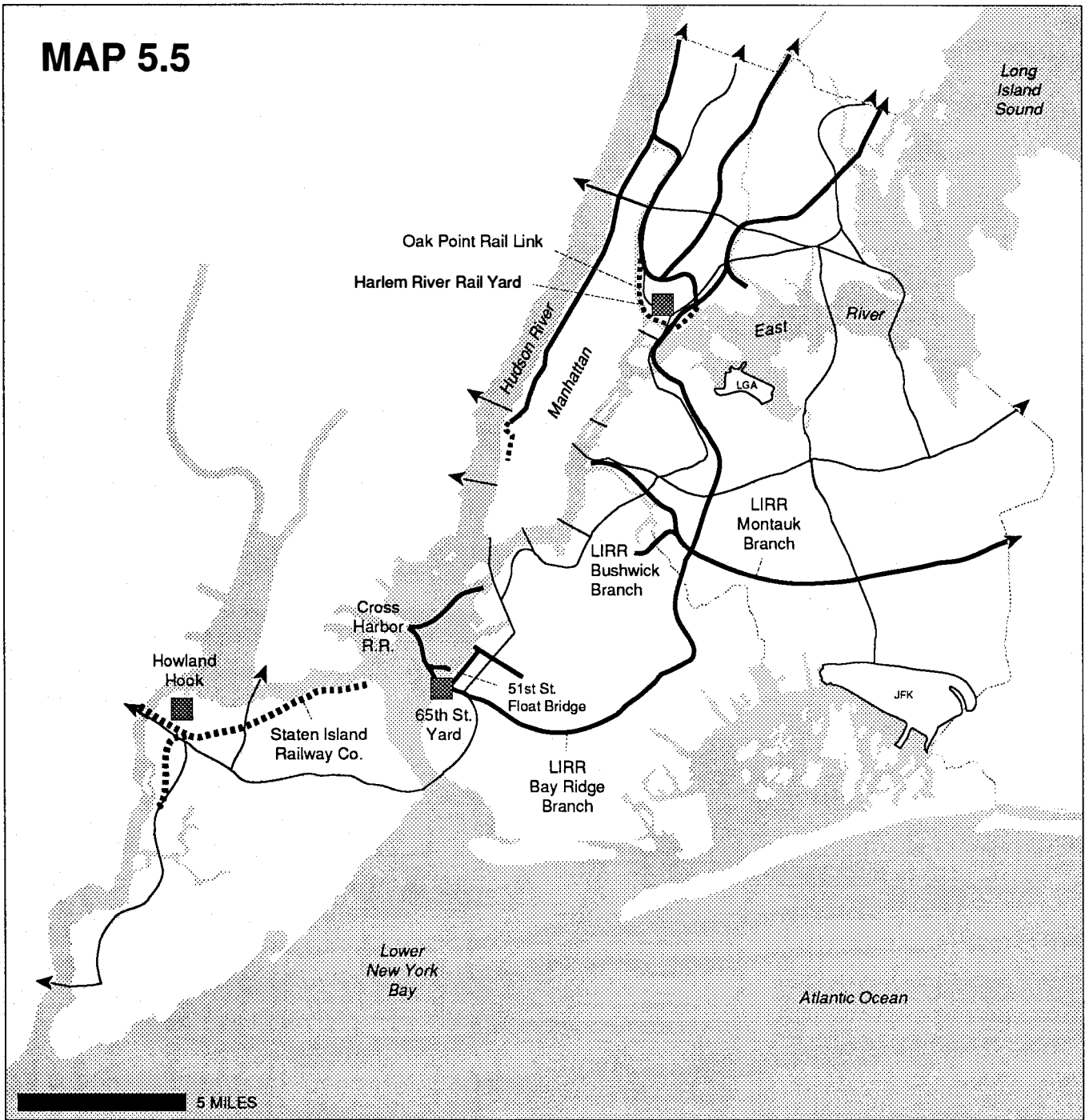
Heliports

Heliports also are located along the waterfront to have a safe landing area. Most heliport facilities are in Manhattan for quick access to the central business district from the airports and points outside the city. Heliports, however, are noisy and difficult neighbors in or near residential or commercial areas. Most heliports are likely to stay at their present locations although there is strong community pressure to have some of them relocated.








Wall Street Heliport, Manhattan

MAP 5.5



Highway / Rail / Intermodal Network

-  rail freight line (active)
-  rail freight line (inactive or proposed)
-  proposed intermodal facility
-  limited access truck routes
-  airport

Rail Facilities

Rail facilities played a crucial role along the waterfront when materials and goods were transported to and from port facilities by rail. Rail freight car loadings in the city and Long Island declined by 75 percent between 1973 and 1989, compared to a 21 percent decline in the northeast. Although rail lines traverse some waterfront properties, the only active rail line is the N.Y. Cross Harbor Railroad and the South Brooklyn Railroad in Sunset Park, Brooklyn. Cross Harbor also operates a car float which barges rail cars from New Jersey to Brooklyn. The volume of activity is limited.

Development of a full freight access program for rail has been proposed by the city and state. This program would include purchase and restoration of the Staten Island railway along the North Shore to Howland Hook; activation of the 65th Street car float operation in Sunset Park; and completion of the Oak Point Link in the Bronx to improve access within the northern rail corridor. The latter project, in conjunction with the planned Harlem River Yard project for intermodal traffic, has the potential to divert some truck traffic to the rail mode. (Map 5.5.)

Municipal and Utility Uses

These dispersed uses include Police and Fire Department, Army Corps of Engineers, and Coast Guard harbor operation units; municipal facilities that handle sludge, transfer solid waste and treat wastewater; and utilities such as generating stations. Because most of these municipal and utility facilities must be sited in M3 districts, concentrations of these uses are developing. Some of these uses are water-dependent; others are not but require large sites buffered from residential uses. Vacant piers and waterfront public land have been used for temporary siting of tow pounds, bus garages and parking. These uses need not be on the waterfront but require large parcels with access to their service areas. Municipal water-dependent facilities and utility uses are shown on Map 5.6.

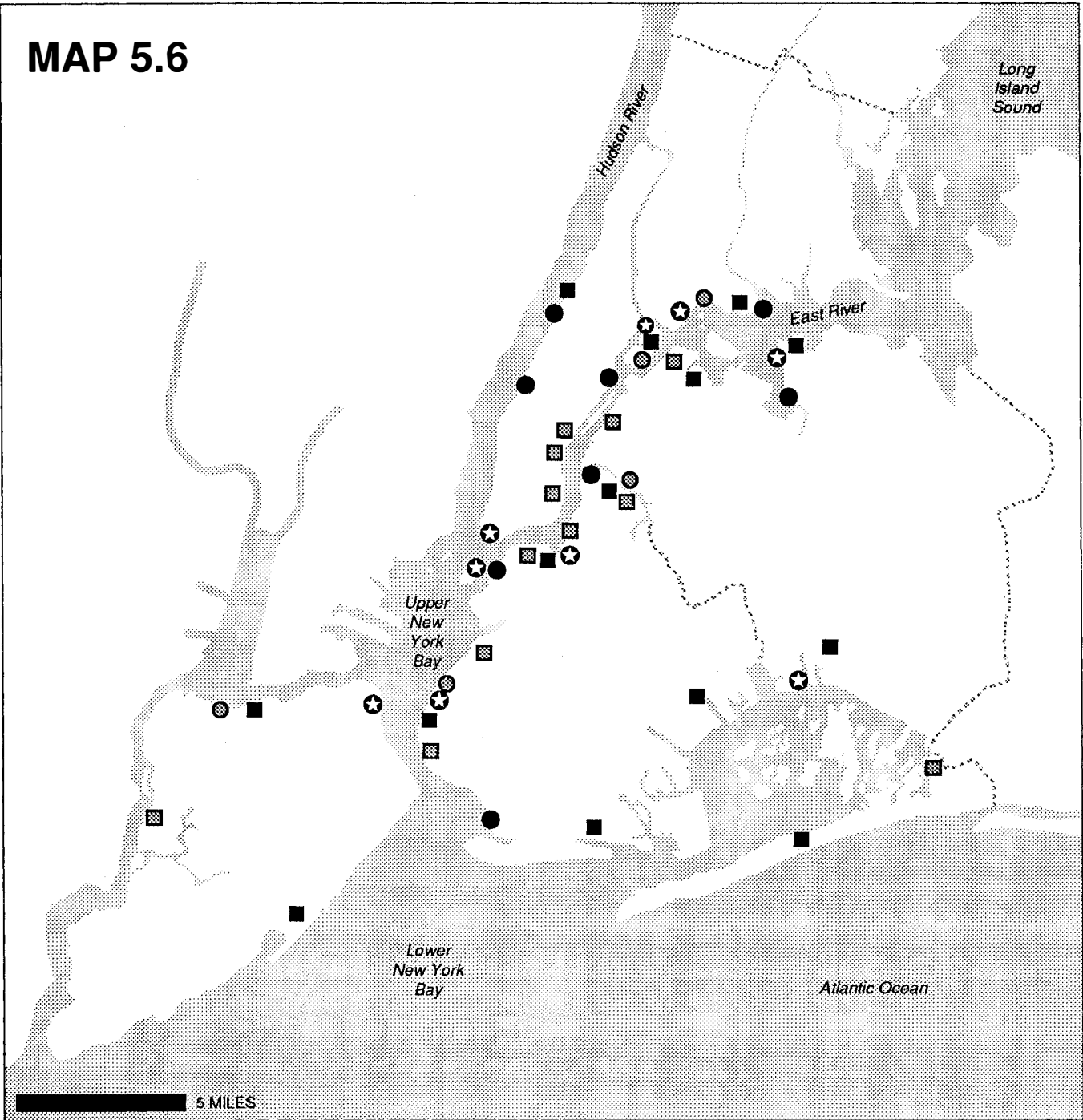
Ocean disposal of sludge will end in mid-1992, but intra- and inter-port movements of sludge are expected to occur more frequently, increasing the number of government vessels used for sludge movement. DEP has proposed five sites for sludge processing facilities in Maspeth, Sunset Park, Port Newark, Wards Island and Port Morris (Map 5.6). These sites offer potential for intermodal connections using barge and/or rail movement. The potential for intermodal connections should be a consideration in selecting future sites for other municipal facilities which transport high-bulk, low-value goods. The city is evaluating a number of sites in industrially zoned areas for other long-term solid waste handling and processing needs. The amount of manufacturing-zoned land needed is dependent in part upon the size of sites and facilities.

Non-Water-Dependent Industrial Uses

Areas of industrial concentration on or near the waterfront tend to be relatively accessible to Manhattan, the airports or port facilities. These include Long Island City, the South Bronx, portions of the Brooklyn waterfront, the Newtown Creek area, and the airports. Industrial areas often contain a mix of industrial, non-industrial and water-dependent uses.

Most economic projections anticipate continued decline in industrial sector employment. Based on the conclusions of DCP's draft Citywide Industry Study, the city has the opportunity to offset some of these losses by capturing a share of the projected regional growth in industrial sector firms that serve the area's export-oriented service industries and its growing and increasingly affluent population. These firms would likely include flexible market oriented manufacturing, distribution, and mixed use business parks. Future employment in the city's industrial sector depends in part on addressing factors which negatively distinguish the city from surrounding suburbs, including taxes, the scarcity of sites, crime, and poor road access. Other industrial sectors needed to support the city's population, such as construction and the collection, processing and disposal of solid waste, may also grow.

MAP 5.6



Utilities and Municipal Water-Dependent Uses

- water pollution control plant
- marine transfer station
- ⊗ proposed sludge processing facility
- ▣ electric or gas facility
- ★ public safety facility (police, fire, Coast Guard)

Even with projected declines, industrial uses on or near the waterfront will continue to play a role in the city's economy, particularly in those areas with good access to the regional highway and rail network and the central and regional business districts, or in proximity to the city's airports. Remaining businesses and new ones (most likely tied to the regional market) will continue to need well-located manufacturing-zoned land. A waterfront site, however, is unlikely to be a locational necessity.

WORKING WATERFRONT ISSUES

ZONING AND LAND USE

Except for accessory marinas, which are permitted in residential and commercial districts, most working waterfront uses require manufacturing zoning. One of the fundamental objectives of the waterfront plan is to ensure the retention of sufficient manufacturing-zoned land to accommodate future needs. In general, areas best suited for retention of manufacturing zoning would have relatively high levels of industrial activity, relatively good access for moving freight, and/or hydrological conditions suitable for port-related and maritime activities. In other areas, retention of manufacturing zoning should be based on projections of working waterfront needs and on the overall best use of the land.

In the city as a whole, there is sufficient manufacturing-zoned land to meet future demand, even if a significant amount of rezoning were to occur. Since the adoption of the current Zoning Resolution in 1961, there has been only a modest reduction (in the range of five percent) in land zoned for industry, while total industrial employment has declined by more than 42 percent and manufacturing by more than 55 percent. Manufacturing production employment has declined even more precipitously; the Census of Manufacturing shows a 61 percent decline in production workers between 1963 and 1987.

The mapping of manufacturing districts in 1961 anticipated increased requirements for manufacturing-zoned land, based in part on

substantial overestimates of future industrial employment. These forecasts did not anticipate the decline in the city's maritime industry due to containerization and the shift of port activity to the New Jersey side of the harbor. New York City's industrial decline has paralleled that of other large American cities and significant new industrial growth is unlikely.

These trends have contributed to the underutilization of land in manufacturing zones located on the waterfront and upland. The draft Industry Study found that, except for the Manhattan CBD and a few areas of the Bronx, Brooklyn and Queens, land and buildings are not being utilized at their potential to support industry. More than 20 percent of land zoned for industry is vacant and considerably more is underutilized. The sharp decline of industrial activity has led to falling demand for industrial land and space. Many of the city's industrial areas could accommodate greater industrial activity if the investment interest existed. Targeted improvements in the freight transportation network and progress in reducing the incidence of commercial crime can help bring investment to industrial areas to offset the decline in manufacturing.

One use certain to expand — municipal and solid waste handling facilities — is more land intensive than manufacturing, and generally requires manufacturing zoning and an adequate buffer when near residential and commercial uses. Because these facilities handle bulky, low value materials, they are particularly well-suited for waterborne transportation of goods. Adequately buffered waterfront industrially zoned land is scarce. The few such areas that remain should be maintained to accommodate these facilities.

Some working waterfront uses such as maritime support and commercial excursion boating have shown growth or potential for growth. Uses such as ferries, marinas and excursion boats could easily be incorporated in residential and commercial zones if zoning were modified to permit these uses.

TRANSPORTATION

New York's role as an economic center and the vitality of the working waterfront are contingent in part on the city's network for goods movement. Because of the reliance on truck freight traffic, in the city and nationwide, the area's highway system remains its most critical transportation mode for goods movement. Movement of goods between many waterfront industrial areas (including the airports) and the Manhattan CBD (and around the periphery of the CBD) is constrained by poor highway access. Poor access, congestion and the physical condition of the region's highway network add to the cost of moving goods in the region.

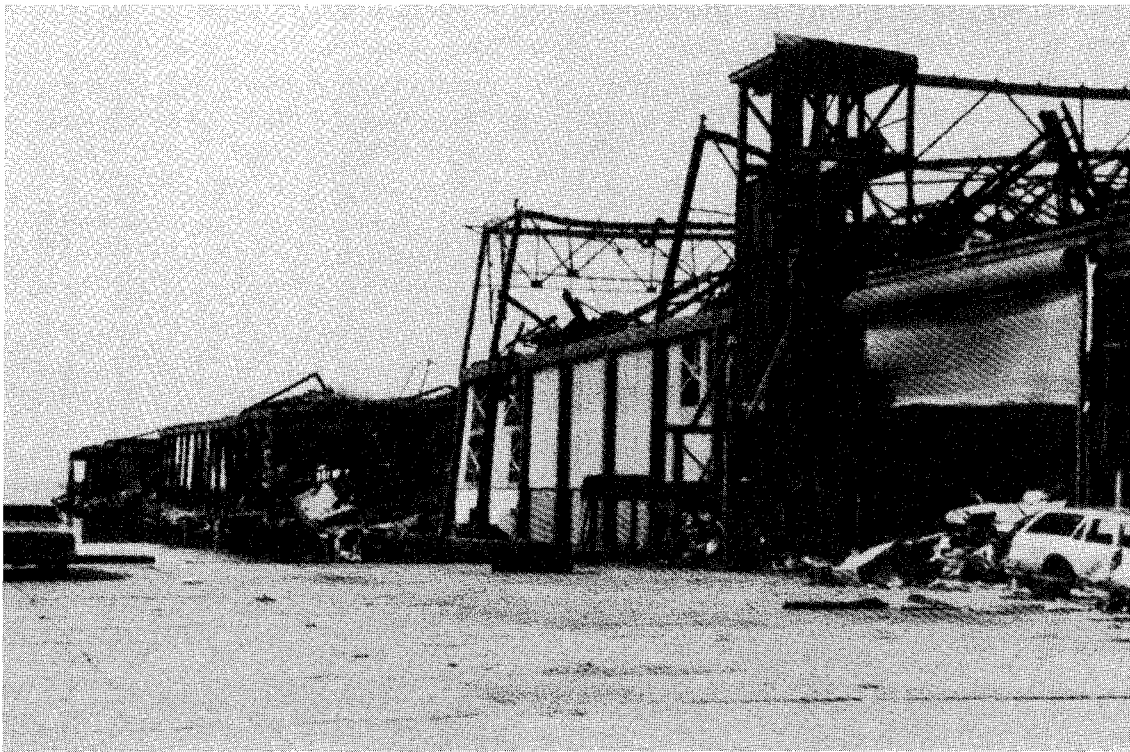
No single action can alleviate the area's highway problems. A series of short-term improvements such as road and bridge reconstruction, better signage and channelization of traffic, and new designated truck routes would allow businesses to reduce their operating costs marginally. Movement of truck freight could be facilitated by reducing automobile traffic on

truck routes. Larger, more complex capacity-increasing improvements, such as the construction of new highway access ramps and bridges that serve waterfront and other industrial areas, need to be considered as long-term investments in the city's economy in general, and the working waterfront in particular.

Waterborne and rail freight must play an increased role in the transport of goods in the city. Access to the waterfront or to a rail line, however, is no longer an essential locational requirement for most industry. Much of the traditional transportation infrastructure for rail and waterborne freight no longer exists or is in a state of disrepair. Improving these transportation modes has some potential to reduce the cost of goods, decrease highway congestion and improve air quality. For example, they can provide alternative routes for bulky or noxious commodities such as solid waste, ash and dewatered sewage sludge. Transportation modes for these waste materials and certain other goods could include water or rail depending on the locations of specific destinations and economic feasibility.



Harlem River Yards, Bronx



Sunset Park Pier No. 7, Brooklyn

The development of intermodal facilities that involve water, rail, highway, and airport links has been recommended by a number of groups and public agencies. The improvement and development of intermodal links depends on a coordinated program of transportation system improvements. Use of New York City's rail lines for goods movement is impeded by clearance restrictions and by competition from heavy commuter traffic. Another major barrier is the lack of a fixed rail freight route across the lower portion of the Hudson River. As a result, virtually all rail traffic destined for New York City is routed via Conrail's Selkirk Yard near Albany, which can add as much as 300 miles and an extra day to the trip.

Completion of New York State's Full Freight Access Program for rail would improve New York City's competitive position for freight distribution and industrial development. For example, it could enable some freight traffic now shipped through New Jersey rail terminals or sent by truck to be captured by the pro-

posed rail-truck intermodal facility at the Harlem River Yard. The Full Freight Access Program includes: construction of a modern intermodal rail terminal in the city to accommodate the use of truck trailers mounted on railroad cars (TOFC); improved rail clearance between Albany and the city to accommodate TOFC equipment; a dedicated track for freight service through the South Bronx; and better rail access to the Brooklyn waterfront.

WATERFRONT INFRASTRUCTURE AND FINANCING

The waterfront infrastructure has suffered from years of neglect and deferred maintenance because of disuse and insufficient capital funding. This infrastructure includes waterfront structures such as piers, bulkheads, wharfs and platforms, and the nearby street network. Poor condition of local streets, poor loading facilities, and lack of adequate warehousing facilities can limit storage and movement of trucks and goods.

The wear and tear on waterfront structures is substantial. For example, piers are damaged by vessel operations, the natural forces of saltwater and aquatic animals such as marine borers. In addition, derelict waterfront structures and debris can interfere with port operations. The Harbor Drift Program, administered by the Army Corps of Engineers, improves port operations and reuse potential by removing derelict piers, vessels and debris, and by stabilizing the shoreline. The federal government contributes two-thirds of the removal cost; the state and city share the balance. Although the major purpose of the program has been to remove sources of drift responsible for vessel damage, the project has resulted also in improved near-shore water circulation and a generally neater looking shoreline.

The Harbor Drift Program (Map 5.7) has completed shoreline clean-up of the Manhattan side of the East River, Brooklyn Upper Bay including the Erie Basin, and the Stapleton area of Staten Island. The next project is scheduled to commence this year along the south Brooklyn waterfront. Once this is complete, six areas will remain to be cleaned up: the west side of Manhattan, the Harlem River, the East River along the Brooklyn/Queens waterfronts, and the Arthur Kill, Shooter's Island and the Kill Van Kull in Staten Island. The program has been delayed, however, because of problems with the release of funds and concerns over disposal methods.

Financing for water-dependent businesses is often hampered by the concerns of lending institutions for collateral and long-term possession of property. Many of the maritime support industries lease their facilities by the month. The Port Authority's recent agreement to sell the former Fishport at the Erie Basin in Red Hook to a consortium of barge and tugboat owners represents a positive step towards gaining permanent locations which meet the financial community's criteria for tangible fixed assets. Shared use of these sites with upland users will also enhance the investment potential by diversifying the potential revenue stream.

A number of city and state financial assistance programs³ are available to industrial and other working waterfront users for acquiring and improving sites, and maintaining and repairing infrastructure. Some working waterfront uses are unable to meet the programs' eligibility requirements because their short-term leases lack collateral value. In addition, many of the city and state financial programs will not finance boats and other floating stock. Some financing criteria are based on the number of jobs retained or created. While most of these businesses do not generate substantial numbers of jobs, they contribute to the health of the port.

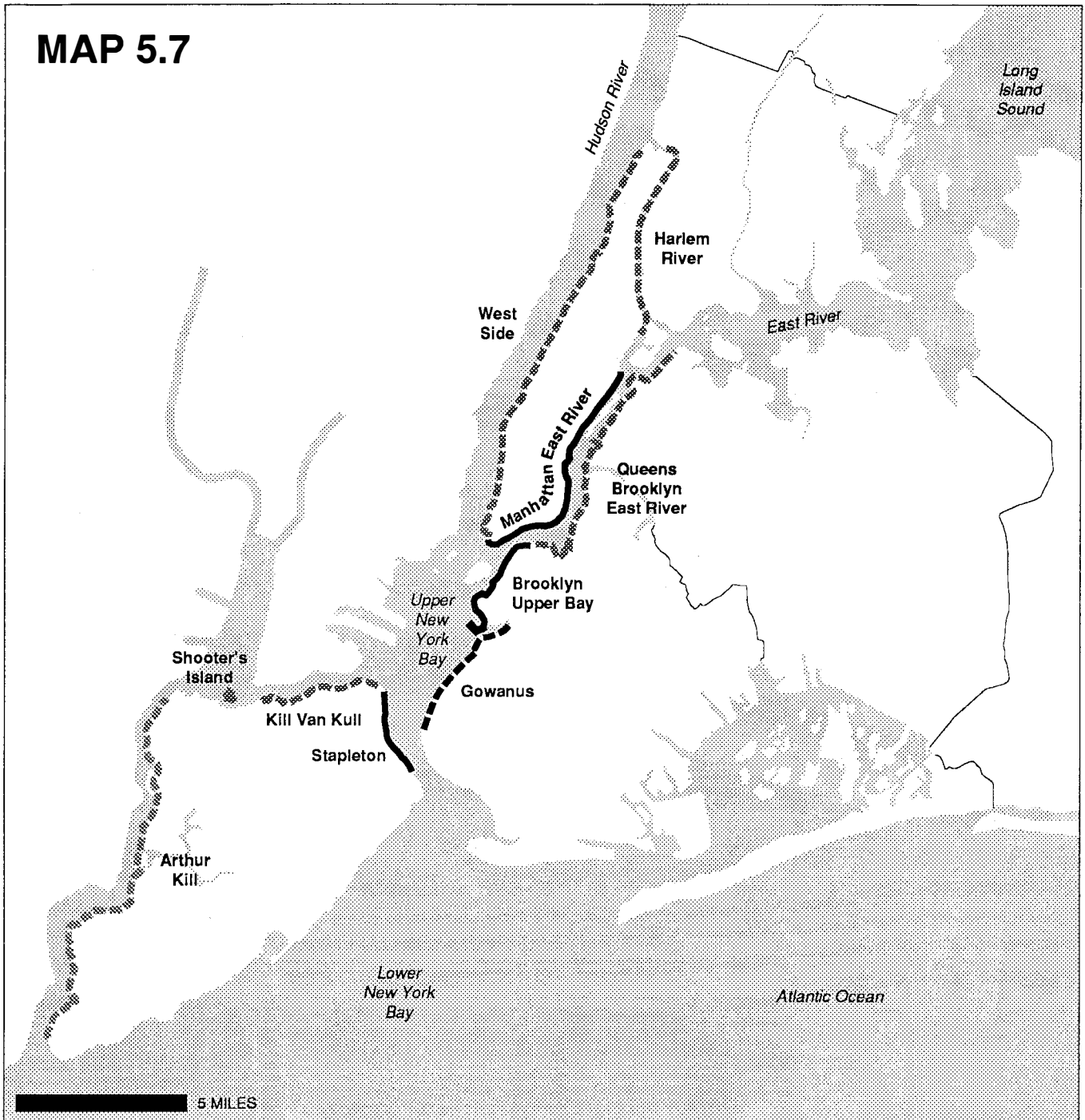
Waterfront infrastructure construction and repair are constrained also by the cost, time and difficulty in obtaining required permits from regulatory agencies. Construction and repair of piers and bulkheads and dredging of channels are essential for water-dependent uses.

PUBLIC ACCESS

Accommodating public access within waterfront industrial areas is often difficult or unwise because of safety considerations and potential conflicts with operations. The location and movement of materials, equipment, trucks and rail cars make it difficult to maintain public safety without jeopardizing operations. Furthermore, the relative isolation of industrial areas poses security problems for both businesses and the public.

Nevertheless, modest public access improvements near certain working waterfront uses can benefit workers and residents in nearby areas. Publicly oriented waterfront uses such as excursions, ferries and marinas can be designed more easily to include public access. Street ends and publicly owned piers can be improved to provide public access opportunities in industrial areas. Some public facilities can include public areas if carefully integrated during site planning. These limited opportunities must be assessed carefully, case-by-case, as to feasibility and desirability.

MAP 5.7



Harbor Drift Project

- shoreline clean-up completed
- - - - - shoreline clean-up underway
- ⋯⋯⋯ future shoreline clean-up

Source: U.S. Army Corps of Engineers.

REGULATION

The promotion of industrial water-dependent uses and environmental quality are not necessarily incompatible. However, the environmental review regulations for dredging, shoreline stabilization, and bulkhead improvements are complex, lengthy and sometimes inconsistent. Approvals are often required from many different public agencies with overlapping jurisdictions. Failure to obtain timely approvals can impair the long-term viability of working waterfront uses and lead to disinvestment in industrial areas. A strategy is needed to facilitate the process for making waterfront investments while maintaining environmental quality and protecting unique natural areas.

In some instances, important industrial areas such as JFK, the Passenger Ship Terminal and the Kill Van Kull are adjacent or near to critical wetlands and aquatic habitats. The state has proposed designation of several Significant Coastal Fish and Wildlife Habitats, including the Hudson River, Jamaica Bay and portions of Staten Island, which are proximate to working waterfront areas. In the absence of clear guidelines for dredging and other waterfront improvements such as pier and bulkhead construction or repair, conflicts with environmental regulations are difficult to resolve, and needed permits are difficult or impossible to obtain. Dredging is also hampered by lack of agreement on safe dredging practices and disposal sites. Proposed federal legislation could make it more difficult to find suitable locations for sediment disposal.

Even in waterfront industrial areas removed from important environmental resources, it remains difficult to obtain approvals for dredging and bulkhead and pier construction and repair. For example, the Newtown Creek industrial area contains a concentration of water-dependent and other heavy industrial uses requiring continual dredging of the creek.

Yet the same environmental standards and review procedures apply to these areas and to significant natural areas.

At present, WRP policies are applied with equal weight in all parts of the waterfront, often leading to policy contradictions. Like the permitting process described above, WRP policies provide neither construction guidelines nor geographic specificity and thus do not distinguish among the values and needs of different areas. This can deter precisely those water-dependent uses that the WRP was designed to promote.

THE PLAN FOR THE WORKING WATERFRONT

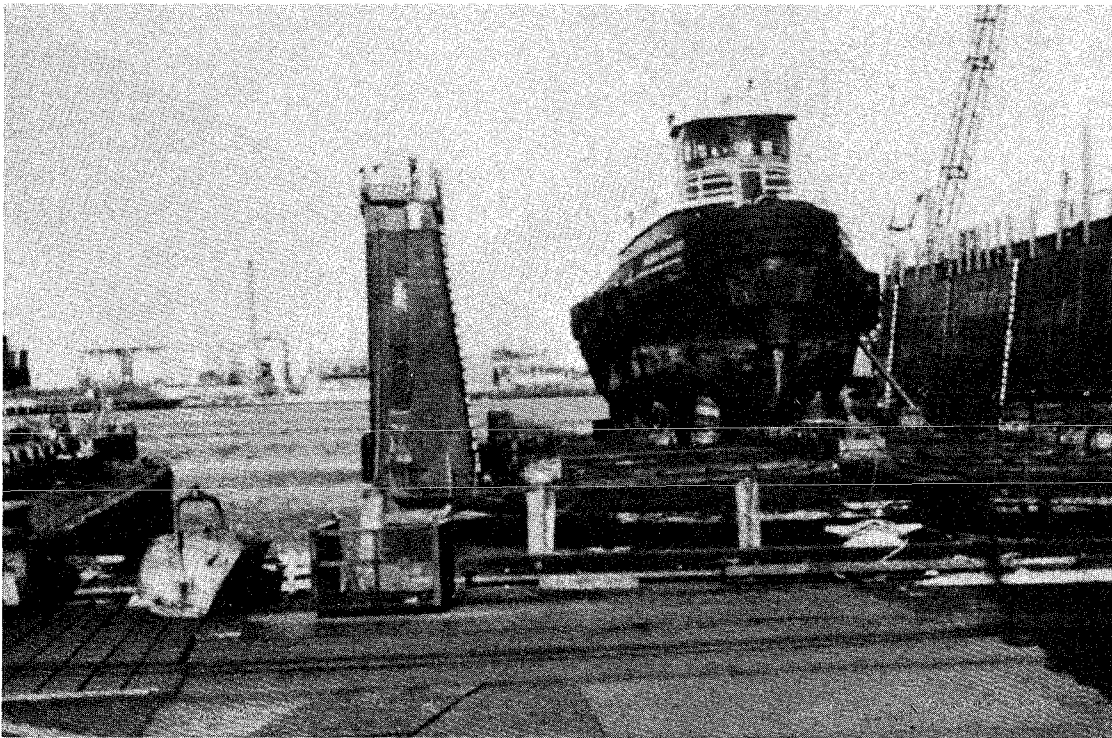
Different strategies are required to preserve and enhance the variety of working waterfront uses. Approaches appropriate for concentrated working waterfront uses differ from those for addressing the unique requirements of dispersed uses. The plan for the Working Waterfront identifies significant maritime and industrial areas that are suitable for, and contain concentrations of, water-dependent and industrial activity; some of these areas also have intermodal infrastructure. Recommendations are proposed to foster working waterfront uses in these areas. Because of their local and regional importance, the plan also addresses airport needs and opportunities. Finally, a set of citywide recommendations is proposed to enhance dispersed working waterfront uses, and to encourage activity in waterfront industrial areas.

DESIGNATION OF SIGNIFICANT MARITIME AND INDUSTRIAL AREAS

Six Significant Maritime and Industrial Areas are designated in this plan to protect and facilitate concentrated working waterfront uses, and to ensure sufficient industrially zoned land to accommodate future growth of these uses, including municipal and water-dependent activities. The major criteria used to identify significant areas include: concentrations of M2 and M3 zoned land; suitable hydrographic conditions for maritime related uses; presence of intermodal, marine terminal and/or pier infrastructure; concentrations of water-dependent and industrial activity; relatively good transportation access and proximity to markets; and availability of publicly owned land. The following six areas meet most or all of these criteria. (Map 5.8.)

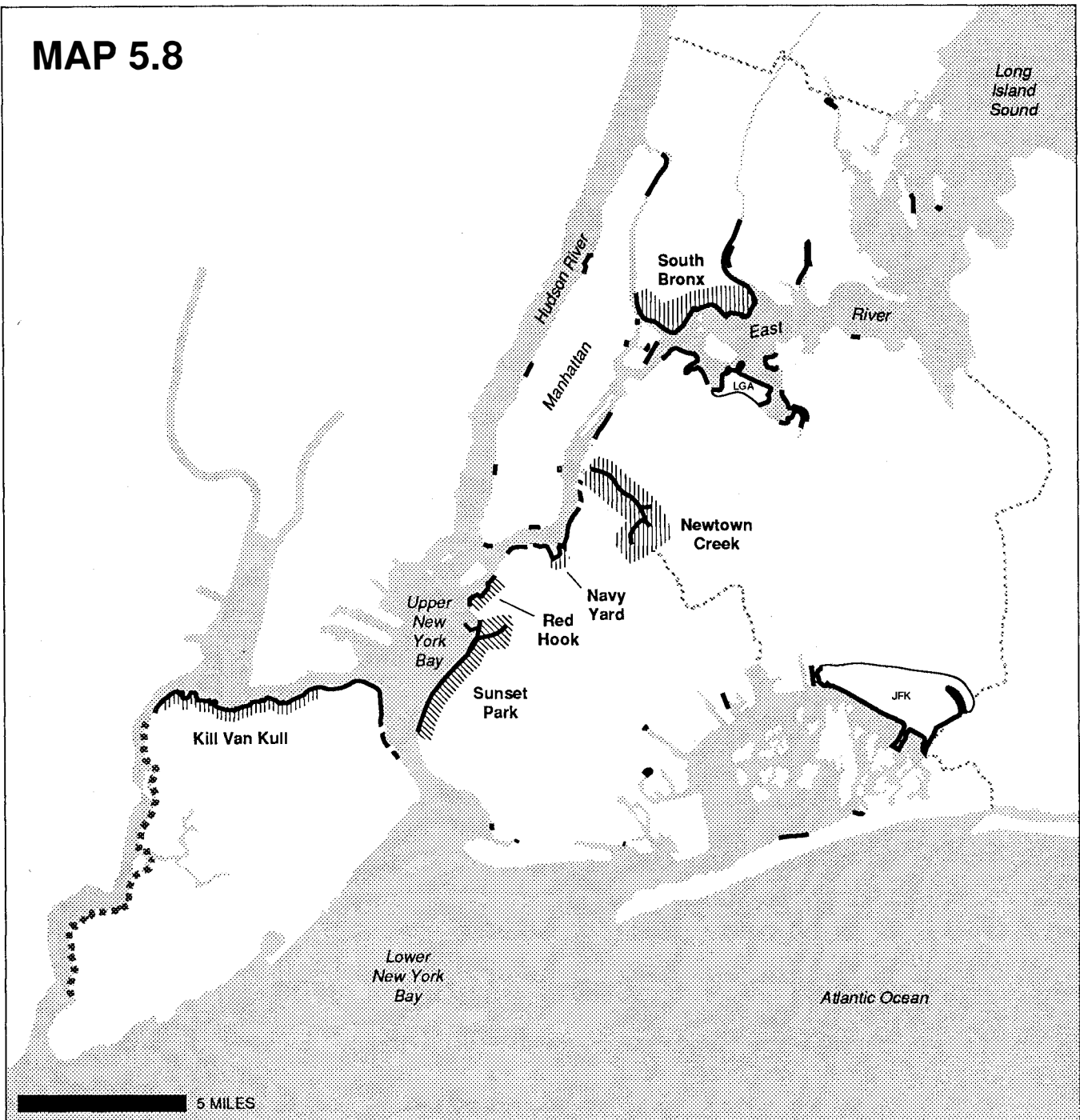
The Kill Van Kull in Staten Island from Howland Hook to Snug Harbor is characterized by a concentration of maritime support

service uses. Its deep water, relatively calm currents, proximity to major shipping channels and Port Newark/Elizabeth, and considerable investments in piers, bulkheads and wharves, make it suitable for siting maritime, maritime support and water-dependent uses. It is the best area in the port to meet the future needs of the maritime support services industry. The area also contains the Howland Hook Marine Terminal, Arlington rail yards and the vacant Port Ivory plant. The Staten Island Rail Corporation rail line and right-of-way along the North Shore provides the potential for development of an intermodal facility at Howland Hook. The industrial area contains concentrations of M3-zoned land, and a mix of non-industrial and industrial uses in addition to the maritime-related industries. The western portion of the area coincides with the Staten Island Special Natural Area identified in the plan for the Natural Waterfront.



Maritime support services along the Kill Van Kull, Staten Island

MAP 5.8



Significant Maritime / Industrial Areas



bold name

Significant Maritime / Industrial Area



waterfront manufacturing zoning district



airport



waterfront manufacturing zoning district with special environmental constraints

NOTE: Waterfront manufacturing zoning districts proposed for rezoning or parkland are not shown.



View of Erie Basin from breakwater, Brooklyn

The Brooklyn Waterfront from Erie Basin to Owls Head (Erie Basin and Sunset Park) is characterized by water-dependent facilities, concentrations of industrial activity, well-buffered M3 districts, and vacant and publicly owned land. Major facilities and uses in this area include the South Brooklyn Marine Terminal, the 23rd Street Coffee Terminal, Erie Basin Bargeport, Bush Terminal, the 65th Street rail yards and car float operation, the Brooklyn Army Terminal Industrial Park, Industry City, and Sunset Park In-Place Industrial Park. Sites here have been proposed by the city for recycling, sludge processing, a marine transfer station, and barge tie-up facilities. Rail lines extend through the area. The larger industrial area contains more than 18,000 employees, with concentrations in manufacturing and to a lesser extent in wholesale trade. Piers and bulkheads are in

poor condition and require substantial investment. Access to the Gowanus Expressway is poor, although the area is proximate to lower Manhattan.

The Brooklyn Waterfront from Pier 6 through the Red Hook Containerport is devoted almost entirely to maritime cargo operations and contains the city's only active containerport. The Red Hook Marine Terminal extends from Pier 8 through Pier 12. The Port Authority runs a barge operation from the marine terminal to New Jersey. Piers 6 and 7 are used for berthing vessels and maritime support uses.



The Brooklyn Navy Yard

Source: Skyviews Incorporated

The Brooklyn Navy Yard, operated by the Navy Yard Development Corporation, is characterized primarily by small manufacturing businesses. It contains substantial investment in waterfront infrastructure used by a harbor unit of the Fire Department, three ship repair businesses and several vessel berthing businesses. The Navy Yard is zoned

mostly M3 and is moderately well-buffered from residential districts. The Red Hook WPCP is located west of the Navy Yard.

Newtown Creek abuts portions of Greenpoint, Williamsburg, Long Island City and Maspeth industrial areas. Zoned predominantly M3, these areas contain more than 30,000 industrial jobs, with concentrations in manufacturing. The waterfront area is characterized by heavy industry and municipal facilities, many of which are water-dependent. There are 14 oil facilities located on both sides of the creek. The Newtown Creek WPCP, a marine transfer station, and the Greenpoint incinerator are located on the Brooklyn side. An asphalt plant and a sludge processing facility have been proposed for the Queens side. The area has relatively good access to the Manhattan CBD and Long Island City. It contains unused rail spurs connecting to the Bushwick Branch of the Long Island Rail Road. The shoreline is entirely bulkheaded, although portions are deteriorating. Dredging is required immediately to maintain a navigable channel.

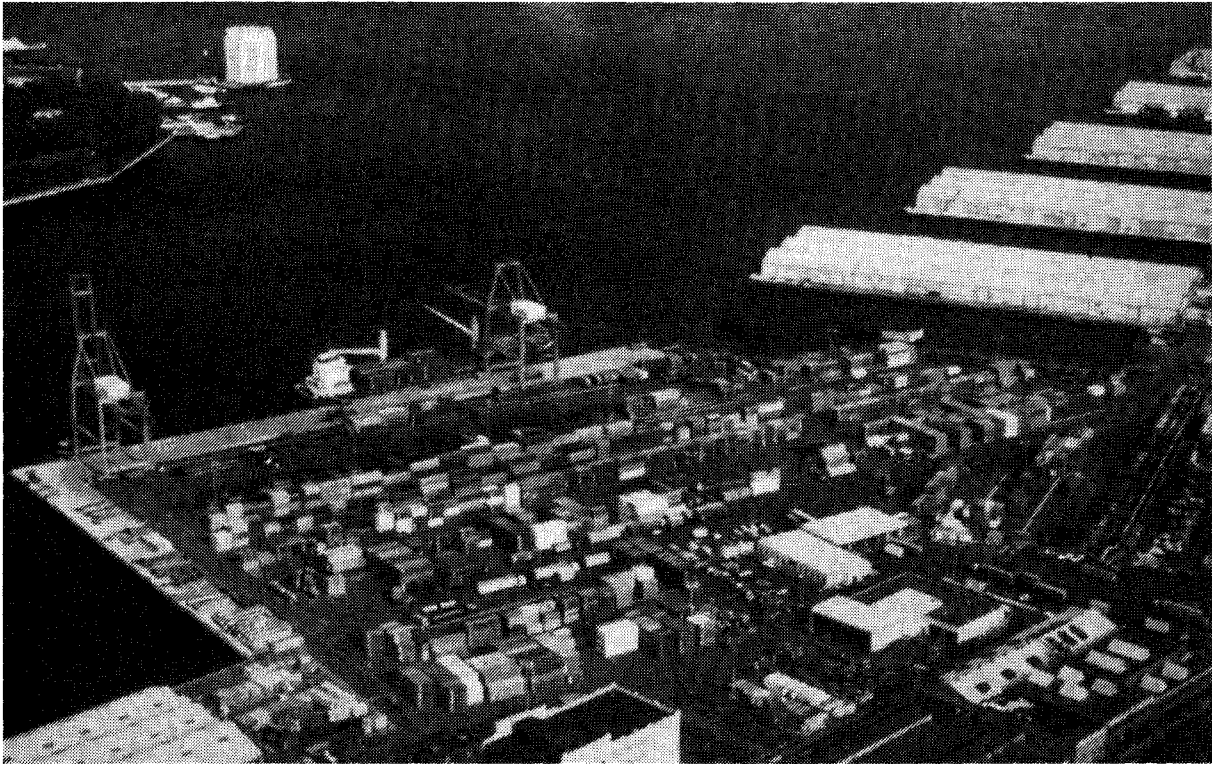
South Bronx (Port Morris and Hunts Point) contains well-buffered M3-zoned land, portions of which are vacant and city-owned. The larger industrial area contains approximately 28,000 jobs of which about 80 percent are industrial. More than half the industrial employment in Port Morris is in manufacturing; about half the industrial jobs in Hunts Point are in wholesale trade related to the Hunts Point Food Distribution Center. The South Bronx waterfront area also contains a number of municipal uses and the Oak Point and Harlem River rail yards. A rail-truck intermodal facility (for unloading of TOFC onto trucks) is proposed for the Harlem River Yards, and a sludge processing facility has been proposed for a site in Port Morris. The area is near the Major Deegan and Bruckner expressways. Rail facilities provide access to Long Island and other parts of the city; completion of the Oak Point Link would permit trailer-



Newtown Creek



Hunts Point Cooperative Market, Bronx



Red Hook Marine Terminal, Brooklyn

on-flat-car service to the north and the rail network west of the Hudson River via Selkirk near Albany. The waterfront has several existing piers and bulkheads near the rail lines creating the potential for water and rail inter-modal development.

STRATEGY FOR SIGNIFICANT MARITIME AND INDUSTRIAL AREAS

A number of actions are recommended to strengthen the Significant Areas. Recommendations are intended to guide land use decisions, city disposition policy and public investment strategies, and to promote better interagency coordination to facilitate inter-modal development.

- Manufacturing zoning should be maintained in all Significant Areas.

Maintaining the manufacturing zoning in the six Significant Areas (and in much of the industrial waterfront elsewhere) is the primary mechanism for ensuring sufficient land for the future needs of the working waterfront.

Retaining the zoning would establish land use policy in areas that are particularly well suited for the range of uses permitted by industrial zoning. The Significant Areas are well suited for water-dependent and maritime-related uses. These areas provide an important resource for promoting industrial development and for the future siting of municipal uses. Retaining the manufacturing zoning will help ensure the future health of these industrial areas by permitting a range of economic activities which can co-exist without difficulty as they have done to date.

- Requests for Proposals (RFPs) for disposition of publicly owned property within the Significant Areas should give preference to maritime, maritime support, and water-dependent components where compatible with the primary use.

Where property owned by the city, state or a public authority is offered for lease or sale in these areas, RFPs should be structured so that practical proposals which include water-

dependent uses, where compatible with the proposed primary use, be given preference in the selection process. In this way, water-dependent uses would be encouraged in those areas most suited to their operation.

- **Development on property leased or sold by public agencies should be designed in a way that would leave open future berthing of maritime support vessels in and along the water.**

To the extent feasible, RFPs for the disposition of publicly owned property in the Significant Areas should require that bulkheads, piers and wharfs be retained and access to the water's edge not be permanently obstructed. This requirement would help ensure the retention of valuable waterfront infrastructure needed to accommodate future maritime support needs.

- **Municipal facilities proposed for locations in the Significant Areas should be encouraged to consider inclusion of water-dependent elements and use of rail for movement of materials.**

Potential sites suitable for municipal uses such as sludge processing and waste handling facilities are located in several of the Significant Areas. These sites are generally well-buffered, M3-zoned waterfront land. Municipal facilities proposed in these areas should include, to the maximum extent feasible, water-dependent elements such as movement of material by barge or rail float. Four of the proposed Significant Areas — the South Bronx, Kill Van Kull, Newtown Creek, and Sunset Park — contain existing rail facilities which may be used for goods movement. Water and rail transportation can help reduce the traffic impacts of some municipal uses. Criteria requiring the consideration of water and rail for the movement of material should be developed. Such criteria would consider the economics of rail and barge movement, as well as the potential air quality, traffic and neighborhood benefits from a reduction in new truck traffic.

- **A task force should be established to develop and implement a regional rail freight intermodal strategy.**

The city and state governments are committed to increasing intermodal potential in New York City where connections can be developed between at least two modes of transportation (e.g., rail, barge and truck). The construction of the Oak Point rail link in the Bronx has the financial support of the city and state. The Port Authority and the Economic Development Corporation (EDC) have expressed their intent to acquire and activate the Staten Island Railway Line which provides access between Howland Hook and the Southern Rail Corridor west of Staten Island. EDC is negotiating with the Cross Harbor Railroad on the lease of the 65th Street Rail Yards in Sunset Park for the development of an expanded car float operation between Sunset Park, Brooklyn and New Jersey. Although there are no active plans to do so, the Bushwick Branch of the Long Island Railroad in eastern Newtown Creek could also be activated to provide a fourth intermodal facility if a need is identified.

The proposed Task Force should include members of the Bi-State Regional Forum⁴ and other city, state and private transportation and planning agencies. The task force can develop a coordinated capital and operating strategy to maximize the potential for intermodal transport in the four Significant Areas which have rail infrastructure. Although intermodal facilities are projected to serve only a small portion of the goods movement needs of the city, they may play a role in helping reduce the environmental impacts of truck traffic and in revitalizing the waterfront.

- **Access improvements for the Significant Areas should be advanced.**

The vitality of industry and the maritime facilities in the Significant Areas is dependent in large part on truck access to the city and region's highway network for the movement of goods. Studies have identified a range of capital projects to facilitate truck movement citywide. Specific projects to be considered for

the Significant Areas include: increasing the capacity of the Goethals Bridge to improve truck access from New Jersey to Howland Hook and the Brooklyn waterfront; providing access ramps at 39th Street in Sunset Park to the Gowanus Expressway; construction of a Newtown Creek crossing to facilitate access from north Brooklyn to the Long Island Expressway; and completion of the Bruckner Interchange to facilitate access to Hunts Point. The summary of the reach study recommendations (Appendix A) identifies other area specific improvements.

- WRP Policy 2 should be revised to apply specifically to the Significant Areas

Although water-dependent uses are not feasible or appropriate in all waterfront locations, WRP Policy 2 encourages them throughout the city. This can create conflicts with waterfront development and with unique natural areas. Clarifying this policy to apply specifically to the Significant Industrial Areas and to certain water-dependent uses such as ferries would make it more meaningful and would facilitate WRP consistency reviews.

JFK AND LAGUARDIA AIRPORT AREAS

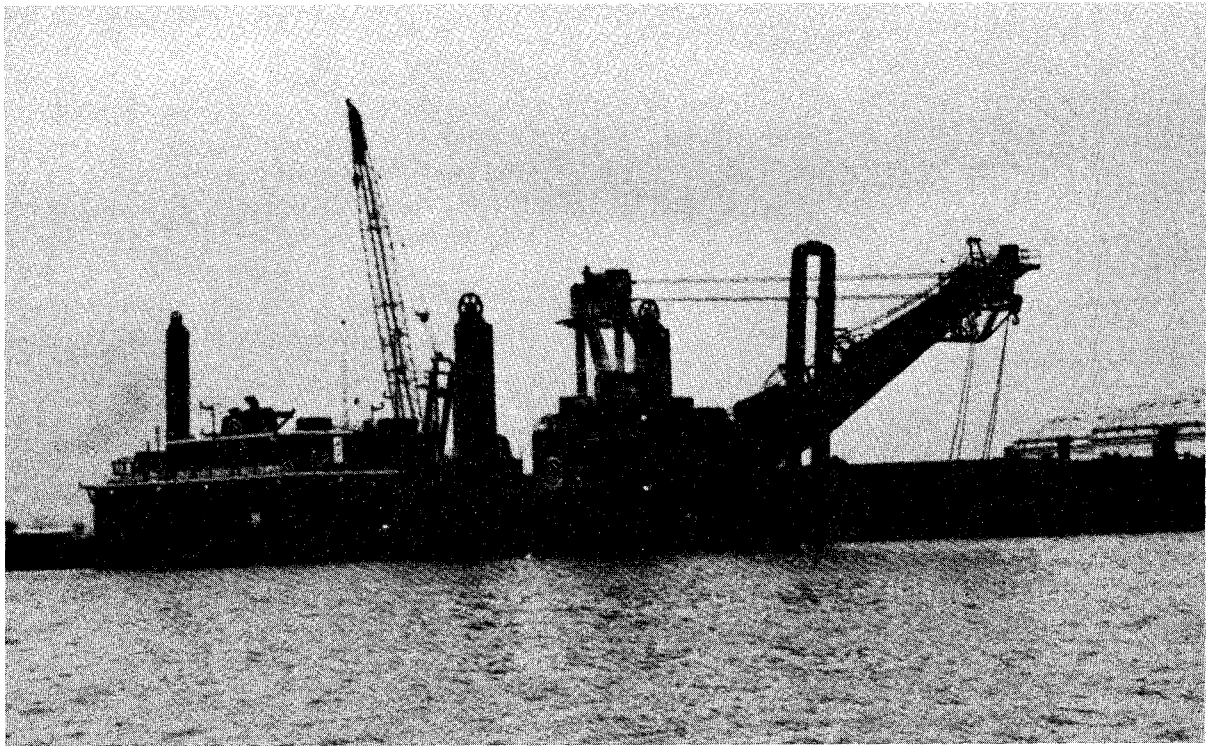
Because of their significance to the local and regional economy, JFK and LaGuardia merit special attention. Approximately 37,000 people are employed at JFK and in the surrounding industrial area. Truck access is the most critical problem for the air cargo facility at JFK, which is the largest in the nation. The LaGuardia Airport area includes the airport and LaGuardia ferry dock. The Bowery Bay WPCP is located to the west. Area employment is approximately 16,000. Although LaGuardia is primarily a passenger airport, its volume of air cargo would place it among the top 20 airports nationally.

- Improvements should be identified to accommodate the needs of the airports and air cargo facilities and to ensure their safe operation.

Public actions should ensure that the safety and operational needs of the airports are met while protecting environmental resources in Jamaica and Flushing bays. To improve passenger and freight movement, EDC, DOT and the Port Authority should pursue the potential for waterborne movement of passengers



Jet landing at LaGuardia Airport, Queens



Dredging operation along Staten Island waterfront

and freight between JFK and Manhattan, and for freight only, between the airport and New Jersey. There may be some potential for fast freight ferry service between LaGuardia and Manhattan and New Jersey. Most important, the city and state transportation agencies should examine strategies to improve truck access to JFK, including the widening of the Van Wyck Expressway and improvements to alternate truck routes to the airport. Industrial zoning on land abutting JFK should be retained to accommodate growth in the air cargo industry.

CITYWIDE STRATEGY FOR THE WORKING WATERFRONT

In addition to the strategy for the Significant Areas and the airports, the plan for the Working Waterfront includes recommendations for other waterfront industrial areas, dispersed working waterfront uses, capital investment and financing, and regulatory review.

- Retain manufacturing zoning in other waterfront industrial areas based on an

evaluation of working waterfront uses and the overall best use of the land.

Certain industrially zoned sites appropriate for reuse are identified in the Plan for the Redeveloping Waterfront. These represent a small portion of industrially zoned waterfront land citywide. Potential reuse of other sites would depend on an evaluation of land use and the long-term needs of the working waterfront.

- Develop a port improvement and investment program to propose a long-range strategy for capital improvements and development priorities for port-related infrastructure.

Waterfront infrastructure repair has been constrained by overlapping jurisdictions, a lack of coordination among agencies and insufficient funding. Establishment of a task force consisting of city, state and federal agencies with port and waterfront jurisdictions is recommended to develop a coordinated capital improvement strategy for port facilities. This would include targeting and coordinating city,

state and federal funds for maritime-related infrastructure repair and capital improvements (e.g., bulkhead repair, pier rehabilitation, channel dredging) in conjunction with port and other industrial developments.

- **Identify highway transportation improvements to improve truck freight movement citywide.**

The plan identifies specific access improvements for the Significant Areas. Citywide highway system and access improvements are essential to the long-term health of the city's economy and its industrial areas, both on the waterfront and inland. A number of studies by DOT, DCP and State DOT have recommended improvements beyond those currently planned or funded. Implementation of these improvements and local industrial area improvements such as street repaving would facilitate industrial and working waterfront development.

- **Complete the Harbor Drift Program to enhance maritime operations.**

The Port Authority, EDC and the Army Corps of Engineers should work toward completing the city's Harbor Drift Program by the year 2000. In view of their economic and ecological value, the Kill Van Kull and Hudson River reaches should receive high priority for the next round of funding. Issues regarding disposal of drift materials must also be resolved.

- **Seek revisions to city, state and federal financial assistance and highway aid programs to increase the eligibility of maritime-related businesses.**

A number of city and state financial assistance programs are available to industrial and other working waterfront users for acquiring and improving sites, and maintaining and repairing infrastructure. Some working waterfront uses are unable to meet the programs' eligibility requirements. Eligibility requirements, particularly those related to collateral requirements, should be examined and amended where appropriate to expand their applicability to maritime-related businesses

and to finance improvements. In conjunction with this examination, the city should be encouraged to extend long-term leases to these businesses to increase their ability to meet loan requirements.

- **Permit ferries and excursion boats in more locations and encourage their development.**

The Zoning Resolution should be amended to permit greater flexibility in siting these uses in residential and commercial zones. These uses are compatible with many residential and commercial uses but are restricted to manufacturing districts and certain commercial zones. They are dispersed throughout the waterfront, and could be incorporated more widely in as-of-right development projects if permitted by zoning. The success of ferry service could be enhanced by better coordination with subway and bus service. The plan identifies several sites where new passenger ferry service could be viable. The Department of Business Services and DOT should seek operators for ferry service at these locations. The plan identifies potential locations for the introduction of fast freight service. EDC and the Port Authority should pursue their implementation by seeking private operators.

- **Facilitate the development of marina and marina-support services.**

Amending the Zoning Resolution can facilitate the development of marina and marina support facilities by better defining these facilities and permitting them in more districts. Regulations governing accessory marina slips can be made less restrictive, and thereby encourage their development in dispersed locations.

- **Amend the WRP to facilitate working waterfront development.**

Waterfront development is constrained by the difficulty in obtaining permits and approvals for dredging and the repair and construction of bulkheads, piers, wharfs and other waterfront infrastructure. The long term success of water-dependent and other working waterfront

uses can be enhanced by a more predictable, less time consuming and less costly process for infrastructure development. Public agencies with waterfront and regulatory jurisdiction and representatives of working waterfront industries should develop guidelines for development and construction to facilitate approvals for these essential activities. These guidelines would be incorporated into revisions to the Waterfront Revitalization Policies and given geographic specificity. Guidelines would be established for the Significant Areas where environmental resources are less prevalent, while different standards would be established for industrial areas in proximity to unique natural areas. A predictable regulatory environment is critical to the long term success of water-dependent uses in New York Harbor. It would facilitate new uses and the expansion of existing uses by reducing uncertainty and the time and cost required to obtain needed approvals.

- Encourage public access in public projects where safety can be assured and access can be designed to avoid interference with industrial uses.

The revised WRP would not require public access for private industrial developments. Public agencies, however, would be encouraged to provide access, if appropriate and feasible, in conjunction with publicly sponsored development. The plan for the Public Waterfront recommends the development of piers and street ends for public access in certain industrial areas.

ENDNOTES

1. The industrial sector consists of Manufacturing; Transportation, Communications and Public Utilities; Wholesale Trade; and Construction.
2. Break-bulk refers to freight delivery of individual cargo pieces requiring unloading from the ship and repacking for delivery to warehouses or consumers. Containers, which are filled with cargo pieces, are transferred directly from ship to truck or railcar.
3. State financial assistance programs include NYS Job Development Authority Direct Loan and Loan Guarantee programs, and Urban Development Corporation assistance programs. City programs include the Revolving Loan Fund and Industrial Development Agency.
4. The Bi-State Regional Forum is a cooperative effort of the region's "Big Six" transportation agencies. The membership includes the Port Authority, the NYS and NJ Departments of Transportation, City DOT, the MTA and NJ Transit Corporation.



6 THE REDEVELOPING WATERFRONT

The general decline of industry, especially maritime uses, provides the opportunity to expand areas zoned for residential and commercial uses and foster redevelopment opportunities that would revitalize the waterfront. Redevelopment can benefit all New Yorkers by providing housing, fostering economic growth, and reestablishing the public's connection to the waterfront by integrating open space and public access into redevelopment projects.

The redeveloping waterfront comprises those areas that provide opportunities for non-industrial waterfront development, including residential, office, retail and community facility uses. The main principle guiding planning for the redeveloping waterfront is to accommodate and encourage change by taking advantage of appropriately located vacant and underutilized land not identified in this plan as needed for other purposes. Such redevelopment is compatible with, and will create important opportunities for public access and open space. With appropriate site planning, redevelopment can also be compatible with natural features. The following goals have been identified for the redeveloping waterfront:

- Promote economic development and enhance the city's tax base by providing opportunities for new uses, including housing for a range of income groups.
- Enliven the waterfront by promoting people-attracting uses, open space, and public access to the waterfront.
- Integrate new development with adjacent upland communities.
- Consider land use, availability of services and infrastructure capacity in determining scale of redevelopment.
- Promote social and economic diversity on the waterfront.

The plan for the Redeveloping Waterfront identifies waterfront development projects which have been approved and require no further discretionary actions; examines zoning and planning issues related to redevelopment; proposes criteria for redevelopment; and recommends areas suitable for new housing and commercial development.

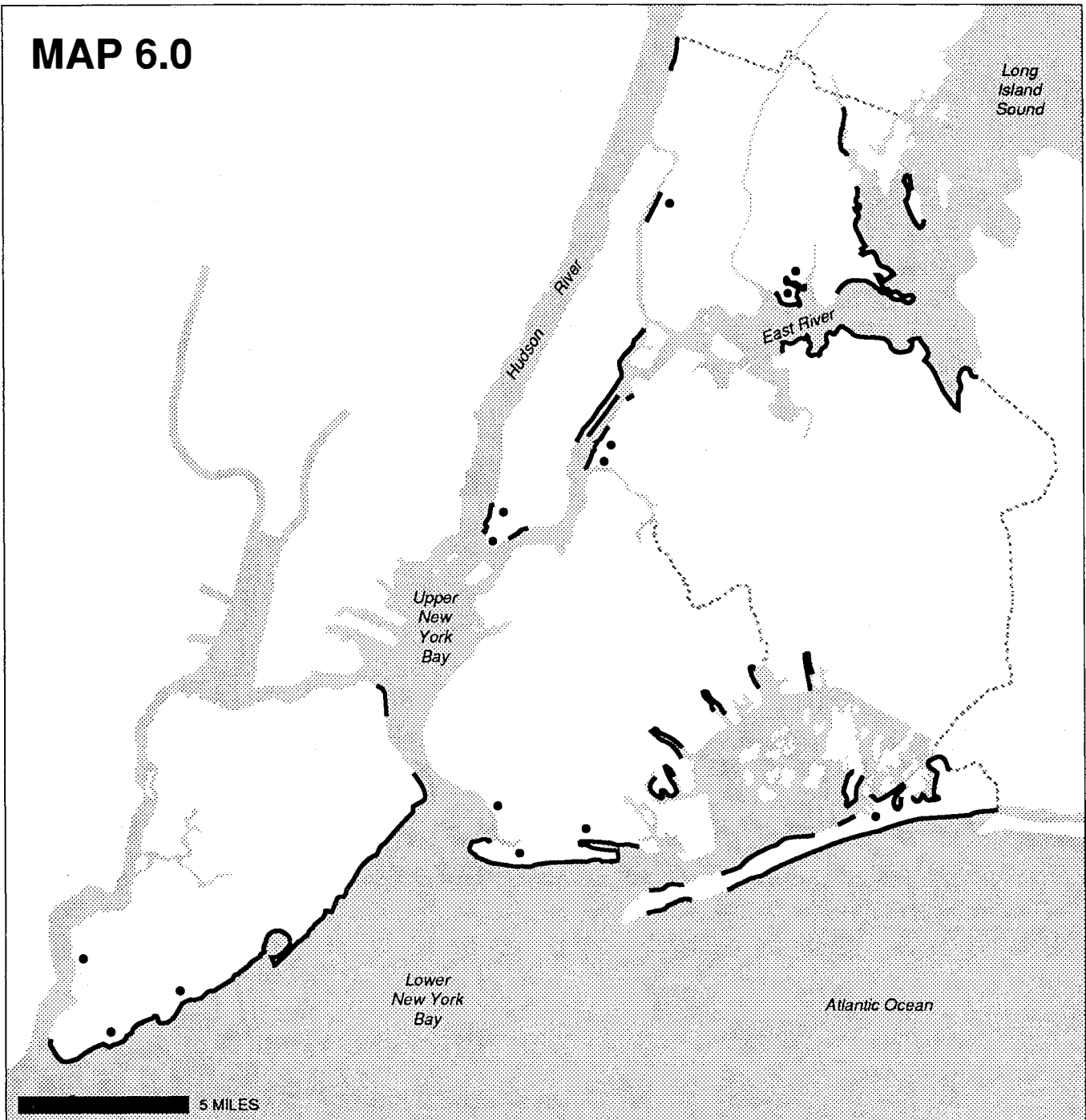
THE REDEVELOPING WATERFRONT TODAY

ZONING

Mapped parkland and manufacturing districts occupy about 75 percent of the waterfront. Much of the remaining waterfront land is zoned for lower-density residential development. Lower-density residential districts (R1 through R5) tend to be mapped on the perimeter of the city, far from mass transit. These areas include portions of the waterfront in the East Bronx, Staten Island, Queens and the southern shore of Brooklyn. Except for approved projects and scattered and underutilized sites, there are few opportunities in these lower-density districts where redevelopment could proceed as-of-right; lower-density areas are largely developed or are occupied by protected wetlands or arterial roadways along the shoreline. Some of these areas are mapped with C3 districts, which permit water-related commercial uses such as marinas along with the lower-density residential development. (Map 6.0)

Medium-density districts (R6 and R7) on the waterfront are mapped in limited locations outside the central business district (CBD). These areas include Coney Island and Brighton Beach in Brooklyn, Roosevelt Island in Manhattan, Co-op City in the Bronx, and parts of the Rockaways in Queens. Areas permitting higher density residential development (R8, R9, R10 densities) are located in Manhattan or in areas directly accessible to the Manhattan CBD.

MAP 6.0



Existing Waterfront Residential and Commercial Zoning Districts and Approved Redevelopment Projects

- existing residential or commercial zoning district fronting on water, esplanade, or public beach
- approved redevelopment project

These areas include the Upper East Side, the site of the proposed Riverside South project and Battery Park City in Manhattan, and a portion of Long Island City in Queens.

Commercial districts are not widely mapped on the waterfront. Coney Island contains a C7 district which permits open commercial amusement parks and excludes residential development. General and central commercial districts, C4 and C6 (residential development allowed), are mapped in limited locations in lower Manhattan and in Co-op City. Local service and retail districts, C1 and C2 (if overlay districts, governed by underlying residence district bulk regulations), are mapped in scattered locations such as Sheepshead Bay in Brooklyn, and College Point and Arverne in Queens.

EXISTING REDEVELOPMENT PROJECTS

In recent years, several major projects have been approved for both residential and commercial waterfront development. Most of these projects incorporate new public waterfront access and urban design controls as an outcome of the discretionary approval process. They are summarized below and shown on Map 6.0.

Five lower-density residential projects are under construction or have been approved for locations in Staten Island, Brooklyn and the Bronx. The Captain's Quarters and Prince's Point projects, both located on the south shore in Staten Island, incorporate waterfront public access, as do the Shorehaven and Castle Hill Estates projects in the Soundview section of the Bronx. The first phases of the Captain's Quarters and Shorehaven developments are complete. Rose Cove, located on the Lower Bay adjacent to Dreier Offerman Park in Brooklyn, combines low-rise residential development with a marina and public esplanade. The first phase of this project is complete.

Medium-density residential projects have been approved for a site on the Harlem River in the Bronx and on city-owned land in Arverne, Queens. The Arverne plan calls for 7,500 hous-

ing units with local retail development, new waterfront parkland and community facilities. The Fordham Landing project in the Bronx includes approximately 600 housing units, retail space and a waterfront esplanade.

Higher-density developments are planned for the East River waterfront in Hunters Point, Queens, and Battery Park City in Manhattan. The Hunters Point project includes more than 6,400 housing units, office and retail space and a waterfront esplanade. The residential project approved for the nearby East River Tennis Club site would include 960 housing units, local retail space, and a waterfront esplanade which has the potential to connect to the esplanade planned for Hunters Point. The completion of Battery Park City north of the World Financial Center will include housing, a high school, office space, a hotel, local retail uses and public waterfront open space. The city has approved renovation of Pier A in lower Manhattan for a restaurant, visitors' center and public access.



Rose Cove development in Brooklyn

Two commercial developments have been approved for waterfront locations in southern Brooklyn. Development of a new Steeplechase Amusement Park in Coney Island was approved in 1989. More recently, redevelopment of the former Lundy's Restaurant in Sheepshead Bay was approved for restaurant and commercial uses. The Outerbridge area in Staten Island is the site of Harbor View, a planned banquet hall, restaurant, small hotel and public esplanade.

THE IMPORTANCE OF REDEVELOPMENT

ECONOMY

One of the foremost requirements of this comprehensive plan is to foster economic growth. The decline of industrial and maritime activity has left portions of the waterfront vacant and underutilized, and future opportunities for growth of these uses are limited. Waterfront redevelopment in selected locations can make better use of this land by promoting activities that support the city's growing economic sectors. It can play a crucial role in the city's economic growth by providing sites for the expansion of the central and regional business districts and for local economic development through the provision of new retail, office, hotel and entertainment uses. The future role of the waterfront in the city's economy will be broader than its historic role in maritime and industrial activity.

The maritime industry was once the linchpin of the city's economy. The decline of this industry, combined with the overall decline in industrial employment, has resulted in substantial amounts of vacant or underused manufacturing-zoned land throughout the city and on the waterfront. Industrial uses on the waterfront will continue to play a role in the city's economy, particularly in those areas with good access to the regional highway network and the central and regional business districts,

or areas in proximity to the city's two major airports or its major port facilities. Most industrial uses, however, do not require a waterfront location. Some industries that require, or could benefit from, a waterfront location, such as marina and ferry operations, recreational excursions, and waste recycling and transfer have shown modest growth recently and may offer some potential to grow in the future. As discussed in the Working Waterfront chapter, the demand generated by these activities is not expected to be nearly enough to occupy waterfront land currently zoned for manufacturing.

The plan for the Working Waterfront designates six industrial/maritime areas where retention of manufacturing zoning is recommended. These areas are particularly well-suited to meet the future needs of the maritime support industry and provide locations for other industrial and municipal uses. Much of the manufacturing-zoned land outside these six areas also would be retained. Although conditions in these zoning districts vary, a substantial amount of working waterfront activity remains and will continue for the indefinite future.

Many vacant and underused manufacturing-zoned sites outside the significant industrial/maritime areas and the airports offer important economic development opportunities. Integration of commercial and retail uses with public open space can enliven the waterfront and make it attractive to residents, workers and tourists alike, as it has been done in other cities and in developments like Battery Park City and the South Street Seaport. Moreover, it can promote growth in the city's key industries (such as information-based industries, tourism and culture), which function as the city's economic base, by bringing income into the city from elsewhere. The waterfront can boost growth also in industries that provide goods and services to local businesses and consumers.



Vacant industrial land in Williamsburg, Brooklyn

The World Financial Center in lower Manhattan has extended the central business district to the Hudson River. Office space is integrated with public access, retail and entertainment activities, a marina and ferry service. On the East River, the South Street Seaport integrates historic preservation with uses that promote economic development and waterfront revitalization. The Manhattan waterfront plays a particularly important role in promoting tourism through activities such as the Seaport, the Circle Line and Intrepid Museum on the Hudson River in midtown, and ferry service to the Statue of Liberty and Ellis Island.

Although tourism presently plays a less important role outside Manhattan, many waterfront uses in the other boroughs contribute to the city's economy. These include recreation and marinas on City Island, deep sea fishing boats and retail in Sheepshead Bay, and restaurant and entertainment uses such as the River Cafe and Bargemusic on the East River in Brooklyn.

HOUSING

Despite a substantial increase in the construction of new unsubsidized and subsidized housing during the economic upturn of the 1980s, supply did not keep pace with demand. As a result, vacancy rates remained low, and prices for market rate housing increased. In 1982, the median home price in the New York metropolitan area was the same as the national average; by 1985 it was double the national average. Although the current economic recession has resulted in a fall in prices, the city must be poised for the next economic upturn by ensuring opportunities for housing development.

Housing production during the 1980s remained well below the rates of the 1960s and early 1970s when financing was more favorable and substantial federal housing assistance was available. From 1961 to 1970, an average of 34,800 units a year were completed, compared to an average of only 13,200 units a year during the peak 1980s period

from 1986 through 1989. During this latter period, new housing was built at a range of densities and in a variety of areas throughout the city to accommodate the preferences of buyers and renters.

Although there is substantial zoned capacity for residential development outside waterfront areas, waterfront sites are important because of the attractive views they offer and their ability to accommodate large-scale residential developments. In a densely built environment like New York City, large development sites are limited. Portions of the waterfront can provide housing sites to help meet future demand.

QUALITY OF LIFE

The waters that surround the city comprise its largest contiguous open space, a resource

that makes the city more livable and attractive. Fostering waterfront activities that attract people to it can add significantly to the quality of life in the city. These activities range from restaurants and retail developments incorporating water views and sitting areas, to excursion boats, restaurants on barges, and historic and cultural uses.

As the public benefits from open space and activities directly on the waterfront, upland areas also benefit. For example, the development of the proposed esplanade on Manhattan's West Side will improve the quality of life for nearby residents. Similarly, Riverside Park makes the adjacent neighborhoods a more attractive place to live. In low-scale waterfront communities, point access, visual corridors and suitably sited esplanades allow residents to benefit from their proximity to the waterfront.



Pier 17 at the South Street Seaport, Manhattan

WATERFRONT DEVELOPMENT ISSUES

ZONING

The 1961 Zoning Resolution did not anticipate significant non-industrial waterfront development and therefore did not differentiate between waterfront and upland development. Much of the waterfront in 1961 was occupied by industrial uses or mapped as parkland. Since then, public reviews of many waterfront projects have highlighted the inadequacies of the Resolution in regulating waterfront development. These public reviews have led the city to incorporate elements that the Resolution does not require, such as public access and open space, design controls and visual corridors.

Rezoning or other discretionary actions for waterfront redevelopment continue to be subjected to site-by-site negotiation to ensure the provision of these common elements. The absence of clear regulations and guidelines for waterfront development has created uncertainty and a lack of predictability, discouraged investment, and limited the city's ability to plan for the waterfront. Specific zoning issues are identified below and discussed further in Chapter 7.

Waterfront Use Groups

The goal of enlivening the waterfront through redevelopment is sometimes constrained by regulations that limit water-related uses such as ferries, accessory marinas, floating restaurants and seasonal commercial uses along esplanades.

Public Access and Open Space

The integration of public open space and access into residential and commercial waterfront redevelopment is crucial to reestablishing the public's connection to the waterfront and connecting new development with upland

areas. Because existing zoning regulations do not require these elements, redevelopment under existing regulations can pose a barrier rather than a gateway to the waterfront.

Configuration, Bulk and Density

Waterfront zoning lots are generally irregularly shaped. Because today's zoning regulations were devised for regularly shaped lots, some waterfront sites are unbuildable. Development on other sites, particularly when portions are under water, could be out of scale with buildings in similarly zoned upland neighborhoods.

Moreover, current zoning does not distinguish piers and platforms from upland areas and does not recognize the unique planning concerns associated with development on these structures.

The proposed generic waterfront zoning regulations presented in Chapter 7 respond to these issues and would achieve a number of goals for the redeveloping waterfront.

REGULATORY REVIEW

The complexity of the permitting and approval process can impede public and private investment throughout the city. This problem is exacerbated on the waterfront, in part because of the concerns posed by waterfront development and overlapping governmental jurisdictions. In addition, it is often difficult and sometimes impossible for waterfront redevelopment projects to be consistent with all WRP policies. Policy 1 explicitly promotes new economic development in underutilized areas of the waterfront, but such development often conflicts with other WRP policy goals. The waterfront plan can facilitate redevelopment by resolving these conflicts and by providing decision makers and the public with land use policies and zoning controls more responsive to public goals.



Rendering of the planned East River Tennis Club development in Long Island City, Queens

Source: Cetra/Ruddy Inc., Architects

AFFORDABLE HOUSING

One of the goals of the redeveloping waterfront is to foster economic and social integration. Reusing portions of the waterfront for residential use promises to create new communities where none currently exist. The Department of City Planning is exploring the inclusion of affordable housing in new communities and in large-scale developments throughout the city. Proposals from this study would apply to both waterfront and upland properties. The Waterfront Reach studies also recommend waterfront areas for new housing development. Some of these areas could be developed with affordable housing, particularly where there are opportunities to use publicly owned land to foster mixed-income communities.

INFRASTRUCTURE CAPACITY

Infrastructure capacity and conditions may affect the location, uses and density of new development and dictate improvements and investments needed to expand capacity.

Highway Access

Waterfront industrial areas developed when freight transportation was primarily by water and rail, and workers arrived on foot or by ferry. Therefore, certain industrial sites may be poorly suited to freight movement by truck. Highway capacity and accessibility may limit redevelopment opportunities or the types and intensity of new uses on a site, particularly for those areas that are not readily accessible to mass transit.

Mass Transit Access

Waterfront areas well served by mass transit, such as in Manhattan and Long Island City, can generally accommodate a wider range of uses and higher densities of development than areas that are more auto-dependent. Poor subway access limits development densities. Surface transit is flexible, and routes can be adjusted to reflect new population, employment, and commuting patterns. Provision of ferry service also can offset some constraints.

Sewage Treatment

Wastewater from new development must be treated by one of the city's 14 water pollution control plants. Two of these facilities exceed their State Pollution Discharge Elimination System permit capacities and one facility is operating at or near its permitted capacity. The city is evaluating methods to better measure and reduce flows, to better use excess plant capacity, and to expand capacity where needed. Adequate capacity is an essential ingredient in the city's ability to grow and prosper. As discussed in the Natural Waterfront chapter, there needs to be a joint inter-agency working group to ensure that adequate capacity is provided for all as-of-right and discretionary development. This requires better coordination of land use and infrastructure planning, and the implementation of appropriate measures to provide adequate capacity citywide.

Sewers and Streets

Development of "older" waterfront areas or waterfront areas that are not fully developed may require upgrading, replacement or construction of sewer lines and connections, separate storm sewers and local streets. Lack of adequate local infrastructure need not preclude redevelopment, although it may require substantial infrastructure investments. For example, the Arverne project requires investments in new sewage lines and streets. Similarly, developments in certain waterfront areas in Staten Island require new storm sewers and private sewage treatment plants.

REDEVELOPMENT CRITERIA

Areas identified as unique natural areas or as best suited for parkland or industry generally are not considered appropriate for redevelopment. As discussed in the Working Waterfront chapter, areas best suited for maintaining manufacturing zoning are primarily industrial and have relatively high levels of industrial activity, good access for moving freight, and/or hydrological conditions suitable for port-related and maritime activities. In some instances, areas suited for industrial uses may be equally suited for non-industrial uses. The waterfront plan seeks to identify individual sites in these areas for reuse based, in part, on their potential to accommodate new residential communities, extend existing communities to the waterfront, or generate jobs and tax revenues.

The identification of redevelopment sites must be balanced with the need to site municipal facilities and other uses requiring manufacturing-zoned land. M3-zoned sites considered suitable for redevelopment may not be suitable for many municipal facilities, however, because of proximity to residential uses and the need for an adequate buffer between the facilities and residential or commercial uses. Sites appropriate for both kinds of uses must be evaluated for potential benefits.

The land use criteria considered in determining areas appropriate for reuse include:

- the absence of unique or significant natural features or, if present the potential for compatible development;
- the presence of substantial vacant land or land occupied by less intensive uses;
- proximity to residential or commercial uses;
- the potential for strengthening upland residential or commercial areas and for opening up the waterfront to the public;

- the availability of neighborhood services, either on- or off-site, such as open space, community facilities and retail services; and
- the number of jobs potentially displaced balanced against the new opportunities created by redevelopment.

In addition to the significant maritime/industrial areas identified in the Working Waterfront chapter, retention of manufacturing zoning is appropriate for other industrial areas that do not meet the criteria for land use change. Some sites located outside the significant areas, however, may have active industrial uses in close proximity to upland residential neighborhoods. Although the current uses of such sites may be suitable, it would be appropriate to reassess the zoning periodically as current uses and conditions change.

THE PLAN FOR THE REDEVELOPING WATERFRONT

The goals of waterfront redevelopment can be achieved in large part by two mechanisms: amending the Zoning Resolution to better regulate waterfront development (Chapter 7); and rezoning specific areas appropriate for redevelopment using the amended regulations. Revising WRP policies (Chapter 8) to provide locational specificity also will help to achieve the redeveloping waterfront goals.

Based on the recommendations for the natural, working and public waterfronts and the analysis of issues and criteria, this plan identifies areas suitable for redevelopment with commercial and residential uses. The choice of areas represents a balance among the sometimes competing objectives of the waterfront plan. Redevelopment areas provide opportunities for expanding commercial and housing development, creating jobs and expanding the tax base, revitalizing the waterfront, and improving the quality of life in the city through waterfront access and open space.

The plan for the redeveloping waterfront is summarized on the following pages. It consists of approved projects for which no further discretionary actions are needed and proposed redevelopment opportunities for areas that would require rezoning and/or other discretionary actions, such as demapping of streets or disposition of city-owned property, for redevelopment to take place.

As shown on Tables 6.0 through 6.4, proposed redevelopment opportunities include density guidelines for most sites. The selection and mapping of specific zoning districts would be based on more detailed land use studies, including the analysis of infrastructure capacity. The highest-density residential zoning districts, R9 and R10 (and their commercial equivalents), would permit excessive bulk along the waterfront if widely mapped. Most waterfront areas do not have adequate infrastructure to accommodate the density of development permitted by these districts. As a general rule, these highest-density districts would be considered for mapping in only a few locations directly accessible to the Manhattan CBD where mass transit access is excellent, the scale of development would be compatible with the upland character, and public policy seeks to create a new, or reinforce an existing activity center.

BRONX

The Harlem and Hudson rivers border the Bronx on the west. Few redevelopment opportunities exist; these waterfront areas are characterized primarily by parkland, rail facilities and industrial uses. The plan proposes two industrially-zoned sites along the lower Harlem River and one site along the upper Harlem River for medium-density residential development, in addition to the previously approved Fordham Landing housing development and the previously proposed Harlem River Esplanade. Nearer to the confluence with the Hudson River, a city-owned, six-acre site zoned R6 is recommended for residential development.



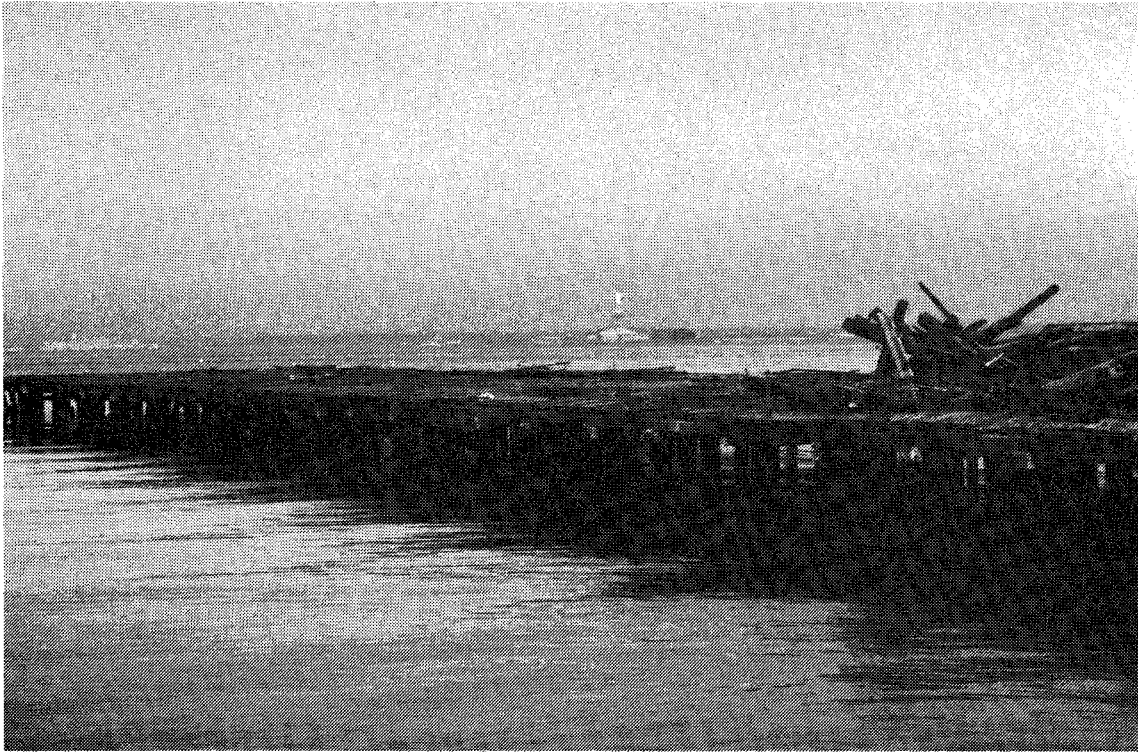
Highbridge Yards site on the lower Harlem River, Bronx

The East Bronx is characterized primarily by major parks and natural areas, lower-density residential development, and industrial zoning in the Westchester Creek area. Demapping the unbuilt Shore Drive and remapping the bulkhead closer to shore in the Throgs Neck area would enable some lower-density development while limiting development of lands under water. Along Westchester Creek, rezoning an industrially zoned site near Zerega Avenue is recommended. Already approved redevelopment projects in the East Bronx include lower-density residential development at Shorehaven and Castle Hill Estates. (Map 6.1 and Table 6.0)

BROOKLYN

The Brooklyn waterfront from Newtown Creek south to Owls Head Park is zoned for manufacturing. Retention of the manufacturing zoning is recommended for most of this reach. Several privately owned sites in Greenpoint and Williamsburg meet the criteria for reuse; medium-density residential and local retail development is recommended. Both the Brooklyn Piers and Fulton Ferry can be redeveloped. The State Parks Department has recommended reuse of the Empire Stores Warehouses. Proposals being prepared for the Port Authority-owned Piers 1-5 should consider the inclusion of housing, mixed uses, recreation, open space and marina development. Residential and commercial redevelopment is recommended for a portion of the Red Hook peninsula containing concentrations of vacant and underutilized public and privately owned land.

The waterfront from Owls Head Park south and west along the south shore of Brooklyn to Manhattan Beach is characterized by lower-density residential communities, parkland, beaches and waterfront uses with upland residential and commercial development. Sites on the north shore of Coney Island Creek and in Sheepshead Bay and Coney Island are recommended for redevelopment. Coney Island contains a considerable amount of vacant land, with opportunities for rebuilding the Steeplechase Amusement Park and developing housing. Sheepshead Bay offers opportunities for commercial development to complement its "fishing village" character.



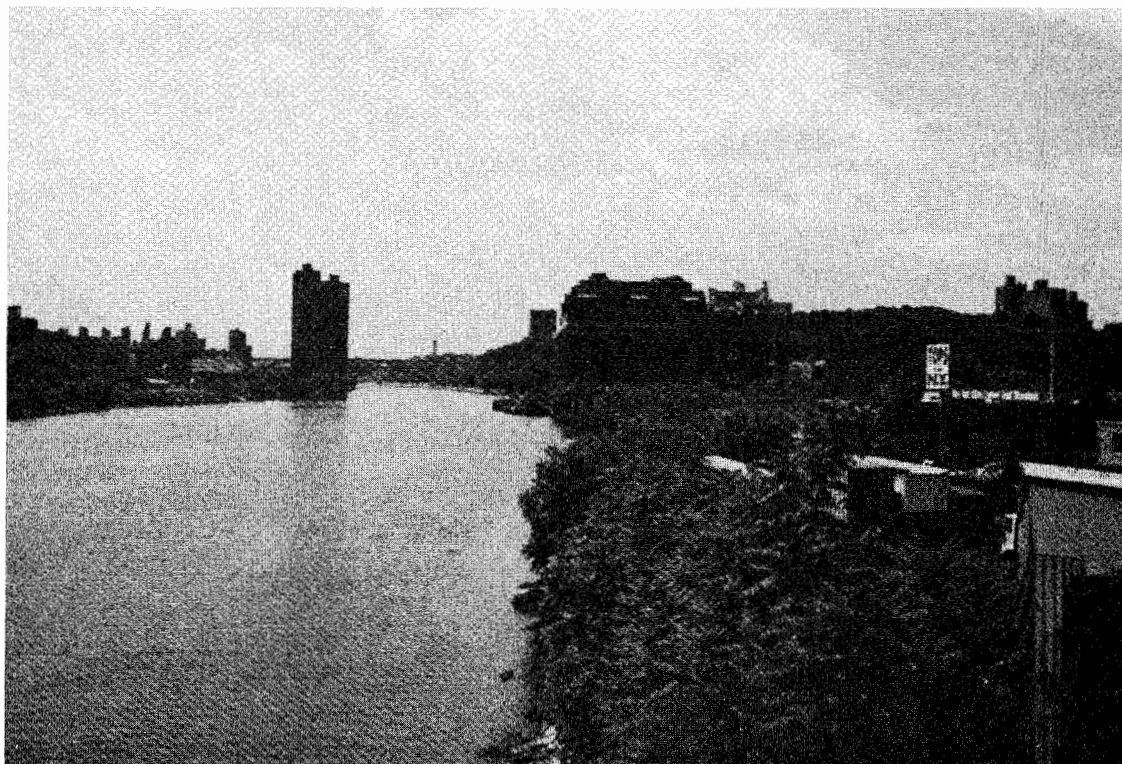
Planned Coffey Street recreation pier adjacent to proposed redevelopment area in Red Hook, Brooklyn

Most areas bordering Jamaica Bay are expected to remain as parkland and protected natural areas because of their significant natural value. A few upland sites can accommodate lower-density residential and retail development. These areas do not contain significant natural features and can be buffered from natural areas by careful site planning and public open space. Site planning guidelines would be established prior to disposition of these city-owned sites. Rezoning a portion of the Mill Basin manufacturing area to R5, C2 and C3 is recommended. This area is underutilized and adjacent to residential and commercial development. (Map 6.2. and Table 6.1.)

MANHATTAN

Consistent with the Manhattan Waterfront Plan recommended by the Manhattan Borough President, one of the primary goals of this comprehensive plan for Manhattan is to achieve continuous public access at or near the

water's edge. Because much of the available waterfront land is in public ownership, there are opportunities to close gaps in access and to encourage redevelopment, taking advantage of the waterfront's proximity to the CBD and high-density residential areas. DCP is participating in several planning efforts affecting Manhattan's waterfront, including the West Side Waterfront Panel, the Plan for lower Manhattan, and planning for Riverside South. Several redevelopment nodes and areas on the West Side have been designated to provide for a balanced mix of revitalization opportunities. The East Side and lower Manhattan offer locations for a mix of water-related and publicly oriented uses such as the reconstruction of the Whitehall ferry terminal with retail and restaurants, and a ten-year interim plan for the East Side Docks. The Plan for Lower Manhattan will make more specific recommendations for the long term use of this and other waterfront sites.



Sherman Creek area, Manhattan

The Upper Manhattan waterfront is characterized primarily by parks. At West 125th Street, the Urban Development Corporation is conducting feasibility studies for the proposed Harlem on the Hudson mixed-use project, with the waterfront edge designated for open space and recreation. On the Harlem River, the portion of the industrially zoned area north of Sherman Creek and south of 207th Street is recommended for residential or commercial reuse in conjunction with expanded recreation activities at Sherman Creek. (Map 6.3 and Table 6.2)

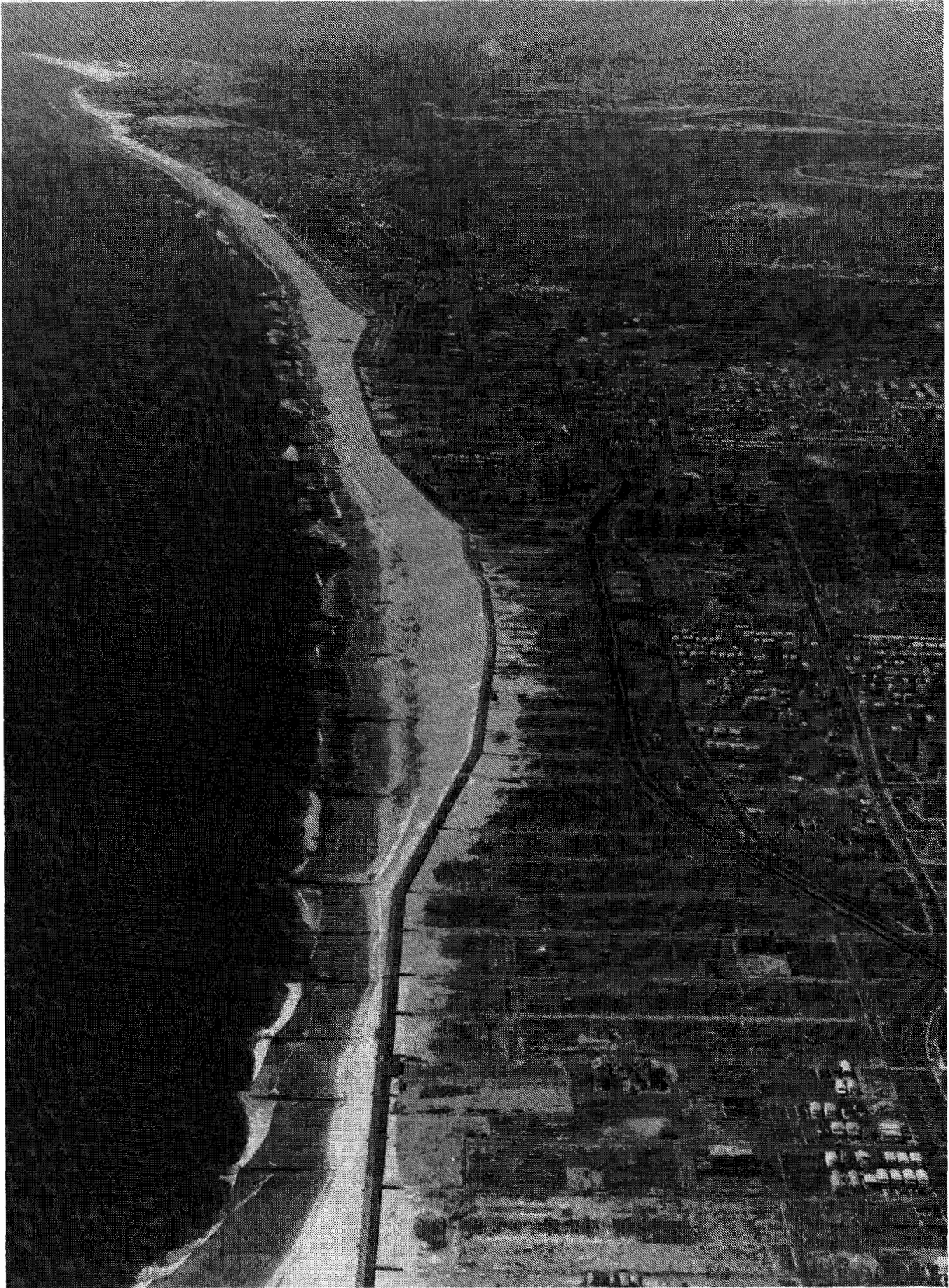
QUEENS

Approved projects on the East River waterfront in western Queens include the mixed-use Hunters Point project and the nearby East River Tennis Club project. The waterfront plan proposes residential reuse and parkland for sites north of these projects, and waterfront access which includes an esplanade along portions of the waterfront north to Pot Cove.

The Upper East River from Astoria to the Flushing River is characterized primarily by industrial uses and LaGuardia Airport. The underutilized M3-zoned area between the Flushing River and downtown Flushing presents opportunities to extend the downtown to the waterfront and provide open space.

The north shore of Queens extends from Flushing Bay to the city border. This area is characterized by lower-density residential development, parkland, important natural areas, and some industrial uses, primarily in College Point. Selected sites along this waterfront meet the criteria for reuse and could be redeveloped.

In addition to the approved residential Arverne project in the Rockaways, redevelopment and revitalization is recommended in the Edgemere section through the construction of affordable housing (primarily on city-owned land), support services, infrastructure improvements and parks. (Map 6.4 and Table 6.3)

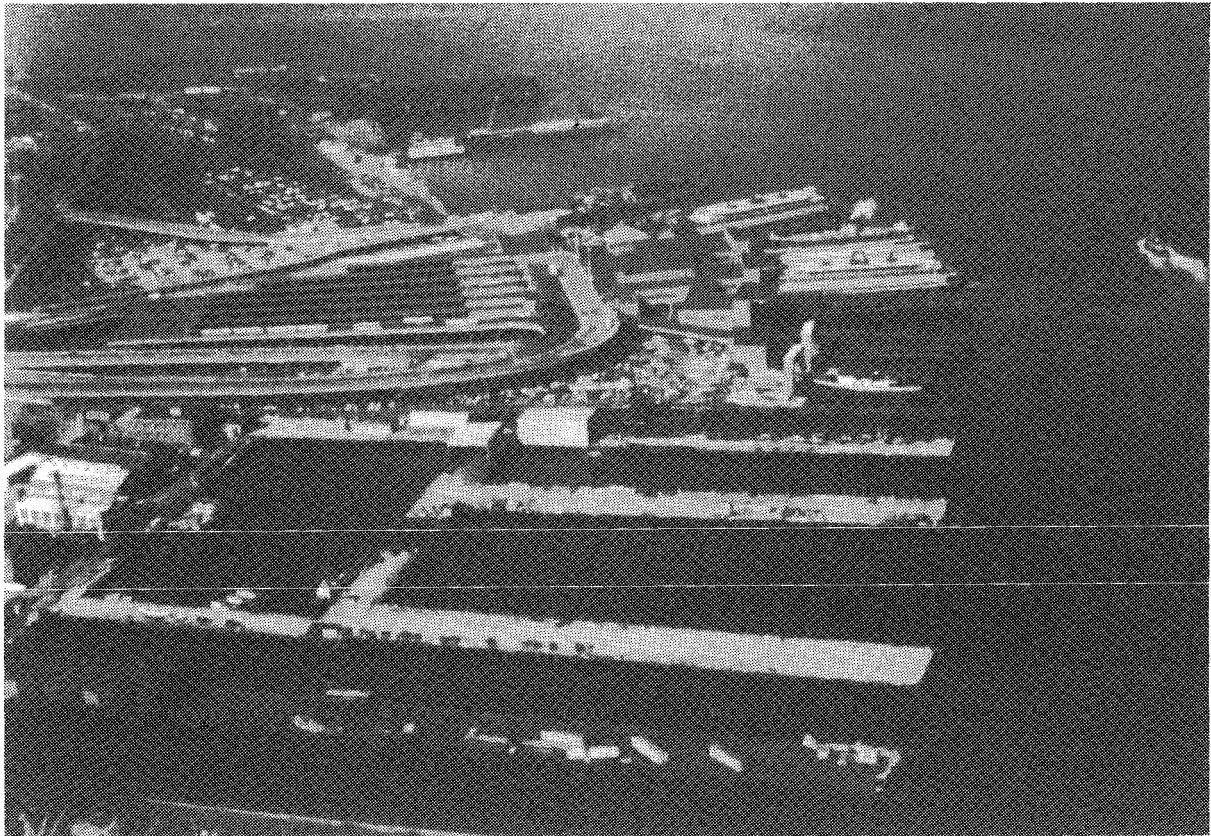


Arverne project site, Queens

STATEN ISLAND

The Staten Island waterfront consists of significant maritime and industrial areas along the Kill Van Kull, and environmentally sensitive and manufacturing zones along the west shore. The south shore is characterized by beaches, parkland and low-density residential development. Although most of the West Shore is recommended for continued manufacturing zoning or is designated wetlands, the waterfront in the vicinity of the Outerbridge Crossing south of the approved Harbor View project should be studied to determine if it is suitable for lower-density residential and water-related uses. New development along the South Shore would require investment in infrastructure or alternative storm water management systems.

Redevelopment is recommended for several areas on Staten Island's North Shore. Integrated development of transportation, residential, commercial and public spaces is recommended for the St. George Ferry Terminal and the adjacent Chessie Rail Yard Site. Some industrially zoned sites north and south of the terminal also are appropriate for reuse. (Map 6.5. and Table 6.4.)



St. George Ferry Terminal and Chessie Rail Yard site, Staten Island

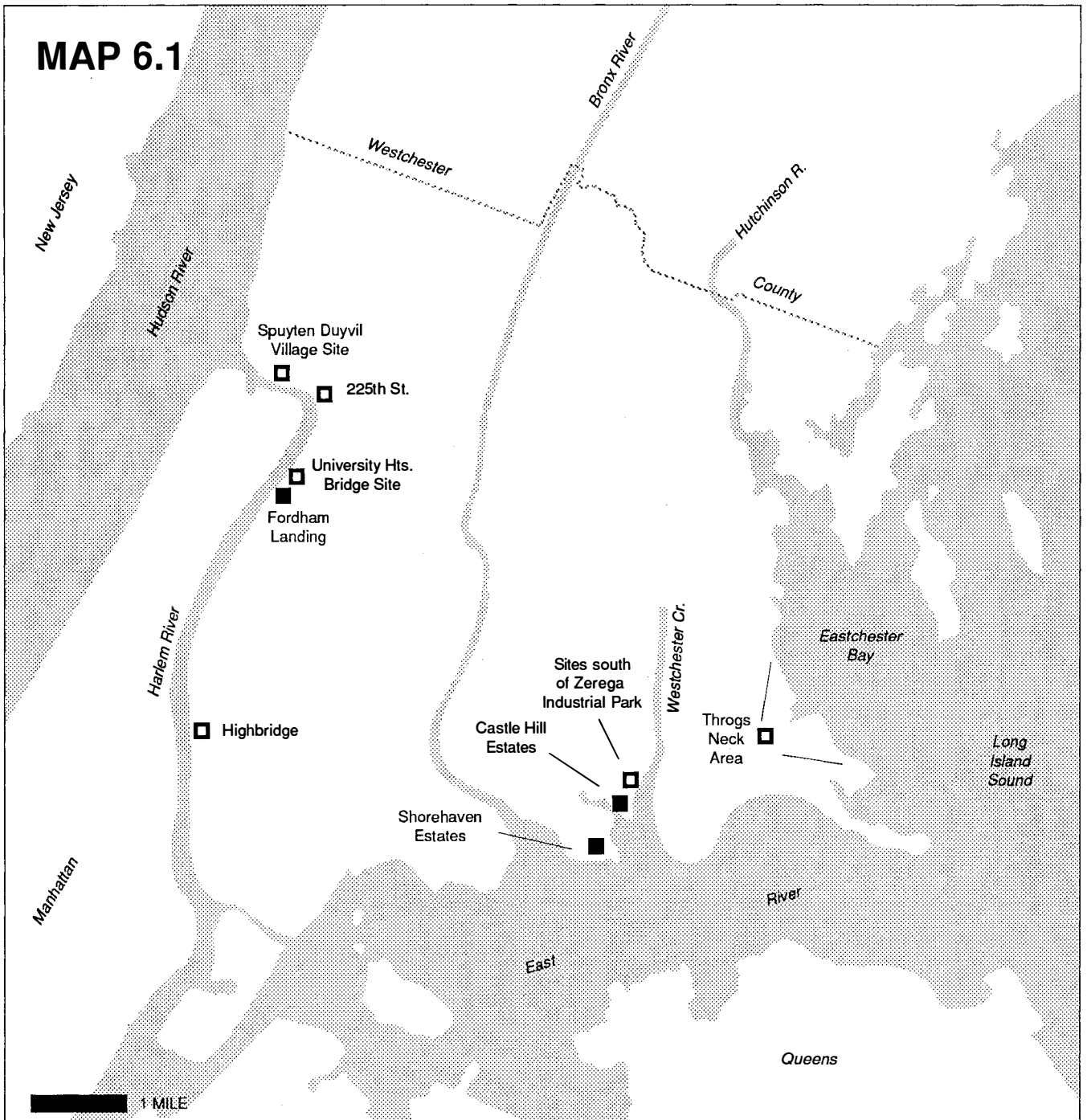
TABLE 6.0**BRONX****Existing Redevelopment Projects**

<u>PROJECT</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROJECT DESCRIPTION</u>
Fordham Landing	3.7	R7-2	Vacant	Private	Approximately 600 housing units planned with retail uses, open space, and waterfront esplanade.
Shorehaven/ Castle Hill Estates	66	R3-2	Partially built	Private	172 units (of planned 1183) completed at Shorehaven; 511 units planned for Castle Hill; public access included in both projects.

Proposed Redevelopment Opportunities

<u>SITE</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROPOSAL</u>
225th Street	2	M1-1	Auto-repair	Private	Rezone to permit medium-density residential.
University Heights Bridge Area	10	M1-1 M3-1	Vacant, industrial, commercial	Public and private	Rezone to permit medium-density residential.
Highbridge	17	M1-1	Railroad yard	Private	Rezone part of site to permit medium-density residential.
Spuyten Duyvil Village	6	R6	Vacant	Public	Develop for residential use; incorporate public open space, trails and waterfront access.
Sites south of Zerega Industrial Park	5	M1-1	Open storage/ Vacant	Private	Rezone to permit lower-density residential.
Throgs Neck Area	N/A	R2, R3, R4, C3	Vacant areas	Private	Demap Shore Drive and remap bulkhead line to permit lower-density development.

MAP 6.1



The Plan for the Redeveloping Waterfront / **The Bronx**

- approved redevelopment project
- proposed redevelopment opportunity

TABLE 6.1

BROOKLYN

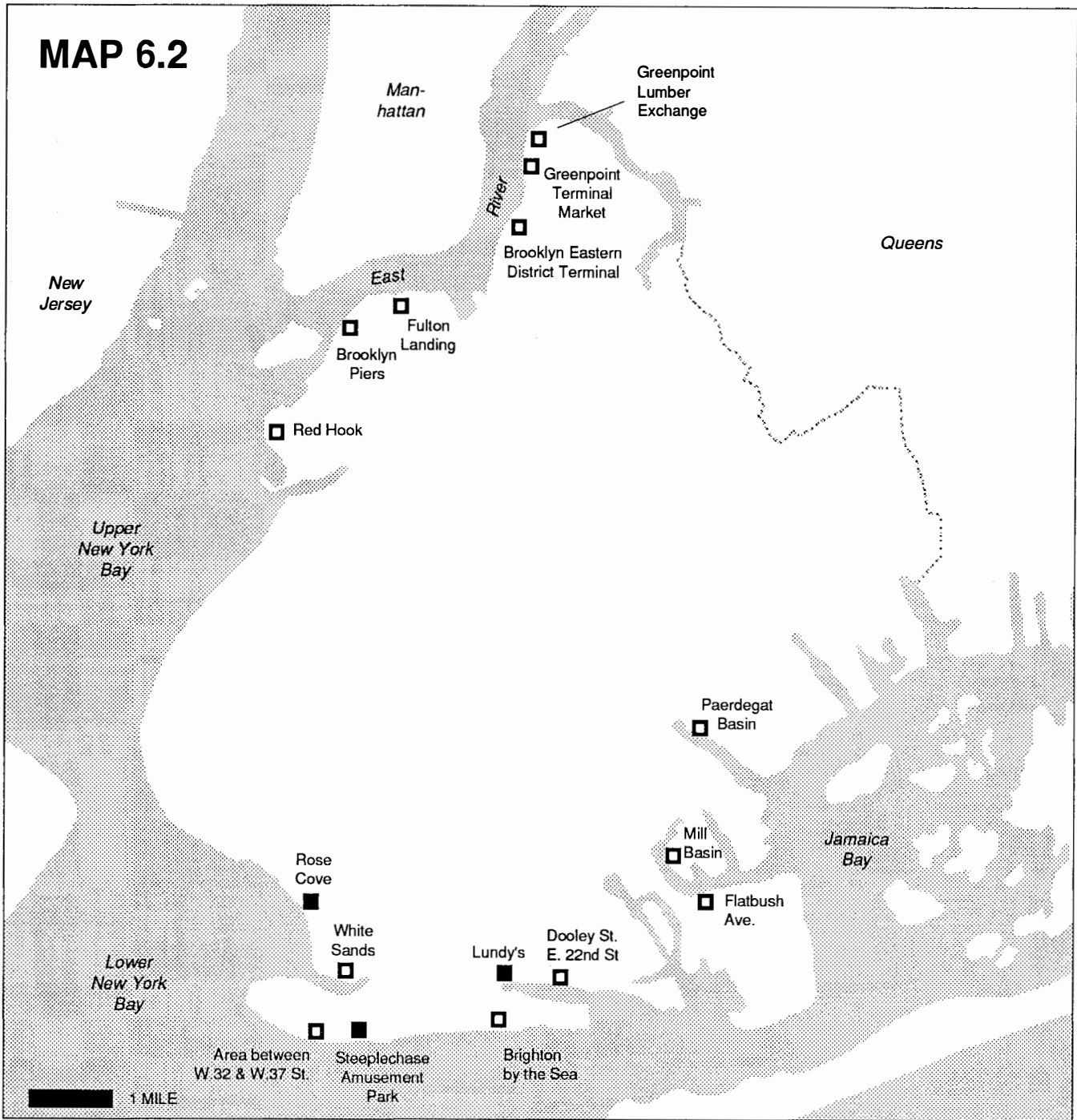
Existing Redevelopment Projects

<u>PROJECT</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROJECT DESCRIPTION</u>
Rose Cove	24	C3	Partially built	Private	60 units in two 4-story buildings and 87-slip marina completed. Plans for 70 additional units and a clubhouse.
Lundy's, Sheepshead Bay	0.9	R5, C2-2'	Vacant building	Private	Plans for restaurant and/or commercial uses in 3-story building.
Steeplechase, Coney Island	23	C7	Vacant	Public and private	Plan for development of Steeplechase Amusement Park.

Proposed Redevelopment Opportunities

<u>SITE</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROPOSAL</u>
Greenpoint Lumber Exchange	31	M3-1	Lumber storage	Private	Rezone for residential reuse if the Lumber Exchange ceases operation.
Greenpoint Terminal Market Site	14	M3-1	Mostly vacant	Private	Rezone for medium-density residential and light manufacturing.
Eastern District Terminal Site	20	M3-1	Mostly vacant	Private	Rezone for medium-density residential and light manufacturing.
Red Hook between Van Brunt and Walcott Sts.	N/A	M1-1, M2-1, R5	Vacant and industrial	Public and	Rezone for residential and commercial uses; if feasible, reuse Van Brunt warehouses and associated properties.
Fulton Landing	15	M2-1	State Park and vacant buildings	Public	Support proposal for cultural, recreational and commercial uses.
Brooklyn Piers 1-5 (Brooklyn Harbor)	15	M2-1/Special Scenic View Dist.	Warehouses	Public and private	Develop for mixed uses: open space, housing, retail and marinas.
White Sands	10	R4 and unzoned	Vacant	Private	Zone unzoned land to R4; map C2 overlay for public marina; provide public access link to Dreier Offerman Park.
Emmons Ave. between Dooley and E. 21 Sts.	2.5	R5, C2-2'	Vacant and parking	Private	Redevelop for mixed-use including restaurants, retail and parking.
Area bet. W.32 and W. 37 Sts.	N/A	R5	Mostly vacant	Public and private	Develop strategy for housing redevelopment.
Brighton by the Sea	15	C3	Beach Club	Private	Rezone for medium-density residential, open space and public access.
Flatbush Avenue (Four Sparrows Marsh)	12	C3	Vacant	Public	Develop for lower-density residential; transfer adjacent 65-acre Four Sparrows Marsh property to DPR.
Mill Basin	48	M3-2, M2-1, M1-1	Mostly vacant	Private	Rezone to R5, C3, C2-1, and M1-2; map waterfront access.
Paerdegat Basin	60	R5, C3	Mostly vacant	Private	Develop site plan to permit low-density housing along street fronts, preservation of natural and buffer areas along basin, and continuous public access linked to existing parks; transfer wetlands to DPR.

MAP 6.2



The Plan for the Redeveloping Waterfront / **Brooklyn**

- approved redevelopment project
- proposed redevelopment opportunity

TABLE 6.2

MANHATTAN

Existing Redevelopment Projects

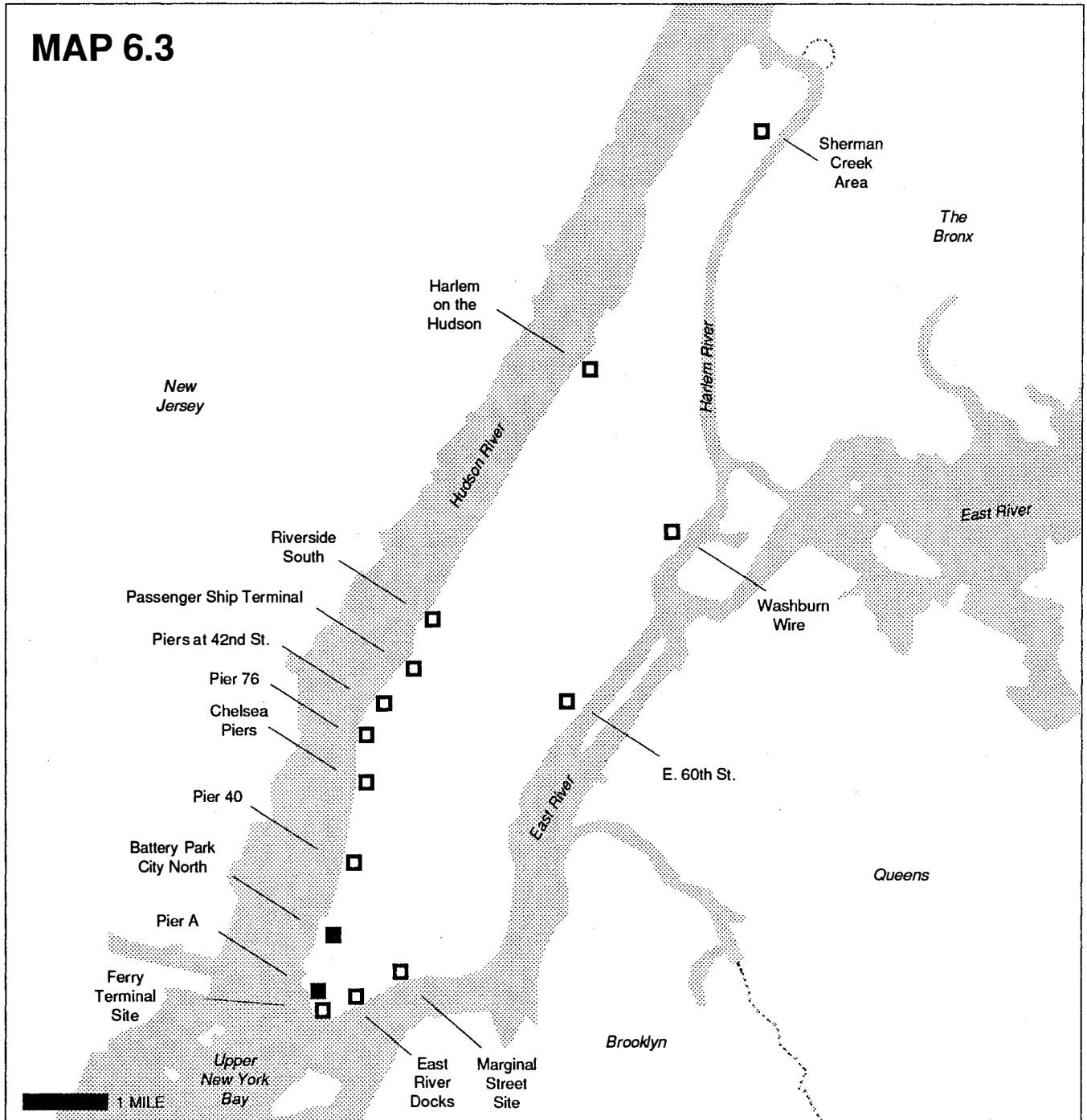
<u>PROJECT</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROJECT DESCRIPTION</u>
Pier A	1.14	C6-4	Fire Department Marine Station	Public	Renovation for restaurant, visitors' center and public access.
Battery Park City North	40	BPC	Partially built	Public	Housing, office space, hotel, local retail uses, open space and high school.

Proposed Redevelopment Opportunities

<u>SITE</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROPOSAL</u>
Former Washburn Wire Plant	4.5	M2-2 R7-2	Vacant	Public and private	Reuse as TV or film studios as proposed by EDC; explore reuse of pier for public access.
E. 60th Street	2	M3-2	Heliport, DOS	Public	Adapt former Marine Transfer Station for open-air pavilion, a restaurant, and/or other public uses.
East Side Docks	N/A	C5-3CR, C4-6	Vacant	Public	Include public-oriented uses, ferry services and a continuous esplanade, in accord with ten-year interim plan for piers 9, 11, 13, 14.
Marginal Street	1.03 ¹	C2-8	Vacant	Public	Develop barge restaurant.
Ferry Terminal	N/A	M1-4	Transportation	Public	Reconstruct with retail, restaurants. Improve pedestrian access.
Pier 40	16	M2-3	Parking and warehouses	Public	As proposed by West Side Waterfront Panel, develop public open space and new housing and / or commercial uses, with a maximum FAR of 3.0
Chelsea Piers	N/A	M2-3	Television studios, parking,	Public	As proposed by West Side Waterfront Panel, adapt or redevelop piers for public open space and housing with ground floor retail, or office space with design controls and a maximum FAR of 1.5
Pier 76	N/A	M2-3	Parking	Public	Proposed Hudson River Center Project would include hotel / meeting facilities.
Piers at 42nd Street	N/A	M2-3	Community facilities, recreational and cultural	Public	As proposed by West Side Waterfront Panel, redevelop to allow more cruise and charter boats, and permit restaurants, entertainment and visitors' facilities.
Passenger Ship Terminal	N/A	M2-3	Shipping	Public	Explore potential for redevelopment in conjunction with enhanced passenger ship terminal operations.
Riverside South	76	R8, R10, C3, C4-7	Mix of vacant land, buildings and parking	Private	Develop with residential, commercial, parkland, with densities and design requirements determined during planning process.
Harlem on the Hudson	18	M1-1, M2-3,	Vacant land and industrial uses	Public and Private	Develop the waterfront for open space and recreation. UDC is examining mixed-use alternatives for the upland.
Sherman Creek Area	N/A	M1-1 M3-1	Vacant and industrial	Public and private	Rezone area south of 207th St. for residential, commercial and recreation.

¹0.57 acres upland and 0.46 acres underwater.

MAP 6.3



The Plan for the Redeveloping Waterfront / **Manhattan**

- approved redevelopment project
- proposed redevelopment opportunity

TABLE 6.3

QUEENS

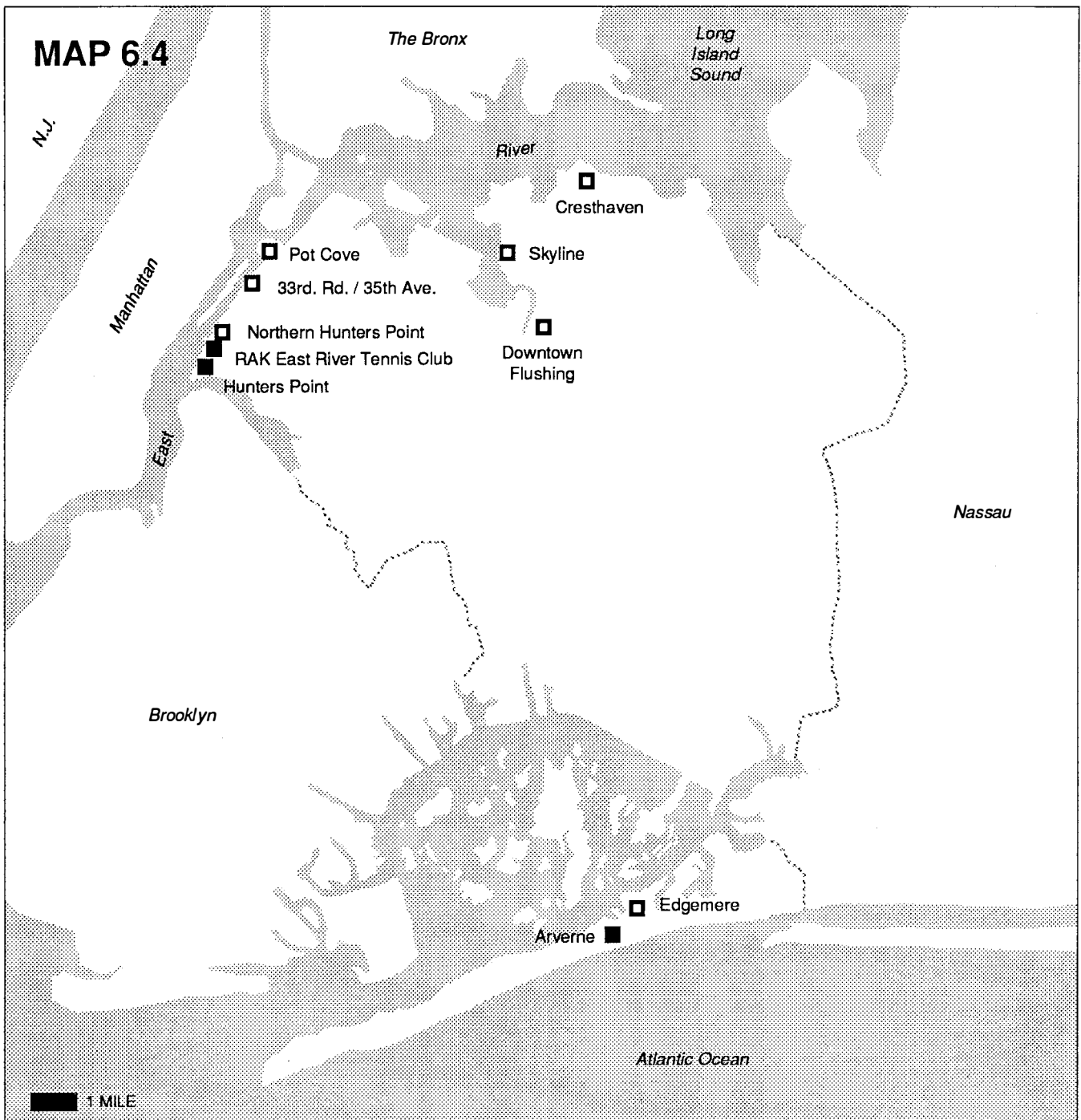
Existing Redevelopment Projects

<u>PROJECT</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROJECT DESCRIPTION</u>
Arverne	300	R6, C1	Vacant	Public	7500 housing units with retail, public open space, and community facilities.
Hunters Point	74	N/A	Vacant and industrial	Public and private	Planned development at densities equivalent to R9 and C6 includes 6,400 housing units, office space, retail space, and 18-acre park with waterfront esplanade.
RAK East River Tennis Club	6	R9, R7A, C2-5	Tennis club	Private	Approximately 960 housing units with local retail space and waterfront esplanade.

Proposed Redevelopment Opportunities

<u>SITE</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROPOSAL</u>
Cresthaven	16	R3-2, R2	Vacant	Private	Retain R3-2 and R2 west of Powell's Cove Boulevard to allow low-density housing; rezone waterfront area to C3 to permit marina and esplanade.
Skyline	2.5	M1-1	Vacant	Private	Rezone to C3 for commercial and public uses.
Downtown Flushing Waterfront	44	M3-1	Vacant, industrial, retail	Private	Guided by DCP'S Downtown Flushing Comprehensive Plan, redevelop for residential and commercial uses and public open space in the long-term; rezone to M1-1 as an interim measure.
Pot Cove waterfront	20	M1-1	Manufacturing and vacant	Private	As a long-term goal, rezone for medium-density residential and create an esplanade to link existing parks and access points.
33rd Road and 35th Avenue Sites	15	R5	Industrial	Private	Retain R5. Future development would be required to incorporate a waterfront esplanade.
Northern Hunters Point Waterfront	28	M1-3, M3-1	Vacant, industrial, commercial	Public and private	Rezone for medium-density residential with waterfront access and open space in accordance with DCP's Long Island City Framework for Development.
Edgemere URA	145 ¹	R4, R5, R6, C1-2, C2-4, C8-1	Residential and vacant	Public and private	Guided by DCP's Edgemere Neighborhood Land Disposition Plan, develop with affordable housing, public open space, and supporting services.

¹59 acres vacant



The Plan for the Redeveloping Waterfront / Queens

- existing redevelopment project
- proposed redevelopment opportunity

TABLE 6.4

STATEN ISLAND

Existing Redevelopment Projects

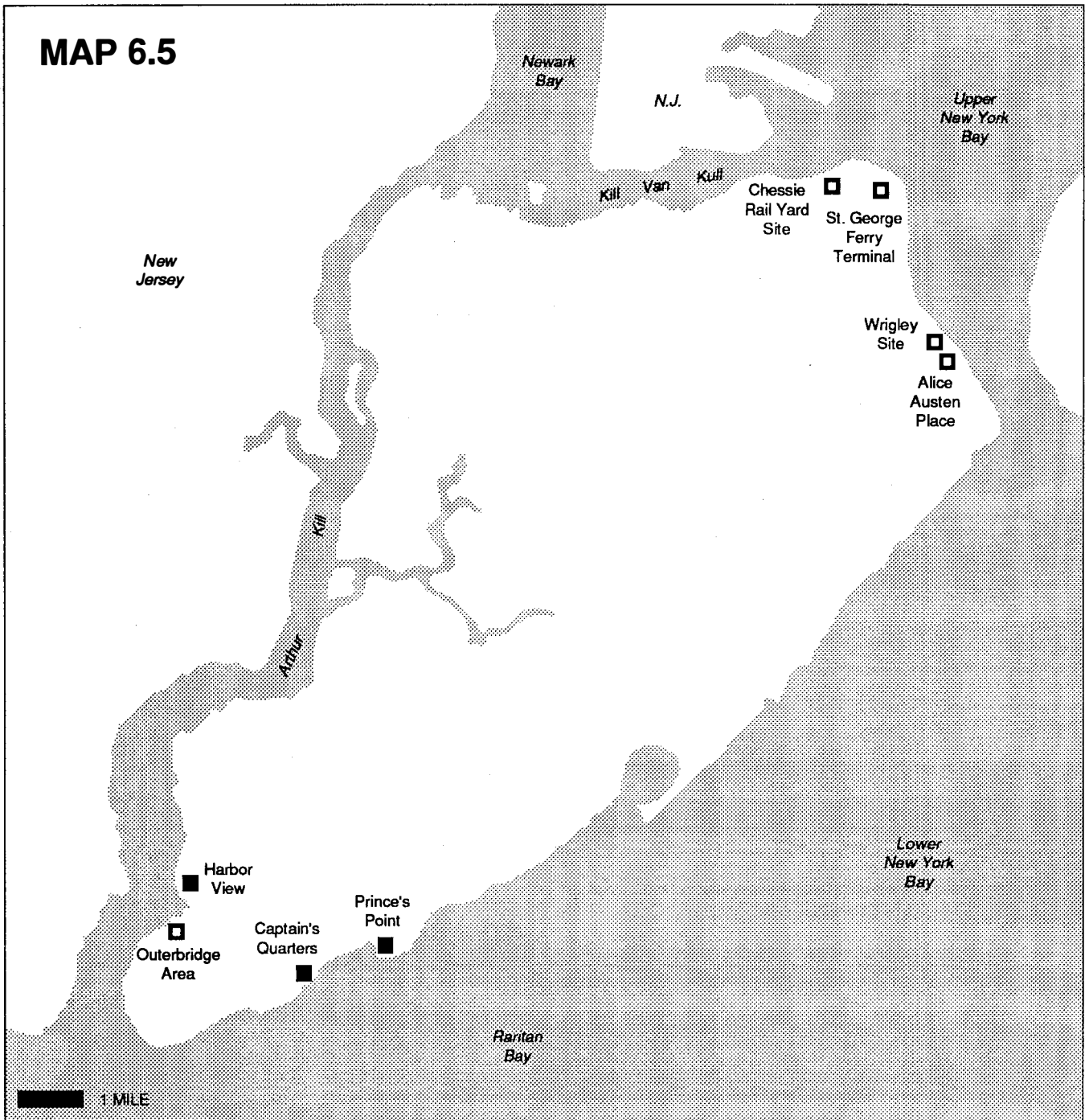
<u>PROJECT</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROJECT DESCRIPTION</u>
Prince's Point	35	R3-2, C3 ¹	Vacant	Private	396 housing units, a public esplanade, and a private sewage treatment plant.
Harbor View	13.5	M1-1 ¹	Vacant	Private	Banquet hall, restaurant, 50-room hotel, and a public esplanade.
Captain's Quarters	35	R3-2 ¹	Residential, vacant	Private	272 housing units with common areas, recreational facilities, and a private sewage treatment plant. The first phase is completed.

Proposed Redevelopment Opportunities

<u>SITE</u>	<u>ACRES</u>	<u>ZONING</u>	<u>USE</u>	<u>OWNERSHIP</u>	<u>PROPOSAL</u>
Chessie Site	29	M1-1	Parking	Private	Rezone for medium-density residential and commercial development with public access and recreation.
St. George Ferry Terminal	N/A	M1-1	Transportation	Public	Develop a plan for a new civic, transportation, and visitor center.
Wrigley Site	3	M3-1	Vacant	Private	Rezone to R4 for residential development with public access and accessory marina.
Alice Austen Place	9	M3-1, R6	Marine repair boat yard	Private	Redevelop for residential use with medical office space, public access and marina.
North Tottenville	N/A	M1-1, M3-1 ¹	Vacant and industrial uses	Private	Study waterfront area in the vicinity of the Outerbridge Crossing south of the planned Harbor View project for low-density residential and waterfront commercial uses.

¹Special South Richmond Development District

MAP 6.5



The Plan for the Redeveloping Waterfront / Staten Island

- existing redevelopment project
- proposed redevelopment opportunity



7 WATERFRONT ZONING PROPOSAL

When the 1961 amendments to the Zoning Resolution went into effect, shipping and other industrial uses occupied vast stretches of the New York City waterfront. Much of the rest was designated as parkland or was developed with low-density housing.

Consequently, the drafters of the amendments designated a full one-third of the waterfront for manufacturing uses. They experimented with new zoning techniques in many residential and commercial areas, but they saw little need for change on a waterfront whose uses appeared fixed. The vast shifts in waterfront use and the public interest in waterfront could not be predicted. Today, the waterfront has outgrown the Zoning Resolution, which has become an obstacle to the evolution of waterfront uses and public policy.

As port-related activities declined, some waterfront districts became vacant and derelict. Public and private developers sought, and often obtained, rezoning and other approvals for residential or commercial development on specific sites. The Resolution did not provide standards against which these applications could be judged or mechanisms for achieving evolving public purposes. Special permits, restrictive declarations, the creation of special zoning districts, and the creation of public authorities such as the Battery Park City Authority were used in the absence of adequate zoning tools.

The main elements of the New York City Zoning Resolution are use groups that describe the activities permitted in a given zoning district; regulations controlling the bulk (height and setback, open space, yards) and parking regulations applicable to each zoning district; and maps showing zoning district locations. In addition to generic zoning districts, the ordinance describes 34 special districts which are overlaid on the generic districts and

contain additional regulations specific to the districts. Regulations may be as-of-right or discretionary.

The 1961 Zoning Resolution could not address the issues such as public access to the waterfront, visual corridors to the water, floating structures, design controls for waterfront construction, the desirability of fostering water-related uses, and the desirability of mixing water-related uses with other kinds of development. After studying zoning and its relation to the waterfront, DCP concluded that nothing short of a series of innovative changes in the zoning text could provide the tools to plan for new waterfront development.

PROPOSED WATERFRONT ZONING REGULATIONS

The Comprehensive Waterfront Plan proposes zoning text changes to regulate waterfront development. The proposed text would permit a range of development options that would protect and enhance the unique qualities of the waterfront. It would promote maritime uses by expanding the locations in which they are permitted and exempting them from stringent regulations. The proposed zoning amendments would apply primarily to higher-density residential, commercial and mixed-use developments on waterfrontage blocks.

Many specific recommendations described in Chapters 3 through 6 can be implemented through generic changes which would be triggered primarily when development occurs. These changes would:

- provide opportunities for increased public access to the waterfront, including improved linkages to the water's edge from upland communities, links between existing public spaces on the waterfront and design guidelines for the public spaces at the water's edge;

- preserve existing views and provide additional visual access to the waterfront;
- expand recreation opportunities on the waterfront for new residents and existing communities;
- expand opportunities for siting ferries and other waterborne transportation;
- allow a greater mix of uses in waterfront developments and encourage uses that are public in nature and activate the waterfront;
- exempt water-dependent uses from new regulations;
- define floating structures and develop regulations for their location and use; and
- develop new bulk controls for developments along the waterfront that would be compatible with adjoining neighborhoods or create a new context for waterfront communities; and continue to allow for buildings using cost-effective construction techniques.

Because most of the city's waterfront is parkland, zoned for industrial use, or developed with low-density housing, many of the proposed zoning text changes would become applicable only when areas were rezoned or public land was disposed of for residential or commercial development.

In proposing waterfront zoning reform, care has been taken to establish specific standards for most development. Wherever possible, as-of-right standards are preferred because they make development more predictable, streamline the regulatory process, and minimize the costs of development and administration of the regulations. Discretionary reviews are prescribed when warranted.

To implement the recommendations of the Comprehensive Waterfront Plan, a new chapter on waterfront zoning would be added to the Zoning Resolution. Keeping the waterfront

rules in one chapter would make the rules easier to understand and would simplify their administration. Revisions and elaborations are needed in basic definitions, definitions of new uses, categorization of uses, public access requirements, parking requirements, and adapting established bulk controls to the unique characteristics of the waterfront.

WATERFRONT AREA

To establish waterfront zoning regulations, it is necessary to define the area within which they would be applicable. The waterfront area would include all the full zoning blocks which are intersected by a line measured 800 feet upland of the shoreline.

- The seaward boundary would be the pierhead line or, where no pierhead line exists, the mean high water line¹ (the shoreline).
- The upland boundary would be the upland perimeter of all blocks intersected by a line 800 feet from the mean high water line.

The upland boundary would be set using the 800-foot distance because it is the length of most New York City blocks and would establish a maximum distance for preserving visual corridors to the waterfront. Zoning regulations are built around the concept of the block, which is an area bounded by streets, public parks, railroad tracks or the pierhead line. The entire block would be included if any portion of it fell within the 800-foot line to ensure that regulations were applied consistently up to the next intervening public way. (Figure 7.1)

Narrow tributaries would not be viewed as having waterfronts for zoning purposes; only waterways that are at least 100 feet in width at mean high water would be included. Where inlets or streams narrow to less than 100 feet, waterfront regulations would be inapplicable from that point upstream even if the waterbody widened again.

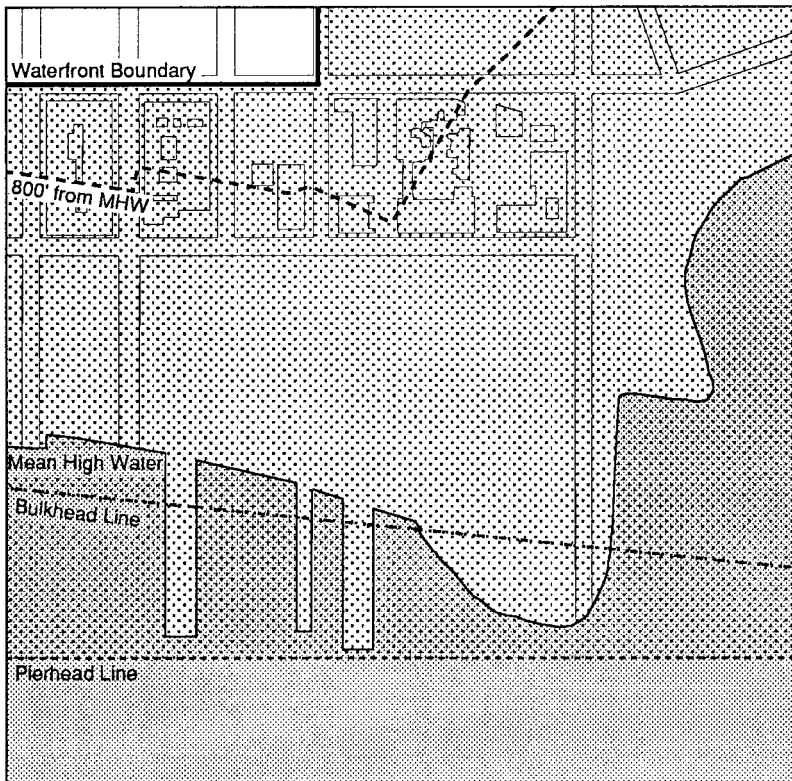
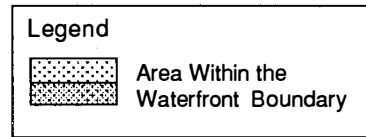


FIGURE 7.1
Waterfront Area



The proposed bulk controls and generic public access requirements would apply only to the waterfrontage block, which is the block between the water's edge and the first upland public street. Other regulations, such as waterfront access plans, would apply throughout the waterfront area.

ZONING LOTS

Waterfront Zoning Lots

Most of the city is divided into blocks of relatively uniform dimensions. Blocks are subdivided into zoning lots. The Zoning Resolution's height, setback and floor area regulations work with these relatively standardized units of blocks and zoning lots.

This system does not work well along the waterfront because zoning lots there often include a high proportion of land under water, which generates floor area just as the land above water does. Because the underwater floor area can be applied to construction on the upland portion of the site (subject to certain bulk limitations), new buildings on the waterfront might be disproportionately larger than those in similarly zoned upland neighborhoods.

To regulate the use of underwater lots, the Resolution would be amended to define waterfront zoning lots as having two portions, divided by the bulkhead line. (Figure 7.2)

- Upland Lot ("A" in Figure 7.2): The portion of a waterfront zoning lot located landward of the bulkhead line (or shoreline if there is no bulkhead line) would be defined as the upland lot. Any land already extending beyond the bulkhead line would be included in the upland lot.
- Seaward Lot ("B" in Figure 7.2): The portion of a waterfront zoning lot located seaward of the bulkhead line (or shoreline if no bulkhead line exists) would be defined as the seaward lot.

The bulkhead line has historically been the seaward limit for landfill and the limit to which waterfront property owners can develop upland uses. Use of underwater property beyond the bulkhead line has traditionally been limited to riparian uses.

Absence of Mapped Streets

Large zoning lots that are not intersected by streets sometimes extend along the waterfront for great distances, in some cases for thousands of feet. Considerable floor area can be aggregated on these large lots, which may result in the construction of excessively large buildings that are out of context with similarly zoned upland neighborhoods.

- The waterfront zoning proposal would provide for public access and visual corridors at intervals along the waterfront. Large properties would be broken up into portions, each of which would be subject to height and setback controls along all frontages. Aggregation of floor area would be limited, and the scale of potential development would be controlled.

Subdivision of Zoning Lots

The proposed requirements for public access would not apply on small sites. Under current zoning, zoning lots could be subdivided into lots small enough to effectively evade the proposed public access requirements. The waterfront zoning proposal would protect against this possibility with the following provision:

- To subdivide zoning lots within the waterfront area, the chairman of the City Planning Commission would have to certify that the lots resulting from the subdivision would meet the public access requirements of the undivided lots.

CALCULATING FLOOR AREA ON WATERFRONTAGE LOTS

Under current zoning regulations, the entire area of a waterfront lot, including underwater land and overwater structures (piers and platforms) up to the pierhead line, is used in calculating the floor area. The proposal would

change the way development rights are generated by excluding underwater land beyond the bulkhead line from floor area calculations. The bulkhead line would be the boundary between the upland and seaward portions of the lot, as shown in Figure 7.2. In those few places where land exists beyond the bulkhead line, it would be included in the upland lot and would continue to generate floor area. (Figure 7.3.) By reducing the area from which the FAR could be calculated, the proposal would protect the waterfront from overly dense and out-of-scale development on the upland lot.

- Full development rights would be generated by the upland portion of the zoning lot (A). No transfer of bulk would be permitted to the seaward lot.
- On the seaward lot (B), development rights would be generated only by piers and platforms. Transfer of development rights would be permitted only from existing overwater structures to the upland lot. The transferred development rights could not increase the permitted FAR of the upland lot by more than 20 percent.

DEFINITION OF WATER-DEPENDENT AND WATERFRONT-ENHANCING USES

One of the goals of the Comprehensive Waterfront Plan is to promote the use of the waterfront for activities that need to be at the water's edge or that enliven it. The current Zoning Resolution however, restricts water-related uses to a narrow range of zoning districts. The proposed waterfront regulations would permit and encourage water-related activities in more zoning districts. The proposal would divide all uses into three categories based on their relationship to the water, would make inclusive lists of water-dependent uses and waterfront-enhancing uses, and would develop regulations for each separate category.

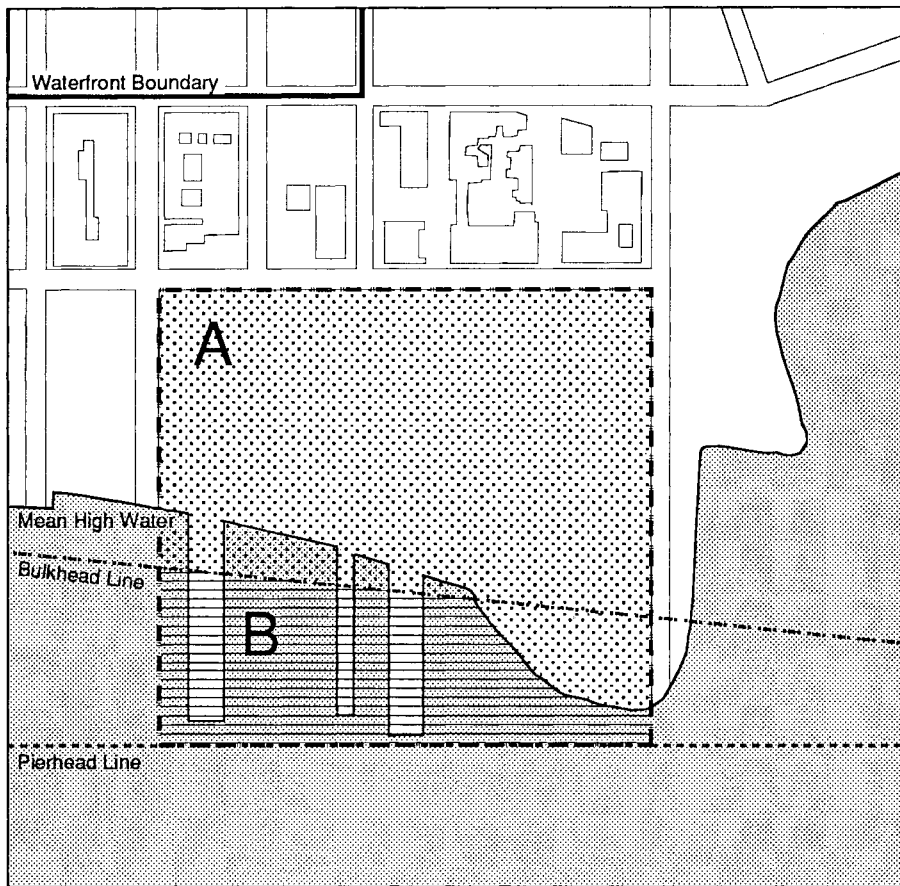


FIGURE 7.2
Waterfront Zoning Lot

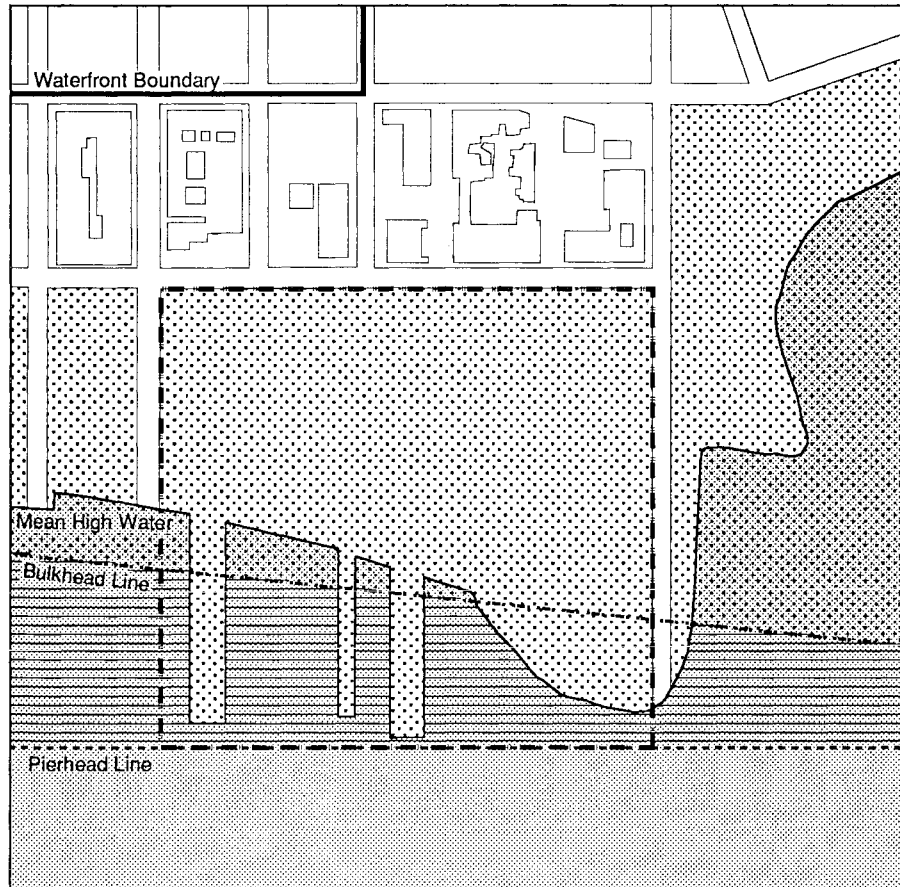
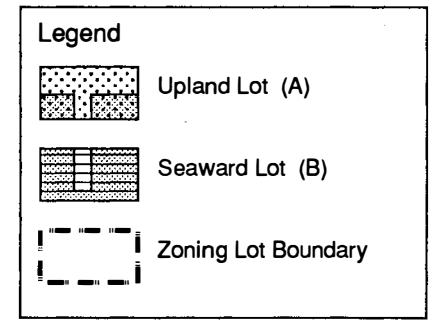
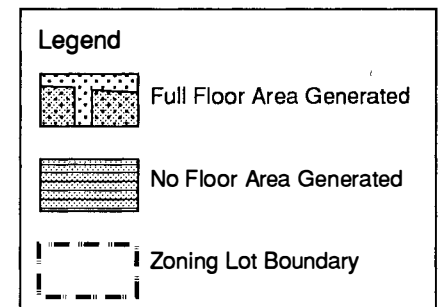


FIGURE 7.3
Calculating Floor Area on a Waterfront Zoning Lot



- **Water-dependent uses** would be those that require direct access or proximity to marine or tidal waters in order to function. Such uses include marinas, boat repair, shipping or seaplane bases, and recreational facilities such as beaches or fishing piers. A number of industrial and semi-industrial facilities in Use Groups 16, 17 and 18 use the water for transport of materials and products and would be included in this category as would airports and heliports, which need to be adjacent to the water for reasons of safety. (Table 7.1)
- **Waterfront-enhancing uses** would be primarily recreational, cultural, retail or entertainment uses whose location on the waterfront would add to public use and enjoyment of the water's edge. Waterfront-enhancing uses include recreation centers, museums, fairs and amusement parks, swimming pools, skating rinks, restaurants and hotels. (Table 7.2)
- **Non-water-related uses** would include all uses that do not require a waterfront location and whose location at the water's edge would not automatically add to public use or enjoyment of the waterfront. Examples of these uses are parking fields, manufacturing or warehouse facilities unrelated to port activity, residences and offices.

Table 7.1
WATER DEPENDENT USES
Uses That Are Functionally Dependent
on the Water

1. Waterfront shipping
2. Boat or ship building and repair (under 200 feet)
3. Boat or ship building and repair (over 200 feet)
4. Boat or ship rentals, open or enclosed
5. Docks for small pleasure boats, commercial
6. Boat or ship fuel sales restricted, open or enclosed
7. Boat or ship fuel sales -unrestricted, open or enclosed
8. Marine Transfer Stations
9. Boatels
10. Commercial beaches
11. Boat or ship mooring (new)
12. Ferry stops (new)
13. Water taxi stops (new)
14. All other uses in Use Groups 17 & 18 that ship or receive materials by water
15. The following Use Group 16 uses that ship or receive materials by water
 - Warehouses
 - Wholesale with no limitation
 - Public transit yards
 - Trucking terminals
16. Sewage Disposal Plants
17. Seaplane bases
18. Heliports
19. Airports

Table 7.2
WATERFRONT-ENHANCING USES
Uses That Are Commercial in Nature and Draw People to the Waterfront

- | | |
|---|---|
| 1. Eating or drinking without restrictions | 29. Tourist cabins |
| 2. Eating or drinking establishments
- entertainment restriction | 30. Animal exhibits |
| 3. Eating or drinking establishments
without entertainment/dancing restriction but limited to hotels | 31. Clubs-non commercial except outdoor pools |
| 4. Bicycle rentals | 32. Clubs with outdoor pools more than 500 feet from lot line |
| 5. Refreshment stands - drive-in | 33. Clubs with outdoor pools less than 500 feet from lot line |
| 6. Refreshment stands | 34. Community centers |
| 7. Dance halls | 35. All other uses in Use Groups 6A & C |
| 8. Museums | 36. Camps, overnight or outdoor day |
| 9. Art galleries | 37. Athletic goods stores |
| 10. Commercial galleries | 38. Fishing tackle or equipment rental |
| 11. Arenas, auditorium-stadiums | 39. Boat showrooms or sales with no repair |
| 12. Arenas, auditorium or stadiums
- limited
- unlimited | 40. Boat showrooms or sales of boats less than 100 feet in length |
| 13. Theaters - limited and unlimited | 41. Boat storage, repair, or painting including the incidental sale of boats, boat parts or accessories with restrictions on boat size and setbacks |
| 14. Skating rinks - indoor | 42. Sail-making establishments |
| 15. Recreation centers | 43. Ice vending - coin operated |
| 16. Ice skating rinks - outdoor | 44. Ice vending - (large scale) |
| 17. Outdoor roller rinks | |
| 18. Swimming pools - commercial | |
| 19. Stables for horses | |
| 20. Tennis - outdoor and indoor | |
| 21. Miniature golf | |
| 22. Carnivals - temporary | |
| 23. Fairs - temporary | |
| 24. Children's amusement parks (small) | |
| 25. Children's amusement park (large) | |
| 26. Outdoor theaters - unlimited | |
| 27. Hotels - transient | |
| 28. Motels | |

WATERFRONT USE REGULATIONS

As portions of the waterfront have been rezoned for residential or commercial redevelopment, current zoning regulations have been an obstacle to the inclusion of water-dependent and waterfront-enhancing uses, especially in the types of mixed-use developments contemplated by the Comprehensive Plan.

Zoning regulations include most waterfront activities under the category of waterfront shipping in Use Group 17 and limit their location to manufacturing districts. Uses such as docking, repair and storage for smaller boats are categorized as recreational boating in Use Group 14 and are limited to C2, C3, C7, C8 and M districts. The proposal would extend water-related activities to a wider range of zoning districts.

The Zoning Resolution has not been amended to keep up with changes in activity along the waterfront. For example, when the Resolution was adopted, most docking facilities were full-service commercial marinas. Many of the newer and smaller facilities, which involve less repair, storage, or vessel service, could be compatible with a range of residential and commercial uses where they are not now permitted. In recent years, there has also been a trend toward smaller docking facilities for ferries and other forms of waterborne transportation.

The waterfront zoning proposal includes changes and additions to the Zoning Resolution that reflect the prospects of the waterfront.

- Waterfront shipping, currently listed in Use Group 17, would be broken down into several categories based on intensity and type of use so it can be located in a wider range of zoning districts.
- The regulations for large-scale residential developments (LSRDs) would be modi-

fied to encourage mixed residential and water-related uses, in part by making bonus provisions applicable in C3 districts. C3 districts are waterfront commercial districts that permit commercial marinas and also permit residential use subject to the requirements of R3-2 districts. In R3-2 districts, a development is eligible for floor area and density bonuses in exchange for superior site plans and amenities. These bonuses are not available, however, in C3 districts. To obtain them, developers currently must seek rezoning to a residential district, thereby eliminating desirable commercial uses that could enliven the waterfront.

- The listing of docks for pleasure boats would be expanded to include moorings. Pleasure boat docking would remain in Use Group 14 and would continue to be permitted in C2, C3, C7, C8 and M districts.
- Marinas currently are permitted as accessory uses in residential developments if they are used exclusively by the residents. The regulations would be modified to make accessory boat slips available to non-residents as well. The proposal would:
 - allow up to 40 percent of accessory slips to be rented to non-residents;
 - require one parking space per non-resident slip (except in Manhattan CDs 1 through 8 where parking is not required) in a separate parking area adjacent to the slips; and
 - allow accessory boat slips to be located off the zoning lot if both lots are under the same ownership and are or would be contiguous but for a street.

- Docking facilities for ocean-going passenger vessels, currently permitted only in M districts, would be allowed in central business district (C6) zones by special permit and would continue to be allowed in M districts as-of-right. Docks that can accommodate ocean-going vessels currently are located in M districts only. If, however, some M districts were rezoned to C6, oceangoing passenger vessels would become non-conforming uses; new ones would not be permitted. These ships could be compatible with other uses permitted in C6 districts, which permit mid- to high- density development. A special permit would be granted only after review of the transportation impacts.
- Docking facilities for sightseeing and excursion vessels would be newly permitted in a variety of commercial districts. The permissible capacity of the docking facilities would be proportionate to comparable uses now permitted in these districts. In low-density C2 districts, docks would be equated with 200-seat restaurants. In medium-density commercial districts, docks would be equated with large restaurants. In high-density zones, docks would be equated with arenas and auditoriums holding up to 2,500 persons. Under the new regulations,
 - docking facilities with an aggregate capacity of not more than 200 persons per zoning lot would be allowed as-of-right in local retail/ service and waterfront districts (C2 and C3);
 - docking facilities with an aggregate capacity of not more than 500 persons per zoning lot would be allowed as-of-right in regional shopping, heavy commercial and amusement districts (C4-1 - C4-4; C7; C8-1 - C8-3); and
 - docking facilities with an aggregate capacity of not more than 2,500 persons per zoning lot would be allowed as-of-right in high-density commercial districts (C4-4A - C4-7; C5; C6; C7; C8-4).
- Docking facilities for ferries would be permitted in a wider range of zoning districts to promote this form of public transit. Ferry docks would be permitted as-of-right in all commercial and manufacturing zones without size limitation. Special permits would be required in residential districts.
- Parking requirements for docks, for sightseeing and excursion vessels and for ferries would be based largely on proximity to mass transit and type and density of use. Parking requirements would be relatively lenient in high-density districts, where mass transit is more likely to be used than the automobile. Parking would be required in all zones except Manhattan CDs 1 through 8. Whether or not parking would be required, an off-street area for dropping off and picking up passengers would have to be provided. Parking requirements for docking facilities would generally be based on present requirements for places of assembly, taking into account the fact that passengers from several vessels might be using one parking facility at the same time.

A special permit would be required to waive or modify the parking requirement. In evaluating a special permit application, the City Planning Commission would look at the availability of mass transit, other transportation services such as vans, and available capacity in other parking facilities.

**Table 7.3
PARKING FOR DOCKS FOR
SIGHTSEEING AND EXCURSION
VESSELS AND FERRIES**

Zone	Parking Requirement as % of Maximum Dock Passenger Load*
Highest parking requirement (C2-1, C3, C4-1)	25% (approx. 1 per 4 pass.)
High parking requirement (C2-2, C4-2, C8-1)	19% (approx. 1 per 5 pass.)
Medium parking requirement (C2-3, C4-3, C7, C8-2)	13% (approx. 1 per 8 pass.)
Low parking requirement (C2-4, C4-4, C8-3)	13% (approx. 1 per 12 pass.)
Lowest parking requirement (C2-5 through C2-8; C4-4A through C4-7; C5; C6; C8-4)	None required

* Dock passenger load would be the total passenger capacity of all the vessels served by the dock.

FLOATING (IN-WATER) STRUCTURES

Floating structures raise unique planning problems, not least the problem of definition. Zoning requires that most uses be located in buildings. Buildings are defined as structures that are permanently affixed to the ground. Floating structures do not meet the definition unless they are supported by cradle foundations built in the water. Cradle foundations increase shading, impede water flow and add to the cost of floating structures.

The proposal would define floating structures and the uses permitted to locate on them. Water-dependent uses would be permitted as-of-right, as would some small waterfront-enhancing restaurants and cultural facilities. All other uses would be permitted only by special permit.

- A floating structure would be defined as any vessel, barge or water-supported structure that is intended to remain moored or attached to a pier, wharf, dock, bulkhead or floatation system for at least 120 consecutive days. Temporary or seasonal floating structures docked or moored for less than 120 consecutive days would not be defined as floating structures and would be treated as navigational vessels.
- Floating structures for non-water-dependent uses would not be permitted to cover more than 50 percent of the land under water on any given zoning lot. Piers and platforms on the lot would be included in the computation. Water-dependent uses on floating structures would not be subject to coverage regulations. The height of floating structures would be limited by zoning district regulations. (Table 7.4) Floating structures existing prior to the adoption of these regulations which exceed the coverage and height regulations would be considered non-complying and as such would be allowed to remain and relocate.
- Waterfront-enhancing uses would be allowed on floating structures by special permit, except for restaurants and cultural facilities covering less than 5,000 square feet of water, which would be allowed as-of-right. The special permit finding would require that the design of the development significantly enhance public access to and use of the waterfront.
- Non-water-related uses would not be allowed on floating structures, except for power plants and government facilities that would be allowed by special permit subject to a CPC finding that there was no reasonable way to site the use without a floating structure.

- All developments on floating structures would have to meet the following standards:

Public access: Where public access was required, it could be provided either on the floating structure or elsewhere on the zoning lot.

Parking: The requirements for accessory off-street parking and loading berths would be determined by applicable zoning district regulations.

Permits: To facilitate CPC review, all applications for state and federal permits and other approvals should be filed concurrently with the application to the Department of City Planning.

Signs: No advertising signs would be permitted. Business signs would be permitted pursuant to applicable district regulations.

Visual access: Floating structures would not be permitted to block a required visual corridor except by special permit.

Height: Water-dependent uses in M-zones would be exempt from height restrictions. Other uses permitted as-of-right on a floating structure would be limited to a height of 23 feet from the waterline. The proposed height limits for special permit development are shown in Table 7.4. The height could be increased to the maximum only if a ship or boat were being converted to a floating structure.

Table 7.4
HEIGHT CONTROLS FOR DEVELOPMENTS REQUIRING A SPECIAL PERMIT
ON FLOATING STRUCTURES

Residential	TYPICAL ZONES*		Height Standard	Max. Ht.
	Commercial	Manufacturing		
R1 thru R5	C1, C2 in R1-R5 C3, C4-1 C7, C8-1	M1-1 M2-1 M3	23'	40'
R6	C1, C2 in R6 C4-2		40'	60'
R7, R8	C1, C2 in R7, R8 C4-4, C6-1 C8-4	M1-3 M2-2	50'	70'
R9, R10	C1, C2 in R9, R10 C5, C6-6	M1-6	60'	150'

* Districts listed are representative of a group of districts with similar bulk characteristics. The final list will be comprehensive in its listing of all districts in each category.

OVERWATER STRUCTURES (PIERS AND PLATFORMS)

Piers and platforms are overwater structures. Piers and platforms are treated differently from one another under the proposed regulations because of the difference in their configurations. New York's historical "finger piers" project from the shoreline, often by as much as 1,000 feet. Platforms, on the other hand, are wider than they are long and can be viewed as extensions of the land.

Traditionally, piers served water-dependent uses such as shipping. With the decline of port-related activity, many piers were left to deteriorate. Some have been redeveloped for new uses such as ferry stops, recreation, commercial developments and housing. Others are available for reuse.

Piers can provide excellent opportunities for waterfront-enhancing uses, public access and other redevelopment, but unregulated development on piers can interrupt the views and openness from shore. Consequently, the proposal sets forth restrictive controls on the size and placement of buildings for piers, though not for platforms. Water-dependent uses would be exempt from the proposed bulk controls and public access requirements for piers in order to foster such uses.

The proposed controls on piers typically would limit the achievable FAR to less than the maximum generated by the pier. Waivers to modify the bulk controls and public access requirements would be available by special permit from the City Planning Commission if other public purposes were served. If granted, these waivers would permit the full use of the floor area generated by the pier.

Under the proposed regulations:

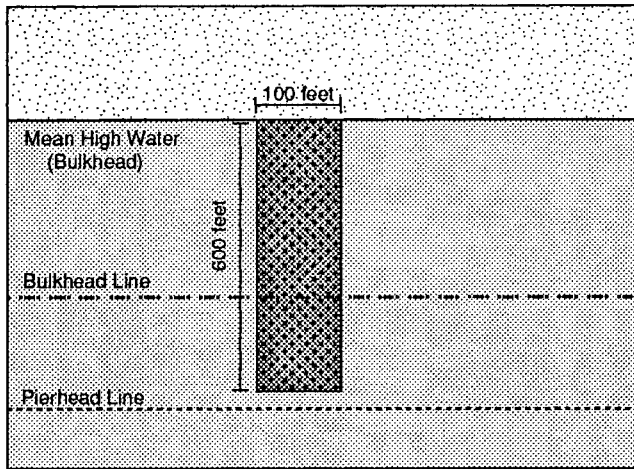
- Piers and platforms would be defined as overwater structures that are fixed and supported by piles.

- A pier would be defined as any overwater structure or portion of one with greater length than width. A platform would be defined as any overwater structure with greater width than length. (Figure 7.4)
- Platforms would be viewed as a reconfiguration of the shoreline and part of the land for purposes of building size and placement. (Figure 7.4) Piers would have their own bulk restrictions.
- Existing piers and platforms (including pilefields) would be those visible in the aerial photographs in the 1988 Army Corps of Engineers Port Survey.
- New piers and platforms would be those not visible in the Army Corps aerial photographs.

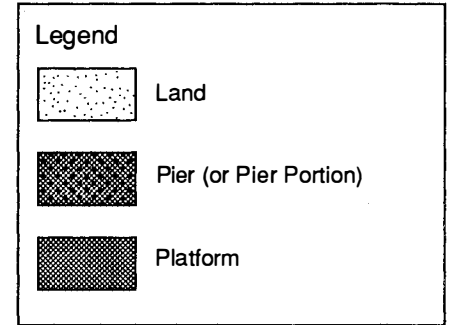
Regulations for Existing Piers and Platforms

- Existing platforms would be subject to the same use, public access, visual corridor and bulk regulations as the upland lot. Existing piers could be developed for any uses permitted by the applicable zoning, except for exclusively residential developments. Residential uses would be permitted on piers only if they contained waterfront-enhancing uses on the ground floor, which would promote public access.
- The following height and setback controls would be applicable for as-of-right development on existing piers in all zones and for all uses except manufacturing and water-dependent uses. Modification of the controls would be allowed by CPC special permit only. (Table 7.5)

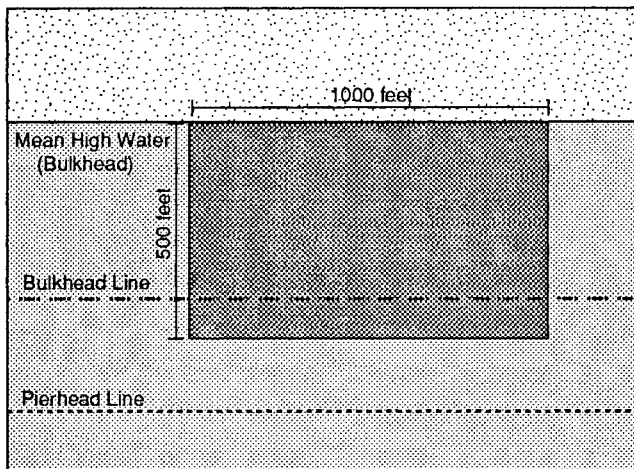
FIGURE 7.4
Piers/Platforms: Configuration



Pier (Example)

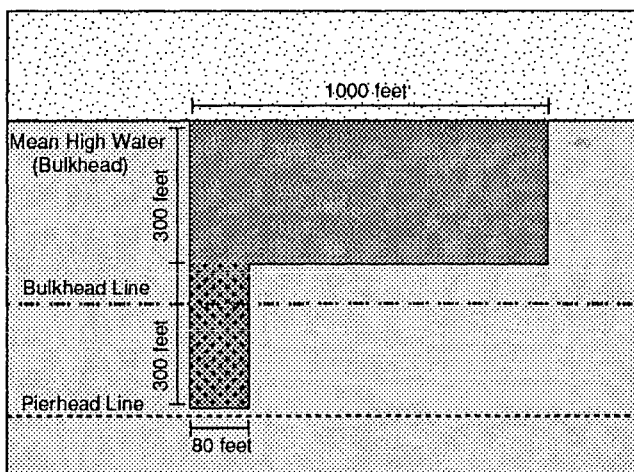


Length: 600 ft.
 Width: 100 ft.
 Ratio: 6:1 > 1:1 (length to width)



Platform (Example)

Length: 500 ft.
 Width: 1000 ft.
 Ratio: 0.5:1 < 1:1 (length to width)



Platform with Pier Portion (Example)

Platform
 Length: 300 ft.
 Width: 1000 ft.
 Ratio: 0.3:1 < 1:1 (length to width)

Pier
 Length: 300 ft.
 Width: 80 ft.
 Ratio: 3.75:1 > 1:1 (length to width)

**Table 7.5
HEIGHT AND SETBACK REGULATIONS FOR PIERS**

Res.	TYPICAL ZONES*	Mfg.	Max. Ht. Before Setback	Req. Setback**	Maximum Height of Structure
R1 thru R6	C2, C3, C4-1, C7 C8-1	M1-1 M2-1 M3	30'	15'	40'
R7, R8	C4-4 C6-1 C8-4	M1-3 M2-2	50'	15'	70'
R9, R10	C5 C6-4	M1-6	60'	15'	150'

* Districts listed are representative of a group of zones with similar bulk characteristics. Final list will be comprehensive in its listing of all districts in each height category.

** Setback could be reduced to 10 feet in all zones on frontage facing an open area greater than 40 feet in width.

The maximum permitted length or width of any building on a pier would be 200 feet in all zones. The minimum distance between buildings would be 100 feet. Any building not exceeding 30 feet in height, however, would be unrestricted in length or width as long as public access standards still could be met.

- Public access would be required on all piers developed for non-manufacturing and non-water-dependent uses. The upland 40 feet and the seaward 25 percent of the length of the pier must be provided as public access area. A public path at least 15 feet wide would be required along the sides of the pier, or it could be combined on one side. (Figures 7.5, 7.6, 7.7, and 7.8) These areas would count toward the public access requirement for the entire zoning lot. Some allowance for upland building extensions and kiosks would be made in the public access areas.

In those cases where buildings exist on piers, alternate public access areas could be located inside the buildings or elsewhere on the pier

upon certification by the Chairman of the City Planning Commission that the proposed space would be sufficiently large and designed to promote public use and enjoyment of the waterfront.

New Piers and Platforms

Current zoning does not limit the size of new piers or platforms. Consequently, there is no prohibition against covering an entire seaward lot with a new overwater structure. Moreover, current zoning permits piers and platforms to be used for any purpose allowed by the applicable zoning regulations. The proposed regulations would be much more restrictive in the size and use of new overwater structures.

- New piers and platforms would be permitted for the development of water-dependent uses or for open recreation. A modest percentage of the area of a pier or platform built for water-dependent uses could be assigned to waterfront-enhancing uses. Any subsequent conversion to non-water-dependent or non-

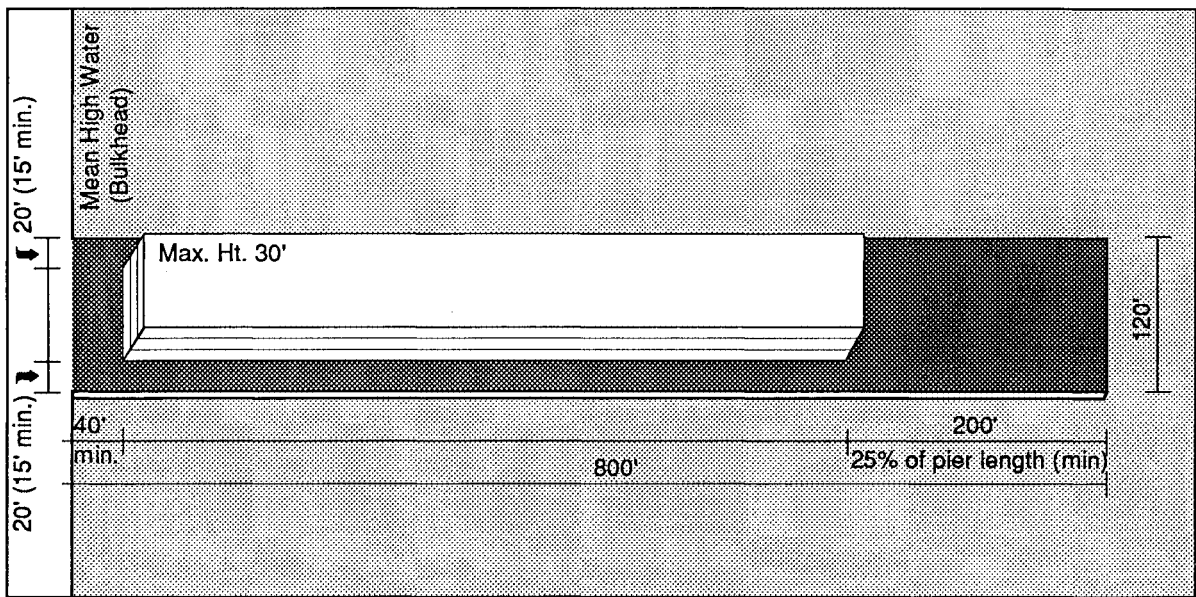


FIGURE 7.5
Proposed Envelope and Public Access
Requirements for Pier Development
High Coverage (Optional in All Districts):
 Maximum Height: 30'
 No Required Setback
 Floor Area on 120' x 800' Pier: 118,080 sq. ft.

Legend

 Public Open Space

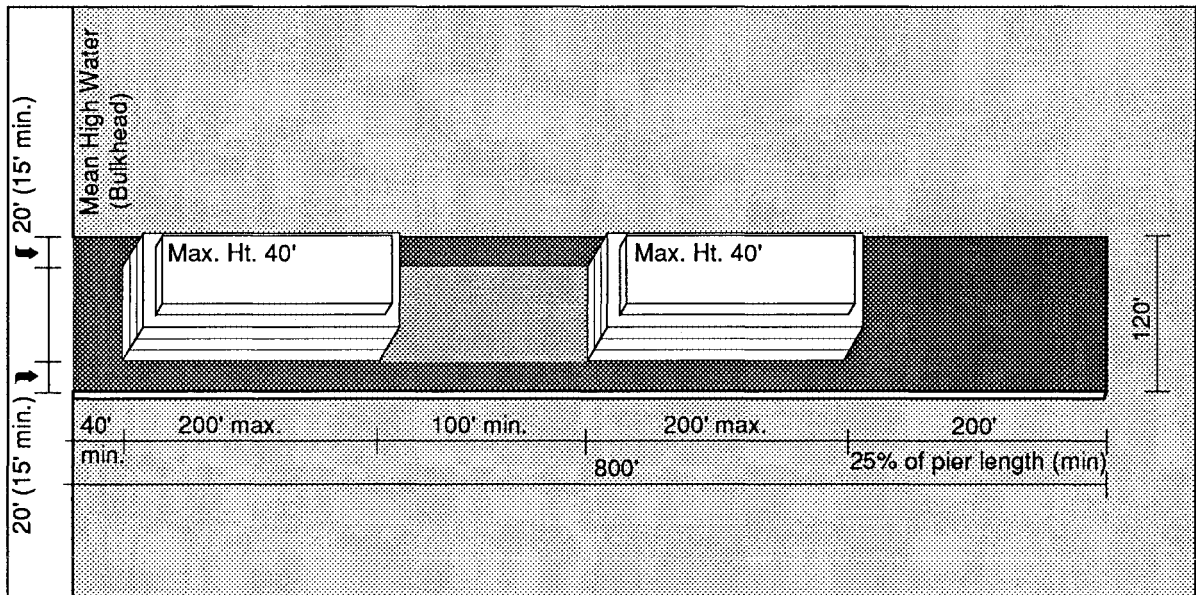




FIGURE 7.6
Proposed Envelope and Public Access
Requirements for Pier Development
R1-R6 Zones and Commercial Equivalents:
 Maximum Height: 40'
 Required Setback at 30'
 Floor Area on 120' x 800' Pier: 90,240 sq. ft.

Legend

 Public Open Space
 Private Open Space



Existing pier redevelopment at South Street Seaport, Manhattan



Potential pier redevelopment site, Piers 1-5, Brooklyn

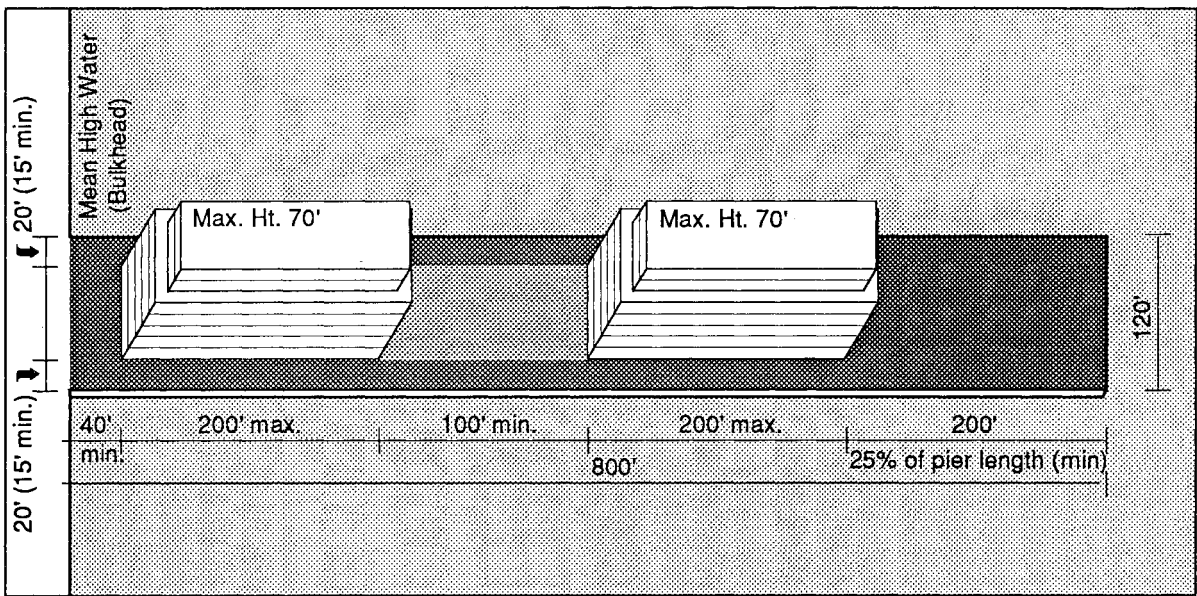


FIGURE 7.7

Proposed Envelope and Public Access Requirements for Pier Development



R7-R8 Zones and Commercial Equivalents:

Maximum Height: 70'

Required Setback at 50'

Floor Area on 120' x 800' Pier: 156,600 sq. ft.

Legend

-  Public Open Space
-  Private Open Space

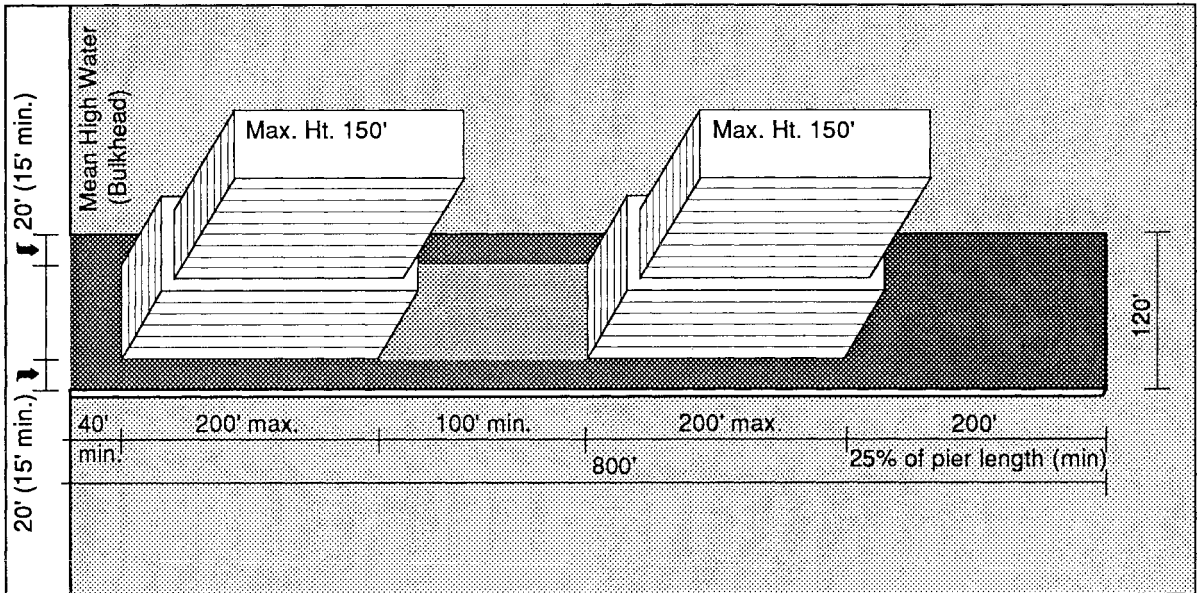


FIGURE 7.8

Proposed Envelope and Public Access Requirements for Pier Development



R9-R10 Zones and Commercial Equivalents:

Maximum Height: 150'

Required Setback at 60'

Floor Area on 120' x 800' Pier: 288,000 sq. ft.

Legend

-  Public Open Space
-  Private Open Space

recreational uses would be subject to all regulations for existing piers and platforms. Any modifications of bulk or public access requirements would be by CPC special permit only.

The overwater coverage of new piers and platforms for open recreation use would be limited to an area not to exceed 50 percent of the underwater portion of the zoning lot, inclusive of all piers and platforms on the lot. New piers and platforms for water-dependent uses would not be subject to a coverage limitation. No transfer of bulk from new piers or platforms to the upland lot would be permitted.

WATERFRONT PUBLIC ACCESS

The waterfront is a valuable resource that the people of New York have grown to appreciate and enjoy. A major objective of the Comprehensive Waterfront Plan is to promote and retain public access to and along the waterfront.

The proposal would establish generic requirements for public access when development occurs on zoning lots fronting the water in mid- to high-density residential and commercial developments (including large commercial developments in manufacturing districts), and for large low-density residential developments. (Table 7.6) It would provide also for the adoption of local plans, called Waterfront Access Plans, to meet the public access needs of specific communities.

The proposal would require that 15 to 20 percent of the open space on the zoning lot be available for public access. The percentage represents a balance among the public's desire to enjoy the waterfront, the costs of providing and maintaining public access, the likely added costs to waterfront developers, the need for private open space, and the area required to build on waterfront lots in a way that meets proposed urban design standards.

To maintain the link between upland communities and the waterfront, the proposal would

require public access connections through the development, at prescribed intervals, from the waterfront to the first upland public street.

Design controls would be established for the development of required public spaces. The Department of City Planning would record each new public access area to (1) certify that design requirements were met before issuance of a temporary or permanent certificate of occupancy, and (2) provide the public with a source of information on public access areas.

In general, potential conflicts with industrial uses preclude requiring public access on industrial waterfront lots. Some specific opportunities to achieve public access do exist in manufacturing districts, and a number of these opportunities are identified in the Reach Studies. Small residential and commercial developments typically do not generate sufficient demand to require public access unless such developments are part of a planned open space network. They would be required, however, to provide a waterfront yard, or no-build zone, along the waterfrontage.

Consequently, these public access recommendations apply only to large residential and commercial developments and not to industrial developments or small residential and commercial developments unless otherwise noted.

The generic requirements for public access on waterfrontage lots would mandate that 15 to 20 percent of the area of the lot be made available for public access. The 15 to 20 percent would be derived from the size of the upland lot and the area of any piers or platforms extending into the water from that lot.

The 15 to 20 percent would constitute the Total Public Open Space. It would have two or three components: (1) waterfront public access areas, (2) upland public access connections, and, if necessary to achieve the required area, (3) an aggregate of open space that adjoins the waterfront public access area.

**Table 7.6
WATERFRONT PUBLIC ACCESS REQUIREMENTS**

Zoning District	Waterfront Yard/ Waterfront Public Access Area	Upland Public Access Connection	Total Public Open Space
R1 - R5, C1 - C4-1, C8-1 Zones and Equivalent Commercial Development in M Zones	Waterfront yard required No WPAA required	None required	None required
Large Scale Sites* in R1 - R5, C1 - C4-1, C8-1 Zones and Equivalent Commercial Development in M Zones	Minimum 25 foot wide linear WPAA required and Minimum 15 foot wide no-build buffer required	Required	15% of the lot area
R6 - R10, C4-2 - C7, C8-2 - C8-4 Zones and Equivalent Commercial Development in M Zones	Minimum 25 foot wide WPAA required and Minimum 15 foot wide no-build buffer required	Required	15% of the lot area in R6 - R7 zones and commercial equivalents or 20% of lot area in R8 - R10 zones and commercial equivalents
M1 - M3 (Use Groups 16, 17, 18 only)	None required	None required	None required

* A development site made up of one or more zoning lots which has at least 600 feet of waterfrontage and 1.5 acres of lot area.

Most of the total public open space would have to be physically available to the public. Some of it would be landscaped areas that need be accessible only visually and would serve as buffers between public access areas and private development.

The components of the proposed generic public access requirements are described in greater detail below and in Figure 7.9:

- Waterfront Public Access Areas (WPAA) would be continuous linear public access improvements running along the shoreline. WPAA would be required in new developments above a minimum size in all residential zones R6 and above, in their commercial equivalents, and in large multi-family developments in R3-2, R4 and R5 districts. The WPAA would include a public passageway at least 25 feet wide and a landscaped strip at least 15 feet wide that would be visible from the public passageway and would serve as a buffer between the public access area and the private development.

WPAA would be required also in new developments in low-density commercial districts on large zoning lots with substantial waterfrontage; in large commercial developments in manufacturing districts; or where the City Planning Commission has mapped a Waterfront Access Plan.

Certain waterfront-enhancing uses such as cafes or kiosks would be allowed in WPAA located in commercial zones, in order to make the space more attractive to and safe for the public.

- Upland Public Access Connections (UPAC) would provide direct access from a WPAA to the first upland public street or public area such as a park. UPAC would be required at intervals of no greater than 600 feet along the shoreline, or at specific locations as required by a Waterfront Access Plan. If not a mapped street, a UPAC would be a pe-

destrian path at least 10 feet in width, flanked on either side by a 10 foot wide landscaped no-build area that would be visible to the public and would serve as a buffer between the public pathway and the private development.

- Aggregate Public Open Space would be required for all developments where the combined WPAA and UPAC did not meet the generic requirement for 15 to 20 percent public open space. The aggregate public open space would have to be located adjacent to the WPAA so it could be developed, for example as a plaza, a waterfront park or scenic overlook. The public access requirement could not be achieved by the inclusion of small open areas scattered on the lot that provide no real opportunity for public use.

All these requirements would be automatic for the districts specified. Waterfront Access Plans, on the other hand, would become requirements only as a result of action by the City Planning Commission and the City Council.

- Waterfront Access Plans (WAP) could be adopted by the CPC and the City Council to refine the generic public access requirements for a particular locale. The WAP might specify the location of upland public access connections or visual corridors appropriate to a local setting, or the placement of the aggregate public space on a given lot. The CPC could not increase or decrease the required amount of public access beyond that of the generic standard. (Fig. 7.10)

In multi-family lower-density districts (R3-2 - R5 or commercial equivalent), where public access is not automatically required, adoption of a WAP could create a public access requirement.

For new developments in low-density residential and commercial districts, the only generic requirement would be a waterfront yard.

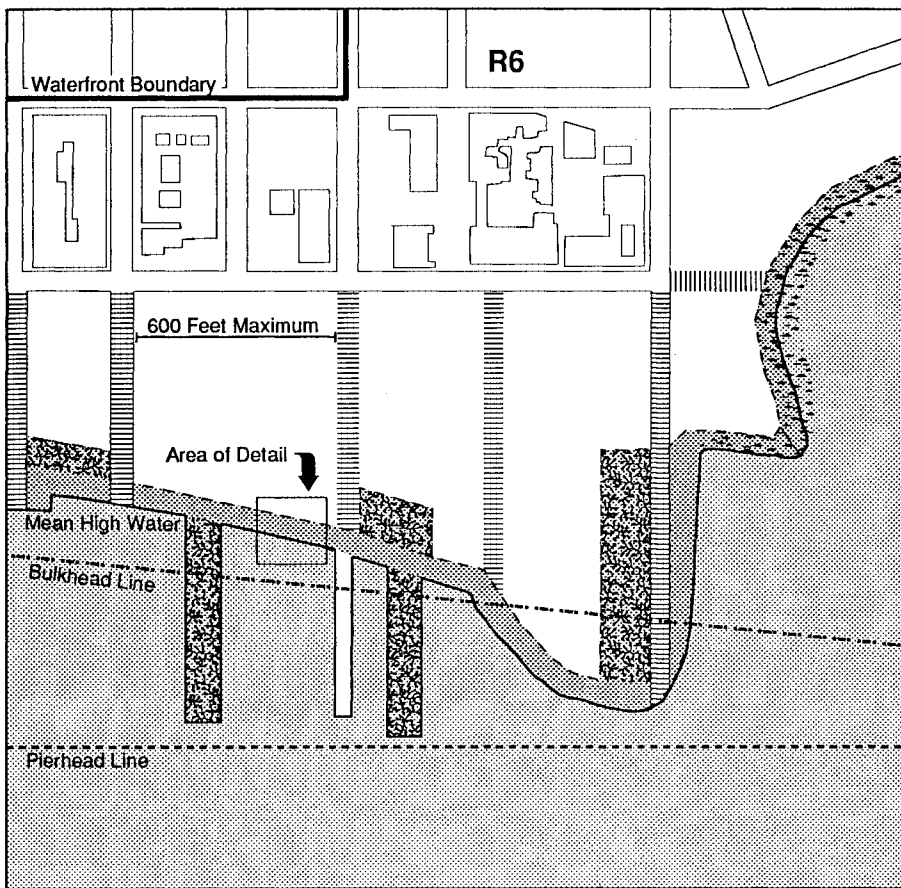
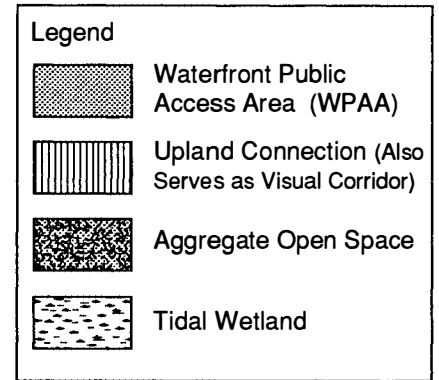


FIGURE 7.9
Waterfront Public Access
(Higher Density Development)



Detail of WPAA:

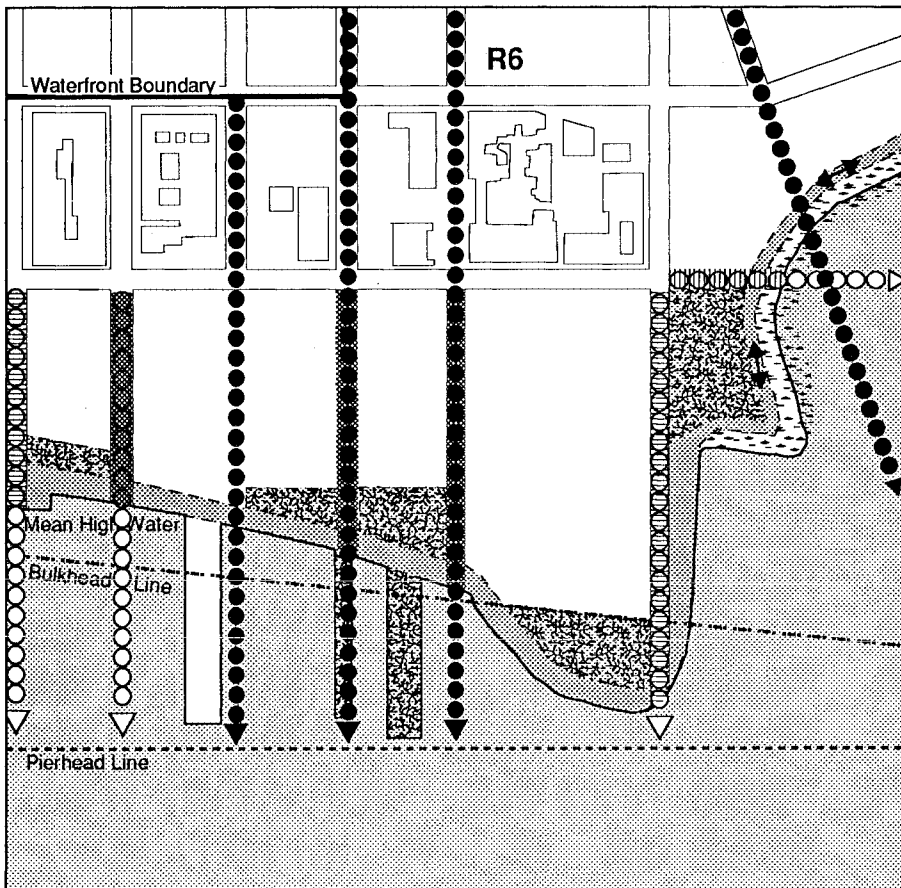
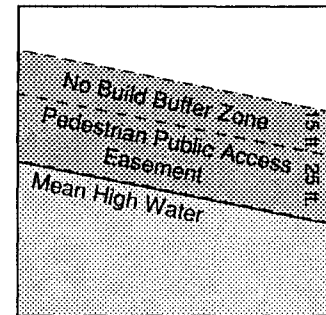
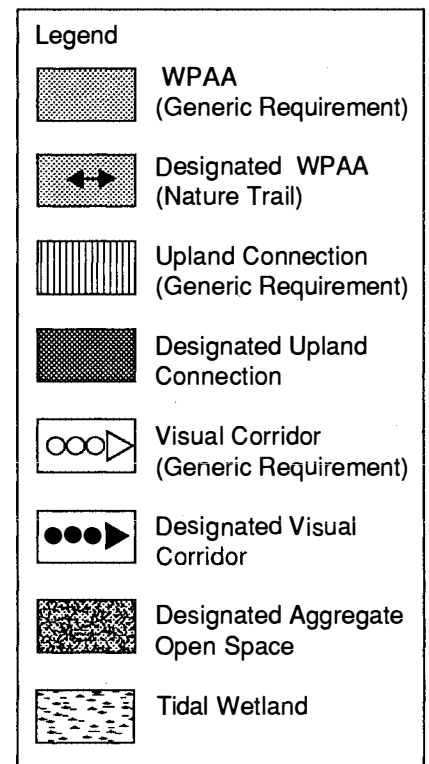


FIGURE 7.10
Waterfront Access Plan
with Visual Corridors



- Waterfront Yards would be continuous no-build zones along the shoreline of waterfront lots in lower-density residential and commercial districts (R1 - R5, C1 and C2 overlays in R1 - R5 and C4-1). They would serve as buffer zones between upland development and the shoreline. Physical public access would not be required unless a Waterfront Access Plan were adopted or the zoning lot were very large, with significant waterfrontage. The waterfront yard would maintain openness along the water and reserve an open corridor for public access should the city choose to acquire it for recreational purposes. (Figure 7.11)

VISUAL CORRIDORS

Street vistas are an important design consideration in New York because they provide visual relief, light and air, and extended views. Visual corridors to the waterfront are a particularly important public amenity because of the water's aesthetic value. The proposal would protect views of the waterfront by defining a system of visual corridors in which no new buildings would be permitted. Public streets would be the basic framework of the visual corridor system.

As with waterfront public access, visual corridors would in some instances be mandated generically, and would in other instances be mandated as a result of a specific action taken by the City Planning Commission and the City Council.

The generic requirements would be based on the public expectation that mapped streets would remain as visual corridors from the first upland street to the waterfront, and that visual corridors are desirable at frequent, specified distances along the waterfront. (Figure 7.12)

Beyond the generic requirements, the protection of specific views and panoramas could be mandated by mapping appropriate visual corridors. These corridors might extend beyond the first upland street but not beyond the waterfront area.

Visual Corridors

A visual corridor would be defined as an open area, public street, upland public access connection or other open area which provides a continuous view to the water and is unobstructed from its base to the sky except for permitted obstructions, such as kiosks, sculptures, trees, landscaping and boats. Where there were significant grade changes between the shore and the upland, some development might be permitted below the upland grade.

A visual corridor might be a public access way and might fulfill the requirements both for public access and for public views.

When required as the continuation of a mapped street, a visual corridor would have to be as wide as or wider than the mapped street. Visual corridors not located within the right-of-way or continuation of a mapped street would have to have a minimum width of 50 feet (the minimum distance set forth in the Zoning Resolution for a new public street).

Generic Visual Corridor Requirements

- Any mapped street, whether open or unimproved, would have to be maintained as a visual corridor on properties between the shoreline and the first upland street. If a mapped street intersected the mean high water line at an oblique angle of less than 45 degrees, no visual corridor would be required because it could pose an unreasonable obstacle to development.
- The continuation of any existing upland street that terminates at the first upland street parallel to the water would have to be maintained as a visual corridor on properties in the waterfront block if the continuation intersected the mean high water line at an angle of 45 degrees or more.

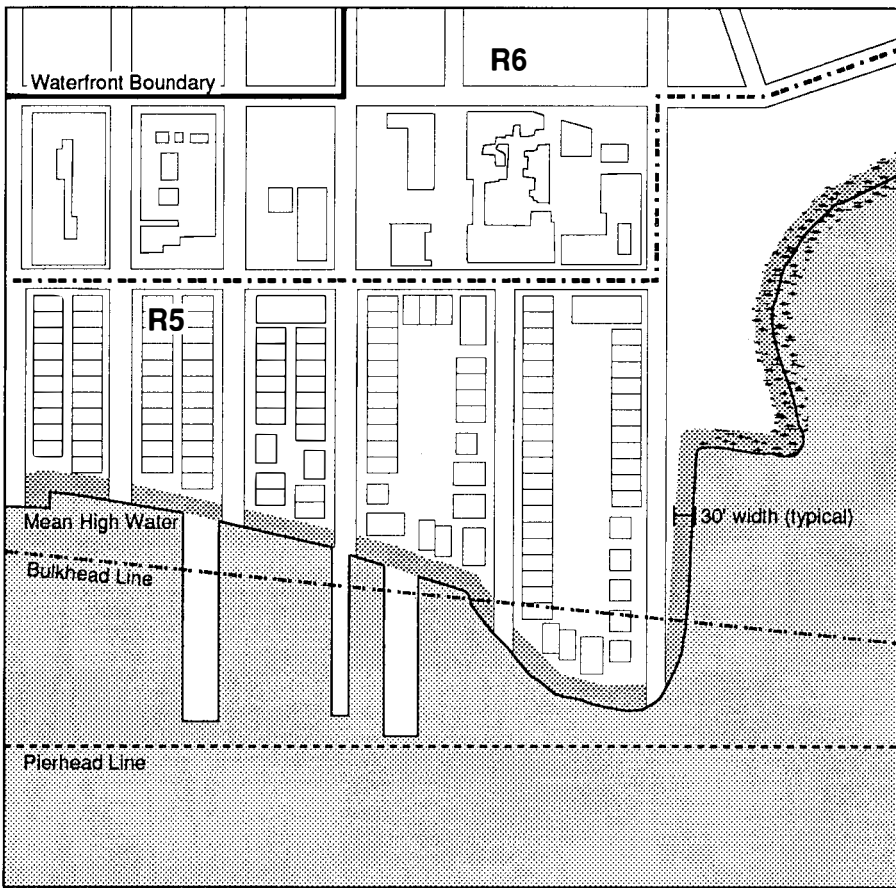


FIGURE 7.11
Waterfront Yard
(Lower Density Development)

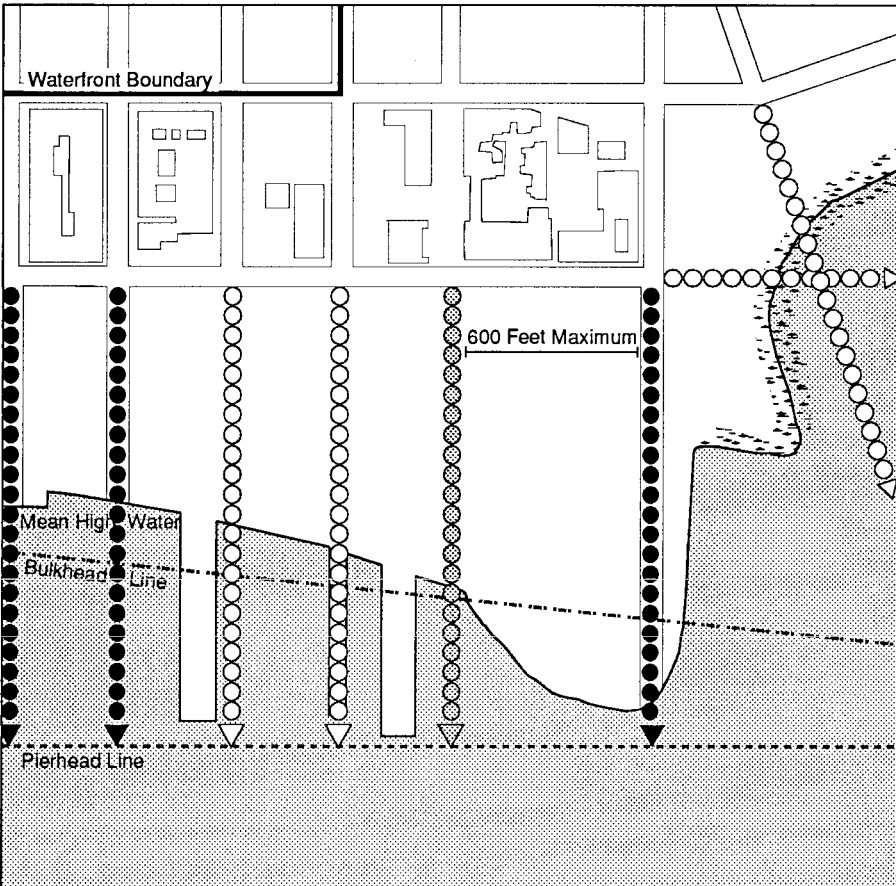
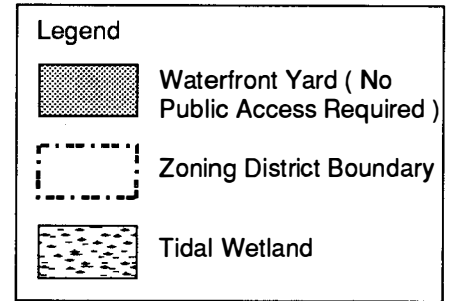
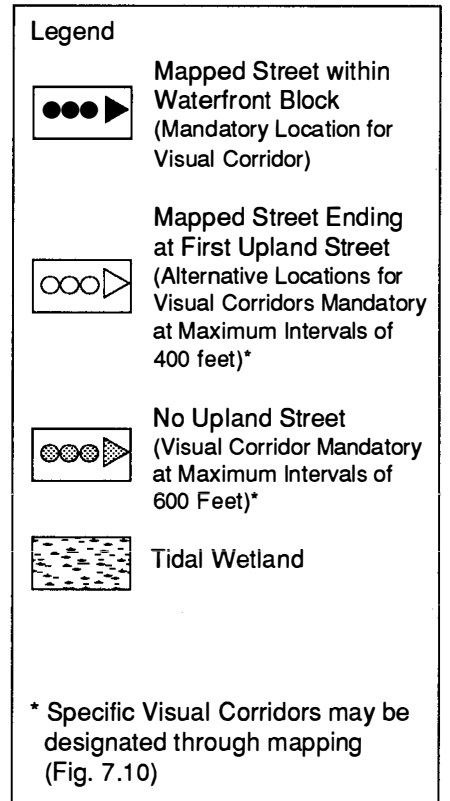


FIGURE 7.12
Visual Corridors



- A visual corridor would not be required, however, if, at the time the zoning lot was developed, there was an existing mapped street or other designated visual corridor within 400 feet, measured along the first upland mapped street.
- Where there were no mapped streets, visual corridors would have to be provided at intervals not exceeding 600 feet.

No visual corridor would be required if it would encumber more than 50 percent of a zoning lot. Existing non-complying buildings would be permitted to remain but could not be enlarged in a manner that would increase the obstruction.

Developments on piers and floating structures (except for water-dependent uses) would not be permitted within a visual corridor except by CPC special permit.

- **Specific Visual Corridor Requirements**

Two types of visual corridors could be mapped by special action of the CPC: designated visual corridors and panoramic views. Designated visual corridors would be continuations of specific streets or other open areas for the preservation of important views. The widths would be designated when the visual corridor was adopted.

Panoramic views would be designated to preserve outstanding or unique views over the water from public parks, streets, waterfront access areas or mapped public places. Panoramic views could be designated when new developments might otherwise obstruct an outstanding view. Panoramic view regulations would mandate building height and other design controls.

All visual corridors would be recorded in the Department of City Planning registry established to ensure an adequate public record of public access sites.

HEIGHT AND SETBACK, OPEN SPACE AND YARD REQUIREMENTS

Height and setback regulations, and yard and open space requirements allow for light and air on the street, and open space on the lot, by controlling the placement, scale and configuration of development. Waterfront developments raise specific urban design issues relating to visual character, human scale and the compatibility of new development with existing neighborhoods.

In lower-density neighborhoods (R1 - R5), the compatibility of new buildings with the waterfront is adequately ensured by existing zoning regulations. Height is generally limited to 40 feet. In mid- to high-density districts, however, the regulations do not adequately address waterfront development.

There are two sets of bulk regulations in mid- to high-density districts. "Height factor" regulations, introduced in 1961, are based on mathematical formulas that relate the permissible height of a building to the amount of open space provided on the zoning lot. These formulas encourage tall buildings with low lot coverage.

In contrast, contextual bulk regulations enacted in the 1980s result in buildings of lower height and higher coverage, which resemble the building types constructed before the introduction of height factor zoning.

The low lot coverage required by height factor bulk regulations often presents limitations in site planning and building massing, and precludes the mixture of low building forms with tower elements. The height regulations imposed by contextual bulk regulations can present site planning and building massing restrictions that are not universally desirable on waterfront sites.

Locations where contextual bulk regulations might be desirable include areas where there is a strong upland context to be supported by new development. Contextual bulk envelopes originally were developed to reinforce existing

neighborhood contexts on regular city blocks, promote streetwalls and limit building heights. These regulations would be appropriate for some waterfront areas. If used exclusively, however, they would not be flexible enough to produce an interesting, varied and visually open waterfront.

Height factor height, setback and floor area regulations work best when applied to properties on blocks within a regular street grid. The zoning lots on these blocks usually have predictable and limited sizes and shapes. When these height, setback and coverage controls are applied with the appropriate FARs, the resulting buildings are relatively predictable in size and scale.

Along the waterfront (particularly outside of Manhattan), developable property is often located on large, irregularly shaped parcels in areas without a consistently mapped street system. Applying height factor regulations to such sites would not necessarily result in predictable building heights, shapes or sizes. Excessively tall buildings, and buildings that "wall off" the waterfront, could be built on such sites. Moreover, height factor zoning would fail to achieve other urban design objectives of safety, security and human scale along public access areas along the waterfront.

Figures 7.13 and 7.14 show possible development schemes on typical, large waterfrontage blocks in an R6 district using the existing height and setback regulations, contextual and height factor. In both illustrations, the proposed generic public access requirements have been met. Figure 7.13 shows potential developments using the bulk controls for an R6A contextual district, as amended in accordance with the Department's recently published report Quality Housing Zoning. These proposed amendments would permit more liberal site planning on large and irregularly shaped lots and are necessary to make the program successful along the waterfront.

Figure 7.14 shows developments on the same sites using the height factor bulk controls for an R6 district. Height factor development

could include buildings of extraordinary height — 40 stories or more — easily taller than buildings previously built under R6 height factor zoning and potentially taller than most buildings in R10 districts.

Proposed Bulk Controls for Waterfrontage Blocks in R6 - R10 Districts and Commercial Equivalents

The proposed bulk controls for new residential and commercial developments along the waterfront are intended to meet urban design considerations that would:

- accommodate the public access requirements;
- encourage low- to medium-rise buildings adjacent to waterfront public access areas, upland public access connections and local streets, in order to provide for activity and security in public spaces;
- avoid "walling off" the waterfront with excessively wide buildings along the shore;
- avoid overwhelming the waterfront with excessively high buildings; and
- foster predictability in building bulk.

Under the proposal, mid- to high-density contextual districts could continue to be mapped along the waterfront. Where non-contextual mid- to high-density districts are mapped the proposal would eliminate height factor zoning on waterfrontage blocks and replace it with a new set of controls.

These new bulk regulations would be introduced in R6 through R10 districts and their commercial equivalents to provide site planning flexibility while preventing excessively tall buildings. The proposed zoning regulations would be a hybrid of height factor and contextual regulations and would apply wherever contextual zoning was not mapped. Figure 7.15 shows developments on typical large R6 waterfront lots using the proposed height and setback regulations.

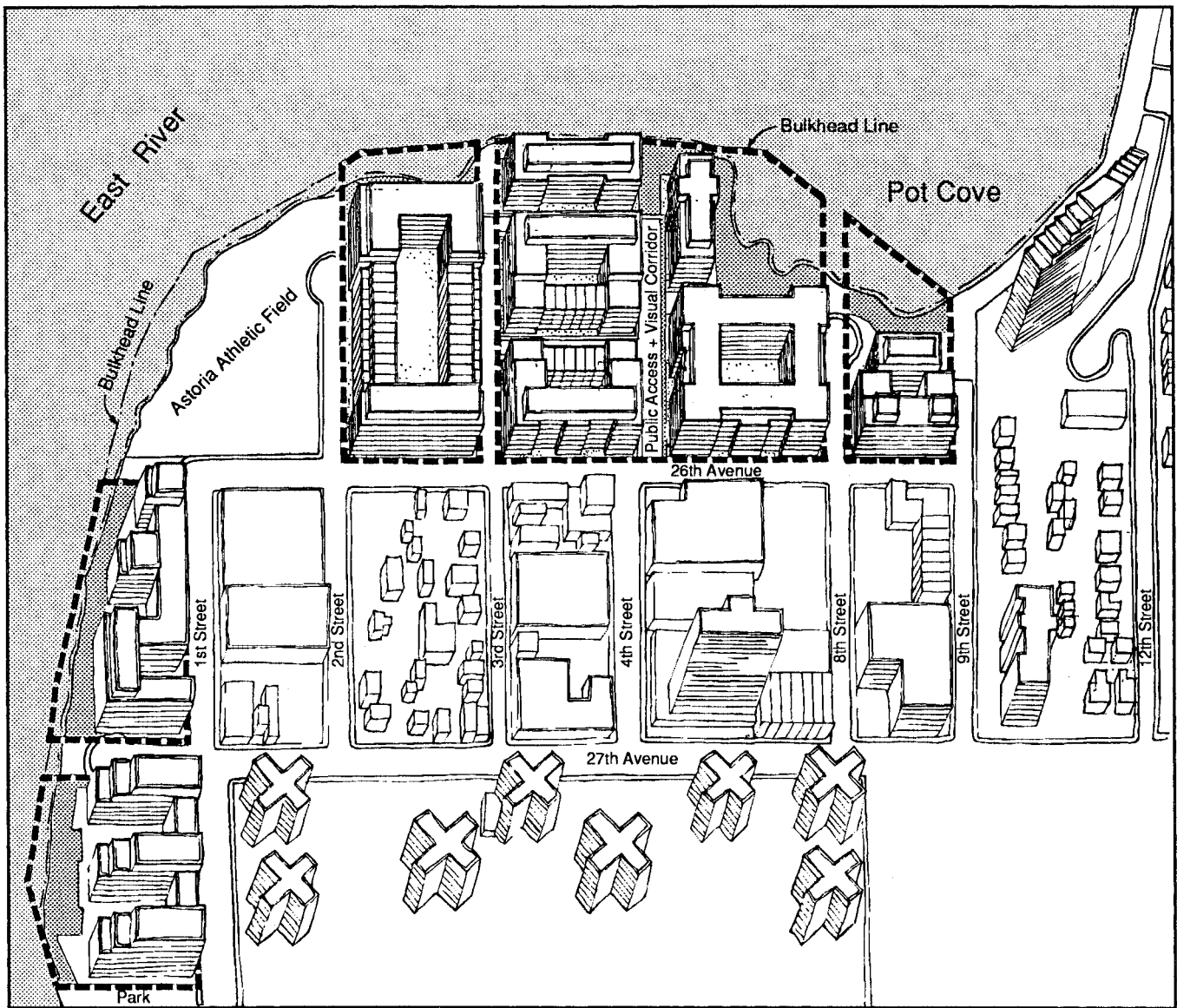

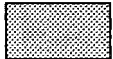


FIGURE 7.13
Urban Design Case Study: Pot Cove, Astoria, Queens
 Waterfrontage Blocks Developed Under Existing R6A Regulations
 (To Remain Available Under Zoning Proposal)

Legend

-  Zoning Lot Boundary of Potential Developments
-  Public Access Areas

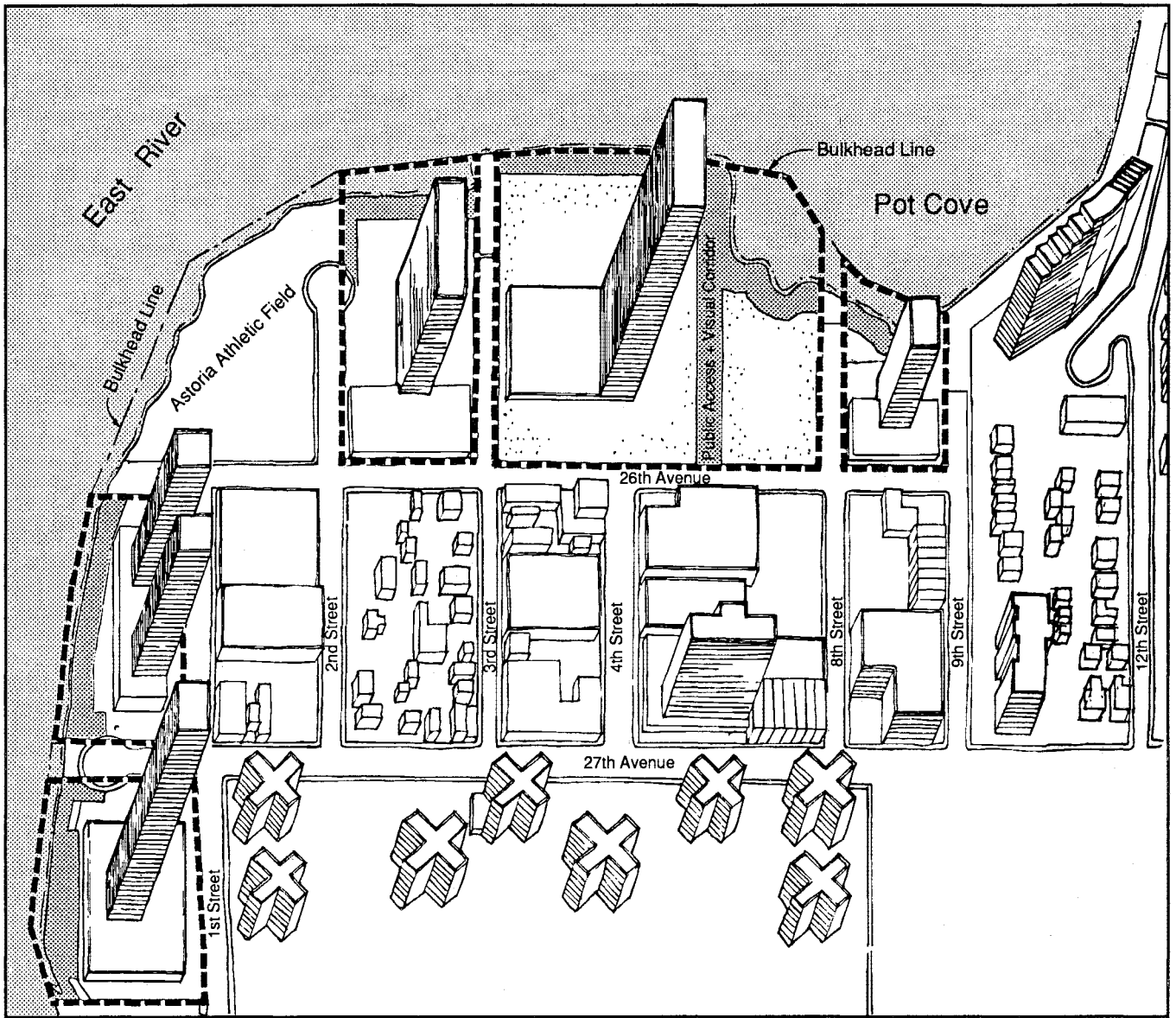
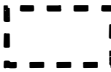
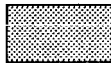


FIGURE 7.14
Urban Design Case Study: Pot Cove, Astoria, Queens
 Waterfrontage Blocks Developed Under Existing R6 Height Factor Regulations
 (No Longer Applicable Under Zoning Proposal)

Legend	
	Zoning Lot Boundary of Potential Developments
	Public Access Areas

Building coverages would be set by a simple maximum coverage limit, as in contextual zoning. Maximum coverages would be set for each district paralleling the contextual districts. These coverages would permit a wide range of site plans that could accommodate a variety of site conditions and would address public access and private open space requirements.

FARs in residential districts would be based on the highest achievable FAR under current height factor zoning for each district. Existing FARs would continue to apply in commercial and manufacturing districts.

For residential development, density would be measured by lot area per dwelling unit, as in contextual zoning, rather than by a lot area per zoning room count, as in height factor zoning. The proposed maximum lot coverages, FARs and maximum densities for each district are shown in Table 7.7.

Table 7.7
LOT COVERAGE, FAR AND DENSITY

District*	Maximum FAR	Lot Coverage by Percent	Lot area/DU
R6	2.43	60 interior/80 corner	278
R7	3.44	65 interior/80 corner	198
R8	6.02	70 interior/80 corner	123
R9	7.52	70 interior/80 corner	98
R10	10.00**	70 interior/100 corner	79

* residential districts and their commercial equivalents

** increase to 12 with Inclusionary Housing

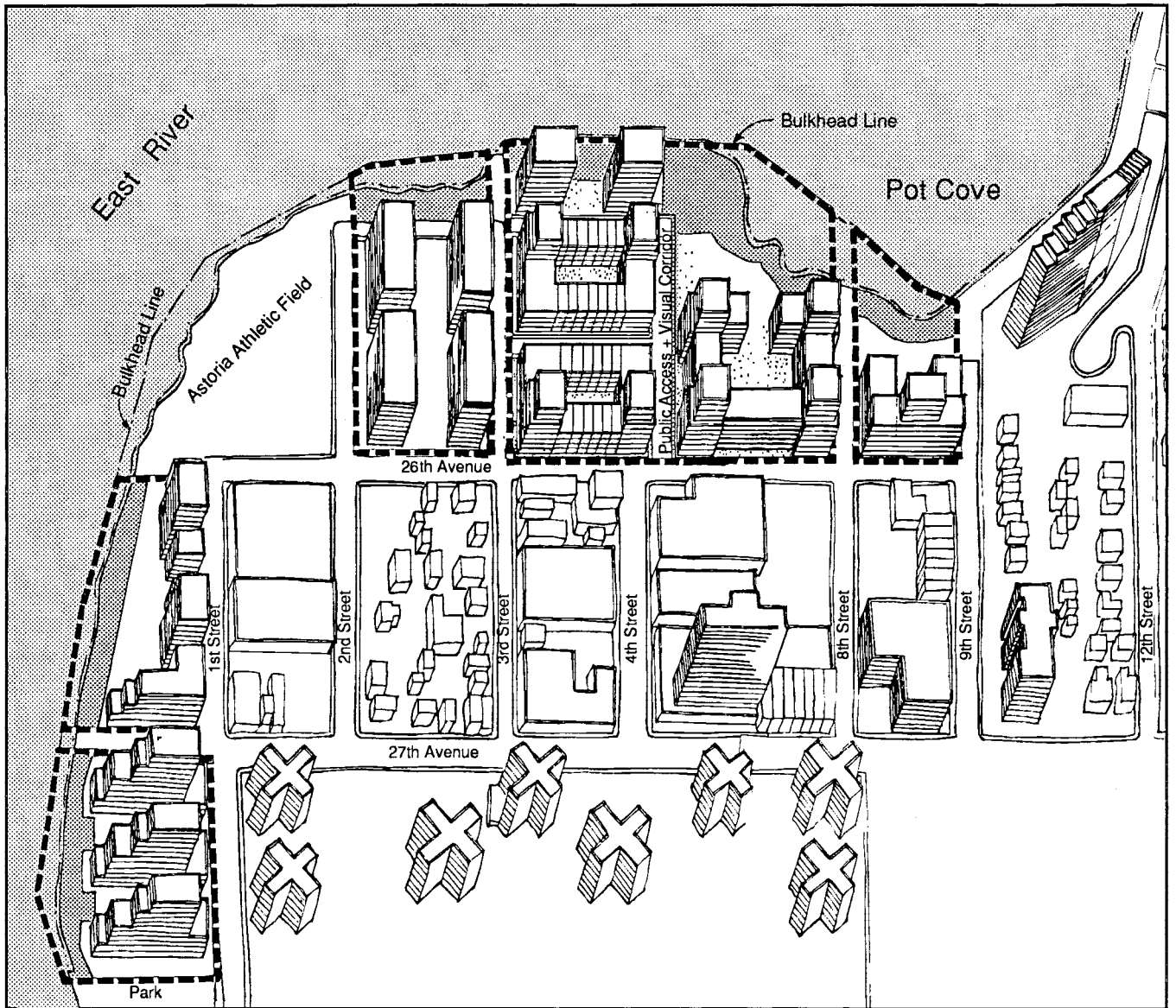
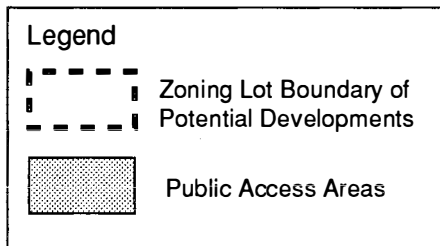


FIGURE 7.15
Urban Design Case Study: Pot Cove, Astoria, Queens
 Waterfrontage Blocks Developed Under Proposed R6 Height and Setback Regulations
 (To Replace Existing Height Factor Regulations Under Zoning Proposal)



Height and Setback Regulations

To prevent exceptionally tall buildings, the proposal would establish height limits in each district. Achievable heights under height factor regulations were examined as a guide in proposing new height limits.

In R6 districts, at a maximum FAR of 2.43, height factor regulations permit buildings as high as 15 stories. These buildings are atypical of R6 districts as they require great amounts of open space and cover as little as 16 percent of the zoning lot. Buildings in R6 districts typically range from three to 12 stories. Under height factor regulations a shorter building can have a larger floor plate which usually makes for a more economical building. For example, buildings of nine stories achieve almost 97 percent of the allowable FAR, at 26 percent lot coverage.

In R7 districts, at an FAR of 3.44, height factor regulations permit 14 stories. The allowable FAR diminishes as the building rises above that height. In R7 districts, buildings typically range from three to 14 stories.

In R8 districts, at the highest achievable FAR of 6.02, building heights range from 17 to 20 stories. Greater amounts of open space are required for each additional story.

In R9 districts, buildings reach their maximum FAR of 7.52 at heights ranging from 14 to 17 stories, although many R9 developments forfeit allowable FAR to build higher. There are very few R9 districts in Manhattan and only one in another borough.

In R10 districts, building height is not a function of floor area and open space ratios. Most R10 developments are built under tower regulations which permit 40 percent lot coverage. Buildings of 30 to 40 stories are not uncommon.

In addition to retaining a relationship to heights currently achievable upland, the proposed bulk regulations would offer a degree

of predictability and discernable distinctions among districts. An R6 district, for example, should produce a building of a predictable maximum height, with no possibility of substantially greater height even if the lot is very large, as are many waterfront lots. Similarly, an R7 district should produce a building taller than an R6 building but not as tall as an R8 building, and an R9 district should produce a building taller than an R8 building but not as tall as an R10 building.

Several other factors that could restrict site planning were considered in proposing height limits. These included providing public access, parking and the need to maintain affordability. Sufficient height had to be allowed to accommodate the required waterfront public open space, which would account for 15 to 20 percent of the lot area, and to account for potential subsurface problems that might limit below-grade parking. In addition, affordability would have to be maintained in R6 and R7 districts, in which expensive steel or concrete construction normally is not used, by permitting buildings without cost-adding setbacks.

The new height and setback regulations would be flexible enough to permit the lower building forms of contextual zoning but also would allow buildings with tower elements. The Quality Housing height and setback regulations as proposed in the Department's recently published report Quality Housing Zoning, and the proposed height factor replacement regulations for waterfrontage blocks (Table 7.8) are illustrated on a 20,000 square foot zoning lot with 100 feet of water frontage. Figure 7.16 illustrates this hypothetical zoning lot, and Figures 7.17 through 7.21 illustrate the development options for each district.

Two controls would be introduced to ensure predictability and permit design flexibility. The first would be a straightforward height limit in each district, ranging from 110 feet (11 or 12 stories) in an R6 district to 280 feet (28 to 30 stories) in an R10 district.

The second control would require that at least one-half the floor area in each building be located below a specified base height. This mechanism is called "packing the bulk."

Because much of the floor area would be located below the base height, streets and public access ways would be lined with relatively low building elements, which would reinforce traditional streetwall character and provide "eyes on the street." Above the base and beyond a setback distance, towers would be permitted up to the height limit. The proposed height limits and packing requirements are shown below.

Table 7.8
MAXIMUM HEIGHT AND PACKING REQUIREMENTS

District*	Maximum Building Height (in feet)	Packing Height (in feet)	Packing Score (in percent)	Approx # of Stories
R6	110	40	50	11
R7	135	50	50	14
R8	180	60	50	19
R9	225	70	50	24
R10	280	110	50	30

* And Commercial Equivalent Districts

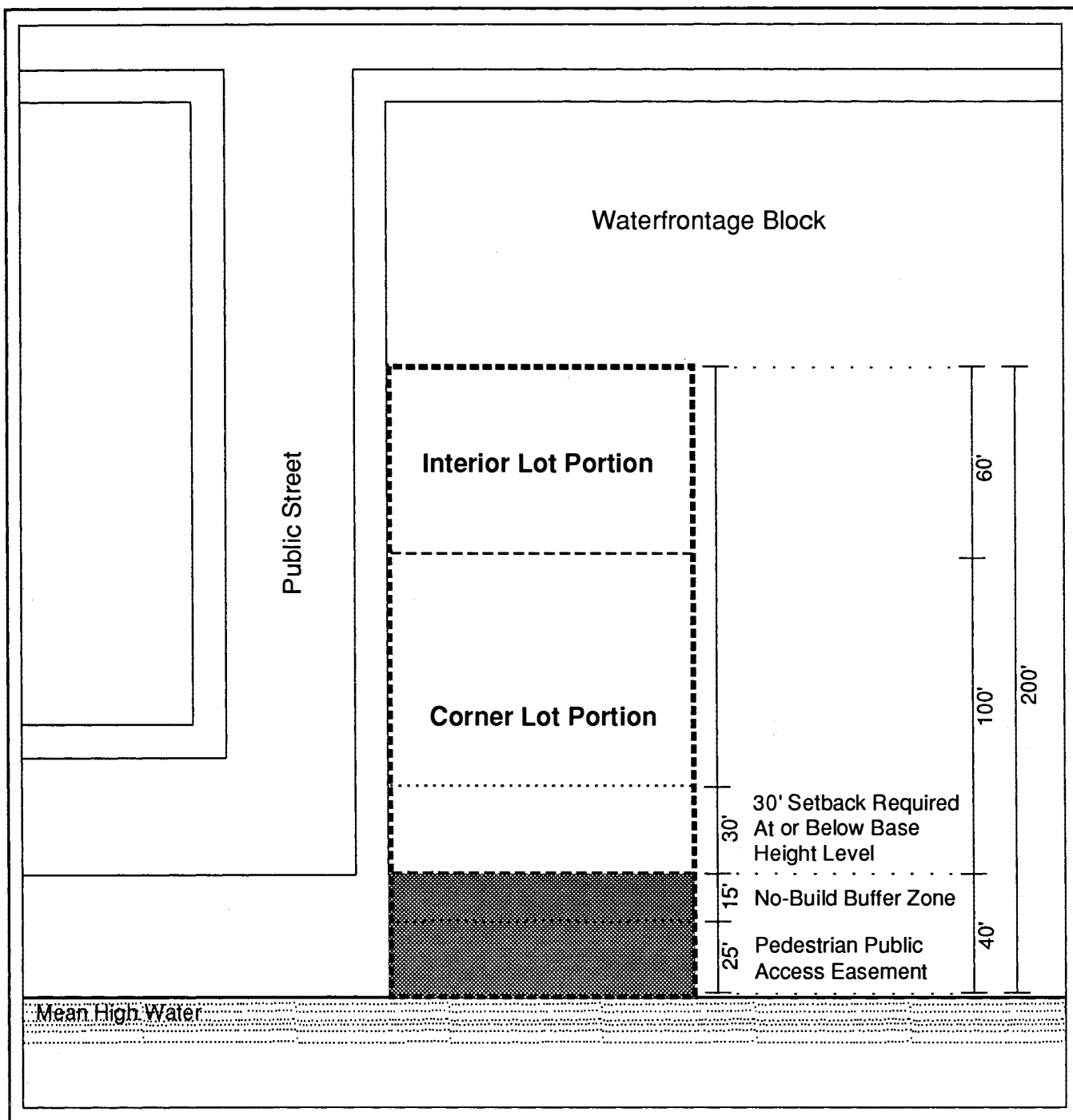




FIGURE 7.16
Waterfront Zoning Lot (Typical Condition for Bulk Studies, Figures 7.17- 7.21)

Legend

 Waterfront Public Access Area

 Zoning Lot Boundary

Study parameters:

- The area of the Zoning Lot is 20,000 sq.ft. with 100 ft. of water frontage.
- A 40 ft. deep Waterfront Public Access Area (WPAA) is provided along the shore.
- The Zoning Lot is bounded on one side by a narrow public street.
- The upland boundary of the WPAA is treated as a streetline.
- Floor plates range from a maximum depth of 70 feet to a minimum depth of 55 feet.
- The minimum size of a floorplate is 4,000 sq.ft., except for penthouses, which may be less.

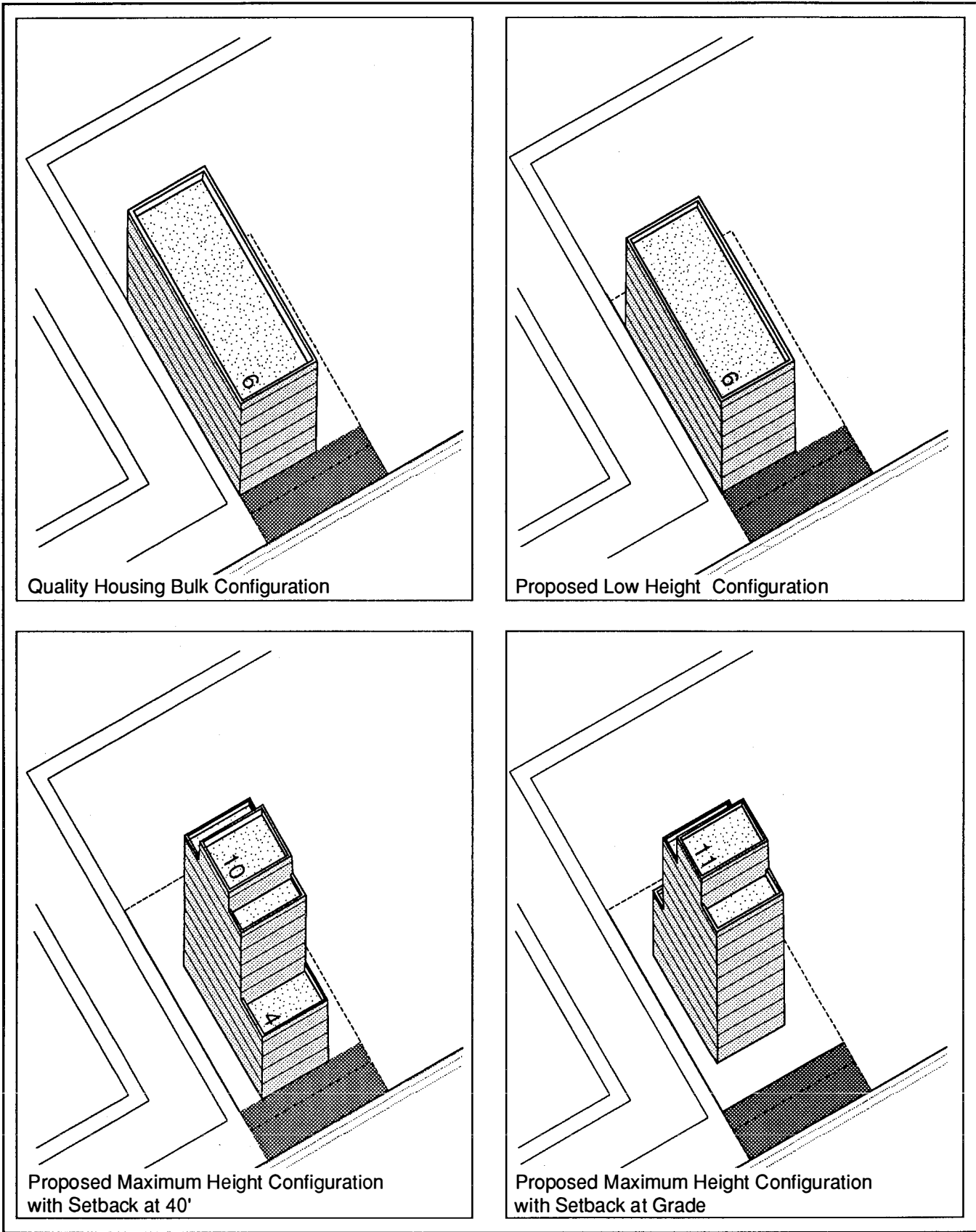


FIGURE 7.17
Bulk Diagrams: R6 Districts and Commercial Equivalents

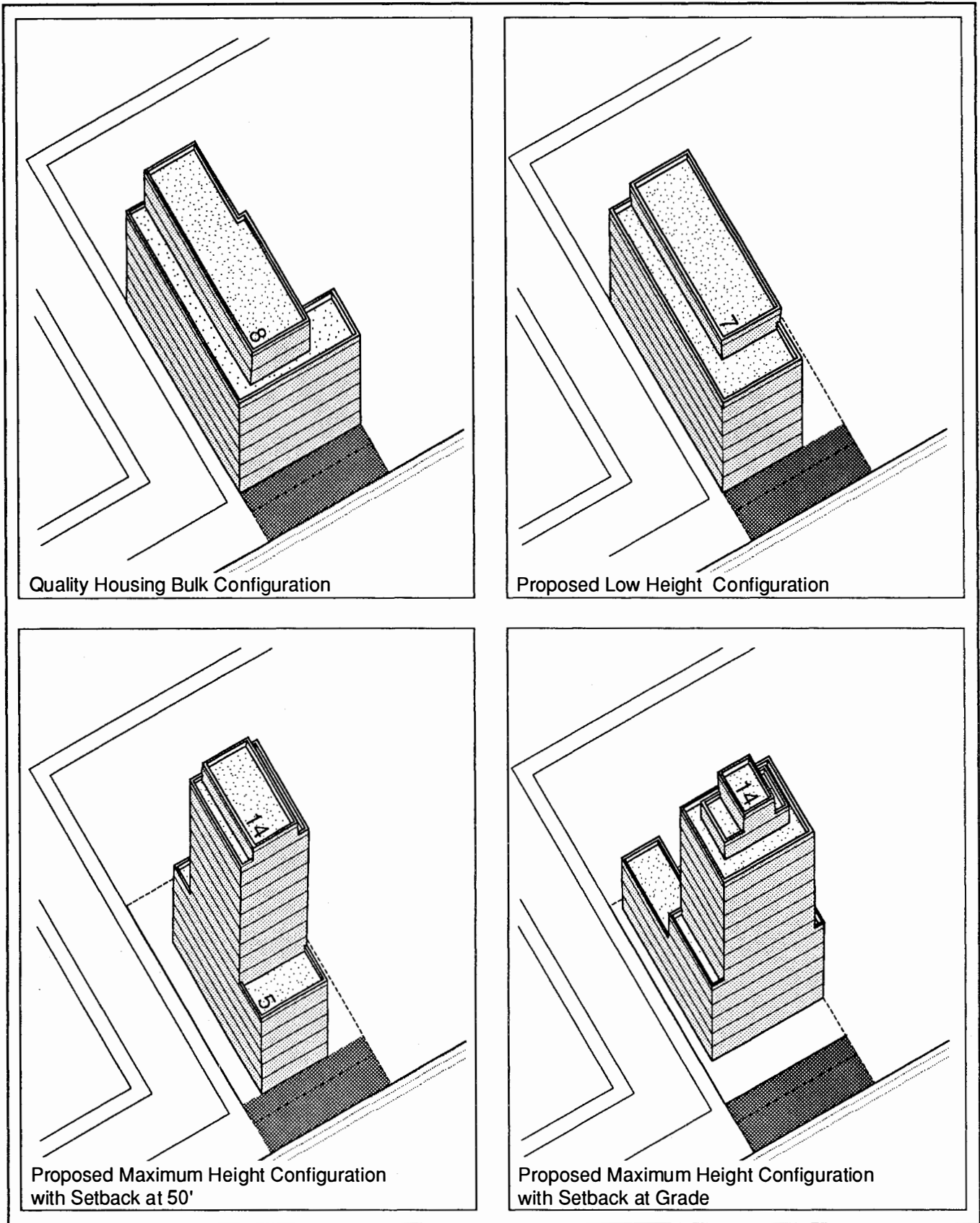


FIGURE 7.18
Bulk Diagrams: R7 Districts and Commercial Equivalents

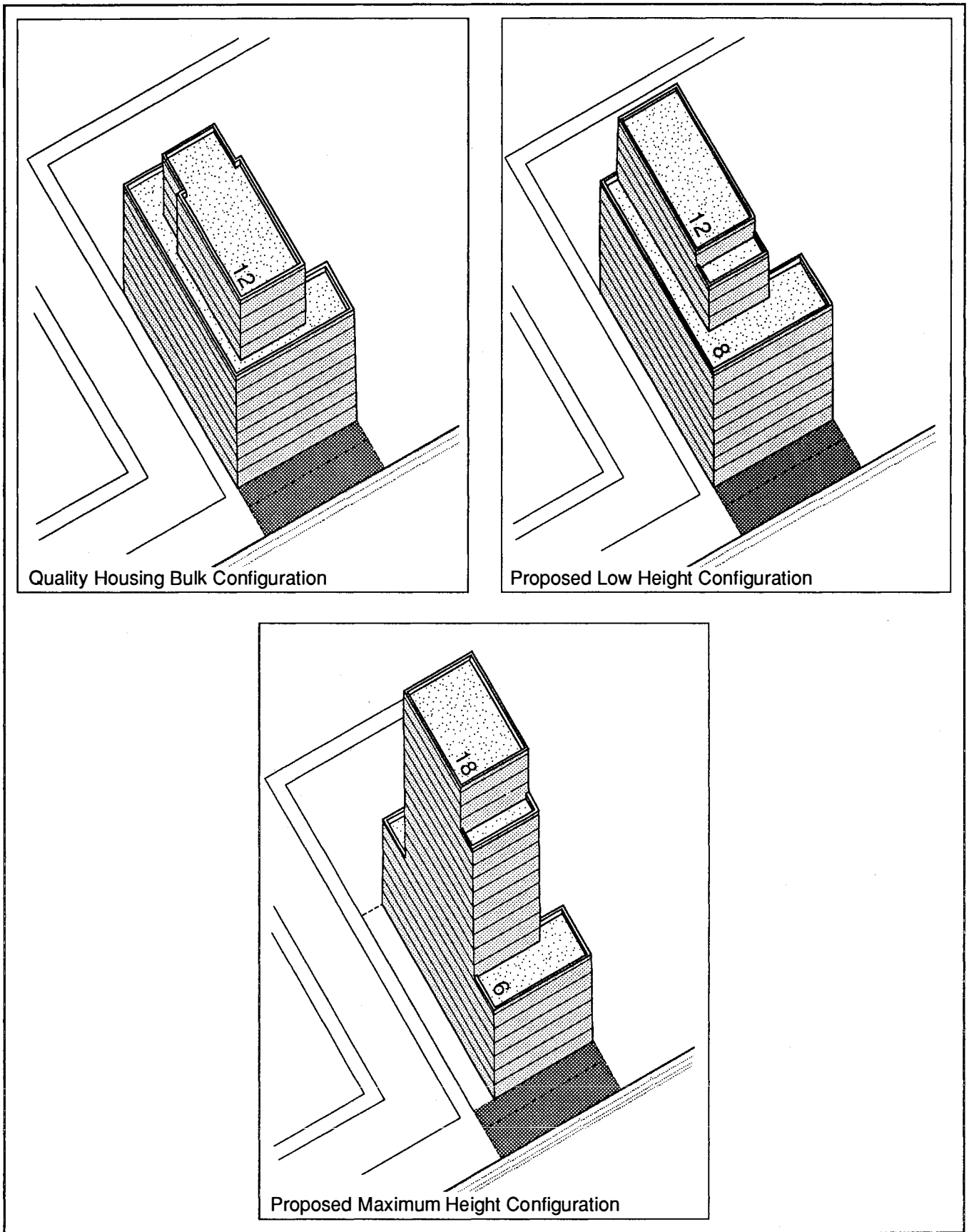


FIGURE 7.19
Bulk Diagrams: R8 Districts and Commercial Equivalents

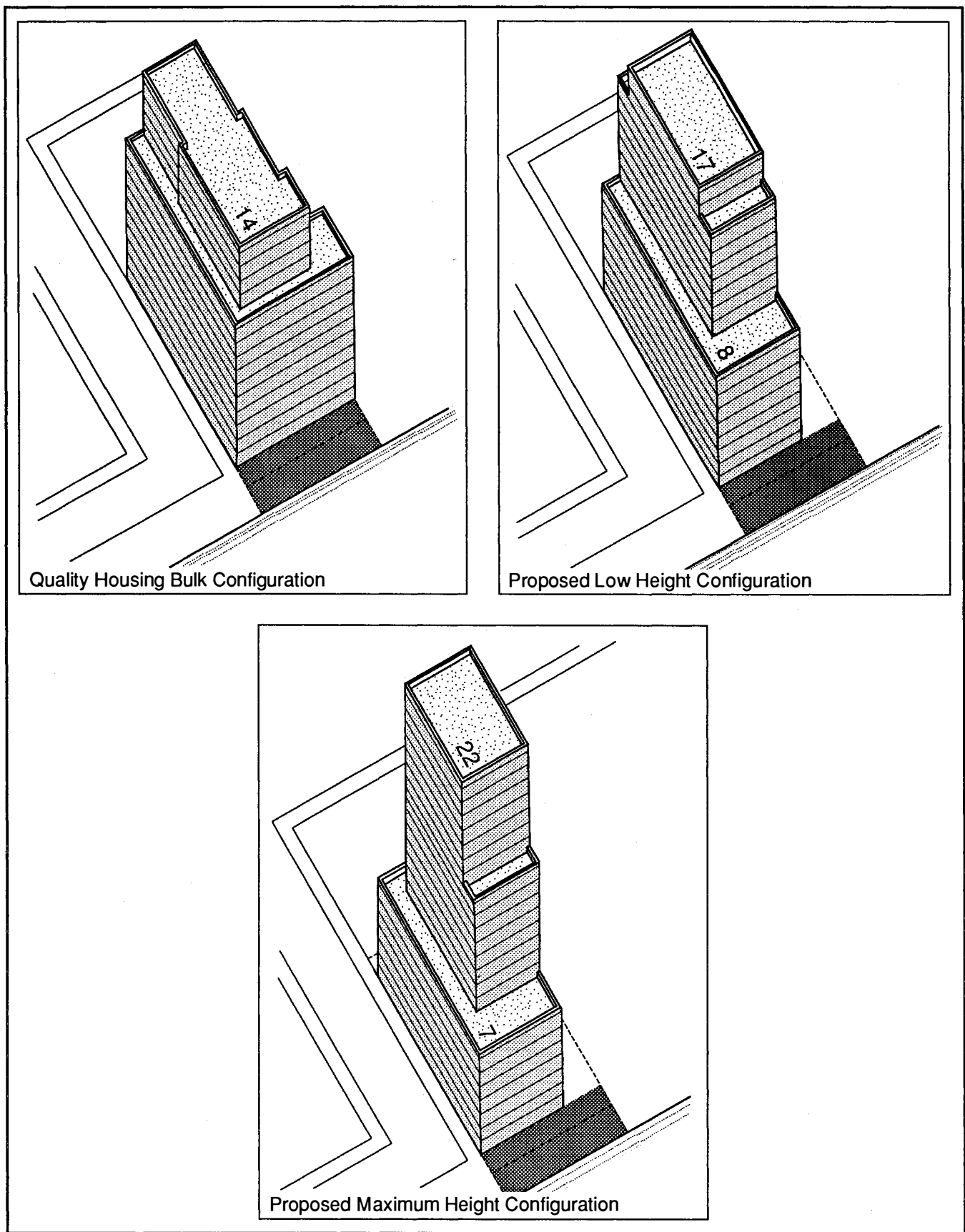


FIGURE 7.20
Bulk Diagrams: R9 Districts and Commercial Equivalents

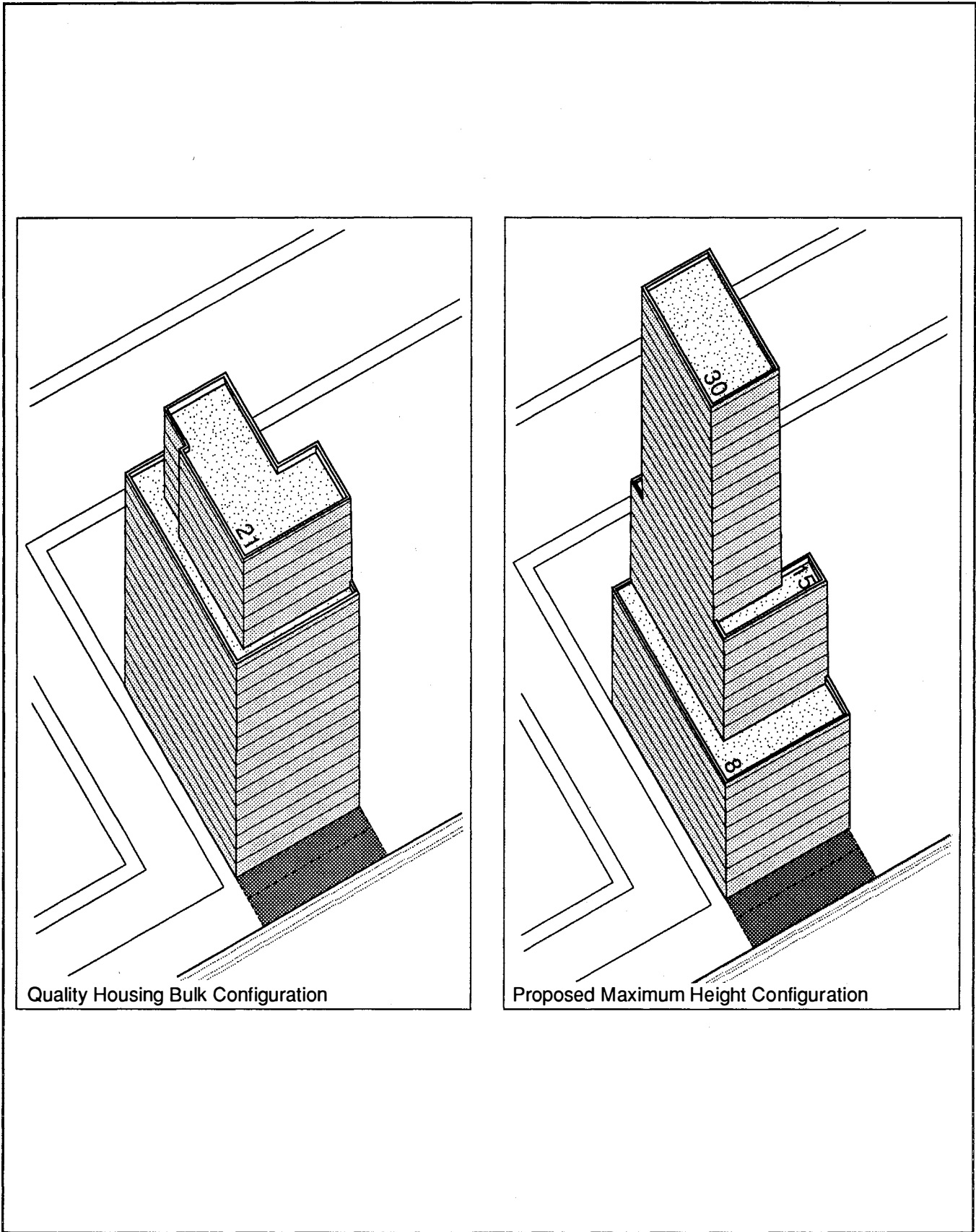


FIGURE 7.21
Bulk Diagrams: R10 Districts and Commercial Equivalents

The proposed bulk regulations would require setbacks at certain heights in order to place tower elements away from streets, visual corridors, upland public access connections and waterfront public access areas. Setbacks of at least 15 feet would be required from any street, visual corridor or public access connection, and at least 30 feet from any waterfront public access area. In order to permit relatively low six and seven story buildings without costly setbacks in R6 and R7 districts, setbacks could be provided at any level below 60 feet, including grade.

R8, R9 and R10 districts would have two setback requirements. Setbacks would be required at 85 feet and could be provided at any lower level, including grade. A second setback would be required for any portion of a building higher than 150 feet that faces a waterfront public access area. This second setback would have to be at least 15 feet in depth and would be measured from the street-wall of the building. This requirement would add articulation to tall buildings facing the waterfront and would encourage developers to place tall buildings with their narrower face along the water's edge.

To further the latter goal, the width of a building facing the shoreline would be limited to 100 feet above the maximum base height for its zone: that is (1) a building in an R6 or R7 district exceeding 60 feet in height, or (2) a building in an R8, R9 or R10 district exceeding 85 feet in height.

Compliance with the Quality Housing programmatic elements (Zoning Resolution Article 2, Chapter 8) would be mandatory for all residential developments on waterfrontage blocks. Requirements such as maximum number of dwelling units permitted per corridor indirectly would limit the length of a building and encourage relatively slender towers, and would maximize light, air and views. The safety and security features, such as the requirement that entrance doors be located in clear view of the street, would be particularly

important on the waterfront where many sites are remote and pedestrian traffic may be minimal. The planting requirements and parking location rules would contribute to more attractive landscaping and streetscapes.

The proposed amendments to these elements of the Quality Housing Program are described in detail in the Department's report Quality Housing Zoning, and are necessary to allow the successful use of the program along the waterfront.

PARKING WITHIN THE WATERFRONT AREA

Accessory Parking

Parking is often a necessary component of waterfront developments. Screening and landscaping can enhance its attractiveness. Current parking regulations are fairly strict in requiring on-site parking in residential zones. To provide greater site planning flexibility, off-site accessory parking rules would be liberalized.

■ **On-Site Accessory Parking**

No accessory parking spaces, aisles or driveways would be permitted within waterfront public access areas, upland public access connections or aggregate open space on waterfrontage block sites. Open parking would be permitted in visual corridors, which are often coincident with streets or the continuation of streets. Quality Housing Program parking standards would be applicable on all waterfrontage blocks.

Trees planting standards would be established for all open parking areas on waterfrontage blocks. Parking areas would have to be screened from public access areas either by low, dense shrubbery or by opaque walls up to 3'- 6" in height.

- **Off-Site Accessory Parking in Residence Districts**

Off-site accessory parking for residential developments is not currently permitted in residence districts except as part of a parking facility shared with another development. To provide greater site planning flexibility, the proposal would permit off-site parking in the same or an adjoining multi-family residence district (districts other than R1, R2, R2X, R3A, R3X, R3-1, R4A, R4-1 and R4B) if the off-site parking facility met the following requirements.

Contiguity or Distance: In R3 through R5 zones, the accessory lot would have to be contiguous to the principal lot (except for a street separation). In R6 through R10 zones, all off-site spaces would have to be within 1,000 feet of the principal lot.

Size and Arrangement: In R3 through R5 zones, the size of each accessory lot would be limited to 10,000 square feet or 100 feet of street frontage. The facilities would have to be self-parking. In R6 through R10 zones, the current maximum permitted for on-site parking (200 or 300 spaces) would apply to future off-site parking.

Parking Structures: In R3 through R5 zones, no accessory off-site parking structures would be permitted, but they would be permitted in R6 through R10 zones. The height in any rear yard would be limited to 14 feet.

Yards: No parking spaces could be located in the front yard if the yard were required by the zoning district.

Screening: A four-foot wide landscaped buffer would be required along all lot lines.

Trees: Trees would be required in open parking areas.

- **Off-Site Accessory Parking in Non-Residence Districts**

Off-site accessory parking would be permitted in non-residence districts as presently permitted, with the following modifications: 1) parking facilities could be located a maximum of 1,000 feet from the principal lot, and 2) such parking could be provided in dedicated public garages or public parking lots.

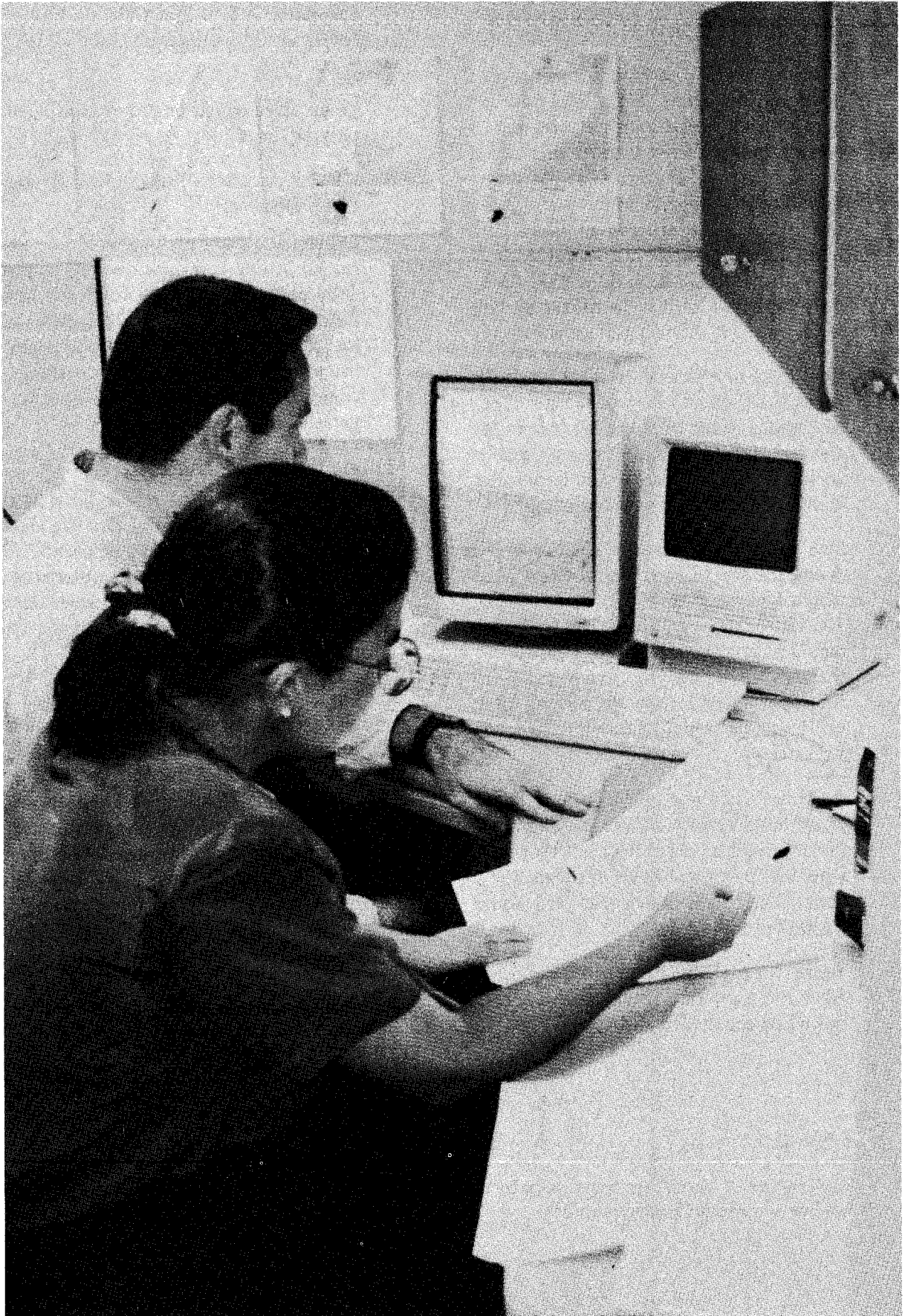
Public Parking Facilities

Public parking facilities might be desirable along parts of the waterfront that are distant from mass transit. They would be problematic, however, if large, if located on waterfrontage blocks, or if serving upland non-water-dependent or waterfront-enhancing uses. Their locations would be strictly limited.

- On all sites within the waterfrontage blocks, parking facilities would continue to be permitted as-of-right only in Manufacturing and C8 districts. In all other districts where parking facilities currently are allowed as-of-right, they would be permitted on waterfrontage lots only by CPC special permit, up to the capacity limitation of the applicable district. The permit findings would be based on the need to serve a waterfront development or the inability to site the facility on a non-waterfrontage lot.

ENDNOTES

1. The definition of "mean high water" used by the National Oceanographic and Atmospheric Administration would be adopted for zoning purposes.



8

NEXT STEPS

The Comprehensive Waterfront Plan proposes a far-reaching vision for the waterfront. The plan lays out a series of recommendations to guide land use change, planning and coordination, and capital investment far into the future. However, no plan, no matter how comprehensive, can remain static. The plan must be revisited periodically to keep pace with changing needs and conditions.

Major elements of the plan can be implemented through regulatory changes, some of which, such as zoning text reform, will advance relatively quickly. Where broad integrated planning efforts are proposed, the Department of City Planning will work with agencies and the public on issues that can best be resolved through interagency and intergovernmental planning and program coordination. Still other strategies requiring capital investment and maintenance funding will be implemented incrementally within the confines of public budgetary constraints. By providing a framework for waterfront improvements, the plan can guide future public investment and resource allocation as funding becomes available.

PUBLIC PARTICIPATION

Development of the plan has been guided by city, state and federal agencies and officials, waterfront experts and civic organizations concerned about the future of the city's waterfront. A comprehensive and coordinated planning process has involved numerous public meetings and valuable advice from a citywide waterfront advisory committee and from community boards and local groups for individual Reach Studies.

The public-private collaboration will continue this fall when the Department of City Planning convenes a series of public meetings following

release of the plan to community boards, public officials and agencies, and neighborhood and civic groups. The ensuing dialogue will result in plan modifications to further reflect the diverse views and concerns of the public. In response to this public discussion, proposed zoning text amendments will be filed for public review, individual reach plans will be published, and revision of the Waterfront Revitalization Program under the 197-a process will be initiated.

To be successful, the plan must be viewed as a process rather than a destination. In fact, many of its recommendations, such as WRP revision, acquisition of land for parks and natural resource protection, and other capital investment, will demand continuing public involvement to set priorities and refine public policies.

ZONING REFORM

ZONING TEXT AMENDMENTS

The success of the Comprehensive Waterfront Plan will rest in large part on adoption of the proposed zoning text reform, as modified after public review and discussion. The Department will give highest priority to implementing these proposals, because of their wide-ranging effect on shaping waterfront development, creating public access and encouraging working waterfront uses.

Based on public response to the comprehensive plan, the Department anticipates preparing zoning text amendments for consideration later in the year by the public, community and borough boards, the City Planning Commission and the City Council. The Department will be responsible for preparing the necessary environmental assessment.

ZONING MAP CHANGES

In addition to zoning text changes that would apply to the entire waterfront, the plan recommends zoning map changes in specific areas where waterfront redevelopment is desirable. Zoning map changes may also include a Waterfront Access Plan (WAP) to establish site-specific public access plans in selected areas.

Recommended zoning map changes, as modified based on public discussion, may be initiated by public and private land owners, community groups, community boards, elected officials, public agencies or by the Department itself. Upon adoption of zoning text reform, the Department may initiate recommended land use changes, but budget constraints would make it impossible to initiate all such changes. In some cases, detailed land use studies may be necessary to confirm the appropriateness of zoning and land use changes. These studies will be integrated into the Department's work program over time. The Comprehensive Waterfront Plan will provide the planning framework and citywide context for review of the proposals submitted by others. The land use and environmental review process for the sites will determine precise densities, uses and infrastructure needs.

To facilitate area-wide rezonings from manufacturing to residential use, the city is exploring the use of generic environmental impact statements. It is also exploring options for facilitating the disclosure and mitigation of potential environmental impacts that may be caused by the presence of hazardous materials on sites formerly used for manufacturing.

ZONING AND LAND USE STUDIES

The plan recommends several citywide zoning studies and local land use studies to further its objectives.

The Zoning Resolution contains special zoning districts designed to protect unique natural features such as mature trees, aquatic habitats and hillsides. The Department continues to explore the appropriateness of this technique for resolving land use conflicts in environmentally sensitive areas. This approach might be

well-suited to certain natural waterfronts. If, for example, it is determined that additional protection is needed for the Staten Island Special Natural Area beyond that already provided by existing regulations, DCP would evaluate the suitability of additional land use controls and their affect on administrative resources. DCP will also determine if a "transfer of development rights" approach would be appropriate for further study and if it could be accommodated within the Zoning Resolution.

One of the plan's goals is to encourage social and economic diversity on the waterfront. The Inclusionary Housing Program adopted by the city in 1987 provides an as-of-right floor area bonus to developments in exchange for affordable housing units. The program is applicable only in R10 districts, all of which are located in Manhattan. The Department is exploring ways to expand the program to other areas of the city, including the waterfront. The goal of socio-economic diversity may also be advanced on city-owned redevelopment sites and in urban renewal areas by incorporating guidelines for the provision of affordable housing units in property disposition agreements.

CITY MAP CHANGES

Recommendations for city map changes include demapping underwater or unbuilt streets, mapping or remapping pierhead and bulkhead lines, and mapping public parks or walkways. These changes may be initiated by the Department, other city agencies with jurisdiction over the affected areas, or private applicants. Like the zoning map changes, the Department will not be able to initiate all proposed map changes because of budget constraints. Many of these recommendations can be implemented in conjunction with projects proposed by public and private applicants. However, the Department will give priority to bulkhead and pierhead line changes needed to accommodate the zoning text reform, and to mapping public parkland in conjunction with land acquisition proposals initiated by the Department of Parks and Recreation.

WATERFRONT REVITALIZATION PROGRAM REFORM

Revising and enhancing the city's Waterfront Revitalization Program (WRP) will significantly advance achievement of the plan's goals and policy recommendations. WRP has not been revised since its adoption ten years ago. During this time the city and its waterfront have changed, and experience with application of WRP policy reviews has highlighted its strengths and weaknesses. Its strengths lie, in part, in its articulation of broad goals for the waterfront, and in its role in coordinating waterfront development. Its weaknesses lie in the lack of geographic specificity in its 56 policies, despite the vast body of knowledge which has been collected on the city's waters and shoreline. To the extent that the WRP better reflects the city's waterfront planning objectives, it will begin to acquire a more realistic and focused interpretation.

Revision of the Waterfront Revitalization Program requires several steps. The first and most important is the preparation of a set of regional policy guidelines for New York City which would more precisely delineate the areas of special significance identified in the comprehensive plan and define the parameters for reviewing proposals in these areas.

The policy guidelines would provide the foundation for development of one of the regional waterfront plans called for throughout the state by the Governor's Task Force.

New York City is a region itself, with five counties and almost 20 percent of the 3,200 total miles of New York State's coastline. The city is strategically located at the intersection of three other significant regional entities: the Hudson River Estuary, the Long Island Sound and the Atlantic Ocean Bight. Multi-jurisdictional issues involving adjoining Hudson River or Long Island regions would be addressed as part of this effort.

Just as New York City was the first municipality in the state to adopt a local WRP, it can again provide the model for the state's regional planning efforts.

The revised policy guidelines would provide the necessary information to allow for formal revision to the city's Waterfront Revitalization Program under Section 197-a of the City Charter. They would clearly define the city's waterfront characteristics and priorities and add geographic specificity to the application of WRP policies. As recommended in the plan, the revisions would advance habitat and natural resource protection, public access, water-dependent uses, and redevelopment in appropriate locations by providing locational parameters to policies which generally are applicable across-the-board. The revisions would incorporate specific guidelines to allow such actions as dredging, waterfront infrastructure repair and redevelopment to proceed more expeditiously and in an environmentally sound manner. Development of these guidelines will require a coordinated effort by DCP and other city and state regulatory agencies.

Until WRP is formally revised under 197-a, the Department will be guided by the findings and recommendations of the Comprehensive Waterfront Plan in its WRP consistency reviews.

PUBLIC INVESTMENT

The city is faced with enormous demands on its capital resources, from the need to rebuild its infrastructure to the need to address environmental and social problems. The Comprehensive Waterfront Plan contains recommendations which require capital and operating expenditures well beyond the city's current ability to fund. However, the plan is intended as a long-term strategy for guiding future waterfront investment and resource allocation over a span of many years. Even in the short-term, the plan can provide a basis for better coordinating waterfront capital investments, setting priorities and identifying alternative funding sources and mechanisms.

The four basic components of the plan require somewhat different investment strategies, most of which must be implemented by agencies other than DCP from a variety of funding sources.

THE NATURAL WATERFRONT

The natural waterfront has benefitted from tremendous public investment in water quality improvements over the past 30 years. In addition to continuation of existing and planned programs for wastewater treatment and CSO abatement, the plan recommends additional investment to reduce non-point source pollution, especially in the areas identified as having significant natural resources. An investment strategy relating to non-point pollution, including stormwater runoff guidelines and preservation of wetland buffer areas, should be developed jointly by concerned agencies including DEP, DRP, DCP, City and State Departments of Transportation, the NYS Department of Environmental Conservation and the NYS Department of State.

One of the primary mechanisms for protecting environmental resources is the acquisition of private property. The plan supports DEP's program to acquire wetlands for stormwater management and pollution control in Staten Island and DPR's acquisition of critical areas for habitat preservation as funding becomes available.

THE PUBLIC WATERFRONT

New waterfront public access will be achieved, in large part, through private and public redevelopment of the waterfront. Approved redevelopment projects will incorporate public access, and zoning text reform will require public access in future redevelopment.

The plan for the public waterfront identifies a range of capital improvements, including new access to and along the waterfront, development of a network of bicycle and waterfront trails, acquisition of new parkland and improvements to undeveloped parks and other access points. Many of the plan's recommendations parallel those identified by DPR for its existing parks, or have been endorsed by open space organizations.

The city's budget constraints have reduced DPR's capital program and operating budget for park acquisition, improvements and main-

tenance, and DOT's program for rehabilitating and building pedestrian bridges over roads and rail lines. DCP will encourage these agencies to consider and incorporate recommended improvements in their capital program when allocating future resources. As funding becomes available, acquisition and development programs should be targeted to linkages between existing public open spaces, and to areas that are currently underserved by waterfront open space and have limited potential for waterfront redevelopment.

DCP will also help identify alternative funding sources. For example, the recently approved Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) provides a pool of federal funds for improvements related to bicycle and pedestrian waterfront trail development and pedestrian bridges over highways and rail corridors. To obtain these funds, the Department of City Planning, City and State Departments of Transportation, and City and State Departments of Parks and Recreation should continue to work together in developing a coordinated waterfront open space strategy.

Creation of public access on privately-owned property requires a monitoring and enforcement effort to ensure that the components are built as planned and, once constructed, are properly maintained and kept open to the public. DCP will work with other agencies to examine alternative management models and to set guidelines for the maintenance of these properties. Certain major redevelopments, such as Manhattan West Side Waterfront, Hunter's Point in Queens, or Brooklyn Harbor, are likely to be managed by specific entities established for that purpose. Alternatives for other waterfront developments might include, for example, the grouping of a number of sites under the jurisdiction of a conservancy or special administrator using pooled contributions for maintenance and security. The study of management alternatives would examine the feasibility of such a conservancy, including its structure and funding sources, as well as the issue of liability.

THE WORKING WATERFRONT

Perhaps more than any other capital asset, the infrastructure that sustains working waterfront uses has been neglected and allowed to decay. Investments in bulkhead repair, pier stabilization and highway and rail intermodal connections are needed. As called for in the plan for the working waterfront, DCP will seek to establish a task force of public agencies with waterfront jurisdiction to develop a coordinated capital improvement strategy for port facilities. The task force would examine methods of more effectively leveraging private money by extending the terms of municipal leases on waterfront property and encouraging lessees to undertake capital improvements.

THE REDEVELOPING WATERFRONT

Many potentially developable sites are underserved by vital infrastructure including roadways, sewer, water and public transportation. These infrastructure needs will be determined more specifically in the context of the rezoning process. Public capital investments in infrastructure will be coordinated with redevelopment projects, where appropriate.

COORDINATION

Coordination is one of the keys to successful implementation of the Comprehensive Waterfront Plan. Public agencies, industries, private land owners, residents, civic organizations and community and neighborhood groups all have an interest and a role in planning and managing the waterfront. Many recommendations cut across jurisdictional boundaries and will require thoughtful discussion and, perhaps, new structures for intergovernmental cooperation. These recommendations include development of guidelines as part of WRP reform, formulation of a non-point source pollution control program and capital investment strategies.

The plan for the Natural Waterfront calls for new and existing interagency groups to work on a variety of programs for natural resource

protection, including beach nourishment, non-point source pollution, harbor drift and site planning guidelines for city-owned properties in Special Natural Areas. The plan for the Public Waterfront requires a cooperative effort to further public access including maintenance, management, planning and public education. The Working Waterfront recommends a coordinated strategy for improving the port infrastructure while establishing harbor-wide maintenance standards that provide a balance between habitat protection and essential dredging and operational improvements.

DCP is committed to the establishment of interagency working groups and the coordination of efforts needed to implement these recommendations. Where interagency task forces are in place, the Department will work with them to coordinate particular areas of joint concern. The Department will issue periodic status reports as implementation of the Comprehensive Waterfront Plan progresses.

Taken together, the strategic actions outlined in this chapter represent a new beginning for the city's waterfront. The potential now exists for concerted public action in response to the citywide enthusiasm for an active and accessible shoreline. There are renewed commitments for coastal management programs on both the federal and state level. The challenge of this plan is to set a realistic course of action for the waterfront that strengthens the city's economy, promotes public enjoyment and tourism, provides new housing and preserves our natural resources.

APPENDIX A

SUMMARY OF WATERFRONT REACH STUDIES

A major component of this Comprehensive Waterfront Plan is a set of local land use studies prepared for each segment of city's waterfront. These studies both inform and are informed by the policies articulated in the plan. They examine waterfront conditions and land use, providing the necessary building blocks for developing the plans for the Natural, Public, Working and Redeveloping Waterfronts. At the same time, the goals and policies articulated in the Waterfront Plan helped shape the local waterfront studies and their specific recommendations.

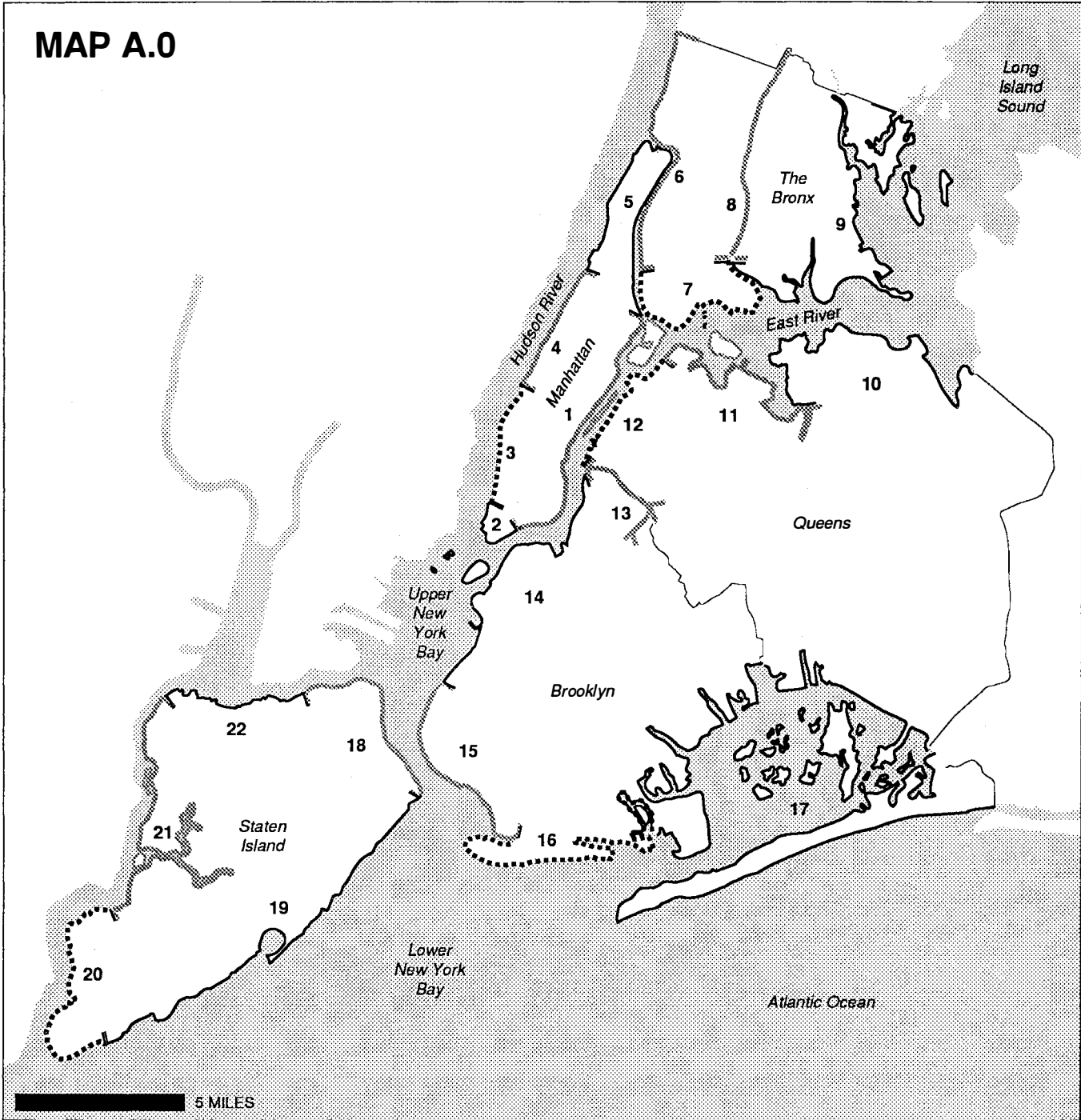
The city's waterfront was divided into 22 study reaches (Map A.0), reach being a nautical term for a continuous expanse of water. The reaches were designated based on land use, natural features, and physical and political boundaries. In most cases, the depth of the reach study area was limited to blocks fronting on or near the waterfront. However, in most areas where significant land use changes were considered, the studies examined broad upland areas to assess the implications of change on the waterfront. Each reach study includes an examination of existing conditions, an identification of planning and waterfront issues, and recommendations for achieving the goals articulated in the Waterfront Plan. Detailed reports on each of the reach studies will be released over the coming months.

This appendix summarizes those reach studies. Each Reach Summary includes a "Gazetteer" providing basic geographic, land use and zoning information, and the study's major recommendations. The recommendations are grouped according to the four major elements of the waterfront plan — Natural, Public, Working and Redeveloping — and keyed to a map of the reach. If major findings or recommendations are not made for a particular element, it has not been included in the summary.

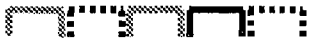
WATERFRONT PLANNING REACHES

- | | |
|---|---------------------------------------|
| 1 Manhattan East Side | 12 West Queens |
| 2 Lower Manhattan | 13 Newtown Creek |
| 3 Manhattan Lower West Side | 14 Brooklyn Upper Bay |
| 4 Manhattan Upper West Side | 15 Brooklyn Lower Bay |
| 5 Northern Manhattan | 16 Coney Island/Sheepshead Bay |
| 6 Bronx/Harlem and Hudson Rivers | 17 Jamaica Bay/Rockaway |
| 7 South Bronx | 18 Staten Island North Shore |
| 8 Bronx River | 19 Staten Island South Shore |
| 9 East Bronx | 20 Arthur Kill South |
| 10 Queens North Shore | 21 Arthur Kill North |
| 11 Queens Upper East River | 22 Kill Van Kull |

MAP A.0



Reach Study Recommendations / **Key Map**



reach boundaries

REACH 1: MANHATTAN EAST RIVER

Location: Manhattan's East River waterfront from the Brooklyn Bridge to 125th Street, including Roosevelt Island, and Randalls and Ward's islands

Upland Neighborhoods: Lower East Side, Midtown East, Upper East Side, East Harlem, Roosevelt Island

Shoreline: bulkhead, riprap, and pier/platform

Zoning/Land Use: M-zoned parking and municipal facilities outboard of FDR Drive, high-density (R7-R10) residential and institutional inland. Roosevelt Island is medium-density (R7-2) residential and institutional, and Randalls Island contains parkland and Ward's Island contains parkland and municipal facilities.

Waterfront Parkland: Randalls Island Park, Carl Schurz Park, East River Esplanade, East River Park

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Manhattan's East River shorefront does not contain any significant natural areas, but the water itself is an important fish migration route.

PUBLIC WATERFRONT

Nearly the entire waterfront is in public ownership, creating opportunities to complete a continuous waterfront esplanade along most of the reach.

Gaps in the esplanade are from the Brooklyn Bridge to East River Park, 18th to 23rd streets, 34th to 36th streets, 38th to 41st streets, and 60th to 62nd streets.

- 1 RFP's for development of city-owned parcels should require an esplanade component. As leases expire, incorporate esplanade requirements into leases. Where alternative uses can be identified, phase out leases to non-water-dependent uses that are incompatible with public access.
- 2 Construct new or rehabilitated esplanade and access points in conjunction with redevelopment of waterfront municipal facilities such as the FDR Drive or the seawall.
- 3 Consolidate maintenance of the entire esplanade under the jurisdiction of a single management entity.

WORKING WATERFRONT

The majority of M-zoned land is leased for parking or non-water-dependent municipal uses. Ferry service for recreation and commuting to serve the adjacent high-density residential communities should be explored.

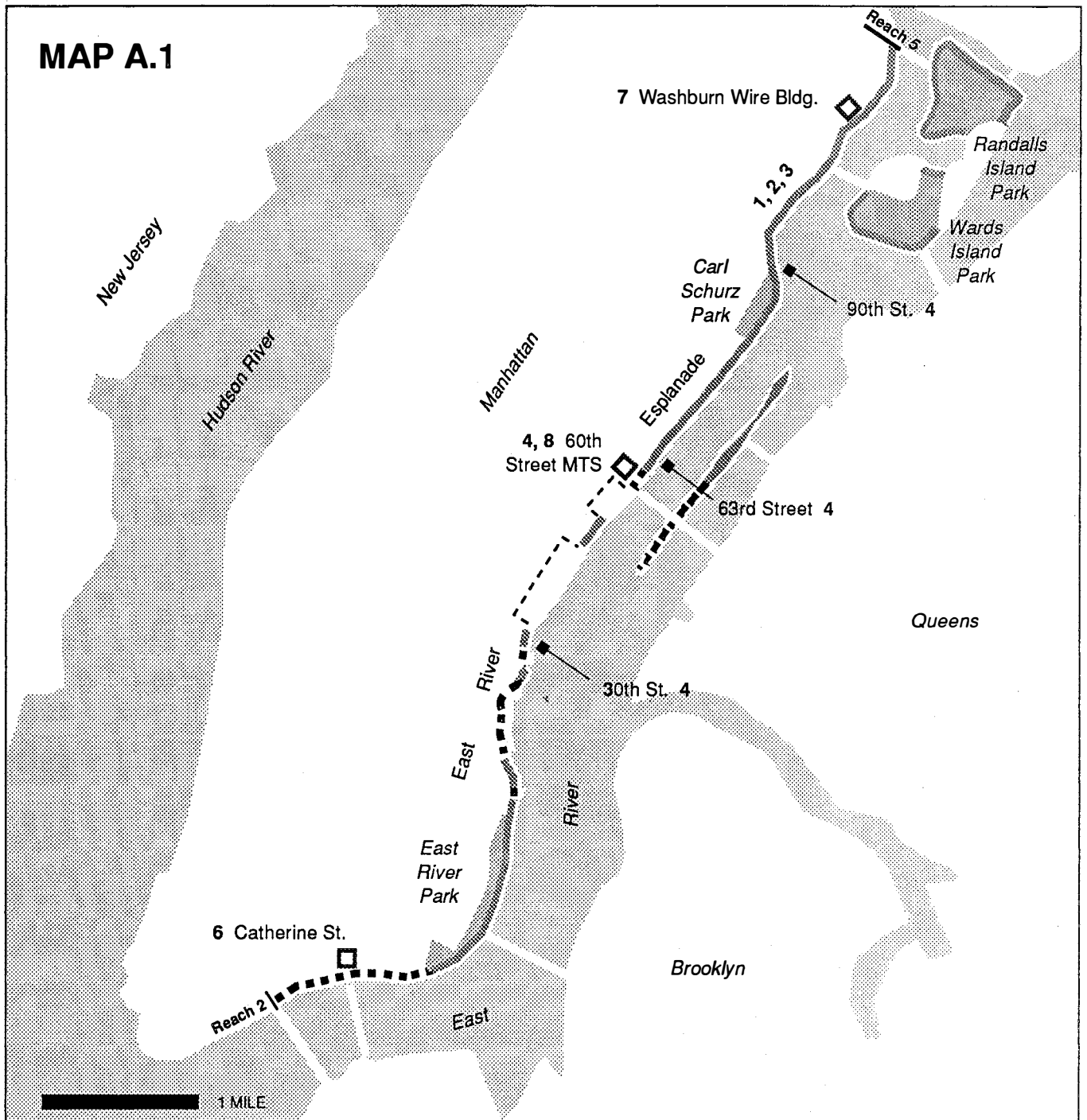
- 4 Explore opportunities to expand or reestablish ferry service. Potential sites include 34th, 60th, 63rd, and 90th streets.
- 5 Where feasible, lease city-owned property for water-dependent and water-enhancing uses.

REDEVELOPING WATERFRONT










Three vacant sites provide opportunities for redevelopment for public uses.

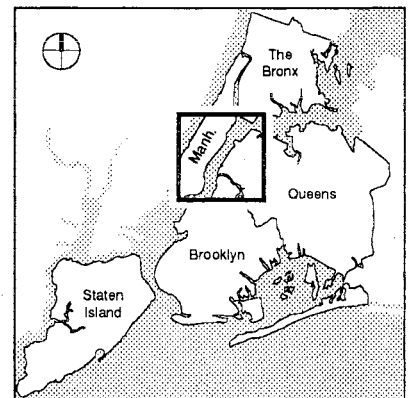
- 6 Develop a site between Catherine Street and Market Street for a barge restaurant.
- 7 Redevelop the Washburn Wire Building, east of the FDR Drive at 117th Street, for TV or film studios. Explore reuse of pier for public access.
- 8 Reuse the 60th Street Marine Transfer Station building. The two-story structure could accommodate an open-air pavilion on the upper level, and a restaurant or other publicly oriented use on the lower level.

MAP A.1



East Side / Reach 1 Recommendations

- | | | | |
|---|--|---|------------------------------------|
|  | significant coastal habitat |  | upland connection |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access or overpass | 20 | recommendation key number in text |



REACH 2: LOWER MANHATTAN

Location: southern tip of Manhattan, from the Brooklyn Bridge on the East River to Chambers Street on the Hudson, including Governors, Ellis, and Liberty Islands

Upland Neighborhoods: South Street Seaport, Financial District, Battery Park City

Shoreline: entirely bulkheaded, with numerous piers

Zoning/Land Use: mid- to high-density commercial and residential in Battery Park City; central business district(C5-C6); South Street Seaport Special District

Waterfront Parkland: Battery Park, Battery Park City Esplanade

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The waterfront does not contain any significant natural areas. The Hudson River is an important fish habitat.

- 1 Support designation of the Lower Hudson River Significant Coastal Fish and Wildlife Habitat.

PUBLIC WATERFRONT

Ellis and Liberty Islands, Battery Park, Battery Park City, and the South Street Seaport are regional recreational and tourist attractions. Opportunities for improved access to and links between these attractions will be pursued.

- 2 Create public access rights-of-way to complete a continuous esplanade by filling these gaps: from Pier 13 to north of the Seaport, between Battery Park City and Battery Park, and at the Battery Maritime Building, S.I. Ferry Terminal, and Coast Guard sites.
- 3 Improve esplanade between Battery Maritime Building and Pier 13, so it is consistent with the design of the upgraded portions of the East River Esplanade.
- 4 Create additional access to the waterfront along West and South streets in accordance with DCP's forthcoming Plan for Lower Manhattan.
- 5 Provide interim public uses for piers 9 - 14 as recommended in the East River Docks Study.
- 6 Upgrade existing access points with signage and crosswalk treatment, and rationalize traffic patterns.
- 7 Relocate or reconfigure parking under FDR Drive to improve public access.

WORKING WATERFRONT

Ferries from other boroughs, New Jersey, and Governors, Ellis and Liberty islands are a significant water-dependent use.

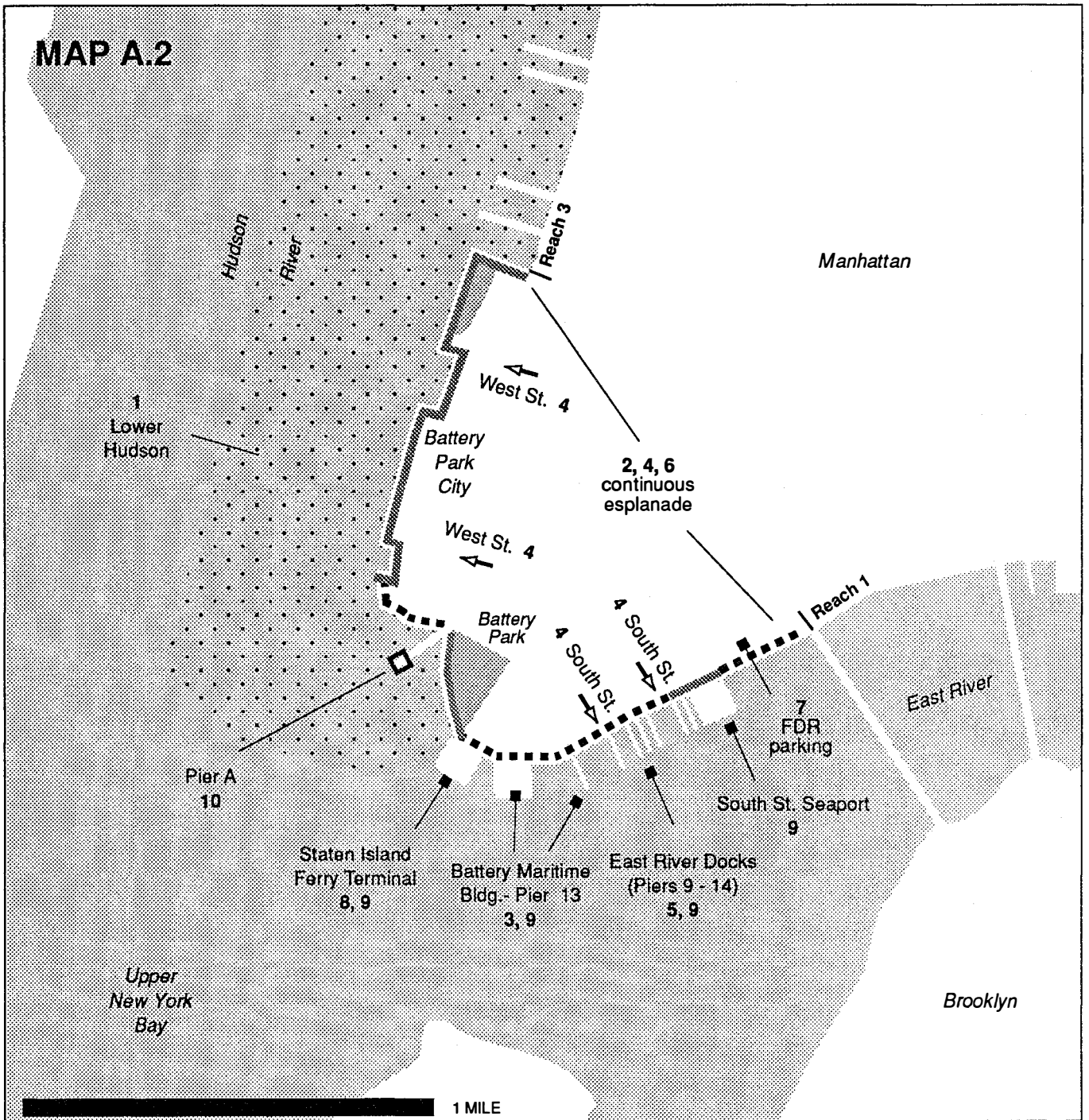
- 8 Reconstruct the fire-damaged Staten Island Ferry Terminal with retail, restaurants, and improved pedestrian access.
- 9 Pursue additional ferry routes from the Battery Maritime Building, Staten Island Ferry Terminal, South Street Seaport and the East River Docks.

REDEVELOPING WATERFRONT










DCP is preparing a comprehensive plan for Lower Manhattan which will present a land use and development strategy for waterfront sites. The reach also includes the northern portion of Battery Park City, which will provide residential, commercial, and institutional development.

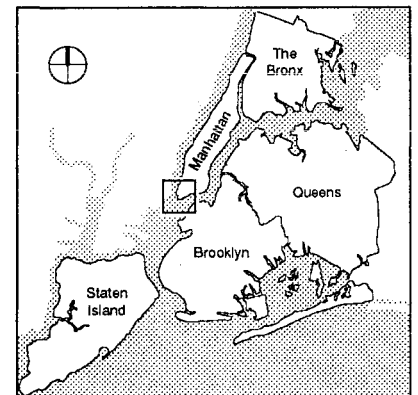
- 10 Pier A will be redeveloped for a restaurant and visitors' center that should provide a link between Battery Park and Battery Park City.
- 11 The Plan for Lower Manhattan will establish the framework for long term redevelopment within the reach.

MAP A.2



Lower Manhattan / Reach 2 Recommendations

- | | |
|--|--|
|  significant coastal habitat |  significant maritime / industrial area |
|  existing continuous or general access |  approved redevelopment project |
|  proposed continuous or general access |  proposed redevelopment area |
|  upland extent of park |  other site specific recommendation |
|  new or improved point access or overpass | 20 recommendation key number in text |



REACH 3: MANHATTAN LOWER WEST SIDE

Location: Hudson River from Chambers Street to 59th Street

Upland Neighborhoods: Tribeca, SoHo, West Village, Chelsea, Clinton

Shoreline: bulkhead and piers

Zoning/Land Use: M1 to M3 industrial zoning on the waterfront, except for some C6 and C1-7 areas in the West Village. Upland residential and commercial districts are medium-density, R6 to R8. The Lower Manhattan Mixed-Use District permits limited residential conversion and construction in manufacturing and commercial zones.

Waterfront Parkland: none

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The Hudson River is an important fish habitat. The shorefront itself is not a natural resource.

- 1 Support designation of the Lower Hudson River Significant Coastal Fish and Wildlife Habitat.

PUBLIC WATERFRONT

- 2 The West Side Waterfront Panel (WSWP) has proposed development of a 270-acre Hudson River Waterfront Park extending the full length of the reach. DCP is a member of the panel and is participating in the planning for the park, which would include a continuous waterfront esplanade, protected open water areas, and public piers.

WORKING WATERFRONT

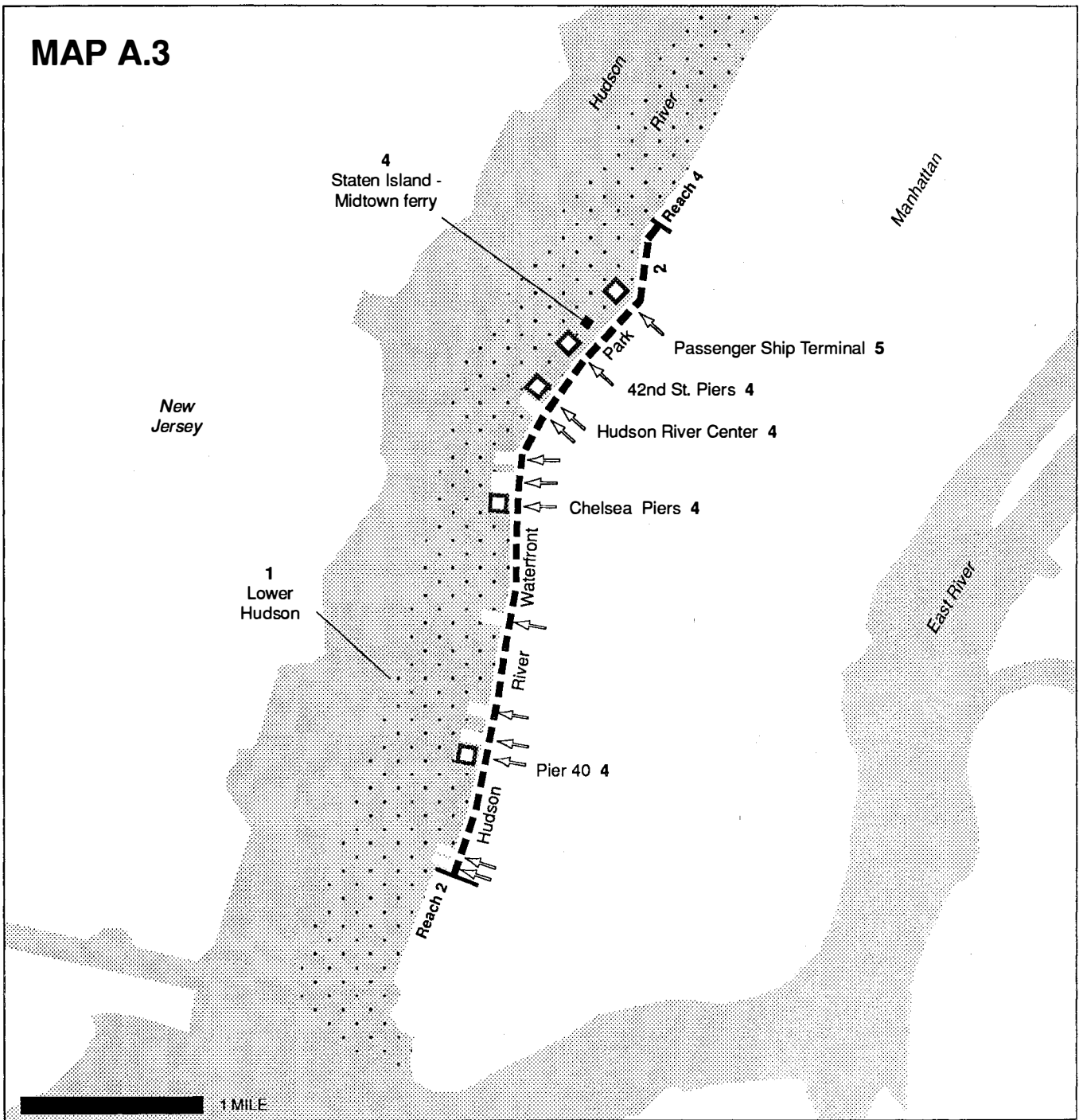
The working waterfront consists of a number of municipal uses such as waste transfer and Con Edison facilities, excursion vessels, ferry piers and the Passenger Ship Terminal, which accommodates ocean liners. The Route 9A reconstruction by State DOT will improve vehicular access on the West Side.

- 3 Explore feasibility of Staten Island-Midtown ferry service.










REDEVELOPING WATERFRONT

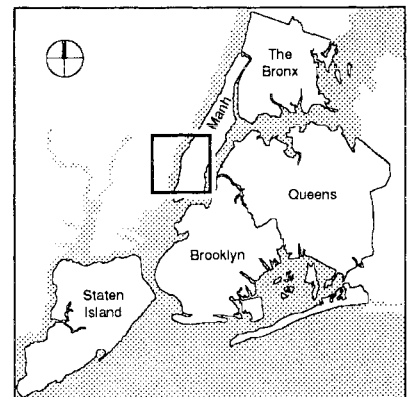
- 4 New development opportunities have been identified by the West Side Waterfront Panel at Pier 40, the Chelsea Piers, Pier 76 opposite the Convention Center (Hudson River Center), and the piers at the foot of 42nd Street.
- 5 Explore redevelopment opportunities in conjunction with enhanced passenger ship operations at the Passenger Ship Terminal

MAP A.3



Lower West Side / Reach 3 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access or node | 20 | recommendation key number in text |



REACH 4: MANHATTAN UPPER WEST SIDE

Location: Hudson River from 59th Street to 125th Street

Upland Neighborhoods: Upper West Side, Morningside Heights

Shoreline: riprap and bulkhead

Zoning/Land Use: North of 72nd Street, Riverside Park and the Henry Hudson Parkway on the waterfront, and high-density (R8 - R10) residential upland. South of 72nd Street the 76-acre Penn Yards site is vacant, with a C3 zone along the waterfront and R8, R10, and C4-7 upland.

Waterfront Parkland: Riverside Park

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The shoreline does not contain any significant natural resources. The waters of the Hudson River are a significant fish habitat.

- 1 Support designation of the Lower Hudson River Significant Coastal Fish and Wildlife Habitat.

PUBLIC WATERFRONT

The development of the Penn Yards site (proposed Riverside South) presents an opportunity for a public waterfront park and a link between Riverside Park to the North and the proposed Hudson River Waterfront Park to the south. Improvements to Riverside Park would enhance its value as waterfront public space.

- 2 Develop a linear connection from Riverside Park to the proposed Hudson River Waterfront Park through the 23-acre public park component of the proposed Riverside South development.
- 3 Support DPR's master plan for Riverside Park which includes improving the walkways along the shore, removing pedestrian-vehicular conflicts and providing public access at the 79th Street Marina.

WORKING WATERFRONT

The only active maritime use in the reach is the 79th Street Marina.

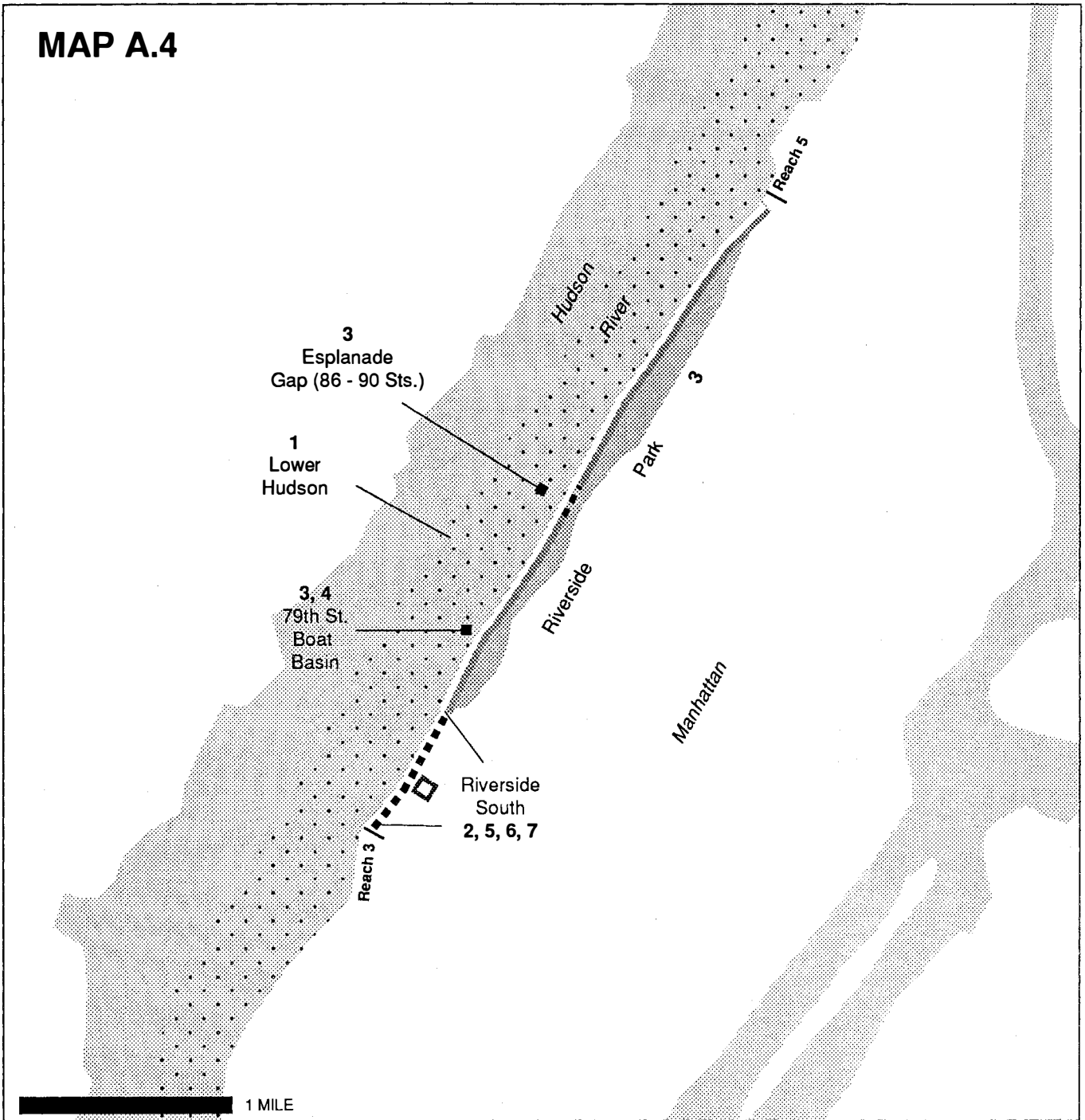
- 4 Support DPR plans for improvements to the 79th Street Marina, including public access and transient docks.

REDEVELOPING WATERFRONT

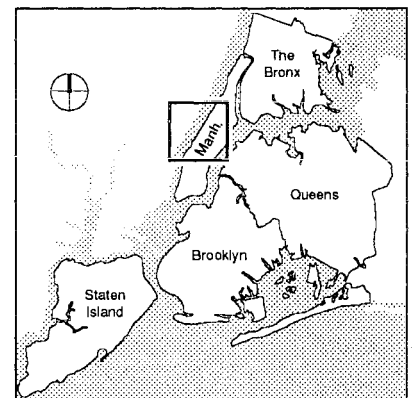
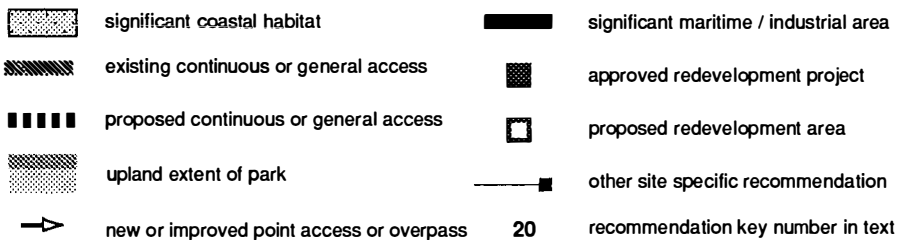
The proposed Riverside South development on the Penn Yards site would reactivate a vacant site for recreational, residential, and commercial use. Planning principles for the site, developed with active public participation, include:

- 5 Creation of a new, 23-acre public waterfront park which would connect with Riverside Park and the Hudson River Park;
- 6 A future inboard replacement of the Miller Highway, so that the new public park could be located directly on the water's edge.
- 7 Development to be harmonious with the scale and character of adjacent areas of the Upper West Side.

MAP A.4



Upper West Side / Reach 4 Recommendations



REACH 5: NORTHERN MANHATTAN

Location: Harlem and Hudson riverfronts north of 125th Street

Upland Neighborhoods: Manhattanville, Hamilton Heights, Washington Heights, Inwood, Harlem, East Harlem

Shoreline: mostly riprap and bulkhead, some natural shoreline at northern end

Zoning/Land Use: most of the shoreline is parkland, separated from the upland by highways and railroad lines. Industrial areas are located between 125th and 145th streets on the Hudson River, the Sherman Creek area north of Academy Street on the Harlem River, and around the eastern terminus of 125th Street. A small C3 area is mapped at Sherman Creek, and Columbia University's Baker Field is zoned R7-2. Upland communities are high-density residential, R8 and R7-2.

Waterfront Parkland: Riverside Park, Riverbank State Park, Fort Washington Park, Inwood Hill Park, Highbridge Park, Harlem River park strip between 125th Street and 145th Street

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The reach contains a variety of valuable natural resources, including wetlands, the last native forest in Manhattan, and significant fish and wildlife habitats.

- 1 Support designation of the Lower Hudson River Significant Fish and Wildlife Habitat, which includes Spuyten Duyvil Creek and the Inwood Hill Park water's edge.
- 2 Support development of the Urban Ecology Center on Crescent Island in Inwood Hill Park.
- 3 City and State DOT and Triborough Bridge and Tunnel Authority should improve drainage from Henry Hudson Parkway to protect forested slopes from erosion.
- 4 Upgrade Sherman Creek wetlands through interim cleanup. Require that a portion of the natural edge be restored and maintained as a component of future development.

PUBLIC WATERFRONT

Most of the reach's waterfront is parkland, but grade changes, highways and rail lines limit access. The Hudson River waterfront offers the potential for continuous linear access. Links to upland communities can also be enhanced.

- 5 Develop a continuous pedestrian/bicycle path along the Hudson River by closing gaps between: 125th and 145th streets; 155th and 158th streets; and 181st and 187th streets.
- 6 Develop a fishing/recreation pier at the foot of West 125th Street.

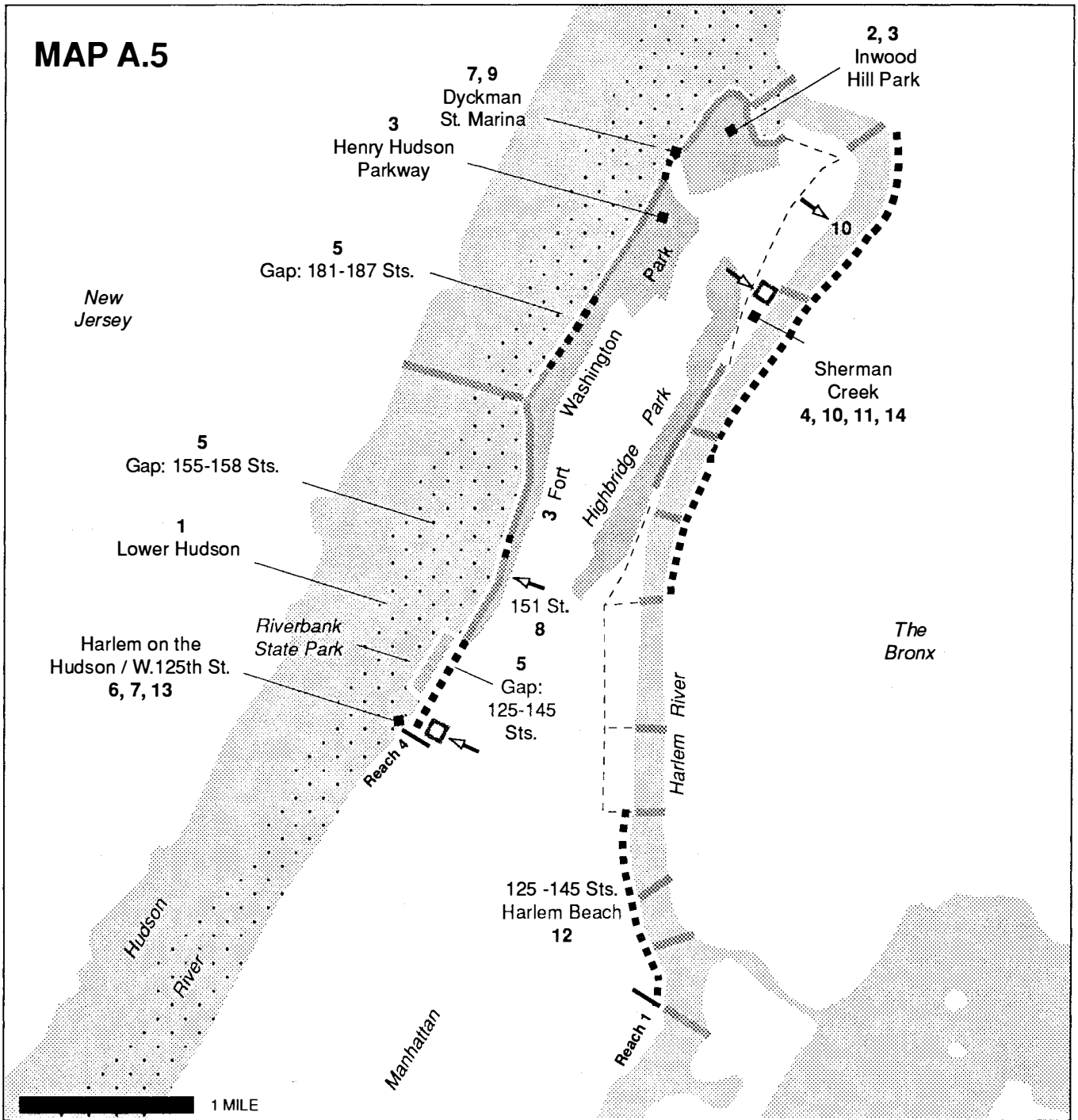
- 7 Develop landing sites for waterborne access along the Hudson at 125th Street and Dyckman Street.
- 8 Rehabilitate existing access point across the Henry Hudson Parkway at 151st Street
- 9 Develop the Dyckman Street Marina planned as a concession in Fort Washington/Inwood Hill Parks.
- 10 Develop street-end access, compatible with industrial uses, in the Sherman Creek area of the Harlem River waterfront.
- 11 Explore the potential for a rowing center at Sherman Creek, a use that is compatible with wetlands and shallow water depths, but would require limited dredging.
- 12 Extend the East River Esplanade north of 125th Street to 145th Street and develop the proposed Harlem Beach Park.

REDEVELOPING WATERFRONT










The West 125th Street and Sherman Creek areas offer opportunities for a variety of new waterfront uses.

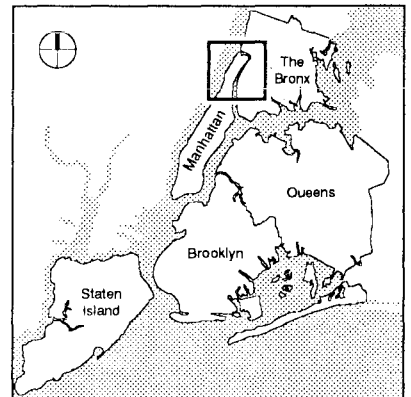
- 13 The development of the proposed Harlem on the Hudson project at 125th Street should include a public pier and waterfront public access that provides a linear connection joining the southern and northern sections of Riverside Park.
- 14 Rezone the area north of Sherman Creek and south of 207th Street to accommodate recreational, residential and/or commercial uses.

MAP A.5



Northern Manhattan / Reach 5 Recommendations

- | | |
|--|--|
|  significant coastal habitat |  upland connection |
|  existing continuous or general access |  approved redevelopment project |
|  proposed continuous or general access |  proposed redevelopment area |
|  upland extent of park |  other site specific recommendation |
|  new or improved point access or overpass | 20 recommendation key number in text |



REACH 6: BRONX HARLEM & HUDSON RIVERS

Location: Hudson and Harlem Rivers from Yonkers city line to Macombs Dam Bridge

Upland Neighborhoods: Riverdale, Spuyten Duyvil, Kingsbridge, Marble Hill, University Heights, Morris Heights, Highbridge

Shoreline: riprap and bulkhead

Zoning/Land Use: parkland and low-density residential and institutional in Riverdale (R1 and R4, with Special Natural Area District NA-2); medium-density (R5-R6) residential in Spuyten Duyvil and Marble Hill; light manufacturing, parking, railyards on the Harlem River shoreline.

Rail lines and/or highways line most of the reach's waterfront.

Waterfront Parkland: Riverdale Park, Spuyten Duyvil Shorefront Park, Roberto Clemente State Park

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The waters of the Hudson River are an important fish habitat.

- 1 Support designation of the Lower Hudson River Significant Coastal Fish and Wildlife Habitat, which includes the mouth of the Harlem River.

PUBLIC WATERFRONT

Access to the water is blocked by rail tracks throughout the reach, as well as by a highway along the Harlem River. New links to waterfront parcels would provide increased opportunities for recreational use.

- 2 Develop a Harlem River waterfront esplanade from Highbridge to Broadway Bridge.
- 3 Create a trail from the proposed Harlem River esplanade in Marble Hill to Spuyten Duyvil, including point access to the water's edge.
- 4 Provide additional access from upland communities and to proposed esplanade.
- 5 Provide route for the Hudson River Greenway and Bronx Boroughwide Bicycle Route System.
- 6 Acquire the Penn Central Triangle at the mouth of the Harlem River, and incorporate it into the adjoining Spuyten Duyvil Shorefront Park. Pedestrian access could be provided by extending the Spuyten Duyvil Metro-North Station's overpass.
- 7 Acquire privately-owned parcels south of 193rd Street for development as a waterfront park.
- 8 Expand and develop the mapped park south of River Park Towers.

WORKING WATERFRONT

The working waterfront component of this reach, located on the Harlem River, includes support facilities for Columbia Presbyterian Hospital, service, storage, commercial, and railroad uses, as well as some vacant parcels.

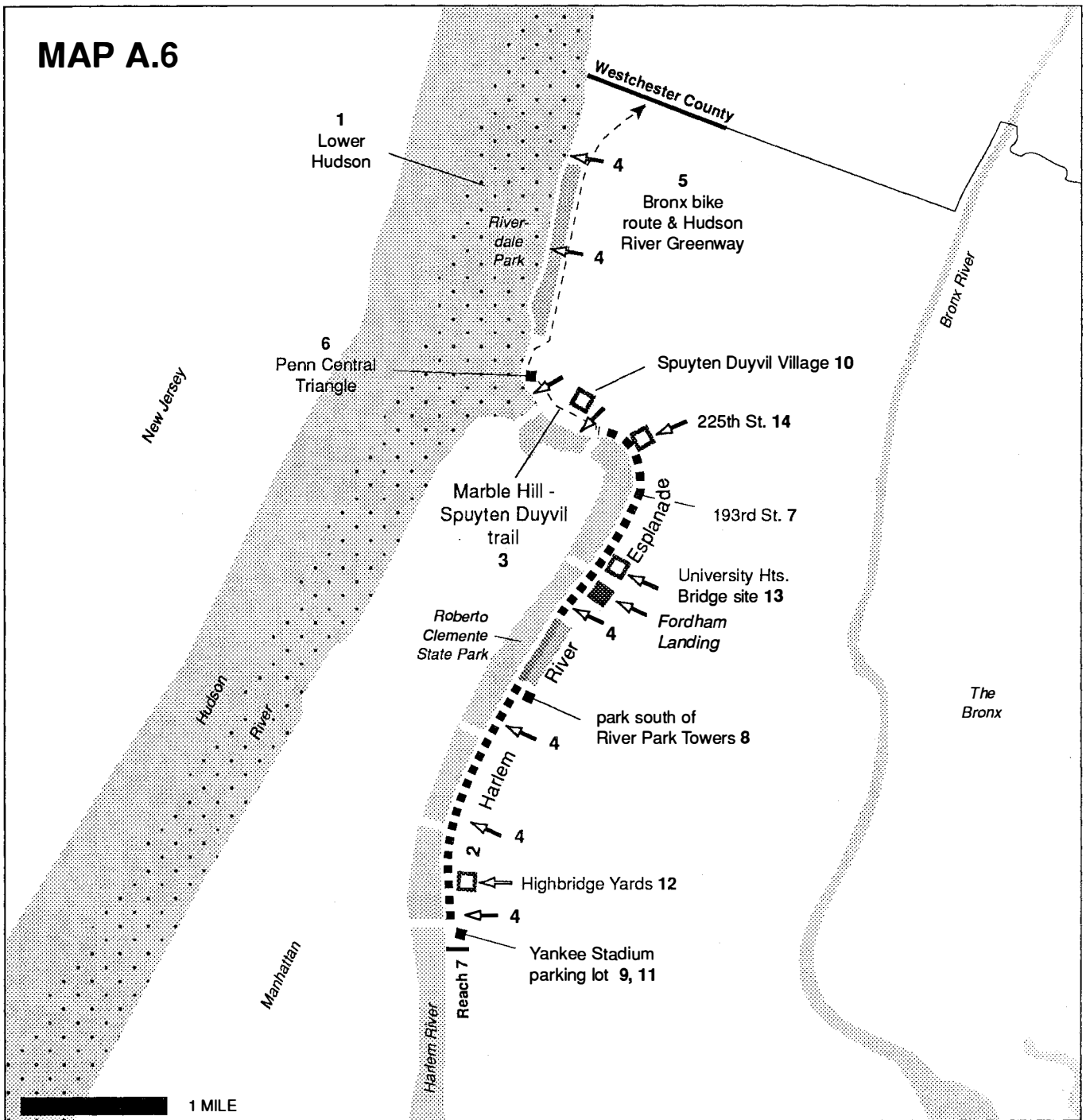
- 9 Explore the feasibility of a park-and-ride ferry operation at the Yankee Stadium parking site.

REDEVELOPING WATERFRONT










Vacant and underutilized sites along the reach present opportunities for residential/public access redevelopment.

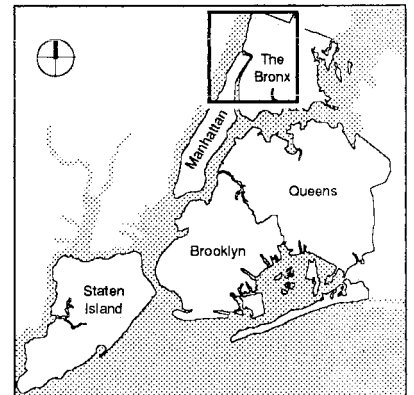
- 10 Develop site planning guidelines, including appropriate densities, for residential and open space development of the six-acre city-owned Spuyten Duyvil Village site, currently zoned R6.
- 11 Develop the waterfront parcel used for Yankee Stadium parking for multi-level mixed use, including parking and recreational use.
- 12 Develop residential use on platform over the Highbridge Rail Yards and Metro North line.
- 13 Rezone city-owned and adjacent parcels north of University Heights Bridge from M3-1 and M1-1 to R7.
- 14 Rezone parcels between Broadway and the Columbia Presbyterian industrial site on 225th Street from M1-1 to R6.

MAP A.6



Bronx Harlem Hudson / Reach 6 Recommendations

- | | | | |
|---|--|---|------------------------------------|
|  | significant coastal habitat |  | upland connection or bikeway |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access or overpass | 20 | recommendation key number in text |



REACH 7: SOUTH BRONX

Location: Harlem River, Bronx Kill, East River, and Bronx River from the Bronx Terminal Market to the Bruckner Boulevard Bridge

Upland Communities: Mott Haven, Port Morris, Hunts Point

Shore Conditions: bulkhead and riprap

Zoning/Land Use: M3, M2, and M1 zoned manufacturing areas, including warehousing and distribution uses and private and municipal waste handling facilities. Hunts Point has a small upland R6 residential area. North Brother Island is currently uninhabited.

Waterfront Parkland: no formal parks

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

As an industrial area, this reach offers limited opportunities for improving natural waterfront conditions. North Brother Island and South Brother Island are migratory bird habitats.

- 1 Support designation of North and South Brother islands as Significant Coastal Fish and Wildlife Habitats, provided that future municipal reuse of North Brother Island is not precluded.

PUBLIC WATERFRONT

There are opportunities for limited public access, compatible with the industrial waterfront.

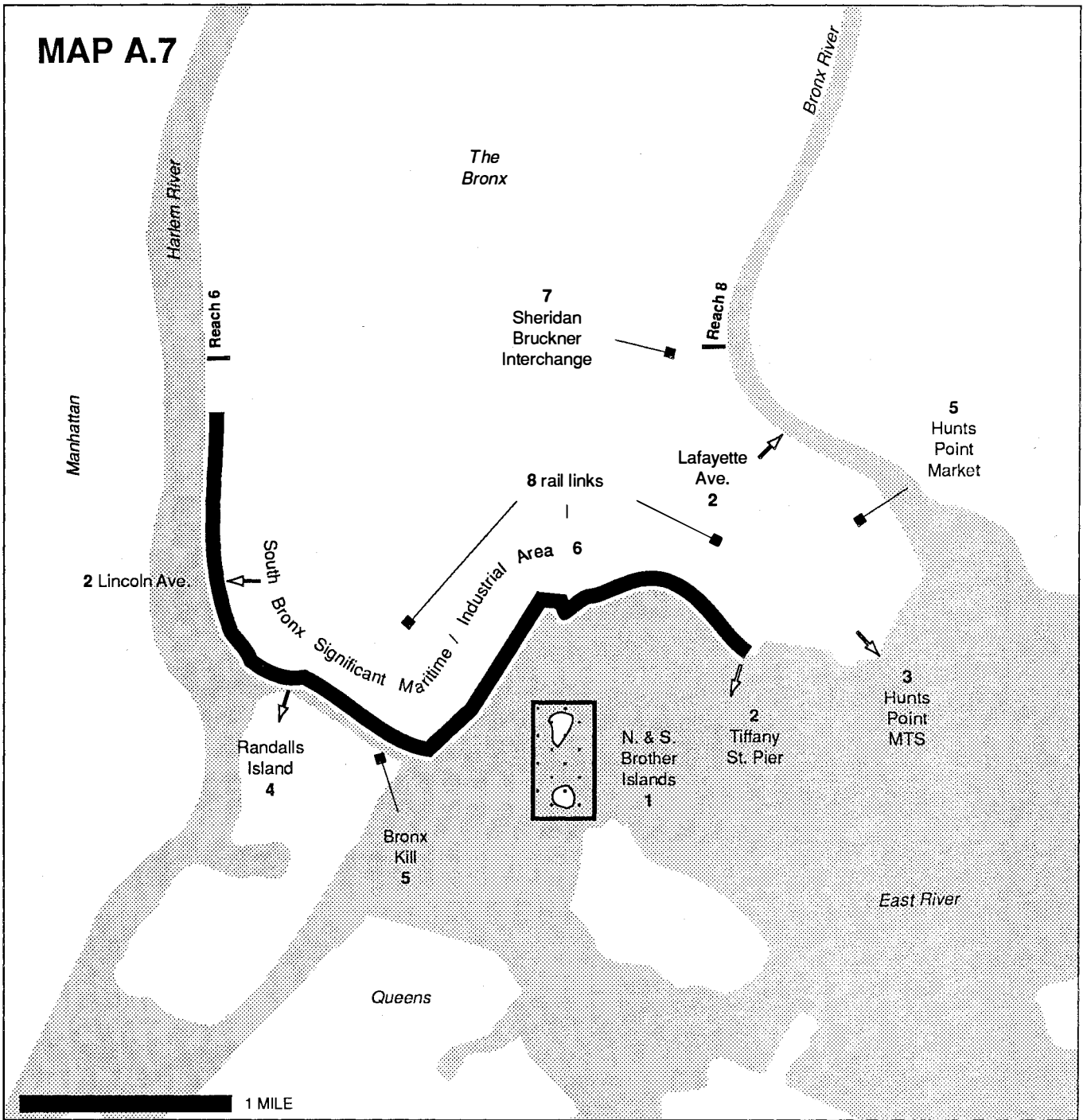
- 2 Develop street end public access compatible with surrounding industrial uses at Lincoln Avenue, Tiffany Street, and Lafayette Avenue. The pier at Tiffany Street should be restored for recreational use.
- 3 If the Hunts Point Marine Transfer Station is vacated by the Dept of Sanitation, it should be reused as a park serving Hunts Point's labor force and upland community in conjunction with the existing Hunts Point Avenue street end access point.
- 4 Provide pedestrian access to Randalls Island as part of the Harlem River Yard redevelopment plan.
- 5 Preserve and landscape publicly owned natural edges along Bronx Kill and on the Hunts Point Market site to improve vistas from parks on the opposite shore.

WORKING WATERFRONT










Offering access to regional highways and freight railways, the South Bronx waterfront is devoted to working uses, some of which are water-dependent. Both private and publicly owned vacant sites are available for development. Access improvements will be needed. The Oak Point Rail Link providing access to a proposed Trailer on Flat Car facility at the Harlem River Yard is expected to be completed by 1995. A sludge processing facility has been proposed for this reach.

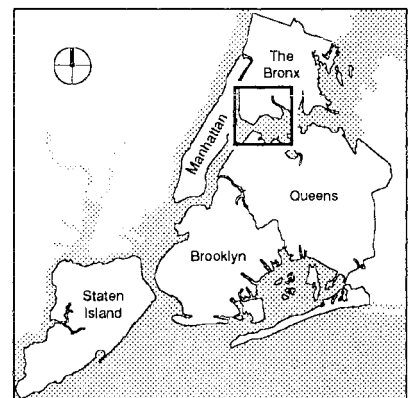
- 6 Designate the South Bronx as a Significant Maritime and Industrial Area.
- 7 Improve vehicular access to the Hunts Point Market area by constructing the Sheridan/Bruckner Expressway interchange.
- 8 Provide rail access between the Harlem River Yard, Oak Point Yard, the Hunts Point Market and other waterfront sites.
- 9 Pursue use of barge and rail transport for municipal uses such as waste handling and sludge disposal to improve air quality and traffic circulation.

MAP A.7



South Bronx / Reach 7 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



REACH 8: BRONX RIVER

Location: Bronx River from Westchester County border to Bruckner Boulevard

Upland Neighborhoods: Woodlawn, Wakefield, Bronxdale, Williamsbridge, West Farms, Bronx River, Crotona Park East, Hunts Point, Soundview

Shoreline: natural in the northern portion, bulkhead south of Westchester Avenue

Zoning/Land Use: M1-1 industrial areas north of 236th Street and south of 172nd Street. mapped parkland above 180th Street. The area between 172nd and 180th Streets is zoned R7-1, but is mostly parkland and highways.

Waterfront Parkland: Bronx Park, including Zoological and Botanical Gardens, Luna Park, Bronx River Parkway

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Extensive efforts to clean and restore the Bronx River date from the turn of the century, and since 1974, have been led by the Bronx River Restoration group and DPR.

- 1 Support continuing efforts to restore natural conditions along the river north and south of Bronx Park.

PUBLIC WATERFRONT

Bronx Park and the Bronx River Parkway offer ample access to the river's edge. Access below Bronx Park is constrained by industrial uses, but some expansion of public access is possible.

- 2 Restore the North Bronx Bikeway through Bronx Park and designate a bikeway along the Bronx River Parkway north of Bronx Park.
- 3 Develop pedestrian and bike trails on both sides of the river between East Tremont Avenue and East 172nd Street.
- 4 Support transfer of state-owned parcels for park use south of East Tremont Avenue and East 177th Street.
- 5 Locate CSO holding tank adjacent to Coliseum building, and treat surface for park use if no longer needed by MTA.
- 6 Develop access to waterfront paths and park at 172nd Street, East Tremont Avenue, 177th Street, and with a ramp from 174th Street Bridge.

- 7 Develop point access and rehabilitate pier south of Westchester Avenue in conjunction with construction of the Edgewater Road access to the Sheridan-Bruckner Expressway interchange.

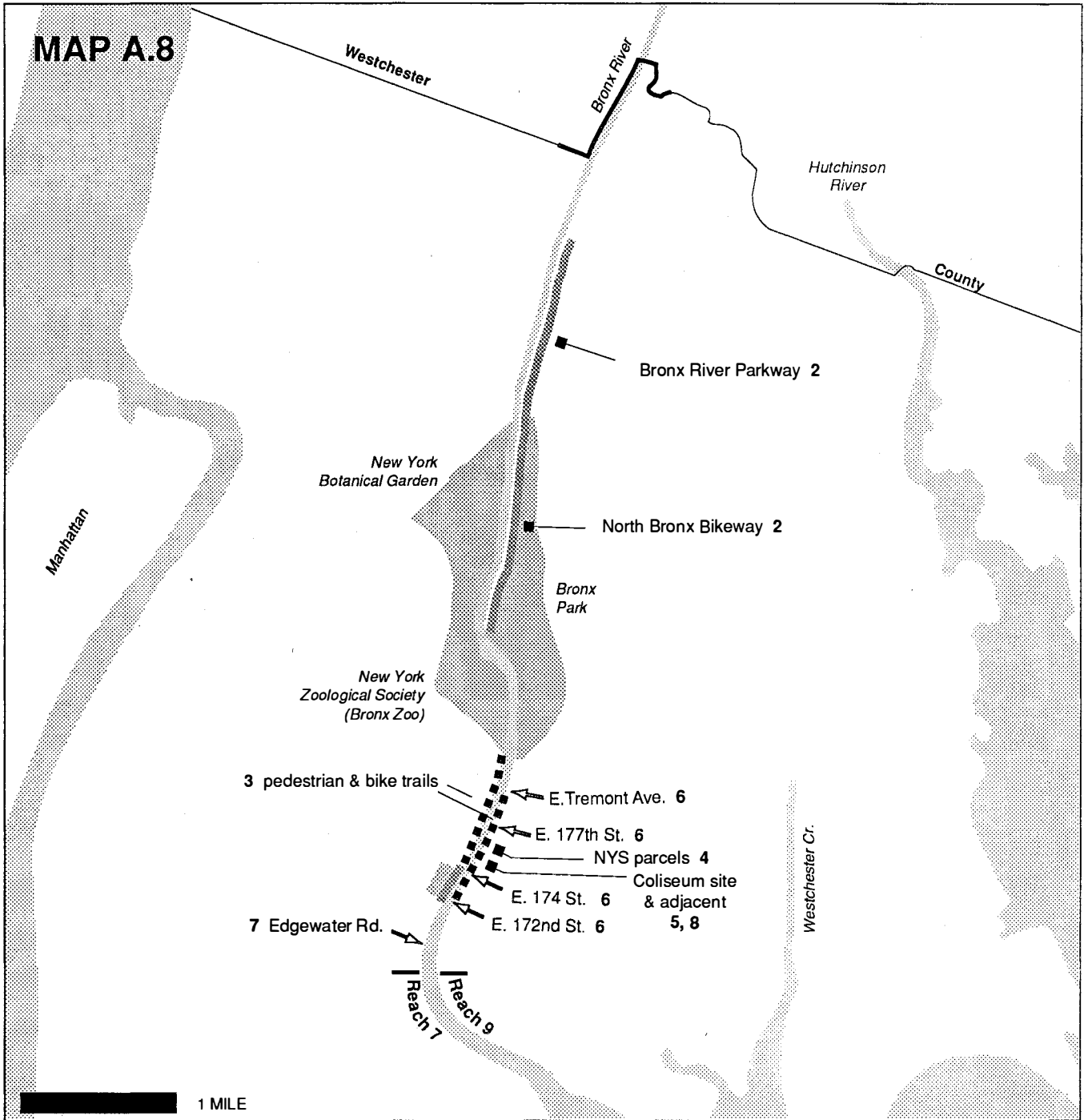
WORKING WATERFRONT

Industrial areas are located south of 180th Street. They include a variety of manufacturing, service, and distribution uses.










REDEVELOPING WATERFRONT

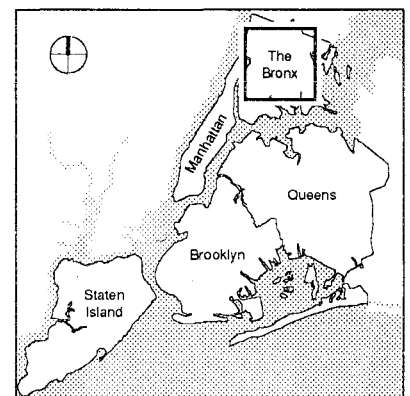
The state-owned Coliseum building, currently used as a TA bus depot, may be vacated and made available for another use.

- 8 Support the reuse of the Coliseum if the site is no longer needed by the MTA. Reuse could include a borough-wide sports facility.



Bronx River / Reach 8 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



REACH 9: EAST BRONX

Location: Bruckner Boulevard Bridge to Westchester County border along Bronx River, East River, Pugsley Creek, Westchester Creek, Long Island Sound, Hammond Cove, Palmer Inlet, Eastchester Bay, Hutchinson River and Pelham Bay Lagoon. The reach includes City and Hart islands.

Upland Communities: Soundview, Harding Park, Clason Point, Castle Point, Throgs Neck, Silver Beach, Locust Point, Edgewater Park, Eastchester Bay, Country Club, Spencer Estates, Co-op City and City Island

Shoreline: natural shoreline, riprap, and bulkhead

Land Use/Zoning: low to mid-density (R3 - R6) residential, parkland, M1, M2, and M3 industrial along Bronx River and Westchester Creek, scattered C3 water related commercial and recreational areas.

Waterfront Parkland: numerous parks including Pelham Bay, Soundview, Ferry Point, Pugsley Creek Parks

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

To create and enhance natural resources, and protect the reach's water quality:

- 1 Support designation of Pelham Bay Park Wetlands as a Significant Coastal Fish and Wildlife Habitat.
- 2 Designate Long Island Sound/East River as a Special Natural Waterfront Area.
- 3 Restore wetlands in city-owned Soundview Lagoons and incorporate into Soundview Park.
- 4 Demap streets which traverse Hammond Cove wetlands.
- 5 Finalize and begin implementation of a containment program for Pelham Bay Landfill.

PUBLIC WATERFRONT

The East Bronx has one of the most extensive public waterfronts in the city. Opportunities exist to develop and enhance these spaces with walkways, esplanades, point access, and boat launches.

- 6 Develop waterfront esplanades in Soundview Park, Ferry Point Park, Pugsley Creek Park, the Co-op City waterfront, and the Castle Hill residential development.
- 7 Map a Waterfront Access Plan from Castle Hill to the YMCA site.
- 8 Landscape waterfront edges of the publicly owned Zerega Industrial Park to improve vistas from parks on the opposite shore.

- 9 Develop street end point access at Lafayette Avenue within the Brush Avenue industrial area, to the TBTA park at Throgs Neck Bridge, at Layton, Lafayette, Outlook, and Watts avenues, and some street ends at Hammond Cove.

- 10 Upgrade the boat launch at Clason Point Park, and develop a new one at Ferry Point Park if warranted by demand.

- 11 Explore potential sites for fishing and boat landing piers at City Island, Ferry Point Park, and Soundview Park.

WORKING WATERFRONT

- 12 Locate a CSO holding tank on a publicly owned site in the Co-op City area, and treat the site's surface for park use if no longer needed by DOT.

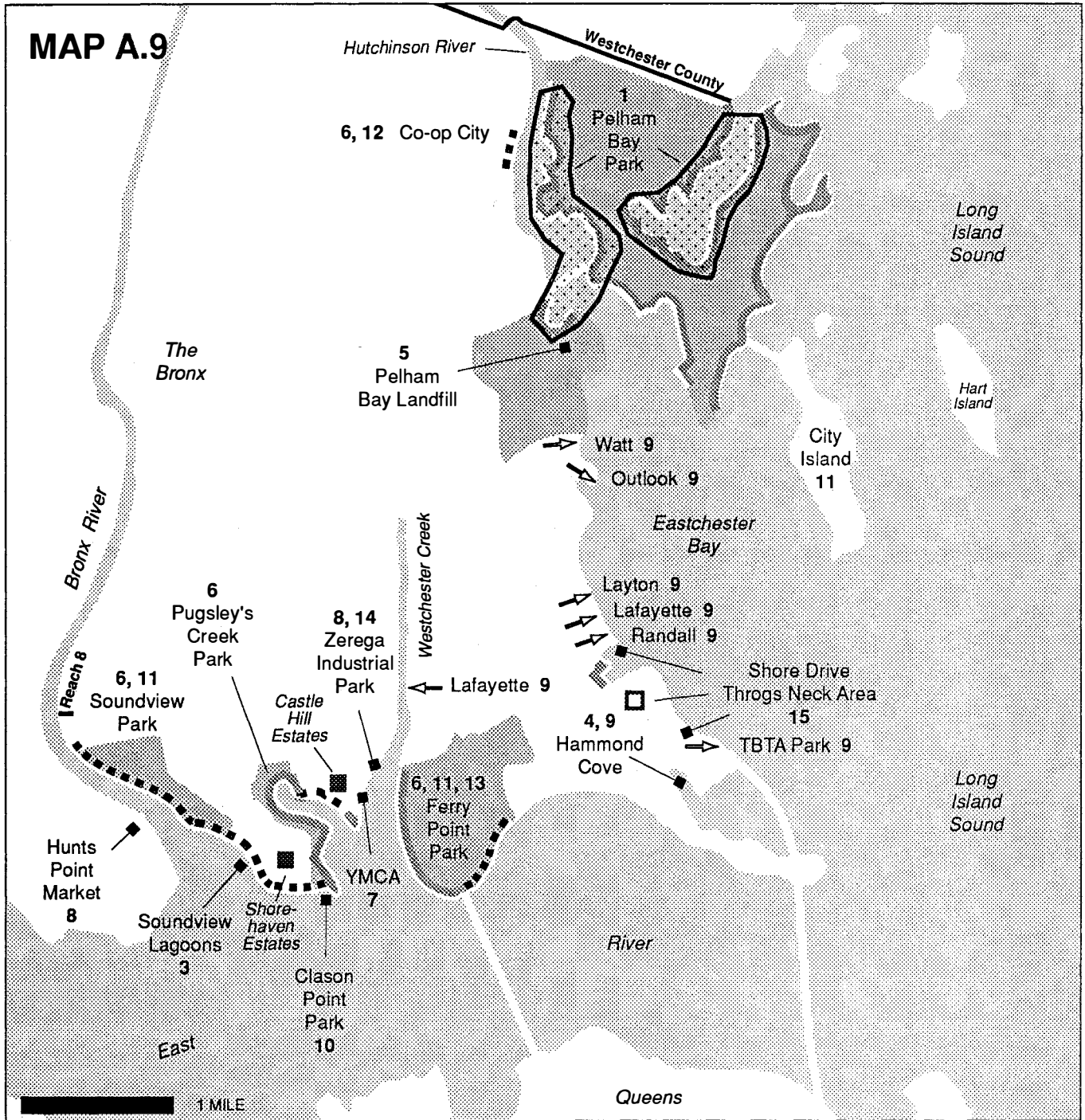
- 13 The feasibility of private ferry service to Manhattan from a potential site at Ferry Point Park is being explored by the City.

REDEVELOPING WATERFRONT










- 14 Examine suitability of residential rezoning for an M-1 area located south of Zerega Industrial Park.

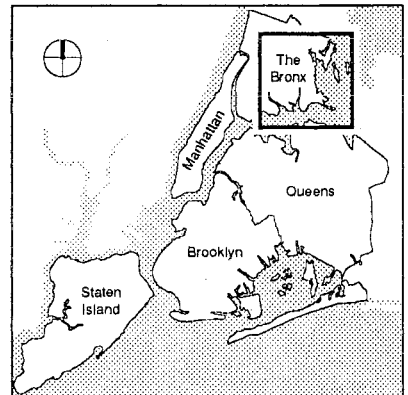
- 15 Demap Shore Drive in Throgs Neck and relocate the bulkhead line to ensure appropriately scaled upland development.

MAP A.9



East Bronx / Reach 9 Recommendations

- | | | | |
|---|--|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access or overpass | 20 | recommendation key number in text |



REACH 10: QUEENS NORTH SHORE

Location: Flushing Bay to Nassau County border along Flushing Bay, East River, and Little Neck Bay

Upland Neighborhoods: College Point, Malba, Whitestone, Beechhurst, Bay Terrace, Bayside, Douglas Manor, and Douglaston

Shoreline: mostly riprap and natural edge; bulkhead in College Point and scattered elsewhere

Zoning/Land Use: primarily low-density residential (R1-R5); Fort Totten Special Natural Area District; M1 and M2 industrial in College Point and M1 in the north central portion of Whitestone

Waterfront Parkland: Hermon A. McNeil, Francis Lewis, Alley Pond, Udalls Cove and Little Bay Parks

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Ecologically significant wetland habitats along the eastern portion of the reach provide settings of scenic and recreational value.

- 1 Support designation of Little Neck Bay, Alley Pond Park, and Udalls Cove and Ravine as Significant Coastal Fish and Wildlife Habitats.
- 2 Designate Long Island Sound/East River as a Special Natural Waterfront Area.
- 3 Acquire private land in Udalls Cove/Ravine and map as parkland, and undertake studies to control erosion and establish a trail system.
- 4 Preserve wetlands in Powell's Cove by acquiring private land for city environmental park.

PUBLIC WATERFRONT

Extensive waterfront parkland with good access offers a variety of waterfront views and recreational activities throughout most of the reach. There are several opportunities to expand public access.

- 5 Provide street-end access compatible with industrial uses at several points along the College Point industrial waterfront.
- 6 Examine the feasibility of park use at the historic battery of Fort Totten. Access can be improved by expanding the existing bicycle path between the fort's entrance and Northern Boulevard.
- 7 Map a Waterfront Access Plan to link the Riverview development with McNeil Park.
- 8 Map Waterfront Access Plans to provide public esplanades in conjunction with the redevelopment of vacant sites in College Point, Whitestone, and Beechhurst in Point Little Bay.

WORKING WATERFRONT

The College Point waterfront is part of a larger concentration of industrial uses, including private and municipal water dependent uses. Access is constrained by traffic congestion.

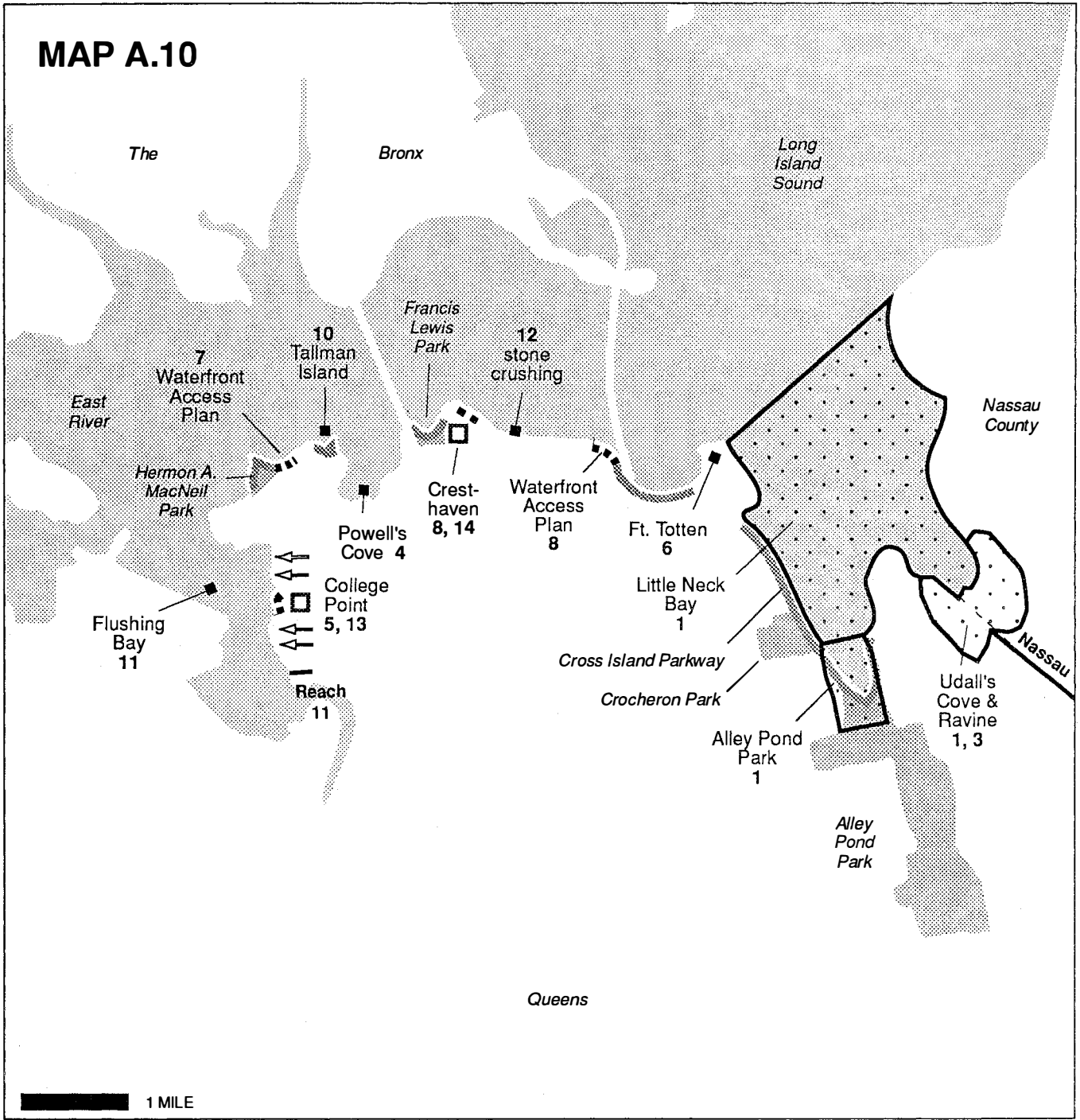
- 9 Support implementation of DOT plan to improve traffic circulation in College Point through capital and systems management improvements.
- 10 Pursue feasibility of transporting Tallman Island sludge by barge.
- 11 The Army Corps of Engineers should continue dredging Flushing Bay to facilitate marina and industrial activities.
- 12 Explore alternatives for controlling impacts of Whitestone stone crushing facility on upland community, and whether city can obtain services from a less impacted location.

REDEVELOPING WATERFRONT










There are several redevelopment opportunities that would be compatible with the natural environment and would provide additional open space.

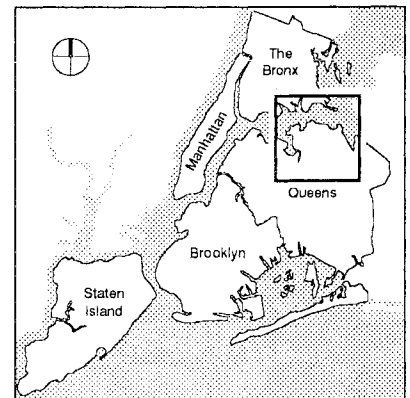
- 13 Rezone a 2.5 acre vacant M1 site between 25th and 23rd avenues in College Point to C3 to permit a variety of uses including water dependent and water-enhanced uses such as a marina and restaurant, or residential.
- 14 Rezone the waterfront portion of the 16-acre Cresthaven site to C3 to allow water dependent and water-enhanced uses in conjunction with lower-density residential development.

MAP A.10



Queens North Shore / Reach 10 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



REACH 11: QUEENS UPPER EAST RIVER

Location: North Shore of Queens from the Astoria Con Edison Plant to the Flushing River, including Rikers Island

Upland Neighborhoods: Astoria, East Elmhurst, Corona, Flushing

Shoreline: natural wetlands in Flushing Bay, bulkhead and riprap elsewhere

Land Use/Zoning: M-zoned industrial areas, including several municipal uses: the Astoria Con Ed Plant, Bowery Bay Water Pollution Control Plant, and LaGuardia Airport. Rikers Island is zoned C8-2. Upland residential areas are mid-density R3 to R5.

Waterfront Parkland: Flushing Bay Promenade and Marina, which is part of Flushing Meadows-Corona Park.

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The natural values of Flushing River and Bay have been degraded by sewage outfall.

- 1 Support construction of a CSO holding tank to improve water quality in Flushing Bay.
- 2 Support DEP's evaluation of potential for wetlands restoration along Flushing River.
- 3 Support PANY/NJ's demolition of breakwater and other efforts to improve water circulation in Flushing Bay. PANY/NJ will create or restore wetlands in conjunction with construction of a runway safety area.
- 4 Develop environmental controls and mitigation strategies to improve water quality while permitting necessary improvements at LaGuardia.

PUBLIC WATERFRONT

The 1.4-mile-long Flushing Bay Promenade and Marina are in poor condition.

- 5 Support rehabilitation of the esplanade and marina, provision of a public boat launch, and public access from Harper Street at the eastern end.
- 6 Provide sidewalks, signage, and lighting to improve pedestrian access routes to the esplanade.
- 7 The six acre PANY/NJ site at 19th Street and Bowery Bay, now partially used for ballfields, should be further developed for recreation and public access.

WORKING WATERFRONT

Industrial areas accommodate major municipal facilities and significant water-dependent uses.

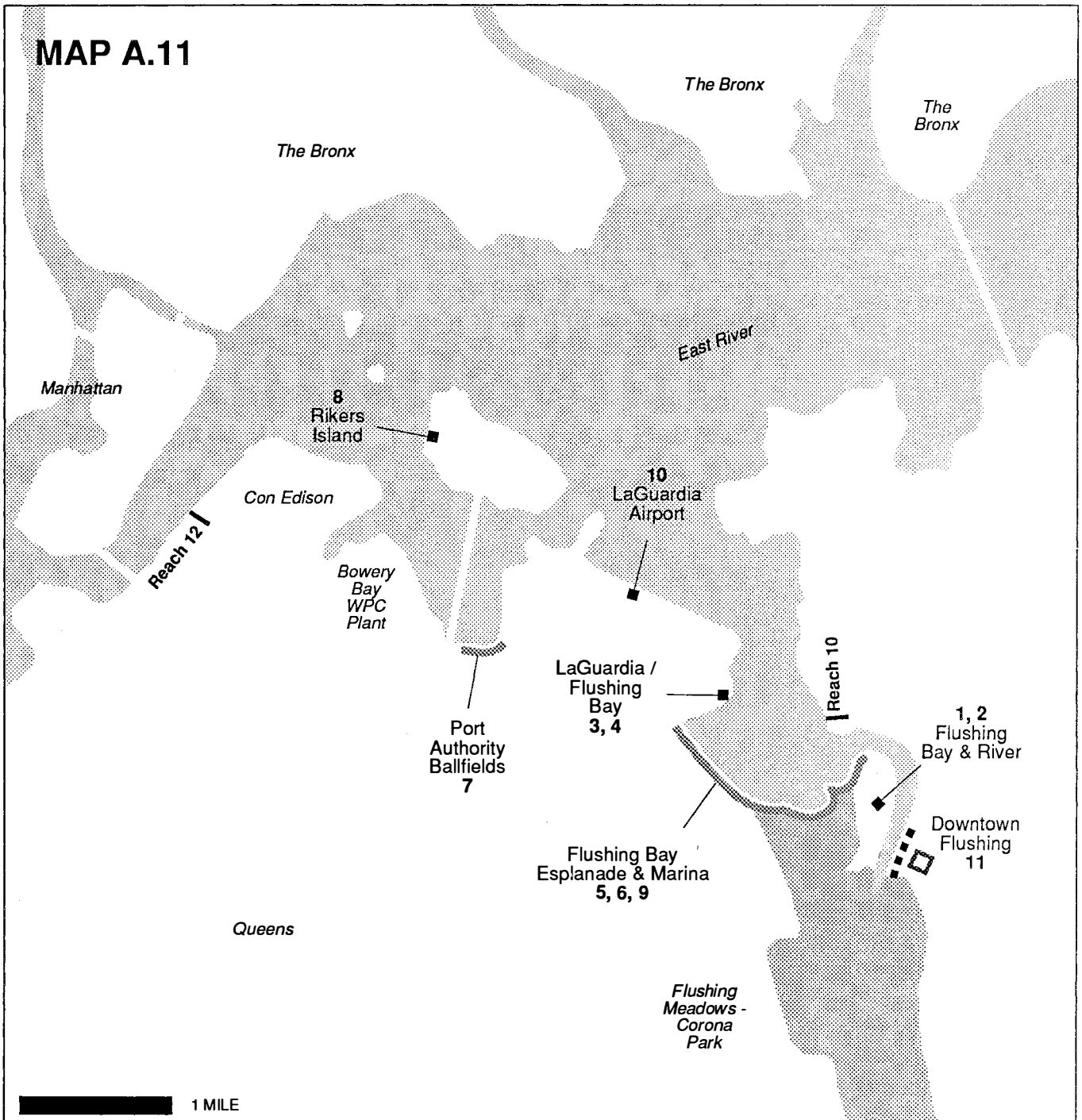
- 8 Support Department of Correction's consideration of the feasibility of waterborne transportation to Rikers Island to reduce traffic through Astoria.
- 9 Explore feasibility of a 'park and ride' ferry service from Flushing Bay Marina, using its parking lots and the nearby Shea Stadium parking lot.
- 10 Explore feasibility of a 'Fast Freight' ferry service from LaGuardia to Manhattan.

REDEVELOPING WATERFRONT










A 44-acre M3-1 area on the east side of the Flushing River is vacant and underutilized, and presents an opportunity for future development and expansion of Downtown Flushing. These recommendations are part of DCP's *Downtown Flushing Plan*.

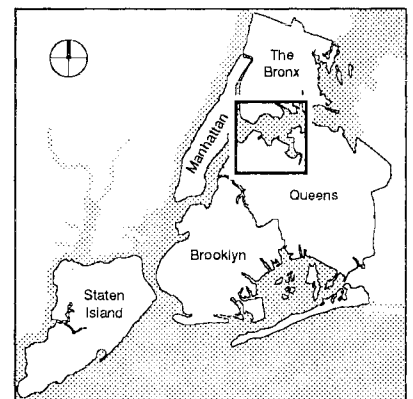
- 11 In the long term, redevelopment of this area should be for moderate-density residential and commercial uses, with public access provided through the mapping of a Waterfront Access Plan. As an interim measure, rezone from M3 to M1 to prevent the location of new heavy industrial uses which would be incompatible with the proposed new mixed-use area east of College Point Boulevard and proposed reuse of the waterfront property.

MAP A.11



Queens Upper East R. / Reach 11 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



REACH 12: WEST QUEENS

Location: East River, from Newtown Creek to Astoria Con Edison Plant

Upland Neighborhoods: Hunters Point, Long Island City, Ravenswood, Astoria

Shoreline: mostly bulkhead and riprap. Many bulkheads are in deteriorating condition.

Land Use/Zoning: north of the Queensborough Bridge the waterfront contains parkland, M1 to M3 industrial areas, the R6 zoned Astoria Houses and Queensbridge Houses, and an R5 district occupied by nonconforming industrial uses. The upland is primarily medium-density residential (R4-R7X). South of the bridge, waterfront areas are zoned M3, M1, and R9 and R7A, and are either vacant or occupied by light industry and two private tennis clubs. The mixed-use upland area is zoned with a special district that permits residential development governed by R5 infill provisions, and industrial and commercial uses subject to M1-4 regulations. Other upland areas are zoned M3 and M1.

Waterfront Parkland: Astoria, Ralph diMarco, Rainey, and Queensbridge parks, and the Socrates Sculpture Park, a privately operated facility on city property which is not mapped parkland

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Due to the industrial nature of the reach, there are no significant natural areas. The East River is an important fish migration route.

PUBLIC WATERFRONT

North of the Queensborough Bridge, a number of parks and open spaces offer spectacular city views, but are separated by industrial uses. The southern part of the reach has limited public access. Planned redevelopment projects would provide significant waterfront open space.

- 1 Continue public open space use of the Socrates Park site.
- 2 Enact a Waterfront Access Plan for residential development sites in the reach to provide a continuous waterfront esplanade to link existing access points. Where industrial uses bar shore-front access, identify upland linkages.
- 3 Explore potential for street end public access or viewing areas adjacent to industrial uses, where appropriate.

WORKING WATERFRONT

Con Edison's Ravenswood facility and a city marine repair facility are water dependent uses. The upland Long Island City industrial area is one of the most active manufacturing districts in the city. Strategies to protect Long Island City's industrial base will be identified in DCP's *Long Island City Framework for Development*.

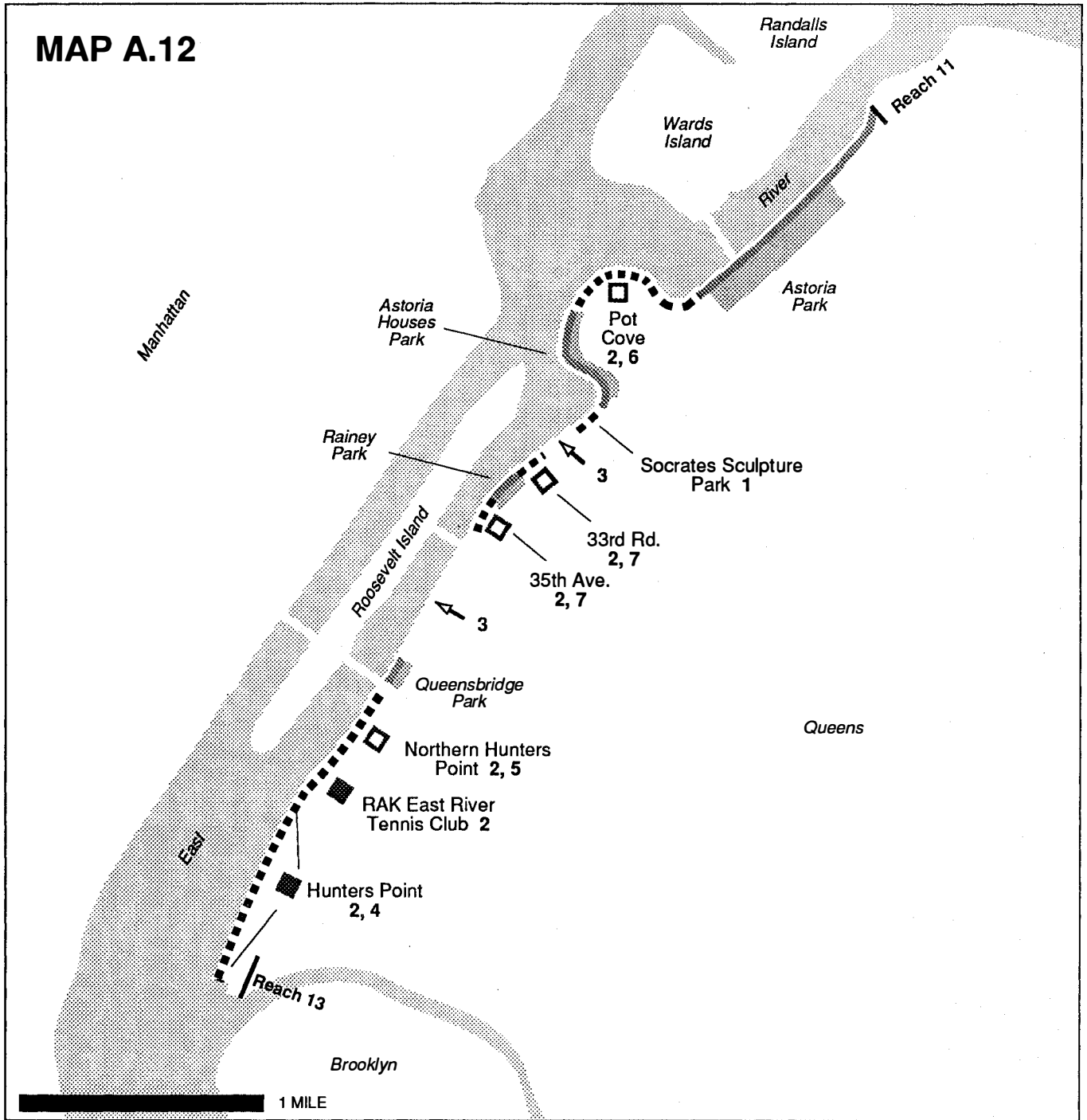
- 4 Explore feasibility of ferry service at the Hunters Point Waterfront Project as the area develops.

REDEVELOPING WATERFRONT










Significant redevelopment proposals have been approved for the Hunters Point waterfront. The Hunters Point Waterfront Development will include 6,385 residential units, 2 million square feet of office space, a 350-room hotel, 265,000 square feet of retail and community facility space, in addition to 18 acres of public open space including a waterfront esplanade. The East River Tennis Club site has been rezoned to allow 960 residential units and 11,000 square feet of retail space. Redevelopment opportunities have also been identified in Pot Cove and Ravenswood.

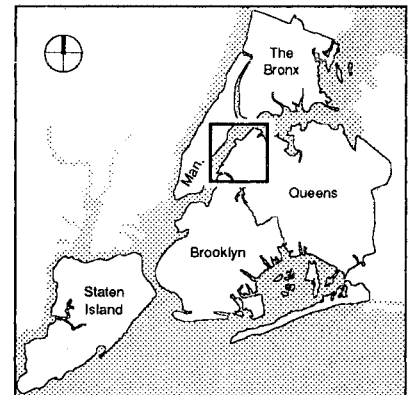
- 5 The Northern Hunters Point waterfront should be redeveloped for residential use in accordance with DCP's *Long Island City Framework for Development*, which expands on the recommendations of DCP's *Northern Hunters Point Study*.
- 6 Rezone an isolated, underutilized industrial area in Pot Cove, surrounded by residential and industrial uses, to allow moderate-density residential redevelopment. View corridors should be provided on 26th and 27th avenues and on 2nd, 3rd, and 4th streets. A Waterfront Access Plan on this site would be part of a link from Astoria Park to Socrates Sculpture Park.
- 7 Residential redevelopment of the nonconforming industrial sites at 33rd Road and 35th Avenue would be appropriate. A Waterfront Access Plan should be mapped to link the area's waterfront access points.

MAP A.12



West Queens / Reach 12 Recommendations

- | | |
|---|--|
|  significant coastal habitat |  significant maritime / industrial area |
|  existing continuous or general access |  approved redevelopment project |
|  proposed continuous or general access |  proposed redevelopment area |
|  upland extent of park |  other site specific recommendation |
|  new or improved point access | 20 recommendation key number in text |



REACH 13: NEWTOWN CREEK

Location: Newtown Creek, between Brooklyn and Queens

Upland Communities: Greenpoint and East Williamsburg in Brooklyn, Hunters Point, Dutch Kills, Maspeth in Queens

Land Use/Zoning: M3 heavy industry, including the Newtown Creek Water Pollution Control Plant, petroleum storage, and a marine transfer station

Shoreline: bulkhead, deteriorated in parts

Shorefront Parks: none

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Because of a history of industrial use and lax environmental standards, the creek and upland are heavily polluted.

- 1 DEP's Greenpoint-Williamsburg Environmental Benefit Program should work with local industries to clean up the area.

- 4 Reestablish the bulkhead in places where it has deteriorated, and pursue solutions to the problem of disposing of contaminated dredge spoils so the Creek can be dredged for navigational needs.

- 5 Pursue opportunities for intermodal transportation by reactivating sidings off the Bushwick Branch of the Long Island Rail Road.

PUBLIC WATERFRONT

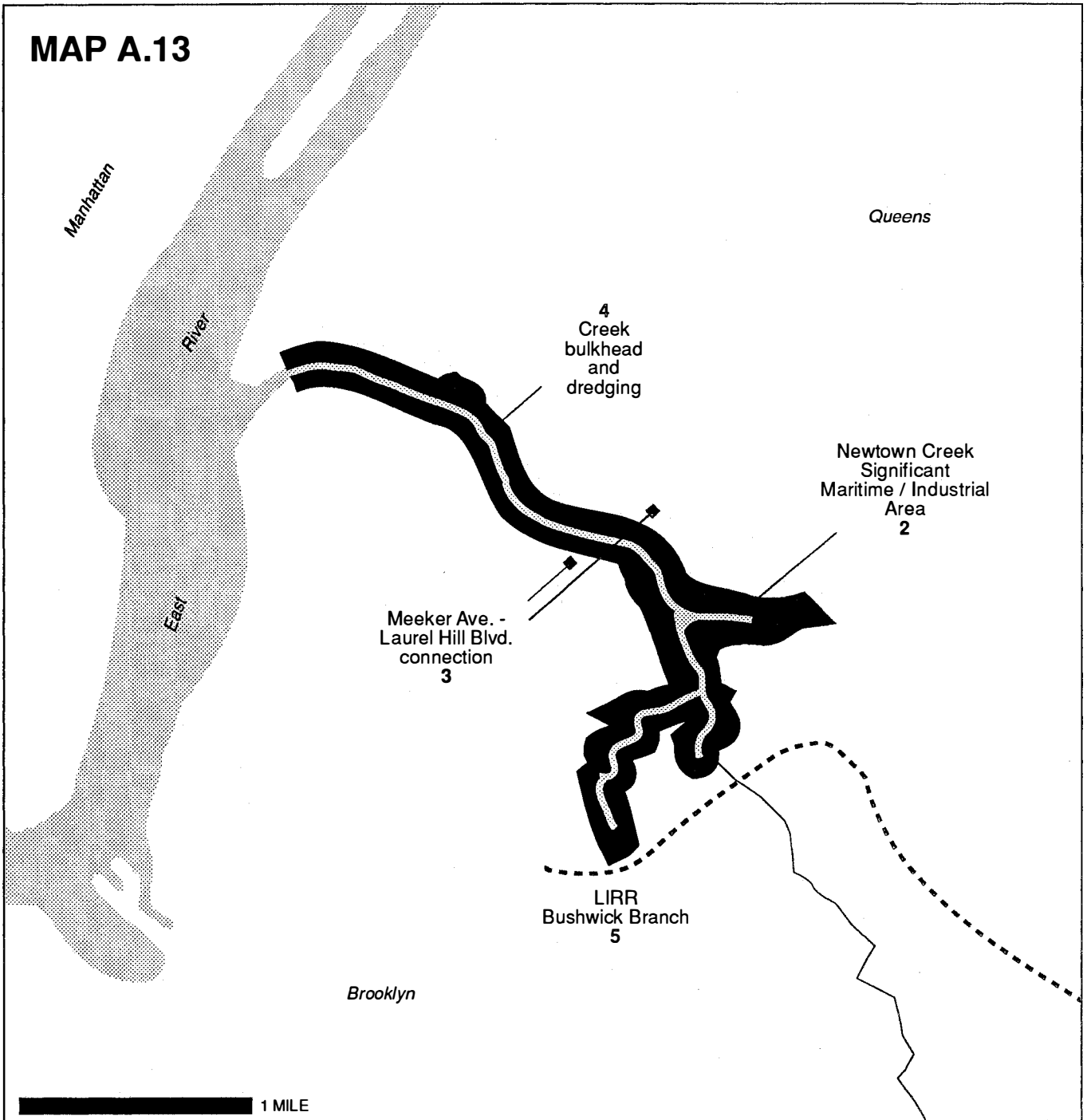
Because of the heavy industrial nature of the area, public access is generally inappropriate.

WORKING WATERFRONT










Newtown Creek is an important industrial area, with major municipal facilities. Infrastructure improvements would enhance the area's ability to accommodate industry.

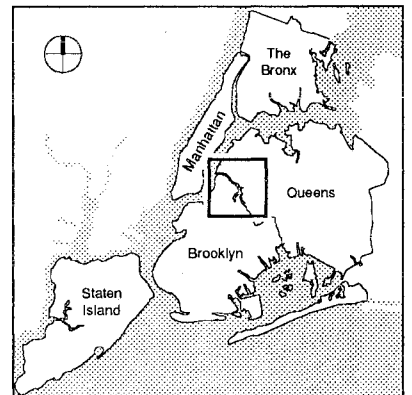
- 2 Designate Newtown Creek as a Significant Maritime and Industrial Area.
- 3 State and City DOT should explore the feasibility of a bridge from Meeker Avenue to Laurel Hill Boulevard as an alternative route during reconstruction of the Kosciuszko Bridge and to improve truck access to the Long Island Expressway and remove trucks from local streets.

MAP A.13



Newtown Creek / Reach 13 Recommendations

- | | | | |
|---|--|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | rail |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access or overpass | 2 | recommendation key number in text |



REACH 14: BROOKLYN UPPER BAY

Location: Newtown Creek to Owls Head, along the East River, Buttermilk Channel, and Upper New York Bay.

Upland Neighborhoods: Greenpoint, Williamsburg, Navy Yard, Fulton Ferry, Brooklyn Heights, Cobble Hill, Red Hook, Gowanus, Sunset Park

Shoreline: bulkhead, with riprap at Grand Street Park and Fulton Ferry/Empire Stores State Park

Land Use/Zoning: M3 and M2 industrial areas on waterfront, buffered by M1 light industrial area from upland residential and mixed use areas that typically permit moderate-density (R4, R5, or R6) development. Historic districts in Greenpoint, Fulton Ferry, Brooklyn Heights and Cobble Hill.

Waterfront Parks: Newtown Barge Terminal Playground, Grand Street Park, Fulton Ferry/Empire Stores State Park

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The reach contains no natural shores or significant wildlife habitats.

- 1 Support DEP plans to install a pump to improve the Gowanus Canal's flushing action.

PUBLIC WATERFRONT

- 2 Develop WNYC transmitter site for public open space, linked to the Greenpoint community with signage and sidewalk improvements.
- 3 Provide visual access to the water from Newtown Barge Terminal Playground; by removing stored lumber from waterfront strip leased to Lumber Exchange.
- 4 Rehabilitate the Noble Street Pier for public access after it is vacated by DOS.
- 5 Support rehabilitation of Grand Street Park.
- 6 Support State Parks plan for cultural, recreational, and commercial uses at Empire Stores Park, and EDC plans for complementary commercial uses on nearby city-owned parcels.
- 7 Where compatible with industrial uses, provide continuous public access in Red Hook from Van Brunt to Wolcott Streets to link new development, street ends, Pier 41, and new Coffey Street Recreational Pier.
- 8 Provide public access on piers 4-7 in Sunset Park in conjunction with plan for their future use.
- 9 Provide public access in conjunction with the proposed sludge facility at 51st Street.

WORKING WATERFRONT

Brooklyn's industrial waterfront has experienced economic decline for several decades, despite major industrial concentrations at the Red Hook Containerport, South Brooklyn Marine Terminal, and Navy Yard. While certain sites are recommended for redevelopment, manufacturing zoning would be retained on most of the waterfront where improved conditions could better support industrial uses.

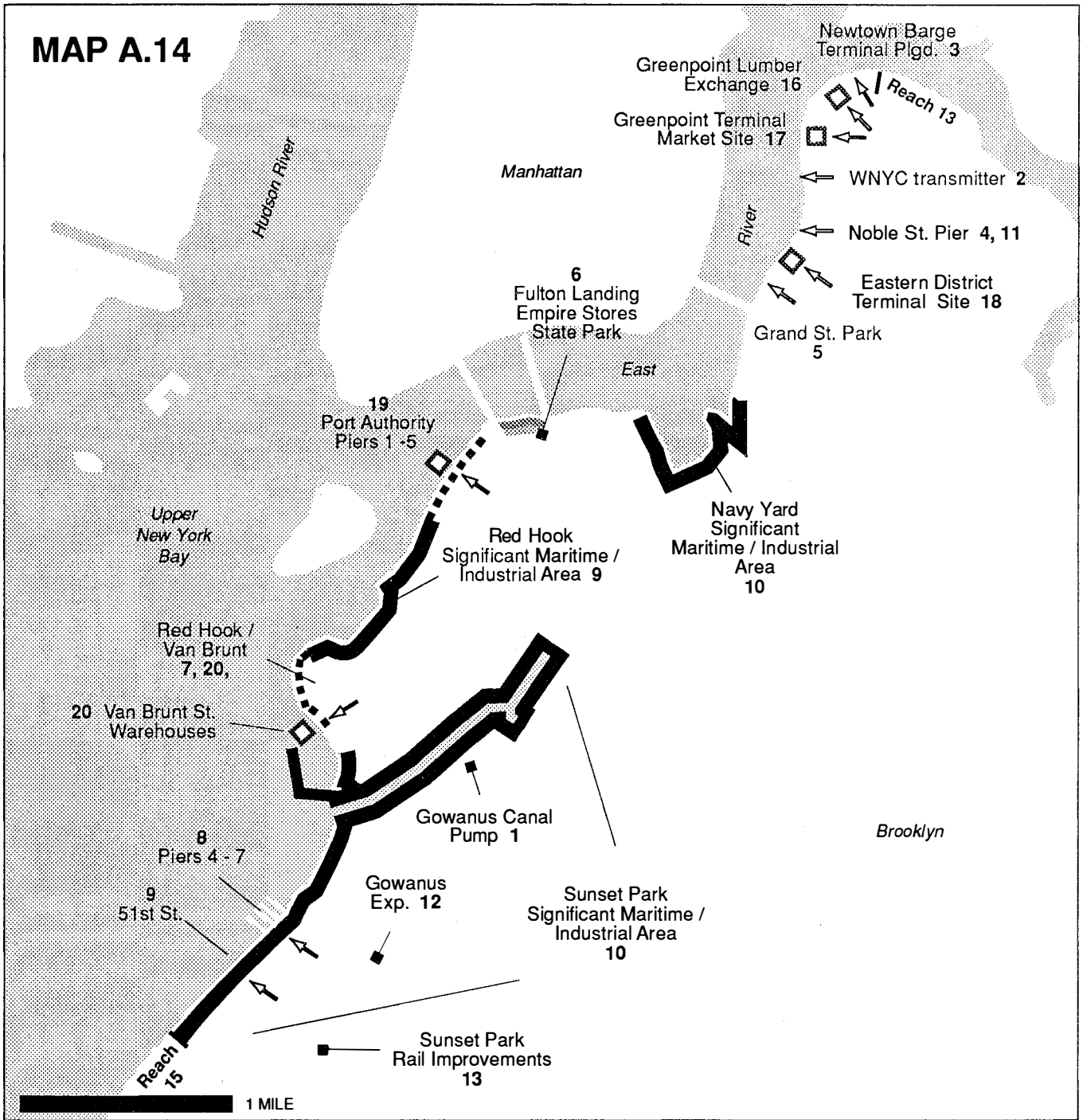
- 10 Designate Navy Yard, Red Hook, and Sunset Park as Significant Maritime and Industrial Areas.
- 11 As an interim use, develop the Noble Street Pier for a DOS barge staging operation.

- 12 Recommend state construction of access ramps to the Gowanus Expressway in the vicinity of 39th Street.
- 13 Implement proposed rail improvements in Sunset Park to maximize intermodal connection to carfloat operation.
- 14 Develop signage and street improvements for alternative truck routes through industrial areas.
- 15 Explore feasibility of ferry service from the Brooklyn Army Terminal, 39th Street, Coffey Street, and Fulton Landing.










REDEVELOPING WATERFRONT

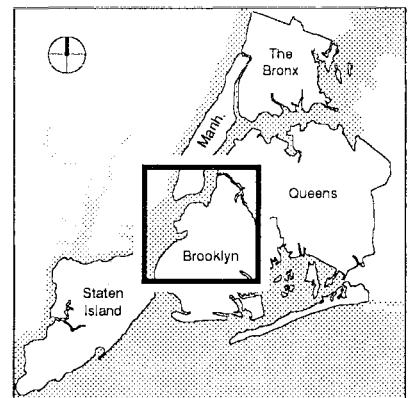
- 16 Although the Greenpoint Lumber Exchange is an active, water-dependent industrial use, residential redevelopment would be appropriate should it cease operation.
- 17 Rezone the Greenpoint Terminal Market from M3 to medium-density residential with M1 buffer zones to the north and south. Required waterfront open space should be linked to a new park on the WNYC transmitter site.
- 18 Rezone the Eastern District Terminal site in Williamsburg from M3 to medium-density residential between N. 8th and N. 6th Streets, with M1 buffer zones to the north and south.
- 19 Redevelopment of Piers 1-5 (Brooklyn Harbor) should consider housing and commercial uses complying with the mapped view plane from Brooklyn Heights, recreational uses and substantial open space linked to the state park and upland residential and commercial areas.
- 20 In Red Hook:
 - Rezone Van Brunt Street between Commerce and Beard streets from R5/C1-3 and M1 and M2 to R5 or R6 with a commercial overlay to promote residential and retail development and extend the landlocked neighborhood to the waterfront.
 - Rezone the area between Wolcott and Van Brunt streets and the waterfront from manufacturing to medium-density residential.
 - Pursue opportunities to develop new housing in the area bounded by Conover, Van Dyke, Coffey, Richards, and Sullivan streets.
 - Study the feasibility of commercial reuse of the Van Brunt Street warehouses.

MAP A.14



Brooklyn Upper Bay / Reach 14 Recommendations

- | | |
|--|--|
|  significant coastal habitat |  significant maritime / industrial area |
|  existing continuous or general access |  approved redevelopment project |
|  proposed continuous or general access |  proposed redevelopment area |
|  upland extent of park |  other site specific recommendation |
|  new or improved point access or overpass | 20 recommendation key number in text |



REACH 15: BROOKLYN LOWER BAY

Location: Owls Head to Sea Gate, including both shores of Coney Island Creek

Upland Neighborhoods: Bay Ridge, Bensonhurst, Bath Beach, Gravesend, Coney Island

Shoreline: bulkhead in north; southern section contains riprap, natural shoreline, and some bulkhead

Zoning/Land Use: water's edge park with upland low- to mid-density residential (R2-R7) north of Bay Parkway; Sanitation garage, large shopping center(M3), recreational uses(C3), undeveloped parkland, low- density residential(R4) in southern part of reach

Waterfront Parkland: Owls Head, Shore Road, Dyker Beach, Bensonhurst, and Dreier-Offerman parks

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The area in and around Coney Island Creek is environmentally degraded, hampering its value as a natural habitat and public recreation resource.

- 1 Undertake dredging to improve natural flushing action, increase enforcement against illegal dumping, and clean up of contaminated materials in Coney Island Creek.

PUBLIC WATERFRONT

The northern section of the reach is among the city's most accessible public waterfronts, while the undeveloped Dreier-Offerman Park offers an opportunity to increase public access in the southern section.

- 2 Link Owls Head Park to the 69th Street Pier/Shore Road Esplanade by improving the existing strip of land along the parkway entrance at 69th Street with signage, paving and landscaping.
- 3 Denyse Wharf, beneath the Verrazano Bridge, should be relinquished by the Department of Defense and developed as an educational/recreational node along the esplanade.
- 4 Extend the Shore Road Bicycle Path from its current terminus at Bay Parkway along the Belt Parkway service road to Stillwell Avenue, eventually connecting with the eastern portion of the bike path along Jamaica Bay.
- 5 Include the following elements in the planning for the largely undeveloped Dreier-Offerman Park: pedestrian/bicycle access near the water's edge; signage; parking and improved mass transit access; water-oriented recreation such as fishing and hand boat launches, in addition to the existing ball fields; and

develop pedestrian and bicycle linkages connecting the park to the Shore Road Bicycle Path and private developments to the north and south.

WORKING WATERFRONT

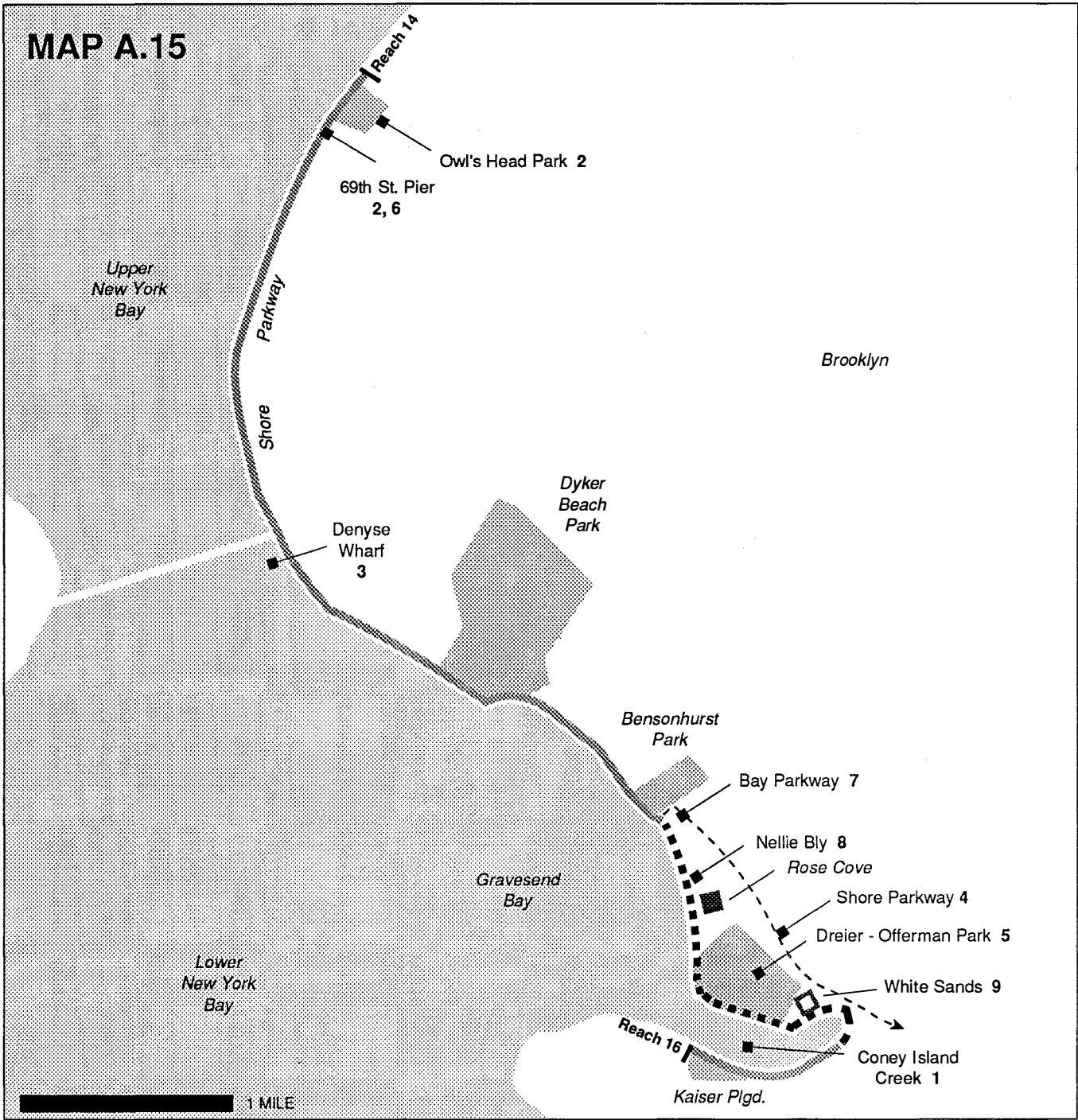
The industrial areas south of Bay Parkway contain retail, water dependent, and municipal facilities. Ferry service to midtown operates at 69th Street.

- 6 Implement improvements to the 69th Street Pier, as recommended by EDC, including sheltered seating, improved lighting and signage, and better coordination of ferry service with bus service. The pier is under the jurisdiction of the Department of Business Services.
- 7 Improve traffic circulation in the waterfront area south of Bay Parkway through a program of signal rationalization, lane markings, new roads or turning lanes, and parking enforcement.
- 8 The Nellie Bligh Amusement Park, which partially occupies leased parkland, poses circulation problems for the adjacent sanitation facility. Explore the feasibility of relocating the amusement park to Dreier-Offerman Park, where it could operate as a concession.










REDEVELOPING WATERFRONT

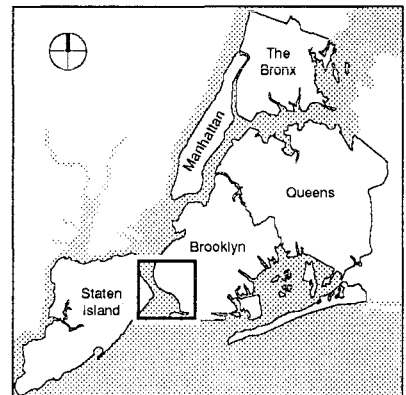
In addition to commercial opportunities in the manufacturing districts, there is an opportunity to redevelop vacant R4-zoned land on the north shore of Coney Island Creek.

- 9 Support development in the White Sands area. The privately owned parcel has been proposed for residential use with retail, an accessory marina, and access to Dreier-Offerman Park.



Brooklyn Lower Bay / Reach 15 Recommendations

- | | |
|---|--|
|  significant coastal habitat |  upland bicycle route |
|  existing continuous or general access |  approved redevelopment project |
|  proposed continuous or general access |  proposed redevelopment area |
|  upland extent of park |  other site specific recommendation |
|  new or improved point access | 6 recommendation key number in text |



REACH 16: CONEY ISLAND/SHEEPSHEAD BAY

Location: South shore of Brooklyn, from Sea Gate to Plumb Beach, including Sheepshead Bay, Shell Bank Creek, and Plumb Beach Channel

Upland Neighborhoods: Coney Island, Brighton Beach, Manhattan Beach, Sheepshead Bay

Shorefront: bulkhead in Sheepshead Bay, seawall and beach in Manhattan Beach; beaches and natural shores elsewhere.

Land Use/Zoning: mapped park along beach front, except for a stretch between Brighton Beach and Manhattan Beach Park; C7 amusement district on beachfront blocks in Coney Island, and local commercial strips on Mermaid Avenue, Brighton Beach Avenue, and Emmons Avenue (within the Sheepshead Bay Special District); the inland areas are primarily medium-density residential, zoned R3 to R7.

Shorefront Parkland: Coney Island Beach, Manhattan Beach Park, Plumb Beach section of Gateway National Recreation Area

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The oceanfront is a barrier beach that is a major regional recreational resource. Environmental issues include beach erosion and water quality.

- 1 ACOE beach nourishment programs at Plumb Beach, Coney Island, and Sea Gate are needed and should be continued.

PUBLIC WATERFRONT

Improved links and visual access can enhance the major public waterfront features which characterize the area.

- 2 Develop the esplanade along the seawall between Brighton Beach and Manhattan Beach Park.
- 3 Establish a marked way along Oriental Blvd between Manhattan Beach Park and the Kingsborough Community College gatehouse that leads to the College's public esplanade.
- 4 Link the Kingsborough esplanade to the Shore Boulevard esplanade by opening a section next to the northern Kingsborough gate.
- 5 Amend the Special Sheepshead Bay District text to allow pairing of side yards to increase views to the water.
- 6 Integrate the proposed Knapp Street ferry site with existing parkland to provide visual and physical access to the water.
- 7 Improve street-end visual access to Shell Bank Creek.
- 8 Develop a parking area in the Venice Marina area to serve users of the Plumb Beach trail.

WORKING WATERFRONT

The fishing fleet at Sheepshead Bay is a significant maritime use and recreational attraction. The reconstruction of the Sheepshead Bay fishing piers is an important element in the area's revitalization.

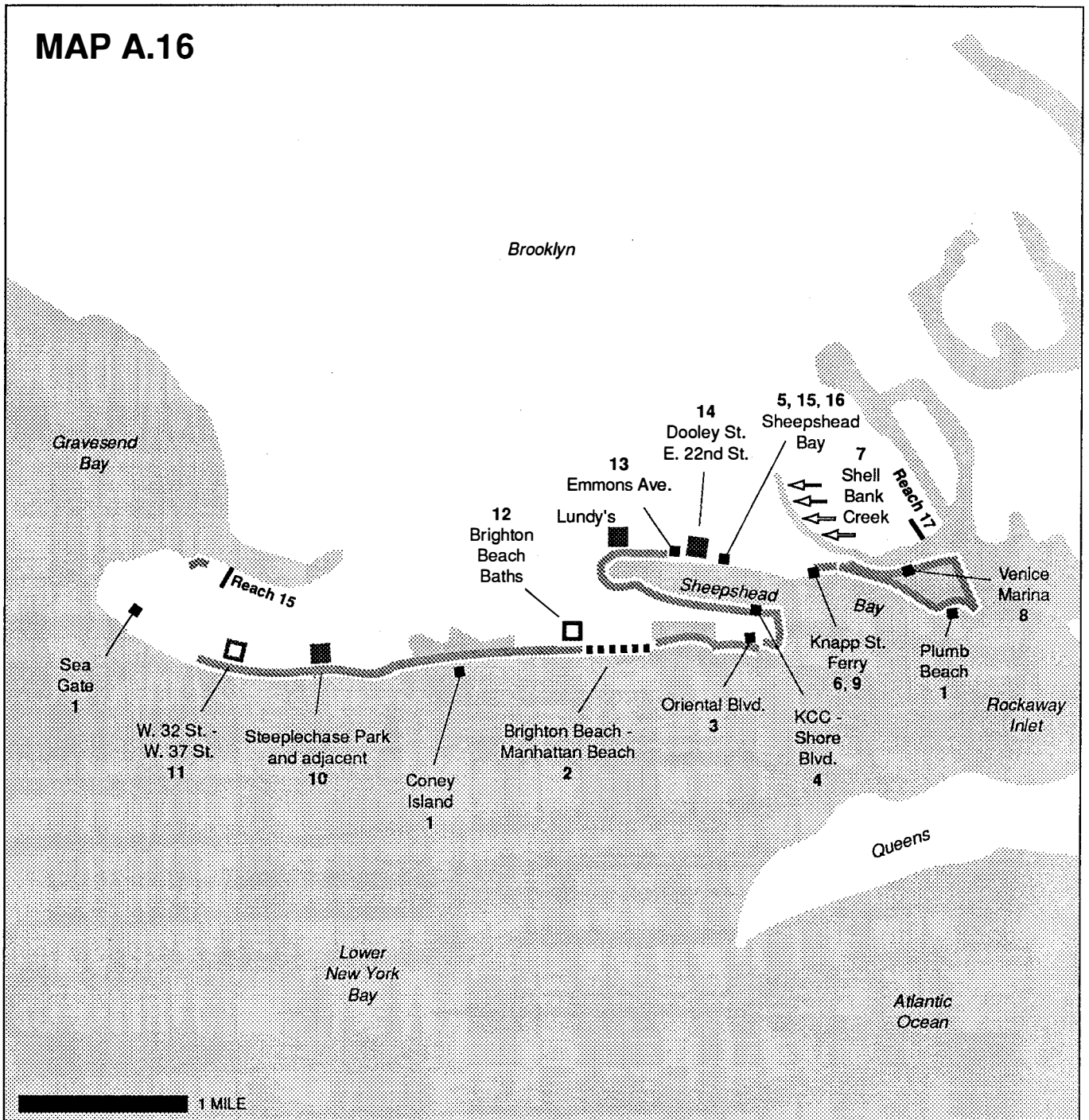
- 9 Support the proposed park and ride ferry landing at Knapp Street.

REDEVELOPING WATERFRONT










Steeplechase Park would be a major investment in Coney Island's traditional amusement industry and would provide a needed anchor at the western end of the recreational area. Sheepshead Bay contains opportunities for commercial and other development on three major sites as well as smaller sites.

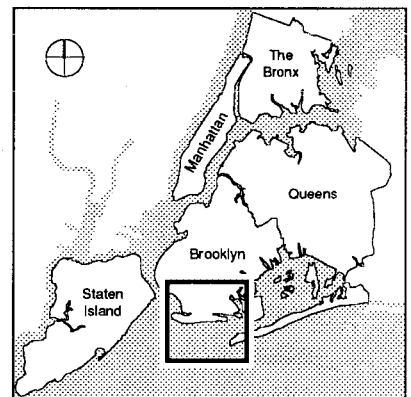
- 10 Development of Steeplechase Park and/or a proposed sports facility would provide a basis for a development/urban design strategy including:
 - Redevelopment of the beachfront block of Stillwell Avenue as a pedestrian mall;
 - Reconstruction of Surf Avenue as a landscaped boulevard;
 - Additional public parking on the north side of Surf Avenue;
 - Rehabilitation of waterfront streets and boardwalk entrances and enhancement of pedestrian circulation;
 - Rehabilitation of the Stillwell Avenue subway station.
- 11 Develop a strategy to provide mid-density housing in vacant areas between Beach 32nd and Beach 37th Streets in Coney Island.
- 12 Redevelopment of the Brighton Beach Baths site should be for medium-density residential with recreation facilities and public access.
- 13 Resolve outstanding design issues in the DOT proposals for reconstruction of Emmons Avenue.
- 14 Redevelopment of the Dooley Street/East 22nd Street site in Sheepshead Bay should be for mixed uses, including restaurant, retail, and parking.
- 15 Explore means of establishing voluntary design controls in Sheepshead Bay, possibly through a Merchants Association.
- 16 In its study of development opportunities in Sheepshead Bay, EDC must address the need for off-street parking.

MAP A.16



Coney Island Area / Reach 16 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



REACH 17: JAMAICA BAY/ROCKAWAY

Location: southern shore of Brooklyn from Marine Park to Spring Creek, Queens from Spring Creek to the Nassau County border, the Rockaway Peninsula, and the islands and waters of the bay.

Upland Neighborhoods: Flatlands, Mill Basin, Bergen Beach, Canarsie, Ozone Park, Howard Beach, Broad Channel, Far Rockaway, Edgemere, Arverne, Rockaway Beach, Rockaway Park, Belle Harbor, Neponsit, Roxbury, Breezy Point

Shoreline: mostly natural; many of the inlets are bulkheaded.

Zoning/Land Use: most of the shoreline and islands are parkland. Upland residential areas are low- to medium-density R2 to R6. Small industrial areas are zoned on some inlets and scattered on the north shore of the Rockaways. JFK Airport is zoned M1.

Waterfront Parkland: The Jamaica Bay unit of Gateway National Recreation Area (GNRA) and a number of city parks, including Marine Park and Rockaway Beach.

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Despite extensive human intrusion, including filling, dumping, and sewage discharge, Jamaica Bay remains a remarkable natural resource and wildlife habitat with an estimated 4,000 acres of tidal wetlands. The Bay is listed in the International Shorebird Reserve System.

- 1 Support designation of Jamaica Bay and Breezy Point as Significant Coastal Fish and Wildlife Habitats.
- 2 Designate Jamaica Bay as a Special Natural Waterfront Area.
- 3 An interagency task force (DCP, DEP, EDC, National Parks Service) should work with the Port Authority to minimize and reverse water-quality impacts of JFK operations, consistent with the airport's operational requirements.
- 4 Maintain natural areas along Four Sparrow Marsh, Fresh Creek, Spring Creek, Sommerville Basin, Vernam and Barbadoes Basins.
- 5 Map the area of Spring Creek containing the Old Mill Creek and associated tidal wetlands, including isolated privately-owned parcels, as park. Demap unbuilt streets within the proposed park boundary.
- 6 Develop site planning guidelines for any city owned property proposed for development to ensure appropriate density, configuration, buffer and runoff planning.
- 7 DEP and DOS should develop and initiate containment plans for landfills.
- 8 Limit dredging to the maintenance of established navigation channels.
- 9 DOS should increase enforcement of bans on illegal dumping. Clean and fence wetland areas that are subject to illegal dumping.
- 10 Continue funding of federal programs to ensure an uninterrupted cycle of beach nourishment and erosion control in the Rockaways.
- 11 Transfer the wetlands at "Public Place" in Hook Creek to DPR.
- 12 Transfer all city-owned parcels adjacent to Fresh Creek to DPR to protect tidal wetlands with sufficient upland buffer.
- 13 Transfer city-owned wetlands in Mott Point to DPR, and acquire a private parcel between the city park and Bayswater State Park for city or state park use. Demap paper streets through these wetlands.
- 14 Transfer certain city-owned lots containing wetlands on Sommerville Basin to DPR. Acquire a privately owned parcel at Conch Drive and B. 51st Street and transfer to DPR.

PUBLIC WATERFRONT

Jamaica Bay is a major recreational boating resource. Rockaway Beach offers miles of public beachfront.

- 15 Map new public parks as recommended in DCP's *Edgemere Neighborhood Land Disposition Plan*.
- 16 In cooperation with DPR and National Parks Service, identify possible sites for boat launches in GNRA.

17 Coast Guard and/or New York Harbor Police should consider appropriate boating speed limits to protect wildlife and shoreline vegetation.

18 Explore the feasibility of limited public access in natural edges.

WORKING WATERFRONT

JFK Airport is a vital component of the New York regional economy.

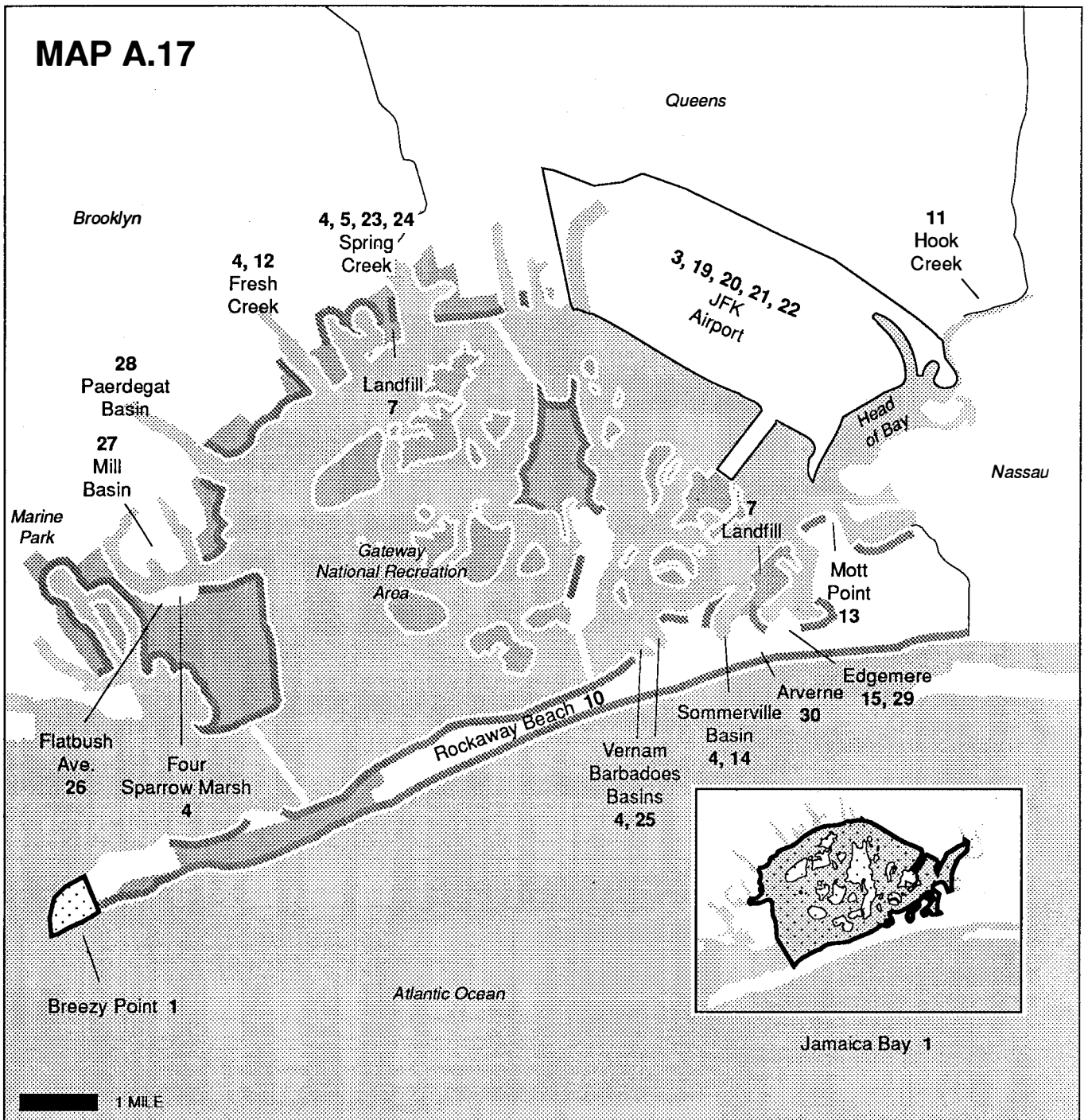
- 19 Accommodate expansion needs of JFK Airport, consistent with protection of the Bay's natural resources.
- 20 Explore means to improve truck access to JFK, including widening the Van Wyck Expressway.
- 21 Explore feasibility of a Manhattan-JFK ferry, which could include additional commuter stops in Brooklyn and Rockaway (at Vernam/Barbadoes Peninsula if Arverne is developed).
- 22 Explore feasibility of 'fast freight' ferry service to Manhattan and/or New Jersey.
- 23 Maintain the mapped but unbuilt Seaview Avenue Extension over Spring Creek for future circulation improvements in the Spring Creek Urban Renewal Area.
- 24 In accommodating some of the city's infrastructure needs at Spring Creek, design industrial development to minimize impacts on surrounding residential uses and natural resources.
- 25 Limit industrial development of the city-owned Vernam/Barbadoes Peninsula to previously disturbed areas, to preserve wetlands and coastal dune vegetation.

REDEVELOPING WATERFRONT










This reach offers several opportunities for new residential development compatible with natural areas.

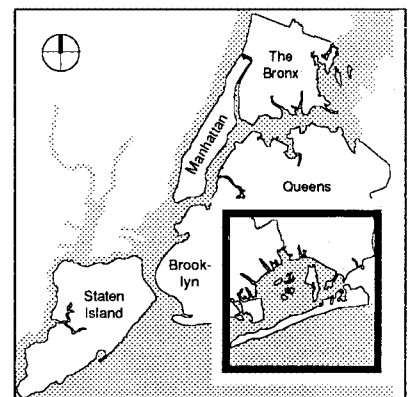
- 26 Develop the 12-acre upland site fronting on Flatbush Avenue for housing with public access to the adjacent marshland. Transfer the 65 acres of Four Sparrow Marsh to DPR for management as a natural area.
- 27 Rezone a manufacturing area of Mill Basin for low-density residential and waterfront commercial uses. Provide public access via a new street system.
- 28 Identify appropriate mixed residential and open space uses for the developable portion of Paerdegat Basin, with design guidelines that protect natural areas. Continuous public access on both sides of the basin should be provided, linked to existing city parks. Transfer wetlands adjacent to McGuire Park to DPR.
- 29 Develop the Edgemere Urban Renewal Area in accordance with DCP's *Edgemere Neighborhood Land Disposition Plan*.
- 30 Develop the Arverne Urban Renewal Area in accordance with the 1990 Urban Renewal Plan.

MAP A.17



Jamaica Bay / Reach 17 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



REACH 18: STATEN ISLAND NORTH SHORE

Location: North Shore of Staten Island from Bard Avenue to Fort Wadsworth along the Kill Van Kull and Upper New York Bay

Upland Neighborhoods: New Brighton, St. George, Tompkinsville, Stapleton, Clifton, Rosebank, Fort Wadsworth, Shore Acres

Shoreline: mostly bulkhead north of Alice Austen Park, interspersed natural and bulkhead from Alice Austen Park to Fort Wadsworth

Land Use/Zoning: The waterfront is zoned for manufacturing uses (M1-M3) from Snug Harbor to Alice Austen Park, except for a small C3 area at Bay Street Landing. The waterfront in southern section is parkland, R1 and R4 low-density residential, a coast guard facility, and the unimproved Battery Weed section of Gateway National Recreation Area (GNRA). Shore Acres and Von Briesen Park are partially within the Special Natural Area (NA-3) District. Upland is mostly R3 to R6 residential, except for the C4-2 zoned civic center area of St. George. Much of the upland is within the Special Hillside District.

Shorefront Parkland: Sailor's Snug Harbor Cultural Center, Alice Austen Park, Von Briesen Park

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Numerous oil spills have plagued the Kill Van Kull, harming water quality, while deteriorating piers have contributed to harbor drift. Shoreline erosion is an issue along the bluffs in parks and at street ends from Alice Austen Park to Battery Weed, and at Snug Harbor.

- 1 Establish indigenous vegetation on city-owned bluffs to control erosion.
- 2 Remove derelict piers and wharf structures using Army Corps Harbor Drift Program, and reestablish bulkhead where it has deteriorated.

PUBLIC WATERFRONT

The reach offers spectacular views of the Upper Bay and Narrows. Opportunities exist to improve physical and visual access. The viewing platform at the ferry terminal is badly deteriorated.

- 3 Implement recommendations of the North Shore Esplanade Plan for improved access and enhanced activities.
- 4 Pursue interim trail use along the North Shore Rail Line right-of-way. Explore a permanent trail as a component of a reactivated North Shore Rail Line.
- 5 Link Snug Harbor and Alice Austen Park with the city-wide Harbor Park system.
- 6 Install descriptive signage and other educational features at Snug Harbor waterfront to increase public awareness of tidal wetlands resources.
- 7 Develop the mapped parkland at Snug Harbor Waterfront and provide access to the shoreline.
- 8 Incorporate an open space component in the redevelopment of the Chessie site, including view corridors from upland streets, and connection from St. Peter's Park to the Ferry Terminal.
- 9 Support DPR efforts to improve waterfront open space at Alice Austen Park and restore the McFarland-Bredt House as a community center.
- 10 Implement DPR's Von Briesen Park Design Plan to improve views from the rehabilitated park.
- 11 Explore uses for city-owned parcels adjacent to the Homeport site that would support the esplanade.
- 12 Implement Federal Highway Administration's Homeport Access Improvement Plan.

- 13 Encourage National Parks Service to develop and provide access to Battery Weed section of Gateway.

- 14 Realign fencing at Nautilus Avenue pumping station to provide pedestrian access to shoreline.

WORKING WATERFRONT

The working waterfront includes the ferry terminal and the Homeport, as well as large vacant, inactive sites.

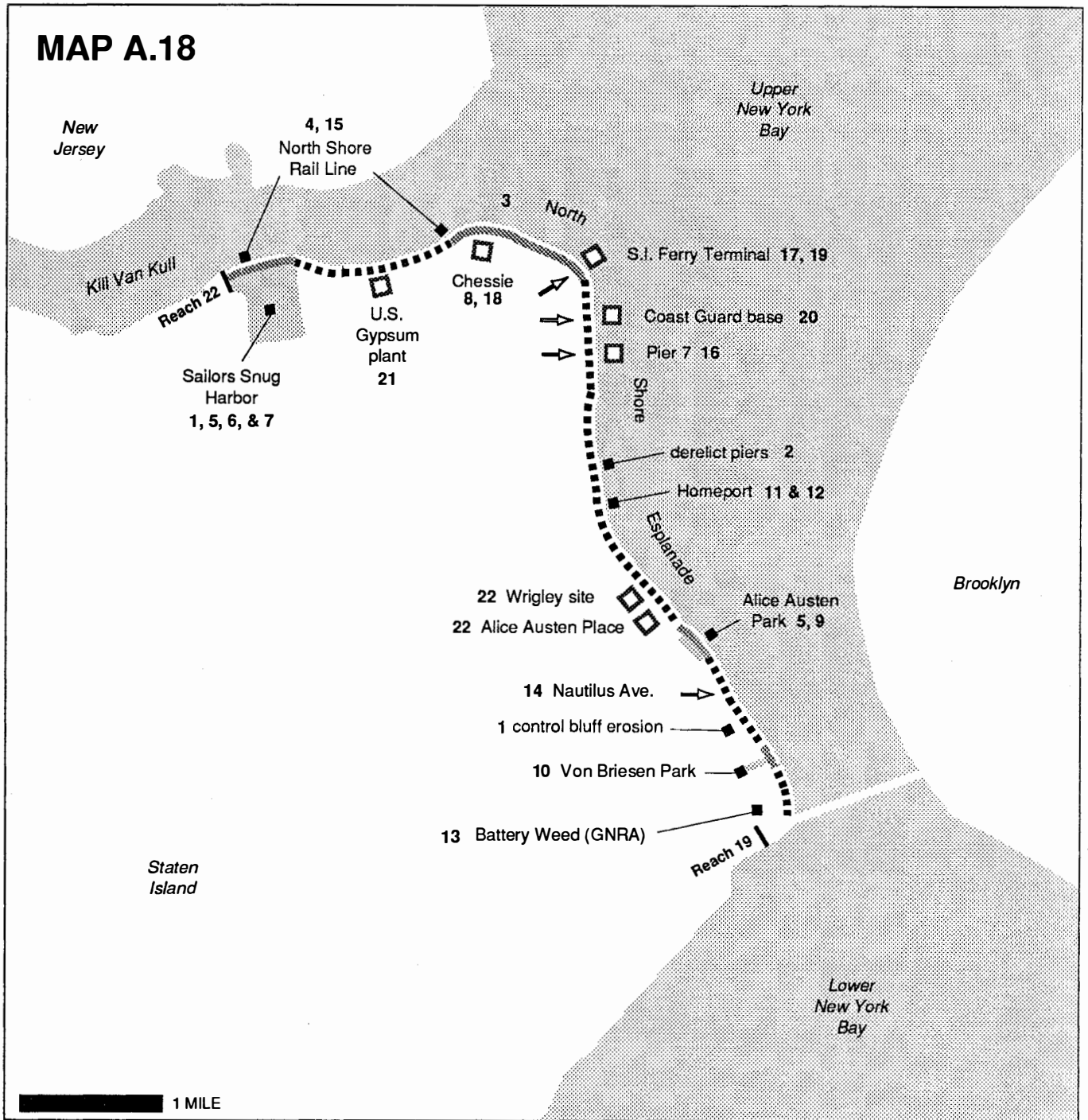
- 15 Acquire North Shore Rail Line and pursue its reactivation for passenger and freight service.
- 16 Pursue marine-related commercial uses for Pier 7 after the ferry maintenance facility moves to the Coast Guard Base.
- 17 Explore feasibility of ferry service to Midtown Manhattan.

REDEVELOPING WATERFRONT










The vacant Chessie property offers opportunities for redevelopment that would expand the St. George civic center and business district. Future improvements to the ferry terminal would enhance the island's gateway.

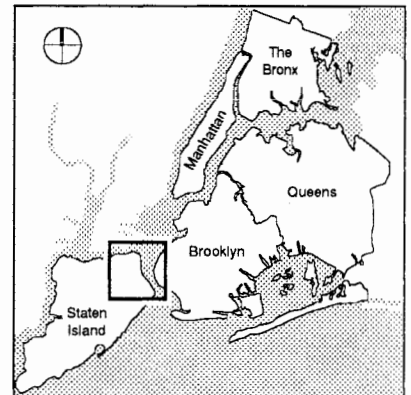
- 18 Redevelop the Chessie site for moderate-density, mixed residential and commercial uses, with a network of public open spaces and preservation of view corridors.
- 19 Future reconstruction projects at the ferry terminal should improve the terminal's pedestrian accessibility and links to St. George, and provide visual connection to the harbor from the terminal interior.
- 20 Implement recommendations of the Coast Guard Base Task Force:
 - Optimize public access to open areas of the site and the waterfront
 - Develop uses to strengthen the economic base of St. George
 - Redevelopment should respect the site's topography and historic structures
 - Attract water-dependent uses compatible with working waterfront.
- 21 Explore redevelopment opportunities for the U.S. Gypsum Plant site.
- 22 Rezone the Wrigley Building and Alice Austen Place sites to permit lower density development with retail and accessory marina use.

MAP A.18



S.I. North Shore / Reach 18 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



REACH 19: STATEN ISLAND SOUTH SHORE

Location: Lower New York Bay and Raritan Bay from Verrazano-Narrows Bridge to Conference House Park

Upland Neighborhoods: Midland Beach, South Beach, New Dorp Beach, Oakwood Beach, Great Kills Harbor, Eltingville Beach, Southeast Annadale, Prince's Bay, Tottenville

Shoreline: natural

Land Use/Zoning: Waterfront beaches and parkland including large tracts of vacant land and wetlands, some waterfront residential development in southern part of reach; upland low density residential (R1-R3). C-3 districts in Great Kills and Wolfe's Pond Parks permit marine-related commercial uses. The reach is entirely within the Special South Richmond Development District.

Waterfront Parkland: South Beach, Midland Beach, Miller Field, Great Kills Park, Wolfe's Pond Park, Lemon Creek Park, Tottenville Beach, Conference House Park

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Protection of sensitive ecosystems, dunes, beaches and wetlands must be balanced against the need for greater public access. Lemon Creek has been designated a Significant Coastal Fish and Wildlife Habitat.

- 1 Explore feasibility of a system of Transfer of Development Rights (TDR) to protect privately owned sensitive areas.
- 2 Develop local program to increase public awareness of Coastal Erosion Hazard Areas and the regulations and dangers involved.
- 3 Develop a dune and bluff planting program for city owned shores.
- 4 Install bollards at street ends to prevent illegal dumping in public shorefront areas.
- 5 Transfer city-owned land south of Duval Street and North of Page Avenue to DPR, and acquire private land at Butler Manor/Long Pond, for preservation as natural waterfront habitat.
- 6 DEP should study the Oakwood Beach area drainage basin and review storm sewer capital program to aid in flooding mitigation; an analysis of existing septic conditions and a complete examination of the water table should also be completed.
- 7 Transfer Designated Open Space parcels at Hylan Blvd between Preston and Retford streets and at Nelson Avenue and Tennyson Drive to DPR jurisdiction.

PUBLIC WATERFRONT

While the South Shore has ample public waterfront, access, linkages and privatization of street ends are issues.

- 8 Increase accessibility to and awareness of Lemon Creek's natural ecosystem through a trail system and wildlife identification program.
- 9 Study shorefront Designated Open Space network to identify a reconfiguration scheme to allow public access at key points. Reevaluate Designated Open Space boundaries at Mt. Loretto, Tottenville, and Butler Manor/Long Pond.

- 10 Develop a public access program for Conference House Park, including roadway signage
- 11 Improve pedestrian connections from upland communities by zoning changes to encourage commercial uses along principal streets leading to public beaches at Midland Beach. Consider additional traffic signals to increase safety.
- 12 Improve street end access by developing streets to their full mapped width. Improvements should include landscaping, parking areas and promenades.
- 13 Create a new public beach area parallel to proposed Father Capodanno Blvd. extension and Cedar Grove Avenue.
- 14 DPR should develop a master plan for area beaches including concessions, increased recreation opportunities, beach observation points, and a study of feasibility of a bike pathway system.

WORKING WATERFRONT

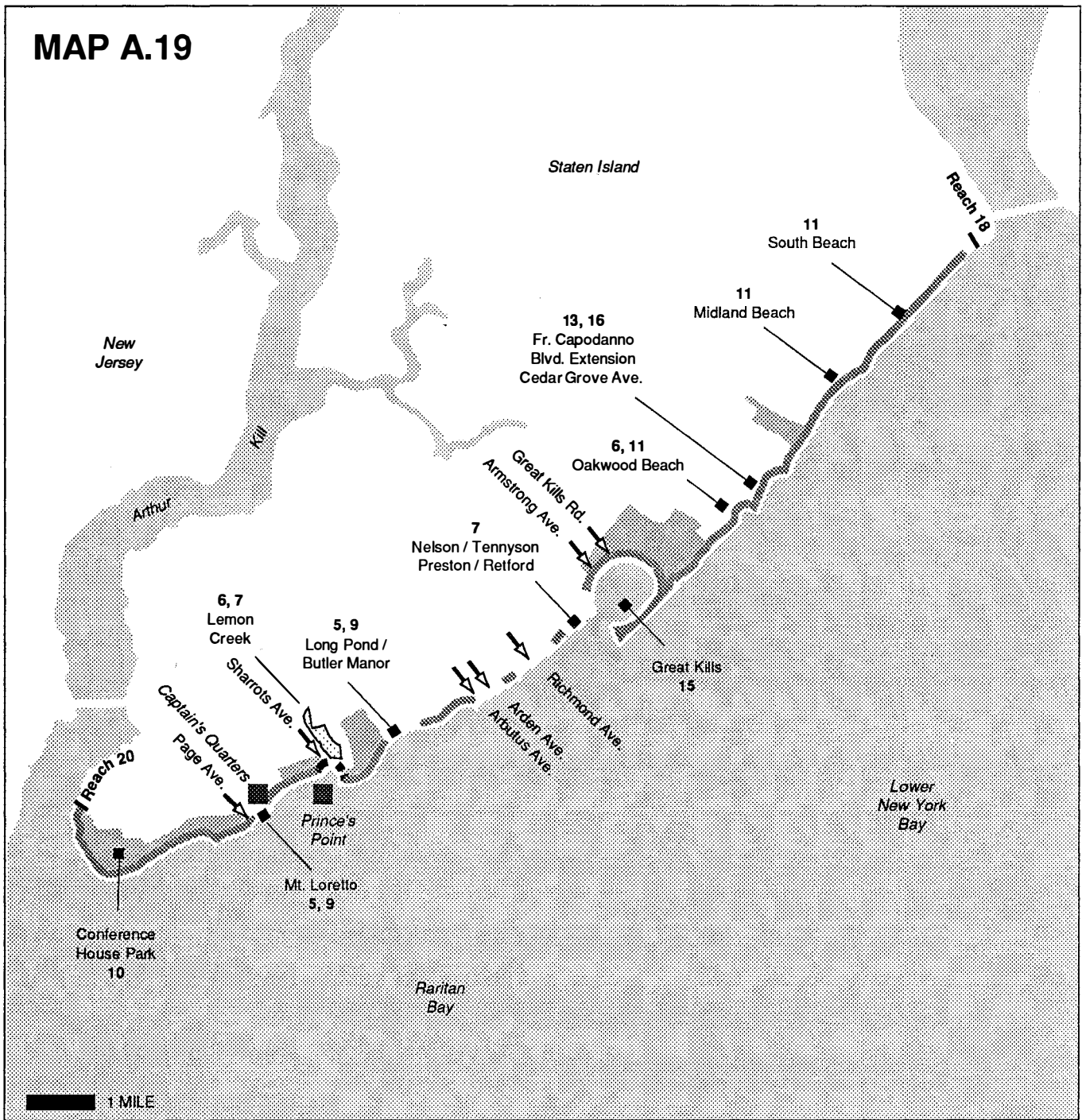
- 15 Explore feasibility of ferry service from Great Kills to Manhattan.

REDEVELOPING WATERFRONT










Much of the south shore lacks basic infrastructure such as storm and sanitary sewers, and a fully built roadway system. These limitations are constraints on future development.

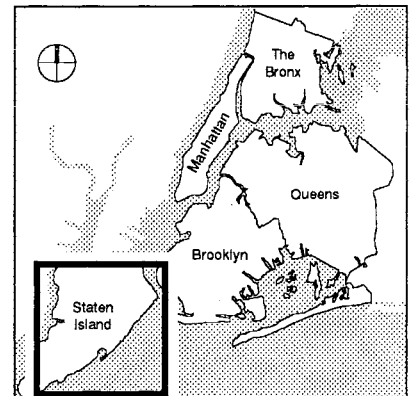
- 16 Implement DCP recommendations for the extension of Father Capodanno Boulevard.
- 17 Study the appropriate use of city-owned property adjacent to Lemon Creek as part of the Neighborhood Land Disposition study.

MAP A.19



S.I. South Shore / Reach 19 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



REACH 20: ARTHUR KILL SOUTH

Location: Arthur Kill from southern end of Fresh Kills Landfill to northern boundary of Conference House Park

Upland Neighborhoods: Rossville, Charleston, Tottenville

Shoreline: mostly natural, including significant freshwater and tidal wetlands

Land Use/Zoning: M3 industrial areas intermixed with wetlands in northern sections. Uses include petroleum storage, correctional facilities, sand and gravel yard, and storage/distribution. Kreischerville is a residential community in M1-1 and M2-1 zones. Tottenville is a low density residential community zoned R3-2 and R3-1, with C3 and M1 waterfront areas used by marinas and the SIRT. The reach is entirely within the Special South Richmond Development District.

Shorefront Parkland: none

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Valuable freshwater and tidal wetlands support important bird colonies. Their proximity to industrial uses requires sensitive management

- 1 Explore with State DEC a clean-up and management program for mapped freshwater wetlands and adjacent areas at Mill Weir Creek.

PUBLIC WATERFRONT

There is no mapped parkland on the waterfront in this reach. There are several opportunities to provide new access.

- 2 Improve the Bentley Avenue street end pier to enhance public access.
- 3 Support State Parks acquisition of parcels on Ellis Street for a public boat launch as recommended in their 1988 feasibility study.

WORKING WATERFRONT

The reach's working waterfront includes water-dependent, industrial and municipal uses.

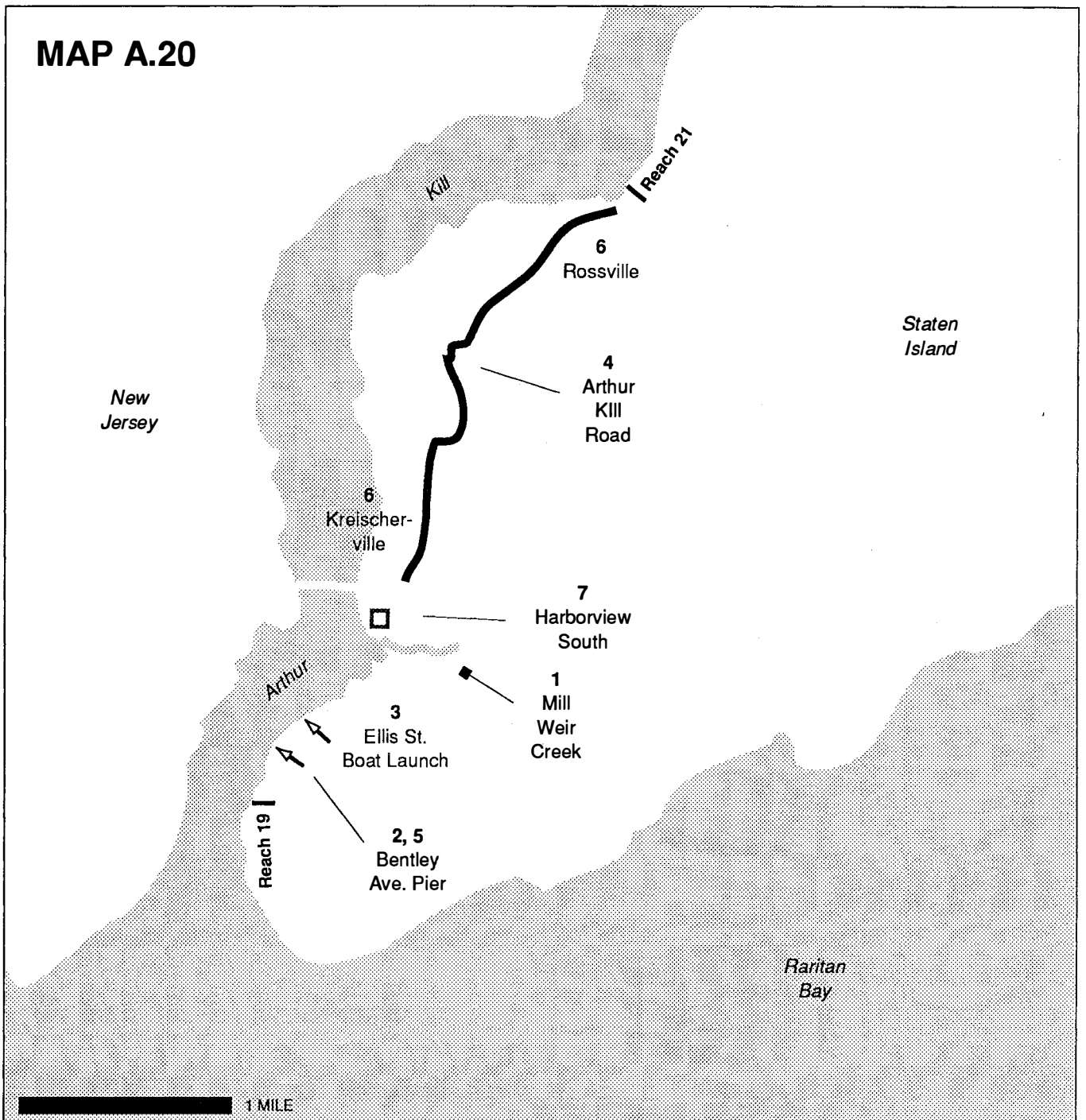
- 4 Widen Arthur Kill Road and eliminate sharp curves to improve safety and circulation and facilitate truck traffic.
- 5 Consider potential of the Bentley Avenue Pier as a ferry landing site.

REDEVELOPING WATERFRONT










Harborview, a planned banquet hall, restaurant, and small hotel, with public access, has been approved for the Outerbridge Crossing area. The residential community of Kreischerville is currently zoned for manufacturing, and should be protected from intrusive industrial uses.

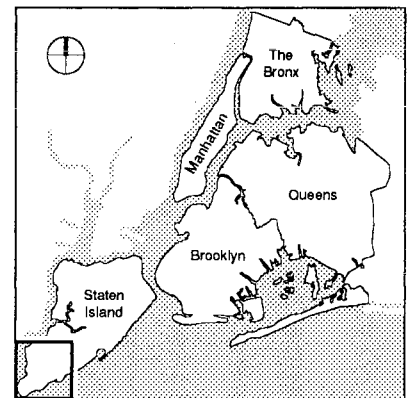
- 6 Develop a zoning policy for Rossville and the Kreischerville area of Charleston, currently zoned M1 and M2, to resolve conflicts between residential and manufacturing uses.
- 7 Study waterfront area south of the planned Harborview development for low-density residential and waterfront commercial uses.

MAP A.20



Arthur Kill South / Reach 20 Recommendations

- | | | | |
|---|--|---|------------------------------------|
|  | significant coastal habitat |  | major upland truck route |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | potential redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access or overpass | 4 | recommendation key number in text |



REACH 21: ARTHUR KILL NORTH

Location: Arthur Kill from the New Jersey Rail spur to the southern boundary of Fresh Kills Landfill, including Prall's Island and Isle of Meadows. The reach includes Old Place Creek, Fresh Kills, Neck Creek, Sawmill Creek, and Main Creek, and extensive tidal and freshwater wetlands

Upland Neighborhoods: Bloomfield, Travis, Fresh Kills

Shoreline: natural, with some bulkhead and piers

Land Use/Zoning: M3-1 waterfront with manufacturing uses, including oil storage and the 3,000 acre Fresh Kills Landfill, interspersed among wetlands. Inland M2 and M1 industrial areas include the Staten Island Industrial Park. The small residential enclave of Travis is zoned R3-2.

Shorefront Parkland: Prall's Island, which has restricted public access, and William T. Davis Wildlife Refuge on Main Creek, part of the Staten Island Greenbelt

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

Management and preservation of natural resources, including tidal and freshwater wetlands and valuable habitat, is a major issue in the reach.

- 1 Support designation of Fresh Kills, Prall's Island, and Chelsea Marsh as Significant Coastal Fish and Wildlife Habitats, and transfer Sawmill Creek Marsh from EDC to DPR.
- 2 Designate the northwestern section of Staten Island as the Staten Island Special Natural Waterfront Area.
- 3 Seek state and federal funding to establish a management and research program for the Upper Arthur Kill to manage and study valuable natural resources in an urban industrial environment.

PUBLIC WATERFRONT

Due to the industrial and natural character of the waterfront, there is limited public access. Opportunities exist to provide new access points. As portions of the Fresh Kills Landfill are closed, they are being treated for park development.

- 4 Consider public access to Main Creek, as well as environmental trails, for the Mohlenhoff Nursery Property which has been acquired by DPR.
- 5 Examine the feasibility of a public trail component of a reactivated Travis Rail Line.
- 6 Preserve Victory Blvd. street end as public open space, and identify local constituencies, such as schools, to care for and maintain the space.

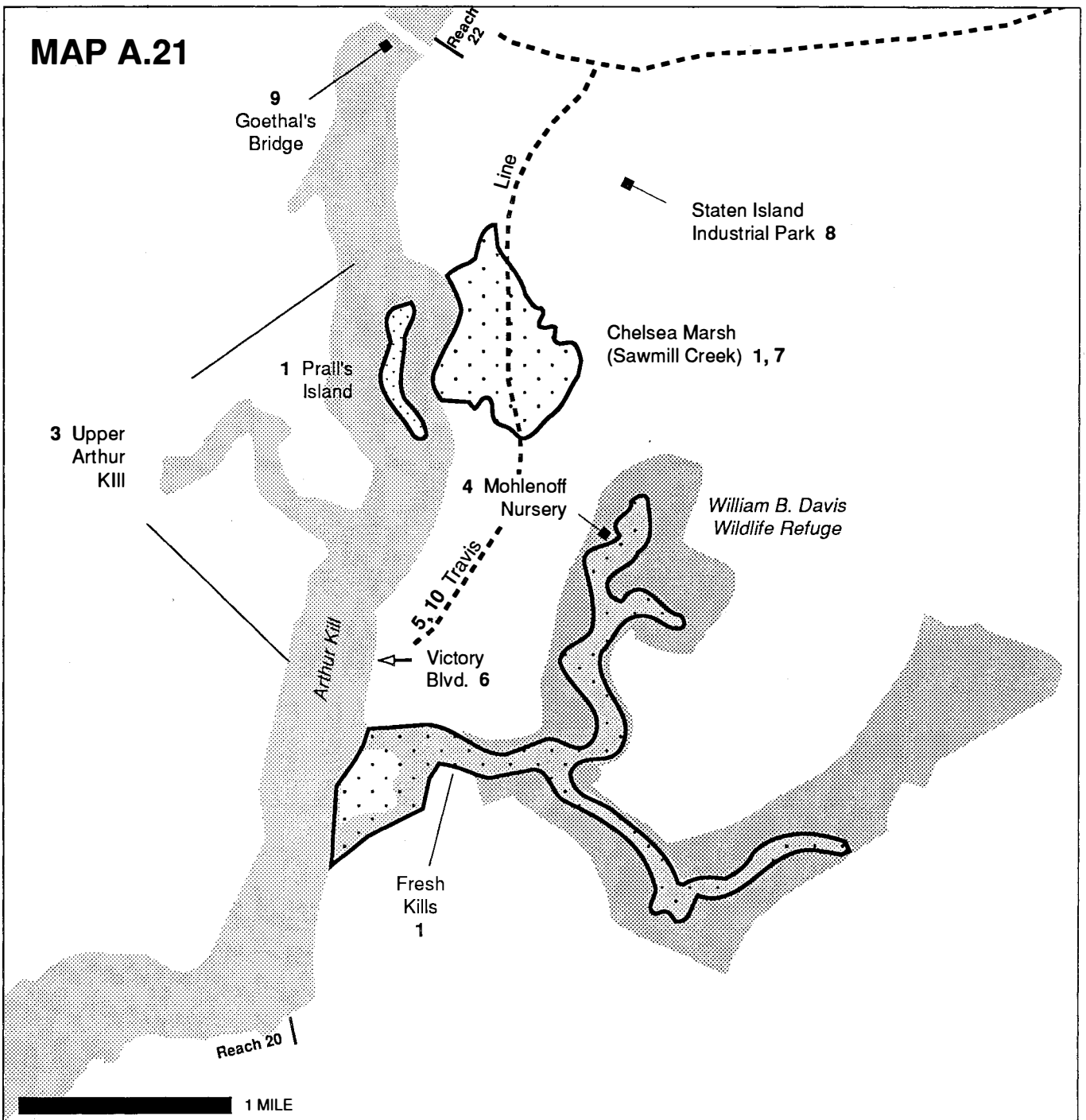
- 7 Explore possibility of a passive viewing area along Saw Mill Creek in Chelsea Marsh.

WORKING WATERFRONT










Manufacturing districts accommodate industrial and municipal uses. Land in Staten Island Industrial Park is available for new industrial uses.

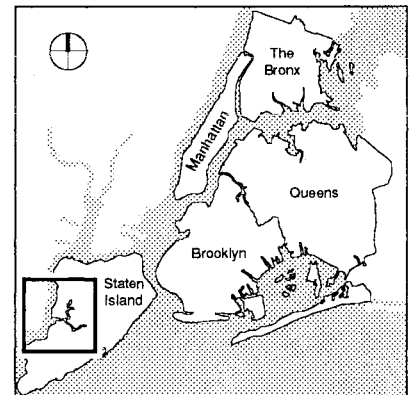
- 8 EDC disposition policies in the Staten Island Industrial Park should be sensitive to the environmental significance of the area.
- 9 Support expanding the capacity of the Goethal's Bridge to improve local and regional truck access. Design should minimize disturbance of wetlands.
- 10 Acquire the unused Travis Rail Line and pursue its reactivation for commuter and freight use, possibly including doubling the existing single track.

MAP A.21



Arthur Kill North / Reach 21 Recommendations

- | | | | |
|---|---------------------------------------|---|------------------------------------|
|  | significant coastal habitat |  | upland trail and rail |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland extent of park |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



REACH 22: KILL VAN KULL

Location: Kill Van Kull, from Old Place Creek to Bard Avenue, including Shooter's Island

Upland Neighborhoods: Arlington, Old Place, Graniteville, Mariners' Harbor, Port Richmond, Livingston Manor, West New Brighton

Shoreline: mostly bulkhead, with natural shoreline in the Port Ivory/Howland Hook area

Land Use/Zoning: M1, M2, and M3 zoned industrial waterfront includes maritime uses and significant vacant sites. R3 to R5 zoned residential communities south of Richmond Terrace.

Shorefront Parkland: Faber Park

SUMMARY OF RECOMMENDATIONS

NATURAL WATERFRONT

The western end of the reach contains significant tidal and freshwater wetlands. These areas are the core of the "Harbor Herons" wetlands and wildlife complex.

- 1 Support designation of Goethal's Bridge Pond and Shooter's Island as Significant Coastal Fish and Wildlife Habitats.
- 2 Transfer city owned parcels in Mariner's Marsh to DPR jurisdiction.
- 3 Designate the northwestern section of Staten Island as the Staten Island Special Natural Waterfront Area.
- 4 Continue efforts to acquire private land in areas recommended in the Harbor Herons report and place under DPR or private land trust jurisdiction.

PUBLIC WATERFRONT

Because of the reach's industrial character, public access to the waterfront is limited.

- 5 Explore possibility of an interim trail use of the North Shore Rail Line, pending its reactivation. Plans for reactivation should investigate feasibility of shared rail/trail use.
- 6 Create street-end public access at the end of Port Richmond Avenue, and link it to the Port Richmond commercial center using design treatment.
- 7 Create street-end public access at Ferry Street, Bard Avenue, Harbor Road, and Nichols Avenue.

WORKING WATERFRONT

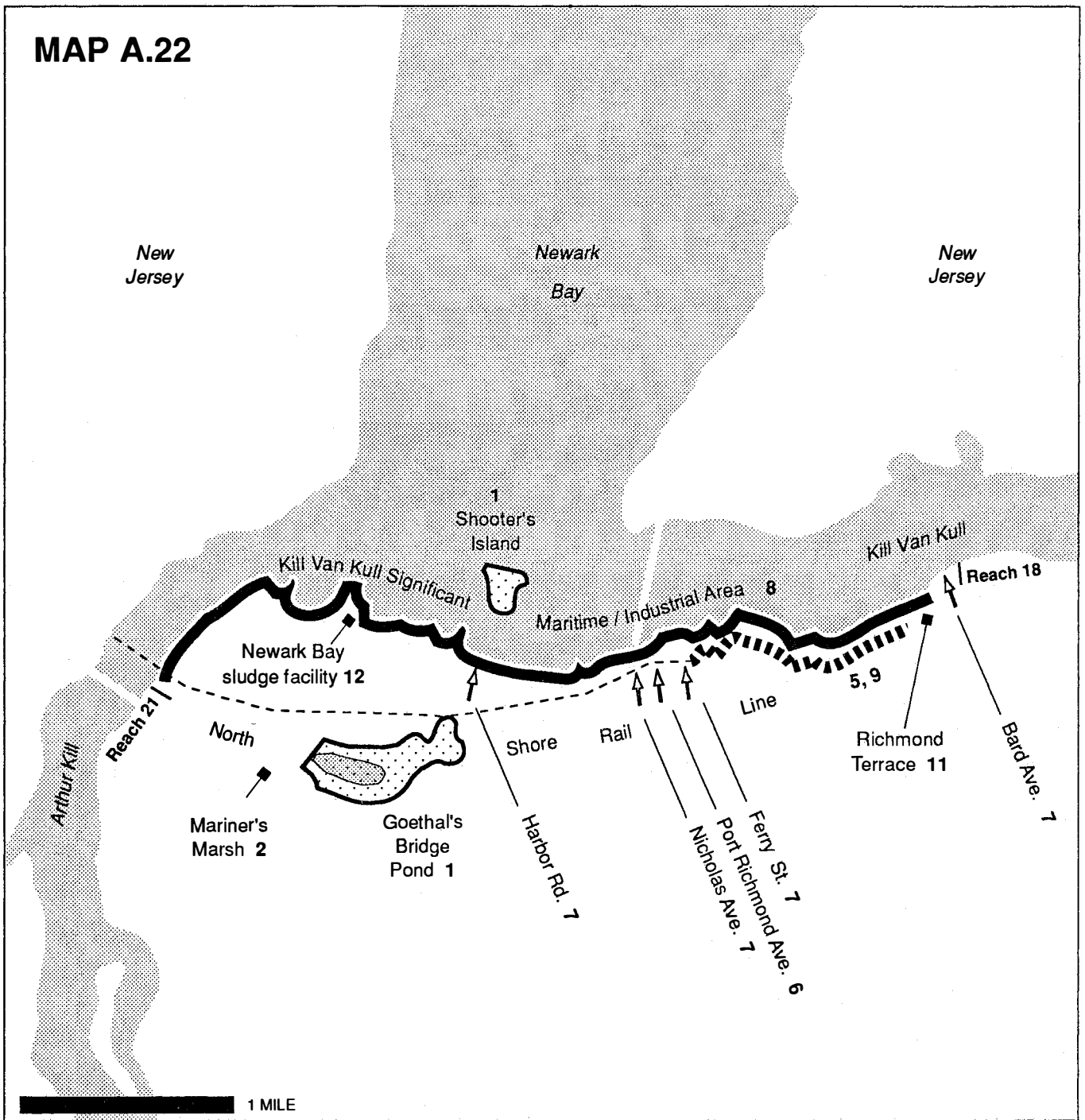
The Kill Van Kull is on the main route to Port Elizabeth/Port Newark and is an important center of water-dependent maritime support activities. The continued viability of existing industrial uses, and the reactivation of vacant facilities depends, in part, on improving the area's accessibility. The vacant Howland Hook Containerport is the city's largest maritime facility.

- 8 Designate the Kill Van Kull as a Significant Maritime and Industrial Area.
- 9 Acquire the North Shore Rail Line and pursue its reactivation for passenger and freight movement.
- 10 Reestablish the bulkhead where shoreline deterioration has occurred.
- 11 Improve Richmond Terrace, repair sidewalk and curbs, and open the mapped but unbuilt portion between Bement Avenue and Pelton Avenue to eliminate sharp curve.
- 12 The proposed Newark Bay sludge processing facility in the western portion of the reach should explore the feasibility of waterborne or rail transportation.










REDEVELOPING WATERFRONT

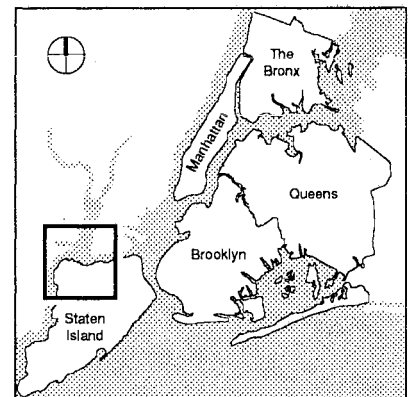
- 13 New waterfront development should be limited to uses allowed by the area's industrial zoning.

MAP A.22



Kill Van Kull / Reach 22 Recommendations

- | | | | |
|---|---------------------------------------|---|--|
|  | significant coastal habitat |  | significant maritime / industrial area |
|  | existing continuous or general access |  | approved redevelopment project |
|  | proposed continuous or general access |  | proposed redevelopment area |
|  | upland rail / trail |  | other site specific recommendation |
|  | new or improved point access | 20 | recommendation key number in text |



APPENDIX B

WATERFRONT REVITALIZATION PROGRAM POLICIES

POLICY 1

Restore, revitalize, and redevelop deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational and other compatible uses.

NEW YORK CITY POLICY A

Improve urban shorelines by maintaining, removing or recycling waterfront structures (piers, docks, wharves, etc.) in accordance with waterfront development policies and plans. Identify alternative uses for underutilized waterfront structures.

POLICY 2

Facilitate the siting of water dependent uses and facilities on or adjacent to coastal waters.

NEW YORK CITY POLICY B

Improve channels as necessary to maintain and stimulate economic development.

POLICY 3

Promote the development and use of the state's major ports as centers of commerce and industry, emphasizing the siting, within port areas, of land use and development which is necessary to, or in support of, the waterborne transportation of cargo and people. The state's major ports are the ports of Albany, Buffalo, New York, Ogdensburg, and Oswego.

POLICY 4

Strengthen the economic base of smaller harbor areas by encouraging the development and enhancement of those activities which have provided such areas with a unique identity.

POLICY 5

Encourage the location of development in areas where public services and facilities essential to such development are adequate.

POLICY 6

Expedite existing permit procedures in order to facilitate the siting of development activities at suitable locations.

POLICY 7

Significant coastal fish and wildlife habitats will be protected and preserved so as to maintain their viability as habitats.

POLICY 8

Protect fish and wildlife resources in the coastal area from the introduction of hazardous waste and other pollutants which bioaccumulate in the foodchain or which cause significant sublethal or lethal effect on those resources.

POLICY 9

Expand recreational use of fish and wildlife resources in coastal areas by increasing access to existing resources, supplementing existing stocks and developing new resources.

POLICY 10

Further develop commercial finfish, shellfish and crustacean resources in the coastal areas by encouraging the construction or improvement of existing on-shore commercial fishing facilities, increasing marketing of the state's seafood products, maintaining adequate stocks and expanding agricultural facilities.

POLICY 11

Buildings and other structures will be sited on the coastal area so as to minimize damage to property and the endangering of human lives by flooding and erosion.

NEW YORK CITY POLICY C

Provide shorefront protection against coastal erosion hazards where there is public benefit and public use along non-public shores.

NEW YORK CITY POLICY D

Provide technical assistance for the identification and evaluation of erosion problems, as well as the development of erosion control plans along privately-owned eroding shores.

NEW YORK CITY POLICY E

Implement public and private structural flood and erosion control projects only when:

- Public economic and environmental benefits exceed public economic and environmental costs.
- non-structural solutions are proven to be ineffective or cost prohibitive;
- projects are compatible with other coastal management goals and objectives, including aesthetics, access and recreation;
- adverse environmental impacts are minimized;
- natural protective features are not impaired; and,
- adjacent (downdrift) shorelines are not adversely affected.

POLICY 12

Activities or development in the coastal area will be undertaken so as to minimize their adverse effects upon natural features which protect against flooding and erosion.

POLICY 13

The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.

POLICY 14

The activities and development including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion nor flooding at the site of such activities nor development at other locations.

POLICY 15

Mining, excavation, or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall be undertaken in a manner which will not cause an increase in erosion of such lands.

POLICY 16

Public funds shall be expended for activities and development, including the construction

or reconstruction of erosion control structures, only where the public benefits clearly outweigh their long term monetary and other costs including their potential for increasing erosion and their adverse effects on natural protective features.

POLICY 17

Non-structural measures to minimize damage to natural resources and property from flooding and erosion shall be used whenever possible.

POLICY 18

To safeguard the vital interest of the State of New York and of its citizens in the waters and other valuable resources of the State's coastal area, all practicable steps shall be taken to ensure that such interests are accorded full consideration in the deliberations, decisions and actions of state and federal bodies with authority over those waters and resources.

POLICY 19

Protect, maintain and increase the level and types of access to public water-related recreation resources.

POLICY 20

Access to the publicly owned foreshore or water's edge, and to the publicly owned lands immediately adjacent to these areas shall be provided, and it shall be provided in a manner compatible with the adjoining uses. To ensure that such lands remain available for public use, they will be retained in public ownership.

POLICY 21

Water dependent and water enhanced recreation will be encouraged and facilitated, and will be given priority over non-water-related uses along the coast.

NEW YORK CITY POLICY F

Priority shall be given to the development of mapped parklands and appropriate open space where the opportunity exists to meet the recreational needs of:

- immobile user groups; and
- communities without adequate waterfront park space and/or facilities.

NEW YORK CITY POLICY G

Maintain and protect New York City beaches to the fullest extent possible.

POLICY 22

Development when located adjacent to the shore will provide for water-related recreational activities whenever such recreational use is appropriate in light of reasonably anticipated demand for such activities, and the primary purpose of the development.

POLICY 23

Protect, enhance and restore structures, districts, areas or sites that are of significance in the history, architecture, archeology or culture of the state, its communities, or the nation.

NEW YORK CITY POLICY H

Insure ongoing maintenance of all waterfront parks and beaches to promote full use of secure, clean areas with fully operable facilities.

POLICY 24

Prevent impairment of scenic resources of statewide significance.

POLICY 25

Protect, restore and enhance the natural and man-made resources which are not identified as being of statewide significance but which contribute to the overall scenic quality of coastal area.

POLICY 26

Conserve and protect agricultural lands in the state's coastal area.

POLICY 27

Decisions on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment and the facility's need for a shorefront location.

NEW YORK CITY POLICY I

Siting of liquified and substitute natural gas facilities, including those associated with the tankering of such gas, shall take into consideration state and national energy needs, public safety concerns and the necessity for a shorefront location.

POLICY 28

Ice management practices shall not damage significant fish and wildlife and their habitats,

increase shoreline erosion or flooding or interfere with the production of hydroelectric power.

POLICY 29

Encourage the development of energy resources on the outer continental shelf (OCS) and in other water bodies and ensure the environmental safety of such activities.

POLICY 30

Municipal, industrial and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to state water quality standards.

POLICY 31

State coastal area policies and management objectives of approved local waterfront revitalization programs will be considered while reviewing coastal water classifications and while modifying water quality standards; however, those waters already over-burdened with contaminants will be recognized as being a development constraint.

POLICY 32

Encourage the use of alternative or innovative sanitary waste systems in smaller communities where the cost of conventional facilities are unreasonably high, given the size of the existing tax base of these communities.

POLICY 33

Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.

POLICY 34

Discharge of waste material into coastal waters from vessels under the state's jurisdiction will be limited so as to protect significant fish and wildlife habitats, recreational areas and water supply areas.

POLICY 35

Dredging and dredge spoil disposal in coastal waters will be undertaken in a manner that meets existing state dredging permit requirements and protects significant fish and wildlife habitats, aesthetic resources, natural protective features, important agricultural lands and wetlands.

POLICY 36

Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters: all practicable efforts will be undertaken to expedite the cleanup of such discharges; and restitution for damages will be required when these spills occur.

POLICY 37

Best management practices will be utilized to minimize the non-point discharge of excess nutrients, organics and eroded soils into coastal waters.

POLICY 38

The quality and quantity of surface water and groundwater supplies will be conserved and protected particularly where such waters constitute the primary or sole source of water supply.

POLICY 39

The transport, storage, treatment and disposal of solid wastes, particularly hazardous wastes, within coastal areas will be conducted in such a manner so as to protect groundwater and surface waters supplies, significant fish and wildlife habitats, recreational areas, important agricultural lands and scenic resources.

NEW YORK CITY POLICY J

Adopt end-use plans for landfill areas which specify the following:

- final capacity
- final contours
- leachate, erosion and gas control systems
- re-vegetation strategies
- interim review schedules

NEW YORK CITY POLICY K

Curtail illegal dumping throughout the coastal zone and restore areas scarred by this practice.

NEW YORK CITY POLICY L

Encourage energy development from waste and waste landfills.

POLICY 40

Effluent discharged from major steam electric generating and industrial facilities into coastal waters will not be unduly injurious to fish and wildlife and will conform to state water quality standards.

POLICY 41

Land use or development in the coastal area will not cause national or state air quality standards to be violated.

POLICY 42

Coastal management policies will be considered if the state reclassifies land areas pursuant to the prevention of significant deterioration regulations of the federal clean air act.

POLICY 43

Land use or development in the coastal area must not cause the generation of significant amounts of the acid rain precursors: nitrates and sulfates.

POLICY 44

Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.

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