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**MASTER DEVELOPMENT PLAN
FOR PIONEER, MEINERT AND
HILT'S LANDING COUNTY PARKS
MUSKEGON COUNTY, MICHIGAN**

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Michigan Department of Natural Resources

SB 482 MS M37 1980 c. 2

MASTER DEVELOPMENT PLAN
FOR PIONEER, MEINERT AND
HILT'S LANDING COUNTY PARKS
MUSKEGON COUNTY, MICHIGAN
SEPTEMBER 1980

PLAN PREPARED WITH THE ASSISTANCE OF
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ADMINISTERED BY THE
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND RESOURCES PROGRAM DIVISION
IN COOPERATION WITH
THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

PLANNING COORDINATION PROVIDED BY
THE COUNTY OF MUSKEGON
DEPARTMENT OF PLANNING

PLAN PREPARED BY
M. C. SMITH & ASSOCIATES, INC.
LANDSCAPE ARCHITECTURE - LAND PLANNING
PARK & RECREATION PLANNING - URBAN DESIGN
529 GREENWOOD AVENUE S.E.
EAST GRAND RAPIDS, MICHIGAN 49506

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INTRODUCTION

As increasing amounts of land is urbanized, the need for recreational space and facilities compounds at an even faster rate. In areas where waterfront access is a consideration, the need to reserve land and make it available for current and future recreational purposes is even greater. The purpose of this Master Plan Report is to develop a basis for future renovation and development of three county parks. Pioneer and Meinert parks have been in the county system for many years, have significant levels of development and are considered to be two of the most popular parks in the system, as indicated in the Muskegon County Recreation Activity and Demand Study prepared by the West Michigan Shoreline Regional Development Commission. The third is a recently acquired 232 acre parcel on the White River near US - 31 and Colby Road and is an undeveloped, and heretofore unnamed park, which for planning purposes is called Hilt's Landing County Park. Formal action on the selection of a name is imminent and will probably be Hilt's White River Landing County Park as discussed by the park advisory committee.

The plan outlines the recommended types and levels of development for

each site focuses on the optimization of both natural and man made site resources. It also takes into account the financial and maintenance capabilities of the county and carefully considers the potential for generation of revenues through various user and lease fee situations.

MASTER PLAN OBJECTIVES

The primary objectives of the planning program is to develop a rational basis for renovation and development of the three park sites which will be consistent with area wide planning objectives and sensitive to the individual environmental factors.

The recreational needs of the county is the primary concern; however, the needs of the townships that the parks are situated in are also of significant importance. It should also be pointed out that until certain recreational situations or opportunities are created at the township or, more significantly, county scale, a need may not be recognized. This fact is as true for renovation and improved use of existing facilities as it is for the development of new facilities.

The basic objectives of this master planning effort are generally stated as follows:

1. Preserve and appropriately utilize to maximum benefit all natural features and systems.
2. Preserve and utilize in place investments to the highest degree possible within the framework of optimum design, use and development criterion.
3. Provide the highest quality of recreational opportunities possible for all age groups and for a diverse range of recreational interests in the regional county park context.
4. Provide recreational facilities and programs which generate revenues either by lease or other concession agreement arrangements and require a minimum amount of county administration, financial or operation and maintenance support.
5. Design proposed facilities to be constructable by county work forces or under direct supervision of county forces under labor training programs to the greatest extent possible.
6. Design proposed renovations and new development in a manner that permits phased construction while providing increased recreational opportunities and facilities with each new increment of growth.
7. Plan proposed renovations and new developments in a manner that provides close integration of related site functions as well as assuring optimum segregation of vehicular, pedestrian and unrelated or conflicting site functions.
8. Reverse, stabilize or otherwise mitigate existing destructive or negative impact elements with natural or other appropriately designed methods.
9. Develop appropriate park use and development interfaces with the

parks and their adjoining land uses.

There are numerous more specific objectives that could be included in this listing. They are best addressed, however, at the time that specific development units are being considered. This allows a more timely frame of reference for actual objectives for that unit in conjunction with current financial capabilities, future operation and maintenance impacts, overall administrative demands and current specific need considerations.

PLANNING METHODOLOGY

The planning process consisted of three primary work elements on the part of the consultants with periodic review and input by county staff and a park advisory committee of local government officials, community influentials and county officials. The primary work elements were as follows:

1. Collection, Review and Analysis of existing base data. This element included the collection and analysis of available data about the sites and surrounding areas and involved past and current planning data from local, county and regional sources; available user data; operation and maintenance capabilities; existing site use, area development and community impact conditions; existing environmental factors; and future growth and demand factors. Primary data sources included the Muskegon County Planning Commission, U.S. Army Corps of Engineers, West Michigan Shoreline Regional Development Commission, Michigan Department of Natural Resources, Michigan Coastal Management Program and the District Sea Grant Program.

2. Synthesis of Base Data Analysis into Site Utilization Concepts.

This element describes the capability of the site to accommodate a variety of uses and where these uses could be situated on the site with the least negative impact and the greatest user benefit. Designation of various use areas is based upon the assessment of existing environmental and physical conditions; need; operation and maintenance requirements; potential future demand; and development factors of cost, site impacts and difficulty of implementation. Assessment of the various elements were based upon: data produced in previous studies; degrees of conflict existing in current and proposed use patterns; physical capability of certain resources to withstand varied degrees and types of use; appropriate popular development standards; input from citizen and local influential advisors; and professional judgement. Consideration was also given to the findings of significant studies, such as the massive (three years and 27 volumes) Outdoor Recreation Resources Review Commission Report which summarily predicted:

1. Our population will be nearly double by the year 2000.

2. A much greater percentage of the population will live in our already crowded urban centers.
 3. Almost everyone will have much more leisure time and discretionary income.
 4. The over-all demand for outdoor recreation will at least triple in the next 35 years.
 5. The need for recreation facilities in and near cities will increase tenfold.
3. Refinement of Site Utilization Concepts into a Overall Development Master Plan. This element defines the various individual development components of each utilization area and arranges them in an orderly and logical manner. Consideration of aesthetics as well as function and environmental capability determine the location of the various individual elements with careful coordination of the interface zones of active and passive areas and separation of individual or very small group areas from larger organized group facilities.

The quantitative and qualitative judgements developed in the preceding work elements are incorporated into this phase of the process and generally determine its success. Specific numbers of the various programmed

components are detailed and general design criteria such as widths of roads and drives; approximate size and shapes of play areas, structures and other specific facilities are outlined; approximate location of trail systems and related facilities are delineated; and order-of-magnitude cost projections are prepared for the various plan components.

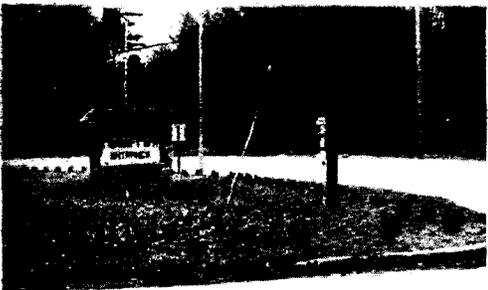
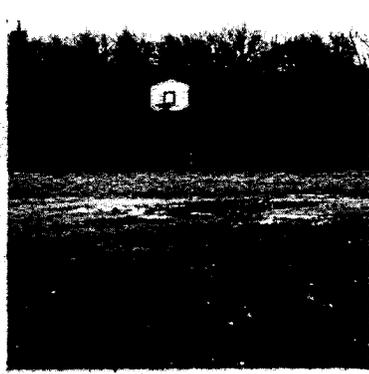
The resultant plan is a representation of a recommended development program which should guide future development. It is not intended, however, to be totally unyielding to future trends or demands which might better suit the interests of the majority of users. If such a situation occurs, a review of the preceding process elements should aptly provide the basis for the considered alterations to the plan. It should be noted that the alteration of any single component may set off a domino reaction impacting on many or all of the other facilities.

Implementation of the plan will progress as community need, availability of funds, agency acceptance and promotion and governmental support at various levels dictate. A careful assessment of potential for generation of revenues which will

help finance development or operation and maintenance of other facilities will figure heavily in the execution of the plan. Even though these elements can not be totally programmed into the planning process, they are critical to the overall success of the planning effort.

Detailed descriptions of the various findings, conclusions and plan elements for each park site are summarized in plan and narrative in the following separate sections for each of the sites: Pioneer, Meinert and Hilt's Landing Parks.

Much of the descriptive commentary will be found on the plans included in each section with support text preceeding each plan. This approach focuses attention on the unique characteristics of each site and corrolates the commentary directly to the specific areas of concern on the site.



PIONEER COUNTY PARK

LOCATION:

Pioneer Park is a partially developed county park facility located on the shore of Lake Michigan in Section 6 of Laketon Township. The park is accessible from the north and south by Scenic Drive, and from the east by either River or Giles roads. All of the roads are designated county primary roads and have relatively easy connections to all of the state and interstate highways in the county. Scenic Drive and River Road were further categorized as "major internal arterial" in Growth Management: A Basic Plan by Leo Jakobson, April 1978.

AREA DESCRIPTION:

Laketon Township is a rapidly growing township of primarily low density residential development. The Lake Michigan shoreline and areas adjacent to urbanized areas developed first and have achieved the highest densities. The shoreline on both sides of the park have been developed to a near capacity level along the coast with large deep lots extending to Scenic Drive. South of the park, there is an existing resort use which is designated as a future service commercial zone in the Laketon Township Growth Management Plan. This proposal ultimately calls for a resort motel, retail and service station improvements which will improve the desirability

of the location of the park.

There are also two somewhat special situation state camping facilities a short distance south of the park which generate both preference and overflow users for the camping function of the park.

EXISTING SITE CONDITIONS INVENTORY AND ANALYSIS:

Pioneer Park is currently described as a 145 acre park with 2,200 feet of Lake Michigan frontage providing 210 camping sites and general community recreational facilities. The camping facilities, as well as the community facilities, receive a high level of use in comparison to their current state of development. The capacity of the park to properly serve increasing numbers of county users without dramatic changes is questionable, in fact, impossible. The following is an assessment of the sites existing natural and man-made features and relates to the attached plan. Existing Site Conditions Inventory and Analysis.

The park's dominant character can be described as a somewhat austere W.P.A. or C.C.C. type facility in a uniquely attractive natural setting. The existing oval drive, open play field, wood frame lodge and randomly placed play facilities are very reminiscent of such projects;

which for years were the primary source of public facilities and often provided the base for some of the development we see today.

All entrants to the park, whether day user or camper, currently enter the site at a rather hazardous curve zone on Scenic Drive and then traverse a long, straight drive that focuses on the park maintenance area. Beyond that point, a one way drive carries the user through the picnic area to the beach and then on to the only access point to the camping area. Parking along the drive is undefined and numerous conflicts between auto and pedestrian occur before arriving to the camper registration area or continuing on around the oval and exiting the park.

The camping area currently experiences a high level of use with most criticism being directed at operation and maintenance factors. A survey taken in July and August of 1979 indicated that the maintenance and general character of existing rest-rooms, the disruption caused by pets and late hour parties and the general maintenance and enforcement of regulations in the camping area were the most criticized conditions. Few campers were seriously concerned with access conflicts, although the circulation signage was confusing; size of

campsites; or quantity of various facilities. This suggests that those surveyed were responding to only the most obvious conditions with the more subtle, yet equally as important, going unnoticed.

Approximately 21 percent (31 acres) of the total park acreage is situated on the east side of Scenic Drive with no improvements and virtually no use of any sort at this time. The fact that the heavily traveled Scenic Drive separates it completely from the rest of the site limits it's use potential dramatically without special street crossing precautions.

ENVIRONMENTAL FEATURES INVENTORY AND ANALYSIS:

The environmental features of Pioneer Park are unique to the extent that they are part of the Lake Michigan shoreline, a factor that inherently implies instability, white sand beaches, lake influence micro-climate, sunsets, wooded upland areas and on an on. Pioneer is no exception, having many of the shoreline attributes. However, the park is situated in an area classified as the Ganges Bluff shoretype with less dramatic characteristics than some of the shorelands a short distance in either direction. The ganges bluff

shoretype is realitively good for bathing with the wet beach extending out approximately 150 feet to the 6 foot depth. The dry beach is generally narrow; seldom exceeding 30 feet and often 10 feet or less in which with a steep fore dune bluff wihch typically rises 20 to 40 feet above the lake elevation. The beach and bluff zone is subject to extensive wind and wave erosion and during extended periods of high water, as has recently ocured, the entire beach area may be lost and the bluff becomes strewn with fallen trees and brush as the bluff erodes away.

The shoreline in this area and extending north slightly over a mile has been designated as a "high risk erosion area" by the Michigan Department of Natural Resources (D.N.R.) and the West Michigan Shoreline Regional Development Commission. This designation stipulates that all future development should be located at least 40 feet back from the shoreline and recommended to be at least 55 feet to afford minimum protection from the possible 1 foot/year erosion encroachment rate.

The upland area typically is relatively level with small dune ridges seldom exceeding 15 to 20 feet in height at the crest of the bluff.

Vegetation is predominantly in the oak - pine association with maple and hemlock intersperced. The soils are a mixture of sand types in the upper strata with occasional veins of heavy, poorly drained clay soils below. Such a condition occurs in the northern half of the site creating seasonally high ground water, which in the gully area becomes surface water and has on occasion accumulated to such an extent to cause a breech of the foredune ridge causing extensive erosion at the breech point. The condition is infrequent and suggests caution be exercised to restrict development in critical low areas and in the location of septic systems.

The plan that follows describes with text and graphics additional environmental factors such as surface runoff areas, vegetative masses, soil types and locations, slope areas and areas of significant erosion and wear stress.

SITE UTILIZATION POTENTIALS:

One of the primary objectives of this planning effort is to develop a framework or scheme which recommends the appropriate, optimum utilization of the various natural and man made resources in the subject park sites. This includes renovation of existing features and facilities and development of new to achieve optimum utilization of the land for current and future recreational purposes. The plan which follows this section graphically outlines areas of low, moderate and high use or utilization potential and is noted with descriptions of possible uses and brief explanations of current use conditions and related factors.

The potential for a certain degree of use is based upon a variety of environmental, physical, functional, economic, social and aesthetic considerations. Because the park has a high level of development and is the most heavily used park in the system, many of the utilization potentials involve change to existing facilities. These consist of elimination, or a significant reduction, in areas of conflict between pedestrians and vehicles, unrelated use areas and man and nature. In addition, preferred uses for some areas will

be recommended based upon appropriate standards, resource capability and land use practices.

The areas of the highest utilization potential are the beach, the camp ground and the existing picnic area. The beach is limited only by its size, accessibility and availability of support facilities such as parking, concessions etc. Improvement of the accessibility by creating direct drives with designated parking close to the shoreline, construction of bathhouse facilities and improved access to the beach from the bluff crest will greatly improve the utilization capacity of that area. With even a limited dry beach area, between 500 and 700 bathers could be accommodated with a turnover rate of 3 for approximately 2,000 users per day.

The existing picnic area is appropriately located, however, the development of designated family and group areas with hard surface "pads" around the tables and paved walks would reduce significantly wear stress on the turf and soils. Family picnic sites should not exceed a maximum density of 15 units per acre and group picnicking approximately 30 units per acre.

The camping area is recognized as being a popular facility, however, the quality of the camping experience could be improved dramatically by increasing and modifying the character of the rigid rectilinear layout of the campground. The addition of a camper recreation/concession center would improve the camping experience and reduce the use pressure in the day use area. A typical site should be at least 65 feet wide and 50 feet deep with a gravel approach, fire pit, picnic table, tent/trailer space, easy access to trash and water facilities and a comfort station within 200 feet. The sites should not exceed a density of 8 sites per acre for proper land utilization.

The area east of Scenic Drive is indicated as having a moderate utilization potential. Because of the separation caused by the heavily traveled arterial street, the area has limited value as an extension of the facilities west of Scenic Drive. The use potential could be rated as high, however, if it were to be utilized for some unrelated purpose such as a neighborhood or township park facility giving it a specialized purpose and identity.

If the land were made available by the county for development by local governments or other recreation oriented organizations such as Little League, the arrangement could be mutually beneficial and put the land to good recreational use.

Other areas designated for moderate or low use potential would have little effect on the overall use of the park whether or not suggested improvements are made. The recommendations are aimed more specifically at appropriate utilization of the land and resources and improving the quality of the overall experience.

MASTER PLAN:

The master plan at the end of this section is the summary statement of the findings and conclusions of the preceding steps in the planning process. It places recommended improvements into scaled graphic relationships with one another to portray and confirm the intent of the planning effort. In general terms, the key elements of the plan consist of the following:

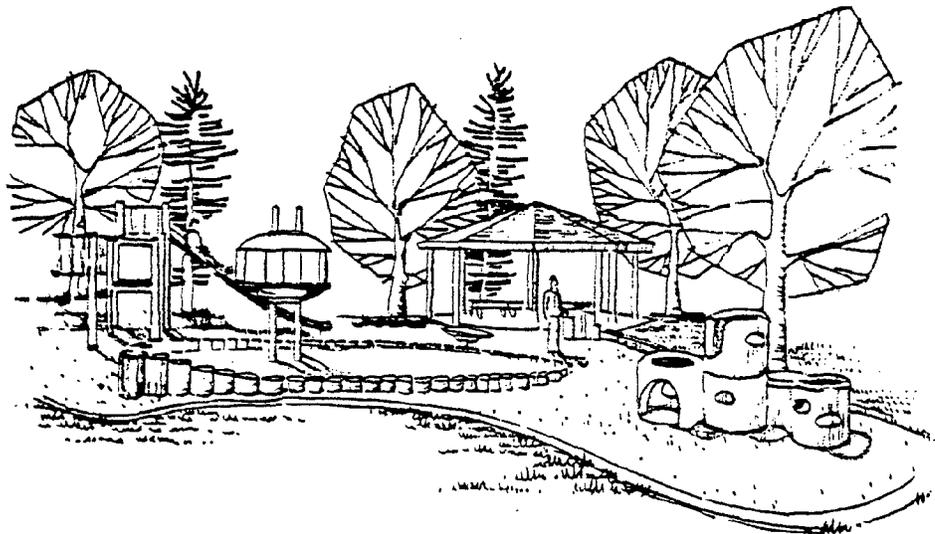
- a. Relocate and restructure the park entrance to improve its

safety, visual character and functional ability.

- b. Relocate the camping area entrance out near Scenic Drive and separate the camper and day use circulation at the park entrance.
- c. Increase the area for day use activities, separate group and family activity areas and circulation, create a stronger relationship of the day use area to the shoreline and provide improved facilities nearer the shoreline for day use activities.
- d. Separate day use and camping facilities and use areas with natural buffers or dual use facilities such as tennis courts and play areas.
- e. Restructure camping area to improve circulation, enhance

character, decrease site densities and to make room to increase the size of the day use area.

- f. Improve access to the beach from all areas in the park.
- g. Stabilize and protect the park environment from future damage by natural and man related causes.
- h. Diversify park use opportunities. The renovated day use area will have a loop drive with designated parking; improved open play facilities; new tennis courts located for dual use with the campground; remodeled park lodge and restroom structures; new court game area; additional picnic shelters; improved play apparatus areas with a variety of motion, height, structural materials and challenge level play pieces in an organized, multi-level area; a



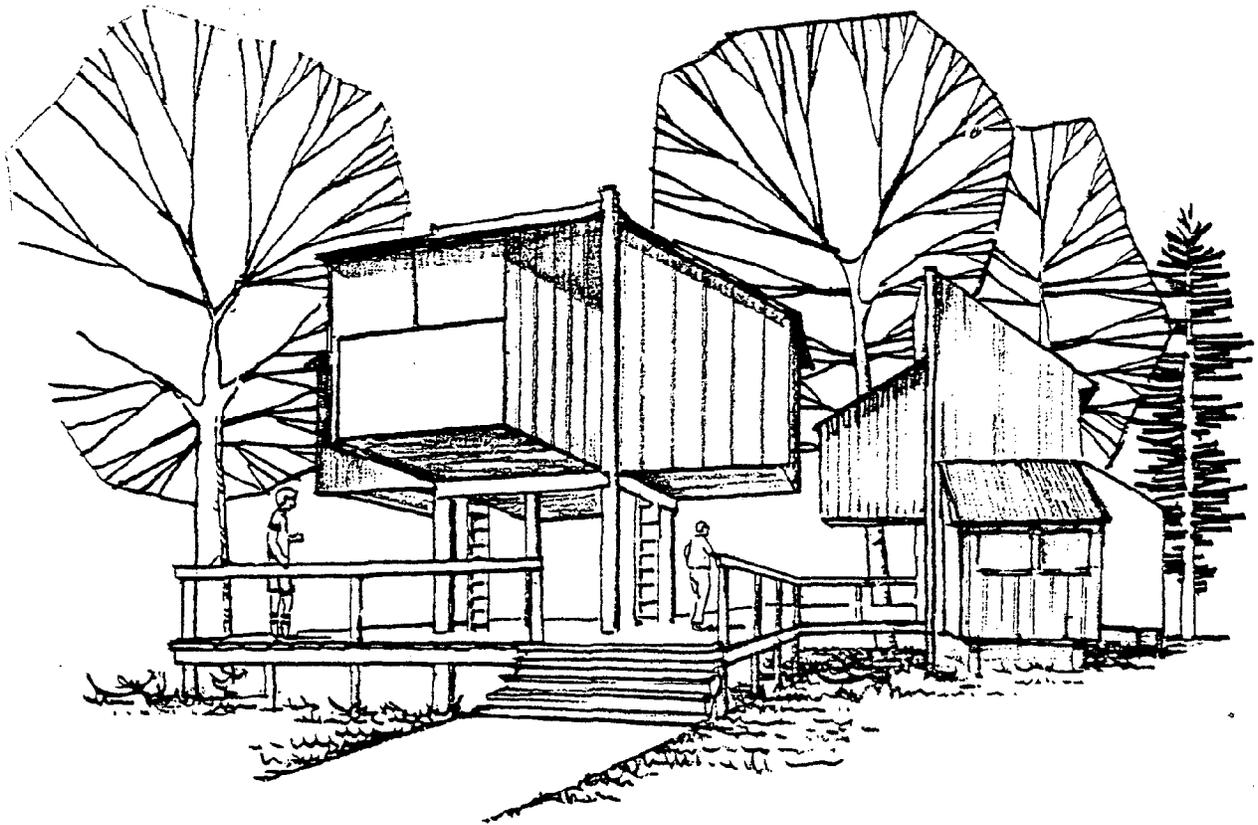
PLAY AREA

new bathhouse concession structure near the beach with an outdoor eating plaza and overlook deck; paved circulation walks, and improved group picnic facilities with permanent tables on a hard surface area, group grills and additional shelters.

The camping area will have the drive system converted to a curvilinear alignment by adding a piece between existing drives and abandoning a small portion of each drive. The existing restroom buildings will be remodeled and another added to relieve the existing facilities and better serve the expanded area of sites. A new registration/administration building will be located at the relocated campground entrance which will also have a 12 space guest parking area near it. The group camping area will be relocated to a more suitable area near the entrance and out of a potentially significant resource and use area. This area will be utilized for overflow camping when it isn't reserved for group use.

A camper activity centre has been included as part of the campground improvements. This structure would provide recreation and lecture/meeting rooms, laundry facilities, concession facilities and outdoor fire pit and game areas. The sale of fire wood and related activities would also take place at this location. The camping area, as well as the day use area, would have overlook decks and beach access stairways at logical locations.

In addition to modifying the existing camping, an area of new permanent rustic cottage units has been proposed for the little used, attractive natural area north of the existing campground. These units are rental structures and would be available to families and organizations. An illustrative sketch indicating boardwalks and clustered units follows to indicate one of many possible alternatives for this kind of development.



RUSTIC COTTAGE CLUSTER

A large amount of slope and shore bluff stabilization plantings are proposed along the rim of the shoreline. A portion of this work was applied for and funded for 1980-81 under an 80% funding grant from the Michigan Coastal Management Program - Low Cost Construction Projects program. This work will involve planting indigenous stabilization plants and constructing dune cross-over structures as illustrated in the Meinert Park section.

The area east of Scenic Drive is proposed to be a township community recreation area. Recreational ballfields with scorers/concession building, a community/restroom building, parking, senior citizens area, childrens play area and handicapped nature trail system could be developed by the Township and participating organizations in accordance with the plan on land offered to them by the County. A well structured use agreement would be necessary to assure appropriate development and continued maintenance.

As indicated on the plan, the recommended improvements are extensive. They all lend themselves to phased development and can be implemented over a span of time without detract-

ing from the useability of the park in any way. The following summary outlines the park elements included in the Master Plan:

OUTLINE OF MASTER PLAN ELEMENTS

VEHICULAR CIRCULATION AND PARKING:

24' Wide Access and Circulation Drives		
20' Wide Camping Area Drives		
Primary Day-Use Parking Area	-	190 cars
Group Picnic Parking Area	-	60 cars
East Family Picnic Parking Area	-	50 cars
Perpendicular Drive Parking	-	<u>90 cars</u>
Total Potential Parking for Day Use Area	-	390 cars

PICNIC FACILITIES:

Group Picnic Area

- 70 Permanent Tables on Crushed Stone Surface
- 15 Group Grills
- 95 Associated Parking Spaces
- 1 Shelter Structure
- 1 Lodge Building
- ½ Restroom Building (Renovated)
- 6 Horseshoe Courts
- 1 Viewing Deck and Stairway with Sitting Landing
- Childrens Play Area (With Climbing, Swinging and Spinning Apparatus)
- Associated Ballfield and Court Games and Open Turf Play Areas
- Associated Walks and Trails
- Associated Utilities and Site Furniture

Family Picnic and Beach Area

- 160 Picnic Tables
- 50 Grills
- 230 Parking Spaces
- ½ Restroom Building (Renovated)
- Bath House, Concession and Information Building
- Concession Dining and Activity Patio
- 1 Shelter Structure
- 2 Overlook Decks and Stairways to Beach with Sitting Landings
- Multi-level Play Area (With Climbing, Balancing, Swinging, Sliding and Spinning Apparatus)
- Tennis Courts (Part of 4)
- Associated Walks and Trails
- Associated Utilities and Site Furniture

East Picnic Area

- 60 Picnic Tables
- 65 Parking Spaces (80 With Overflow)
- 1 Shelter Structure
- 1 Childrens Play Area

CAMPING FACILITIES:

Family Camping Area

- 183 Improved Family Sites
- 20 Rustic Sites with Tent Structures
- 24' Wide Entrance Drive
- 20' Wide Minimum Camp Drives
- 20 Visitor Parking Spaces
- 1 Entrance Control/Registration Building
- 4 Renovated Restroom/Shower Buildings
- 1 New Restroom/Shower Building
- 1 Recreation/Concession Building
- 4 Horseshoe Courts
- 2 Viewing Decks with Stairways and Landings
- Associated Walks and Trails
- Tennis Courts (Part of 4)

Group Camping Area

- 24' Wide Drive
- 5 Visitor Parking Spaces
- 35 Rustic Group Sites
- 1 Restroom/Shower Building
- Associated Tables, Grills and Waste Containers
- Associated Play Areas and Trails

East Site Facilities

- 85 Parking Spaces
- 1 Community Building with Restrooms
- 1 Concession/Scorers Building
- 1 Childrens Play Area
- 6 Shuffleboard Courts
- 1 Shelter Structure
- 1 Softball Field
- 1 Little League Field
- 1 Football/Open Practice Field
- Nature Study Area with Improved Trails and Signs
- Associated Table and Site Furnishings
- Associated Utilities

ADDITIONAL FACILITIES:

- Dune Stabilization Plantings and Landscaping

COST PROJECTION:

Based on the items of work proposed in the Master Plan, the following is an order-of-magnitude projection of costs to complete the plan as proposed. Engineering costs have not been included because they will vary considerably with the phasing of the construction. A contingency is included as a modest buffer against cost increases that occur over time. When individual projects are considered for construction, new cost estimates should be prepared to assure adequate funding at that point in time and to incorporate an appropriate fee for professional services.

DAY USE BATHING AND PICNIC AREA:

Remove Existing Drive and Court Paving	\$13,400.00
New Entrance Drive and Parking	\$92,500.00
Group Picnic Drive and Parking	\$52,400.00
Relocate Ballfield and New Pick-Up Field	\$44,000.00
New Play Areas at Beach and Group Picnic Areas	\$35,700.00
New Picnic Shelters in Group and Family Areas	\$36,000.00
Remodel Existing Lodge and Restroom Buildings	\$16,000.00
Construct New Tennis Courts	\$72,000.00
New Group Picnic Permanent Tables, Hard Surface Pads and Grills	\$15,200.00
Paved Walks and Dining Slab	\$31,000.00
Bathhouse/Restroom/Concession Building	\$96,000.00

Beach Access Stairs and Overlook Decks	\$28,500.00
Utilities Extension and Renovation	\$13,000.00
Relocate Caretaker Residence	\$8,500.00
General Site Landscaping and Erosion Stabilization Plantings	\$7,500.00
Site Lighting	\$12,000.00
Subtotal	\$573,700.00
10% Contingency	\$57,370.00
Area Total	\$631,070.00

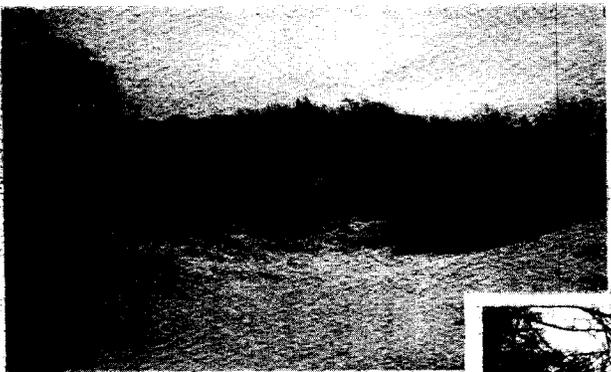
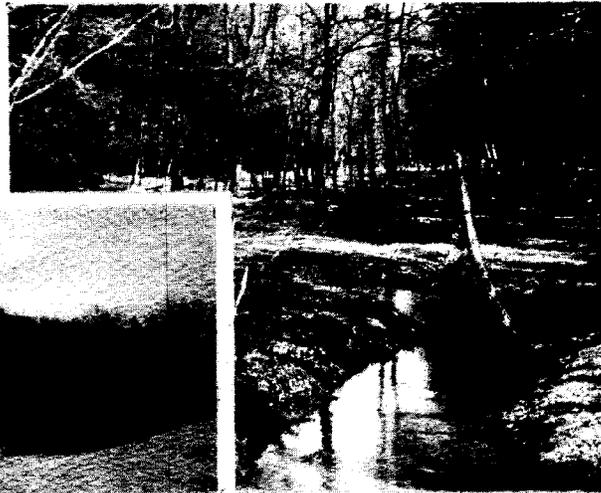
CAMPING AREAS:

Remove Existing Drive Paving and Trees, General Site Preparation and Disconnect Utility Service	\$12,500.00
New Drive Paving From Entrance Through Camping Area	\$69,300.00
Renovate and Expand Existing Restroom Buildings	\$40,000.00
New Restroom/Shower Building	\$30,600.00
New Camper Activity Center and Concession Building	\$52,500.00
Camper Outdoor Activity Area	\$3,500.00
Camper Related Walks and Trails	\$22,400.00
Rustic Cottages and Restroom/ Shower Building	\$190,000.00
Rustic Cottages Drive and Parking (Gravel)	\$9,600.00
Relocate Existing Campsites Utilities	\$21,000.00
New Campsites Complete	\$72,000.00
Registration/Administration Building	\$14,500.00
Group Camping Drive (Gravel)	\$18,500.00
Group Camping Restroom/Shower Building	\$26,000.00
Support Trails	\$19,250.00

Site Lighting	\$12,000.00
Landscaping and Buffer Plantings	\$15,000.00
Subtotal	\$628,650.00
10% Contingency	\$62,865.00
Area Total	\$691,515.00

COMMUNITY RECREATION AREA:

Remove Trees, Site Grading and General Clean-Up	\$14,000.00
New Parking and Drive	\$31,300.00
Community Center Building	\$43,750.00
Scorer/Concession Building	\$18,500.00
Childrens Play Area	\$10,000.00
Senior Citizen Outdoor Area	\$17,000.00
Softball and Little League Ball- fields	\$60,000.00
New Walks and Trails	\$19,250.00
Nature Interpretive Signage, Site Furnishings etc.	\$4,500.00
Site Lighting	\$8,000.00
Subtotal	\$226,300.00
10% Contingency	\$22,630.00
Area Total	\$248,930.00
 Park Total	 \$1,571,515.00



**MEINERT
COUNTY PARK**

LOCATION:

Meinert Park is a partially developed county park facility located on the shore of Lake Michigan in sections 3,4 and 10 of White River Township, T 12 N, R 18 W near the northern edge of Muskegon County. It is situated at the end of Meinert Road, a designated county road which connects directly to old U.S. 31, and is easily accessible from points north and south. Access from the U.S. 31 expressway at the Fruitvale Road exit is also relatively direct and easy.

AREA DESCRIPTION:

White River Township is the most north-westerly township in Muskegon County and has a mixture of suburban and rural agricultural characters. The area is sparsely populated with much of the land tilled for a variety of agricultural products.

The areas adjacent to the park are developed as seasonal resort land uses with seasonal homes to the north, trailer camping facilities to the east and the Lost Valley Lodge resort community to the south. The exceptional environmental character of the area with rolling topography inland; soaring dunes along the shoreline; a variety of beech-maple-hemlock, oak-pine and evergreen wood lots; and numerous small to medium sized streams provides the base for resort type

development as seen in this area. The fact that Meinter Park's 54 acres of uniquely beautiful woods; over 150 foot high dunes; ever changing Little Flower Creek outlet; and white sand beaches is there, also plays an important role in the development of the adjacent lands.

EXISTING CONDITIONS INVENTORY AND ANALYSIS:

Approximately 15 of the existing 54 acres are used to a significant degree with only about half of that maintained for recreational purposes. Existing improvements serve beach and picnic use primarily and consist of parking areas, a mowed picnic area, a restroom building near the beach, play equipment, randomly placed picnic tables and a concession that was erected and is operated by the resident park caretaker who lives near the entrance to the park.

Existing pedestrian and vehicular routes overlap and there is little organization to either. A large area at the end of Meinert Road must remain open at all times to accommodate turn-around traffic. Random pedestrian traffic over dunes and on exposed or steep slopes have caused considerable erosion in some areas, particularly from the beach parking area. The north end of the beach parking area must be kept open at all times to permit vehicular

access to the seasonal residences to the north. This easement must remain in effect for the life of the park.

The limited amount of development on the site is a reflection on it's overall character. Even though they are less than optimum, the existing improvements are situated in and take up most of the area suitable for development. Few areas remain that are suitable for completely new development. Existing levels of use are extremely low in comparison the carrying capability of the beach and some of the picnic areas. The following plan illustrates the existing site conditions.

ENVIRONMENTAL FEATURES INVENTORY AND ANALYSIS:

Meinert County Park was recently expanded to a 54 acre parcel with the acquisition of 25 acres of inland property behind the previously owned coastal land. The addition was completed with funding assistance from the Department of the Interior - Heritage Conservation and Recreation Service and gave the county total ownership of an outstanding active dune system.

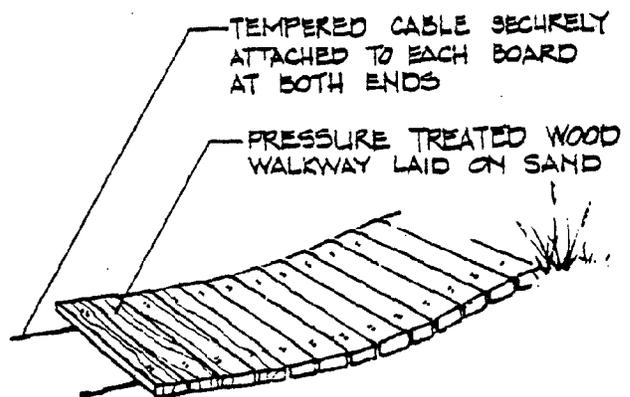
The environmental features of the site are outstanding examples of the uniquely complex and fragile environment of the eastern Lake Michigan shoreline. All of these features are part of the coastal dune geology and are either active or stabilized dune structures resulting in an extremely varied landform of severe slopes. Many of the stabilized backslopes exceed the natural angle of repose of the soil because of the support from existing vegetation and occasionally exceed 75 degree inclines.

The dune type in this area is the Warren Dunes type with an excellent wet beach for bathing reaching a 6' foot depth out 100 to 150 feet, a generally narrow dry beach with occasional large flat areas at stream outlets and foredune breeches, foredune ridges up to 30 feet high and

over 120 foot high back dunes which often reach inland considerable distances before returning to the rolling to level backlands.

The soils on the site are variations of sand but are all well drained, extremely fragile under even moderate use conditions and require special provisions for development of almost any kind.

The beach areas are capable of virtually unlimited use with flat to gently sloping inland areas limited only by the potential extent of compaction and the ability to maintain turf. Ultimately, walks will have to be installed in intense use areas



REMOVABLE BOARDWALK

and routes to various points to minimize the potential for over-compaction and vegetative damage. The following plan further describes and illustrates the environmental features of the site

SITE UTILIZATION POTENTIALS:

The plan at the end of this section graphically delineates and describes with notes, the various areas of low, moderate and high use potentials. These determinations are based upon the environmental capability of the area to accomodate use, the accessibility to the user, desireability of the area for use and the number of

special provisions necessary to maintain use of an area.

A critical factor in determining the use potential of an area is the amount of slope and its relationship to the anticipated use. The following describes the use suitability of different recreational activities in varied slope situations:

SUITABILITY OF SLOPES FOR RECREATIONAL USES

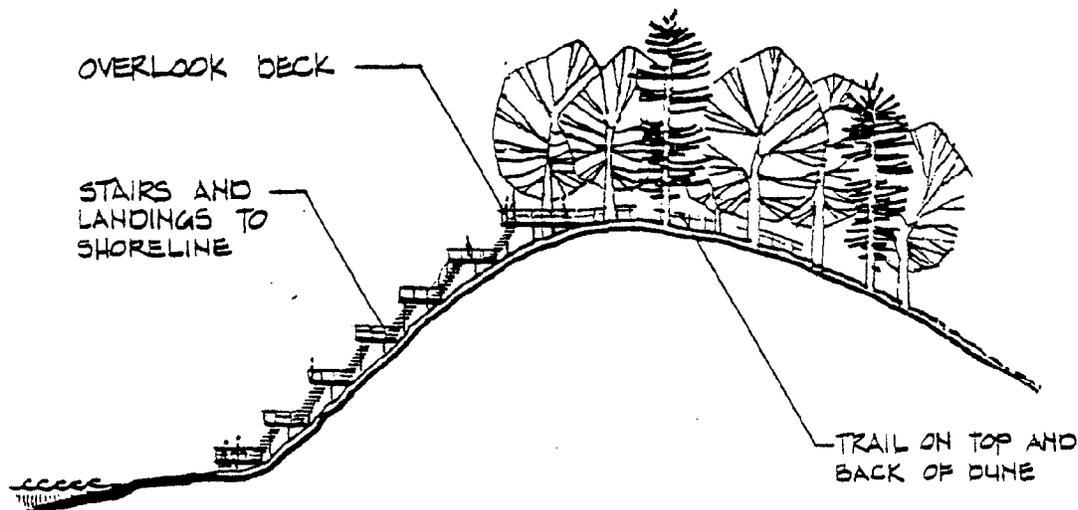
<u>USE</u>	<u>SLOPE DESCRIPTION</u>			
	0 - 5%	5 - 12%	12 - 20%	20% - Greater
Paths and Trails	1	1	2	3
Picnicking	1	2	4	4
Open Play	1	2	4	4
Athletic Play	1	4	4	4
Playground	1	2	3	3
Structures	1	3	3	4
Parking and Drives	1	2	3	3
Camping	1	3	4	4
Passive/Preservation	1	1	2	3
Senior Activities	1	2	3	4

SUITABILITY FOR USE

Suitable	1	- No or Minor Alterations
Fairly Suitable	2	- Workable with Grading
Barely Suitable	3	- Requires Specialized Construction
Unsuitable	4	- Unworkable

Areas indicated as having a low use potential for general recreational purposes occasionally can be made to function as a key element in the overall experience. The fore dune areas on the north and south ends of the site have such designations because of slope, soil and vegetative character. However, the construction of cross-over structures and overlook decks in these areas gives them significant utilization value. The following generally illustrates how such a structure might work.

For the most part, the things that make this site so unique and exciting are the same things that restrict its use. Because of this, the Master Plan must address the various means and opportunities to maximize the use of sensitive slope areas with improved trails and overlook situations that encourage controlled use. Without such measures and careful planning, the site will remain an unused natural area. That is, until future use pressure upsets the natural systems and irreversibly destroys many of the sensitive characteristics.



DUNE CROSSOVER SECTION

MASTER PLAN:

In an effort to achieve optimum utilization of the site, the Master Plan which is included at the end of this section focuses on bringing the maximum number of users possible into the developable areas of the park. This was accomplished by maintaining the beach parking area and expanding the picnic parking area. There is more parking than the picnic area can accommodate because the additional parking is intended to serve the beach and hiking areas. A new walkway is proposed to improve circulation from the parking to the beach.

An effort was made to preserve useable site features; but to do so many have been recommended for renovation improvements. The beach parking area is programmed for a curvilinear alignment and traffic turn-arounds at the north end and at the end of Meinert Road. This will improve circulation and visual character and increase the amount of picnic area behind the dune.

Numerous cross-over walks and decks and vegetative stabilization areas are outlined for first phase construction. These are intended to

channelize pedestrian flows, enhance the recreational experience and help preserve and restore erosion areas. A portion of this work was in an application for funding assistance from the Michigan Coastal Management Program for F.Y. 1980-81 but was rejected.

New elements to be added to the park are play area expansion; picnic area shelter and general area improvements; extensive nature and walking trail system with overlook structures, benches and viewing decks; a bathhouse/concession building with glassed in viewing area overlooking the lake. A detailed listing of site Master Plan elements follows.

As planned, the proposed use of the site does not approach the actual carrying capacity of the total site. To attempt maximum capacity would place excessive demands on the more easily utilized areas and would most certainly create disasterous results.

OUTLINE OF MASTER PLAN ELEMENTS

VEHICULAR CIRCULATION AND PARKING:

24' Entrance and Circulation Drives	
Beach Parking for	- 65 cars
Picnic Area Parking for	- <u>110 cars</u>
Total Potential Parking	- 175 cars

PICNIC FACILITIES:

Beach Picnic Area

- 10 Picnic Tables
- Associated Grills (3) and Waste Containers
- Associated Cross-over Structure and Trails

Creek Plain Picnic Area

- 5 Picnic Tables
- 3 Footbridges, Associated Trails and Overlooks

Meinert Road Picnic Area

- 100 Parking Spaces
- 60 Picnic Tables
- 1 Shelter Structure
- 1 Childrens Play Area (With Climbing, Swinging, Sliding and Spinning)
- Associated Walks, Trails, Stairs and Overlook Decks
- Associated Grills, Waste Containers and Site Furniture

WATERFRONT FACILITIES:

- 65 Parking Spaces
- 1 Bath House, Concession and Information Building
- 1 Restroom Building (Remodeled)
- Concession Dining, Overlook and Beach Access Deck
- Glass Enclosed Viewing Area
- 1 Footbridge (Existing)
- 3 Dune Cross-over Structures with Steps, Landings and Adjustable Walks
- 1 Childrens Play Area
- Associated Beach Area

NATURAL AREA FACILITIES:

- Active Dune Face Overlook Structure with Stairs, Walks and Trails
- Stabilized Woods Overlook Structure with Stairs, Walks and Trails

ADDITIONAL ELEMENTS:

- Dune Stabilization Plantings and Landscaping
- Creek Bank Stabilization

COST PROJECTION:

Based on the items of work proposed in the Master Plan, the following is an order-of-magnitude projection of costs to complete the plan as proposed. Engineering costs have not been included because they will vary considerably with the phasing of the construction. A contingency is included as a modest buffer against cost increases that occur over time. When individual projects are considered for construction, new cost estimates should be prepared to assure adequate funding at that point in time and to incorporate an appropriate fee for professional services.

PICNIC AREA:

Clean-Up and Grade Area and Remove Existing Parking Area	\$3,800.00
New Parking Area and Drive	\$37,300.00
New Picnic Shelter	\$15,000.00
Childrens Play Area	\$9,400.00
Construct Walks and Trails and Walk to Beach Area	\$10,600.00
Water Service	\$2,200.00
Landscaping	\$4,300.00
Picnic Tables, Grills, Waste Containers and Additional Site Furniture and Signage	\$7,200.00
Subtotal	\$89,800.00
15% Contingency	\$13,470.00
Area Total	\$103,270.00

BEACH AREA:

Remove Existing Paving and Grade and Clean Up Site	\$13,900.00
Remodel Existing Restroom Building	\$3,500.00
New Parking, Turn-A-Rounds and Paved Walks	\$7,200.00
New Bathhouse, Concession, Enclosed Viewing Area and Pedestrian Decks and Stairs	\$68,000.00
Boardwalks to Bridge and Along Creek Area With Bank Stabilization	\$9,800.00
Improve Parking Area and Play Areas	\$16,400.00
Dune Cross-Over Stairs, Boardwalks, Landings and Overlook Structures	\$17,600.00
Dune Stabilization and Revegetation Plantings	\$13,600.00
Supplimental Landscape Plantings in the Beach Parking Area	\$4,200.00
Additional Site Furniture and Signage	\$3,300.00
Site Lighting	\$12,000.00
Subtotal	\$169,500.00
15% Contingency	\$25,425.00
Area Total	\$194,925.00

LOW DENSITY PICNIC AREA:

Low Density Picnic Area Clean- Up and Creek Bank Stabilization	\$3,700.00
Footbridges Over Creek	\$3,800.00
Stairs From Meinert Road, Foot- paths, Landings and Trail Furniture	\$29,750.00
Picnic Tables, Grills and Related Site Furniture	\$2,500.00
Subtotal	\$39,750.00
15% Contingency	\$5,960.00
Area Total	\$45,710.00

NATURAL AREAS:

Stairs and Landings in Picnic Area	\$18,650.00
Hiking Trails	\$37,450.00
Covered Overlook Structure	\$10,800.00
Viewing Deck and Stairs in Woods	\$14,400.00
Beach Access From Natural Areas	\$5,600.00
Signage, Furniture and Control Barriers	\$11,100.00
Stabilization and Naturalization Plantings	\$6,700.00
Subtotal	\$104,700.00
15% Contingency	\$15,700.00
Area Total	\$120,400.00
Entire Project Total	\$464,305.00



HILT'S LANDING COUNTY PARK

LOCATION:

Hilt's Landing County Park is a 232 acre parcel of undeveloped land located in section 22, T 12 N, R 17 W of the east half of Whitehall Township in northern Muskegon County. It is situated on the east side of U.S. 31 and is less than ½ mile from the Colby/Holton - Whitehall Road expressway interchange. The site is very accessible to surrounding developed areas with the Whitehall-Montague area approximately 2 miles, Holton 13 miles, Lakewood Club 4 miles and Muskegon 14 miles away.

AREA DESCRIPTION:

Whitehall Township is one of the more developed rural townships in the county with the cities of Whitehall and Montague within its borders. There are numerous subdivisions located around these cities as well as clusters of residential development along most of the main roads in most of the southern half of the township.

The area around the Colby Road interchange is receiving increased development pressure for light industrial and commercial purposes. The area around the Durham Road and Holton - Whitehall Road intersection is currently zoned for light industrial with several adjacent areas

proposed for rezoning to the same classification.

Durham Road is the primary access-way to the site. The road is graded dirt with no current plans for improvement. The conversion of the property between the south limit of the park site and the existing industrial zone from residential to industrial would undoubtedly result in paving the street. If that occurred, the entire ½ mile length of the street from Holton - Whitehall Road to the south property line of the park would probably be paved.

EXISTING CONDITIONS INVENTORY AND ANALYSIS:

The entire 232 acre parcel which was recently acquired with a grant-in-aid from the U.S. Department of Interior - Heritage Conservation and Recreation Service is an unimproved natural area. It is crossed by an aerial electrical transmission line which has a 100 foot wide right-of-way which is clear of all trees and shrubs. The site is also crossed by a 16" sanitary sewer force main running to the county spray irrigation site east of Silver Creek Road. This easement is near the south property line and has a negligible impact on the site character or useability.

The site is crossed by several two track roads that provide access to the power line right-of-way and to the very scenic bluffs along the White River watershed. These two track roads are used extensively by people going through the site to the river for fishing, viewing, partying, occasional overnight camping and hunting. Foot traffic over the bluff to the river has been very heavy in some of the more popular areas causing severe erosion conditions, particularly at the extreme northeast corner of the site where the views are exceptional and access to the river for fishing is good. The river is separated from the bluffs by a dense, wet marsh on the rest of the site.

Use of the river in this area is limited to float canoeing and fishing from small car top or trailerable boats which are put in relatively short distances from the fishing or hunting sites. The river flood plain is predominately unused with exception of the muck farms located on the far north side of the marsh which add interest to the views from the bluffs.

The highway along the west side of the park is the source of occasionally high noise levels and periodic-

ally generates very noticeable exhaust fumes. A buffer strip of heavy evergreen and dense deciduous materials should be maintained and even cultivated along this edge.

The Existing Site Conditions and Environmental Features and Analysis Plan located at the back of the Environmental Features section describes the various existing site conditions with graphics and plan notes.

ENVIRONMENTAL FEATURES INVENTORY AND ANALYSIS:

The upland area, comprising approximately 80 percent of the site, is a very typical Muskegon County environment. The soils are fairly deep to deep well drained sandy soils of glacial origin. These soils occur in relatively flat plains interrupted with occasional undulations with moderate slopes. This site is very flat with one large gully running east to west through the northern 2/3 of the upland area.

Vegetation in the upland area is of the oak-pine association with a variety of oaks, white pine and poplar being the dominant species. Open areas are relatively barren with a moderate cover of prairie grass turf. White pine seedlings are

plentiful and will ultimately be the climax vegetation. This cover currently supports a modest, yet diverse, wildlife community of deer, small mammals and numerous oak forest bird types.

The marsh area and river flood plain represents approximately 20 percent of the site. It too is a very typical western Michigan environment with a variety of marsh grasses, sedges and cattails in the flood plain and wet areas and alder, willow, soft maple, dogwood, ash and tamarack along the landward edge. Waterfowl, partridge and small mammals are plentiful in this area with deer frequently passing through. The marsh is flooded seasonally and after very heavy rains because of rapid fluctuations in the river elevations. This area offers great potential for use if properly developed and managed with boardwalks, viewing and fishing decks and information signage.

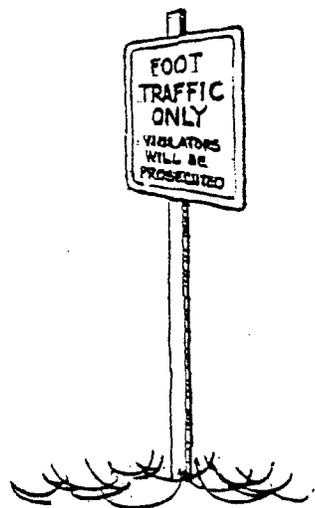
SITE UTILIZATION POTENTIALS:

Areas of Low, Moderate and High utilization potential as determined by environmental character, physical location and ability to accommodate various levels of use are indicated both graphically and with plan note commentary on the Site Utilization Potentials plan which is located at the end of this section. The upland, lowland and bluffs interface of the two areas pretty much characterize the utilization potentials of the site. The following matrix indicates the relative suitability of different environmental situations for utilization for various types of recreational activities.

The larger upland area is capable of being utilized for virtually any kind of development and to relatively high levels of use without inordinate development standards in the near level areas. Special considerations for the slopes and runoff in the gully area present only moderate use limitations for most recreational development. The well drained sandy soils and tolerant vegetation present almost limitless development potentials.

The marsh area, on the other hand, is capable of supporting only very limited development. Such development would be restricted to flexible, low load kinds of construction, like boardwalks, trails and decks which can be flooded periodically as well.

The bluffs area also has severe limitations as to the kind of use it will support because of the sandy soils and extremely steep slopes. Use of any kind under these conditions will create severe erosion problems. Proper use provisions and use control signage are essential in such fragile situations.



USE CONTROL SIGN

ENVIRONMENTAL UTILIZATION SUITABILITY

ENVIRONMENTAL DESCRIPTION

<u>USE</u>	Level	Steep Slopes	Marsh/Wetland	Poorly Drained	Well Drained	Open	Wooded	Stream Front	Lake Front
Paths and Trails	1	3	3	2	1	2	1	2	1
Picnicking	1	4	4	2	1	1	1	1	1
Open Play	1	4	3	2	1	1	2	1	1
Athletic Play	1	4	4	2	1	1	2	3	3
Playground	1	3	3	2	1	2	1	2	2
Structures	1	3	4	2	1	1	1	3	3
Parking and Drives	1	3	3	2	1	1	2	3	3
Camping	1	4	4	2	1	2	1	1	1
Passive/Preservation	1	1	1	1	1	1	1	1	1
Senior Activities	1	3	3	2	1	1	1	2	2

SUITABILITY FOR UTILIZATION

Suitable	1	- No or Minor Alterations
Fairly Suitable	2	- Workable with Grading
Barely Suitable	3	- Required Specialized Construction
Unsuitable	4	- Unworkable

Overlook structures, stairs and cantilever structures can be placed at the crest of the bluff and in some cases on its face.

Unfortunately, the pressure of the expressway and the high voltage electrical transmission line limit the utilization potentials of significant portions of the upland area because of the manner in which they impact upon certain uses.

MASTER PLAN:

The totally undeveloped natural character of the Hilt's Landing Site offers infinite possibilities for development options. Because of this, the assessment of the environmental factors, location in the County and the financial capability of the County to develop, operate and maintain additional park facilities figured heavily in the preparation of the Master Plan. A copy of the Master Plan follows this section.

The primary elements of the Master Plan are outlined in the following summary and can be grouped in four major categories:

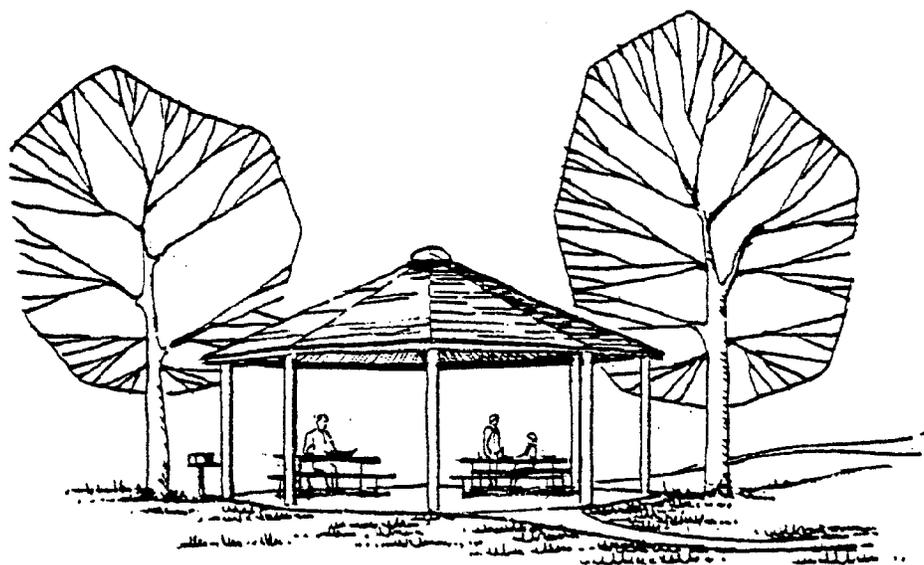
1. Community Recreation
2. Natural Extensive Use Areas
3. Special Purpose Use Area
4. Riverfront Use Area

The Community Recreation Complex is located at the most accessible point of the park which is also an area which will cause the least environmental impact for that kind of use. This development is intended to serve the County as well as Whitehall Township in meeting existing recreational facility needs. A deficiency of recreational ballfields, tennis courts and general support facilities such as play areas currently exists

at both levels of government. There is also a severe need for community swimming facilities in the northern part of the county. This location is ideally suited to serve a broad use area with its somewhat central location and easy expressway access.

The pool and associated recreation buildings should be operated and maintained through collection of user fees. Ideally, the facility would be built by a private developer who would own and operate the pool related recreation center under a lease agreement with the County and who might also serve as resident caretaker. This would provide revenues to develop and maintain other facilities in the area.

The natural, extensive use areas are moderately to well improved areas to be used for family picnicking, hiking, cross country skiing, jogging on exercise trails, open play and related activities. These areas will have improved drives and parking, restroom/storage buildings and picnic facilities. The primary family picnic area will also have picnic and overlook shelters as illustrated, play areas and decks and stairs to the river.



PICNIC SHELTER

The special purpose use area has been identified as a horse riding concession and show area. The intent being to create diversity as well as revenue generating opportunities. There is a deficiency in horse show and private as well as rental riding opportunities in western Michigan. The possibility of utilizing the nearby spray irrigation and adjacent public lands for trails gives this use adequate distance and interest to be successful.

The use of the river and associated marsh area represents an extremely interesting and unique recreational opportunity. Approximately 2,000

feet of boardwalks have been programmed for the marsh area intermittent sitting, viewing and fishing decks. This system is part of the overall trail system and connects to the upland area with stairs and ramps up the bluff. The dry bank area where the river meets the base of the bluff in the north east corner of the site will be terraced and stabilized for walking and fishing. A boat/canoe take-out will be located in this area as well with support parking at the crest of the bluff.

The intent of the Master Plan is to preserve the natural character of the site while making as much of it as possible accessible to a broad range of age and interest groups.

The Master Plan is followed by an Optimum Development Plan which expands the pool recreation center into a camper registration, administration and concession centre and converts much of the natural/picnic areas on the west portion of the site into low density camping areas. The area west of the power lines and north of the gully would be for tent camping and the area south of the gully for camper trailer camping. The density would be approximately 4 units per acre with large natural areas around the camping clusters for trails, etc.

This development would be financed, constructed, operated and maintained by a private party under a lease agreement with the County. This minimally affects County administrative and operations resources yet generates park fund revenues to be used for other facilities. Such a proposal would in no way affect County resident use of the park.

There is a large amount of evidence that indicates there continues to be a deficiency in camping facilities in the County. Nearly 950 of the existing 1,300 sites in the County are located on Lake Michigan, some distance from any major throughfare. Another 150 are located on borrow pits with few to no natural amenities. The Hilt's Landing Site has several pluses non of the other facilities have.

OUTLINE OF MASTER PLAN ELEMENTS

PHASE I DEVELOPMENT

VEHICULAR CIRCULATION AND PARKING:

24' Primary Access and Circulation Drive (Bituminous)	
22' Secondary Circulation Drives (Gravel)	
Community Recreation Area Parking	- 90 cars
South Rustic Picnic Area - Shoulder Parking	- 90 cars
North Rustic Picnic Area - " "	- 110 cars
Riverfront Picnic Area	- 165 cars
Horse Corral Area	- <u>30 cars</u>
Total Potential Parking	- 395 cars

COMMUNITY RECREATION FACILITIES:

Sportsfield Complex

- 60 Parking Spaces
- 1 Scorer/Concession Building
- 2 Softball Fields
- 1 Little League Field
- 1 Soccer/Football/Open Play Field
- Associated Childrens Play Area
- Associated Utilities and Site Furnishings

Court Games Area

- 30 Parking Spaces
- 6 Tennis Courts
- 2 Deck Tennis Courts
- Community Building with Restrooms, Meeting Rooms, Information Area, Patio and Recreational Pool
- Exercise Trail with Exercise Stations

Horse Stable Area

- 30 Parking Spaces (Overflow 50 Spaces)
- Barn Building
- Tack Building and Office
- Corral
- Show and Riding Ring

PICNICKING FACILITIES:

Riverfront Picnic Area

- 165 Parking Spaces
- 150 Picnic Tables
- Restroom Building with Storage Room & Information Area

Riverfront Picnic Area (Continued)

2 Overlook Shelter Structures with Decks
River Access Stairs with Viewing Landings
Childrens Play Area
Associated Grills and Site Furniture
Associated Walks and Trails

North Rustic Picnic Area

110 Parking Spaces
Restroom Building
59 Picnic Grills
Overlook Deck with Information Signage
River Access Stairs
Associated Grills and Site Furniture
Associated Trails

South Rustic Picnic Area

90 Parking Spaces
40 Picnic Tables
Associated Trails

RIVERFRONT AND FLOODPLAIN FACILITIES:

Riverfront Area

Stabilized Fishing Terraces on Bank
Canoe Pull-out Area and Drive
Bank Stabilization
Erosion Control and Associated Stairs
Associated Trails
Associated Picnic Area Parking

Flood Plain Area

Improved Trails on Stable Soil Areas with Information Signage
Boardwalks with Observation Decks in Marsh and Unstable Areas
2 Bridges Over Ox-Bow Backwater
Observation and Fishing Decks at Rivers Edge
Associated Stairs, Viewing Landings and Site Furniture

ADDITIONAL ELEMENTS:

Entrance Area

Durham Road Street Improvements with Development and Improvement
Controls
Bank Stabilization and Erosion Control Plantings and Improvements
Buffer and Site Landscaping

COST PROJECTION:

Based on the items of work proposed in the Master Plan, the following is an order-of-magnitude projection of costs to complete the plan as proposed. Engineering costs have not been included because they will vary considerably with the phasing of the construction. A contingency is included as a modest buffer against cost increases that occur over time. When individual projects are considered for construction, new cost estimates should be prepared to assure adequate funding at that point in time and to incorporate an appropriate fee for professional services.

COMMUNITY RECREATION COMPLEX:

Site Clearing, Clean-Up and Grading	\$4,500.00
Parking and Drive	\$43,600.00
Softball, Little League and Soccer Fields	\$115,000.00
Tennis Courts	\$108,000.00
Scorer Building	\$12,000.00
Childrens Play Area	\$9,000.00
Community Pool and Recreation Center	\$45,000.00
Walks and Paving	\$5,500.00
Site Lighting and Utility Improvements	\$20,000.00
Site Landscaping	\$28,000.00
Signage and Site Furniture	\$5,500.00
Subtotal	\$396,100.00
10% Contingency	\$39,610.00
Area Total	\$435,710.00

FAMILY PICNIC AREA:

Park Entrance Drive, Picnic Area Loop and Parking Areas	\$145,000.00
Site Clearing, Clean-Up and Grading	\$9,000.00
Picnic and Overlook Shelters	\$24,000.00
Restroom/Storage Building	\$16,000.00
Childrens Play Area	\$9,500.00
Overlook Deck and River Access Stairs	\$13,300.00
Riverbank Terraces and Walkways	\$10,500.00
Stabilize River Access Drive and Small Boat Pull-Out Area	\$8,300.00
Utility Improvements	\$4,500.00
Site Furniture - Benches, Grills and Tables	\$25,000.00
Support Walks and Trails	\$25,200.00
Site Landscaping and Erosion Stabilization	\$16,500.00
Subtotal	\$306,800.00
10% Contingency	\$30,680.00
Area Total	\$337,480.00

NATURAL AND PICNIC AREAS:

General Site Clearing, Clean-Up and Base Grading	\$6,500.00
Gravel Drives and Parking	\$41,500.00
Restroom Comfort Buildings	\$32,000.00
Improve Picnic Areas and Provide Tables, Grills and Water	\$32,500.00
Trails and Exercise Course Equipment	\$52,500.00
Information/Directional Signage	\$2,000.00
Overlook Decks and Ramps Down Slopes	\$8,500.00
Subtotal	\$175,500.00
10% Contingency	\$17,550.00
Area Total	\$193,050.00

NATURAL MARSH AREA:

Hiking Trails	\$8,400.00
Boardwalk Trail System	\$28,700.00
Observation and Fishing Decks	\$6,300.00
Information Signage and Control Devices	\$2,000.00
Subtotal	\$45,400.00
10% Contingency	\$4,540.00
Area Total	\$49,940.00

RIDING STABLE AREA:

Clearing and Grading	\$3,500.00
Drive and Parking Area	\$11,700.00
Maintenance and Storage Buildings	\$85,000.00
Show Ring and Paddock with Fencing	\$18,000.00
Utility Improvements	\$4,000.00
Subtotal	\$122,200.00
10% Contingency	\$12,220.00
Area Total	\$134,420.00
Park Total	\$1,150,600.00

The Ultimate Development Plan is essentially the same as the Master Plan with a low density camping component. This development is suggested to be financed and developed with private money. Such development could vary dramatically in scope and character. For that reason, cost projections have not been developed for that plan.

IMPLEMENTATION:

The implementation of the Master Plans will require many years and the continued support of community leaders and public officials. Although the planning process and plans have been reviewed and given technical approval, the plans must still receive formal approvals of the Planning Commission and the County Board of Commissioners. Upon these formal approvals the plan will be established as the guide for all future development. But, the most important ingredient in the implementation process will be the financing of the various improvements and the continued maintenance and management of the improvements and the natural systems.

As previously indicated, the Master Plans propose several locations for the opportunity of private development. Although this private development could provide significant revenues for public improvements, a certain amount of public improvements and maintenance will have to come from public sources. The financing for these public improvements may utilize funds from the following sources: Michigan Coastal Management Funds for low cost construction projects; Heritage Conservation and Recreation Services - Land and Water Conservation Fund;

Community Development Block Grants; The Urban Park and Recreation Recovery Program(?); Private Foundations; and Community Business and Industry Sources. Most of these sources require matching funds of one degree or another and the County will have to employ creative financial structuring to meet these matches.

The opportunity for revenues from private development land leases or other arrangements holds the potential of making the entire Master Plan a reality.

In addition to actively pursuing financial and development assistance, the County should continue to make labor intensive improvements in the areas that are appropriate and conform to the intent of the Master Plans.

Activities such as clearing and clean-up, erosion stabilization and prevention, construction and installation of traffic control devices, structure remodeling and relocation of drives and parking. Erosion stabilization can be done with materials donated from the Soil Conservation Districts and installed with funded or donated work crews.

The following list of plant materials are suggested for erosion stabilization plantings as well as American

Beach Grass (*Ammophila breviligulata*)
which is one of the most effective
forms of stabilizing open sand areas.

SHRUBS:

Autumn Olive
Elaeagnus umbellata
Bearberry
Arctostaphylos uva-ursi
Chokecherry
Prunus virginiana
Gray Dogwood
Cornus racemosa
Red-Osier Dogwood
Cornus stolonifera
Wild Grape
Vitis riparia
Common Juniper
Juniperus communis
Staghorn Sumac
Rhus typhina
Sandbar Willow
Salix interior
Heartleaved Willow
Salix cordata

TREES:

Cottonwood
Populus deltoides
Black Locust
Robinia pseudo-acacia
Silver Maple
Acer saccharinum
Willow
Salix spp.
Red Maple
Acer rubrum
Box Elder
Acer negundo

CONCLUSIONS:

The preceding Master Plan Report presents the County with the tools to begin the long and somewhat arduous task of execution. This cannot be effective without frequent utilization of the plans and unending perseverance for not only continued growth and development. But, for uncompromising quality that is part of an overall goal. To deviate in one or more other areas which can result in the subtle destruction of the original purpose.

The importance of an adequate quantity of high quality recreational facilities and opportunities for future generations can not be overstated. The County has evidenced a strong and sincere committment to this pressing need by tis energetic and interested participation in this planning effort. Such committment is sure to result in successful accomplishment of this important end.

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