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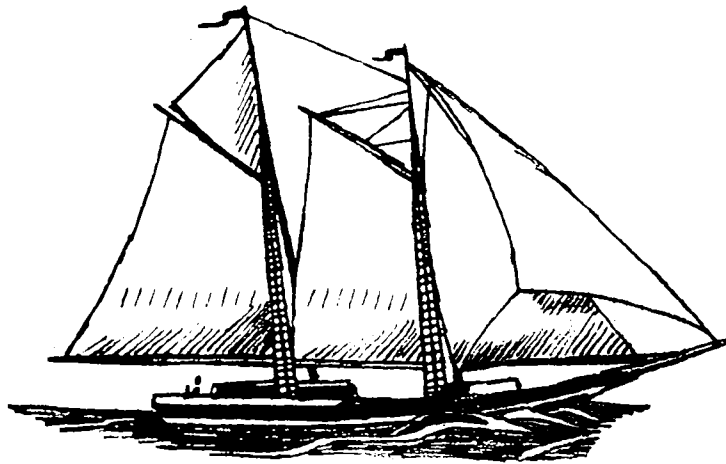
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FINAL REPORT

**NIAGARA FRONTIER
TRANSPORTATION
AUTHORITY**

OUTER HARBOR DEVELOPMENT PLAN



MARCH 1988

TIPPETTS-ABBETT-McCARTHY-STRATTON
ENGINEERING, ARCHITECTS AND PLANNERS NEW YORK

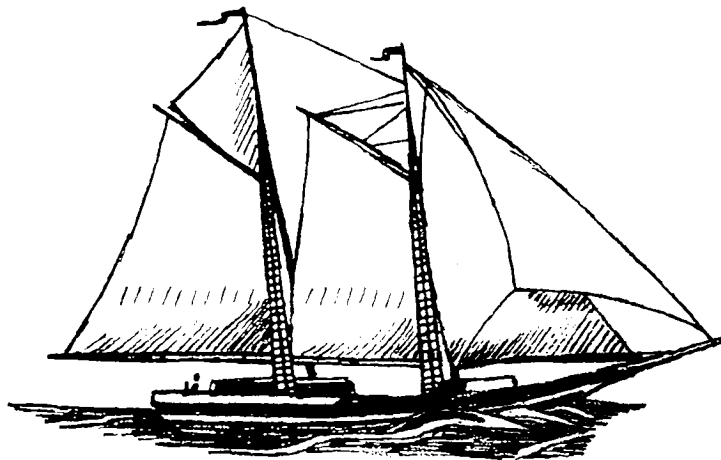
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THE CAUCUS PARTNERSHIP

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BUFFALO OUTER HARBOR DEVELOPMENT PLAN
FINAL REPORT

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BUFFALO OUTER HARBOR DEVELOPMENT PLAN
SUMMARY

This Development Plan for the Outer Harbor is one of the most important products of a process that started in 1982, when the Waterfront Planning Board was formed--with the Niagara Frontier Transportation Authority (NFTA) as a major partner in a joint planning effort to improve Buffalo's waterfronts on the Buffalo and Niagara Rivers and Lake Erie.

As part of that effort the Outer Harbor Development Plan has addressed the question of appropriate future uses for the NFTA's properties on the Lake Erie shorefront--the Small Boat Harbor and the Outer Harbor North. Building upon earlier studies of Buffalo and its region, and adding analyses of specific real estate markets, the Development Plan proposes additional activities at the Small Boat Harbor, as well as expansion of the Harbor itself. For the Outer Harbor North site, the Development Plan proposes a mixed use development that would be realized in several phases.

After a review of several alternatives, and following subsequent modification in light of the interest shown by various groups, the plan for the Outer Harbor North site that is presented herein includes redevelopment of the Seaway Piers as another harbor for small craft and excursion vessels; a compact town center with "back office" space, restaurants, convenience shopping and residential units; a park

near the Bell Slip with a commercial health club and tennis courts, and a swimming area; and a Great Lakes research center, plus possible light industry and warehousing uses at the south end of the site.

Financial analyses were made of the developments at the Small Boat Harbor and the Outer Harbor North site recommended in early 1987. These analyses indicated that, if certain existing State programs were used, most of the proposed developments could be financed through instruments such as bonds. Public funds, other than possible seed capital, would not be needed, though cross-subsidies between developments at the two sites could be involved. With the Modified Plan prepared in early 1988, financial returns at the Outer Harbor North site are expected to be greater, so that a cross-subsidy may not be needed.

Development of the Outer Harbor North site and the Small Boat Harbor will require that the NFTA play an active role and provide the staff resources necessary to promote the Outer Harbor with both the public and potential investors.

CHAPTER 1

STUDY CONTEXT

BACKGROUND

As Buffalo's industrial base declined and the City began to shift towards an economy based more upon services, no area was more profoundly affected than the waterfront - where large parcels that had been the site of busy factories, port facilities and rail yards, became vacant and unutilized spaces. Various groups in Buffalo realized that this presented an opportunity to recapture much of the waterfront and use its redevelopment as a catalyst for the renaissance of the City. In the late 1970's, serious discussion and actions directed at the revitalization of the waterfront, opening it up to other uses and making it available to the population were started, and the first concrete redevelopment plan was drawn up for Erie Basin. Subsequently, possible reuse of the remainder of Buffalo's waterfront was addressed in a report prepared for the Corps of Engineers in May 1981. This was followed later that year by a policy plan prepared by the City of Buffalo under a Federal AQTAD grant, which looked at the institutional framework for continuing the redevelopment of the waterfront. This latter report provided the impetus for the formation of the Waterfront Planning Board (WPB) late in 1982.

The process of redevelopment was further helped by the passage in 1982 of state legislation which provided the policy basis for preparing a

state Coastal Management Program, in accordance with the U.S. Coastal Zone Management Act of 1972.

Under the aegis of Buffalo's Waterfront Planning Board, studies for the revitalization of the waterfront between the Tonawanda line and the Lackawanna line, plus that of the Buffalo River were started in 1984. The present study represents the continuation of part of that effort; the part that relates to the waterfront properties of the Niagara Frontier Transportation Authority that face the Outer Harbor, a portion of which is occupied by the Port of Buffalo. The study is undertaken parallel to, and in coordination with a study of the remainder of the waterfront (along the Niagara River, Lake Erie and the Buffalo River) that is being undertaken by the City of Buffalo.

The waterfront properties currently owned by the NFTA, include the property lying west of Fuhrmann Blvd. and extending from the International Salt Company discharge area on the north side of the Seaway Slips, to the Freezer Queen pier, then south of this pier to a point beyond the the Cargill Pool Elevator south of the Small Boat Harbor. (The old Cargill Pool Elevator is privately owned, but the NFTA owns most of the slip to the south.) The length of the entire NFTA waterfront property is over 2-1/2 miles. The average width of the property occupied by the Port of Buffalo, lying north of Freezer Queen Foods Inc., is about 900 - 1,000 feet.

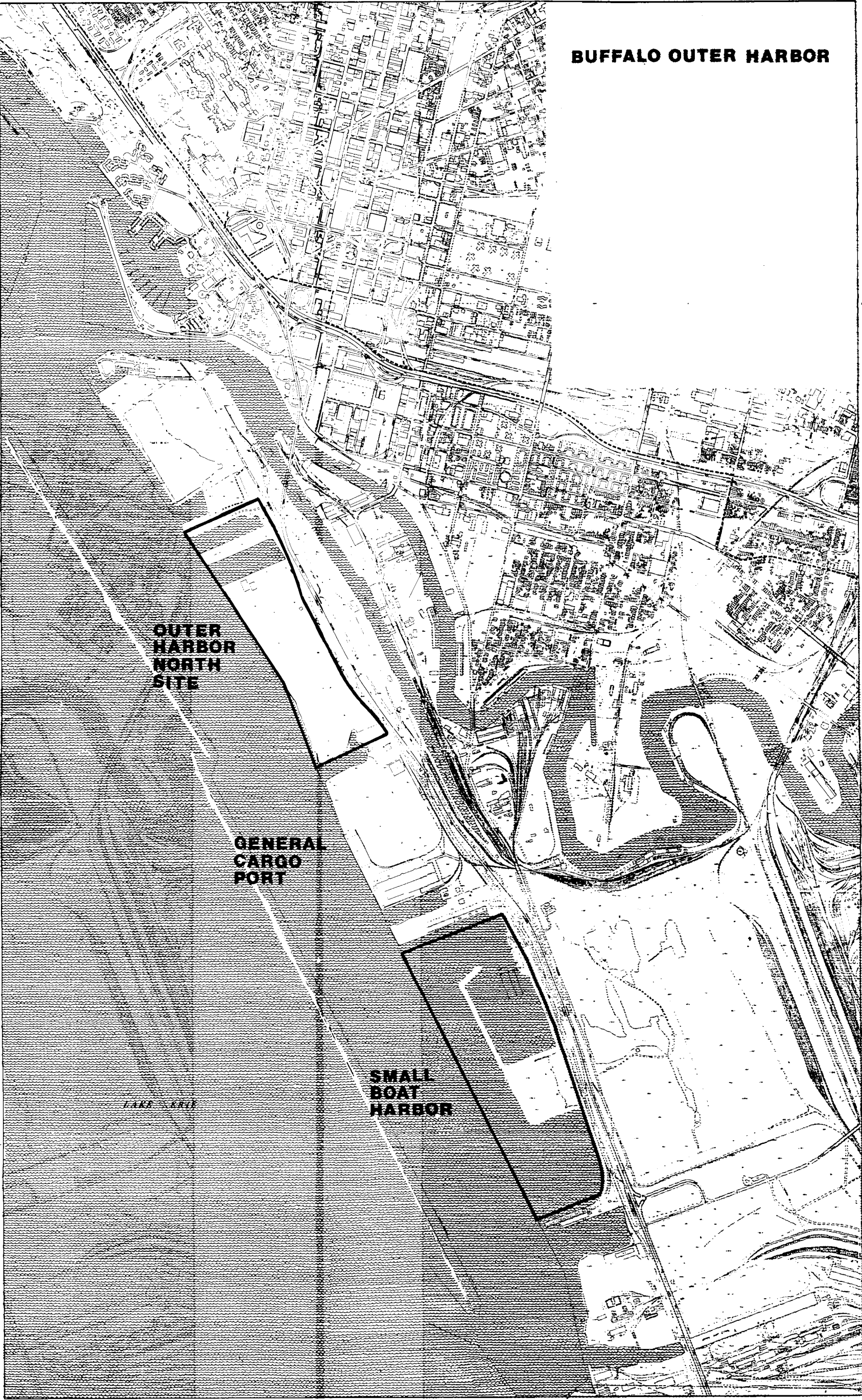
South of this point much of the area, except for the Small Boat Harbor, lies under water. (See Figure 1).

GOALS FOR DEVELOPMENT

In the earlier phases of the overall waterfront planning effort, members of the WPB were canvassed, in order to delineate common goals for development and specific development priorities. In early 1985, these surveys were extended to various population groups in the Buffalo area.

In the earlier surveys, some emphasis was placed by members of the NFTA Board and WBP upon new economic activities and job creation or retention. In the broader survey undertaken in 1985, more stress was placed upon recreation and access to the waterfront - which relate to the quality of life and the image of Buffalo as a good place to live. In this study, recognition of the importance of economic activities to the achievement of other goals, has been retained in defining a set of goals for development of the Outer Harbor properties of the NFTA. At the same time, citizen interest in access and recreation has been recognized through goals that refer to the built environment and Buffalo's image. Finally, in defining a set of goals, the concerns of the individual agencies involved in the overall development of Buffalo's waterfront have been considered.

Goals for Outer Harbor development presented earlier to the NFTA Board and Waterfront Planning Board, were modified according to comments by members of those bodies and have since served



BUFFALO OUTER HARBOR

**OUTER
HARBOR
NORTH
SITE**

**GENERAL
CARGO
PORT**

**SMALL
BOAT
HARBOR**

LAKE ERIE

OUTER HARBOR DEVELOPMENT PLAN

**NIAGARA FRONTIER
TRANSPORTATION
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Tippetts-Abbett-McCarthy-Stratton
Engineers, Architects and Planners
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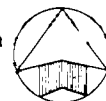


FIGURE 1

as a guide for the present study. These goals are as follows:

- Goal 1 Improvement of the image of Buffalo as a place to live, work and invest.
- Goal 2 Improvement in the quality of the man-made and natural environment, and provision of greater access to the waterfront.
- Goal 3 Support of the City's redevelopment efforts along the waterfront and adjacent areas of Buffalo, such as downtown.
- Goal 4 Significant enhancement of NFTA revenues from its properties.
- Goal 5 Support of increased economic activity in the traditional center of Buffalo near the Lake Erie and Buffalo River waterfronts.
- Goal 6 An increase in the number of base-sector jobs in the Buffalo area.
- Goal 7 Mobilization of private sector investment funds.

These goals and their related objectives are consistent with New York's Coastal Zone Management Policies. Those policies call for the conservation and restoration of natural and man-made resources, greater public access to the water and a balance between economic development and preservation.

COORDINATION WITH THE CITY

Preparation of the Outer Harbor Development Plan has been contemporaneous with the development of the City of Buffalo's Waterfront Plan and the work has been closely coordinated with that of the City of its consultants.

There has been a common awareness of the work and concepts used by each planning team and, at key points, there have been joint presentations of the two studies to the Waterfront Planning Board. Also, during a series of meeting and workshops last October, there were joint presentations to the public of the two sets of plans. The responses received affected much of the subsequent work.

The various alternatives for development of the Outer Harbor were prepared in the light of the City's planning for the rest of the waterfront and each alternative fits with one or more of the City's Plans. The final selection of a preferred alternative was made in accordance with the decisions of the Waterfront Planning Board regarding the respective roles of development at the Outer Harbor and the City's redevelopment of the Foot-of-Main Street area, as well as the decisions of the NFTA Board.

CHAPTER 2

SUMMARY OF STUDY

SITES FOR DEVELOPMENT

The NFTA'S Outer Harbor properties include two major sites suitable for development.

Initially, the primary focus of development was to be at the larger of the two sites - referred to as the Outer Harbor North site - which is still used for scattered bulk port operations. Recently, however, it has become evident that early development is more likely to take place at the second major site, the Small Boat Harbor. The Small Boat Harbor is a popular facility, where a \$2 million improvement program by the NFTA is virtually complete.

The current attributes of each of these sites are discussed separately, starting with the Outer Harbor North site.

Outer Harbor North Site

The Outer Harbor North site extends from the northern side of the northernmost Seaway Slip, down past the Bell Slip, which separates much of the site from the NFTA's general cargo port. The Outer Harbor North site has been largely occupied by the bulk cargo handling activities of the Port of Buffalo.

Through much of the course of the study it was necessary to consider the possibility that the area immediately south of the Outer Harbor North site and perhaps a portion of the site itself

would be needed to accommodate future bulk port activities. The alternatives that were developed, therefore, reflected this possibility, as well as the constraints of the weak market for urban land that resulted from the decline in industrial activity. Recently, the NFTA has decided to permit the relocation of bulk port activities to the former Bethlehem Steel Mill in Lackawanna, so the need to accommodate bulk port activity, is no longer a direct constraint on plans for the area. The option of providing for continuing bulk port activities within a consolidated port area adjacent to the Outer Harbor North site has been retained however, pending successful completion of negotiations between the NFTA and Gateway Trade Center Inc.

Physical Features

The Outer Harbor North site can be considered to have two and possibly three, distinct zones. The northernmost zone, containing the Seaway Piers, reflects the greatest existing investment within the site. These piers include only one finger pier, separating the two slips, and what is actually a marginal wharf along the southern side of one slip. While referred to as the Seaway Piers, these improvements actually date from 1926 and were known previously as the Michigan Ave. Piers. Following completion of the St. Lawrence Seaway the slips were deepened to 27' to accommodate ocean-going vessels. Seaway Piers 1 and 2 appear to be in generally good condition and both are infrequently used for bulk port operations. Pier 1 (the finger pier) is used for a coke transshipment operation that

is being phased out, , while Pier 2 (the marginal wharf) and the area behind it have been used for a range of bulk commodities. Several light pre-engineered metal buildings within the area may still be used for the storage of equipment and certain bulk commodities.

The next zone, which makes up the bulk of the Outer Harbor North site, is a rather featureless area bounded on the east by Fuhrmann Blvd. and along the lake edge by a rip-rap dike composed of slag, randomly placed stone and pieces of concrete slab. The area contains several pads where bulk materials are stored, as well as a metal pre-engineered building and blacktop area adjacent to Fuhrmann Blvd. Most of the zone is covered by scrub and tall grasses. At the southern end of this area is the third zone, around much of the shoreline of the Bell Slip. Further south is the area that has been used for the general cargo port, where some substantial warehouse and industrial buildings are located.

Subsurface Conditions

As late as the 1940's, much of the Outer Harbor North site south of the Seaway Piers was open water. Filling took place over a number of years as dredge spoil, construction debris, slag and sinter were deposited. In the 1950's or 1960's the dike along the present Harbor Line was constructed and filling continued behind it. Because of its random nature, this fill varies considerably in quality and soft spots have resulted from trapped fine materials.

Current information on the site indicates, that aside from the randomness of the fill material, there is a change in the underlying natural materials as one moves from the north to the south. In the north, particularly at the Seaway Piers, the materials appear to have a reasonable bearing capacity and may support a range of development types without special measures, whereas subsurface conditions deteriorate towards the south and additional foundation costs may be incurred. More information on this transition has been acquired by the NFTA as a result of a program of subsurface exploration prepared earlier by TAMS and since undertaken by Empire Thomsen, Inc.

Environmental Factors

Locations within the Outer Harbor North site were evidently used for the disposal of wastes by a former automobile assembly plant. Furthermore, fill materials placed within the site have included casting sands, dredged materials, cinders and slag. A short distance south of the Outer Harbor North site, across the Bell Slip, is a low lying area near Terminal B, where water ponded and there was uncontrolled dumping of various pollutants. Two points of concern have arisen:

- Whether there may be potentially hazardous solid materials.
- Whether there may be priority pollutants in waste materials in or around the site.¹

¹priority pollutants are those which are not included in present EPA lists of hazardous materials but which may be harmful in higher concentrations.

Because of these concerns and possible superfund listing, investigations have been carried out by the N.Y.S. Department of Environmental Conservation, the U.S. Geological Survey and others in recent years. Information available to date indicates that none of the materials are considered toxic under current analytical procedures.

Regarding the second point, data from various studies do not indicate high concentrations of contaminants on the site next to Terminal B, although they are present. Since the site is listed in the New York State Registry of Hazardous Waste Sites, it was scheduled for Phase I (preliminary) Assessment, which has now been completed. Earlier, the Erie County Department of Environment and Planning recommended that the site, which, is outside the Outer Harbor North site, be given a Priority Code 5, indicating that it was properly closed.

Right now, water in the Outer Harbor is classified as Class B (Title 6 NYCRR, Part 701.4), i.e., suitable for primary and secondary contact recreation. Any disturbances that may release priority pollutants could, at least temporarily, reduce water quality to Class C, which disallows primary contact recreation.

National Ambient Air Quality Standards (NAAQS) for particulates are not being met in areas just east of the Outer Harbor North site. This is apparently the result of lighter particles from material stockpiles, roadways etc. being picked up and carried by the generally high winds along the Lake Erie shore line. This would

limit the kind of development undertaken at the Outer Harbor North site, if it were to increase fugitive dust emissions. On the other hand, development with landscaping and paving, combined with street cleaning, would cause a net improvement in the areas of east of the Outer Harbor.

An overall conclusion on environmental factors is that most foreseeable types of development for the Outer Harbor North site would improve the environmental quality of the site and surrounding areas.

Micro-Climate

While summers in Buffalo can be very pleasant, winter weather can be harsh. This is particularly true along the Outer Harbor, which is exposed to the sweep of winds from the west and southwest. Since the wind comes down the length of the lake it may exceed 25 mph about 5.5% of the time and the average speed in January is close to 15 mph.

Because the Outer Harbor North site is also at the northern edge of the "snow belt", a particular concern for continuous access to the Outer Harbor in the winter are the conditions called "white outs", in which visibility is reduced to near zero and driving is not possible. Common "white-outs" are localized phenomena, in which rising winds pick up loose fresh snow from the ground and force the closing of portions of NYS Route 5 for several hours. Less common, but more severe, are area-wide "white-outs" caused by winter storms, when not

only the Skyway and the rest of NYS Route 5 may be closed for up to 2 days but travel throughout the Buffalo area is difficult and hazardous. Such conditions may occur only once or twice a year, with the worst storms occurring once every 5-8 years. The present feeling within NYSDOT is that localized "white-outs" can be controlled to some degree by properly designed barriers or land forms but it may be necessary to simply limit travel during area-wide storms.

In addition to access to the Outer Harbor, there is also concern about the effects during winter months, of strong winds combined with low temperatures. The NFTA has contracted for a study by research groups from Cornell University (Floriculture, Horticulture and Landscape Architecture Program) and N.Y. State College of Agriculture, that hopes to determine which combination of built forms, land forms and vegetation may be most effective in reducing the impact of winds upon a coastal site. Alternatives presented later in this report have been developed in the light of possible means whereby the massing of buildings can be used to ameliorate climatic effects.

Utility Services

With the water and sewerage lines that now run past the edge of the site, considerable development can be supported, assuming that these lines are in good condition.

The site is also served by overhead and underground power installations. It should be noted that a public utility in New York is required,

as a condition of its franchise, to provide electric power to any major development within its service area. Gas is provided to the general cargo port area, south of the Outer Harbor North site. If that site is to be served by gas, the line must be extended to the north.

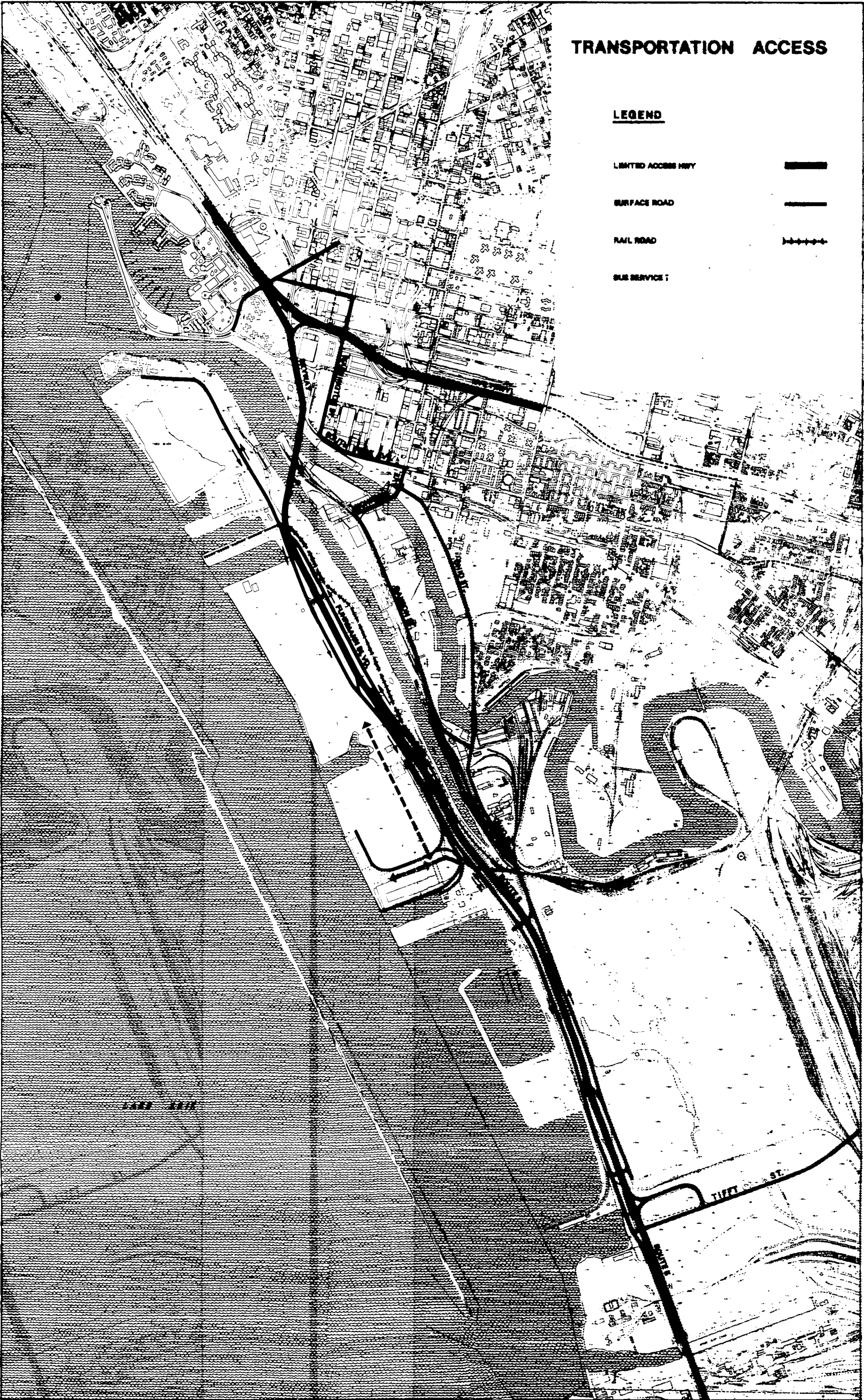
Thus early development of the Outer Harbor North site will not be restrained by the lack of utilities.

Transportation Links

The Outer Harbor North site is perceived as being very difficult to reach, even though it is only a mile or so south of downtown. Routes to reach the site are confusing and involve a good bit of backtracking. Pedestrian access is almost non-existent.

Roadways currently serving the NFTA Outer Harbor North site, as shown in Figure 2, comprise N.Y.S. Route 5, which crosses the Buffalo River on the Skyway and is the principal north-south highway along the Lake Erie waterfront; the Fuhrmann Blvd. set of service roads, which are found on each side of Route 5; Tifft Street, which intersects N.Y.S. Route 5 and Fuhrmann Blvd. about a mile south of the Outer Harbor North site; and Ohio Street, which joins the Fuhrmann Blvd. service roads just north of the Small Boat Harbor.

The closest public transit service to the north site is provided by bus routes that operate on Ohio Street and along the Fuhrmann Blvd. service roads south of Ohio Street. From Ohio street to



OUTER HARBOR DEVELOPMENT PLAN

**NIAGARA FRONTIER
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AUTHORITY**

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Acres
 2
 3
 4

0 400 800 1200 1600 2000 Feet



FIGURE 2

the southern end of the Outer Harbor North site, it is a walk of about three-quarters of a mile.

Rail access to the port area south of the Outer Harbor North site is provided by a two-track Conrail spur that originates in the Ohio Street yard.

Small Boat Harbor

The NFTA property within which the Small Boat Harbor is located extends from a short distance south of the Freezer Queen pier to a line a short way north of a pier occupied by the South End Marina (previously the Cargill Pool Elevator). All but 45 acres of this area are under water. The land area is occupied by parking for small boat owners and fishermen, concessions, docking and launching facilities, the breakwater and a filled area that is covered with scrub and trees.

The Small Boat Harbor thus has three major components:

- The shorefront facing the harbor which contains parking areas; a building with a restaurant, harbor control center and sanitary facilities; a bait shop and a launching area. This area is currently being enhanced under the NFTA's \$2.2 million Phase I Improvement Program;
- The harbor area itself, protected by a breakwater and containing about 550 boat slips plus 50 moorings for larger craft, in the 1986 season and a total of 832 boat slips by the end of the 1987 season;
- A diked and partially filled area of nearly 25 acres south of the harbor area that was used earlier for disposal of dredge spoil. During 1987, riprap was placed along the northern side of this diked disposal area and filling of the area continued, so it may be used for parking.

Subsurface Conditions

There is little information for the mechanical properties of soils within the Small Boat Harbor itself. Data do exist for an intake for the Buffalo River Water Co. located about 500' north of the Small Boat Harbor and constructed in the early 1960's. These data suggest that, as one moves south, the layers of soft material found in the general cargo port area increase in depth and the amount of cohesive soils increases.

On the other hand, while the existing breakwater protecting the Small Boat Harbor has suffered erosion through wave action, there are no data suggesting problems with subsidence. Conditions beneath the Small Boat Harbor itself may, therefore, be somewhat better than further north.

Environmental Factors

The diked disposal area south of the Small Boat Harbor has been filled with dredged materials and other deposits that have included contaminants of various types. Soil and water chemical test results indicate that organic and inorganic priority pollutants are found throughout the dike disposal area in both the soil and water. A separate firm of environmental engineering consultants to the NFTA has recommended placing a relatively impervious cap over the entire site. The NFTA has been using fill from the new downtown stadium to build up the area since it was about five feet below the top of the restored dike. On top of the fill, two foot of clay is being placed as an impervious cap.

One unresolved issue regarding this area is the leaching of polluted sediments into the Harbor. Currently the U.S. Corps of Engineers is conducting a series of tests to determine if, in fact, there is a problem. Once this issue is resolved the NFTA intends to complete the filling and capping of the site. All the requested sampling by NYSDEC has been completed.

It might be noted that, in spite of concerns about pollutants in the diked disposal area, there is a fish-spawning area in the open water to the southwest that which has been designated as significant by the NYS Dept. of State and the Small Boat Harbor is a favorite site of many of the area's fishermen.

Micro-Climate

As noted under the Outer Harbor North site, the climate is harsh during the winter, with severe combinations of high winds and heavy snowfall. These conditions do not discourage the ice fishermen, however, who use the Small Boat Harbor in the winter.

Utility Services

The utility systems that serve the Outer Harbor North site are extensive enough to serve the Small Boat Harbor also. Existing facilities at the Small Boat Harbor are currently connected to water and sewer lines and storm drainage has been upgraded under the Phase I Improvement program for the Harbor.

Electric power is provided by the same overhead system that serves the Outer Harbor North site. A high pressure gas line passes by the Small Boat Harbor, though no connections have been made as yet.

Transportation Links

Roadway access to the Small Boat Harbor is provided by the same routes described for the Outer Harbor north site, namely N.Y.S. Route 5, Fuhrmann Blvd., Tiffit Street and Ohio Street. The principal difference is that the configuration of on/off ramps provides better access to the Small Boat Harbor.

Public transportation to and from the Small Boat Harbor is available via the same bus routes as the Outer Harbor North site.

MARKET ANALYSIS FOR DEVELOPMENT OF THE OUTER HARBOR SITES

The analysis began with a review of data on population, employment trends, income, and household size in the Buffalo SMSA and the City of Buffalo. The subsequent market analysis involved determining demand for the following development activities:

- residential uses;
- retail, office, and other commercial uses;
- tourism and hotel recreation, and marina development;
- water-dependent and other light industry, plus warehouse uses.

While the above development uses represent specific markets, the underlying assumption made throughout this study has been that these uses could be conveniently and aesthetically integrated into a mixed-use development scheme.

Overview of the Region's Prospects

Population characteristics and labor force trends over the last fifteen years and the prospects over the next fifteen years were reviewed. This analysis relied on available data and economic studies commissioned by public agencies in the region.

The Buffalo SMSA and the City of Buffalo both experienced declines in population over the past twenty-five years as revealed in Table 1 below. These historical population trends are consistent with what has happened in other industrial areas of the northeastern United States. A decline in the birth rate, a decline in average family size, and out-migration all made notable impacts on the regional population.

TABLE 1
POPULATION TRENDS FOR THE BUFFALO SMSA
AND BUFFALO CITY, 1960-1980

	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1960-1980 Change</u>
Buffalo SMSA	1,307,000	1,349,000	1,243,000	-0.3% p.a.
Buffalo City	533,000	463,000	358,000	-2.0% p.a.

Source: Marshall Macklin Monaghan, 1984

Population Estimates and Targets

Estimates of the future population of the City of Buffalo and the Buffalo SMSA have been prepared by various government and private bodies in recent years. Most of these have indicated a continuing decline in the City's population with some slowing of this trend or even recovery in the years after 1990. Estimates of future regional population have varied more widely--with some projecting further declines and others showing significant growth after 1990.

The City of Buffalo currently uses estimates for the Year 2000 that range from 302,000 to 336,000 but a recent study for the City also considered a target in the range of 350,000.¹ Mid-range estimates for the Buffalo S.M.S.A. indicate a slight decline from 1,243,000 in 1980 to 1,220,000 in Year 2000.

Population reviews and sensitivity analyses made in the earlier phase of the present waterfront planning effort provide a summary of the various estimates.²

In that earlier effort it was recognized that, given the historic strengths of Buffalo, the existing investment in infrastructure and current advantages such as low energy costs, good communications, an educational plant that includes some excellent schools and a supply of surprisingly good housing at affordable prices, a turnaround may be possible by an earlier date

¹Regional Center Technical Appendix, Vol 1.

²Marshall, Macklin, Monaghan, Buffalo Waterfront Project, Market Forecasts and Sensitivity Analysis, 1984.

and some growth before the end of the century may be possible. Indeed, a recent Census Bureau estimate indicated that, if Buffalo succeeds in linking its economy more to the service-based resurgence taking place in Atlantic coast cities and away from its earlier industrial base, the Region's population may grow by 4.4% through the end of the century.

Finally, unless initiatives are taken on the basis that, collectively, they may bring about a reversal of past trends, there is little scope for planning new uses and the economic resources to accommodate new growth may not be there.

Accordingly a set of planning targets, were established that have been used as the basis for analyses made in the current study - but always with the thought in mind that later investments will not be made, if recent downtrends are not reversed in the near future by a continuing shift in the economic base of the City and the Region. These planning targets, shown in Table 2, posit a relative strengthening of the City of Buffalo's position within the Region, on the basis of just such investments as may take place within the waterfront.

TABLE 2
POPULATION PROJECTIONS, 1980-2010

	<u>1980*</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>
BUFFALO CITY	357,890	371,000	385,000	400,000
BUFFALO SMSA	1,242,826	1,233,000	1,220,000	1,190,000

*Census data.

Source: Marshall Macklin Monaghan, 1984.

Buffalo SMSA Employment

In the past five years, two distinct labor force trends are discernable. Thus, while there has been a continuing decline in the labor force, from 577,700 in 1979 to 527,000 in 1984, the unemployment rate appears to have bottomed out after reaching high levels in the early 1980's.

Sectoral Trends

Nonagricultural wage and salary employment trends are presented in Table 3. This table indicates the shifts that have been taking place and continue to take place within the Buffalo

TABLE 3
BUFFALO SMSA EMPLOYMENT TRENDS
BY INDUSTRIAL SECTOR

<u>Major S.I.C. Category</u>	<u>1970</u>	<u>Industry Share</u>	<u>1980</u>	<u>Industry Share</u>	<u>1990</u>	<u>Industry Share</u>
Manufacturing	168,600	33.9%	133,500	26.0%	99,700	20.4%
Construction	19,400	3.9	16,400	3.2	16,000	3.3
Transportation & Public Utilities	32,100	6.5	27,500	5.4	28,900	5.9
Wholesale and Retail Trade	102,000	20.6	112,700	22.0	127,200	26.1
Finance, Insurance and Real Estate	19,300	3.9	22,200	4.2	25,100	5.1
Services/Govern- ment, etc.	155,800	31.3	200,700	39.1	191,100	39.2
TOTAL	497,200	100.0%	513,000	100.0%	488,000	100.0%

Sources: 1990 Estimates. U.S. Bureau of The Census, 1970, 1980.
NYS Department of Labor, Annual Labor Report, Buffalo SMSA, for
Fiscal Year 1985, August 1984.
Planning Innovations, Inc., 1985.

area among the different sectors. Manufacturing jobs continued to decline but the New York State Department of Labor has detected some moderation of past trends and may modify its 1990 figures upwards. The services sector grew rapidly in the preceding decade and continues to grow, albeit this growth is masked by expected near-term cutbacks by government units. Employment in trade is expected to increase substantially.

Part of this growth represents low-level jobs in fast-food outlets and second members of households in the workforce but it may also reflect growth in area-wide distribution and similar functions serving a wider region.

The New York State Department of Labor expects moderate growth in job opportunities in 1990-1995 and later periods, which would be consistent with some of the more optimistic estimates of population and recent Bureau of the Census estimates for Erie County employment.

Continuing Port Activities

As noted earlier, port activities will continue as a part of Buffalo's economy, most probably at the Gateway Trade Center in Lackawanna, where the Bethlehem steel mill had been located. The NFTA Board of Commissioners has authorized negotiations for this relocation of the Port. In an earlier stage of the Buffalo Waterfront Study, estimates were made of future movements through non-proprietary port facilities in Buffalo. These are shown in Table 4.

TABLE 4
FUTURE TRAFFIC IN THE PORT OF BUFFALO

	Thousands of Tons		
	<u>1990</u>	<u>2000</u>	<u>2010</u>
Low-range	188	171	162
Mid-range	282	289	296
High-range	494	500	508

Included in the estimates shown in Table 4 were a range of bulk commodities (salt, sand, potash and coke) plus a limited amount of general cargo and bunkering coal. In addition, the high-range estimate might have a medium probability of being augmented by another 150,000 tons of limestone and phosphate. The estimates do not include grain and liquid bulk cargoes received at private facilities in the Buffalo area.

Possible Types of Development

In order to prepare alternative plans for the first phase of development of the Outer Harbor (through 1995-2000), several sectoral areas were analyzed for the market potential of a site on an exposed part of the waterfront. These sectoral areas included:

- residential development;
- retail development, both theme-related and convenience shopping;
- office space, including a consolidated Great Lakes research facility;
- tourist hotels;
- recreational facilities, including:
 - major theme attraction,
 - marina development,
 - excursion vessels,
 - participatory sports;
- industrial development.

Not all of these are still relevant, since some were essential constituents of alternatives that have not been recommended. In addition, some possible forms of development were found to be more appropriate to other locations on the waterfront.

The studies undertaken for the various sectoral areas are briefly described on the next few pages. The results of the analyses are also summarized in Chapter 5 for those types of development that form a part of Phase I of the recommended plan.

Residential Development

An analysis of the Buffalo housing market was conducted to determine the existing housing stock and conditions, average unit sales price, and housing sales in various market segments within the waterfront areas. The information has been used to estimate the market potential for future housing development in Buffalo and potential market capture at the Outer Harbor North site.

Future housing demand for Buffalo will be a function of future population, average household size, and the existing housing stock. Concerning the last item, the 1980 U.S. Census of Housing revealed that more than 84 percent of the City of Buffalo's housing stock was constructed before 1939. A recent survey of the external conditions of the housing stock throughout the City of Buffalo, however found that approximately 87 percent of the units surveyed were in

sound condition. Thus, Buffalo residents appear to maintain their houses reasonably well and the decline in population has meant that most deteriorated units have been removed from the housing stock. In recent years losses to demolition have averaged about 800 units a year or 0.5% of the housing stock.

As noted earlier, estimates of future population based upon projection of past trends, indicate continuing declines and a population of 333,000 by 1990 and 323,000 by 2000, according to mid-range estimates. A continuing drop in average household size, to about 2.2 persons per household by 2000, is also projected, in contrast to about 2.46 in 1980. This means that about 150,000 housing units would be needed in 2000, after allowing for the non-household population and an assumed vacancy rate of 5%. On this basis, and assuming an average loss of 750 units annually to conversion and demolition, there would be a need for an average of 650 units per year of new housing in the years after 1990.

If the planning targets established during the first phase of the Buffalo Waterfront Study are used instead, indicating a turnaround in population, then a population for the City of Buffalo of 370,000 may be attained in the early 1990's, growing to 385,000 by 2000. If the same drop in household size and the same vacancy rate are assumed, almost 180,000 housing units would be needed. With an average loss of 750 units annually, there would be a need for about 2,600 housing units per year between 1990 and 2000.

The most probable market that could be penetrated is the mid- to luxury end of the housing market, since mortgage write-down programs are likely to be either unavailable or insufficient to reduce the cost of construction enough to permit sale of the units to a broader cross-section of the population. This limits effective demand to an estimated 6.75% of the households seeking housing. A target capture rate of 1/6 to 1/3 of this market group was used to estimate the number of residential units that could be developed at the Outer Harbor site. This range recognizes that other sites within the City can attract the same market group but also assumes that a proper mix of amenities and other activities in the area will make it competitive. Thus it is estimated that from 150 to 275 units could be developed during the first phase of development, i.e., between 1990 and 1995. Selling prices would average about \$120,000 (at 1986 prices). Most of these units would be smaller units suited to single people or couples rather than families, since the number anticipated would not be large enough to support a school.

Retail Space

If the NFTA's sites are developed as mixed-use sites that include residential, office, industrial and recreational uses, then retail space demand will be induced by the following:

- Shoppers goods and eating and drinking sales for users of the marina facilities at the Small Boat Harbor and possibly the Outer Harbor North site;
- Eating and drinking sales to employees at the development, city residents and area residents;

- Convenience shopping to support residential development;

If a major historic theme development were to be located at the Outer Harbor, as earlier proposed in two alternatives, then an additional source of demand for retail space would be:

- Tourist and visitor sales at the theme development and hotel.

Information presented in a study done by Helwig Associates has been used as a basis to project both retail space demand and retail sales based on expected capture rates. Further information was defined on the basis of the overall development program for the Outer Harbor sites.

The maximum-demand forecast for retail space is based upon the option of using a major theme attraction, tied to Buffalo's history, as the major focus of Outer Harbor North development. Thus, the potential market could be viewed in the context of the region and might include visitors to Niagara Falls in addition to those already visiting Buffalo. Buffalo itself may attract some 2.8 million tourists by 1990, while modified estimates place the current Niagara Falls market at 16 million tourists per year. In the analysis it was considered reasonable to assume that a new development in Buffalo could capture by 1990 some 2.5 percent to 5.0 percent (400,000 to 800,000) of the tourists destined for Niagara Falls. Using the lower rate, the pool of visitors was estimated to be 3.2 million by 1990. Data on theme parks, modified to include older age groups and allow for

few repeat visits, was used to estimate a capture rate of 15% of this pool of visitors.

With regard to demand from residents of the Buffalo area very low capture rates, in the range of 0.25 to 2.5%, were assumed, because of competition from downtown and suburban malls. Since a major theme development would not fill all the area available at the Outer Harbor and would be complemented by mixed-use development, residents and employees at the Outer Harbor would generate additional sales of food, beverages and convenience goods. This last category of demand would exist even if a major historic theme attraction were not located at the Outer Harbor.

On the basis of the above considerations, it was estimated that demand for retail space could ultimately support from 100,000 to 115,000 square feet, if a major historic theme attraction were located at the Outer Harbor North site.

With no major theme development in the Outer Harbor north site, retail space will be largely confined to convenience shopping and restaurants serving the local population, employees in the area and people patronizing possible cruise and excursion vessels based in the area. Total area in the initial stages of development may be on the order of 5-10,000 square feet.

Commercial Office Space Market Demand

As Buffalo makes the transition from an economy based on manufacturing to one that is more service oriented, the demand for new and upgraded office space is relatively strong. This is particularly true of Class A office space but with the growth of financial institutions and allied industries, the need for space for so-called back office operations, which require large open spaces that can be easily rearranged, is also expected to grow.

At present, there appear to be few natural advantages to situating commercial office development at the Outer Harbor. However, offices could serve as a supplement to other types of development--residential, commercial and recreational activities--and specialized types of offices can serve specific needs. It would also serve to establish a year-round use at the Outer Harbor and thus provide support for other types of development.

Most recent figures refer to downtown, which constitutes a somewhat different market from the "suburban" market that is considered more appropriate to the Outer Harbor North site but they do provide an indication of market strength. A vacancy rate of 16.2% in early 1986, which is below the national average and an absorption rate well in excess of 200,000 sq. ft. annually, characterize Buffalo's downtown office market in recent years.

At the regional level, recent growth and estimates of future employment in the service and the finance, insurance and real estate sectors are consistent with the relatively strong market for office space. These estimates indicate that between now and 1990 there will be a demand for about 750,000 sq. ft. of additional office space. If there is a stronger turnaround in Buffalo's economy, as suggested by the Bureau of the Census and the population targets used for much of this study, this demand will strengthen in future years. On this basis, it is believed that a market can be established for 200,000 to 250,000 sq. ft. of new office space at the Outer Harbor by the early 1990's.

At the same time, employment projections also indicate the desirability of seeking out and bringing new firms to the area, in order not to weaken demand for downtown space. Therefore, it is proposed that office development be programmed to attract firms looking for "back office" space or space for similar functions, who normally require large floor areas and generous parking, as anchor tenants. An active program to attract such tenants from outside the area should specifically exclude those looking for downtown types of space.

Consolidated Research Unit

Supplementing the possibility of office development is the strong likelihood that a single research unit or a cluster of such units, requiring access to Lake Erie and the Niagara River, can be attracted to the Outer Harbor. These include Federal and State agencies, as

well as non-governmental organizations, engaged in research into the ecology of the Great Lakes. Pollution of the Niagara River and Lake Ontario, is a matter of particular concern. Recent inquiries thus indicate that there is potential demand for unified office and laboratory space, adjacent to berths for research vessels, from organizations engaged in current pollution control efforts that wish to be near the entrance to the Niagara River.

On the basis of existing facilities in the area, it is estimated that a research cluster would contain perhaps 80,000 sq. ft. of office laboratory space, plus berthing for vessels in the range of 100-150 feet.

Hotel Market

There are only two first-class hotels in the Buffalo CBD at the present time: the Buffalo Hilton on Church Street and the Hyatt Hotel on Main Street. These hotels are targeted to the business market and maintain modern conference/meeting and banquet facilities. The 900 first-class rooms available to the business traveler appear to be sufficient to meet near-term demand.

The market segment that appears to offer more promise for a new hotel is the tourist/visitor market. There are less than 300 hotel rooms within the City of Buffalo aimed at the tourist market. Most of the existing supply of rooms is found in older properties located in outlying areas though an additional 150 rooms is being

planned for the Theatre District by a motel chain that specializes in tourist facilities.

Development of a hotel, as part of a major historic theme development on the Outer Harbor, was considered an attractive possibility to induce additional tourist demand. Based on the number of visitors and tourists estimated above in the section on theme retail development, expected 1990 tourist hotel demand within the Buffalo area will exceed the planned hotel supply within the vicinity of the CBD (assuming a 55% occupancy rate). As a complement to a possible major theme retail development at the Outer Harbor, a hotel of about 150 to 200 rooms has been considered viable. If such a development is not undertaken, a hotel at the Outer Harbor would make little sense. Even with this development, if the nearby Connecting and Terminal Grain Elevator were adapted for re-use as a hotel, which has been considered, the prospects for a tourist hotel at the Outer Harbor would be sharply reduced.

Recreation Demand

Recreational development that is income generating and would provide added value to a mixed-use development has also been evaluated. Four major types of recreational development were initially considered: the major historic theme development referred to already, marina development, excursions and cruises, and a roller/ice skating rink. Later, other sports facilities, such as year-round tennis courts, a health club and a water-oriented action park, have also been considered. These recreational developments may

be programmed to support one another and do not have to compete with each other for market share.

General factors which determine recreation demand include population distribution and growth, leisure time, age, sex and discretionary income. Demand for specific recreation facilities at the Outer Harbor sites may also depend upon the user's knowledge of the facilities, his recreational preferences, the quality of the facilities, their cost and their accessibility. Some of the most important, such as population, accessibility, and proposed recreational opportunities were analyzed as the Outer Harbor plan alternatives were developed. In the analysis, use was made of the recreation participation coefficients from a study by the NYS Office of Parks, Recreation and Historic Preservation,¹ and another for the U.S. Department of the Interior.²

The demand for recreation for the Buffalo area and the Outer Harbor sites was estimated by applying these coefficients to the population and adjusting the base estimates to reflect participation by different user groups and competition from other sites in the Buffalo area.

¹N.Y. State, Office of Parks, Recreation & Historical Preservation, Recreation Perspectives: 1978-1979, New York State Outdoor Citizen Opinion Survey, Technical Report Series, Albany, 1981.

²U.S. Dept. of the Interior, 1977 Nationwide Outdoor Recreation Survey

Marina Development

Demand for additional berths at the Outer Harbor was examined on the basis of estimates prepared by Marshall, Macklin, Monaghan and an assessment of NFTA's proposed development plans for a Small Boat Harbor. The figures indicate that by 1990 the shortfall in berths for small boats will be about 2,250. Improvements at the Small Boat Harbor under the present program, plus later expansion to some 1,600 total berths made possible by construction of a new breakwater will still leave an unsatisfied demand of 1,000 berths to be met by other developments, including some slips at the Seaway Piers area.

In addition to berths and service facilities for privately owned small craft, provision needs to be made for the accommodation of party boats and charter boats for fishing, as well as commercial uses related to boating activities, such as repairs, sales, and storage.

Excursions and Cruises

Not all people can afford to own or want the bother of owning their own boat. Thus, waterfront development that permits greater access to the water's edge also generates demand for excursion craft, in addition to party boats and charter boats for fishing. This has happened on Lake Erie with the "Miss Buffalo" operation and excursions of one type or another have been started in recent years throughout the length of the Hudson.

The Seaway Piers area provides a logical place to base such excursions and the landside developments to support this activity.

Going further afield, there are no longer any cruises on the Great Lakes and data on earlier operations are almost non-existent. Cruises linking Toronto, Niagara on the Lake and Rochester may start in the near future and the possibility of basing short cruises in the Seaway Piers area, the most suitable deep-draft area, has been considered. Responses from potential cruise vessel operators have not been encouraging but the option should be left open and possibilities explored at a later date with these operators.

Ice and Roller Skating Rink

In the City of Buffalo some 105,000 people may ice skate at least once a year. There are some rinks in the Buffalo area, serving largely high school teams but the potential exists for a regional facility serving a number of schools, as well as the general public.

Another strong recreational draw in urbanized areas, is a rink for roller skating. A population base of 50,000 to 75,000 people within a three-mile radius and 100,000 within a five-mile radius is normally required. Roller rinks do exist in Cheektowaga and Lackawanna but the population figures indicate that further facilities could find a market.

Both types of skating rinks would enhance interest and attract visitors, but are unrelated to the water and need only a reasonable amount of relatively low-cost space; they would have a lower priority than other recreational uses.

Industrial Development

As noted earlier, the regional economy of Buffalo has shifted in the past twenty years from one based on manufacturing and heavy industries towards a service-oriented economy. The net result has been a structural transformation of the employment base whereby manufacturing employment decreased from 34 percent in 1970 to 26 percent of all employment in 1980.

There are still many natural advantages for industry in the Buffalo region. These include its water routes and Great Lake-based waterways; and its low energy costs. These natural features are complemented by a reasonably well-educated labor force with moderate skills and strong educational facilities.

A recent study for the Erie County Industrial Development Authority (ECIDA) identified seventeen industrial sectors, in which Erie County specializes that have the potential for growth. It is clear that Erie County is not likely to become another Route 128 or Silicon Valley, but it could become a center for what the study defines as "sub high-tech" industry, i.e. electric motors and devices, surgical/medical instruments, industrial machinery, etc.).

Even for those industries in which Buffalo area does and will specialize, the current availability of industrial sites and buildings presents a constraint to the further development of industrial sites. At present, there are 38 industrial parks covering some 4,700 acres in Erie County 1 and in 1985 these parks had commitments for only 50-55% of the acreage. The study for ECIDA estimated that at current absorption rates, it will take Erie County 25 years to exhaust the area now available in the industrial park sites.

Nevertheless, there may be an opportunity for penetrating the industrial park market, if certain types of space can be offered at a competitive rate. There appears to be a growing shortage of space in the 10,000-15,000 square foot range, as well as speculative space of the type found in Canadian industrial parks. Some of this shortage will be taken up by the planned University of Buffalo Foundation Technology Incubator Facility, which will provide 40,000 square feet near SUNY at Buffalo.

Once incubator firms mature, they will be expected to look for larger plant space--perhaps at one of the 38 industrial parks but also elsewhere. An opportunity exists at the Outer Harbor site to penetrate this industrial market by developing facilities in the 25,000 to 50,000 square foot range in an office-park like setting.

¹Includes the acreage in the Bethlehem Reuse Plan.

This market is more promising than any for water dependent industries (of which there are virtually none remaining in the region) and is more consistent with those industries already identified as offering more opportunity for growth, the so called "sub high-tech" industries.

Summary of Potential Uses

Types of development considered appropriate to an Outer Harbor Location and for which it was estimated that there is current or potential

demand are summarized in Table 5, together with an estimate of the extent of development that could be marketed within the next five to ten years. These were used to develop the alternatives that are described in the next section.

TABLE 5

SUMMARY OF TYPES OF DEVELOPMENT
USED FOR ALTERNATIVE PLANS

Outer Harbor North Site

Residential Development	150-275 units
Retail Development:	
Major theme attraction	100-125,000 s.f. (in two steps) plus possible museum space.
No major theme attraction	10,000 s.f.
Specialized Office Space	200,000-250,000 s.f. (plus 80,000 s.f. for lake-based research)
Hotel	150 rooms
Excursion and Cruise Vessel Terminal	Nominal
Ice/Roller Skating Rink(s)	30,000 s.f.
Other Revenue Recreation	10 tennis courts Health club with racquet sports, etc. Up to 800 boat slips
Industrial Space	Up to 100,000 s.f.

Small Boat Harbor

Retail Space	10 - 15,000 s.f. initially
New Restaurant Space	10 - 15,000 s.f. initially
Boat Slips	1,050 additional boat slips
Water-oriented Action Park (Either here or near the Outer Harbor North site)	Wavepool, olympic size pool and other attractions.

PROPOSED DEVELOPMENT ALTERNATIVES

Considerations Guiding Development of Alternatives

Reflection of Goals

In moving from estimates of market potentials to alternative plans for the Outer Harbor the study has been guided by the goals noted in Chapter 1, and their allied objectives. Considerations such as greater public access to the waterfront, ways to improve Buffalo's image, compatibility with the City's redevelopment of the waterfront, new jobs, more revenues for the NFTA and the need to maximize private investment have all had an effect upon the proposed alternatives.

Major Factors Influencing Development

Other factors that have had a major influence upon the process of defining and developing the alternatives included:

- The possible need to consolidate the present bulk port with the general cargo port in the vicinity of the Outer Harbor North site was a factor during much of the study. The decision of the NFTA Board to negotiate the relocation of all port activity to the former Bethlehem Steel site in Lackawanna removed this constraint later in the study.
- It is clear from market studies that real estate markets and the demand for land in the Buffalo area are rather soft at the present time. No single use can fully utilize either the Outer Harbor North site or the landfill area adjacent to the Small Boat Harbor and still be viable. Therefore, all of the alternatives provide for mixed use development in which different uses support one another.

- The Small Boat Harbor is to be developed to its fullest potential, though this potential may be affected by the extent of development at the Outer Harbor North site and the trade-offs between the two sites.
- Development of the Outer Harbor north site should start at the Seaway Piers area, since:
 - . development in this area is closest to downtown, can reinforce the Main Street axis and would not be "bracketed" by incompatible uses;
 - . this area can be tied to developments proposed by the City along the Ship Canal;
 - . existing improvements in the area will permit early development of water-oriented activities.
- Early public access to this initial development area at the Seaway Piers area is desirable, in order to change the present image of the site.
- Development must be phased, so the NFTA can realize early returns on the development and minimize assets not earning a return.
- Development at the Outer Harbor sites needs to be compact; landforms and building masses should be designed to ameliorate the harsh winter climate found at the shore of Lake Erie.

In addition, each development alternative had to fit with one or more of the alternative scenarios developed by the City of Buffalo's consultant for the remainder of the waterfront, which included developments at various sites requiring "maximum", "mid-range" and "modest" levels of investment. Two of the alternatives developed for the NFTA Outer Harbor North site fell within the "maximum" investment category, while two others were within the "mid-range" investment category.

Description of Alternatives

Consistent with the goals of the NFTA, both alternatives for the Small Boat Harbor could be considered as reflecting "maximum" investment.

Four basic alternatives for development of the Outer Harbor properties were prepared, reflecting various levels of public investment and three different schemes for consolidation of port activities. Initially, these schemes governed the amount of waterfront land available for development, though it has since become evident that market factors are more important in determining how much land can be developed in the early years.

The alternatives presented in the course of the study resulted from an iterative process, in which a number of possible combinations and layouts were sketched and reviewed. Other possibilities were eliminated because of self evident cost, poor climatic design, environmental concerns or low potential returns.

Alternative 1 - Full Development of Outer Harbor North Site

Alternative 1 represented the maximum public investment case; all port activities were consolidated south of the Bell Slip and a total of 91 acres was available for development.

This alternative would maximize public access to the waterfront at the Outer Harbor North site: first, through siting of the nationally prominent historic theme development in the Seaway Piers area and, second, through location of a park and

recreational area at the southern end of the Outer Harbor North site. The two would be linked by a mixed use development, incorporating both offices and residential units.

It was proposed that the northern basin in the Seaway Piers area be is used for the berthing of larger excursion vessels (including replicas of historic vessels) and possible cruise vessels. The southern basin would be used to berth smaller vessels at a protected marina. These uses for the Seaway Piers were retained in all alternatives.

Because of the character of the Small Boat Harbor, the type of development already taking place and its distance from downtown, future development alternatives at this site would logically be oriented toward recreational activities, particularly those allied to boating and fishing. More intensive forms of development, such as those investigated for the Outer Harbor North site, were not considered appropriate to the Small Boat Harbor.

As noted earlier, there would also be certain trade-offs between the Small Boat Harbor and the Outer Harbor North site. If certain retail activities were located at the Outer Harbor North site, similar activities would be unlikely to flourish at the small Boat Harbor. Conversely, if a low-key form of development were found more to be appropriate for the Outer Harbor North site, specialty retail outlets or upscale restaurants could complement the purely recreational activities at the Small Boat Harbor. Alternative 1,

therefore, emphasized the recreational potentials of the Small Boat Harbor.

Proposed development under Alternative 1 is summarized as follows:

Outer Harbor North Site

Major Historic Theme Development

100,000 - 115,000 s.f. specialty shops, audience attractions, restaurants, etc.
50,000 s.f. museum
Excursion boat landing and other activities at the Seaway Piers
225,000 s.f. "back office" space
80,000 s.f. Great Lakes research unit + berthing space for vessels
175-250 units of housing
150 slips for visiting and local boats
150 room tourist hotel,
Recreational complex including tennis courts, etc.

Small Boat Harbor

1,500 boat slips
125 R.V. sites
10,000 s.f. retail-convenience stores and restaurants
Commercial swimming pool complex.

Public investment for infrastructure to support full development of the Outer Harbor North site, as proposed in Alternative 1, was estimated to be about \$18.85 million. At the Small Boat Harbor, public investment was estimated to be about \$17.5 million, including \$9.7 million for new breakwaters.

It was estimated that aggregate private investment to be generated by the above public investment would be roughly \$68 million.

Annual gross revenues to the NFTA under Alternative 1 were estimated to be from 10.5 to 15.5% of the public investment, excluding the cost of breakwater construction and rehabilitation.

Offsetting these revenues would be the cost of administering the properties and maintaining some of the public investment.

Alternative 2 - 85% Development
of Outer Harbor North Site

Alternative 2 represented a mid-to-maximum public investment case, in which port activities would have extended somewhat north of the Bell Slip and the slip would have been filled. The area released for development was 80 acres. This alternative was based on the assumption that the major historic theme development that formed the centerpiece of Alternative 1 would be located at one of the other sites mentioned in the City's portion of the Waterfront Master Plan. Nevertheless, most of the Outer Harbor North site would be developed, with the focus on office, residential and recreational uses in a mixed development. Retail space was limited to convenience shopping and perhaps a local restaurant. Development for both uses would be relatively compact, with the buildings themselves sheltering open areas from winds sweeping down Lake Erie.

Much of the development proposed for the Small Boat Harbor in Alternative 1 would be undertaken in Alternative 2 also. Instead of a pure emphasis upon recreation, however, some retail development was also considered, since the Outer

Harbor North site would not be host to such uses.

Proposed development under Alternative 2 is summarized as follows:

Outer Harbor North Site

225,000 s.f. "back office" space
80,000 s.f. Great Lakes research unit + berthing space for vessels
250 units of housing
10,000 s.f. convenience retail and restaurants
Excursion boat landing and other activities at the Seaway Piers.
150 slips for visiting and local boats
Recreational complex, including tennis courts,
30,000 s.f. ice/roller skating rink, etc.
100,000 s.f. sub-high tech industry

Small Boat Harbor

1,500 boat slips
25,000 s.f. cluster of retail specialty and food shops and restaurants
25,000 s.f. retail boat sales, marine and water sports equipment.

Total public investment for infrastructure to support this less intense development of the Outer Harbor North site was estimated to be about \$15.1 million. At the Small Boat Harbor, public investment of about \$16.9 million was estimated: \$7.2 million for site development and \$9.7 million for breakwater construction.

Aggregate private investment to be generated by the above public investment was estimated to be roughly \$53 million.

Annual gross revenues to the NFTA under Alternative 2 were estimated to be from 7.8% to 11.5% of the public investment, excluding breakwaters.

Alternative 3 - Development of Less Than 60% of the Outer Harbor North Site - First Option

Alternative 3 represented a mid-range public investment case, in which the major historic theme attraction was retained as the centerpiece of the development because of its high total revenue potential, but in which only a partial consolidation of the port activities was considered, in order to reduce costs. Since less than 60% of the Outer Harbor North site was released for development, some of the uses in Alternative 1, such as office space, were dropped and less area was available for use as a buffer zone.

The development proposed for the Small Boat Harbor in Alternative 3, was identical to that in Alternative 1. Thus, the main emphasis was upon active recreation in an informal setting.

Proposed development under Alternative 3 is summarized as follows:

Outer Harbor North Site

Major Theme Development

100,000 - 115,000 s.f. specialty shops, audience attractions, restaurants, etc.

50,000 s.f. museum

Excursion boat landing and other activities at the Seaway Piers.

80,000 s.f. Great Lakes research unit + berthing space for vessels

150 slips for visiting and local boats

Recreational complex, including ice/roller skating rink, etc.

100,000 s.f. sub-high tech industry.

Small Boat Harbor

1,500 boat slips
125 R.V. sites
10,000 s.f. retail-convenience stores and restaurants
Commercial swimming pool complex.

Public investment for development of only a little over half the Outer Harbor North site, as proposed in Alternative 3, was estimated to be about \$10.2 million. At the Small Boat Harbor public investment was the same as Alternative 1 - \$17.5 million, including \$9.7 million for breakwaters.

It was estimated that aggregate private investment under this alternative would amount to roughly \$34 million.

Annual gross revenues to the NFTA under this alternative were estimated to range from 11.1 to 16.5% of the public investment (excluding breakwaters).

Against these revenues would be charges for administering the area and maintaining some of the public improvements - in addition to interest on the debt incurred for development.

Alternative 4 - Development of Less Than 60% of the Outer Harbor North Site - Second Option

Alternative 4 represented a mid-range public investment case in which, as in Alternative 2, it was assumed that the major historic theme attraction would be located at one of the other sites mentioned in the City's portion of the Waterfront

Master Plan. As in Alternative 3, consolidation of the port would only be partial in order to reduce costs. The area available was, therefore, is less than 60% of the full Outer Harbor North site.

Development in this alternative was also based primarily upon the location of space suited for back office uses, adjacent residential units and recreational uses within a mixed development. Development for these uses is compact because of climatic conditions and open areas are generally shielded from southwesterly winds. Retail space was limited to convenience shopping for residents and employees, plus a small restaurant.

Development of the Small Boat Harbor in this alternative was the same as in Alternative 2. The recreational emphasis was modified by the development of some retail activities and restaurants.

Proposed development under Alternative 4 is summarized as follows:

Outer Harbor North Site

225,000 s.f. "back-office" space
80,000 s.f. Great Lakes research unit + berthing space for vessels
250 units of housing
10,000 s.f. convenience retail and restaurants
Excursion boat landing and other activities at the Seaway Piers.
150 slips for visiting and local boats.
More limited recreational complex, including 30,000 s.f. ice/roller skating rink, etc.
100,000 s.f. sub-high tech industry.

Small Boat Harbor

1,500 boat slips
25,000 s.f. cluster of retail specialty and food shops and restaurants
25,000 s.f. boat sales, marine and water sports equipment.

Total public investment for infrastructure to support development of a more limited portion of the Outer Harbor North site under Alternative 4 was estimated to be about \$9.4 million. At the Small Boat Harbor public investment was to be the same as under Alternative 2, or about \$16.9 million, of which 9.7 million would be for breakwater construction and rehabilitation.

It was estimated that aggregate private investment in the case of Alternative 4 would be roughly \$51 million.

Annual gross revenues to the NFTA were estimated to be from 10.5 to 16.0% of the public investment, outside of the cost of breakwaters.

"Modest" Investment Alternative

In keeping with the overall scheme of the City's portion of the Waterfront Master Plan, a "modest" investment alternative was outlined but not seriously considered, since it represented essentially a "do nothing" case and would have served few of the goals set forth for either the City's planning effort or the Outer Harbor Development Plan. This alternative was constrained by the costs of consolidation. Since port activities are now to be relocated to Lackawanna, this alternative is no longer relevant. Very modest

development is now possible but it would be a prelude to more development later and thus forms the first step of any of the alternatives described above, as subsequently refined.

Traffic Impacts of Alternatives

Key roadways serving the Outer Harbor and other waterfront areas include N.Y.S. Route 5 (Skyway) and the Niagara Section of the New York State Thruway, which loops around the downtown area and connects with the Skyway.

The traffic impacts and transportation needs of each of the alternatives described on the preceding pages were assessed and incorporated into a broader analyses of the traffic on major routes that would result from all waterfront development. As expected, the more intensive uses, such as a major historic theme attraction, generated greater traffic volumes -- though peak periods did not necessarily coincide with other peaks.

Transportation needs of all the alternatives were similar and all came down to the question of how to provide better vehicular and pedestrian access to the Outer Harbor sites.

Traffic analyses and assessment of needs are described later in this report for the final recommended plan. They are not repeated here for alternative plans that are no longer relevant.

Discussion of Alternatives

Following the description of the four main alternatives developed in the study, it is instructive to look at them in terms of the degree to which they may satisfy the various goals suggested at the beginning of the study, most of which parallel the goals set forth in the City's portion of the Waterfront Master Plan.

The matrix presented in Table 6 provides a sense of how the four basic alternatives compared in terms of selected goals or objectives. Ranking is on a scale of 1 to 4; 1 is the highest rank.

TABLE 6

RANKING IN TERMS OF GOALS

	Alt. <u>1</u>	Alt. <u>2</u>	Alt. <u>3</u>	Alt. <u>4</u>
Improve or maintain environmental quality	3	1	2	2
Public access to waterfront	1	2	3	3
Image of the waterfront	1	3	2	4
Increased economic activity (New receipts)	1	3	2	3
New Jobs, in base sectors	1	2	3	2
Actual number of jobs	(2300)	(2100)	(1300)	(2000)
Estimated percentage in base sectors:	59%	55%	33%	56%
Annual revenues to NFTA relative to investment	3	4	1	2
Maximum private share of investment risk (as the inverse of the investment required)	4	3	2	1

Alternative 1 ranked best on most of the measures, since it provided for the greatest amount of development. It, of course, also required the largest public investment, not only for site development but also for additional capacity on access routes. Both Alternatives 1 and 3 call for the siting of a nationally prominent historic theme attraction at the Outer Harbor. Only one such attraction will be located in Buffalo and there were two other competing sites for this development, one of which had a clear advantage in its proximity to downtown, though there were sound reasons to site the theme attraction at the Outer Harbor.

With the theme attraction located elsewhere, a mix of office space serving specialized needs and residential development form the mainstay of development in Alternatives 2 and 4. In terms of jobs, both these alternatives ranked high. Alternative 2, however, showed a weak preliminary indicator of return. It would not be viable unless there were some subsidization of the park that would take up much of the developed area. Alternative 4 seemed to be financially possible, if cost controls were maintained. Its low ranking in terms of image would no longer apply, since it is most likely that bulk port activities will be moved entirely away from the Outer Harbor site. Finally, Alternative 4 was not considered as an end product, but only as a intermediate stage of development, reflecting what the market might sustain through the mid-1990's.

REVIEW, SELECTION
AND SYNTHESIS OF
RECOMMENDED PLAN

Meshing of Alternatives for the Outer Harbor With The City's Portion of The Waterfront Plan

The alternatives described in the preceding sections reflected the fact that the Outer Harbor North site and Small Boat Harbor each constitute but one element of Buffalo's waterfront and the various elements would need to fit with one another. If certain activities were to be concentrated in one location they would not be found at another. Alternatives 1 and 3 provided for intensive development of the Outer Harbor North site, based on a major theme attraction, whereas Alternatives 2 and 4 provided for complementary development, to a major theme attraction elsewhere, albeit some of the nautically oriented components of the theme attraction could still be at the Seaway Piers.

Process Leading to
Recommended Plan

The process of selecting the most appropriate alternative, or synthesizing a plan that incorporates elements of several alternatives, was governed by:

- Performance of each alternative in terms of the initial development goals, as already discussed.
- Public responses and initiatives as expressed in a series of meetings in October 1985 and letters received later.
- Deliberations of the Waterfront Planning Board and its Advisory Committee.

Certain other points were also considered before defining a final recommended plan.

Public Responses and Ideas

Responses to the City's Waterfront Plan proposals, as well as the alternative schemes for development of the NFTA's Outer Harbor sites, were solicited from the public at large and certain special groups at a series of meetings in October 1985. In addition, further thoughts on what might take place on the waterfront were invited from interested citizens.

A full discussion of the public's ideas and responses to the material presented is provided in the report prepared by The Caucus Partnership. Citizen input, as it affects development of the Outer Harbor North site and the Small Boat Harbor, is noted in the following paragraphs.

The public expressed strong feelings about the piles of coke and other materials at the Outer Harbor and people look forward to their removal or relocation. People wanted to see some form of activity at the Outer Harbor, preferably recreational, and would also like increased access to the area. Opinions regarding possible industry on the waterfront were negative.

Responses of those who attended the public meetings indicated that they regarded the idea of locating a major theme attraction at the Outer Harbor favorably but, overall, preferred

a location near the foot of Main Street, i.e., the Outer Harbor was ranked high but not the highest.

Public responses, however, indicated very strong support for the continued improvement and development of the Small Boat Harbor.

Public meetings continued through 1986 and the first half of 1987 as members of various organizations and the public at large were asked to comment on the recommended, plans for the Outer Harbor and the remainder of Buffalo's waterfront.

Deliberations of the Waterfront Planning Board and Its Advisory Committee

Meetings of the Advisory Committee in late 1985 and much of 1986 covered other parts of the waterfront, including areas along the Niagara and Buffalo Rivers, but extensive discussion was devoted to three possible sites for the national-focus historic theme attraction. One was dropped early from consideration, leaving the Outer Harbor North site and the foot of Main Street.

It was noted that there are four areas relatively close to downtown, which need to be developed so they are mutually supportive. Three of these four -- Erie Basin, the foot of Main Street and the Outer Harbor -- are located on the waterfront. (The fourth is the Theatre District.) Chains of activities should be fostered, to link each of these areas to downtown and to one another.

To aid its deliberations, members of the Advisory Committee of the Waterfront Planning Board asked for a better definition of the national-focus historic theme attraction. Accordingly, a common set of components for this attraction was agreed upon by TAMS and the City's consultant, and presented to the Committee. These components were not very different from those shown earlier in Alternative 1.

Following presentation of the various aspects of the nation-focus historic theme attraction by the respective consultants and review by the Advisory Committee of the Waterfront Planning Board, the Board itself endorsed the general concept of a national-focus historic theme attraction -- as long as the timing of its development would not jeopardize the success of Buffalo Place in downtown Buffalo and developments in Erie Basin.

Following this endorsement, the Waterfront Planning Board passed resolutions in early 1986 accepting the following proposals regarding development of the foot of Main Street and the Outer Harbor North site:

- Some elements of the national-focus historic attraction (particularly those with a nautical theme) most appropriately belong at the Outer Harbor, but the major share of the development, including "festival market" activities, is more appropriately located at the Foot of Main Street because of better access and the existence of older structures that can provide the desired ambience.

- The need for strong links between the Foot of Main Street and the Outer Harbor - both visual links and physical links - and the concept that these links may be a part of the areas attraction.
- Endorsement of lake-oriented research activities at the Outer Harbor, as well as acceptance of office development for the Outer Harbor that is not competitive with downtown office space.

The conclusion drawn from the Waterfront Planning Board's deliberations, was that it would be reasonable for the Outer Harbor North site to be the location for a share of the national-focus historic theme attraction, but not the major share. Therefore, in addition to essential actions with respect to Seaway Pier 1, it has been accepted that the NFTA should focus upon development of the other uses found to be appropriate for the Outer Harbor North site, as well as making a concerted effort to further develop the Small Boat Harbor.

This approach meant the development of a plan that would be very close to either Alternative 2 or Alternative 4. As noted in the summary of alternatives, however, the financial picture with Alternative 2 was such as to require an outside subsidy for development of the park that formed a major part of the developed area. A variant of Alternative 4, therefore, was considered to be the better prospect-particularly if further development can take place at a later date, leading ultimately to a complete, largely self-contained community.

CHAPTER 3

DESCRIPTION OF RECOMMENDED ALTERNATIVE

The site development plans recommended in late 1986 for the Small Boat Harbor and the Outer Harbor North are presented in this chapter, together with a modified plan for the Outer Harbor North that has been suggested as a result of inquiries received in 1987, during the early stages of implementation. The Small Boat Harbor Plan describes the long-term development of that facility through 1996. The Outer Harbor North Plans describe the development of that area in two phases. Phase I Development includes those projects foreseen through the year 1996, which will provide a basis for long-term development. Phase I projects shown in both the plan recommended in 1986 and the later, modified plan are driven by the market analyses performed in earlier parts of the Study. The Outer Harbor North Ultimate Development Plan represents long-term possibilities, based on the first Phase I Plan, that move beyond market-driven development into a vision of the Outer Harbor as a fully developed community. The Ultimate Development Plan shows a general concept and is somewhat speculative in nature. It will, of course, be altered if Phase I development follows the modified plan, and will be dependent upon a continuing improvement in Buffalo's economic outlook.

SMALL BOAT HARBOR

An upgrading and expansion program At the NFTA's Small Boat Harbor, providing additional parking spaces, and a new restaurant and facilities building, was completed in 1986. The program for further development envisioned for the Small Boat Harbor consists of three major projects. These are shown in Figure 3. and described below:

Marina and Related Facilities

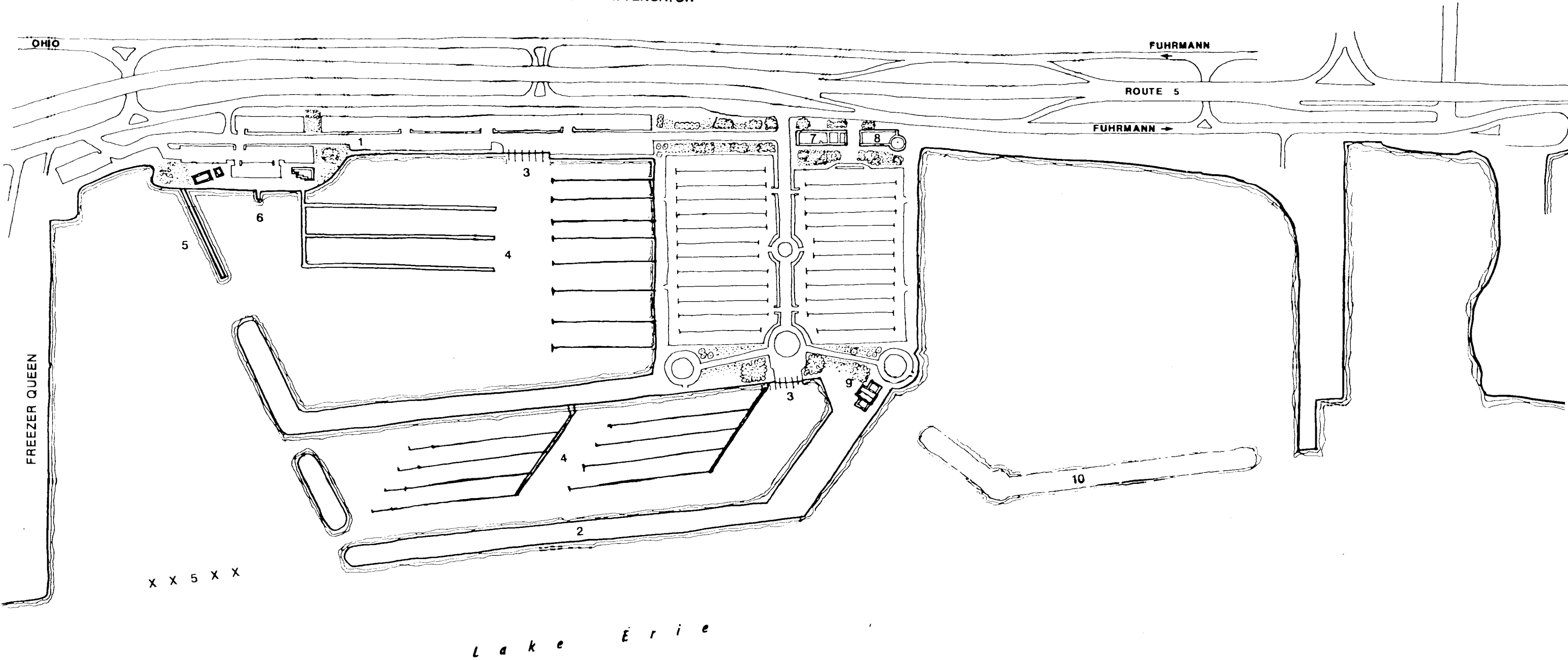
Development at the Small Boat Harbor ultimately calls for the creation of a total of 1600 boat slips north and west of the existing diked landfill area. This would comprise 550 slips at the the initial site of the floating marina, 500 slips along the north side of the landfill (where 280 have already been placed), and 550 slips between the existing breakwater, after rehabilitation, and a new breakwater along the Harbor Line.

The existing breakwater providing wave protection for the Small Boat Harbor is in a relatively weak state. A limited amount of rehabilitation has occurred in recent years, replacing the randomly, placed concrete slabs with adequate riprapping adjacent to the landfill area, but the combination of record-high lake levels and violent weather in the past year has left the remaining structure in poor shape. As of early 1987, the NFTA expected to secure funds from sources cited later in this report for a range of projects, including the rehabilitation

SMALL BOAT HARBOR

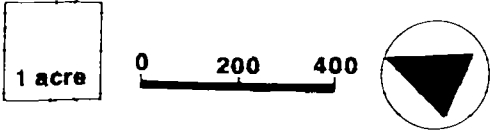
- | | |
|---------------------------------------|----------------------------|
| 1. EXISTING FACILITY | 6. CHARTER BOAT DOCK |
| 2. PROPOSED BREAKWATER | 7. BOAT SALES / RENTAL |
| 3. LAUNCHING AREA | 8. RESTAURANT / COMMERCIAL |
| 4. BOAT SLIPS | 9. FISHERMEN'S CENTER |
| 5. WAVE CURTAIN OR
WAVE ATTENUATOR | 10. FUTURE BREAKWATER |

TIFFT FARM



**SMALL BOAT HARBOR
PHASE I DEVELOPMENT PLAN**

**OUTER HARBOR DEVELOPMENT PLAN
NIAGARA FRONTIER TRANSPORTATION AUTHORITY**



TAMS • Planning Innovations, Inc.

Fig.3

of the existing breakwater. Hence, this breakwater has been retained in the proposed plan for the Small Boat Harbor.

A breakwater along the present Harbor Line has been considered for a number of years, since it will permit significant expansion of the protected area of the Small Boat Harbor, and the U.S. Army Corps of Engineers has undertaken several studies to determine a suitable configuration. Recent action by Congress has assured funding for the final study and design of this breakwater and it is hoped that this will lead to a federal-local sharing of the costs of construction. It will, however, be close to 5 years before the new breakwater can be completed and this is recognized in the financial analysis.

One thousand six hundred parking spaces will be provided in the landfill area south of the existing basin. About 1,475 of these will be for the use of owners leasing slips from the NFTA and their guests, which would be additional to the 200 automobile parking spaces and 193 car and trailer parking slots developed by the NFTA in its recent program of improvements.

The NFTA has considered a future extension of the new breakwater to the south to permit construction of another 500 or so slips. A study by James R. Spotilla, et al, of the State University College at Buffalo, indicates that this expansion is feasible from an environmental standpoint but it would conflict with a possible

beach, for which the community has expressed a strong desire. The parking that is provided on the landfill area should be sufficient, if these additional slips are built.

Retail and Service Establishments

Originally, a core of retail establishments were to be located within one corner of the landfill area, convenient to the parking area and the boat slips. Unfortunately, because of the presence of contaminants within the landfill area, any piercing of the clay cap for foundations and utilities has been deemed inadvisable. Therefore, the proposed retail core has been relocated, further east, off the landfill itself. (In terms of amenity and utility costs a preferred location may be the north end of the Small Boat Harbor near the restaurant completed in 1986, where the retail core would be integrated with the restaurant and other buildings on the site). About 125 of the parking spaces on the landfill would be available for patrons of these two facilities.

The retail core would be developed by private interests. The development is envisioned as consisting of two linked buildings. The first would house a marine sales and service establishment. The second would house an "upscale" restaurant and specialty retail outlets catering to boaters and their visitors.

Fishermen's
Facility

Capitalizing on the advantageous location of the Small Boat Harbor vis-a-vis fish spawning areas, a small facility providing shelter, concessions, bait sales, and a tie-up for short stays by fishing craft would be developed at the southwest corner of the landfill area. This would serve year-round fishing; providing services for ice-fishing, as well as fishing from boats or the rip-rap shoreline. This would be undertaken by the NFTA.

Given the environmental restraints upon development of the landfill area and the remote location, this facility would be served by a single water line located along the edge of the landfill and may have its own septic tank and field. No washing or cleaning of fish could be allowed.

OUTER HARBOR NORTH

Both the originally recommended and the modified Phase I Development Plans for the Outer Harbor North Site, which are mainly based on market factors, as well as the more visionary illustrative ultimate plan, reflect the following philosophy and approach:

- Creation of an environment for a variety of activities--using different activity centers which act complementarily to provide diversity;
- Orientation of "private" and "public" spaces in a way which provides a measure of security for residents and tenants without creating arbitrary barriers to the general public;

- Exploitation of the unique character of the three waterfronts, the Seaway Piers, the Lake, and the Bell Slip to create diversity and to preserve them for public use.

ULTIMATE DEVELOPMENT The illustrative Ultimate Development of the Outer Harbor North shows how the establishment of a fully integrated community on the Outer Harbor, extending from the Seaway Piers area to the Bell Slip area, might look by the year 2010 or perhaps later (Figure 4). Development could include perhaps 1,200 residential units at a variety of scales, neighborhood commercial units and professional offices, "back office" space, research facilities and a school. This plan uses the originally recommended Phase I Plan as a base but ultimate development based upon the modified plan would have a similar overall character (see Figure 6).

Under the plan recommended in late 1986, the Seaway Piers area would be developed to house a maritime museum and floating attractions, to complement development at the foot of Main Street. With the plan the area would be used mainly as another small craft harbor, with other attractions using buildings from the garden festival that may be hosted by Buffalo.

With either plan, the Seaway Piers would be linked to Bell Slip Park by landscaped boulevard, which would provide a focus for the Outer Harbor development. This main street would contain a park down its median, utilizing the parkway concept developed and utilized by Olmstead in north Buffalo and would form a strong axis

SEAWAY PIERS

1. NAVAL & MARITIME MUSEUM
2. NAVAL/REPLICA/EXCURSION CRAFT
3. FESTIVAL PAVILION & CONCERT STAGE
4. BOAT SLIPS
5. RESTAURANT/COMMERCIAL
6. GREAT LAKES RESEARCH FACILITY

HARBORTOWN

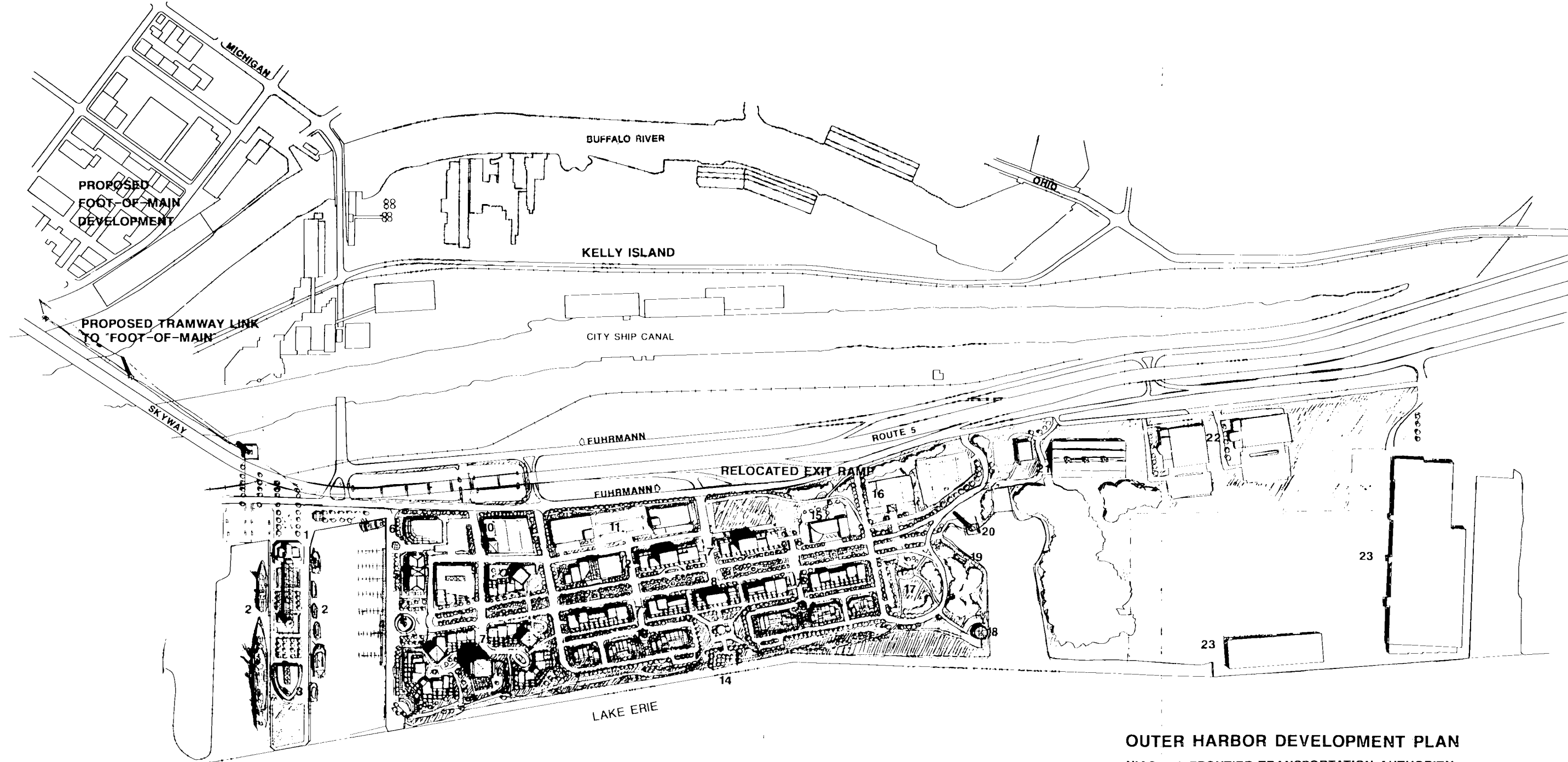
7. MULTIFAMILY RESIDENTIAL
8. MULTIFAMILY/COMMERCIAL
9. "BACK" OFFICE
10. STRUCTURED PARKING
11. RACQUET CLUB/SKATING RINK
12. COMMERCIAL
13. TOWNHOUSE APARTMENTS
14. LAKEFRONT COMMONS
15. SCHOOL

BELL SLIP PARK

16. YEAR-ROUND TENNIS
17. GREAT LAWN
18. OBSERVATION TOWER
19. PADDLEBOAT RENTAL
20. MARITIME MONUMENT

PORTSIDE INDUSTRIAL PARK

21. WINTER BOAT STORAGE
22. LIGHT INDUSTRIAL
23. WAREHOUSE/DISTRIBUTION



Site Development Plan

OUTER HARBOR NORTH
ULTIMATE DEVELOPMENT

OUTER HARBOR DEVELOPMENT PLAN
NIAGARA FRONTIER TRANSPORTATION AUTHORITY



Fig.4

TAMS Planning Innovations, Inc.

linking the piers at the north end to the park on the south may have the Bell Slip. The Boulevard's median would house seating areas and kiosks providing a setting for visitors and residents to stroll, converse, or contemplate the outdoors.

The area nearest the Seaway Piers would be developed as a "town center", combining residential, commercial office and recreational activities oriented toward the Seaway Pier development.

Development southward along the Boulevard would consist of mid-rise apartments and may include three towers of ten stories. Some ground floor retail and commercial service establishments would be incorporated into the blocks. With the plan recommended originally, a commercial complex would also be located adjacent to a racquet club and skating rink along Fuhrmann Blvd. An elementary school, nestled into the park, would be built in the south end of the area.

Three-story, terraced apartments would be located between the lakefront and the multifamily towers on the Boulevard, enjoying Lakefront views in summer, yet protected from winter storms by a combination of berms, structural barriers and vegetation. These units would be accessible from the Boulevard.

A formal, lakefront commons may form the focus of the residential development, providing a

front yard onto Lake Erie. A restaurant, located in the central apartment tower might overlook such a common.

Along the lakefront, a wooded pedestrian path and bicycle path may extend along the community's length, forming a part of the City's lakefront path system. Vehicular access between the Piers and the Bell Slip would only be provided on the Central Boulevard. Parking for cars may be provided only at certain points of access to the lakefront. The Lakefront is clearly intended to be a soft and passive public space .

A public park would be developed at Bell Slip. A maritime monument could be constructed on the axis of the Boulevard, at the edge of the Bell Slip, completing the axial relationship between the Piers and the Park.

The design concept includes a hierarchy of public and private spaces linked by an efficient set of circulation systems. Interrupting the automobile route along the Lake does not preclude the motorist from experiencing the Lakefront, but it does prevent the Lakefront from becoming a route for through traffic. It preserves it as a space oriented to the human scale. Likewise, pedestrian routes along the Boulevard and Lake, and between the two, allow the pedestrian to move freely through the community, while maintaining the privacy and propriety of the residential complexes. Also,

alternative routes would be available, some of which would be protected from winter winds.

PHASE I DEVELOPMENT

The illustrative plan for ultimate development based on the plan recommended originally, as well as any based on the modified plan, are only concepts of how the Outer Harbor North site might be developed over a 25-year horizon. They are not plans that reflect current market demand or potential near-term demand. An estimate of that demand is reflected in both of the Phase I Development Plans. These plans cover the time from 1986/87 through 1996 and are intended to provide a basis for future growth, as well as to create a coherent, high quality environment on the Buffalo lakefront. The latter aspect of the Phase I Development Plans is critical, given the need to overcome a negative public perception of the Outer Harbor and establish its development as a vital component of the urban fabric of Buffalo. The plan originally recommended for Phase I is shown in Figure 5, while the modified plan based upon some of the early implementation steps and a possible garden festival is shown in Figure 6. This plan is currently intended as the basis for development.

Seaway Piers

In the plan originally recommended in late 1986, the Seaway Piers would be developed to complement the proposed Canal Place development at the foot of Main Street, providing an opportunity for a maritime-oriented experience as part of the City's overall national-focus tourist development. Seaway Pier One, the former Michigan

SEAWAY PIERS/HARBORTOWN

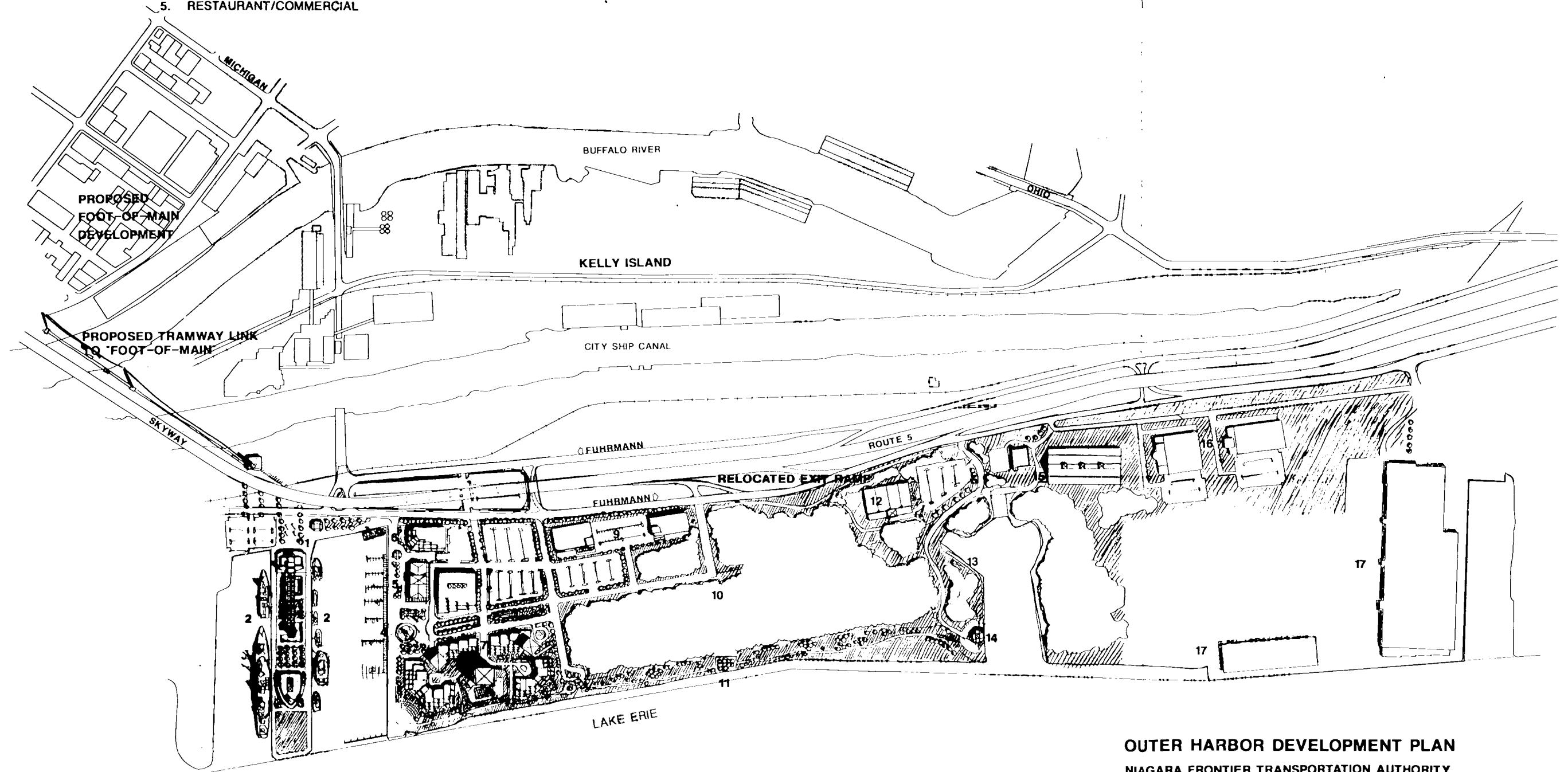
- | | |
|--------------------------------------|----------------------------------|
| 1. NAVAL & MARITIME MUSEUM | 6. GREAT LAKES RESEARCH FACILITY |
| 2. NAVAL/REPLICA/EXCURSION CRAFT | 7. MULTIFAMILY RESIDENTIAL |
| 3. FESTIVAL PAVILION & CONCERT STAGE | 8. 'BACK' OFFICE |
| 4. BOAT SLIPS | 9. RACQUET CLUB/SKATING RINK |
| 5. RESTAURANT/COMMERCIAL | |

BELL SLIP PARK

- | | |
|-----------------------------|-----------------------|
| 10. FUTURE DEVELOPMENT SITE | 12. YEAR-ROUND TENNIS |
| 11. LAKEFRONT PROMENADE | 13. PADDLEBOAT RENTAL |
| | 14. OBSERVATION TOWER |

PORTSIDE INDUSTRIAL PARK

- | |
|----------------------------|
| 15. WINTER BOAT STORAGE |
| 16. LIGHT INDUSTRIAL |
| 17. WAREHOUSE/DISTRIBUTION |



Site Development Plan

OUTER HARBOR NORTH
PHASE 1 DEVELOPMENT

OUTER HARBOR DEVELOPMENT PLAN
NIAGARA FRONTIER TRANSPORTATION AUTHORITY

1 acre

0 200



Fig.5

TAMS Planning Innovations, Inc.

SEAWAY PIERS / HARBORTOWN

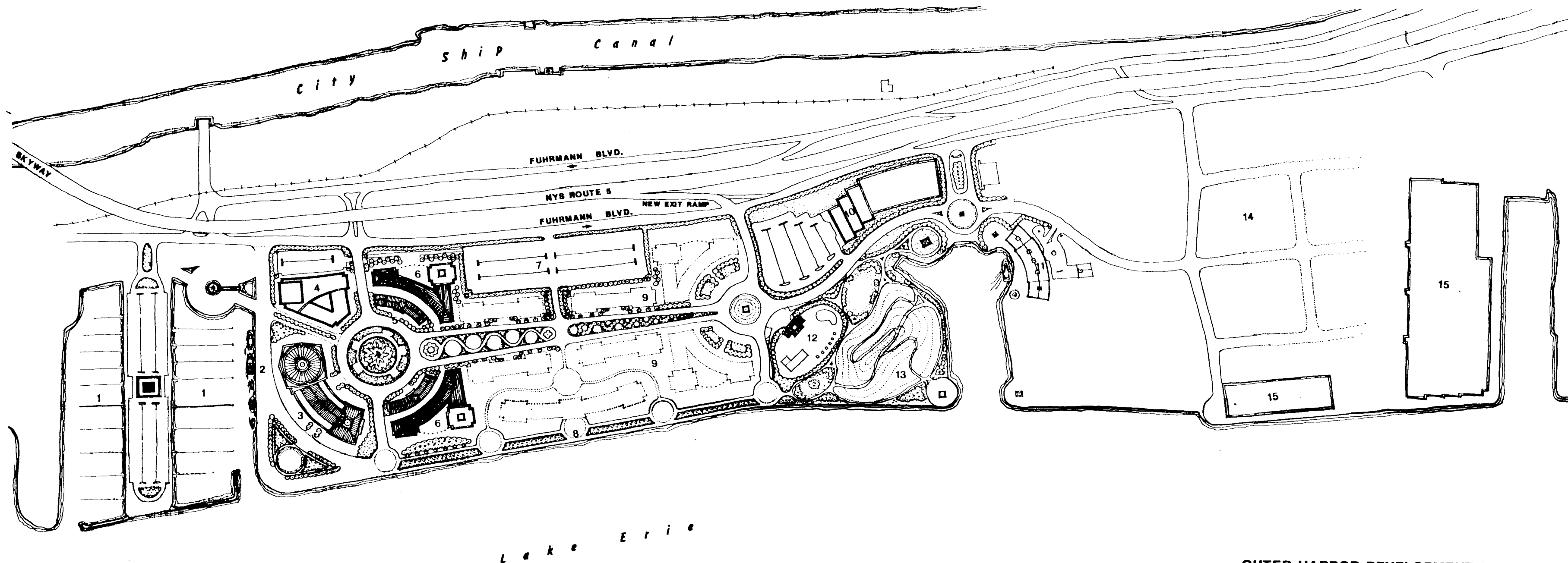
1. SMALL CRAFT HARBOR
2. EXCURSION BOAT LANDING
3. RESTAURANT, ETC. - REUSE OF GARDEN FESTIVAL HALL
4. 'BACK' OFFICE
5. CONVENIENCE RETAIL
6. MULTI-FAMILY RESIDENTIAL
7. PHASE I 'BACK' OFFICE PARKING
8. LAKEFRONT PROMENADE
9. FUTURE DEVELOPMENT

BELL SLIP AREA

10. RACQUET CLUB / YEAR ROUND TENNIS
11. GREAT LAKES RESEARCH FACILITY
12. SWIMMING FACILITY
13. BELL SLIP PARK

PORTSIDE INDUSTRIAL PARK

14. LIGHT INDUSTRY / CONSOLIDATION
15. WAREHOUSE / DISTRIBUTION



Modified Site Development Plan

OUTER HARBOR NORTH
PHASE I DEVELOPMENT

OUTER HARBOR DEVELOPMENT PLAN
NIAGARA FRONTIER TRANSPORTATION AUTHORITY



TAMS - Planning Innovations, Inc.

Fig.6

Avenue Pier, would be developed as a floating museum of maritime history.

(It was suggested by the City of Buffalo's consultants that the the Naval Park museum be moved to the Seaway Piers as a means of providing for more intensive use of the Buffalo Riverfront area. It was felt that, with the assent of the Naval and Servicemen's Park Commission, the USS Little Rock and USS Sullivans could be moved from their current location to berths along Seaway Pier One. With the City's plan for the development of the foot of Main St. now in abeyance and subject to radical change, there is no strong reason to move the Naval Park exhibits. They are expected to remain where they are).

For the longer range, a "narrative" design concept was formulated in the originally recommended plan, whereby the Maritime Museum building on Seaway Piers One would become an interpretation of a Great Lakes vessel or a tanker. The Museum would include a structure corresponding to the bridge of a laker containing a theater, showing films related to Buffalo's maritime past and present, as well as a sampling of marine-related Hollywood fare. In the manner of a vessel's bridge, the building would offer outdoor decks and windowed areas for viewing the Lakefront panorama. Exhibit areas would start at the second story level, above any future high-water mark.

An elevated, enclosed gallery would extend lake-ward from the Museum building, suggesting the conveyor boom of a self-unloading vessel. This gallery would provide an environment for year-round vessel and lake viewing, and tours describing the history of the vessels at the pier.

A festival pavilion would be constructed near the outboard end of the pier in the form of a forecastle structure, with a tower and lookout terrace. The pavilion would accommodate special events as well as exhibits, food concessions and restrooms. The "bow" end of the pavilion would house a concert stage facing a grassy seating area.

Other attractions of the museum would be vessels or replicas relating to Buffalo's maritime past. A replica of the Griffon, a lake schooner and a canal boat as well as the Canadiana, would be moored at the south side of the Pier and the head of the slip.

A portion of the south side of the pier would house excursion vessels with, perhaps, a specialized theme. In addition to the trips offered by the Miss Buffalo, concert barges, and floating cinemas could combine to create motion and activity that offer Buffalonians and tourists alike the opportunity to experience the Lake.

**Modified Plan
For Seaway Piers**

Events since early 1987 have changed the uses foreseen for the Seaway Piers area and given rise to the modified plan for Phase I (and subsequent) Development. Because of the long gestation period required for the museum concept and expressions of interest in the Seaway Piers area by marina operators, the NFTA has decided to move ahead with development of this area as another haven for small boats.

Another consideration that has resulted in a modification of the manner in which the Seaway Piers area will be used is the garden festival: a short-term use located at the Outer Harbor during the development period. For this festival a monumental structure may be located across the eastern end of the southernmost Seaway slip that will require a permanent change in the location of the bulkhead. With this change in the bulkhead location, approximately 700 boat slips will be accommodated on the two sides of Seaway Pier 1. These slips will probably be protected by constructing wave curtains made up of timber bents designed to withstand ice impacts. Full breakwaters may not be economical in this location.

Under this modified plan, the Seaway Piers open areas will still be designed to allow the staging of special events, such as a visit by the American Wind Symphony barge, or other waterborne events, or perhaps a series of ethnic festivals.

"Harbortown"

With the originally recommended plan and now with the modified plan, the area adjacent to Seaway Pier 2 will be developed for a variety of urban activities, which take advantage of the amenities posed by the location adjacent to the piers and the Lake. The "Harbortown" development is to be an integrated neighborhood, containing a mix of residential, possible research, office and recreational development. "Harbortown" will provide a year-round population for the Outer Harbor, mixing a variety of interests providing continuous activity. Its location south of Seaway Pier 2 will allow it to take advantage of the amenities in Seaway Piers area, while maintaining its own identity.

Seaway Pier 2, the waterfront of the "Harbortown" development, will present a relaxed atmosphere. In the originally recommended plan boat slips would be provided on this side to accommodate both "Harbortown" residents and visiting craft. In the modified plan, excursion craft will be berthed along the wharf face. The pier-side will be paved and landscaped to provide a parklike atmosphere. It will provide a quiet place from which to view the activities along the other Seaway pier as well as a panoramic view of the downtown skyline.

The Phase I development of Harbortown calls for the following:

- Back-Office Complex - A 225,000-250,000 s.f. office facility, housing uses needing large floor areas, high ceilings and parking but not requiring a downtown location, will be developed within the Harbortown area in the vicinity of the Seaway Piers. It is believed that

this use will help to establish a year-round presence at the Outer Harbor before any housing is built or marketed. Also the attractions of the activities at the Seaway Piers may be an important selling point in marketing the Outer Harbor to prospective tenants outside of Buffalo.)

- Restaurant/Commercial: A full-service restaurant, offering lunch and dinner, as well as a related service commercial establishments, would be located at the pierside. Ticketing facilities for excursion vessels may be located here also. In the alternative plan these facilities will occupy buildings constructed for the garden festival.
- Center for Great Lakes Research: In the plan recommended originally, an 80,000 s.f. facility to provide unified space for several agencies involved in Great Lakes studies would be located behind Seaway Pier 2, where berthing would be available for a 150' research vessel. This facility could become an attraction for tourists and groups as an educational activity.

In the modified plan, the Great Lakes Research facility will be located at the Bell Slip, where more space is available for outdoor research ponds and the berthing of additional vessels. While workers at the research facility will loose amenities of a site adjacent to the Seaway Pier activities they will have Bell Slip Park nearby.

- Boat Slips - In the plan recommended originally, 75 boat slips would be built for residents of the Harbortown residential development and for visiting craft. They would not be for those living elsewhere in Buffalo, who would require parking adjacent to the slips. In the alternative plan, only excursion vessels, and possibly party boats, will be berthed on this side of the Seaway Slip.
- Residential Complex - In either plan, some 250 rental or condominium units, targeted initially at those without children, housed in a development with four-to-six story low-rises

and possibly a 10-story tower would face both the plaza behind Seaway Pier 2 and the Central Boulevard.

- Racquet Club and Skating Rink - These recreational facilities would be developed further south -- behind the open areas reserved for future development in the plan originally recommended or in the Bell Slip area in the modified plan.

The design concept of Phase I Harbortown is to create a mixture of activities at an "urban" concentration. The central organizing elements of the development would be the Seaway Pier promenade and a formally landscaped Boulevard leading from the entry road to the pier. Uses would cluster around a plaza located where the Boulevard meets the Pier. This would orient activities toward a significant focal point, which is important in establishing the Outer Harbor's "sense of place".

To reinforce the density of the development, parking is either beneath the buildings, as in the case of the residential development where units would be 6-7 feet above ground level, or at the periphery, as would be the case for the office uses in Phase I.

The pierside and lakefront would offer uninterrupted public pedestrian access. The pier offering a hard, defined environment and the lake a more organic landscaped environment.

Finally, it should be noted that the area to be occupied by "Harbortown" will be regraded within its boundaries, so that all of the area, except the promenade along Seaway Pier 2 and the

Lakefront path will be above extreme high water.

Bell Slip Park

The land immediately surrounding the Bell Slip provides a vegetated habitat for various shore-birds. Given the character of this area surrounding the gently curving inlet, its preservation as parkland has been proposed in the plan originally recommended.

Near Fuhrmann Blvd., a set of tennis courts, housed in bubble-domes for year-round use, would be constructed as part of the Park facility.

In the modified plan, the Bell Slip area will be the focus of additional activities which encircle much of the Slip (except for the low-lying area south of the Slip near the Lake, where the soils contain a range of contaminants and development would be both expensive and inadvisable). Besides the Bell Slip park, the Great Lakes Research Center and the Racquet Club are to be located here. In this plan the year-round tennis courts are to be an adjunct to the Racquet Club.

Under the modified plan the water sports area will be in the Bell Slip Park. Facilities will include an olympic size (50m) pool and grandstand, a water-slide attraction and space for sun bathing and concessions. Ideally, this project would be developed by private interests but given the desired non-exclusive use and range of facilities, revenues may be marginal. It may be administered as a part of the Bell Slip Park.

**Portside Industrial
Park**

South of the Bell Slip area, space is allocated for some light industrial development of the types mentioned on Page 37. Development costs for this area may be kept low and infrastructure investment should await commitments by potential users, since the market is rather weak.

In the modified plan, the Portside Industrial Park is merged with the warehouse and freight consolidation facilities currently being promoted in the area east of Terminal B.

**JOBS CREATED BY OUTER
HARBOR DEVELOPMENT**

Looking back at the goals set forth at the beginning of the study for development of the Outer Harbor properties of the NFTA, it may be recalled that one of these was the creation of jobs--particularly high quality jobs new to the Buffalo area.

Table 7 shows the number of jobs expected to be created through the Phase I development of the Outer Harbor North site and expansion of the Small Boat Harbor.

It is estimated that of nearly 1,900 jobs, perhaps 1,000 to 1,200 would be new to the Buffalo area, if new office lessees are sought outside Buffalo, as recommended in this study, and if some research units and industrial firms come from other locations. Realization of these new jobs will be a major benefit from the proposed development.

TABLE 7

JOBS CREATED BY OUTER HARBOR DEVELOPMENT

	<u>Units Per Job</u>	<u>Total Jobs</u>
<u>Phase I - Outer Harbor North Site</u>		
225,000 s.f. "back-office" space	200 s.f.	1,125
10,000 s.f. convenience retail & restaurants	275 s.f.	36
Excursion boat landing	Say	10
Boat slips for visiting or local small craft	75-700 slips 2 to 8	
Recreational complex & nearby swimming pool	Say	30
250 units of housing	-	-
80,000 s.f. Great Lakes research unit	200 s.f.	400
100,000 s.f. medium-tech. industry	600 s.f.	165
	Approx.	1,770
<u>Expansion of Small Boat Harbor</u>		
1,600 boat slips	90-100 slips	15
25,000 s.f. cluster of retail specialty food shops, and restaurants	275 s.f.	90
		105

TRANSPORTATION
LINKS

The issue of perceived and actual poor connections between the Outer Harbor and the rest of the City of Buffalo, particularly the downtown area, has been central to the planning work throughout this study. Emphasis has been given to the understanding that the lack of adequate access and of visual links has contributed to the public's perception of the Outer Harbor as a remote and inhospitable location.

Several options for improving access between the Outer Harbor and the Downtown and Foot-of-Main Street areas were considered. These are described below:

Relocation of Rt. 5 Off-Ramp

This option, shown in Figures 5 and 6 is important to improving access to the Outer Harbor North Site for Southbound Skyway traffic. This would eliminate the need for those coming from downtown Buffalo to use a circuitous and confusing route to reach the site.

Relocating the off-ramp several hundred feet north of its current location and providing for a "T-intersection" would also enable the access roadway system to function should Fuhrmann Blvd. eventually be developed as a two-way boulevard.

Rationalization of Fuhrmann Blvd. and Outer Harbor Bridge

The rationalization of Fuhrmann Blvd. will be an important component in the overall development of the entire Outer Harbor area, as well as adjacent areas. The City, through a project that combines the Fuhrmann Blvd. rationalization and a new Outer Harbor Bridge, is considering a two-way boulevard west of N.Y.S. Route 5 from the Buffalo River to Ohio Street. South of Ohio Street, the existing system of one-way roadways mixed with two-way segments would evidently remain.

The exact form of Fuhrmann Blvd.--whether it is a two-way boulevard or one-way pair--has ramifications for development at the Outer Harbor North--largely because a two-way boulevard west of N.Y.S. Route 5 in the Seaway Piers area may require the acquisition of a significant part of

the NFTA's site and crowd out easy pedestrian access between Seaway Piers 1 and 2 and force modification of the present plan for the Garden festival. A consistent one-way pair from the northern side of the Seaway Piers area to Tifft Street (with a controlled intersection at Ohio Street) would be decidedly better for Outer Harbor development. Extension of the one-way pair to Tifft Street would also ease congestion in the morning on N.Y.S. Route 5 between Tifft Street and Ohio Street. The need to simplify local automobile circulation along the Lakefront can be best met by a consistent configuration for Fuhrmann Blvd, from the City-line to the Seaway Piers.

The City also has a project in the preliminary design stage for an Outer Harbor Bridge, linking Fuhrmann Blvd. to Erie Street. This is in conjunction with their plan to rationalize Fuhrmann Blvd. While a bridge providing a direct link between the Outer Harbor and the Erie Basin and downtown areas would be desirable from the standpoint of enhanced physical and perceived access, a new bridge is neither a necessary precondition to Phase I Development of the Outer Harbor, nor do traffic volumes associated with Phase I Development of the Outer Harbor North Site and expansion of the Small Boat Harbor create, by themselves, a need for such a link. The analysis described in the next section, which was done in concert with the City's Waterfront Master Plan, suggests, however, that the combined traffic volumes generated by developments, including development projects at

the Foot-of-Main Street, the City Ship Canal, the Inner and Outer Harbor areas, and Union Ship Canal, will necessitate later construction of a new crossing of the Buffalo River. While such a project is not a priority from the standpoint of NFTA Development, it would enhance the development potential of the Outer Harbor.

Aerial Tramway

Developments at the Seaway Piers are expected to complement the Canal Place development at the foot of Main Street though they may precede it in time. When Canal Place begins to attract people in large numbers, an aerial tramway can provide a suitable linkage between the two projects and become an attraction itself. The tram would have one terminal within the Canal Place development and the other at a point east of the Seaway Piers, on the Outer Harbor side of the Buffalo River. A pedestrian plaza would lead from the station to the Seaway Piers.

The tramway should be able to operate year-round, being designed to operate under the severe winter conditions found in the Alps, the Andes and other high mountain areas, and thus improve accessibility to the Outer Harbor - as long as a protected passage is provided to the main part of the "Harbortown" development. Liability insurance is a potential problem and must be investigated thoroughly before the project proceeds.

The estimated construction cost of the tramway is about \$4.8 million. With operating costs in the range of \$350,000 (exclusive of insurance), the viability of the tramway would be a function of the number of passengers per year and the fare charged. With a one-way fare of 75 cents, about 1,000,000 passengers/year would be needed; with a fare of \$1.00, about 780,000 passengers a year. Substantial development will have to take place before such volumes can be generated, so this project will be undertaken at a future date and only after a full feasibility study is made.

Ferry/Water Taxi Service

As an early alternative to the aerial tramway, access between the Canal Place development and the Outer Harbor could be provided by a system of water taxis. During the summer and autumn months, these could link the Foot-of-Main Street to Erie Basin, the Seaway Piers, and even extend to Bell Slip Park and the Small boat Harbor. The service would, however, be seasonal, and subject to interruption during periods of inclement weather.

Pedestrian Bridge Across the Buffalo River

Should an upstream alternative (e.g., Michigan Ave.) for the Buffalo River Gateway Bridge be selected in lieu of either the Erie Street or Pearl Street Gateway Bridge alternatives, a pedestrian bridge at Erie Street or Pearl Street would enhance connections between the Outer Harbor and other waterfront areas. A pedestrian bridge at either location would, however, preclude the construction of an aerial tramway.

TRAFFIC IMPACTS OF
RECOMMENDED PLAN

Key roadways serving properties on the Outer Harbor and other waterfront areas include N.Y.S. Route 5 (Skyway) and the Niagara Section of the New York State Thruway, which loops around the downtown area and connects with the Skyway.

The following review of traffic volumes on these two arteries was based upon the combined impact of the plan recommended originally in late 1986 and the City's proposed plan. Since that time the City's plan has changed radically but the final dimensions of any new plan are not known and will not be known for some time yet. Therefore, the original review has been retained, primarily as an indication of future traffic impacts, which are most probably in the range of the final impacts foreseen by the mid 1990's.

N.Y.S Route 5
Existing Traffic

In the following analysis, residual "capacity" is defined as the difference between a volume for Level of Service D (3,000 vehicles per hour as identified in the 1965 Highway Capacity Manual for a four-lane freeway using a .83 peak hour factor) and the peak hour volumes found after the Buffalo Regional Center Plan is implemented.

NYS DOT data on traffic volumes have been analyzed for N.Y.S. Route 5 from its northern terminus at Church Street to the Milestrip Expressway. These data have been combined with information received from the Niagara Frontier Transportation Committee (NFTC) regarding the

impact of the Buffalo Regional Center Plan upon peak-hour volumes on arteries leading to the CBD. The combined data yield the estimate of baseline volumes shown in Table 8. These estimates of peak-hour volumes indicate that, during the morning peak hour, N.Y.S. Route 5 northbound to the CBD would operate at Level of Service (LOS) D for most of its length, as it does now. In the section from Tifft St. to Ohio St. (Small Boat Harbor), the Level of Service already drops to LOS E in the morning and, with the Buffalo Regional Center Plan, will become somewhat more congested. During the afternoon peak hour, southbound N.Y.S. Route 5 will continue to operate at LOS C for most of its length, with only the section from Ohio Street to Tifft St. operating at LOS D.

**N.Y.S. Thruway
Existing Traffic**

For the Niagara Section of the N.Y.S. Thruway, residual "capacity" is defined in the following analysis as the difference between the LOS D volume of 4,500 vehicles per hour (as identified in the 1965 Highway Capacity Manual for a six-lane freeway using a .83 peak hour factor) and the baseline peak-hour volumes. The baseline volumes reflect the impact of the Buffalo Regional Center Plan in this case also.

As shown in Table 9, the Thruway section from Bird Ave. to the Elm/Oak St. ramps is operating at LOS A or B in both the morning and the afternoon and will continue to do so even with the Buffalo Regional Center Plan in place. Between the Elm/Oak St. ramps and Seneca St. the Thruway

TABLE 8

ROUTE 5 - EXISTING AND BASELINE PEAK HOUR VOLUMES,
LEVELS OF SERVICE AND RESIDUAL CAPACITY

Roadway Segment Between	Time Period	Existing			Baseline		
		Traffic Volume	Peak Hr. LOS	Residual Capacity ¹	Traffic Volume	Peak Hr. LOS	Residual Capacity ¹
NORTHBOUND:							
Milestrip Expy. & Union Ship Canal	AM	2,590	D	410	2,700	D	300
	PM	780	A	2,220	850	A	2,150
Union Ship Canal & Tifft St.	AM	2,830	D	170	2,950	D/E	50
	PM	890	A	2,110	950	A	2,050
Tifft St. & Ohio St.	AM	3,100	E	(100)	3,250	E	(250)
	PM	990	A	2,010	1,050	A	2,950
Ohio St. & Beginning of Bridge	AM	2,620	D	380	2,750	D	250
	PM	860	A	2,140	950	A	2,050
Skyway Bridge	AM	2,630	D	370	2,750	D	250
	PM	560	A	2,440	650	A	2,350
NYS Thruway & Church St.	AM	440	A	2,560	500	A	2,500
	PM	770	A	2,230	800	A	2,200
SOUTHBOUND:							
Church Street & NYS Thruway	AM	630	A	2,370	650	A	2,350
	PM	440	A	2,560	550	A	2,450
Skyway Bridge	AM	930	A	2,070	1,000	A	2,000
	PM	2,250	C	750	2,400	C	600
End of Bridge & Ohio St.	AM	560	A	2,440	650	A	2,350
	PM	2,310	C	690	2,450	C	550
Ohio St. & Tifft St.	AM	700	A	2,300	800	A	2,200
	PM	2,650	D	350	2,800	D/E	200
Tifft St. & Union Ship Canal	AM	590	A	2,410	650	A	2,350
	PM	2,180	C	820	2,350	C	650
Union Ship Canal & Milestrip Expy.	AM	370	A	2,630	450	A	2,550
	PM	2,080	C	920	2,250	C	750

¹ At LOS D.

TABLE 9

NYS THRUWAY - NIAGARA SECTION
EXISTING AND BASELINE PEAK HOUR VOLUMES, LEVELS OF SERVICE
AND RESIDUAL CAPACITY

Roadway Segment Between	Time Period	Traffic Volume	Existing	Residual	Traffic Volume	Baseline	Residual
			Peak Hr. LOS	Capacity ¹		Peak Hr. LOS	Capacity ¹
NORTHBOUND:							
Seneca St. & Smith St. ³	AM	3,970	C	4,250	4,250	D	250
	PM	1,750	A	2,750	1,950	A	2,550
Smith St. & Hamburg St. ³	AM	4,010	C/D	490	4,300	D/E	200
	PM	1,660	A	2,840	1,850	A	2,650
Hamburg St. & Elm/Oak Sts.	AM	3,990	C	510	4,300	D/E	200
	PM	1,700	A	2,800	1,900	A	2,600
Elm/Oak Sts. & Skyway Bridge	AM	2,670	B	1,830	2,750	B	1,750
	PM	2,120	A	2,380	2,200	A	2,300
Skyway Bridge & Virginia St. ³	AM	2,310	A	2,190	2,350	A	2,150
	PM	3,300	B	1,200	3,350	B	1,150
Virginia St. & Porter Ave.	AM	N.A	N.A	-	-	-	-
	PM	N.A	N.A.	-	-	-	-
Porter Ave. & Bird Ave. ²	AM	2,120	A	2,380	2,150	A	2,350
	PM	3,250	B	1,250	3,300	B	1,200
Bird Ave. & Parish St.	AM	1,600	A	2,900	1,650	A	2,850
	PM	2,000	A	2,500	2,050	A	2,450
SOUTHBOUND:							
Parish St. & Bird Ave.	AM	3,030	B	1,470	3,100	B	1,400
	PM	1,820	A	2,680	1,850	A	2,650
Bird Ave. & Porter Ave ²	AM	2,220	A	2,280	2,300	A	2,200
	PM	2,640	B	1,860	2,700	B	1,800
Porter Ave. & Virginia St.	AM	N.A	N.A	-	-	-	-
	PM	N.A	N.A.	-	-	-	-
Virginia St. & Skyway Bridge ³	AM	2,240	A	2,260	2,300	A	2,200
	PM	2,370	A	2,130	2,400	A	2,100
Skyway Bridge & Elm/Oak Sts.	AM	2,270	A	2,230	2,350	A	2,150
	PM	2,810	B	1,690	2,850	B	1,650
Elm/Oak Sts. & Hamburg St.	AM	1,540	A	2,960	1,650	A	2,850
	PM	4,120	D	380	4,400	D/E	100
Hamburg St. & Smith St. ³	AM	1,430	A	3,070	1,500	A	3,000
	PM	4,720	E	(220)	5,000	E	(500)
Smith St. & Seneca St. ³	AM	1,230	A	3,270	1,300	A	3,200
	PM	4,490	D	10	4,800	E	(300)

¹ At LOS D.

² Traffic volumes from continuous count station.

³ Peak hour volumes factored based on most recent ADTs.

will continue to operate at a reduced level of service, LOS D or E, inbound to the CBD during the morning peak hour and outbound from the CBD during the afternoon peak hour. In the morning, the lowest level of service will be found westbound between Hamburg St. and Smith St. In the afternoon, eastbound traffic volumes will result in a level of service as low as LOS E in the same section of the Thruway and also in the next section, between Smith St. and Seneca St.

**Traffic Generated
by Waterfront
Development**

Traffic volumes generated by the NFTA's proposed developments at the Outer Harbor North site and at the Small Boat Harbor are shown in Appendix B. In addition to the development of the NFTA's Outer Harbor sites, other developments are contemplated, both in the Buffalo Regional Center Plan and on the waterfront, which may affect traffic volumes on the roads that now serve the area. For the City's portion of the Buffalo Waterfront Master Plan, what is understood to be the final scenario has been analyzed to determine its impact on the two major regional roads that are of concern for access to the Outer Harbor sites: N.Y.S. Route 5 and the N.Y.S. Thruway. The first step in this analysis has been to identify for the City's 13 sites, the traffic volumes that would be generated to Phase I development at the Outer Harbor.

The total peak-hour traffic volumes generated by developments proposed by the City and the NFTA have been determined by adding the volumes associated with each site, while giving due consideration to seasonal factors and the pattern of daily variation expected with the kind of development proposed. For purposes of this assessment, additional vehicular trips generated by each development project are estimated to be distributed to the existing roadway system in accordance with the directional distribution of all traffic entering downtown Buffalo, as shown by recent NFTA data.

A computerized spreadsheet has been used to assign the associated PM peak hour traffic volumes to the roadway network currently serving the various waterfront sites. The network includes major regional highways, such as N.Y.S. Route 5 and the Thruway, primary arterials, streets leading to or from regional highways and streets that would be used in the waterfront area.

By referring to Tables 10 and 11, the residual "capacity" on a given link of the Thruway or N.Y.S. Route 5 can be compared with the traffic volume that would be generated on that link as a result of developments proposed by the City and the NFTA. This comparison reveals where improvements or changes are needed to either increase the highway capacity of that link or reduce the travel demand via diversion to a parallel link.

Table 10 shows how the LOS D "capacity" available on N.Y.S. Route 5 between Church St. and the Milestrip Expwy., after the Buffalo Regional Center Plan is realized, would compare with the PM traffic volumes generated by the developments proposed by the City, plus development of the NFTA's Outer Harbor sites. Proposed developments include large trip generators at the NFTA Outer Harbor North site, the NFTA Small Boat Harbor, the City Ship Canal and also the Union Ship Canal. Development will result in southbound volumes exceeding the LOS D "capacity" of the Skyway Bridge. This means that during much of the PM peak the Level of Service will fall to LOS E on the Skyway Bridge. Only a portion of the increase is attributable to development at the Outer Harbor sites. Much of the remainder will come from developments along the City Ship Canal and the Union Ship Canal--developments which will not occur until late in the planning period, if then. The heaviest volumes from the waterfront developments themselves will, however, be northbound in the afternoon, counter to the main flow of traffic.

Table 11 shows how the traffic volumes generated by the various developments proposed by the City and the NFTA compare with the residual "capacity" that will be available on the NYS Thruway-Niagara Section, between Parish St. on the northwest and Seneca St. on the southeast, after the Buffalo Regional center developments are in place. Traffic volumes on this route will be more heavily affected by developments

TABLE 10

N.Y.S. ROUTE 5

BASELINE PM OPERATIONS AND INCREMENTAL POST-DEVELOPMENT VOLUMES

Roadway Segment Between	Baseline Volume	LOS	Residual Capacity ¹	Post-Development Volume	
				Existing Network	New Network ²
Church St. & NYS Thruway					
NB	800	A	2,200	583	586
SB	550	A	2,450	542	147
Skyway Bridge					
NB	650	A	2,350	1,288	1,015
SB	2,400	C	600	838	443
End of Bridge & Ohio Street					
NB	950	A	2,050	121	121
SB	2,450	C	550	121	121
Ohio Street & Tifft St.					
NB	1,050	A	1,950	265	265
SB	2,900	D	200	166	166
Tifft St. & Union Ship Canal					
NB	950	A	2,050	125	125
SB	2,350	C	650	190	190
Union Ship Canal & Milestrip Expressway					
NB	850	A	2,150	125	125
SB	2,250	C	750	190	190

¹ At LOS D

² Reflects extension of Elm/Oak Street pair and a new bridge connecting the foot of Main Street with the Outer Harbor. Volumes shown reflect change from existing network volumes only for trips generated by new waterfront development. Diversion of existing trips also would occur, but the volumes involved cannot be estimated without trip origin/destination data.

TABLE 11

NYS THRUWAY - NIAGARA SECTION
 BASELINE PM OPERATIONS AND INCREMENTAL POST-DEVELOPMENT VOLUMES

<u>Roadway Segment Between</u>	<u>Baseline Volume</u>	<u>LOS</u>	<u>Residual Capacity¹</u>	<u>Post-Development Volume</u>	
				<u>Existing Network</u>	<u>New Network</u>
Parish St. & Bird Ave.					
NB	2,050	A	2,450	1,089	1,091
SB	1,850	A	2,650	726	726
Bird Ave. & Porter Ave. ²					
NB	3,300	B	1,200	1,438	1,441
SB	2,700	B	1,800	968	956
Porter Ave. & Virginia St.					
NB	N/A		N/A	1,097	1,099
SB	N/A		N/A	781	781
Virginia St. & Skyway Bridge ³					
NB	3,350	B	1,150	1,622	1,227
SB	2,400	A	2,100	1,235	1,235
Skyway Bridge & Elm/Oak Sts.					
NB	2,200	A	2,300	711	481
SB	2,850	B	1,650	882	880
Elm/Oak Sts. & Hamburg St.					
NB	1,900	A	2,600	771	771
SB	4,400	D/E	100	1,036	967
Hamburg St. & Smith St.					
NB	1,850	A	2,650	852	852
SB	5,000	E	(500)	1,100	1,102
Smith St. & Seneca St.					
NB	1,950	A	2,550	852	852
SB	4,800	E	(300)	1,100	1,102

¹ At LOS D² Traffic volume from continuous count station.³ Peak hour volume factored based on most recent ADT.⁴ Reflects extension of Elm/Oak Street pair and a new bridge connecting the foot of Main Street with the Outer Harbor. Volumes shown reflect change from existing network volumes only for trips generated by new waterfront development. Diversion of existing trips also would occur, but the volumes involved cannot be estimated without trip origin/destination data.

along the Niagara River. The impact of developments south of the CBD will still be substantial (but not as large in relative terms as the impact upon N.Y.S. Route 5). Nevertheless, since capacity in the sections east of the Elm/Oak St. ramps is already exceeded during the PM peak, the level of service with new developments will be lower than acceptable. As a result, a greater share of the traffic generated at the Outer Harbor will go south to reach other east-west routes than has been assumed in the assignment used.

**Demand for New Links
Posed by Outer Harbor
Developments**

Review of the numbers in Table 10 indicates that future traffic volumes on the Skyway Bridge during the PM peak will result in a LOS E for much of the time--if all the proposed waterfront developments, including those of the NFTA go forward. Traffic on other sections of N.Y.S. Route 5 resulting from the baseline situation, plus waterfront development, will not exceed the LOS D "capacity" of the road in the evening.

Northbound traffic volumes in the morning between Tifft St. and Ohio St. are currently in excess of capacity defined as LOS D, and elsewhere on N.Y.S. Route 5 they are very close to that capacity. Implementation of the Buffalo Regional Center Plan and development of new employment centers at the Outer Harbor will make this situation worse unless new capacity is provided south of the Ohio St. exit ramp. Proposals for the rationalization of Fuhrman Blvd should be designed to function with the Father

Baker Bridge reconstruction in order to provide added capacity in this stretch of road.

At the north end of the Outer Harbor, additional capacity will be provided by the proposed new bridge across the mouth of the Buffalo River, if this bridge is constructed as a supplement to the Skyway and not as a replacement. The only way the Skyway might be replaced would be to construct a new South Towns Route in the corridor east of Tifft Farm. If such a route were to be constructed, then it would be possible to serve the Outer Harbor with a low-level movable bridge across the mouth of the Buffalo River and a landscaped Fuhrmann Blvd. carrying local traffic only.

PHASING OF DEVELOPMENT

Overall Approach

The phasing program proposed for the NFTA's Outer Harbor Development seeks to build from a position of strength. Thus the Small Boat Harbor, already an active and vital facility, will be the focus of initial investment and development programming.

The phasing strategy proposed for Outer Harbor North development will focus initially on the activities and special events, public open space, institutional uses, and the infrastructure necessary to change public perception of the Outer Harbor location. These are all public or quasi-public actions, which can be fostered by the NFTA, City and State and will establish

the credibility of the Outer Harbor as a desirable site for development.

While the public is favorably disposed towards redevelopment of the Outer Harbor, there is likely to be resistance on the part of any single entity to be the "first" to move to a new and perhaps risky location.

The planning strategy is therefore oriented towards creating, as early as possible, an environment that will encourage private sector development, capitalizing on existing strengths and overcoming the uncertainty with which the location is now perceived.

Coordination in Implementation

The phasing plan is oriented toward defining actions to be undertaken by the NFTA, since the NFTA has been and will be responsible for actions to be taken on-site in developing the Outer Harbor. While the NFTA is to be responsible for initiating or influencing most activities, some of the final projects may be executed by the City or State Governments; institutional entities or public groups, and private developers. These classes of activities are summarized in Table 12.

Phasing plans for the Outer Harbor North and Small Boat Harbor are presented in Tables 13 and 14. Actions are defined for three Stages: 1986-1989, 1989-1992, and 1992-1995--for the modified plan. The emphasis of each stage is described below.

TABLE 12
RESPONSIBILITIES FOR OUTER HARBOR DEVELOPMENT

Actions to be Completed and/or
Initiated by the NFTA

- Rehabilitation of existing breakwater, completion of landfill area and continuation of Small Boat Harbor development;
- Relocation of port activities, regrading of Outer Harbor North site and preliminary landscaping of Seaway Piers area;
- Programming of public events, including the proposed Garden Festival;
- Repairs to Seaway Piers bulkheads and shoreline treatment for the Outer Harbor North in preparation for subsequent use, including the Garden Festival and subsequent permanent development;
- Internal circulation and infrastructure (incl. utilities);
- RFP's, evaluation of offers and developer selection;
- Various studies, designs and environmental assessments needed during development process.

Start of Discussions on:

- . Sponsorship of a Maritime Museum or alternative types of development at the Seaway Piers area;
- . Establishment of a unified Great Lakes Research facility ,
- . Commercial, private recreational units.

Actions to be Initiated by NFTA, But
Completed by Other Governmental Entities

- Skyway Ramp Relocation (State DOT),
- Parking Under Skyway (State/City),
- Public parkland development (City, County)
- Fuhrmann Blvd. rehabilitation (City DPW),
- Construction of a new Breakwater at Small Boat Harbor (Corps of Engineers, U.S. Army),

TABLE 13

STAGING - SMALL BOAT HARBOR

STAGE 1 <u>1987-1989</u>	STAGE 2 <u>1989-1992</u>	STAGE 3 <u>1992-1995</u>
<ul style="list-style-type: none"> - Complete upgrading program for Small Boat Harbor with improvements at the north end. 	<ul style="list-style-type: none"> - Design and construct new breakwater outboard from existing breakwater. - Install floating wave attenuator or wave curtain to reduce effect of reflection off Freezer Queen Pier. 	<ul style="list-style-type: none"> - Complete new breakwater and fishing center
<ul style="list-style-type: none"> - Negotiate with Corps regarding new breakwater. 	<ul style="list-style-type: none"> - Complete 70% of parking in landfill area; expand number of slips to 1,050; provide fishing facilities. - Solicit offers and select developer for retail cluster east of landfill or at north end of site. 	<ul style="list-style-type: none"> - Complete remainder of parking in landfill area; expand number of slips to 1,600. - Development by developers.
<ul style="list-style-type: none"> - Complete environmental reviews for water near landfill and for breakwater area with City and State. - Undertake discussions with Tifft Farm, City and State DOT regarding access and linkages. 	<ul style="list-style-type: none"> - Upgrade crossing beneath Rt. 5 to provide pedestrian links to Tifft Farm. 	

TABLE 14

STAGING - OUTER HARBOR NORTH SITE

STAGE 1 1987-1989	STAGE 2 1989-1992	STAGE 3 1992-1995
<ul style="list-style-type: none"> - Close down port operations, remove port buildings and bulk cargo residue; begin site preparation and initial landscaping. - Stage public event to commemorate the closing of the Port of Buffalo and rebirth as the Outer Harbor Development. - Complete arrangements for bringing Garden Festival to the Outer Harbor. - Undertake repairs to Seaway Piers and rip-rap initial stretch of outer slope. - Regrade site and construct initial access from Fuhrmann Blvd. to the Seaway Piers area. 	<ul style="list-style-type: none"> - Continue programming of public events in undeveloped lands at Outer Harbor to reinforce activity center concept. - Prepare for and host Garden Festival and arrange for reuse of certain buildings. - Prepare berths to accommodate Seaway Pier 1 vessels, erect wave curtains at mouth of Seaway Slips. - Under alternative plan, issue RFP for developing pleasure craft harbor at Seaway Piers. 	<ul style="list-style-type: none"> - Complete internal circulation system per development needs. - Complete rip-rapping of the outer slope.
<ul style="list-style-type: none"> - Adopt revised landuse plan and design guidelines to be used in creating development RFP's for all private development at Outer Harbor. - Solicit outside companies seeking space for expansion of back office space, etc. 	<ul style="list-style-type: none"> - Construct roads, utilities, plazas, etc. in Seaway Piers area "Harbortown" and Bell Slip area. - Issue RFP's for development of unified research unit, office space, restaurant and commercial units and recreational facilities evaluate, select, begin construction. 	<ul style="list-style-type: none"> - Completion of restaurant, office and commercial uses and recreational uses along Fuhrmann Blvd. - Issue RFP's for development of residential units in "Harbortown" and any industrial properties south of Bell Slip to be developed by private developers
<ul style="list-style-type: none"> - Resolve, in concert with City DPW and State DOT, issues involving access and parking offsite (possible relocation of Rt. 5 off-ramp and rationalization of Fuhrmann Blvd.) - Possibly relocate Rt. 5 exit ramp to improve access to Outer Harbor. - Under originally recommended plan, build institutional momentum for sponsorship of Maritime Museum. Undertake fund- and consciousness-raising campaign. - Build momentum for establishment of unified Great Lakes Research Unit at Seaway Pier 2, or the Bell Slip. - Meet with City, County and State to determine appropriate roles in developing and maintaining Bell Slip Park and Lake front Promenade. 	<ul style="list-style-type: none"> - Conduct tramway feasibility study. - Undertake rationalization of Fuhrmann Blvd. - Under originally recommended plan, begin construction of new Maritime Museum; relocate Canadiana and other replica and excursion craft to Pier 1. - Unified Great Lakes Research Unit to be undertaken by developer. - Begin phased development of public open spaces with Bell Slip Park trails, and Lake front Promenade. 	<ul style="list-style-type: none"> - Construct tramway, if feasible. - Continue development of public open spaces with extension of Lakefront Promenade.

Small Boat Harbor

The emphasis of Stage 1 (1987 - 1989) development at the Small Boat Harbor will be to complete the filling of the diked disposal area, undertake improvements at the north end of the site, rehabilitate the existing breakwater and add a number of boat slips. Given the strong market for additional boat slips and the lead time involved in undertaking the final study and design work for the new breakwater along the harbor line, negotiations with the Corps of Engineers should be initiated as soon as funds for the study phase are assured. Environmental testing of the diked disposal area is essentially complete and the required changes made but Table 13 allows for possible supplementary reviews, plus those required for environmental studies of the new breakwater.

Stage 2 (1989-1992) will involve addition of another 175 boat slips, and construction of a new breakwater, as well as installation of a floating wave attenuator to reduce the reflection of waves off the Freezer Queen Pier. During this period the solicitation of offers and selection of developers for the retail and recreation uses in the landfill should also go ahead.

The Stage 3 (1992-1995) work may include the completion of the new breakwater, which will permit the addition of 550 more boat slips, the provision of additional parking and completion of commercial development.

Outer Harbor North

The First Stage of Phase I Development at the Outer Harbor North Site is critical in that it must quickly establish the desirability of the site as a place for people to be and the commitment of the NFTA to its development. In addition, responsibilities for projects to be executed by other governmental units--but which are tied to Outer Harbor development, such as access, and public park areas--need to be determined at an early date so that capital projects can proceed. Major emphasis in Stage 1 will, therefore, include:

- Relocation of port activities to the former Bethlehem Steel site in Lackawanna, which has been approved by the NFTA board and may already be underway.
- Early provision of access to the Seaway Piers, together with minimal landscaping and investigation of existing sheds, etc. for temporary reuse, plus preparing port areas for development through soil management techniques, and the creation of promenade areas;
- Programming of frequent public events and festivals to establish the Outer Harbor as a place where people can congregate and making final arrangements for a major event, i.e., the Garden Festival.
- Coordination with the City and State in the selection of schemes for relocating the off-ramp from N.Y.S. Route 5, rationalizing Fuhrmann Blvd. and providing offsite parking for the Garden Festival;
- Actively selling an Outer Harbor location, with the proposed amenities, to financial institutions and others outside Buffalo that are seeking space on advantageous terms;
- Making the contacts, visits and concessions necessary to attract key institutional anchors to the Outer Harbor.

The primary focus of Stage 2 is to actually develop the anchor uses at the Outer Harbor, to begin the construction of formal public open spaces and circulation systems, as needed to receive, evaluate and contract for development of the commercial sites. This must be preceded, however, by an active search in Stage 1 for suitable long term occupants for the office space to be developed. Also, emphasis will be placed on construction of off-site access and parking improvement projects. The continued programming of events, through this and subsequent stages, is encouraged.

The focus of Stage 3 will be on further private sector development, including a start on residential development and, should the market develop, possible medium-tech industrial units. The NFTA will proceed with circulation, infrastructure and open space development as appropriate.

CHAPTER 4

FINANCIAL ANALYSIS OF THE OUTER HARBOR DEVELOPMENT PLAN

INTRODUCTION

The financial analysis of Phase I of the Buffalo Outer Harbor Development Plan recommended in late 1986 was conducted within the context of the economic and social goals adopted by the Waterfront Planning Board during the earlier planning phases of this study. The primary economic goals of the Outer Harbor development remain as follows:

- To encourage development which reinforces activities planned elsewhere in the heart of the region or along the waterfront;
- To attract activities that offer high value added per unit of land area and utilize the unique location of the Outer Harbor;
- To attract a mix of activities that includes those with a high financial return per unit of land area;
- To realize optimum development of the Small Boat Harbor, including development of commercial sport fishing and a range of complementary commercial developments.
- To develop packages that are attractive from the standpoint of financial return and early implementation.

The above goals define a balanced development program for the Outer Harbor, in which financial returns to the NFTA are sufficient to sustain the direct outlays, at the same time the recreational experiences of Buffalo area residents are enhanced. In order to expedite the development, the development strategy envisages a public-private partnership in which early actions are undertaken by the NFTA. Such actions include

playing a lead role in the development process as sponsor and initial developer. The development strategy rests on the assumption that the NFTA, as sponsor, will provide such incentives as site improvements (e.g., streets, utilities, landscaping, etc.) to attract developers to the Outer Harbor. The development strategy further envisages that, for certain sites, the NFTA may be more appropriate as the actual developer of certain sites than private developers.

As the basis for determining whether the goal of self-sufficient development can be achieved, financial analyses were conducted for Phase I of development under the plan recommended in January 1987 at the Outer Harbor North Site and the Small Boat Harbor. The intent of these analyses was to assess the financial impacts of committing public funds for site improvements at the Outer Harbor. The analysis required estimates of the cost of site improvements and the likely revenues that the NFTA can expect from such investments. In updating this report, approximate estimates of the costs of site improvements by the NFTA have been prepared for the Modified Plan plan. Because of possible negotiations, financial analyses have not been done for the Modified Plan, though indications are provided in the text regarding the financial impacts of the revisions made since early 1987.

The financial analysis is presented in the form of two financial models: a Cost and Revenue Statement and a Cash Flow Analysis Model. These models were developed for Phase I of the Outer Harbor North site, the Small Boat Harbor and for

the overall development at the Outer Harbor through 1995. Analyses were not prepared for subsequent phases of development, since the need for a stronger economic turnaround in the Buffalo region before the end of this century would make longer range plans rather speculative. The long-range plan presented in Chapter 3 is illustrative of what may be done but detailed analyses of this plan would not yield meaningful results.

The methodologies used in this study to determine the financial feasibility of making public investments at the Outer Harbor in accordance with the originally recommended plan were the Net Present Value (NPV) and the Internal Rate of Return (IRR). These methodologies projected the revenue streams by explicitly taking into consideration the phasing of outlays for site development and the subsequent income from the development.

The financial analyses envisaged that multiple leases would be executed between the NFTA and developers of the sites and that these leases would commence on different dates, as various sites are developed.

SITE IMPROVEMENT COSTS

In order for the Outer Harbor Development to be successful in attracting developers, early actions by the NFTA have been identified at the Outer Harbor North Site and the Small Boat Harbor. Most site improvements are to be financed initially by the NFTA to expedite the development of the sites. Specific site improvements in Phase I of the plan recommended originally

and their estimated costs are shown in Tables 15 and 16 for the major areas at each location. Revised costs for the Modified Plan for at the Outer Harbor North site and the current plan for the Small Boat Harbor are presented in Tables 15a and 16a. Costs were based upon 1986 prices in the Buffalo area with some upward adjustments for a location within the city, though the fact that an open site would be involved was recognized.

The estimated site improvement costs to be borne by the NFTA at the Outer Harbor North site amounted to \$7,565,000 under the originally recommended plan and now amount to \$10,540,000 under the Modified Plan. This may be spent over a period of eight years, starting in 1988. Another \$1 million or so will be spent by developers for infrastructure within their individual sites. This would include parking, curbs, sewer and water line connections, etc. Also, the City will need to fund a new firehouse, at a cost of about \$750,000 plus equipment. This firehouse may be built in Phase I or may be deferred to a later phase. One access improvement that has been considered important to Phase I development of the Outer Harbor North site has been the relocation of the southbound off-ramp at the south end of the Skyway bridge, albeit, with the Modified Plan it may not be moved as far north. Also, this change may not be needed until after the Garden Festival. This work would be funded by NYSDOT and is expected to cost from \$800,000-\$900,000. Some rationalization of the Fuhrmann Blvd. set of roadways during Phase I would also be desirable.

TABLE 15

BUFFALO OUTER HARBOR DEVELOPMENT PLAN
 PHASE I: SITE IMPROVEMENT COSTS
 ORIGINALLY RECOMMENDED PLAN—JANUARY 1987

OUTER HARBOR NORTH SITE SITE WORK	NAUTICAL ATTRACTIONS (406,000 SF)	HARBORTOWN AREA (1,042,000 SF)	INDUSTRIAL AREA (550,000 SF)	TOTAL COST
Regrade & Riprap Outer Face	\$0	\$1,250,000	\$0	\$1,250,000
Bulkhead Renovation	\$500,000	\$0	\$0	\$500,000
Water & Sewer Lines	\$395,000	\$535,000	\$400,000	\$1,330,000
Storm Drains	\$310,000	\$460,000	\$430,000	\$1,200,000
Streets & Public Parking	\$185,000	\$295,000	\$75,000	\$555,000
Sidewalks & Plazas	\$325,000	\$585,000	\$0	\$910,000
Landscaping & Landforms	\$35,000	\$85,000	\$45,000	\$165,000
Marina Slips	\$180,000	\$0	\$0	\$180,000
Wave Curtain	\$150,000	\$0	\$0	\$150,000
Remaining Slope Protection	\$415,000	\$910,000	\$0	\$1,325,000
TOTAL COST	\$2,495,000	\$4,120,000	\$950,000	\$7,565,000

TABLE 16

BUFFALO OUTER HARBOR DEVELOPMENT PLAN
 PHASE I: SITE IMPROVEMENT COSTS
 ORIGINALLY RECOMMENDED PLAN—JANUARY 1987

SMALL BOAT HARBOR SITE WORK	FISHING AREA (45,000 SF)	RETAIL CLUSTER (155,000 SF)	WATER SPORTS AREA (365,000 SF)	BOAT BASIN (515,000 SF)	TOTAL COST
North End Improvements	\$0	\$0	\$0	\$135,000	\$135,000
Water & Sewer Lines	\$35,000	\$120,000	\$280,000	\$0	\$435,000
Storm Drains	\$20,000	\$70,000	\$280,000	\$0	\$435,000
Paving	\$5,000	\$115,000	\$300,000	\$745,000	\$1,165,000
Sidewalks	\$5,000	\$25,000	\$0	\$75,000	\$105,000
Landscaping	\$5,000	\$10,000	\$20,000	\$25,000	\$60,000
New Boat Slips	\$0	\$0	\$0	\$2,520,000	\$2,520,000
New Docks	\$0	\$0	\$0	\$485,000	\$485,000
Renovate Existing					
Breakwater	\$0	\$0	\$0	\$810,000	\$810,000
Floating Wave Attenuator	\$0	\$0	\$0	\$350,000	\$350,000
New Breakwater	\$0	\$0	\$0	\$3,500,000	\$3,500,000
TOTAL COST	\$70,000	\$340,000	\$760,000	\$8,870,000	\$10,040,000

TABLE 15a

BUFFALO OUTER HARBOR DEVELOPMENT PLAN
 PHASE I: SITE IMPROVEMENT COSTS
 MODIFIED PLAN 1988

OUTER HARBOR NORTH SITE SITE WORK	SEAWAY SLIPS AREA (406,000 SF)	HARBORTOWN AREA (1,042,000 SF)	BELL SLIP PARK AREA (550,000 SF)	TOTAL COST
Regrade & Riprap Outer Face	0	\$ 750,000	\$ 675,000	\$ 1,425,000
Bulkhead Renovation	500,000	0	0	500,000
Water & Sewer Lines	115,000	425,000	385,000	925,000
Storm Drains	205,000	363,000	487,000	1,055,000
Streets & Public Parking	420,000	287,000	518,000	1,225,000
Sidewalks & Plazas	480,000	305,000	25,000	810,000
Landscaping & Landforms	35,000	85,000	40,000	160,000
Marina Slips (704)	1,690,000	0	0	1,690,000
Wave Curtain	1,600,000	0	0	1,600,000
Remaining Slope Protection	0	1,150,000	0	1,150,000
TOTAL COST	\$5,045,000	\$3,365,000	\$2,130,000	\$10,540,000

TABLE 16a

BUFFALO OUTER HARBOR DEVELOPMENT PLAN
 PHASE I: SITE IMPROVEMENT COSTS
 MODIFIED PLAN 1988

SMALL BOAT HARBOR SITE WORK	FISHING AREA (45,000 SF)	RETAIL CLUSTER (155,000 SF)	BOAT BASIN (515,000 SF)	TOTAL COST
North End Improvements	0	0	\$ 135,000	\$ 135,000
Water & Sewer Lines	60,000	205,000	0	265,000
Storm Drains	0	55,000	0	55,000
Paving	25,000	105,000	1,325,000	1,455,000
Sidewalks	15,000	30,000	130,000	175,000
Landscaping	5,000	20,000	80,000	105,000
New Boat Slips	0	0	2,520,000	2,520,000
New Docks	0	0	485,000	485,000
Renovation Existing				
Breakwater	0	0	810,000	810,000
Floating Wave Attenuator			350,000	
or New Wave Curtain	0	0	400,000	400,000
New Breakwater	0	0	3,500,000	3,500,000
TOTAL COST	\$105,000	\$415,000	\$9,385,000	\$9,905,000

Source: TAMS. January 1988

At the Small Boat Harbor, the cost for development of the site, including rehabilitation of the existing breakwater, a floating wave attenuator (or, if the Buffalo Water Co. intake will allow it, a wave curtain could be constructed near the existing fuel dock) and the local share of a new breakwater, was estimated in late 1986 to be \$10,040,000; this figure was used in the financial analysis. The estimated cost of the current plan, with the landfill area used solely for parking, is \$9,905,000. This amount may be spent over a period of nine years, starting with improvements this year at the north end of the site. These amounts have not included the costs of filling, rough grading and capping the former diked disposal area. Good quality surplus fill from another construction site in Buffalo has been deposited in the area at no cost to the NFTA. The figures shown also have not included about a modest amount for on-site infrastructure by the developers of the retail core; nor have they included the federal share of the new breakwater, covering half the \$7,000,000 construction cost and all of the study and design costs of about \$900,000.

The average cost for site work at the Outer Harbor North site, per square foot, would be roughly \$4.00, and at the Small Boat Harbor about \$5.00.

SOURCES OF REVENUE

Potential revenues to the NFTA were estimated on the basis of income to be derived from four sources. These sources included:

1. Developer contributions for recovering the cost of site improvements;

2. Ground rents for use of the sites themselves;
3. Payments for municipal services, some of which must be passed on to the City as payments in lieu of real estate taxes (P.I.L.O.T.) and some of which may be retained by the NFTA to recover the costs of the Seaway Piers development, which constitutes a major amenity for the other developments.
4. Lease income from boat slips at the Small Boat Harbor and possibly Seaway Pier 1, plus dockage charges for use of Seaway Piers 1 or 2 by excursion craft.

As shown in Table 17, revenue streams were developed for each of the sites at the Outer Harbor.

Developer Contributions for Site Improvements

The estimation of the potential revenues from the development assumed that the NFTA would charge back to commercial developers and the sponsors of the unified Great Lakes Research Facility, all capital costs incurred in making the necessary improvements to the Outer Harbor Sites. The contributions for site improvements are shown for each site in Table 17, but only for the plan originally recommended. These contributions represented each developer's proportional share (based on square footage) of the cost of, for example, water and sewer lines, landforms and landscaping, sidewalks, plazas, bulkhead renovation, storm drains, regrading and riprapping of the outer face, and other site improvements. Annual contribution amounts were based on a formula that provides for level annual payments at 10% interest to NFTA over a 25-year period. These payments were intended to

TABLE 17
BUFFALO OUTER HARBOR DEVELOPMENT PLAN
REVENUES AND SITE COSTS BY USE TYPE

SITE NUMBER	USE TYPE	SITE AREA (SF)	GROSS BUILDING AREA (SF)	SITE CONTRIBUTION	GROUND RENT	MUNICIPAL PAYMENTS	ANNUAL SITE PMT	LEASE INCOME	TOTAL REVENUES	SITE COST PER SF
OUTER HARBOR NORTH SITE										
Sites 1, 2 & 3	Nautical Attractions	374,000	0	\$1,995,000	\$0	\$0	\$219,785	\$60,000	\$0	\$5.33
Site 12	Past Food Restaurant	10,500	4,000	\$55,000	\$4,725	\$10,859	\$6,059	\$0	\$21,644	\$5.24
Site 4	Boat Marina (75 Slips)	21,500	0	\$445,000	\$9,675	\$1,395	\$49,025	\$0	\$60,095	\$4.84
Site 6	Research Facility	86,000	80,000	\$395,000	\$38,700	\$0	\$43,516	\$0	\$82,216	\$4.59
Site 5	Restaurant	38,000	6,000	\$175,000	\$17,100	\$8,377	\$19,279	\$0	\$44,757	\$4.61
Site 7	Residential	330,000	283,000	\$1,525,000	\$148,500	\$581,754	\$168,006	\$0	\$898,261	\$4.62
Site 8	Office/Parking(550 Spaces)	270,000	225,000	\$1,250,000	\$121,500	\$488,674	\$137,710	\$0	\$747,884	\$4.63
Sites 9 & 12	Recreational	318,000	50,000	\$775,000	\$143,100	\$77,567	\$85,380	\$0	\$306,047	\$2.44
Site 16	Industrial Campus	400,000	100,000	\$950,000	\$40,000	\$69,811	\$104,660	\$0	\$214,470	\$2.38
	Subtotal	1,848,000	748,000	\$7,565,000	\$523,300	\$1,238,438	\$833,421	\$60,000	\$2,375,374	\$4.09
SMALL BOAT HARBOR SITE										
Site 9	Fishing Area	45,000	4,000	\$70,000	\$0	\$0	\$0	\$140,000	\$140,000	\$1.56
Sites 6 & 7	Marina Retail Cluster	155,000	25,000	\$340,000	\$69,750	\$42,662	\$37,457	\$55,000	\$204,869	\$2.19
Site 8	Water Sports Area	355,000	0	\$760,000	\$159,750	\$344,205	\$83,728	\$0	\$587,682	\$2.14
Sites 1 & 4	Boat Marina (1600 Slips)	515,000	0	\$8,870,000	\$0	\$0	\$0	\$1,164,800	\$1,164,800	\$17.22
	Subtotal	1,070,000	29,000	\$10,040,000	\$229,500	\$386,867	\$121,185	\$1,359,800	\$2,097,351	\$9.38
TOTAL DEVELOPMENT & TOTAL REVENUES		2,918,000	777,000	\$17,605,000	\$752,800	\$1,625,304	\$954,606	\$1,419,800	\$4,472,725	\$6.03

Source: Planning Innovations, Inc., January, 1987

roughly approximate payments made by the NFTA on the financial instruments (presumably bonds) used to finance the overall site improvements. The 10% rate reflected some of the advantages of tax-free revenue bonds and thus exemplified the public-private partnership approach. At the end of 25 years, such payments would end, except for any amounts needed to finance subsequent replacements.

Ground Rents

The analysis of the financial returns to the NFTA further assumed that developers would have a leasehold interest in the land and that the NFTA would retain full ownership. This leasehold interest would be formalized as a ground lease between the NFTA and each of the developers. The ground leases would provide for developers to pay ground rents or lease fees to the NFTA over the life of the leases (87 years was assumed). The ground rents used in this study reflected the market value of comparable land in the Buffalo area. They were estimated at an average of 45 cents per square foot and shown in Table 17. In the revenue streams it was assumed that 50% of the ground rents would be payable as soon as a developer took control of a site--roughly one year before other payments, since the latter would require a more substantial stream of revenues to back them up. In following years 100% of the ground rents would be payable.

Municipal Services Payments

Because the NFTA will retain full title in each of the sites in the Outer Harbor Development,

the analyses assumed that the developers would not pay real estate taxes on the land or improvements directly to the City. Instead it was assumed that payments for municipal services would be paid to the NFTA and that a substantial part of these payments will be passed on to the City, as payments-in-lieu-of-taxes (P.I.L.O.T.). The actual proportion would be the subject of negotiation between the City and the NFTA. In the financial analyses, upon the NFTA's financial results the impact of 70% of these payments being passed to the City was tested. The portion retained by the NFTA could be applied to such items as the cost of administering development and the development and maintenance of the Seaway Piers area. The City may believe that all of these payments should be passed on to the City at the outset and a special assessment used to recover the Seaway Piers development costs. This, however, would raise the cost to developers and thus overlook the need for adequate incentives to attract developers, if any revenues at all were to be realized by the City or the NFTA. Sharing these municipal services payments may, therefore, be considered as analogous to tax abatement and would cover a defined period of time. (It should be made clear that these municipal services payments were entirely unrelated to utility charges, which would be billed by the respective utilities and paid for on the basis of actual use.)

To calculate the municipal services payments adjusted tax equivalents for the proposed land uses were used (Table 18). These tax assessments were estimated in 1986 dollars.

Table 18

**BUFFALO OUTER HARBOR DEVELOPMENT PLAN
PROPERTY TAX ASSESSMENT RATES BY USE TYPE**

<u>Use Type</u>	<u>Assessment Evaluation</u>	<u>Equalization Rate</u>	<u>Current Taxes</u>
Fast Food Restaurant	\$ 70/Sq.Ft.	0.2959	\$131.07/\$1000
Sit Down Restaurant	\$ 36/Sq.Ft.	"	"
New Office	\$ 56/Sq.Ft.	"	"
R&D Office Space	\$ 28/Sq.Ft.	"	"
Health Club	\$ 40/Sq.Ft.	"	"
Seasonal Marina	\$480/Slip	"	"
Renovated Industrial Space	\$ 18/Sq.Ft.	"	"
Retail Space	\$ 44/Sq.Ft.	"	"
Residential Property			

SOURCE: Hammer, Siler, George Associates, November, 1985
Planning Innovations, Inc. May 1986

The municipal services payments were assumed to be payable at intervals during the first year of full development of the sites. Because the NFTA would develop the Seaway Piers area under the originally recommended plan, as well as the fishing area and boat slips at the Small Boat Harbor Site, no municipal services payments were shown for these uses in the financial analysis. Similarly, such payments were not shown for the unified Great Lakes Research Facility.

Lease Income

In addition to the sources of income indicated above, it was anticipated that the NFTA would receive income from leasing the boat slips it develops to private boat owners and from existing restaurant facilities at the Small Boat Harbor. Based on data from the NFTA, the annual rental rate for an average boat slip was expected to be about \$728 in 1987.

The Maritime Museum and other nautical attractions to be developed at Seaway Pier 1 under the plan recommended originally were expected to be developed using public funds--through the NFTA or possible state or Federal units, or funds from one or more eleemosynary institutions. Thus the Seaway Piers area, when developed was not expected to generate significant lease income, although some income would be derived from landing fees and dockage paid by various commercial excursion vessels, party boats and their passengers. The Museum would receive income from public admissions but virtually all of this income would go for the Museum's expenses.

**RECAPITULATION OF
ASSUMPTIONS USED IN
THE FINANCIAL MODELS**

Basic assumptions and parameters, used in the financial models are reiterated as follows:

Costs

- Site Improvement Costs: All site improvement costs within the boundaries of the Outer Harbor North site and the Small Boat Harbor would be funded by the NFTA, except for infrastructure within or crossing developers' sites, electric and gas installations and the Federal share of the new breakwater.
- Operating Costs: Operating costs would cover staff for promoting and administering the Outer Harbor North site, programming events and operating the Small Boat Harbor.
- Maintenance Costs: Maintenance costs would cover maintaining the Seaway Piers themselves, public plazas and parking areas, and streets within the Outer Harbor North Site and Small Boat Harbor, as well as beaching and refloating the boat slips each year.

Revenues

- Ground Rent: 50% total during construction; 100% thereafter. The ground lease period was 87 years.
- Developer Contributions: Proportional site improvements costs paid over 25 years with interest on remaining balances at 10%
- Municipal Services Payments: These payments would begin during the first year of operations. Their scale was based on current real estate taxes, though the proportion going to the City and the proportion retained by the NFTA were varied within the models.
- Lease Income: Mainly derived from rental of boat slips but also included income from the existing restaurant and various fees for use of facilities.

OUTER HARBOR NORTH SITE

The proposed development at the Outer Harbor North Site under either plan would offer a wider mix of land uses than those planned for the Small Boat Harbor site. The plan recommended originally for the Outer Harbor North Site called for the development of nine sites in the Seaway Piers area. (The Modified Plan calls for seven). The specific uses are discussed in the preceding chapter. The site areas and gross building areas are shown in Table 17, as well as the base revenues to be derived from each site.

For comparative purposes a cash flow analysis was run in which all municipal services payments were retained by the NFTA, though it was recognized that this is not a realistic assumption. If this were the case, Net Present Value of the cash flows over the 1987-2000 period, discounted at 10% would be \$897,000.

Table 19 shows the analysis with the more realistic assumption that the City would receive 70% of the municipal services payments as P.I.L.O.T. If this were the case, the NFTA would not be expected to recover the costs invested in the site improvement work at the Outer Harbor North Site until about 1999. The projected cash flow indicated that the Net Present Value of the cash flows, over the period from 1987 to 2000, discounted at 5% would be approximately (-) \$637,000 and discounted at 10% would be (-) \$1,415,000. The other financial measure used in the study to assess the feasibility of funding public improvements at the Outer Harbor North Site was the Internal Rate of Return (IRR). The IRR of the cost and revenues streams from 1987 to 2000 was estimated to drop from 14%, if all municipal services payments were retained by the NFTA, to 3% if 70% were passed to the City as P.I.L.O.T. These figures would be higher if the analyses were extended over the assumed 25-year amortization period.

These financial results indicated that, if the NFTA had to borrow funds at current interest rates (on tax-free instruments) and if 70% of the municipal services payments were passed to the City as P.I.L.O.T., development of the Outer Harbor North site would not be financially viable. Several possibilities were explored for improving this financial outlook as discussed in a later section. These include the use of grant fund programs for certain improvements, the securing of seed money from the legislature and reduction of the amounts paid to the City as

TABLE 19
BUFFALO OUTER HARBOR DEVELOPMENT PLAN
OUTER HARBOR NORTH SITE CASH FLOW PROJECTIONS
SENSITIVITY ANALYSIS AT 30% OF MUNICIPAL PAYMENTS

REVENUE SOURCES	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	TOTAL
Site Contributions	\$0	\$0	\$0	\$0	\$274,869	\$274,869	\$475,314	\$728,760	\$833,420	\$833,420	\$833,420	\$833,420	\$833,420	\$833,420	\$6,754,392
Ground Rent	\$0	\$0	\$0	\$0	\$14,400	\$14,400	\$191,700	\$483,300	\$523,300	\$523,300	\$523,300	\$523,300	\$523,300	\$523,300	\$3,843,600
Municipal Service Payments	\$0	\$0	\$0	\$0	\$3,676	\$3,676	\$152,792	\$350,588	\$371,531	\$371,531	\$371,531	\$371,531	\$371,531	\$371,531	\$2,739,918
Lease Income	\$0	\$0	\$0	\$0	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$600,000
TOTAL REVENUES	\$0	\$0	\$0	\$0	\$352,945	\$352,945	\$879,866	\$1,622,648	\$1,788,251	\$1,788,251	\$1,788,251	\$1,788,251	\$1,788,251	\$1,788,251	\$13,937,910
SITE IMPROVEMENT EXPENDITURES															
Operating Costs	\$100,000	\$200,000	\$225,000	\$225,000	\$225,000	\$225,000	\$200,000	\$175,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$2,415,000
Maintenance Costs	\$0	\$0	\$0	\$0	\$0	\$250,000	\$270,000	\$285,000	\$295,000	\$295,000	\$295,000	\$295,000	\$295,000	\$295,000	\$2,575,000
Cost of Site Work:															
Bulkhead & Outer Face	\$0	\$0	\$350,000	\$700,000	\$700,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,150,000
Seaway Piers (Sites 1,2,3)	\$0	\$0	\$0	\$227,000	\$454,000	\$454,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,135,000
Marina (Site 4)	\$0	\$0	\$0	\$89,000	\$178,000	\$178,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$445,000
Sites 5,6,8,& 9	\$0	\$180,000	\$0	\$0	\$211,000	\$422,000	\$422,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,235,000
Residential (Site 7)	\$0	\$0	\$0	\$0	\$0	\$145,000	\$290,000	\$290,000	\$0	\$0	\$0	\$0	\$0	\$0	\$725,000
Industrial (Site 16)	\$0	\$0	\$0	\$0	\$0	\$190,000	\$380,000	\$380,000	\$0	\$0	\$0	\$0	\$0	\$0	\$950,000
Remaining Slope Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$265,000	\$530,000	\$530,000	\$0	\$0	\$0	\$0	\$0	\$1,325,000
TOTAL SITE EXPENDITURES	\$100,000	\$380,000	\$575,000	\$1,241,000	\$1,768,000	\$1,864,000	\$1,827,000	\$1,660,000	\$975,000	\$445,000	\$445,000	\$445,000	\$445,000	\$445,000	\$12,615,000
NET CASH FLOW	(\$100,000)	(\$380,000)	(\$575,000)	(\$1,241,000)	(\$1,415,055)	(\$1,511,055)	(\$947,135)	(\$37,352)	\$813,251	\$1,343,251	\$1,343,251	\$1,343,251	\$1,343,251	\$1,343,251	\$1,322,910
CUMULATIVE NET CASH FLOW	(\$100,000)	(\$480,000)	(\$1,055,000)	(\$2,296,000)	(\$3,711,055)	(\$5,222,110)	(\$6,169,244)	(\$6,206,596)	(\$5,393,345)	(\$4,050,094)	(\$2,706,843)	(\$1,363,592)	(\$20,341)	\$1,322,910	
NET PRESENT VALUE @ 8%	(\$1,185,345)														
@ 10%	(\$1,415,234)														
@ 12%	(\$1,562,197)														
INTERNAL RATE OF RETURN	3%														

Source: Planning Innovations, Inc., January, 1987

P.I.L.O.T. in the early years. Regarding the last item, it may be noted that if the development didn't take place, the funds involved would not be realized by either the NFTA or the City, so retention of a larger share by the NFTA would not represent a diminution of existing City resources. It would be a further abatement of future P.I.L.O.T. A sliding formula, whereby the NFTA might retain 90% of the municipal services payments the first year, 80% the next year, 70% the third year and so on, would permit the NFTA to recover its development outlays 2 years earlier and, in combination with possible "seed money" provided by the legislature and some cross-subsidy from the Small boat Harbor (see below) could make revenue bond financing a possibility.

Modified Plan

In the case of the Modified Plan site improvement costs are higher than the originally recommended plan, since more slips for small craft and more extensive protective works are proposed for development by the NFTA. Revenues, however will reflect the income received from the pleasure craft harbor at the Seaway Piers area, plus some money from the swimming pool (relocated from the Small Boat Harbor). These may reduce the level of abatement for P.I.L.O.T. and the need for any cross-subsidies from the Small Boat Harbor.

SMALL BOAT HARBOR

Unlike the Outer Harbor North Site, which was planned to accommodate a wide mix of development uses, the Small Boat Harbor development is primarily a single use development with recreational boating as its main focus, although some

retail uses are proposed. The water sports area is relocated to the Bell Slip area.

The Small Boat Harbor development thus comprises three types of activity. The predominant activity will be a 1,600 slip boat marina. Supplementing this will be a fishing area and a retail cluster. The Boat Basin and fishing area will be developed by the NFTA. The retail cluster is proposed for development by a private developer.

Projected revenues from leasing of boat slips, other fees, the developer's contribution, ground rent, and 30% of the municipal services payments for the Small Boat Harbor are shown, for the plan recommended originally, in the cash flow projections in Table 20. Cumulative cash flows would turn positive by 1996, with a positive balance of \$281,400 by the end of that year. With the water sports facility located elsewhere revenues would be reduced somewhat, but so are development costs (Table 16a) since storm drains in the landfill area will be eliminated (all run-off will be on the surface) and utility needs will be reduced.

The results of the financial analysis indicated that the net cash flow stream discounted at 10% would yield a positive Net Present Value of \$1,141,700. The results of the IRR analyses indicated a strong 17% return on the NFTA funds invested at the Small Boat Harbor over the analysis period. This financial result was much better than that at the Outer Harbor North site largely because (a) the lease of boat slips

TABLE 20
BUFFALO OUTER HARBOR DEVELOPMENT PLAN
SMALL BOAT HARBOR SITE CASH FLOW PROJECTIONS
SENSITIVITY ANALYSIS AT 30% OF MUNICIPAL PAYMENTS

REVENUE SOURCES	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	TOTAL
Site Contributions	\$0	\$0	\$0	\$0	\$121,185	\$121,185	\$121,185	\$121,185	\$121,185	\$121,185	\$121,185	\$121,185	\$121,185	\$121,185	\$1,211,850
Ground Rent	\$0	\$0	\$0	\$229,500	\$229,500	\$229,500	\$229,500	\$229,500	\$229,500	\$229,500	\$229,500	\$229,500	\$229,500	\$229,500	\$2,524,500
Municipal Service Payments	\$0	\$0	\$0	\$145,924	\$145,924	\$145,924	\$145,924	\$145,924	\$145,924	\$145,924	\$145,924	\$145,924	\$145,924	\$145,924	\$1,605,159
Lease Income/Launching Fees	\$560,400	\$679,600	\$822,000	\$959,400	\$959,400	\$959,400	\$1,101,800	\$1,239,200	\$1,399,800	\$1,399,800	\$1,399,800	\$1,399,800	\$1,399,800	\$1,399,800	\$15,680,000
TOTAL REVENUES	\$560,400	\$679,600	\$822,000	\$1,334,824	\$1,456,009	\$1,456,009	\$1,598,409	\$1,735,809	\$1,896,409	\$1,896,409	\$1,896,409	\$1,896,409	\$1,896,409	\$1,896,409	\$21,021,509
SITE IMPROVEMENT EXPENDITURES															
Operating Costs	\$80,000	\$95,000	\$95,000	\$110,000	\$110,000	\$110,000	\$110,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$1,585,000
Maintenance Costs	\$55,000	\$70,000	\$90,000	\$105,000	\$130,000	\$130,000	\$150,000	\$175,000	\$195,000	\$195,000	\$195,000	\$195,000	\$195,000	\$195,000	\$2,075,000
Recent Improvement Program	\$350,000	\$42,720	\$42,720	\$42,720	\$42,720	\$42,720	\$42,720	\$42,720	\$42,720	\$42,720	\$42,720	\$42,720	\$42,720	\$42,720	\$985,360
Cost of Site Work:															
Existing/Floating Breakwater	\$0	\$405,000	\$405,000	\$350,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,160,000
Roads, Parking & Utilities	\$135,000	\$370,000	\$745,000	\$745,000	\$0	\$0	\$190,000	\$190,000	\$0	\$0	\$0	\$0	\$0	\$0	\$2,375,000
New Boat Slips	\$0	\$360,000	\$420,000	\$420,000	\$0	\$0	\$420,000	\$420,000	\$480,000	\$0	\$0	\$0	\$0	\$0	\$2,520,000
New Docks	\$0	\$0	\$0	\$0	\$485,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$485,000
New Breakwater	\$0	\$0	\$0	\$0	\$700,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,500,000
TOTAL SITE EXPENDITURES	\$620,000	\$1,342,720	\$1,797,720	\$1,772,720	\$1,469,720	\$1,682,720	\$2,312,720	\$952,720	\$842,720	\$362,720	\$362,720	\$362,720	\$362,720	\$362,720	\$14,605,360
NET CASH FLOW	(\$59,600)	(\$663,120)	(\$975,720)	(\$437,897)	(\$11,712)	(\$226,712)	(\$714,312)	\$783,089	\$1,053,689	\$1,533,689	\$1,533,689	\$1,533,689	\$1,533,689	\$1,533,689	\$6,416,149
CUMULATIVE NET CASH FLOW	(\$59,600)	(\$722,720)	(\$1,698,440)	(\$2,136,337)	(\$2,148,049)	(\$2,374,760)	(\$3,089,072)	(\$2,305,983)	(\$1,252,294)	\$281,395	\$1,815,083	\$3,348,772	\$4,882,460	\$6,416,149	
NET PRESENT VALUE @ 8%		\$1,725,736													
@ 10%		\$1,141,662													
@ 12%		\$690,655													
INTERNAL RATE OF RETURN			11%												

Source: Planning Innovations, Inc., January, 1987

would provide the NFTA with a revenue stream right at the outset and (b) because private development at the Small Boat Harbor will not be very important, the impact of passing 70% of the municipal services payments through to the City will be much less significant. With the recent modifications at the Small Boat Harbor, these financial results are not expected to be very different.

Although the developers' site contributions are expected to end in year twenty-five, other revenue streams such as the ground rents, municipal services payments and lease revenues will continue.

SOURCES OF FUNDING

The proposed financial plans are based on a development strategy in which public sector funds are used induce private developers to make the investments that can bring the most significant benefits. Given current market opportunities, as discussed in other sections of this report, and present conditions in the Outer Harbor, the realization of such a public/private partnership will require significant public investments at the Outer Harbor. Faced with these early capital requirements, the maximum use of existing federal and state funding programs should be an important part of the NFTA's efforts to implement the development program.

The proposed development recommended earlier required the NFTA to spend approximately \$25 million of its funds over the next ten years for site improvements and operating and maintenance

needs. (With the Modified Plan this amount would be nearly \$28 million.) Given the weak financial results at the Outer Harbor North site and the need for expenditures to be made for six years before significant revenues can be realized, the role played by grants or low cost loans can be important. The potential for obtaining such funds through federal and state programs is not as promising as it was in earlier years when constraints on domestic spending were not as stringent as today. Nevertheless, several federal and state programs which fund infrastructural improvements of the type proposed at the Outer Harbor are outlined below.

N.Y. State Grant and Loan Programs

Local Waterfront Revitalization Program: This Department of State funded program provides funds for preconstruction activities which may not exceed 10% of the construction costs. Although limited, the program provides funds on a 80-20 matching basis. Such funds could potentially be used for early landscaping and promenades at the Outer Harbor sites.

Waterway Access Program: Current efforts by the State Department of Environmental Conservation to fund capital improvements at the Small Boat Harbor are indicative of the funding support available on the waterfront. The program funds waterway access points, boat landing ramps, parking, shoreline walkways and railings, fish cleaning stations and related facilities.

Land and Water Conservation Fund: Federal funds are available through the State Office of Parks, Recreation and Historic Preservation on 50-50 matching basis.

Industrial Access Program: This program provides up to \$1 million per year for roadway projects which facilitate access to industries which create or retain jobs. The program provides 100% funding with a requirement that 40% of the funds are in the form of interest free loans repayable over five years.

Western New York Economic Development Corporation: As a subsidiary of the Urban Development Corporation, this state agency administers a working capital fund for investments in industrial job creation and may have the ability to invest in other projects with economic development purposes.

Discretionary Aid Projects: Funds are provided by the state legislature for local capital projects each year on a district basis. Appropriations are typically between \$100,000 to \$500,000 per project.

Regional Economic Development Partnership Program: This program is designed principally to create and retain private-sector jobs in regions with distressed economies. The program offers assistance through grants and loans in the areas of business development projects, business infrastructure and economic development assistance

projects. Infrastructure assistance is available to municipalities, and local development corporations for access roads, drainage systems, sidewalks, docks, water supply and site clearance and preparation.

Federal Assistance Programs

Dingell-Johnson Program for Marine Access:

Under this program the Department of Environmental Conservation receives \$500,000 per year for marine access development. This program provides funds specifically for public boat launches and access to shoreline fishing.

Urban Development Action Grants (UDAG): The UDAG program provides funding for development projects in distressed urban areas. Funds are available for selected projects on the basis of the amount of private investment leveraged per dollar of public funds, the number of newly created jobs and the long-term return to the public sector.

Community Development Block Grants (CDBG): This program provides funds for capital improvements. Funding eligibility is dependent on the demonstrated benefits to low- and moderate-income residents within the framework of clear economic objectives.

FINANCIAL STRATEGY

Thus, there are various financing programs at the state and federal level which might be used to cover some of the costs of public improvements at the Outer Harbor. The main difficulty that we see at this juncture, in addition to the

tightly defined purposes of most of these programs is that of timing. Capital funds needed by the NFTA to develop the public infrastructure will be in the range of \$17.6 to \$20.4 million. To make up a significant proportion of these requirements, an interagency funding approach is needed, in which a combination of funding programs are used. This can have a damping effect on the development schedule and push expected revenues further into the future. Therefore, only the most likely programs should be pursued. Various grant programs may also be tapped for additional development on Seaway Pier 1, Bell Slip park and the Lakefront walkway.

The greatest share of the necessary capital funds will need to be raised through revenue bonds, which would be retired through the revenues that the NFTA expects to receive from the development. The preceding financial analyses indicates that the use of such bonds would be possible, if the Outer Harbor North site development and the Small Boat Harbor expansion are financed together, if agreement can be reached with the City on the retention by the NFTA of a high proportion of the municipal services payments in the early years and if legislative support can be secured in the form of seed money to cover expenditures in the early years of the project.

This seed money might consist of repayable appropriations for the purpose of paying interest on the bond issue. As the project matures and more revenues become available, funds would be targeted for both debt service requirements on

the bonds and repayment of the appropriations. There are precedents for this approach but specific issues such as the maturity schedule and reserve requirements would have to be worked out with the legal and bond counsel to the NFTA. Issues such as the debt-service coverage ratio, risk factors involved and marketability potential (particularly in light of recent federal tax legislation and its impact on tax exempt bonds) would require further investigation before the feasibility of the approach could be determined.

CHAPTER 5

DEVELOPERS' PACKAGES

PARCELS NOT COVERED

Not all of the areas included in Phase I of the Outer Harbor Development Plan are covered by the following "Developers' Packages". As indicated in the financial analyses of the preceding chapter, areas such as the boat slips in the small craft harbor in the Seaway Slips area and the Small Boat Harbor may be developed by the NFTA, which would receive income from the rental of boat slips and other completed facilities.

Developers' packages have also not been prepared for sites that may be developed by or on behalf of government agencies (the unified Great Lakes research facility) or eleemosynary institutions (Maritime Museum under the plan of January 1987) since these involve a different approach, in which institutional momentum must be created and funding sources developed over time. Such institutions don't lend themselves to straightforward offers to develop specific properties. Finally, developers' packages have not been prepared for the water sports attraction, now located in the Bell Slip Park, and two restaurants at the Outer Harbor North site: a possible fast-food outlet near Seaway Pier I and a more formal restaurant in an adapted horticulture building from the Garden Festival. The areas involved in the last two are small and, while all three areas may be disposed of in the same manner as the other parcels, the NFTA could also develop the sites and lease the completed facilities.

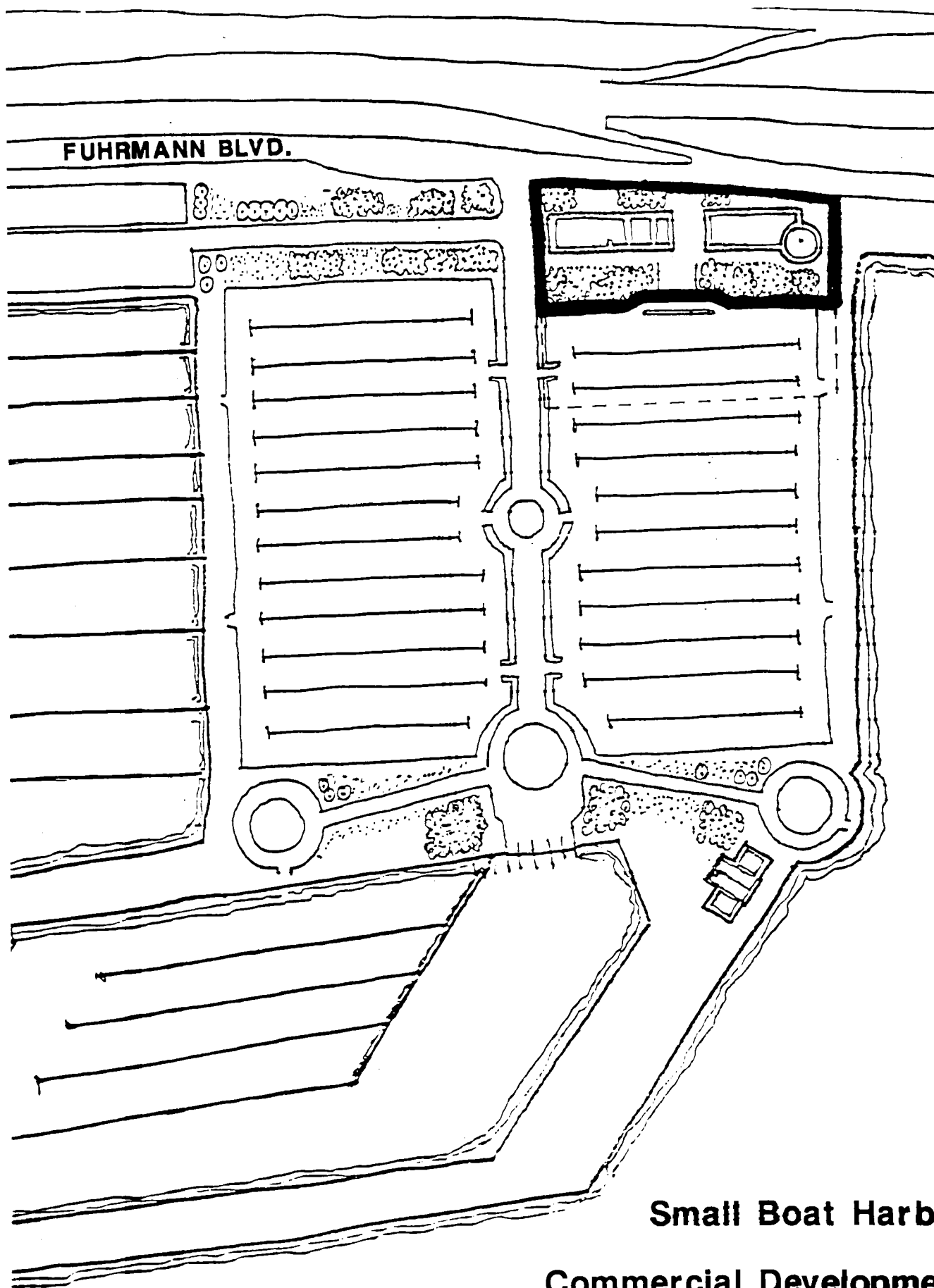
It should be noted that while a developer's package has been prepared for the office space at the Outer Harbor North site, it is expected that the NFTA will play a major role in promoting this site among companies outside Buffalo that can bring new jobs to the area. Either itself or, more probably, through a promotional firm, the NFTA will in effect be "knocking on doors" on Wall Street, La Salle Street and elsewhere, actively looking for tenants. The parcels for office construction may be the first commercial properties outside of the restaurants to be developed at the Outer Harbor North and it will not be enough to wait for a developer to come along. Not only the site, but the whole package of Buffalo, its housing, its recreational opportunities, etc. will have to be sold to prospective tenants.

PACKAGE #1
SMALL BOAT HARBOR
RETAIL AREA

Description

The site to be developed is a parcel of about two acres just east of the 24 acre landfill area south of the NFTA's Small Boat Harbor, in addition to the parking to serve the retail area. (See Figure 5.1.1)).

Planned development within this site includes retail facilities for selling small craft, marine supplies and, specialty goods, and in an adjoining building restaurant facilities. The two buildings involved may total about 25,000 sq. ft with another 15,000 sq. ft. for future expansion. They will face towards a landscaped



**Small Boat Harbor
Commercial Development**

Fig. 5.1.1

area shielding the area from the parking area serving the Small Boat Harbor. Adjacent to these buildings parking will be set aside for approximately 125 cars.

Near the retail area that is the subject of this request for development proposals, will be the NFTA's expanded Small Boat Harbor, providing 1,600 slips for pleasure craft ranging from less than 20 feet to over to 40 feet. Certain other facilities will be developed by the NFTA including a harbor-master's building, docking facilities for the charter and party boats and, after completion of the Outer Breakwater, a fisherman's center, for year-round use.

Market Potential

Pleasure boating is one of the more rapidly growing segments of the recreation market in Buffalo and early expansion of the Small Boat Harbor, to satisfy unfulfilled demands is proposed. Slips for total of 1050 pleasure craft are foreseen by 1990 and once a new breakwater is built, out along the Harbor Line, a further 550 slips can be provided.

The proposed expansion will make the Small Boat Harbor a major attraction on the Buffalo waterfront, bringing several thousand people to the area each day during spring and summer months and offering a significant market for retail activities. It is estimated that boating activities could attract 150,000 to 200,000 or more visitors annually to the area. If only a small fraction patronizes the marine-oriented retail/restaurant complex, an estimate of gross sales in the range of \$5-6 million annually is

still conservative. This will be particularly true if some of the items sold are big-ticket items, including small boats themselves.

Likely Costs and Revenues

Construction costs of the retail/restaurant complex are estimated to be in the range of \$2.5 to \$3.0 million for civil works and buildings. Gross revenues from building rentals are expected to be at least \$580,000 annually.

Improvements by the NFTA

In addition to the expansion of the Small Boat Harbor and the construction of the new breakwater (which is primarily a Corps of Engineers responsibility), the NFTA either has undertaken or will undertake the following improvements in the portion of the landfill area used earlier for disposal of dredge spoil:

- Filling of the area with competent material and placement of a 2' thick clay cap, up to rough grade elevation (about the top of the rip-rap protecting the dike). This work is underway.
- Construction of the central road across the landfill area, two roads branching out on the western side of the landfill and parking areas for 950 cars initially and later for another 650 cars (1,600 total). Spaces for 125 cars will be assignable to the retail cluster. Both the road and the parking areas will be sloped to provide surface drainage (by sheet flow), thus avoiding any piercing of the clay cap.
- Construction of a road roughly 400 feet long, linking the new road with the existing parking area on the east side of the boat basin.
- Improvement of the northern edge of the landfill area and construction of a 50 ft. wide promenade along this edge. This promenade will provide access to boat slips in the

area, as well as to the shops and restaurants.

The following utilities will be provided:

- A water line extends down Fuhrmann Blvd. to which a connection can be made.
- An extension of the present sewer line up to a manhole on Fuhrmann Blvd. near the entrance to the parking area.
- A gas line exists now under Fuhrmann Blvd. near the Small Boat Harbor. It will be up to the developer and the private utility to extend this service, if it is desired.

The above improvements and utilities are indicated on Figure 5.1.2 on the next page.

Terms and Conditions The following describes the terms and conditions governing the development of the Small Boat Harbor Recreational and Retail Area.

Form of Tenure

The NFTA will retain title to all its properties and the developer will acquire a leasehold. the period of this lease is expected to be 87 years from the time of signing the lease agreement. Lease payments shall be made annually, in advance.

Payments to the NFTA

In addition to annual lease payments, the developer shall also make the following payments to the NFTA or its designated agents:

- Payments to recover capital costs of NFTA provided improvements. Payments to be made over a ____ year period at an interest rate of ____% p.a.
- Municipal services payments (or ad valorem taxes due the City of Buffalo) on the assessed value of the improvements at current

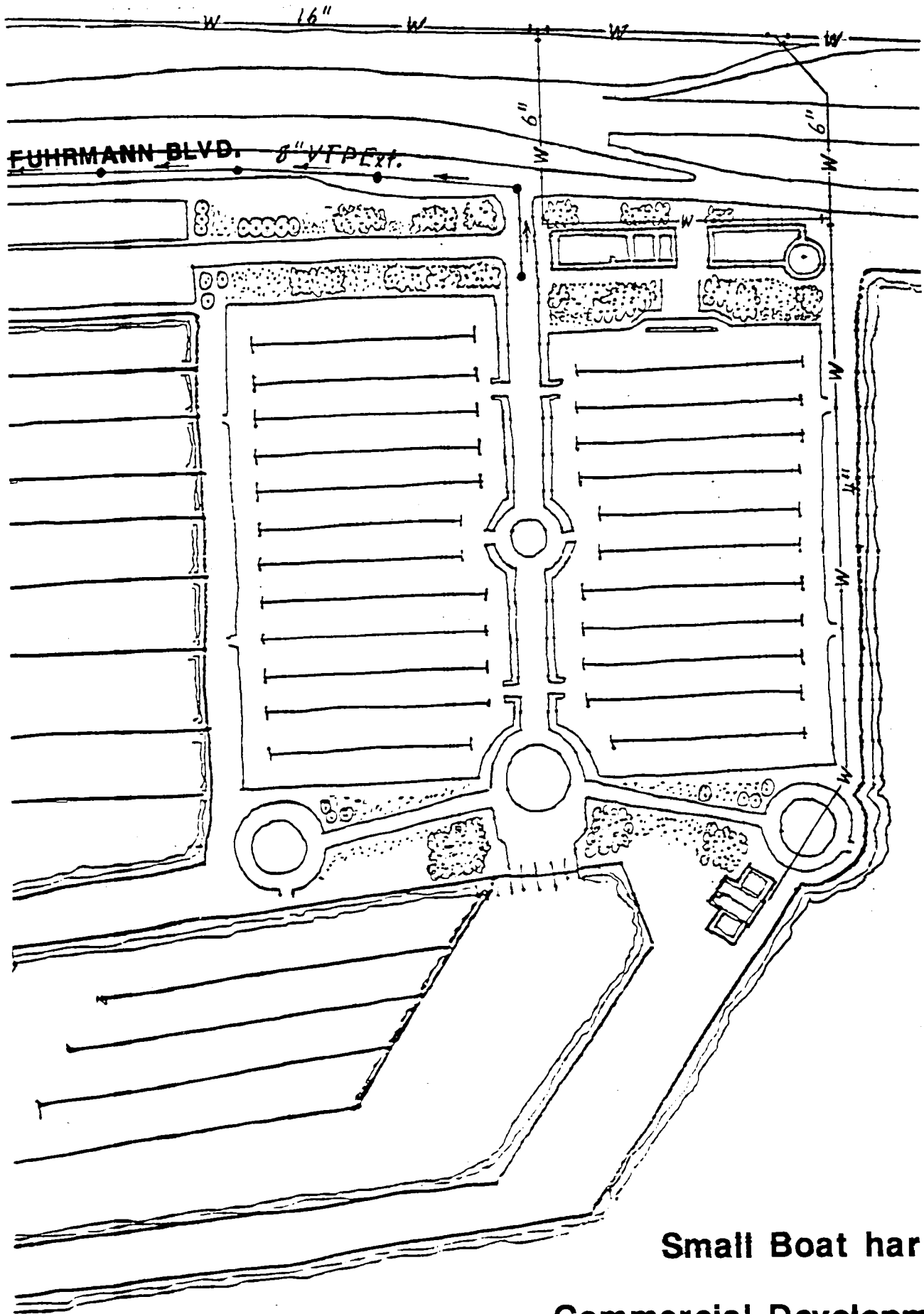


Fig. 5.1.2

tax rates (unless specific tax abatement agreements are negotiated beforehand).

- Any special assessments that may be levied upon all property owners as a class or area-wide assessments.

These payments shall be made at the intervals specified in the lease agreement.

Schedule for Development

The selected developer shall prepare a schedule that is consistent with the NFTA's overall schedule for the Small Boat Harbor. Subsequently, the developer shall be responsible for adhering to this schedule. If he should fall behind the schedule by more than ____ months, he may be subject to forfeiture of the leasehold, though he would be reimbursed for the value of work in place.

Development Guidelines

The development that is undertaken shall be consistent with the overall guidelines prepared by the NFTA, governing lot coverage, building bulk and height, parking, materials, signs, architectural treatments and climatic design features. These guidelines will form a part of the lease agreement and the NFTA will retain the right to review the developer's plans and request changes that will allow a mutually agreeable result to be attained. All improvements shall conform to the Building Code of the City of Buffalo.

Access to Adjacent Areas

The developer, his lessees and patrons of the facilities to be constructed will have access to

all adjacent public areas. (Entry to the boat slips themselves and the approach fingers will be restricted to boat owners, guests and NFTA personnel.) The developer and his lessees must not take any action, or permit their patrons to take any actions, that would harm public areas or degrade the public environment. Structures and other improvements built by the developer shall be properly maintained.

Permits

It shall be the developer's responsibility to secure all permits necessary to carry out the improvements he proposes.

Financing of Improvements

Financing of all improvements undertaken by the developer shall be his responsibility.

Security Guarantees

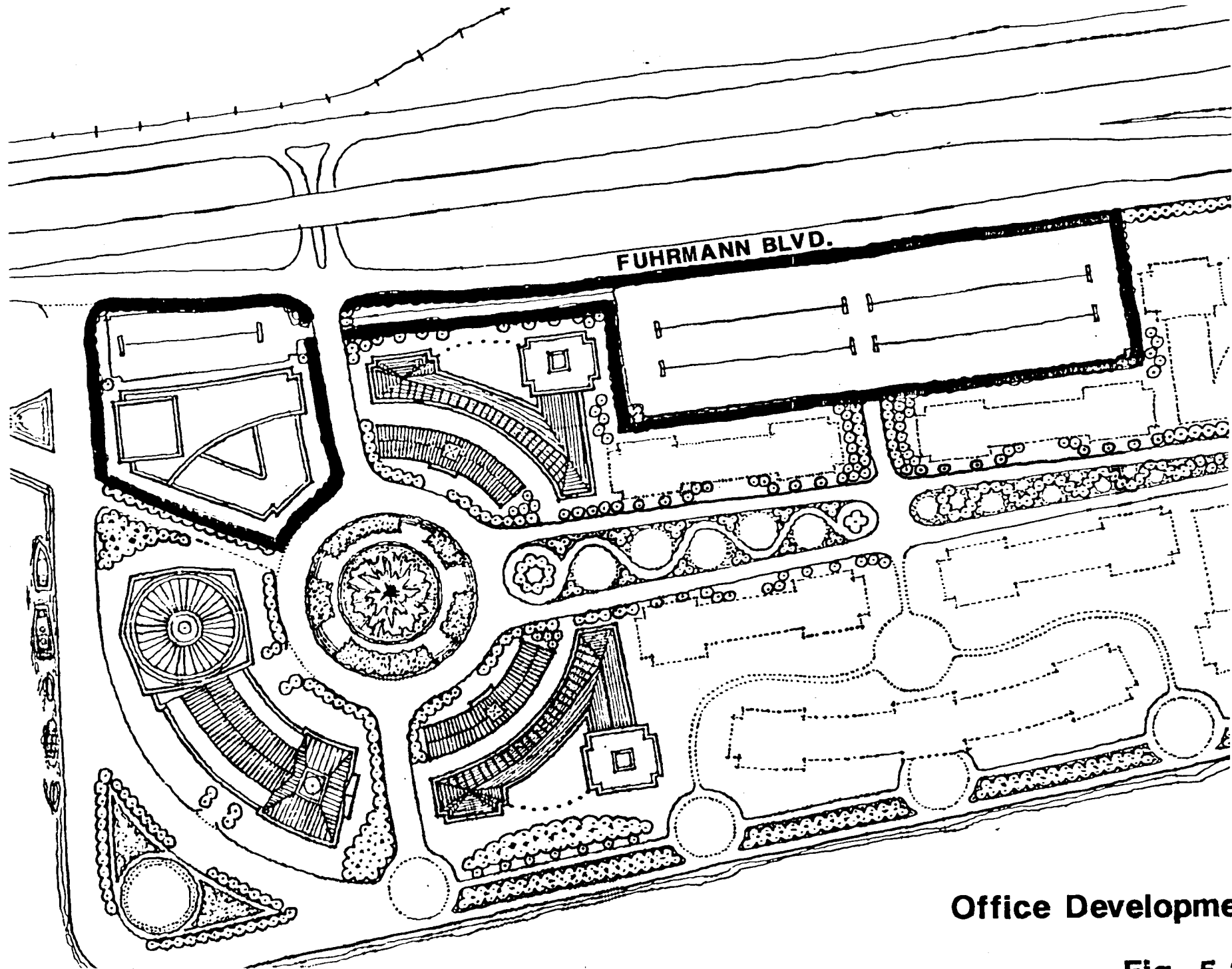
Prior to the signing of any lease agreement the developer shall furnish satisfactory evidence of his financial capability and his ability to secure the funding necessary to complete the proposed development. At the time of signing he shall provide a bond in the amount of \$....., to cover any costs, including foregone income, that the NFTA might incur should the developer fail to complete developments of the site in accordance with the plans that have been agreed to by the NFTA.

PACKAGE #2
OUTER HARBOR NORTH
OFFICE DEVELOPMENT

Description

The site to be developed for office purposes consists of three parcels totaling about 380,000 sq. ft. lying between Fuhrmann Blvd. and a landscaped interior road. The main parcel is adjacent to the Seaway Piers area, which is to be developed, by others, as a small craft harbor. The other two are about 900 feet to the south and are to be developed solely as parking areas in Phase I of the Outer Harbor North development. In subsequent phases, they may be developed as residential areas, if equivalent parking is provided in a structure adjacent to the office building on the main site. In close proximity to the office building will be the Phase I residential units and a building to be used initially as a part of the Garden Festival and later as a restaurant and commercial area. See Figure 5.2.1.

Office space at the Outer Harbor North site is not intended to compete with downtown office space and a clear commitment has been made to the Waterfront Planning Board on this score. Functions that do not require a downtown location--commonly called "back-office" functions, though other office needs may be included--can most readily be accommodated at the Outer Harbor North site. Hence, low-rise development, featuring large unbroken floor areas, ample parking and a suburban ambience (modified, however, by climatic considerations) seem most appropriate and new markets should be sought out, in cooperation with the NFTA, to avoid any drawing from



Office Development

Fig. 5.2.1

Buffalo's downtown. Proposed Phase I development consists of an office building averaging four stories in height on one parcel and open-lot parking for about 625 cars on the main parcel and the other two parcels.

**Market Potential
and Occupants to
be Sought**

As Buffalo makes the transition from an economy based on manufacturing to one that is more service oriented, the demand for new and upgraded office space is relatively strong. Most recent figures refer to downtown, which constitutes a somewhat different market from the "suburban" market that is considered more appropriate to the Outer Harbor North site but they do provide an indication of market strength. A vacancy rate of 16.2% in early 1986, which is below the national average and an absorption rate well in excess of 200,000 sq. ft. annually, characterize Buffalo's downtown office market in recent years.

At the regional level, recent growth and projections of employment in the services and the finance, insurance and real estate sectors are consistent with the relatively strong market for office space. At the same time, employment projections also indicate the desirability of seeking out and bringing new firms to the area, in order not to weaken demand for downtown space.

As the shift in Buffalo's economy continues and, particularly, if the needed new investment in office space does not materialize, demand by the

early 1990's should be even stronger. On this basis, it is believed that a market can be established for some 200,000 to 250,000 sq. ft. of new office space at the Outer Harbor by that time.

Likely Costs and Revenues

Construction costs for offices in Phase I are estimated to be in the range of \$16.0 to \$20.0 million. Revenues from building rentals are expected to be in the range of \$3.0-\$3.75 million annually.

Improvements by the NFTA

In addition to improvement of the Seaway Piers area and the provision of public amenities in that area (much of which should already be complete by the time this package goes to developers), the NFTA will undertake the following improvements:

- Construction of a main access road from Fuhrmann Blvd., plus a divided landscaped roadway, west of the parcels covered by this package, leading to the plaza on Seaway Pier 2. A main storm drain will be provided along each of these roads, plus a pipe from the parking areas, with manholes for future connections.

The following utilities will be provided:

- One water line loop around the periphery of the area to be occupied by the office building, the Phase I residential/commercial development and a building remaining from the Garden Festival. Water line extensions funded by the developer shall join the line making up this loop.
- A sewer line serving the area with a manhole located in the entrance road south of the parcel shown with the Phase I office building.

- A gas line exists now under Fuhrmann Blvd, up to what has been general cargo port area, Extension of this line to serve the office and other developments in the Outer Harbor North site will be the subject of agreements between the developer and the private utility.

The above improvements and utilities are indicated on Figure 5.2.2 on the next page.

Terms and Conditions The following describes the terms and conditions governing the development of Phase I office space at the Outer Harbor North site.

Form of Tenure

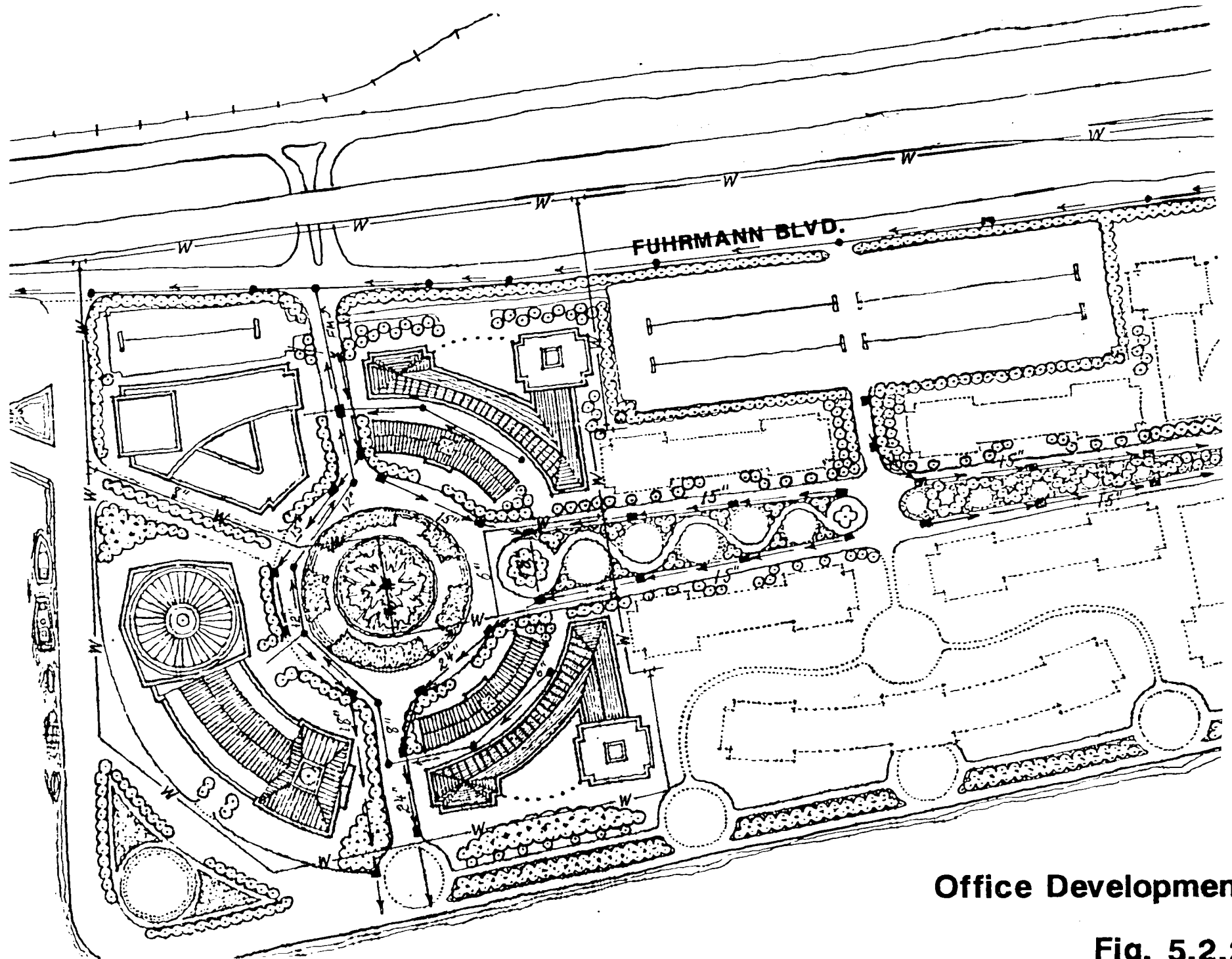
The NFTA will retain title to all its properties and the developer will acquire a leasehold. The period of this lease is expected to be 87 years from the time of signing the lease agreement. Lease payments shall be made annually in advance.

Occupants to be Sought

A special condition for development of this site shall be that the developer, in concert with the NFTA, shall seek all major tenants for the office space outside the Buffalo SMSA. Firms that are canvassed may currently be active in the Buffalo area but the specific jobs involved shall be new to the area. It is the intent of the NFTA to utilize this property for regional growth and not merely to draw jobs from other parts of the region.

Payments to the NFTA

In addition to annual lease payments, the developer shall also make the following payments to the NFTA or its designated agents:



Office Development

Fig. 5.2.2

- Payments to recover capital costs of NFTA provided improvements. Payments to be made over ayear period at an interest rate of% p.a.
- Municipal services payments (or ad valorem taxes due the City of Buffalo) on the assessed value of the improvements at current tax rates (unless specific tax abatement agreements are negotiated beforehand).
- Any special assessments that may be levied upon all property owners as a class or area-wide assessments.

These payments shall be made at the intervals specified in the lease agreement.

Schedule for Development

The selected developer shall prepare a schedule that is consistent with the NFTA's overall schedule for the Outer Harbor North. Subsequently, the developer shall be responsible for adhering to this schedule. If he should fall behind the schedule by more than ____ months, he may be subject to forfeiture of the leasehold.

Development Guidelines

The development that is undertaken shall be consistent with the overall guidelines prepared by the NFTA, governing lot coverage, building bulk and height, parking, materials, signs, architectural treatments and climatic design features. These guidelines will form a part of the lease agreement and the NFTA will retain the right to review the developer's plans and request changes that will allow a mutually agreeable result to be attained. All improvements shall conform to the Building Code of the City of Buffalo.

Access to Adjacent Areas

The developer, his lessees and patrons of the facilities to be constructed will have access to all adjacent public areas. The developer and his lessees must not take any action, or permit their patrons to take any actions, that would harm public areas or degrade the public environment. Structures and other improvements built by the developer shall be properly maintained.

Permits

It shall be the developer's responsibility to secure all permits necessary to carry out the improvements he proposes.

Financing of Improvements

Financing of all improvements undertaken by the developer shall be his responsibility.

Security Guarantees

Prior to the signing of any lease agreement the developer shall furnish satisfactory evidence of his financial capability and his ability to secure the funding necessary to complete the proposed development. At the time of signing, he shall provide a bond in the amount of \$..... to cover any costs, including foregone income, that the NFTA might incur should the developer fail to complete developments of the site in accordance with the plans that have been agreed to by the NFTA.

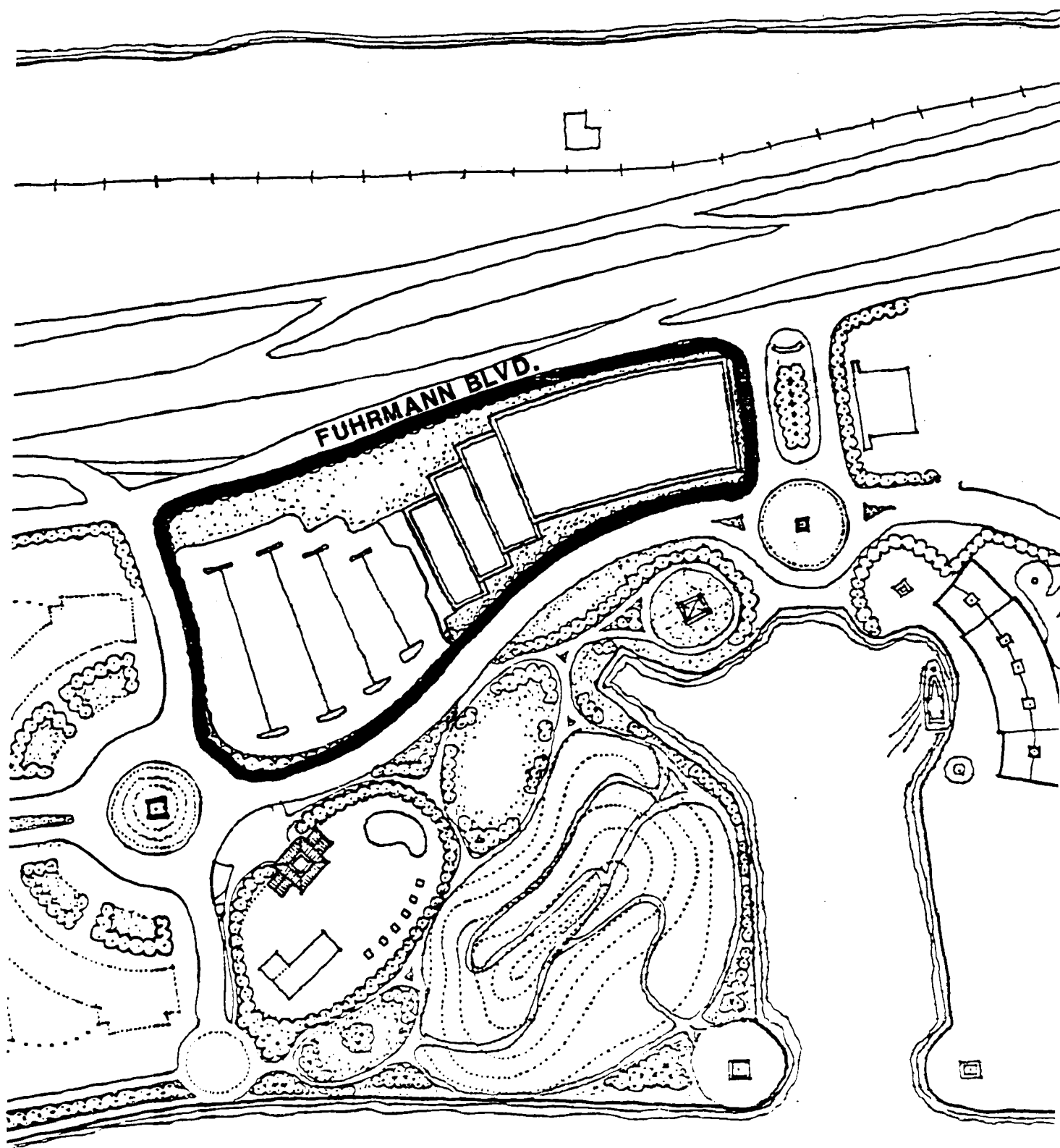
PACKAGE #3
OUTER HARBOR NORTH
RECREATIONAL COMPLEX

The site to be developed for the recreational complex is a parcel of about 300,000 sq. ft., located between Fuhrmann Blvd. and the interior road linking the Bell Slip entrance to the circle at the south end of the landscaped boulevard. Figure 5.3.1.

Possible development in the area includes facilities such as a health club, with courts for squash and racquetball, a plunge pool, exercise rooms, etc. Adjacent to the structure containing these facilities would be perhaps 10 year-round tennis courts (with fabric air-supported "bubbles"), plus locker facilities. Parking for about 225 cars could be provided. The actual mix of recreational facilities on this site would, however, be up to the developer and would reflect his own studies-subject to the concurrence of the NFTA.

Market Potential

There are a number of recreation and fitness centers in the Buffalo area at present which cater to the adult population. However, if a wide-range of recreational offerings is included in the Outer Harbor Development, it should provide the opportunity to capture a significant share of the market. The proposed recreational complex because of its mix of activities, including court games such as racquetball and squash, a possible place for indoor swimming, physical work-outs and, across the street, ice/roller skating should offer an attractive alternative to fitness-conscious residents in Buffalo.



Recreational Development

Fig. 5.3.1

Court games such as tennis and racquetball/handball continue to show strong participation rates among adult users in the Buffalo area. In a 1981 survey for the State Office of Parks, Recreation and Historic Preservation, 35.9 percent of those surveyed in the Niagara Frontier Region indicated that they played tennis at least once during the previous year. While only 14.2 percent played racquetball/handball once during the year, if these participation rates are adjusted for differences in age, sex and income, the percent of the population playing tennis decreases to 28.0 percent and the proportion playing racquetball or handball increases to 16.3 percent. Assuming that these shares remain constant through 1990, these figures represent a future demand of 104,000 tennis and 60,500 racquetball players.

Given the market that exists, a location such as this one, adjacent to a major commuting route and near a likely office complex, may be particularly favorable for both the health club and year-round tennis.

Likely Costs and Revenues

Construction costs for the various components of the recreational complex are estimated to be roughly \$2.0 - \$2.2 million for the health club, and \$1.1 million for the tennis courts with fabric "bubbles", with parking for both sets of facilities.

Revenues from rental of the health club facility are expected to total about \$300,000 - \$400,000

annually. Tennis courts revenues stemming from operation may be in the range of \$150,000 annually.

Improvements by the NFTA

In addition to the improvement of the Bell Slip area and the provision of public amenities in that area (much of which should be complete by the time this package goes to developers), the NFTA will undertake the following improvements:

- Construction of the Bell Slip entrance road from Fuhrmann Blvd, the landscaped boulevard and the road linking them which passes in front of the recreational complex. Storm drains will be provided along each of these roads, with manholes for future connections.

The following utilities will be provided:

- A water line loop extending from Fuhrmann Blvd. along the Bell Slip entrance road, passing along the road in front of the recreational complex then turning back through the parking area next to the complex to link up with the pipe along Fuhrmann Blvd.
- A sewer line from the swimming area in the Bell Slip Park that will pass through the parking area for the recreational complex. A manhole in this area will allow a connection to be made.
- A gas line exists now under Fuhrmann Blvd between Tifft Street and what has been the general cargo port of the NFTA. Extension of this line to the north to serve the Outer Harbor North site will be the subject of agreements between the developer and the private utility.

The above improvements and utilities are indicated on Figure 5.3.2 on the next page.

Terms and Conditions The following describes the terms and conditions governing the development of the recreational complex parcels at the Outer Harbor North site.

Form of Tenure

The NFTA will retain title to all its properties and the developer will acquire a leasehold. The period of this lease is expected to be 87 years from the time of signing the lease agreement. Lease payments shall be made annually in advance.

Payments to the NFTA

In addition to annual lease payments, the developer shall also make the following payments to the NFTA or its designated agents:

- Payments to recover capital costs of NFTA provided improvements. Payments to be made over a ____ year period at an interest rate of ____% p.a.
- Municipal services payments (or ad valorem taxes due the City of Buffalo) on the assessed value of the improvements at current tax rates (unless specific tax abatement agreements are negotiated beforehand)
- Any special assessments that may be levied upon all property owners as a class or area-wide assessments.

These payments shall be made at the intervals specified in the lease agreement.

Schedule for Development

The selected developer shall prepare a schedule that is consistent with the NFTA's overall schedule for the Outer Harbor North. Subsequently, the developer shall be responsible for adhering to this schedule. If he should fall

behind the schedule by more than ____ months, he may be subject to forfeiture of the leasehold, though he would be reimbursed for the value of work in place.

Development Guidelines

The development that is undertaken shall be consistent with the overall guidelines prepared by the NFTA, governing lot coverage, building bulk and height, parking, materials, signs, architectural treatments and climatic design features. These guidelines will form a part of the lease agreement and the NFTA will retain the right to review the developer's plans and request changes that will allow a mutually agreeable result to be attained. All improvements shall conform to the Building Code of the City of Buffalo.

Access to Adjacent Areas

The developer, his lessees and patrons of the facilities to be constructed will have access to all adjacent public areas. The developer and his lessees must not take any action, or permit their patrons to take any actions, that would harm public areas or degrade the public environment. Structures and other improvements built by the developer shall be properly maintained.

Permits

It shall be the developer's responsibility to secure all permits necessary to carry out the improvements he proposes.

Financing of Improvements

Financing of all improvements undertaken by the developer shall be his responsibility.

Security Guarantees

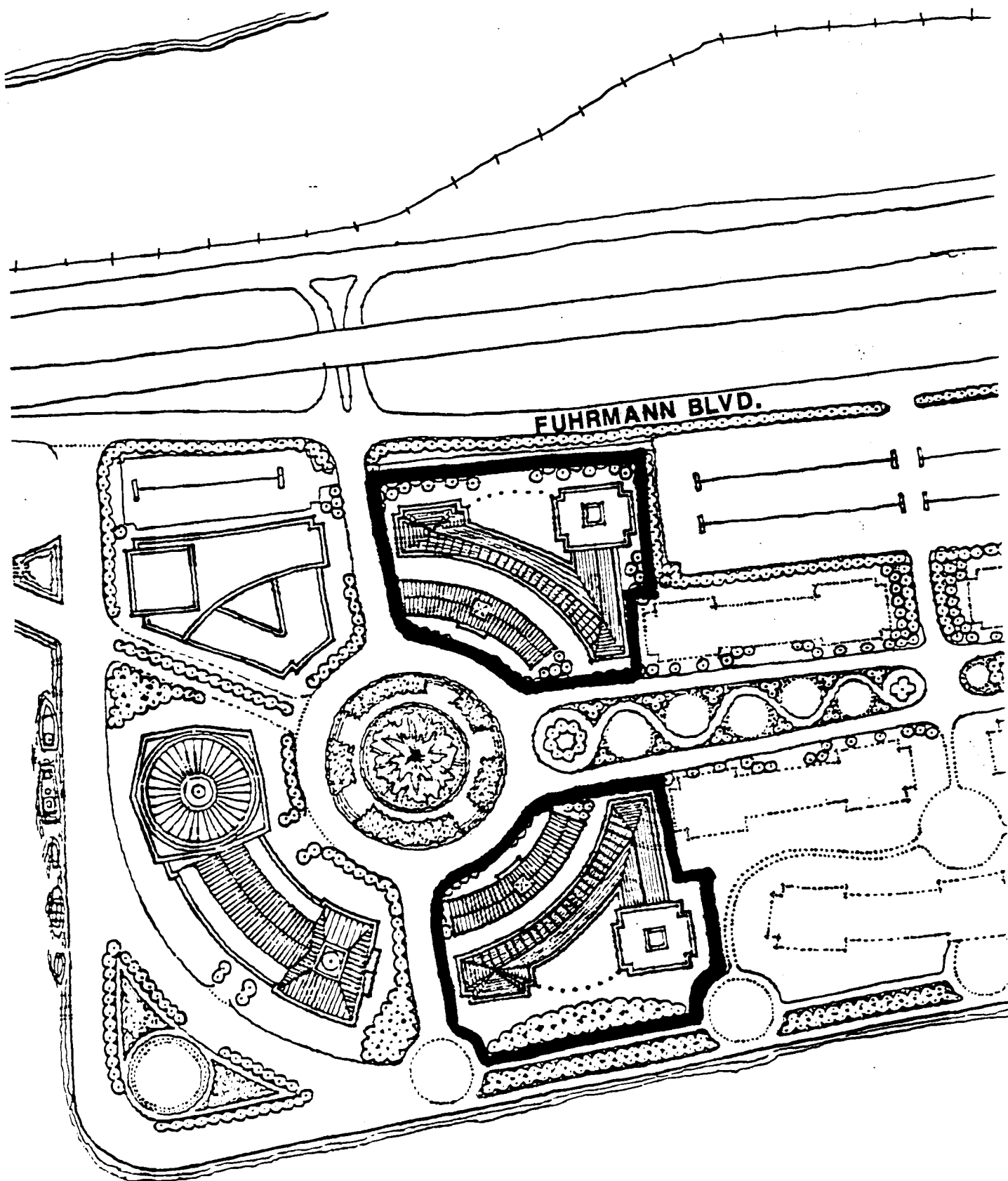
Prior to the signing of any lease agreement the developer shall furnish satisfactory evidence of his financial capability and his ability to secure the funding necessary to complete the proposed development. At the time of signing, he shall provide a bond in the amount of \$....., to cover any costs, including foregone income, that the NFTA might incur should the developer fail to complete developments of the site in accordance with the plans that have been agreed to by the NFTA.

PACKAGE #4

OUTER HARBOR NORTH RESIDENTIAL DEVELOPMENT

The two parcels to be developed initially at the Outer Harbor North site for residential uses and convenience shopping lie on the southern side of a landscaped circle that is also bounded by the office building and a building from the Garden Festival that is to be adapted as a restaurant, commercial space and exhibit area. Views of the Seaway Piers and Lake Erie will be possible from the residences. The area of the two parcels totals about 297,000 sq. ft. See Figure 5.4.1.

Proposed Phase I development consists of approximately 250 residential units, including possible townhouses and apartments in low to mid-rise buildings. The condominium form of



Residential Development

Fig. 5.4.1

ultimate ownership is presently considered most likely, though the developer may find another form to be more appropriate, yet still acceptable to the NFTA. Given the relatively small number of units, Phase I housing will be unsubsidized, market-rate units, targeted at those without children and containing from 1,000 to 1,300 sq. ft. of space in each. Public policy dictates, however, that in later phases, and as markets strengthen, some government-assisted or cross-subsidized units will be provided for families of moderate means.

Approximately 10,000 to 12,000 sq.ft. of convenience shopping area may be developed for convenience shopping to serve both residents and office workers. They would be developed as rental properties.

Market Potential

Key forces driving overall demand for housing are the expected future population (projected or targeted) and average household size. The rate of demolition is also an important factor.

As discussed in the chapter on the regional economy and future prospects for Buffalo, there is a wide difference between estimates of future population based upon projections of past trends and population "targets" based upon further shifts in the regional economy and specific initiatives by local officials and business leaders to foster a sense of renewal.

Mid-range projections of the City's population, based on recent trends, indicate a slowed rate of decline and a population of about 323,000 by

year 2000. A continuing drop in the size of the average household and an assumed loss of 700 units per year through demolition or conversion would create a net demand for about 600 housing units per year over the 20 years from 1990 to 2010.

On the other other hand, population targets established near the beginning of the Buffalo Waterfront Study indicated a turnaround and a potential population by Year 2000 of 385,000 in the City of Buffalo. If population were to move towards this level, and assuming comparable declines in average household size and losses in existing housing stock, a total of 25,800 housing units would be needed between the years 1990 and 2000; roughly 2,600 per year.

In the five years between 1990 and 1995, therefore, from less than 2,500 up to about 12,900 households will be seeking housing. Looking at the higher end of this range and estimating that about 6.75% of the population (those with over \$35,000 in income in the early 1980's) can afford a unit in the mid to luxury range means a potential market of 850 housing units, if Buffalo's economic turnaround can be realized. Other sites within the City can attract the same market group, but a waterfront site with the proper mix of amenities and once other development in the area is underway could attract up to 1/3 of that group: particularly younger professionals, with both husband and wife working, initially attracted to Buffalo by the shift in the economy towards services.

**Likely Costs and
Revenues**

Construction costs for an estimated 250 residential units, including site costs, will be in the range of \$17.5 to 22.5 million. Selling prices, assuming that land rental and the developer's contribution to site improvements by the NFTA are factored into the price of the units, will be in the range of \$105,000 to \$135,000 per unit.

**Improvements by
the NFTA**

In addition to the improvement of the Seaway Piers and the provision of public amenities in that area (which should be essentially complete by the time this package goes to developers), the NFTA will undertake the following improvements:

- Construction of the main access road from Fuhrmann Blvd. and the divided landscaped boulevard that separates the two residential parcels. Main storm drain will be provided along both of these roads and around the circle where they intersect, with manholes providing for future connections.
- Development of a shoreline park area for passive use, which will include (depending upon the results of specific analyses) a mix of plantings, earth forms and structural solutions to ameliorate the microclimate found within the Outer Harbor North site.

The following utilities will be provided:

- A water line loop around the periphery of the area to be occupied by the residential units, the office building and the building remaining from the Garden Festival. The developer's water lines will connect with this loop.
- A sewer line starting at the western residential parcel, passing around the circle, then along the access road to the main sewer along Fuhrmann Blvd.

- A gas line exists now, under Fuhrmann Blvd. up to what has been the general cargo port area. Extension of this line to serve the Outer Harbor North site will be the subject of negotiations between the developer and the private utility (by the time this package goes to developers, this extension may have already been negotiated by the developers of the office and recreational complexes).

The above improvements and utilities are indicated on Figure 5.4.2 on the next page.

Terms and Conditions The following describes the terms and conditions governing the development of the Phase I residential units at the Outer Harbor North site:

Form of Tenure

The NFTA will retain title to all its properties and the developer will acquire a leasehold. The period of this lease is expected to be 87 years from the time of signing the lease agreement. Lease payments shall be made annually in advance.

Payments to the NFTA

In addition to annual lease payments, the developer shall also make the following payments to the NFTA or its designated agents:

- Payments to recover capital costs of NFTA provided improvements. Payments to be made over ayear period at an interest rate of% p.a.
- Municipal services payments (or ad valorem taxes due the City of Buffalo) on the assessed value of the improvements at current tax rates (unless specific tax abatement agreements are negotiated beforehand).
- Any special assessments that may be levied upon all property owners as a class or area-wide assessments.

These payments shall be made at the intervals specified in the lease agreement.

Schedule for Development

The selected developer shall prepare a schedule that is consistent with the NFTA's overall schedule for the Outer Harbor North. Subsequently, the developer shall be responsible for adhering to this schedule. If he should fall behind the schedule by more than ____ months, he may be subject to forfeiture of the leasehold.

Development Guidelines

The development that is undertaken shall be consistent with the overall guidelines prepared by the NFTA, governing lot coverage, building bulk and height, parking, materials, signs, architectural treatments and climatic design features. These guidelines will form a part of the lease agreement and the NFTA will retain the right to review the developer's plans and request changes that will allow a mutually agreeable result to be attained. All improvements shall conform to the Building Code of the City of Buffalo.

Access to Adjacent Areas

The developer, his lessees and patrons of the facilities to be constructed will have access to all adjacent public areas. (Entry to the boat slips located in the Seaway Slip will be restricted to boat owners, guests and NFTA personnel.) The developer and his lessees must not take any action, or permit their patrons to take any actions, that would harm public areas or

degrade the public environment. Structures and other improvements built by the developer shall be properly maintained.

Permits

It shall be the developer's responsibility to secure all permits necessary to carry out the improvements he proposes.

Financing of Improvements

Financing of all improvements undertaken by the developer shall be his responsibility.

Security Guarantees

Prior to the signing of any lease agreement the developer shall furnish satisfactory evidence of his financial capability and his ability to secure the funding necessary to complete the proposed development. At the time of signing he shall provide a bond in the amount of \$....., to cover any costs, including foregone income, that the NFTA might incur should the developer fail to complete developments of the site in accordance with the plans that have been agreed to by the NFTA.

CHAPTER 6

SITE MANAGEMENT PLAN

EARLY ACTIONS

In establishing the desirability of the Outer Harbor as a site for development activities, the NFTA is concerned with, first: the issue of where to start--how can the NFTA begin to get people out to the Outer Harbor (particularly the Outer Harbor North site)--and, second: the issue of appropriate activities--what is marketable and what will complement the activities that will be found at the foot of Main Street.

Getting people to the Small Boat Harbor is not a real problem, since it is already a popular spot. The chief restraint on further development have been funding and environmental clearances for constructing the new breakwater and completing the adjacent landfill area. Clearance for the latter has now been received, so this restraint is removed.

Getting people out to the Outer Harbor North site may be a rather slow process because of its present image, the fact that outdoor activities will only be possible for half a year (at least until there are enough built forms to block and divert the wind) and that significant private investment is unlikely before the area's image is changed. Clearing the present coke transshipment operation off Seaway Pier 1, rehabilitating this pier¹ and landscaping it, as well as starting a similar rehabilitation and partial

¹This involves restoration of the exposed concrete and minor sheet pile repairs at a relatively modest cost.

paving of the Seaway Pier 2 apron, is essential to changing the image of the area. The existing sheds on Pier 2 should be looked at in terms of their potential for short-term reuse as shelters or possible stage areas for outdoor presentations. If the plan recommended originally were retained, an important but difficult task would be to build the institutional momentum for the funding and development of the indoor/outdoor Maritime Museum that will ultimately be a focus for Seaway Pier 1. This task will be obviated if the alternative plan is adopted, but it will still be necessary to develop the excursion boat landing and, perhaps, to still bring in some replica vessels and schedule some public events.

Regarding possible activities, those that focus upon Buffalo's history as a center of lake and canal transport may be the most appropriate but they may be limited in number. Regattas may be held in the Outer Harbor, for which the Seaway Piers would be excellent vantage points. The remainder of the Outer Harbor area would have the space and regional access for visiting circuses, fire displays and, on calm days, tethered balloon events (nearby elevators may be present hazards to free balloons.) Buffalo is a city with a number of ethnic groups and Seaway Piers 1 or 2 may be quite suitable for performances by ethnic dance troupes, concerts and as the number of people grows (though it may remain at modest levels for a while), other developments can be started. Most important, however, if it can be obtained for Buffalo, will be the Garden Festival that is proposed for the Outer Harbor.

To foster people's awareness of the area, permanent improvements on Seaway Pier 1 and, possibly, the edge of Seaway Pier 2, could be the subject of an architectural competition. The plan described in Chapter 3 is intended as an inspiration; a more definitive program would be developed on the basis of those uses that actually prove to be most successful.

During the time the above is taking place, negotiations for the relocation of the first south-bound off-ramp from N.Y.S. Route 5 and for the establishment of a unified Great Lakes research facility should be advanced with the appropriate state and federal authorities.

STAFF AND ORGANIZATION

The work of developing the Outer Harbor properties, using public and private funds and employing the talents of private developers will require a special unit dedicated solely to this development, as well as some additional skills beyond those found now in the NFTA's organization. Other skills already exist in various units of the NFTA.

As to the location of this special Outer Harbor Unit within the NFTA's organization, this would be an internal policy decision by the NFTA Board, for which TAMS makes no recommendation. Formation of the Unit will be governed by the language of the legislation needed to expand the NFTA's role beyond transportation projects only.

Among the skills and areas of specialization that must be brought to the development task, by members of the Special Outer Harbor Unit, by other departments of the NFTA or by outside consultants are: imaginative leadership, public relations, promotion, programming of special events and various technical skills required to contract for design, construction and, later development of specific parcels.

Skilled and imaginative leadership must be provided by the head of the Special Outer Harbor Unit itself, though he or she may be supported by an advisory body of active citizens with contacts in various local community and service organization. Pragmatism and the capacity to seek out and exploit opportunities are important attributes.

Public relations should be a part of the Special Outer Harbor Unit and would include working with local groups to explain the NFTA's plans on a continuing basis and obtaining their support by building on current knowledge of the public's priorities.

Promotion of development will apply particularly to two areas of concern. One is the generation of momentum for the attractions at Seaway Pier 1, as discussed above. Programming of special events should be a full-time job for someone within the Special Outer Harbor Unit with a knowledge of local organizations, what volunteer talents are available and where funds for local festivals etc. can be obtained. This person

would be responsible for estimating the costs of each event, and recruiting and managing volunteers to develop programs--allowing them the chance to get in on city events and see something permanent come from their efforts. This work will take time. The other area of concern is the development of office space. This should involve an outside firm with a knowledge of the space needs of companies in New York City, Chicago and other major centers; how to tailor an offering to meet these needs; and how to affect their decisions on facility location.

Elaboration and updating of financial plans, selecting financial instruments and securing funding for Outer Harbor projects to be carried out by the NFTA should also be the responsibility of a member of the Special Outer Harbor Unit, though he or she would work closely with the NFTA's legal and financial units in dealing with various state agencies, underwriters, brokers, etc.

Some technical skills should be found within the Special Outer Harbor Unit--particularly those needed to develop scopes of services and costs for the design and construction of infrastructure and, later, prepare documents to solicit offers from developers. Other technical skills will be provided by other units within the NFTA, such as engineering and legal services, that would support the Special Outer Harbor Unit.

The Special Outer Harbor Unit, therefore, would start with a professional staff of four or five people, plus clerical staff, and might later be

expanded by one or two people as negotiations with developers become more important. Support services, such as design review, supervision of construction, finalization of contracts, etc., should be provided by other units in the NFTA.

At a later date, the Special Unit will take on the added tasks of administering the rental of individual properties at the Small Boat Harbor and the Outer Harbor North and monitoring the performance of developers, in terms of their adherence to the Development Guidelines that are outlined below and referred to in the individual developers' packages. At that time, some of the earlier tasks of promotion and event programming may be dropped, or modified. There may still be an interest in attracting people to the area, particularly if the Seaway Piers area is to have activities that will complement those at the foot of Main Street, so the person with that assignment may be busier than ever. The need for continuing promotion of the Outer Harbor beyond Phase I will depend upon the pace of development and market conditions in the years following 1995.

DEVELOPMENT GUIDELINES

The Outer Harbor Development Plan presented in the preceding chapters describes a vision for a new community on the Buffalo Lakefront as well as the first phase of this community. It is the culmination of a multi-year planning effort which has benefited from the input and involvement of not only the NFTA, but the City of Buffalo, the State DOT, various public groups and consultants. It is recognized that the plan has room to grow. Private developers and their architects will bring creative solutions to the

various components of the community. The overall site plan will mature as the urban and landscape design of public spaces is carried out.

However, either one of the Development Plan speaks to a vision of the character of the community that will grow at Outer Harbor to the types of uses which will be developed and to the overall quality of the environment which is sought. To this end, a set of development guidelines are provided which provide a framework within which individual development efforts are to be carried out.

The guidelines presented herein are intended to assist the designers and developers of various components of the community in achieving the following goals:

- Creating a suitable "Gateway to Lake Erie" -a new community which expresses Buffalo's rich heritage as well as a bright future;
- Developing a community of diverse activities and interests which serves all of Buffalo as well as visitors from outside the Region; while,
- Creating and reinforcing a "sense of place" and a distinct identity for this community through coherence in the design of public spaces and private developments; and,
- Addressing the rigorous demands imposed on the community by natural conditions, including climatological and environmental considerations.

The guidelines are preliminary in nature and will no doubt see refinement prior to implementation. They discuss means by which the above goals may be realized by development undertaken by both public agencies, whose responsibilities

include the design and construction of public spaces, and private interests, who will provide the office, recreational, and residential developments.

Public Spaces

The public spaces and circulation system compose the primary organizing elements of the Outer Harbor community. The nature and quality of these components of the plan will establish the overall quality which must guide subsequent development phases.

The NFTA will prepare a landscape plan and design for all public spaces on the Outer Harbor for which it will have ultimate responsibility for development and installation. These will include the following.

Outer Harbor North:

- Fuhrmann Boulevard Street Edge
- Access Roads
- Boulevard
- Seaway Piers Development
- Lakefront Promenade
- Bell Slip Park

Small Boat Harbor:

- Roads and Lots
- Promenade and Green Spaces
- Fisherman's Center
- Marinas and Berthing Areas

The landscape elements selected for the above projects will provide the basis for landscaping and design treatments for all subsequent development. While it is not the purpose of these guidelines to impose a conformity to individual project design, the use of standard landscape design vocabulary will provide a sense of coherence to the entire Outer Harbor development.

Where appropriate elements of the design vocabulary of existing waterfront projects, such as Erie Basin Waterfront Village, Naval Park, etc., will be utilized to reinforce a sense of coherence along the City's waterfront.

The project elements designed and installed by the NFTA will include:

- Paving treatment for promenades, sidewalks and pedestrian paths;
- Granite curbing material
- Planting scheme for public areas;
- Street tree scheme for the Boulevard, including publicly (median) and privately (sidewalk) develop components;
- Street furniture design guidelines, including standard designs for light posts, benches, kiosks, and other elements;
- Signage system for motorists and pedestrians including directional, interpretive, and informational signs;
- Fencing standards, including guard rails for water's edge and security treatment for residential areas and public paths.

While the design vocabulary will be developed, and certain project components installed by the NFTA it is expected that certain areas, at the edge between public and private areas will be developed by private interests. These areas will include sidewalks and landscaped areas fronting public projects.

Private Developments The private development projects are encouraged to reflect the creative design solutions for a diversity of activities. This diversity will provide an essential ingredient to creation of an "urbanness" within the Outer Harbor Development.

It is equally important, however, that the overall urban design plan for the community be reinforced by the individual development projects. This coherence will provide an essential ingredient in creating a "sense of place".

Design guidelines will be established for specific projects. These will describe among other factors, building height, density, bulk and setbacks. Key elements of the guidelines which express the general philosophy behind the guidelines are described below.

Overall height limitations on buildings in the Outer Harbor North Development will be set at 5 to 6 stories for office and most residential development. As suggested in the site plan, allowance will be made for some towers of up to 10 stories within the residential development.

The basis for this lies in a desire to preserve a sense of openness in the waterfront landscape avoiding the "Gold Coast" syndrome, creating a wall of high rise towers along the waterfront, limiting views and vistas for all but the residents. It also recognizes the powerful presence of the City's grain elevators, allowing them to maintain a dominance in the skyline of Buffalo.

A consistent streetwall is recommended for private development along the Boulevard. This refers both to setback as well as building height. Residential towers fronting the boulevard will be set back behind the street wall. This guideline is included to reinforce the formality of the Boulevard as well as to emphasize the activity centers and monumental "events" planned for its end points.

The formal Boulevard is planned to be the activity spine of the community, complementing the tourism-recreation center of the Seaway Piers. It is essential that the Boulevard, its sidewalks and median parkway maintain a sense of activity and vitality. Office development along the Boulevard will be required to provide windows and entrances fronting the street to convey activity on a human scale. Residential and, if feasible, office development fronting the Boulevard would be encouraged to provide service-oriented commercial activities on the ground floor.

The land use, urban design, and building massing elements of the development plan reflect a concern for addressing climatic and micro-climatic issues. Care has been taken to avoid creation of voids and "wind tunnels" and to protect against lake-effect summer and winter storms. The designs proposed for components of the Outer Harbor developments will need, individually and collectively, to respond to these considerations. The results of the Cornell University/-Sea Grant Institute Land scape/microclimate

Study are expected to provide direction in achieving this end.

The Seaway Piers development is intended to provide, together with the Foot of Main Street, a tourism and recreation focus of national prominence. The Outer Harbor development in general, is to attain a special stature as a regional showcase--Buffalo's newest community, located on its greatest natural asset - Lake Erie. As such, the overall quality of design, including use of materials, acknowledgement of the special character of open spaces, and sensitivity to the interrelationships between buildings and development components will assume a high level of importance in evaluating and selecting a course for the development of the Outer Harbor.

CHAPTER 7

ENVIRONMENTAL CONSIDERATIONS - BUFFALO OUTER HARBOR

EXPANSION OF SMALL BOAT HARBOR

General

Expansion of NFTA's small boat harbor involves construction of a new breakwater dike outboard of the existing breakwater by placement of stone and fill materials on the harbor bottom. The new dike would be reached via an existing landfill constructed from Outer Harbor dredged sediment. The existing dike has deteriorated and will be repaired as part of the expansion project.

It is estimated that construction of the new dike and repair of the existing breakwater will require filling about 6 acres of lake bottom aquatic habitat. However, as a partial replacement, 3 to 4 acres of new habitat would result from the subaqueous rock slopes of the new and reconstructed breakwaters.

Construction of the Small Boat Harbor's expansion facilities and the resultant loss of aquatic habitat are likely to be the impacts of most concern when project approvals are sought from regulatory agencies. A secondary concern would arise if disturbance to the dredged material disposal area were to occur during construction. The issue would be discharge of pollutants and contaminants back into lake

waters. No disturbance of these materials is planned, however.

Ecological Habitat

Harbor sediment sampling was reported by the Corps of Engineers in their 1982 "Biological Survey" of Buffalo River and Outer Harbor. Their results indicate that the Small Boat Harbor's substrate consists of sand-gravel-cobble materials. The same is true for the cove or embayment south of the former dredged disposal area. In deeper waters (beyond the marina) the substrate changes to a dark brown gelatinous type sediment. The precise nature of sediments at the proposed construction site cannot be fully ascertained from available data.

In their June 1984, Section 107 "Reconnaissance Report" the Corps of Engineers shows Small Boat Harbor depths in ranging from 3 to 7 feet. Water depth outside the breakwater is typically 7 to 17 feet while the Outer Channel Channel has about 27 feet of water. In the southern cove up to 5 feet of water occurs. Thus the proposed breakwater site is in deeper water than now occurs at the marina and cove.

Recently New York State Department of Environmental Conservation (DEC) determined the Small Boat Harbor to be a "significant coastal fish and wildlife habitat". They have concluded that the harbor is one of the most important fish and wildlife habitats in the Buffalo metropolitan region because it provides substantial protection for fish, wildlife and aquatic vegetation. That agency includes the marina, the southern embayment and all water west of the existing

breakwater (out to the channel) within their limits for the Small Boat Harbor.

The Corps' 1982 Biological Survey found the southern cove to be covered with a luxuriant growth of aquatic macrophytes (water milfoil, wild celery and pondweeds). By September of the year this embayment was described as choked with weeds. Similarly the present Small Boat Harbor was found to contain abundant aquatic vegetation. West of the basin area (along the lakeside face of the existing breakwater) the Corps also reports the presence of aquatic vegetation; such vegetation disappears in deeper lake waters near the ship channel.

Both DEC and the Corps state that the marina and cove are diverse and productive fish habitats and this has been confirmed in the more recent study by James R. Spotilla, et al, of the State University College at Buffalo. Adult pumpkin seed, yellow perch, brown bulkhead, largemouth bass, rock bass, muskellunge, carp and freshwater drum are among the fish found in these waters. Game fish forage for yellow perch, rock bass and shiners within the small boat harbor area. The quality of fish habitat is a result of interactions between a number of factors: shallow quiescent water (due to several protective breakwater structures); the nature of substrate; presence of aquatic vegetation; acceptable water quality; and availability of shelter in the random rock facing of existing breakwater structures.

While the two embayments (the marina and southern cove) are relatively well described in DEC, Corps and Spotilla documents, the site of the proposed breakwater is not treated as completely. The deeper water area outboard of the existing dike is likely to provide poorer habitat for near-shore fish because of swifter currents and lower abundance of aquatic vegetation. Vegetation will be affected by degree of light penetration (less in deeper waters) and by the nature of bottom substrate (gelatinous mud-like material appears in deeper waters according to the Corps). Therefore, an adequate assessment of new breakwater construction should be based on obtaining some additional data on conditions outboard of the existing dike.

The Corps of Engineers in their Section 107 Study and James Spotilla, et al, in their study conclude that the loss of 6 acres of bottom habitat (at the new dike's base) would be partially offset by creation of 3 to 4 acres of subaqueous rock slope habitat. It is their view that the fisheries impact of this action is a minor negative consequence. The Corps has further determined that social benefits in terms of additional recreational activity are a major project benefit.

The N.Y. State DEC concludes in its "finding of significant habitat" that, since existing conditions in the area are largely the result of human activities, considerable allowance should be given to construction and maintenance of harbor structures. The State feels that installation of new breakwaters would not cause

significant habitat loss unless they involve substantial filling in shallow areas.

Based on available data and the findings of two agencies, construction of the new breakwater is not expected to remove significant fish habitat. It is possible that the larger embayment created by a new dike would actually increase available habitat. A better analyses of trade offs between existing conditions and those likely to occur after construction should be based on additional data outboard of the existing breakwater.

Soil Contamination

Forming the southern limit of NFTA's small boat harbor is a former diked disposal area landfill created by placement of dredged material. This area, when filled, will provide access to the new breakwater and was originally intended to support marina related facilities such as the restaurant and retail cluster described earlier. In their July 1985 "Evaluation of Environmental Constraints" document, Erie County DEP referred to U.S.G.S. groundwater tests within the sediment disposal site. As noted in Chapter 2, an investigation of this area that included chemical tests of soil and water samples was carried out in 1987 by Empire Thomsen Inc. As a result of this work, a clay cap to seal the entire area has been recommended and it has been deemed inadvisable to have any permanent uses located on this fill. Accordingly, it will be used for parking only.

During a July 2, 1986 meeting in DEC's Region IX offices, the Department stated that any development placed on the dredged material should also be designed so that no discharge of contaminants to Outer Harbor would occur. This requirement is still in force.

REDEVELOPMENT OF SEAWAY SLIPS AND NFTA BULK PORT AREA

General

Redevelopment of Seaway Piers and the bulk port site, as described elsewhere in this report, does not involve significant construction in Federal or State regulated waters. At The Seaway Piers some repairs to the existing pier structures are necessary. Commercial and residential development at the bulk port site will require some improvement to existing slope protection but realignment of the waterfront would not be needed.

Consequently, the most relevant environmental issues associated with the redevelopment project are the land use issues, which have been discussed at length in earlier chapters of this report, and subsurface contamination. The potential for soil contamination exists because the bulk port site had been a former dumping area.

Soil Contamination

According to Erie County DEP, the bulk port site was created by filling along the Lake Erie waterfront. It is reported that fill materials included ash, construction debris, foundry sand, and dredged material.

The USGS performed a sampling program at the site in 1982. Results of testing four soils samples showed little in the way of elevated metals concentrations. Data beyond these four analyses are not available.

In recent discussions with Mr. Peter Buechi it was determined that DEC has recently completed its Phase I reconnaissance survey for the site and will be releasing its report on this phase shortly. A Phase I report typically consists of a compilation of all relevant data for a location, an assessment of that data, and recommendations on disposition of the site. The agency can recommend either that further testing (Phase II program) is needed or that more work is not necessary.

Goldberg, Zoino Assoc., in a letter report to NFTA (October 18, 1984) reviewed the USGS testing program and concluded it was inadequate for a number of reasons. Among them were failure to obtain groundwater samples, lack of organics testing and use of an auger for sampling. They recommended a more complete subsurface investigation be accomplished prior to issuance of DEC's Phase I report.

There continues to be a need for additional data on trace subsurface contaminants at the bulk port. The reasons for obtaining the information should, however, be made clear. This report proposes residential/commercial development in which year round occupancy of structures would occur. The additional data are not primarily needed to assess potential ecological problems

in Lake Erie but rather to confirm that long term human habitation is reasonable. While none of the existing information suggests the presence of significant toxics, confirmation by an appropriate sampling program is warranted.

REGULATORY APPROVALS

Small Boat Harbor Expansion

Expansion of the boat harbor involves placement of fill in waters of the United States and the State of New York. Consequently, the U.S. Army Corps of Engineers and New York State DEC could have regulatory jurisdiction over the proposal.

The River and Harbors Act (particularly Section 10) and the Clean Water Act (Section 404) require the Corps to review projects involving work in navigable waters and placement of fill in U.S. waters. Construction of a new breakwater outboard of the existing dike will be an action requiring Corps review and approval under both statutes.

During a July 2, 1986 meeting in the Buffalo District's offices, the agency stated that along with other application materials (for Section 10 and 404 permits) NFTA should provide an analyses which demonstrates that no practicable alternatives exist to the proposed action. Practicable alternatives are those which are available and capable of being done--taking into account cost, technology and the project objectives (Ref. 40CRF230.10).

Design of the breakwater should preclude encroachment on the Federal channel and the dike should have the minimum cross-section needed to accomplish its energy dissipation function. The Corps representative stated that proposals to expand the dike cross-section for parking and other auxiliary facilities would require substantial justification.

During the conversation it was learned that the Corps does not have a regulatory interest in any construction proposed on the former diked disposal area for dredged material. By correspondence dated February 4, 1985, the Buffalo District informed NFTA that they had no jurisdiction over placement of fill within the disposal area's swale and that, in a prior determination, Corps authorization for use of the remainder of the landfill was waived.

On the basis of conversations with the Corps, a review of their regulations, and in consideration of the proposed action, it is recommended that NFTA plan to file both Section 10 and 404 permit applications with the Buffalo District for the Small Boat Harbor expansion. Supporting documentation for the applications should describe all details of the expansion including the new dike, method of renovating the existing breakwater, plans for use of the former diked disposal area, and landside supporting facilities. An alternatives analyses should also be submitted, in conformance with 40CFR230, accompanied by a report that provides information of the type specified in 40CFR230 (Subparts C thru H).

In addition to Federal review, DEC will have a regulatory role in the project. To obtain project approvals under the Clean Water Act it is necessary that an authorized State agency certify the proposed action as not significantly impacting water quality. Thus, the Corps will not issue a Section 404 permit without certification from DEC.

DEC's participation in other aspects of the project is less clear. Region IX representatives stated during a July 2, 1986 meeting that NFTA is exempt from acquiring most approvals which DEC normally issues with the possible exception of permits to build in wetlands. Since Region IX has not mapped any wetlands that would be affected by the project it appears the DEC involvement may be limited to water quality certification (a check on wetland status was made by phone on September 19, 1986).

NFTA obligations under State Environmental Quality Review (SEQR) were also discussed with DEC. It was DEC Region IX's view that an environmental impact statement (EIS) should be prepared for the expansion of the Small Boat Harbor that requires the new breakwater. They felt that the impacts of the project could not be considered without a thorough evaluation and that an attempt to avoid preparing an EIS would only delay construction.

Agency representatives stated that NFTA can act as lead agency under SEQR and, therefore, scope and organize the EIS process. Preparation and

public review of an environmental impact statement may take 6 to 12 months, depending on both public interest and the complexity of the proposed action. NFTA must decide whether it will prepare an environmental impact statement for the project or fulfill its SEQRA obligations via an environmental assessment after reviewing all information available to it.

One complication with regard to State review of the expansion has appeared in the form of DEC's finding a significant habitat to exist at the Small Boat Harbor. Such determinations were requested of DEC by State Department of State pursuant to the Coastal Zone Management program. In their finding DEC has stressed the ecological importance of the Small Boat Harbor area, thereby suggesting that proposals for its use should receive a particularly thorough evaluation. This may be partially met by the study of James R. Spotilla, et al, which found active and varied aquatic life within the present Small Boat Harbor basin.

**Redevelopment of
Seaway Slips
and Bulk Port**

With regard to redevelopment of Outer Harbor North, authorization from the Corps of Engineers would have been required to straighten the alignment of the bulk port waterfront. Since bulk port will, in all probability, be relocated away from this site, the current proposal does not involve alignment improvements. Section 404 approval will, therefore, not be necessary.

The Corps may become involved in the Outer Harbor North site redevelopment if the NFTA were to seek a determination of non-navigability for the property. The determination is a Federal statutory matter and is sometimes sought by developers to preclude future questions over use of former subaqueous properties.

Unlike the Corps, DEC would normally review and authorize in-kind repair of waterfront structures. Their authority to do so appears under the State Protection of Waters program. However, according to DEC, the NFTA is exempt from protection of streams procedures and, therefore, need not file an application with that agency.

During our discussion with representatives of DEC's Region IX, they asked if Outer Harbor development would be incorporated in Erie County's Waterfront Revitalization Plan. If the Waterfront Revitalization Plan, on the basis of information from this report and earlier Technical Memoranda, adequately treats the proposed project, it may not be necessary for NFTA to perform a duplicative SEQR analyses. NFTA should assure itself that the County's Coastal Zone Management Plan (and supporting EIS) will fully reflect the present proposals for redevelopment of Outer Harbor North.

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