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MICHIGAN
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Subtask

Community Center to Salzburg Avenue Extension

VETERANS MEMORIAL PARK DEVELOPMENT
BAY CITY, MICHIGAN

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ANDERSON/LESNIAK & ASSOCIATES INC.
landscape architecture ◦ community planning ◦ urban design ◦ site planning

118 N. Washington Avenue Royal Oak, Michigan 48067 313/399-3888

JACK G. ANDERSON reg. L.A. & P.C.P.
JOHN J. LESNIAK reg. L.A.

September 1980

The Honorable Anne R. Hachtel
Mayor of the City of Bay City
Bay City, Michigan 48706

Dear Mayor Hachtel:

It is a pleasure to submit to the City of Bay City the Salszburg Bridge to Community Building Park Development Plan of Veterans Memorial Park. This plan is designed to provide a logical basis for guiding the future growth and development of Veterans Memorial Park.

The design is based on program input from the citizenry, and on future land use, population projection, and future program requirements by the City. As is typical of a master plan, this study is a guide and must be constantly reviewed and updated as the City continues to develop its make-up, character, and resulting changing demands.

We sincerely appreciate the efforts of all those who assisted us in the study, and we look with you to a positive future for Bay City as the project becomes a reality.

Sincerely,

ANDERSON/LESNIAK & ASSOCIATES, INC.

John J. Lesniak

John J. Lesniak

Anne R. Hachtel, Mayor

City Commission

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Sylvester Gielda
Douglas S. Kienbaum
Robert W. Snyder
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Leonard R. Tarkowski
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Darlene S. Winters

Planning Commission

Zane Larive, Chairperson
Vincent Duranceau
William J. Grundner, Sr.
Mark Zanotti

Ronald K. McGillivray, Director of Community Development

Earl W. Kivisto, City Planner

Community Center to Salzburg Avenue Extension

VETERANS MEMORIAL PARK DEVELOPMENT
BAY CITY, MICHIGAN

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Robert J. Gasiorowski, Naturalist and Environmental Consultant

Coastal Zone Management Office

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Chris Shafer, In Charge, Coastal Zone Management Unit

Gordon Anderson, Project Representative

Bay City Community Development Department: Ronald K. McGillivray, Director

Bay City Planning Department: Earl W. Kivisto, City Planner

Foreword

The purpose of this study is to define logical physical expansion guidelines for Veterans Memorial Park. As a community grows or changes in character, it must be willing to meet the changing recreation needs of its citizens. As the city of today adjusts to the energy and cost challenges that face it, recreation in close proximity to population becomes increasingly important. Bay City's unique resource, the Saginaw River, should be reinforced as the backbone for recreation facilities and programs for the City. Emphasis and input toward logical recreation development plans for today will be insurance for the recreation needs of the future generations of Bay City.

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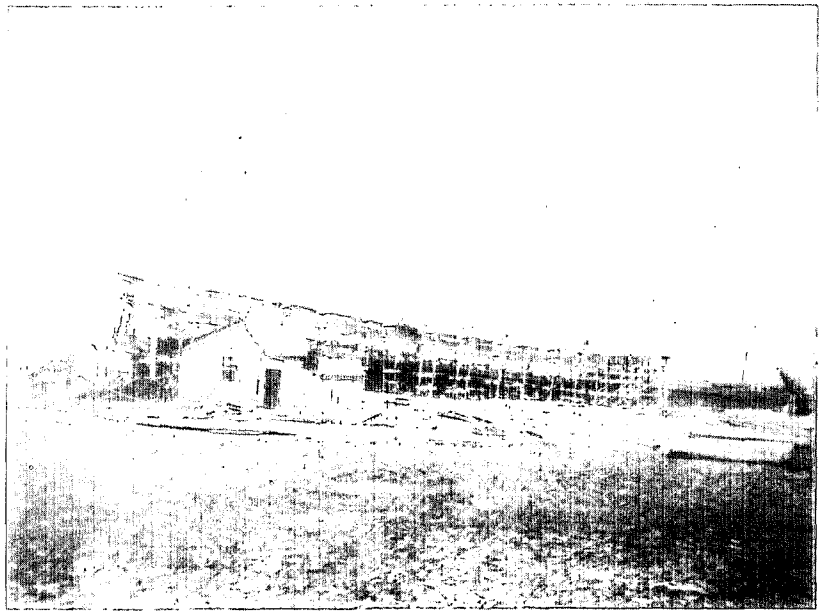
historical and economic background

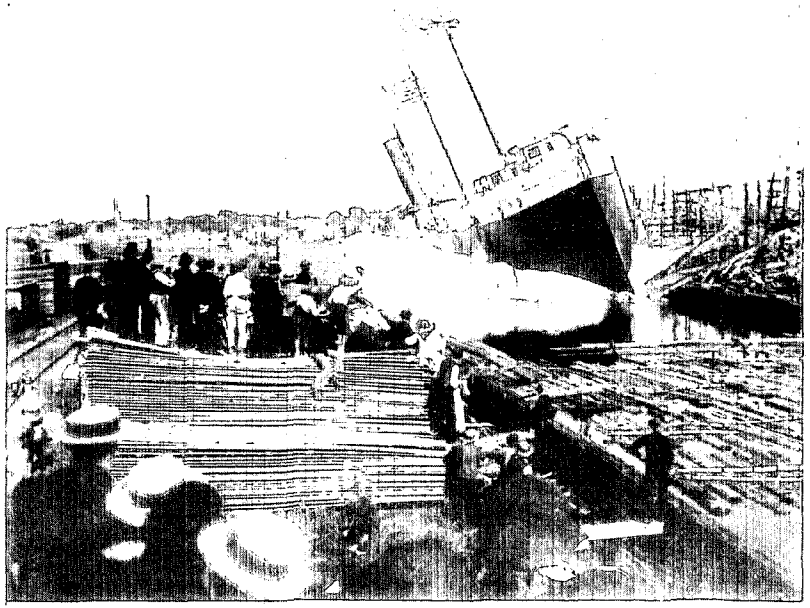
1

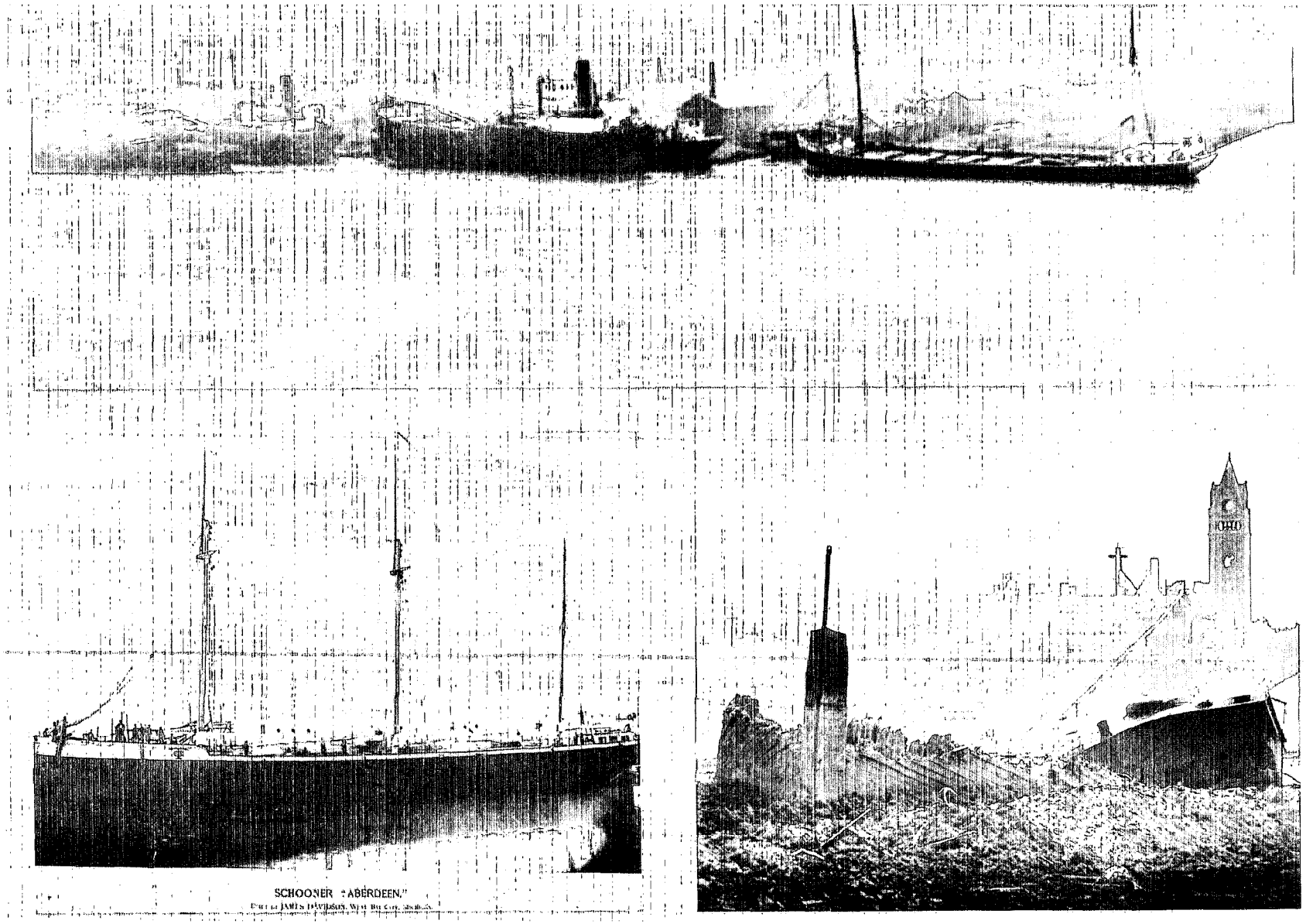
HISTORICAL AND ECONOMIC BACKGROUND

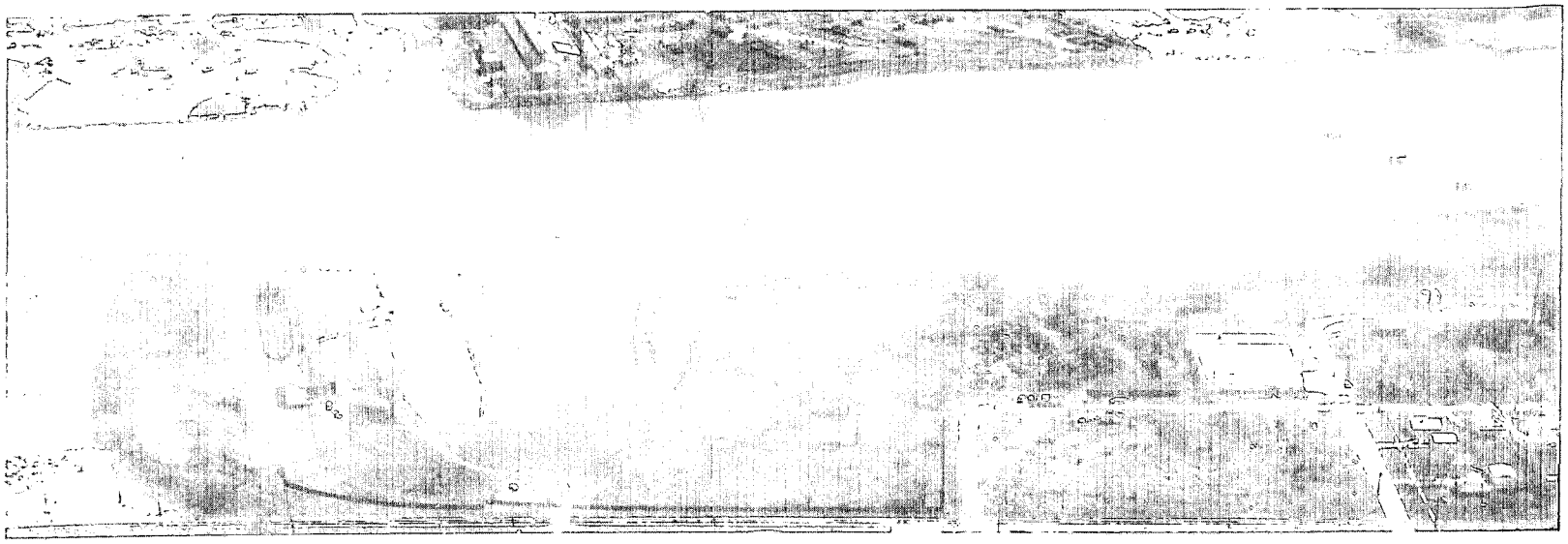
The area which was to become Bay City was established between 1836 and 1864 as five separate communities. The economies of all five communities were based on the lumber provided by the rich forest of the Saginaw Valley. By 1868 there were 32 sawmills operating in this area. Lumbering and milling incited many wood-related industries which located along the riverfront, occupying small sites but establishing an industrial riverfront that remains in use today.

The flourishing lumber economy and population growth in the late 1800's resulted in political boundary adjustments. By 1900, four bridges had been constructed spanning the Saginaw River and in 1905, Bay City and West Bay City were politically unified as the City of Bay City. However, by 1900 the Saginaw Valley had been cleared of its lumber and the declining economy caused mill operations and other lumber related industries to close. Some industries survived and new ones were established by responding to the new conditions. Shipbuilding, construction, and industrial equipment manufacturing became important elements in Bay City's twentieth century economy.






SCHOONER "ABERDEEN."



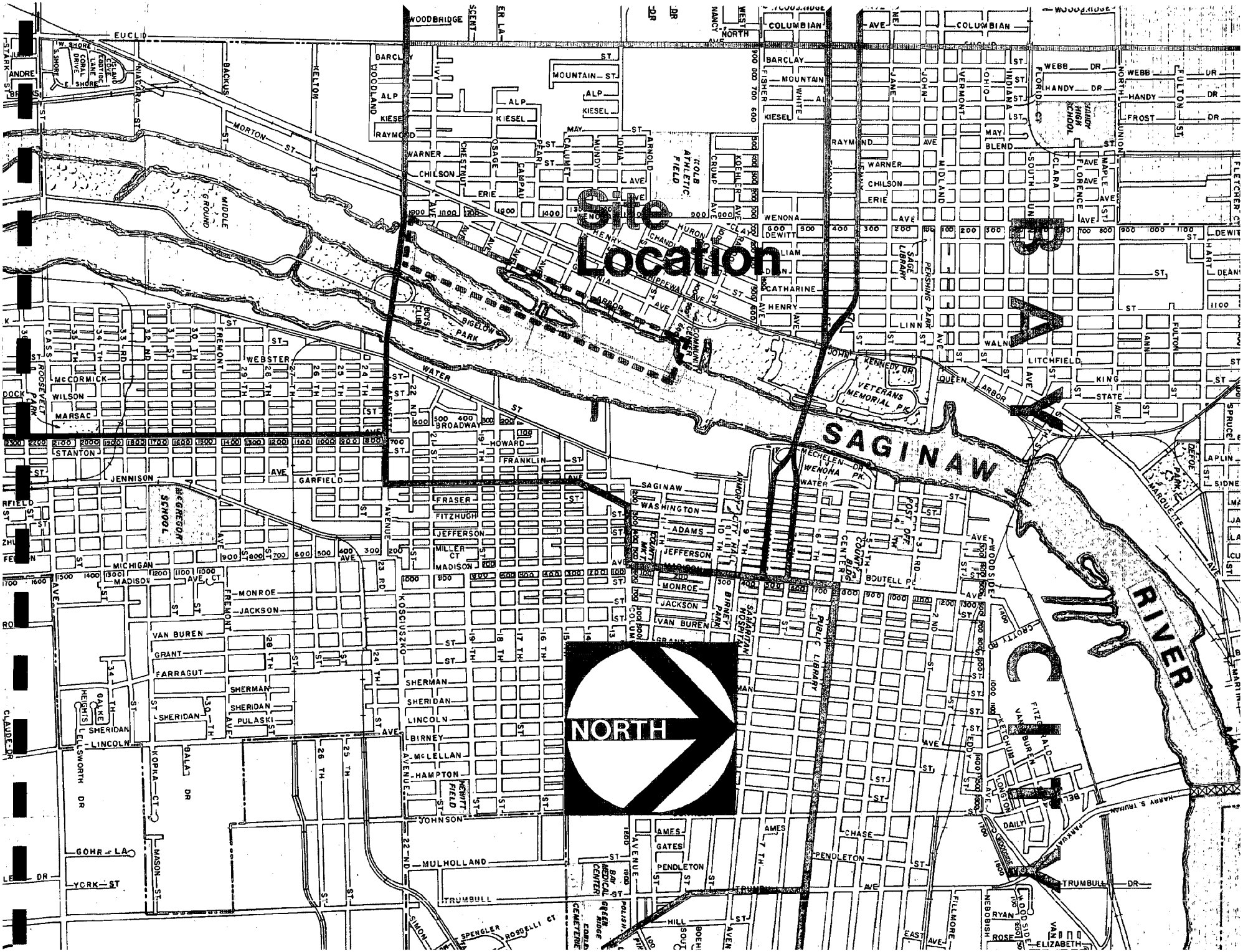
Bay City's population was 45,000 in 1910. The largest Bay City population recorded by the U. S. Census was 53,604 in 1960, declining to 46,350 in 1977. The most significant change is the continuing decline of the highly productive 30 to 49 year-old age group, attributed to out-migration.

Manufacturing firms, including motor vehicle manufacturing firms, are among the largest employers in Bay City. Although motor vehicle manufacturing is even more important to Bay City than to the State of Michigan as a whole, Bay City is less dependent on overall manufacturing activities than is Michigan. The Michigan Employment Security Commission has projected employment growth for the State of Michigan and for Bay County for the period between 1976 and 1985. Both general manufacturing employment and motor vehicle manufacturing employment are expected to increase at a slower rate in Bay City than in the state. However, non-durable goods manufacturing employment in Bay County is expected to increase at a much faster rate than in the state.

Employment growth in Bay City beyond 1985 will depend on the ability of existing industries to expand, and also on the ability of the city to attract new industry. The city's relationship to the Saginaw Bay and Lake Huron should favorably influence its attractiveness to new industrial development.

site analysis

2

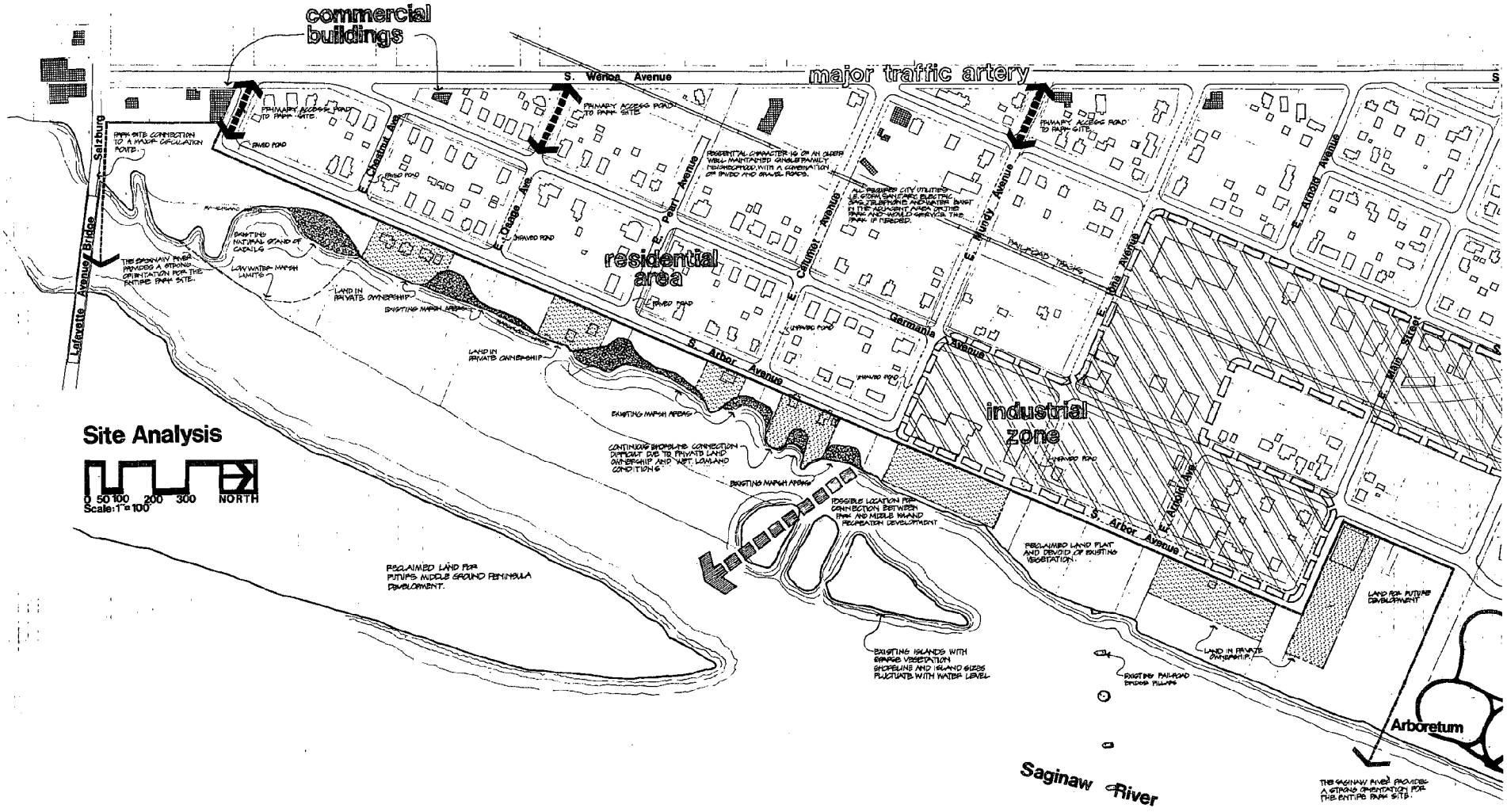

Site Location
SAGINAW
RIVER
NORTH
EUCLID
WOODBRIDGE
COLUMBIAN
BARCLAY
MOUNTAIN
ALP
KIESEL
RAYMOND
WARNER
CHILSON
ERIE
WENONA
DEWITT
CATHARINE
HENRY
LINN
WALN
LITCHFIELD
KING
STATE
QUEEN
ARBOR
JOHN
KENNEDY DR
VETERANS MEMORIAL PK
WATER
BIGELOW PARK
BOYS CLUB
COMMUNITY CENTER
HOLB ATHLETIC FIELD
MIDDLE GROUND
MORTON ST
BACKUS
KELTON
WEBSTER
McCORMICK
WILSON
MARSAC
STANTON
JENNISON
GARFIELD
BROADWAY
HOWARD
FRANKLIN
SAGINAW
WASHINGTON
ADAMS
JEFFERSON
MADISON
MONROE
JACKSON
VAN BUREN
GRANT
FARRAGUT
SHERMAN
SHERIDAN
PULASKI
LINCOLN
BIRNEY
McLELLAN
HAMPTON
JOHNSON
MULHOLLAND
TRUMBULL
AMES
GATES
PENDLETON
CHASE
BOUTELL
FRASER
FITZHUGH
MILLER CT
MICHIGAN
FREMONT
KOSCIUSZKO
BALA DR
GOHR LA
YORK ST
McGREGOR SCHOOL
GALKE HEIGHTS
ELLSWORTH DR
KOPKA CT
MASON ST
HEWITT FIELD
BAY MEDICAL CENTER
GREER RIDGE
COBB CEMETERIE
SPENGLER
ROSSELLI CT
HILL
POLISH
CITY HALL
COUNTY BLDG
POST OFFICE
PUBLIC LIBRARY
SAMARITAN HOSPITAL
BIRNEY PARK
SAGE LIBRARY
PERSHING PARK
MECHELEN DR
WENONA PK
DEFOE PARK
MARQUETTE
CROTTY RD
WOODSIDE
FITZGERALD
VAN BUREN
KETCHUM
LONGTON
EDDY
DAILY
HARRY S. TRUMAN PARKWAY
TRUMBULL DR
RYAN
ROSE
ELIZABETH
NEBOBISH
FILLMORE
EAST AVE
WEBB DR
HANDY DR
FROST DR
FULTON ST
FLORIDA CT
HANDY HIGH SCHOOL
MAY
BLEND
MAPLE
FLETCHER CT
HART
DEWITT
LAPLIN
SIDNEY
SPRUCE
ANN
ANDRE
CLARK
CLAUDE DR
LE DR
ROSE VELT PARK
DOCK
W. SHORE
S. SHORE
E. SHORE
ISLAND COVE
CORAL DRIVE
LANE
FEBOTIC

SITE ANALYSIS

The total length of the east side of the project has frontage on the Saginaw River. Three small natural islands lie 200 feet directly east of the approximate center of the project area. Another 500 feet east of these islands lies the middle-ground peninsula. The west side of the project area is bordered by South Arbor Avenue fronted by single family use. The north side of the site abutts the city arboretum, currently under construction, and the south end is bordered by some commercial use and the Lafayette Avenue bridge. The water orientation provides a variety of recreation potential, although ten privately owned, single-family and industrial parcels are located within the park boundaries, fragmenting the site and preventing continuous and total water edge development. These single-family and industrial parcels will impact both the type and continuity of park and recreation development.

An analysis of the topography reveals minimum change in elevation throughout the total project site. The site generally slopes to the river with some undulation in the natural area. Recent landfill at the north end of the site has created additional useable area, flat in character. The topography itself does not limit the recreational development of the site. Relatively undisturbed natural environmental areas along the river edge are predominantly located in the southern 50% of the site, with the largest area at the extreme south end.

Since the park is linear in character and follows the river edge, the view from the park is almost continually dominated by water, whether looking north, east, or south. Distant views of Bay City's central business district and city hall are evident in the skyline, but neither of these overcome the water's dominant effect. The three natural islands and the middle-ground peninsula are easily seen. At present the middle-ground peninsula is bare of vegetation or structures. Any future development on this peninsula will have the potential to dominate the view east from the waterfront. Views inland are basically residential in character with some old, light industrial buildings at the north half of the site.


commercial buildings
major traffic artery
S. Wenona Avenue
residential area
industrial zone
S. Arbor Avenue
Germania Avenue
E. Mundy Avenue
E. Calumet Avenue
E. Pearl Avenue
E. Osage Ave
E. Chestnut Ave
E. Arnold Ave
E. Main Street
Lafayette Avenue Bridge
Salzburg
Site Analysis
0 50 100 200 300 NORTH
Scale: 1" = 100'
Saginaw River
Arboretum
PRIMARY ACCESS ROAD TO PARK SITE
PARK SITE CONNECTION TO A MAJOR CIRCULATION ROUTE.
PAVED ROAD
UNPAVED ROAD
RESIDENTIAL CHARACTER IS OF AN OLDER WELL MAINTAINED SINGLE FAMILY NEIGHBORHOOD WITH A COMBINATION OF PAVED AND GRAVEL ROADS.
ALL REQUIRED CITY UTILITIES I.E. STORM SANITARY ELECTRIC GAS, TELEPHONE AND WATER EXIST IN THE ADJACENT AREA OF THE PARK AND WOULD SERVICE THE PARK IF NEEDED.
RAILROAD TRACKS
THE SAGINAW RIVER PROVIDES A STRONG ORIENTATION FOR THE ENTIRE PARK SITE.
EXISTING NATURAL STAND OF CATAILS
LOW WATER MARSH LIMITS
LAND IN PRIVATE OWNERSHIP
EXISTING MARSH AREAS
CONTINUOUS SHORELINE CONNECTION DIFFICULT DUE TO PRIVATE LAND OWNERSHIP AND WET LOWLAND CONDITIONS
POSSIBLE LOCATION FOR CONNECTION BETWEEN PARK AND MIDDLE ISLAND RECREATION DEVELOPMENT
RECLAIMED LAND FOR FUTURE MIDDLE GROUND PENINSULA DEVELOPMENT.
EXISTING ISLANDS WITH SPARSE VEGETATION SHORELINE AND ISLAND SIZES FLUCTUATE WITH WATER LEVEL
RECLAIMED LAND FLAT AND DEVOID OF EXISTING VEGETATION.
LAND FOR FUTURE DEVELOPMENT
EXISTING RAILROAD BRIDGE PILLARS
THE SAGINAW RIVER PROVIDES A STRONG ORIENTATION FOR THE ENTIRE PARK SITE.

environmental and arboral analysis

3

ENVIRONMENTAL AND ARBORAL ANALYSIS

The majority of the surface area in the project is covered with fill of wide variety and much of the soil is recently disturbed. This reduced significant floral and fauna observation to the relatively few undisturbed areas and the shallow and partially submerged riverside and islands. Considerable dumping in even the relatively undisturbed areas has affected the biological aura.

It is to be anticipated that riverside ecosystems will have a high density of fauna and flora and where physical conditions were relatively stable this was the case. Most of the recently disturbed areas have the potential to return to the natural state and some areas will require a little help.

The water of the river and the water shoreline reflect those of a backwater area. It appears that late winter and early spring allow some considerable circulation in the area, but that there is little movement of water year-round. The visible common Cattail and Arrowleaf beds appear as new and vigorous in some areas, and retreating and stagnant in others. The shallow marsh areas are obviously active nesting areas for geese, ducks, shore birds and perching birds. Actual observation and interviews of local residents substantiate this fact. During the course of the investigation, Mallards, Spotted Sandpipers, Grackles, Killdeer, Swallows, Red Wing Blackbirds, and Gulls were numerous and active. Canadian Geese and Muskrat were observed ten days prior to this examination. Carp activity all along the shore was considerable.

The floral evaluation of the area will be described by the city block, south to north. New growth associated with recent fill and/or dumping (such as Horse Chestnut seedlings in a leaf dumping) will be omitted.

Lafayette Avenue Bridge North to E. Ivy Street

The only existing flora were peripheral to recent fill. The north bank of the bridge hill was covered with several Box Elder 10 feet to 12 feet tall, Bush Willows 6 feet to 8 feet tall, and dense Honeysuckle and Virginia Creeper undergrowth. Ground cover was sparse and consisted of Horsetail (Equisetum).

The north bank of the old boat slip had considerable floral cover. Prominent tree growth worth consideration were a shoreline Ash of some size (probably Black Ash) suffering some root erosion, and a 12 foot Black Willow more inland. The peninsula from E. Ivy Street to the boat slip was densely populated with Dogwood (Red Osier) and Mock Orange shrubs with an undercover of Virginia Creeper, Bramble, Wild Currant and Wild Columbine.

E. Ivy Street North to Chestnut Street

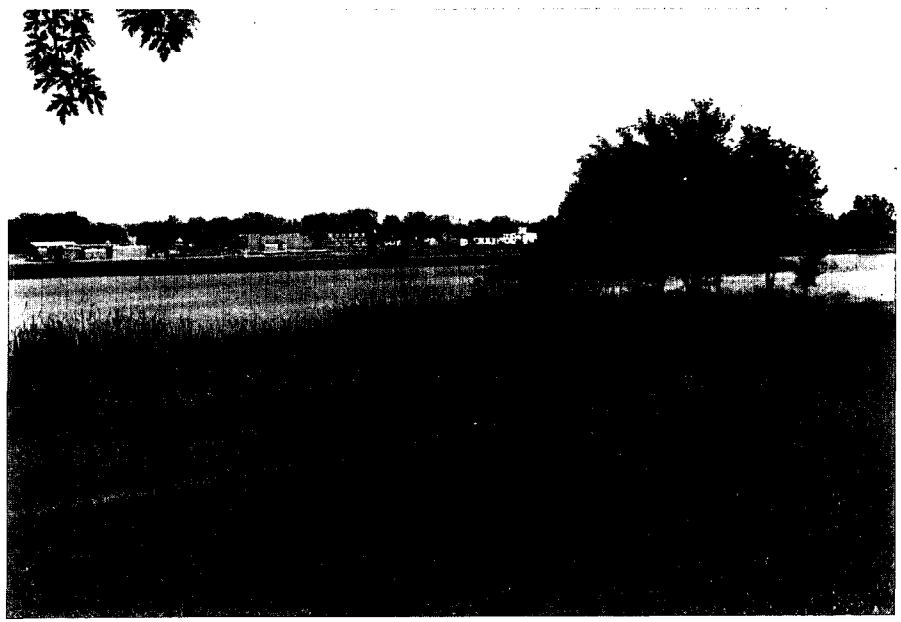
The southern fifth of this portion constitutes the peninsula north of the boat slip. Only the waterside east quarter of the site has floral cover. The cover consists primarily of Bush Willows (about 6 feet high). The eastern tip characterizes itself with a large Black Willow (18 inch diameter) and the skeletal remains of several trees submerged off the point. The western margin of the floral area has a large, live Tooth Aspen. The actual shoreline of this peninsula is difficult to define as the Cattails of previous seasons form a layer that can be walked on, but show standing water beneath. Several Arrowleaf grow offshore mixed with new Cattail growth.

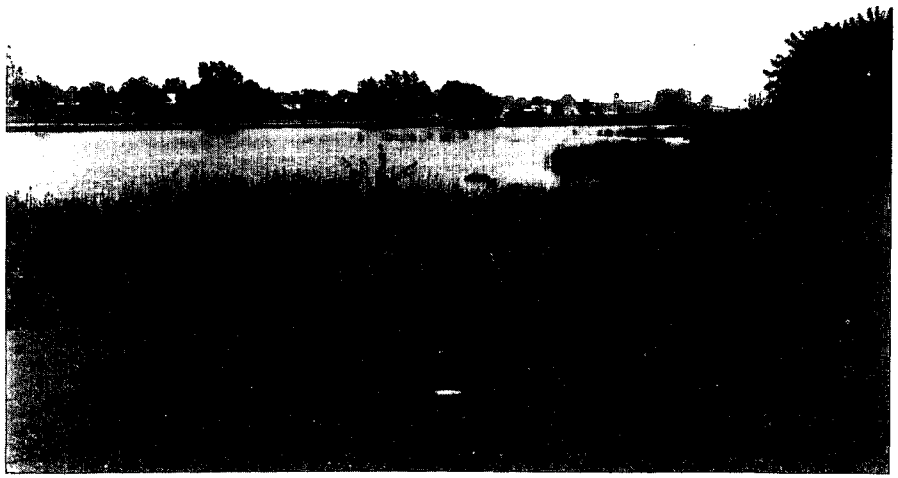
The northern half of the Ivy Street to Chestnut Street sector has not recently been disturbed, is quite densely covered, and supports considerable wild life. Old and new nests of Red Wing Blackbirds, audible Pheasant, an active Muskrat cavern, noisy Grackles and an abandoned Mallard egg were observed in passing this area. The west portion of this area is considerably elevated above the east, riverside portion. The riverside portion is covered with field grass. The west side portion has a dense tangle of 10 feet

tall shrubs and trees consisting of the following: Shrub Willow, Box Elder, Native Honeysuckle, Alianthus, Wild Black Raspberry, Mulberry and a young Cottonwood. The undercover was primarily a very healthy growth of Evening Nightshade. The extreme northern edge of this segment (the foot of Chestnut Street), features a stream which seems quite permanent as it has eroded the area, forming a small pond which drains across the lower grassy area to the river. A muskrat was also observed in the area. The area immediately around the spring supports a tall Cottonwood on the south, and Ash and Silver Maple saplings on the west and north sides. The appeal of this area was confirmed by the presence of an old foot path running from street to shoreline just south of the stream. The high side of the stream was heavily covered with leaf dumpings from last fall, reducing any ground cover there.

Chestnut Street to Osage Street

The segment defined here is tangent to three inhabited lots. The shoreline here again is difficult to define as old matted Cattails form a false floor. The density, size and quality of trees are much greater along the shoreline adjacent to and on the inhabited lots. The shrubs and trees encountered along the shoreline adjacent to the private lots from south to north were Box Elder, Dogwood, Horse Chestnut, Alianthus and two Black Ash. At this point, the remains of a small dock exist and a dense Cattail bed begins. Somewhat inshore from the dock are a Red Elm, Box Elder and Birch. The area from the northernmost lot to the manhole and drain at the foot of Osage Street is much recessed and has a number of small trees and shrubs. The large tree is a Honeylocust, the smaller trees are Dogwood, Ash, Willows and Box Elder. Wild Black Raspberry and Wild Currant are the predominate ground cover.



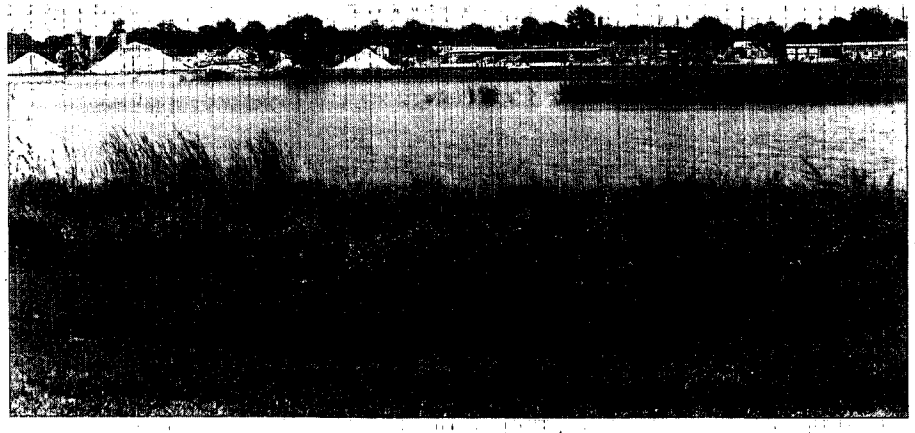


Osage Street to Pearl Street

This particular segment is very developed. The areas adjacent to the inhabited lots have been mowed (at both the north and south ends). The existing shoreline on the lot lines has been altered considerably. Along the shoreline from Osage Street to the first lot line are two Hawthornes and a Dogwood which are about 8 feet to 10 feet tall. The shoreline of the inhabited lots (probably on or near city property) supports a 20 foot Silver Maple, Chinese Elms and a large Apricot tree.

Pearl Street to Calumet Street

The significant flora of this segment is a large Black Willow at the shoreline and a large Chinese Elm nearer the street, half way up the block. The north half of this segment is a private lot, which again has an addition to its shoreline. Shoreline trees on the lot are a Chinese Elm and a Silver Maple. Offshore there is a stand of Arrowleaf. The shoreline at the base of Calumet Street gives way to a healthy Cattail stand



Calumet Street to Mundy Street

This segment again shows a tortuous shoreline altered by fill. Significant shoreline growth on or near city property on the south lot includes a Chinese Elm and two large Spruce trees. The north lot shoreline has a Black Willow, Cottonwood, and Box Elder.

Munday Avenue to Ionia Avenue

This segment is an area that has little in terms of biota; one small Cottonwood at shoreside is the only significant tree. The shoreline is relatively even. Metal waste covers the surface of the northern half. A large drain is near the foot of Ionia Avenue.

Ionia Avenue to Arnold Street

This segment, like the preceding one, is relatively free of vegetation. Near the foot of Ionia, at shoreline, stand a Box Elder and Cottonwood, each about 4 feet. What ground cover does exist consists primarily of Mint (probably Motherwort) and Burdock. The northern extreme of this segment has some Bedstraw ground cover with a Cottonwood and Box Elder somewhat back from the shoreline and an Ash near the edge of Arbor Street. Just off-shore and south of the foot of Arnold are the large pilings which are located in a somewhat east by northeast direction.

Arnold Street to Main Street

Except for a Cottonwood at the southwest corner and two Chinese Elms at the extreme northwest corner of this segment, which was recently disturbed, the area is void of significant vegetation. The shoreline is stable and even.

Main Street to Crump Street

At present a fence separates this segment into a portion contiguous with the arboretum area and a recently filled area on the south. On the western third of the southern area a very interesting greenbelt exists, with a dense stand of Box Elders, Hawthorns, and Chinese Elms nicely interspersed with Silver Poplars. The Silver Poplar (a European introduction) superficially looks like White Birch, but is more deliquescent and the older bark tends to bubble (Poplar like). Unfortunately, the existing paths are being deepened by youngsters on trail bikes.

The Islands

The south island is essentially submerged and is marsh-like with common Cattails and Arrowleaf. The north island seems to have suffered some erosion.

Local residents do not recall the islands ever being totally inundated. They are essentially unmolested except during the winter when they are heavily harvested for firewood by ice skaters.

The woods of the island can best be described as Elm - Ash forest heavily populated with Willow, Cottonwood, and Box Elder. The middle island has Wild Black Cherry. Dogwoods are plentiful in the lower canopy.

ENVIRONMENTAL AND ARBORAL CONCLUSION

Based on the site analysis and the goal of enabling the area to reach its potential as a natural environment, the site suggests the following direction:

The west shoreline of the Saginaw River, north from the Lafayette Bridge to E. Crump Avenue, was surveyed for points of biological interest. The three islands adjacent to Calumet north to Ionia were also observed.

The area overall would be considered a shallow backwater marsh. The area has been greatly altered by use and abuse for over a century. The predominating landmarks are primarily man-made varying in esthetic quality from an old boat slip and very old pilings, to dead, partially submerged trees, to recent dumpings of old concrete and such.

Small greenbelts (relatively undisturbed areas) are generally marginal to private properties while the large city-owned or undeveloped areas are relatively sterile due to recent land filling. The small greenbelts along the shoreline, as well as the Cattail beds, show a good deal of animal life as land-water border areas should.

As a land-water border area, the site has tremendous potential for wildlife if it is left unmolested for several years. Promising factors are the improvement of the quality of the water off the Saginaw River itself, and the present and possibly future governmental regulation of environmentally detrimental human activity.

The probability of the area reaching its potential as a natural area will largely be dependent upon type of use allowed. Soft touch (passive) recreational use would encourage this goal.

The present state of the area studied, except for the small greenbelts and island, is poor. The land form would allow rapid natural regrowth and large use by wildlife if wise replanting and elimination of dumping were instituted.

The existing cover by trees is representative of abuse, in that the predominant growth is Box Elder, Cottonwood, Chinese Elm and Ash. These trees are quickly self-seeding and of rapid growth. It is undesirable for an area to be dominated by these trees. However there are, as reported, more esteemed trees in the area, and future plantings of these and other appropriate native trees could raise the quality of the area.

The shrub cover is characteristic of the habitat and most areas, if left undisturbed, would quickly recover due to seedings from existing shrubs which include Honeysuckle, Virginia Creeper, Bramble, Wild Currant, Red Osier, Dogwood, Bush Willow, Staghorn Sumac and Mock Orange. This recovery would bring increased bird life which in turn would introduce additional species of shrubs.

The ground cover is the poorest of the three covers mentioned, but is also the most likely to recover quickly. The wildflowers that return naturally to the presently disturbed soils can be augmented by the planting efforts of nature groups and individuals.

The off-shore flora is probably the least disturbed and most native. The obviously predominant species are the common Cattail and the Arrowleaf. The relative populations of these to their species, and the future appearance of others will be determined naturally by the fauna of the area.

The unfavorable smells mentioned by some of the local residents probably result from seasonal thermal pollution. This occurs when winds create very shallow water during hot weather and the water warms considerably. Thus the ability of the water to hold dissolved oxygen is reduced, particularly at night when no oxygen is made available by the aquatic photosynthetic plants. Dissolved oxygen levels then drop to where anaerobic bacteria become the predominant decayers. It is the anaerobic bacteria which produce decay products with their accompanying unpleasant odor. More shading by additional flora could only reduce the degree to which this phenomena occurs.

The following floral resume is arranged in descending order of relative predominance of each species in an overview of the area.

- Black Willow, Box Elder, Ash, Cottonwood, Silver Maple and Chinese Elm
- Common Cattail and Arrowleaf
- Bush Willow, Dogwood, Red Osier, Largetooth Aspen and Alianthus
- Honeylocust, Hawthorns, Mock Orange, Mulberry, Horse Chestnut and Silver Poplar
- Slippery Elm, Birch, American Elm and Black Cherry
- Honeysuckle, Virginia Creeper, Bramble, Wild Currant, Wild Black Raspberry and Evening Nightshade
- Fieldgrasses, Horsetail, Motherwort, Burdock, Wild Columbine, and Bedstraw

SOILS

The entire Bay City metropolitan area lies in a Lacustrine plain and has a predominantly Alfisols soil association, more specifically, the Wisner, Essexville and Marsh. As the actual shoreline and riverbed are in a backwater area, the best description would be that of an organic marsh near surface level and principally more mineral at lower profiles. At the present time, currents are not strong and organic material will probably continue to accumulate in the shallows of the area in consideration.

One only need wade along the rivers edge to sink in the muck more than several inches. The soil of the river or marshbed would best be used, as is, as a place for potential water fowl nesting.

The exposed or above surface soil not covered by landfill, as on the islands or infrequent areas along the rivers edge, would be considered relatively poor for general agricultural use, unless provision was made for drainage, as it has a low infiltration rate. The soil in the above water area is that which would support Aspen and Birch cover. The actual cover varies from this, as much human influence has been sustained. The floral cover found in this area attests to the high organic content of the soil.

The majority of the park site, other than the natural area, is reclaimed land. This was accomplished through past landfill programs and is made up of clay and heavy soil material. The source of this fill was the excavation from various sewer programs throughout the City. Existing soil under this fill has wide variation, as seen from borings taken in 1939 by the City. These borings were in the Iona and Mundy rights-of-way, locations which are part of the park area today. The soil profiles revealed the following. Iona had approximately 4 inches of topsoil, 5 inches of sand, and 13 inches of gravel before reaching clay, and Mundy had 2 inches of topsoil underlayed with 8 inches of muck on a 2 inch gravel layer before reaching a clay layer. With this variation of soil condition, and the more recent fill operations of sewer excavated spoil, any major structure to be located in the park will require soil borings to determine structure design.

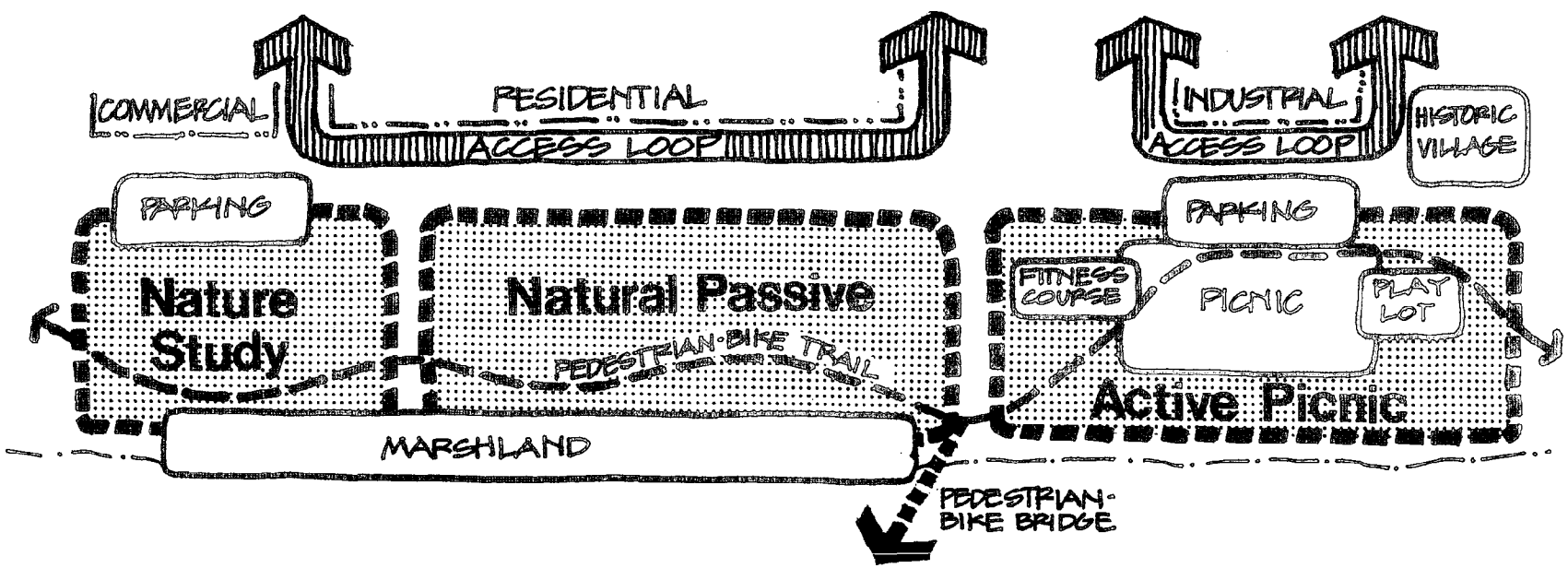
program and concept

4

PROGRAM

The program requirements for this site are a combination of the city's long term goals for recreation development and input from the citizenry. A public hearing was held in March 1980 to receive input from people located near the site and special interest groups. The basic direction which evolved from this meeting and the city's long term recreation requirements is as follows:

- create a natural and passive park
- recognize the marshland in the design
- do not provide a vehicular connection from Arbor Street to John F. Kennedy drive
- provide pedestrian bridge to the middle ground land
- develop a pedestrian and bike trail system
- consider a physical fitness trail
- allow future site for Historical Village concept
- provide facilities for picnicking and playground facilities

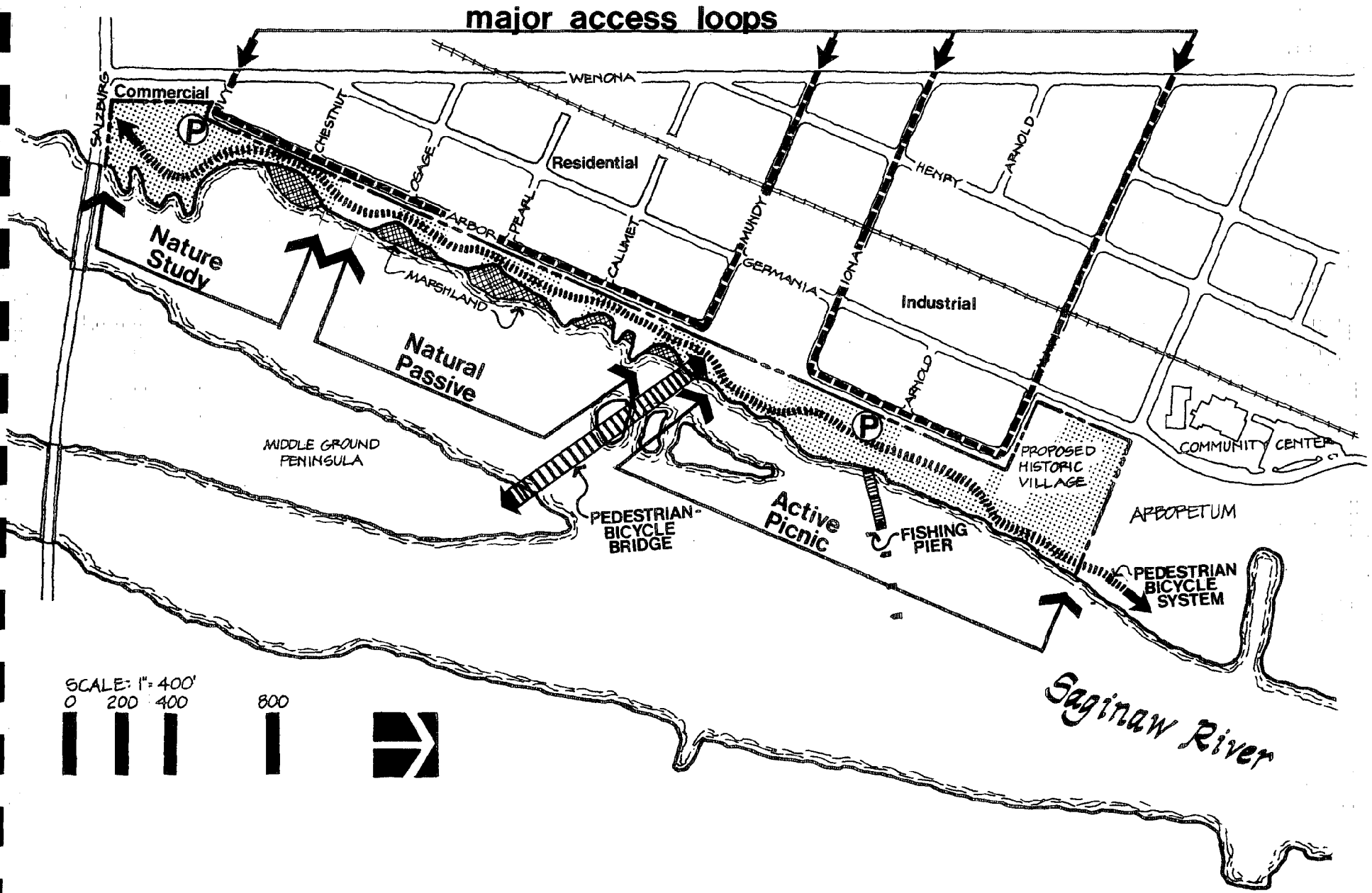


CONCEPT

Based on the required program and existing character of the site, the following proposed concept is the most logical and obvious to pursue. Existing land use dictates the location of facilities on the site and the program requirements are fixed. Alternate concepts were explored without any advantages or benefits pointing to their adoption. The basic intent of the recommended concept is to divide the site into three zones, e.g. Active Picnic Area, Natural Passive Area, and Nature Interpretive Area. The location of each zone is based on logical relationships to the existing adjacent land use and on relationships of the zones to each other. To a certain degree, these zones are already established.

As seen from the site analysis, the major natural area is located at the south end of the park with additional smaller, similar areas situated along the waters edge north to Mundy Avenue or to the approximate mid-point of the length of the park. The northern 50% of the park is generally open having been under a program of filling and land reclaiming. This has increased the width of the site alllowing a generous area for the active use of picnicking and related functions. This area tends to border the industrial zone whereas the southern more natural area borders the residential zone. The construction of a wood pier on existing pilings for fishing and viewing in the northern portion would add a major feature to the park. The location of parking facilities in this general section would not only service the picnic area, but also the fishing pier. A bike/pedestrian bridge located almost at the mid-point of the length of the park currently allows access to the middle-ground peninsula. This will not only make the future recreation development more accessible for local residential use, but will add to the development of a more comprehensive bike/pedestrian system for the city. This bike and pedestrian system will also continue to the Lafayette Bridge right of way with occasional sitting and viewing areas located on the waters edge.

The Nature Interpretive Area would be the major environmental area, located at the south end of the project site, with the development of a catwalk and nature observation platform. Parking would be developed to service nature interpretation programs and joggers and bikers using the park trails. This parking area would be adjacent to existing commercial areas and would not affect the existing residential area.


major access loops
WENONA
Commercial
SALZBURG
CHESTNUT
CEDAR
Residential
ARBOR
PEARL
CALUMET
MUNDY
GERMANIA
IONA
HENRY
ARNOLD
Industrial
MARSHLAND
Nature Study
Natural Passive
MIDDLE GROUND PENINSULA
PEDESTRIAN-BICYCLE BRIDGE
Active Picnic
FISHING PIER
PROPOSED HISTORIC VILLAGE
COMMUNITY CENTER
ARBOPETUM
PEDESTRIAN BICYCLE SYSTEM
Saginaw River
SCALE: 1" = 400'
0 200 400 800

Adjustments to the street system which services the project area and the adjacent residential area are proposed, allowing cul-de-sacs and preventing through traffic on S. Arbor Avenue and Germania Avenue. This would create a two loop entry to the project site thereby reducing the amount of traffic using the residential streets to access the park.

The major entry to Veterans Memorial Park serving the community building and pool, the arboretum, and the athletic field does not connect the roads which serve the project site, thus preventing major park vehicular traffic from using residential streets for access to the site. The area located between the future major vehicular entry and the portion of the project area fronting the water is proposed for the future historical village development. Access, parking and orientation of the historical village will be toward the community building and existing park rather than toward the project site.

development plan

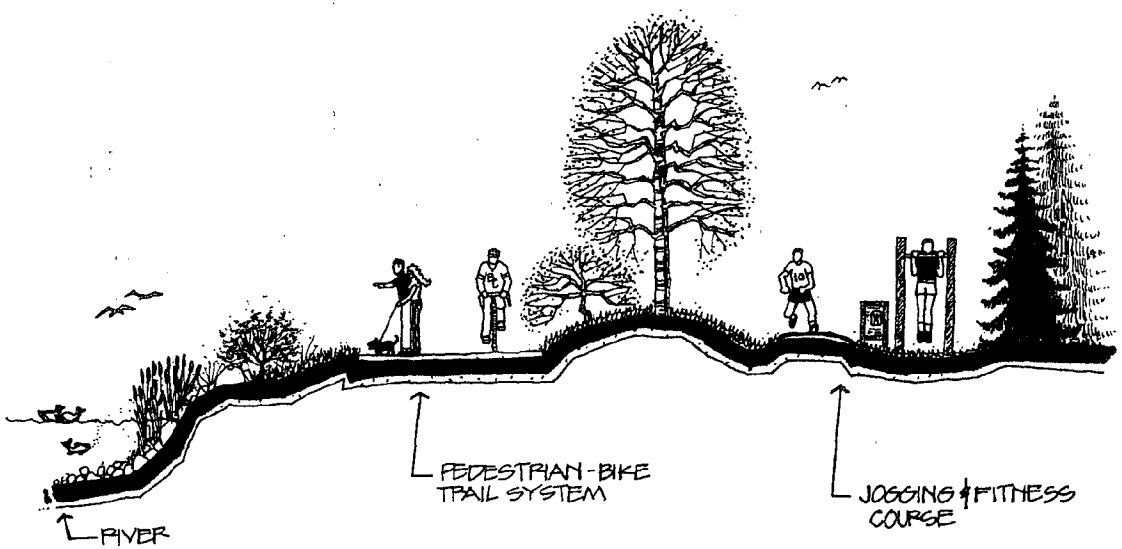
5

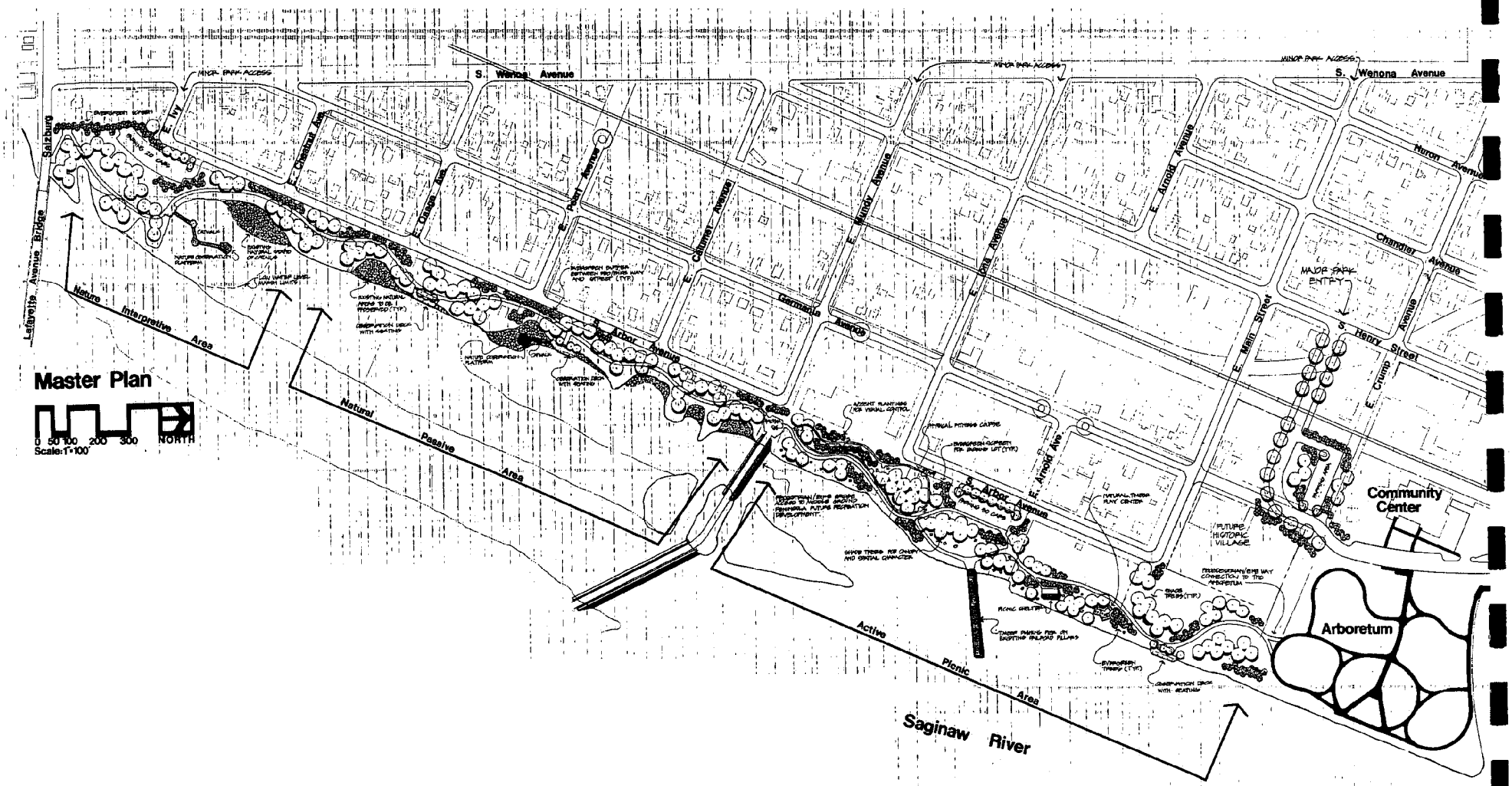
DEVELOPMENT PLAN

The following plan should be considered only as a guide to long range development. As the development of this park becomes a reality, requirements may change resulting in adjustments to the plan. Potential development around the project might occur which also will effect the proposed plan.

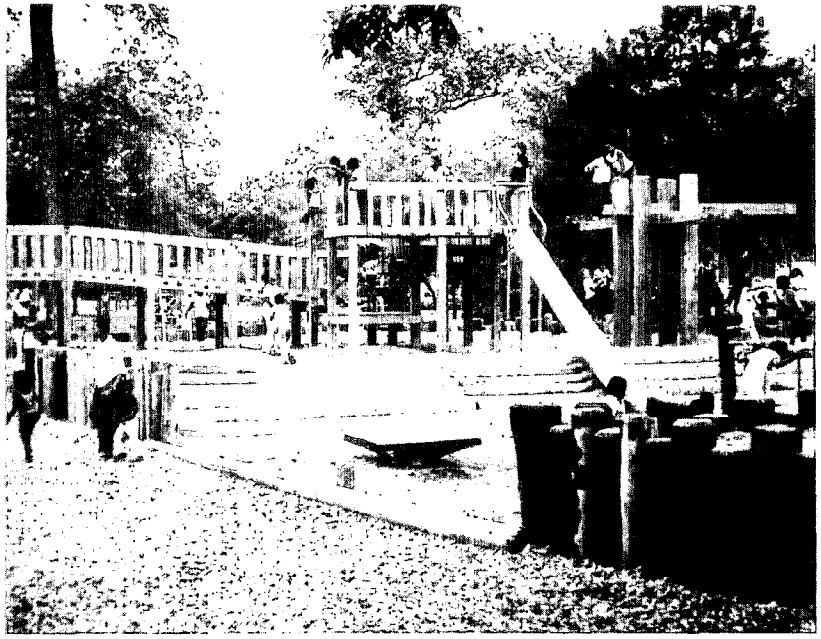
Vehicular access to the site will be predominantly from Wenoa Avenue using four entry points: E. Ivy, E. Mundy, E. Iona, and E. Main. E. Ivy and E. Mundy will join S. Arbor Avenue to form a loop as will E. Iona and E. Main, to form a second loop. The loops will not be accessible to each other, preventing linear traffic from traveling along the total length of the project site, adjacent to residential use. Vehicular traffic from the main active area of Veterans Memorial Park and the community building will not have direct penetration into the project area, but will need to enter through the Iona/Main loop.

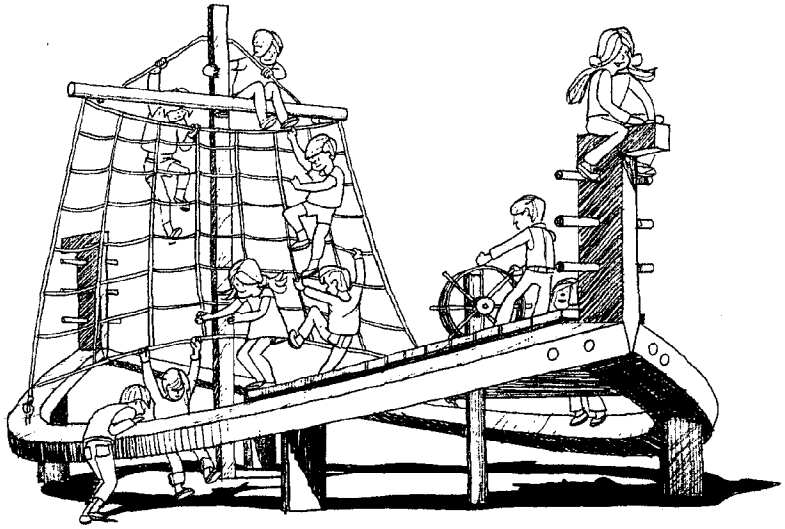
The project area is proposed to be developed as three major development areas. Each area will have a definite activity and use of its own. However all three areas will relate by a continuous pedestrian/bike system and their common association to the water.



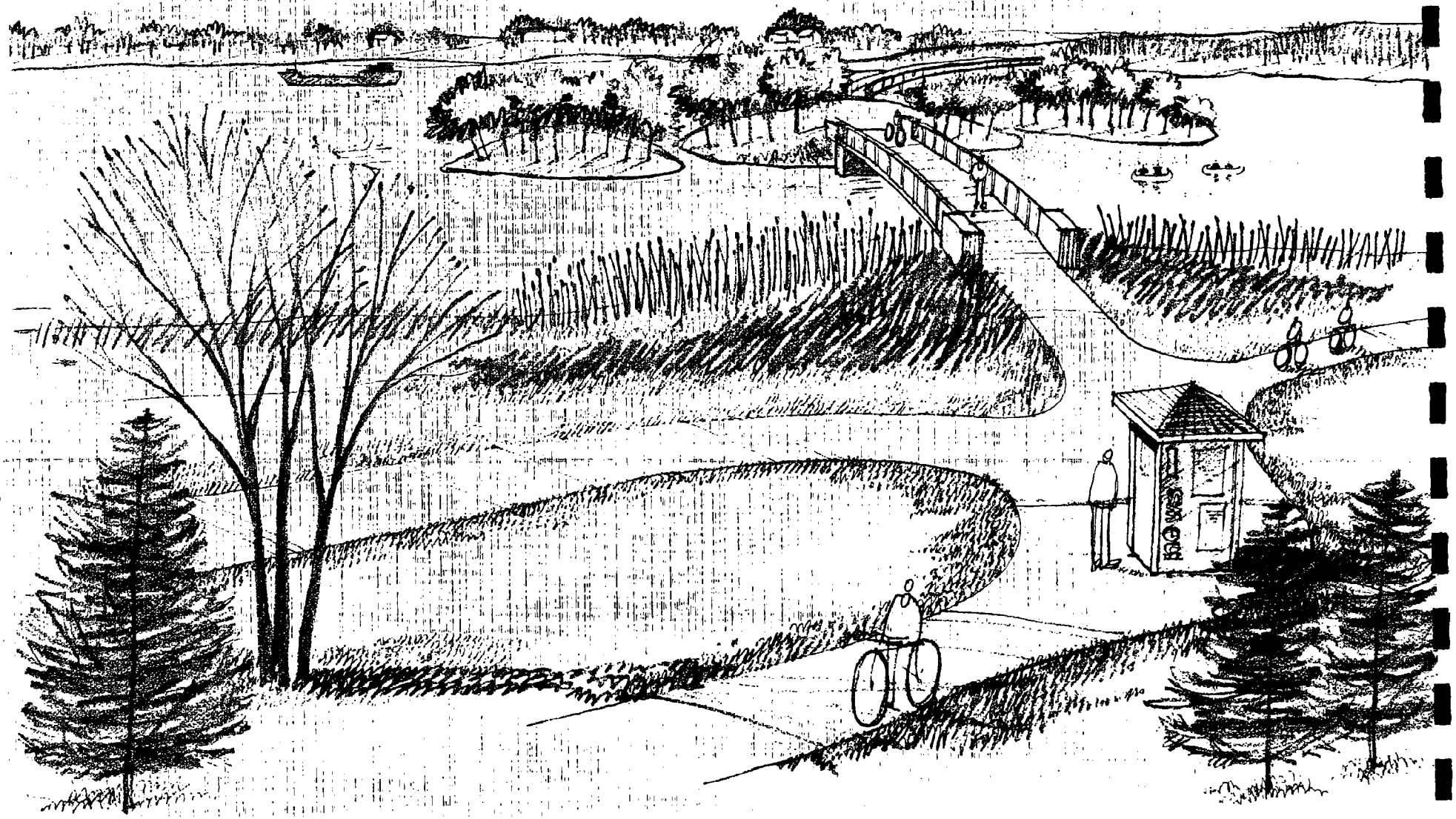

Master Plan
0 50 100 200 300 NORTH
Scale: 1"=100'
S. Wenona Avenue
Lafayette Avenue Bridge
Salzburg
E. Ivy
E. Chestnut Ave.
E. Osage Ave.
E. Pearl Avenue
E. Calumet Avenue
E. Mundy Avenue
E. Ona Avenue
E. Arnold Avenue
Huron Avenue
Chandler Avenue
S. Henry Street
E. Crump Avenue
E. Main Street
Germania Avenue
Arbor Avenue
Nature Interpretive Area
Natural Passive Area
Active Picnic Area
Saginaw River
Community Center
Arboretum
MAJOR PARK ENTRY
FUTURE HISTORIC VILLAGE

The first of the three basic zones in the park would be the Active Picnic Area. Located in this area would be parking for approximately 30 cars, picnic shelter for group picnics and inclement weather, a number of picnic tables and outdoor grills, a theme playscape, fishing dock, physical fitness course and landscaping. The wood shelter would be open on all sides with a fireplace located at one end. The playscape would be designed to provide a variety of play experiences for the users, allowing various age groups to play together, and also provide comfort for observers. The playscape could reflect some theme e.g. nautical, lumber industry, etc. The construction of the fishing pier would make use of the existing concrete pilings as a base and would extend far enough into the river to allow fishing in deeper water. Parking is proposed adjacent to the Iona/Main loop. This particular area of the park borders industrial use which is compatible with the activity generating from the Active Picnic Area and parking. The private parcel between Arnold and Main should be acquired to achieve total development of this area.

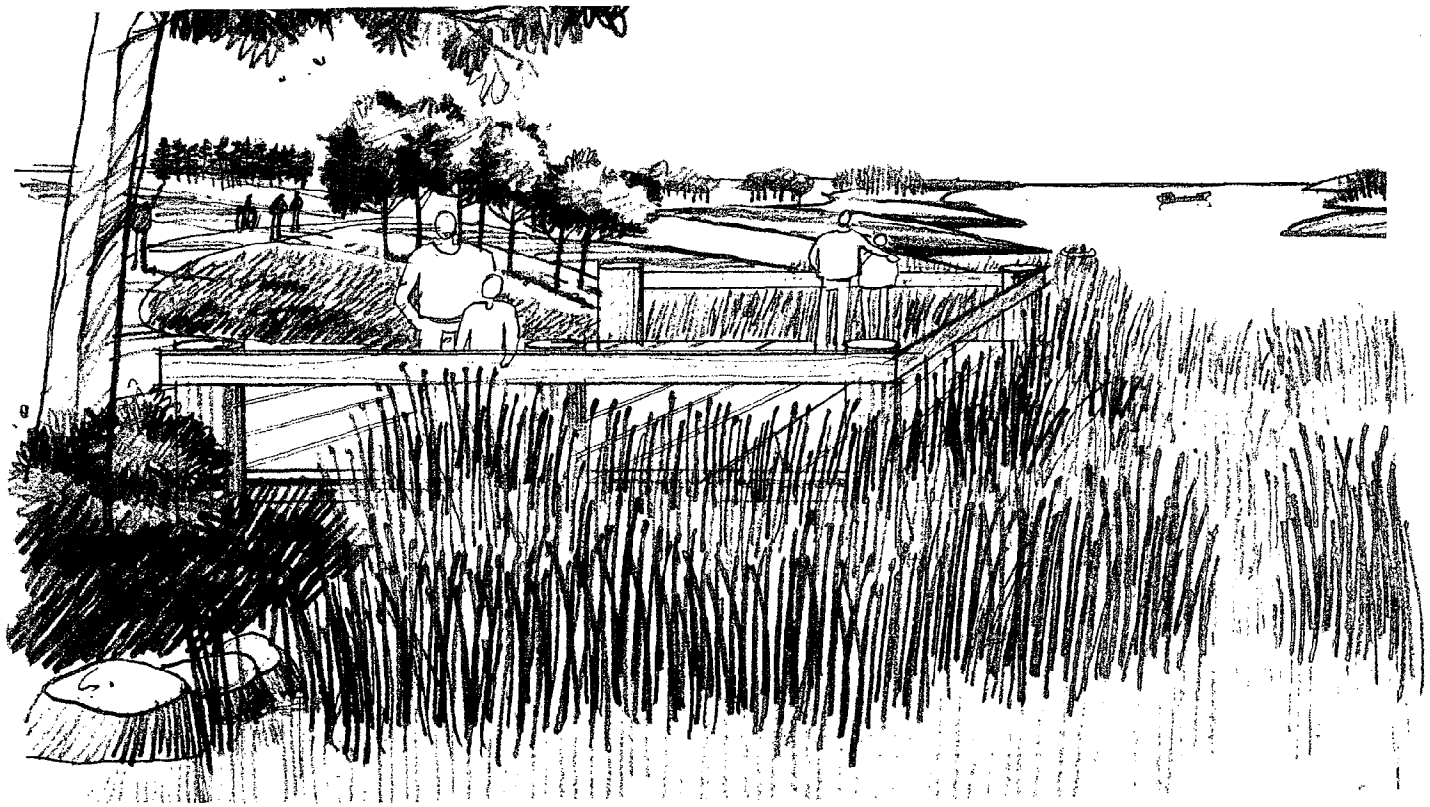




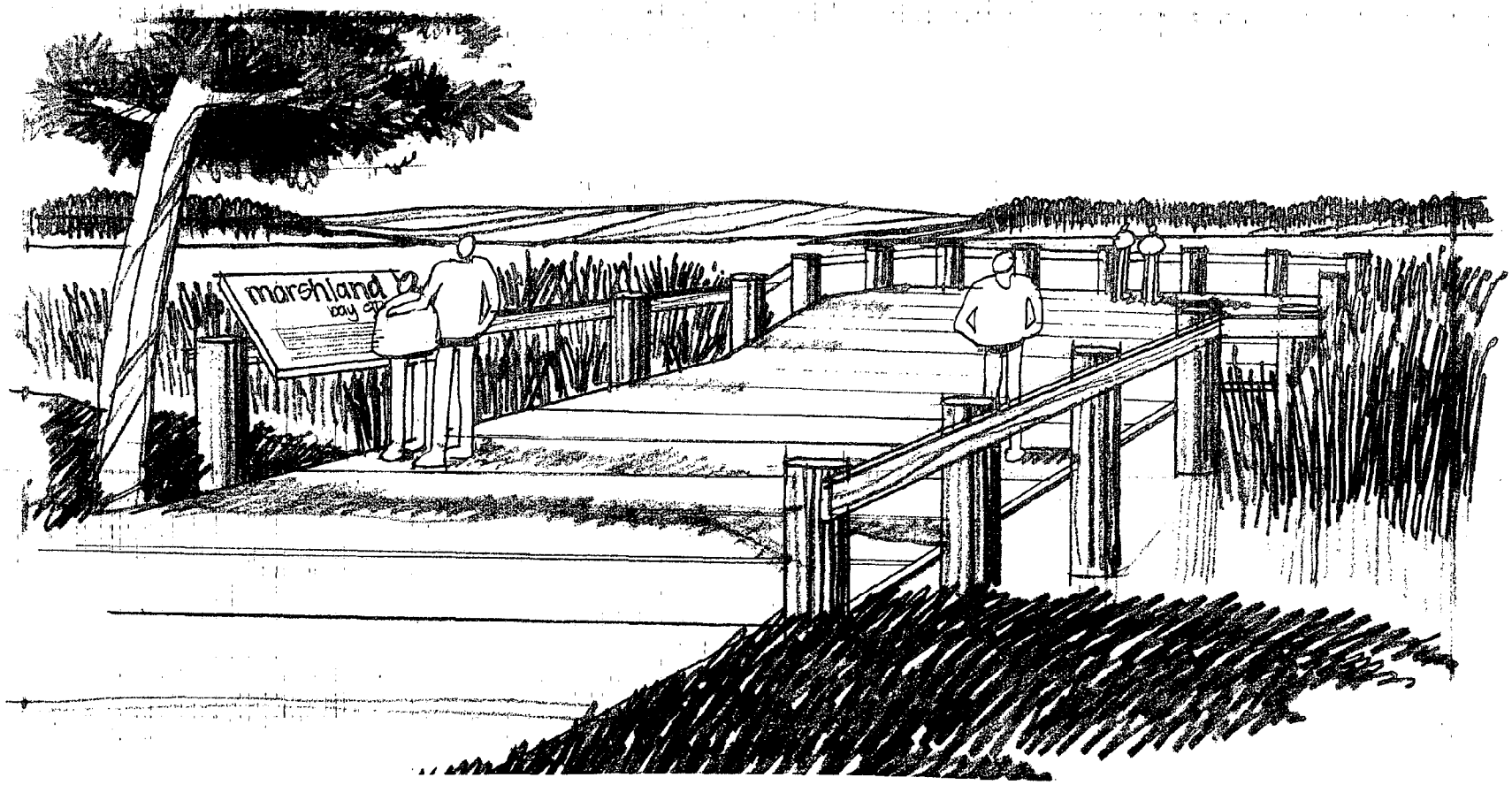
At the extreme south end of this zone is proposed a pedestrian bridge which would connect to the future recreational development on the middle-ground peninsula. The small natural vegetation covered islands halfway between the project site and the middle-ground would be left in their natural state. The bridge would be designed to minimize disruption of the islands and allow visual observation of the natural phenomena of the islands. A physical fitness course would be located in this zone, consisting of different wood exercise stations. The participant would jog between stations, stopping at each station to perform the specific gymnastic exercise indicated on the graphic signboard. The privately owned parcels between Munday and Iona should be purchased to allow development of this area in accordance with the design plan.



The development of the second zone, the Natural Passive Area, would be minimal. Existing natural environmental areas would be kept intact with additional planting to reinforce this use and to create additional green cover and shade. The unifying element in this zone would be the pedestrian/bikeway which would meander through the area, with one or two viewing platforms at the river's edge. The development of this pedestrian/bikeway continuously along the water's edge is contingent upon the city purchasing the seven existing single family dwellings located therein. Without city ownership of these parcels, the pedestrian/bikeway would be designed to join the public r.o.w. on the street side of the property. When the opportunity occurs to meet the water's edge on city property, a spur walkway can be introduced. Although possession of the privately owned sites is not high priority, it would be desirable for the city to purchase them when they become available.



The third zone is the Nature Interpretive Area. This area has located within it the large and excellent water oriented nature area. An elevated wood walkway projecting from the south bank is proposed for nature observation, extended in a manner to allow observation of the entire interpretive area shoreline. This would be designed to accommodate various age groups, from school children through senior citizens, for formal and informal educational purposes. Identification of natural phenomena and graphics would be part of this program. The local Kantzler Foundation has expressed some interest in having a Kantzler memorial development in the park area. The development of the observation dock as part of this memorial has been discussed and should be explored in further detail before definite plans are made for this zone. The Foundation's requirements are not presently known so a graphic representation of the memorial



at this time would be premature. A parking lot for approximately 20 cars is proposed here to service the nature interpretive area and also to accommodate the jogger or biker. This parking would be located adjacent to commercial use and away from any existing residential. Parking is located on the south bend of the Ivy/Mundy loop, rather than directly on the main leg of Arbor Avenue, in order to minimize use of this residential street as an access to the park by outside traffic. The activities along this area (natural passive) are not "drive to" types of activities which also will minimize traffic conflicts in the area. This area would be a starting point for jogging or biking throughout the project area, throughout the whole of Veterans Park, and through the future development of the middle-ground. This pedestrian way would also tie into the Lafayette Bridge r.o.w. walkway which leads to other areas of the City.

The development of an historical village complex would occur northwest of the active picnic area zone, and traffic generated by this complex would be in conjunction with that of Veterans Memorial Park. The historical village traffic would not have access to the proposed parking area and roads adjacent to the active picnic zone. Pedestrian connections, however, would be possible. The historical village development is gaining momentum, being spearheaded by the Bay City Chamber of Commerce. The historical Trombley House has already been designated for a development such as this. More study and discussions are required to begin to define a program and site plan for the project, along with acquisition of privately owned parcels located within the designated historical village project area.

Land uses to the west of the park between E. Ivy and E. Mundy are primarily single family residential. Land uses north of E. Mundy to E. Main are industrial. The City's proposed master plan points out the need to encourage the construction of multi-family housing units in the City and shows the entire area adjacent to this section of the park as being redeveloped into high density apartment housing. The land use relationship between this new housing and the park is excellent.

phases of development

6

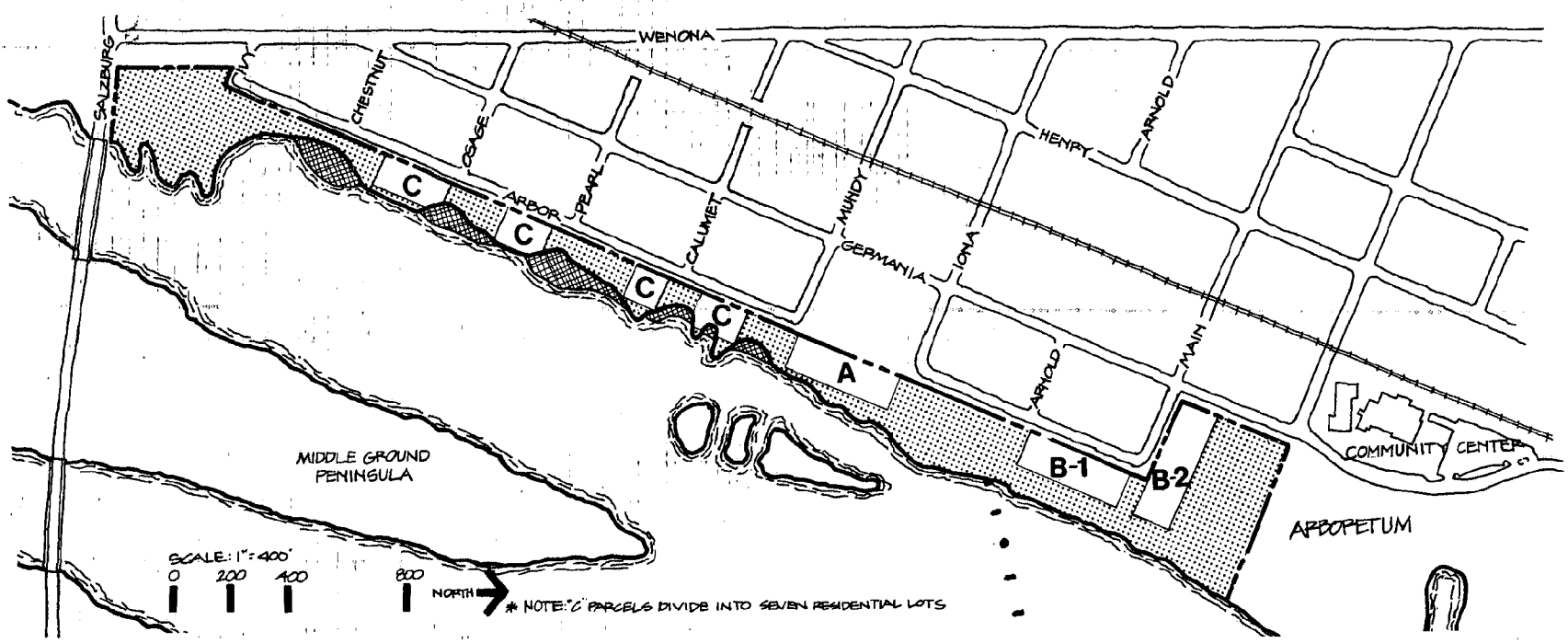
PHASES OF DEVELOPMENT

Considering the present condition and location of the north portion of the project site, it should be considered as a first phase project, to be developed into the Active Picnic Area. It is a barren and uninteresting area which would be greatly enhanced by development, and would be a logical continuation of recent development of the arboretum project. Close proximity of this development to the city's community building and swimming pool would strengthen the multi-use concept of the community building. It is also advantageous that this area is not encumbered with privately owned parcels which restrict development freedom.

Development of the Nature Interpretation Area at the extreme south side of the project would be the logical second phase. It has good vehicular access from other areas of the city without creating additional traffic patterns through the adjacent single-family area.

The third and last phase to be developed would be the Natural Passive Area. The single-family lots located in the park area prevent a continuity of development. This emphasizes the importance of consideration of a program to prevent any further encroachment on the existing natural wetland areas. The program should also consider solidifying the existing environment through planting and renovation programs. In addition, street sidewalks should be developed in this zone and integrated with the pedestrian/bikeway proposed in the other two zones to provide a continuity to the city's comprehensive pedestrian system.

Within the section of the park extension that runs from E. Crump to E. Chestnut, there exists ten parcels of land under private ownership which interrupt the continuity of the park, as previously described in the site analysis. We have evaluated these parcels with regard to acquisition, basing our evaluation on importance for total park development, current land use, and availability. Highest priority is given to Parcel "A" (see map below), located between Munday and Iona and extending 120 feet east of the Arbor Street right-of-way. Acquisition of this parcel is needed to allow a continuous connection of the total park site. The parcel is no longer in use and is currently vacant. Of medium priority are Parcels "B-1" and "B-2", located near the corner of Arbor and Main. Parcel B-1, adjacent to Arbor Street, will be important in the development of the picnic area, and Parcel B-2, along Main Street, is important to the Historic Village Development. Both parcels are vacant and unused by the surrounding industry. The remaining four parcels designated as "C" are of lowest priority. Their current residential use is not detrimental to the overall park concept. Displacement, along with the costs of purchase and demolition, are additional reasons for placing these 4 parcels as low priority acquisitions.



cost estimate and maintenance progam

7

PROJECT COST ESTIMATES

These estimates include development of all privately owned land parcels suggested for acquisition, but do not include the cost of the land parcels themselves, as these costs cannot be determined at this time.

COST ESTIMATE FOR TOTAL PROJECT

LANDSCAPING		
Shade Trees		
Ornamental Trees		
Evergreens		
Seed and Mulch (topsoil not included)		
Grading		
LANDSCAPING TOTAL		$150,000
PAVING		
Pedestrian/Bike Route (8 ft. wide)	$ 60,000	
Two Parking Lots (20 car and 30 car)	31,000	
Hexagonal Plaza	5,000	
PAVING TOTAL		96,000
SITE FURNISHINGS		
Jogging Trail and Exercise Stations	$ 10,000	
Picnic Tables and Grills	7,500	
Picnic Shelter and Fireplace	25,000	
Timber Play Structure and Seating	25,000	
Timber Observation Decks (3)	30,000	
Catwalks and Observation Decks (2)	32,000	
Fishing Pier	56,000	
Information Kiosk	5,000	
Park Benches (25)	5,600	
SITE FURNISHINGS TOTAL		196,100
TIMBER PEDESTRIAN/BIKE BRIDGE		
Park Half	$ 80,700	
Peninsula Half	95,000	
BRIDGE TOTAL		175,700
		$617,000
10% CONTINGENCY		61,700
ESTIMATED TOTAL PROJECT COST		$678,700

COST ESTIMATE FOR PHASE I

The Phase I estimate covers the active picnic area as described in the section Phases of Development, and includes the development of Parcels "A" and "B-1" (see page 31). The implementation of the jogging trail and any landscaping within these two parcels is dependent upon the acquisition of this land, consequently the costs for these items will be subtracted from the amount required for Phase I if the land is not purchased in time for Phase I implementation.

LANDSCAPING		
Shade Trees		
Ornamental Trees		
Evergreens		
Seed and Mulch (topsoil not included)		
Grading	LANDSCAPING TOTAL	$ 75,000
PAVING		
Pedestrian/Bike Route (8 ft. wide)	$ 26,000	
Asphalt Parking Lot (30 car)	20,000	
	PAVING TOTAL	46,000
SITE FURNISHINGS		
Jogging Trail and Exercise Stations	$ 10,000	
Picnic Tables and Grills	7,500	
Timber Observation Deck	10,000	
Picnic Shelter and Fireplace	25,000	
Timber Play Structure and Seating	25,000	
Park Benches	2,300	
	SITE FURNISHINGS TOTAL	79,800
		$200,800
	10% CONTINGENCY	20,080
	ESTIMATED TOTAL FOR PHASE I	$220,880

MAINTENANCE PROGRAM

In order to provide the highest quality maintenance program for the project area, an ideal park staff would be made up of two fulltime employees and two seasonal workers (13 week season). Less staff could be used, but for the purpose of this report and comparisons, we will assume optimum conditions. Further cost reduction could be made in the area of turf care, i.e. the use of growth retardant to reduce mowing effort and decreasing the number of turf fertilizations and broad leaf weed spraying. It is important to note that the following estimated expenses for capital equipment requirements and amounts of material are based on a program starting from zero. In reality, the city probably already has much of the capital equipment required, and material costs would be reduced by quantity buying for use on other park sites.

The major maintenance functions for this 18 acre site are litter pickup and grass mowing, snow removal (path and parking areas), tree care, turf care, refuse collection and disposal, and general facility/equipment maintenance. These functions are described and assigned worker hour requirements as follows:

Litter and Mowing: Mowing on a ten work day cycle, with litter pickup prior to mowing, trimming around all trees, etc., and edging of sidewalks every second mowing.

Total Worker Hours 660

Snow Removal: Based on twelve plowable snowfalls per year.

Total Worker Hours 192

Tree Care: Pesticide spraying, pruning, deep watering, restaking etc.

- Pesticide spraying: Dormant oil spray should be applied to all ornamentals and most varieties of shade trees prior to bud break in the spring. This spray will eliminate most overwintering eggs, most scale problems and most borer problems. Evergreens should receive a spray application of sevin or malathion in early May and again in early June.

Spot sprays will also need to be applied as problems arise throughout the summer.

Total Worker Hours 160

- Pruning (includes wound repair, etc.) is required for both aesthetics and tree vigor. Included in time estimate for pruning is brush disposal.

Total Worker Hours 480

- Deep watering is required for the proper establishment of newly planted trees. This procedure is required through the dry periods of summer especially for the first two to three years after transplanting. Deep watering promotes strong root growth deeply into the soil, which allows the trees to stand more drought stress as they become established. All trees should receive the equivalent of one inch of rainfall per week. During normal summers three root waterings would be required.

Total Worker Hours 56

- Straightening and restaking of trees during the first two growing seasons.

Total Worker Hours 80

<u>Turf Care</u>: primarily broad leaf spraying (twice per year) and fertilization of all turf areas (four times per year).

- Broad leaf spray (2-4-D) applied with 200 gallon hydraulic sprayer.

Total Worker Hours 120

- Fertilizer applied with broadcast spreader.

Total Worker Hours 240

Refuse Collection and Disposal: should be performed a minimum of twice per week during warm weather and once per week for the balance of the year. Heavy use periods may require a greater frequency of pickup. Disposal time is dependent upon proximity to disposal site.

Total Worker Hours 1,024

General Facility/Equipment Maintenance: encompasses all repairs and preventative maintenance on shelters, docks, overlooks, playground equipment, etc. Also included in this category is restoration and repair of trails, paths and parking areas. Any tree replacement or minor in-house grounds improvement projects could be accomplished by existing personnel.

Total Worker Hours 1,800

MAINTENANCE SCHEDULE BY MONTH

JANUARY	Tree pruning, facility maintenance (repair of tables, etc.) snow plowing, refuse collection.
FEBRUARY	Tree pruning, facility maintenance, snow plowing, refuse collection.
MARCH	Tree straightening-restaking, facility maintenance (staining-painting, path maintenance, etc.),dormant spray (weather permitting),refuse collection.
APRIL	Dormant spray, facility maintenance, refuse collection.
MAY	Evergreen spray, broadleaf weed spray, turf fertilization, mowing, refuse collection.
JUNE	Mowing, turf fertilization, tree watering (late in month), refuse collection.
JULY	Mowing, tree watering, refuse collection.
AUGUST	Mowing, tree watering, turf fertilization, refuse collection.
SEPTEMBER	Mowing, broadleaf weed spray, fertilization, refuse collection.
OCTOBER	Facility maintenance, tree pruning, refuse collection.
NOVEMBER	Facility maintenance, tree pruning, snow removal, refuse collection.
DECEMBER	Facility maintenance, tree pruning, snow removal, refuse collection.

ESTIMATED MAINTENANCE EXPENSES

ANNUAL EXPENDITURES

Core Crew Required

1. Fulltime workers - 2 @ $9/hour	$ 37,440	
fringe benefits @ 42%	15,725	
2. Seasonal workers - 2 @ $5/hour (13 weeks)	5,200	
fringe benefits @ 16%	835	
Labor Total.		$ 59,200

Materials - Supplies (18 acres)

1. Miscellaneous hand tools	$ 200	
2. Equipment repair parts	300	
3. Gas-oil, lubrication	3,000	
4. Pesticides		
a. tree sprays - dormant oil, sevin/malathion/orthene	200	
b. broadleaf spray (2-4-D)	250	
5. Fertilizer turf (400 - 50 lb. bags 20-5-10)	350	
6. Grounds maintenance expense - paints, stains, playground repair, parts, etc.	1,000	
7. Replacement of dead or damaged trees, shrubs, plants - grass seed, flowers if desired, etc.	1,000	
Material - Supplies Total.		6,300*
Annual Expenditures Total.		$ 65,500*

CAPITAL EXPENDITURES

Capital Equipment Required

1. One ton dump with swing plow	$ 14,000
2. Cushman truckster	4,000
3. Toro G.M. 72 with mowing deck, heated cab, broom	10,000

4.	Turf sweeper	$ 6,000	
5.	McClane edger	350	
6.	Green Machine (2)	700	
7.	Generator, 2500 watt (optional)	500	
8.	Hydraulic sprayer, 200 gallon	3,500	
9.	Chain saws, Homelite Super XL12 (2)	700	
10.	Miscellaneous power tools	250	
	Capital Equipment Total		$ 40,000*

SUMMARY OF ESTIMATED MAINTENANCE EXPENSES:

Estimated Annual Total . . . . . $ 65,500* Per Acre . . . . . $3,540±*

Labor, Core Crew $59,200

Materials, Supplies 6,300

Estimated Capital Equipment Total. . . . . $ 40,000* Per Acre . . . . . $2,220±*

*These figures represent a program starting from zero, as stated in the Maintenance Plan introduction. Certain figures will be adjusted downward by the use of previously purchased capital equipment and discounted material bought in quantity. In addition, outlay for capital expenses may be amortized over a period of 5 - 7 years.

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