

*A Master Plan for the:*

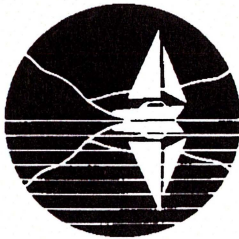
# **Pigeon River Greenway**

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Ottawa County, Michigan



*Prepared for:*



## **Ottawa County Parks & Recreation Commission**

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West Olive, Michigan 49460

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December 2000

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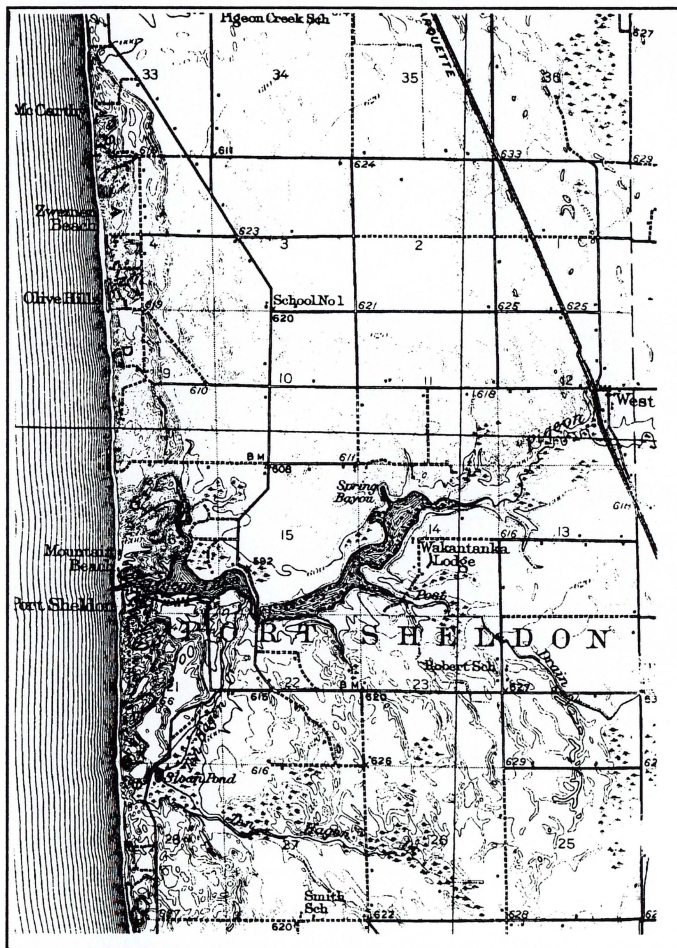
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# Pigeon River Greenway

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## Introduction

The development of greenways has become increasingly popular among park and land preservation agencies across the country because they preserve land for the needs of both people and wildlife. Land preservation is also a high priority in fast growing Ottawa County. The *2000 Ottawa County Parks, Recreation and Open Space Plan* identifies the acquisition of natural lands and the establishment of greenways along key river corridors (including the Pigeon River) as a top priority. Funds to purchase greenway properties come from a dedicated 1996 County parks millage and from grants. In addition, in 1999 the County received a Coastal Zone Management (CZM) Grant from the MDNR to prepare this study of the Pigeon River Greenway. The objectives of this study are twofold, first the study is intended to evaluate the general feasibility of greenway development along a ten mile long corridor from Lake Michigan to 104<sup>th</sup> Ave., and secondly, the study is designed to evaluate in greater detail the development of park facilities on County owned land west of US-31.



1929 USGS Map

Greenways are generally defined as linear open space and recreation lands along natural corridors that provide protection for natural and cultural features as well as connections between parks and communities. Many greenways provide scenic trails for recreation activities including hiking, bicycling, cross country skiing, roller blading, nature study and canoeing. A well designed greenway also provides natural areas for a diversity of flora and fauna including corridors for wildlife movement. For these reasons, greenways have far greater wildlife value than do small islands of natural land in a developed landscape.

Exciting progress has been made toward the establishment of a greenway along the Pigeon River. The Parks and Recreation Commission has completed the acquisition of eight properties comprising 239 acres immediately west of US-31 in Port Sheldon Township. These greenway lands stretch 1.5 miles along the north side of the Pigeon River and 1.0 mile on the south side.

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The Pigeon River Greenway properties include a variety of natural communities including hardwood forest, bottomland forest, emergent wetlands, pine plantations and open fields as well as several small tributaries and natural springs. The scenic Pigeon River meanders through these properties and eventually flows into Lake Michigan. These natural communities provide homes for a variety of plants and animals. An inventory of the natural features present on the County owned and Consumers Energy property was completed as part of this current study and is summarized in the Study Findings and Recommendations section of this report. A companion report prepared by Botanist William Martinus which describes these natural features in greater detail is also available for review at the County Parks Department offices.



**Pigeon River near W. Olive Rd.**

The report which follows is divided into five sections. An introduction provides some background on the County's Pigeon River Greenway planning efforts. A second section describes the planning process that was undertaken as part of this study. A third section describes study findings and planning recommendations, includes an overview of the Natural Features Inventory. A fourth section outlines the probable cost of proposed improvements. An appendix includes reduced copies of all project plans.

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preserve natural lands, link ecological resources, create opportunities for environmental education, and provide natural resource based recreation opportunities to all County residents.

## ***Project Objectives & Programs:***

1. *A continuous open space corridor will be assembled over time along both sides of the Pigeon River. This open space corridor will include publicly owned land, conservation easements, and privately owned land managed as permanent open space.*

### ***Programs***

- 1.1 Identify and prioritize key parcel acquisitions along the river corridor.
  - 1.2 Develop a strategy for assembling river corridor land to include acquisitions, conservation easements, land donations, bargain sales of land, and purchases of development rights.
2. *Appropriate native landscapes along the greenway will be maintained or restored to create a continuous natural habitat along the Pigeon River.*



**Riparian Buffers**

### ***Programs***

- 2.1 The County will work with private property owners to develop riparian buffers along the Pigeon River. The
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- County will explore incentives (i.e. design services, tax advantages, etc.) to encourage implementation.
- 2.2 Man made landscapes (i.e. filled wetlands) will be identified and restored as natural habitats.
  3. *A system of trails and access points will be developed along the greenway to provide public access to the river corridor for fishing, hiking, kayaking, and other low impact recreation activity.*



## ***Programs***

- 3.1 Construct trail systems on County owned property to provide access to the river.
- 3.2 Develop access points for kayaking at upstream locations on the river.
4. *Destination recreation facilities will be developed along the greenway on larger County owned properties to provide staging areas for public recreation and activities for groups and special events.*

## ***Programs***

- 4.1 Develop the County owned property west of US-31 to support public activities.
  - 4.2 Maximize the public recreation opportunities at Pigeon Creek Park (i.e. expand lighted trail for night skiing).
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5. *The visibility of the Pigeon River will be enhanced to improve the public's appreciation of its scenic qualities.*

**Programs**

- 5.1 Provide roadside scenic turn-outs/access points at selected locations.
- 5.2 Construct attractive bridge railings, overlooks and other structures that match the high quality of the river corridor's natural resources.
- 5.3 Selectively clear brush and trees to improve views of the river.
- 5.4 Construct trail overlooks and viewing platforms at key locations and to provide views of the river.

6. *An environmental education program will be developed to inform the general public and riparian property owners about the value of the Pigeon River.*

**Programs**

- 6.1 Develop interpretive signs at key locations along the river that highlight the greenway's natural features.
  - 6.2 Develop a brochure that can be sent to interested individuals describing natural features and habitat improvements programs.
  - 6.3 Develop a specific program and/or brochure targeted at riparian property owners to provide information to these individuals about proper land use practices and ways in which they can participate in the greenway development.
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The *Research and Analysis Phase* also involved the preparation of aerial topographic maps of the County owned and Consumers Energy parcels west of West Olive Rd. and the development of a detailed Natural Features Inventory.



The data gathering efforts conducted in this first phase of the project concluded with a public meeting to discuss initial findings and learn more about the public's concerns and wishes for the greenway. This meeting was attended by approximately fifteen individuals and their comments contributed to the development of plan concepts for the greenway.

Following the *Research and Analysis Phase*, a *Preliminary Planning Phase* and a *Final Planning Phase* of work were undertaken to develop and refine plans for the greenway. These phases of work involved additional site visits and meetings to review design proposals and field check proposed improvements. Each of these phases concluded with a public meeting to review work products with concerned citizens, and many of their comments were reflected in the final plan.

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## ***Study Findings and Planning Recommendations***

### ***Natural Features Inventory***

As mentioned earlier, one important component of the Pigeon River Greenway study was the completion of a detailed Natural Features Inventory (NFI) of the County owned and Consumers Energy property west of W. Olive Rd. Understanding the natural resources of the property was an important objective of the County to make informed decisions in the planning of the area so that appropriate restoration, conservation, and interpretive programs could be developed.

The study area's outstanding natural features include the contiguous forest along the sinuous Pigeon River, extensive Great Lakes Marsh, migrating dune lands, and extensive flora. Its physiography can be attributed to the legacy of postglacial effects of water and wind and, to a minor extent, human activity. Ancient Lake Nipissing, which at 605 feet above sea level submerged a larger land mass, smoothed the undulating post-glacial landscape to the resulting flatness of Western Ottawa County. When the lake dropped to the present Lake Michigan level (580 feet above sea level) vast beaches of sand were exposed to become subject to the prevailing westerly winds that piled them into the foredunes about 4,000 years ago. Over time, many of these dune areas were transformed into mature forests through the process of succession. In the late 1800's, many of these forests fell victim to the Lumbering Era and were logged. This left a barren and sandy landscape that was subject to much erosion. Early settlers attempted to farm these areas with little success. Some of these areas along the Pigeon River were planted in pine plantations in an attempt to control the soil erosion and many of these plantations remain today.



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Passenger Pigeon Hunting activities in Ottawa County during the mid-1800s  
Painted by Lewis Cross (1864 - 1961) of Spring Lake, Ottawa County

Known as the “Great Bear Swamp” in the 1800's, this region was once the heart of the now extinct Passenger Pigeon trade; hence the “Pigeon” River. Millions of pigeons were shipped to Chicago and eastern markets. Phrases such as “clay pigeons” and “stool pigeon” were coined from collecting activities.

The lower Pigeon River Greenway consisting of about 500 acres was inventoried for this project. It contains twelve vegetative communities or habitats, producing 554 species of vascular plants, which is over 1/5th (22%) of the 2,465 species of known vascular plants of Michigan according to Edward Voss’ “Flora of Michigan.” This number is remarkable considering the total area searched was less than a square mile. The main focus of this project was to seek out the natural features of these properties with their distinct habitats and species, especially the plant communities. A number of rare species were found. Some of them have been given a status designation by the State of Michigan because of state-wide conservation reasons. More specifically this status refers to the placement of a species on the Department of Natural Resources’ “Threatened and Endangered Species” list. The “endangered” category indicates the

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most precarious status in the state, “threatened” is the next most severe, last is “special concern.” The following Listed Species were encountered during the year 2000 study season.

## Vascular plants:

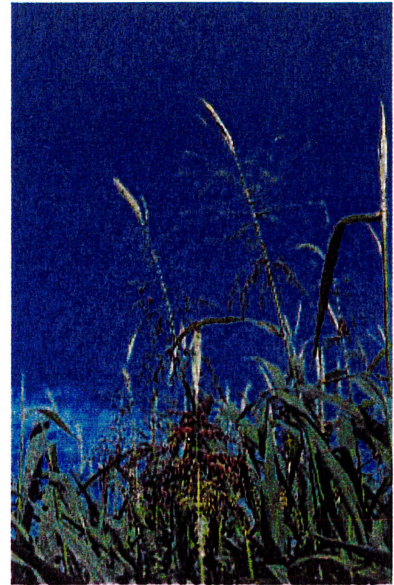
*Lycopodiella margueritae* J. G. Bruce, W. H. Wagner, & Beitel,  
Northern Prostrate Clubmoss; threatened  
*Zizania aquatica* var. *aquatica* L., Wild-rice; threatened  
*Hibiscus moscheutos* L., Swamp Mallow; special concern

## Birds:

*Phalacrocorax auritus*, Double-crested Cormorant; special concern  
*Accipiter cooperii*, Cooper’s Hawk; special concern  
*Circus cyanes*, Northern Harrier; special concern  
*Haliaeetus leucocephalus*, Bald Eagle; threatened  
*Pandion haliaetus*, Osprey; threatened  
*Sterna caspia*, Caspian Tern; threatened  
*Spiza americana*, Dickcissel; special concern

## Reptiles:

*Emydoidea blandingii*, Blanding’s Turtle; special concern  
*Terrapene carolina carolina*, Eastern Box Turtle; special concern



Wild Rice (*Zizania aquatica* L.)

All told, twelve different plant communities were identified in the study area (eight palustrine or wet habitats, and four terrestrial or dry habitats). These plant communities are shown on a map in the Appendix of this report and described in greater detail in a companion report prepared by local Botanist, William Martinus.



Flowering Dogwood (*Cornus florida*)

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As stated earlier, the diversity of the flora along the greenway is quite impressive and it influenced many of the planning decisions of the Parks and Recreation Commission. Specifically, the following management practices are recommended for the property:

- A limited bow hunting season to control the deer population should be considered.
- Eroded river banks should remain because the exposed sandy soils provide ideal locations for turtle egg hatcheries and kingfisher nesting sites.
- Because of the fragile condition of the greenway's soils (upland soils are thin and sandy, lowland soils are soft and spongy) mountain biking and horseback riding should be prohibited in this section of the greenway.
- Standing dead trees and brush piles from previous logging operations should be left in place to provide habitat for the greenway's abundant fauna.
- Invasive species (mostly non-native plants, but occasionally birds and mammals as well) should be controlled because they can crowd out native species, upsetting the balance within habitats. Multiflora rose, oriental bittersweet, and garlic mustard are examples of invasive species found on the property.
- While the greenway is generally quite free of trash and litter, there are a few scattered locations where debris has accumulated and should be removed.
- The noise and wake from fast moving watercraft can erode riverbanks and disturb the serenity of the area. A no wake zone should be explored for the Pigeon River, east of Lakeshore Dr.

## **Cultural Features**

While a detailed inventory of the property's cultural features was not conducted, past research performed by the County has revealed a rich history that could support a variety of interpretive programs.

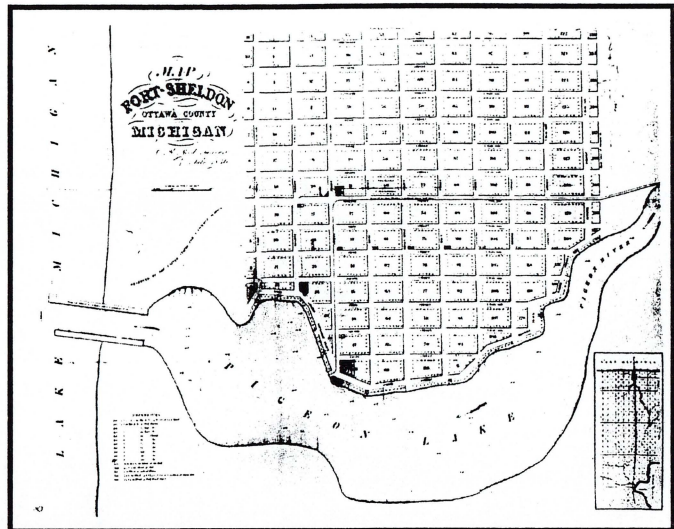
Port Sheldon's history of failed land speculation provides an interesting backdrop for the greenway development. In 1835, a group of eastern investors formed a stock company to found a city at Port Sheldon to serve as a shipping center for forest and agricultural products. Its founders were confident that it would soon replace Detroit as the economic hub of the Great

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Lakes. The first group of 300 colonists cleared a 160 acre plat, graded streets, laid wooden sidewalks, and platted more than 3,400 lots. Soon 15 buildings were constructed including a large general store and the finest sawmill in the state. A gravel road was constructed to Grand Haven and a railroad right of way was cleared in anticipation of a future rail connection to Port Huron. In 1837 the Ottawa House Hotel was constructed as the centerpiece of the settlement. The opulent two story 29 room hotel with Grecian pillars was constructed at a cost of \$60,000.00 and its grand opening was advertised in Philadelphia and New York newspapers.



Port Sheldon Plat Map

By the early 1840's, Port Sheldon was in a downward spiral. The sand clogged channel that connected the city with Lake Michigan could not be maintained, and a general inflationary cycle in the economy doomed the settlement to failure. The Port Sheldon Co. dismantled the sawmill and abandoned the settlement. In 1859 the southeast corner of the Ottawa House collapsed and by the turn of the century all traces of the Port Sheldon settlement had disappeared.

A portion of the County owned property on the north side of the river now known as the Weaver House (named after its previous owner), also has a colorful history. In the late 1800's the property's frontage on the Pigeon River was known as "Bark Landing" because it was there that bark stripped from hemlock trees was loaded on boats for use at tanneries. In 1901 the property was sold to Albert Fridrich of Chicago and his wife Lena Hoecker of Port Sheldon. The Fridrichs built a twenty one room hotel, a clubhouse, an icehouse, a barn, and a private residence on the property which became known as "Fridrichs' Point." The majority of the guests at Fridrichs' Point, mostly from Chicago, traveled on the Pere Marquette train to West Olive and were then driven to the hotel by surrey. Guests at the resort played tennis, fished, went swimming, and sunbathed. Other attractions included a spring fed pond with waterfowl, pony rides for children, an open dance pavilion and a zoo with monkeys, peacocks, racoons, and other animals.

Despite its many attractions, the resort did not flourish. A subsequent owner, Edward and Lena Styx of Chicago bought the property in 1920 and transformed the hotel into a dance hall. During the winter of 1935, heavy snows caved in the roof of the dance hall. Materials salvaged from the dance hall wreckage were used to rebuild a new fully enclosed dance hall, that was a popular square dancing spot with live bands nearly every Saturday night.

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In 1966, Mr. and Mrs. Cloyd Weaver purchased the property for use as a private residence, tearing down the remnants of the dance hall which was destroyed by strong winds in 1959. The original house is in good condition today and still retains much of its historic character.

## Greenway Planning Concepts

As described in the County's vision statement and objectives for the Pigeon River Greenway, the goal of this project is to create a continuous open space corridor along the Pigeon River that will preserve natural lands, link ecological resources, create opportunities for environmental education, and provide opportunities for natural resource based recreation. Because the greenway includes over ten miles of river frontage, its full establishment will require significant time (perhaps 20 years or more) and a variety of creative land management techniques will need to be employed to reach the County's goal.

A framework for the establishment of the greenway is described on the attached greenway master plan drawing (see appendix). This plan identifies six distinct planning segments of the greenway based on the natural and cultural features of the land. Starting at Lake Michigan and traveling east, these planning segments are described in more detail below:

- Consumers Energy Boardwalk - Consumers Energy Corporation is currently constructing a boardwalk and parking lot/staging area along the north bank of Pigeon Lake to improve access for fishing. The Parks and Recreation Commission supports this effort because it furthers many of its recreation objectives for the greenway. Future expansion of this boardwalk/greenway to the east (approximately 1,500') would create a continuous public access corridor along the north bank of Pigeon Lake, linking the existing DNR boat ramp with Lake Michigan. This plan recommends that this connection be studied in greater detail at a future time in collaboration with Consumers Energy. Additional greenway development along the south side of Pigeon Lake seems unlikely in this segment due to the existing ownership pattern of small single family lots.
- Consumers Energy Greenway Property - Between Lakeshore Dr. and the County owned property west of W. Olive Rd., Consumers Energy owns almost two miles of frontage along the north side of the Pigeon River. This land has been maintained by the Campbell Plant staff as an environmental enhancement area and features a well developed system of nature trails that are closed to the general public but frequently used by school groups. The Parks and Recreation Commission supports this open space preservation project and is exploring a stronger partnership with Consumers Energy so that some of these trails could be open to the general public as part of a larger greenway trail system. At the west end of this

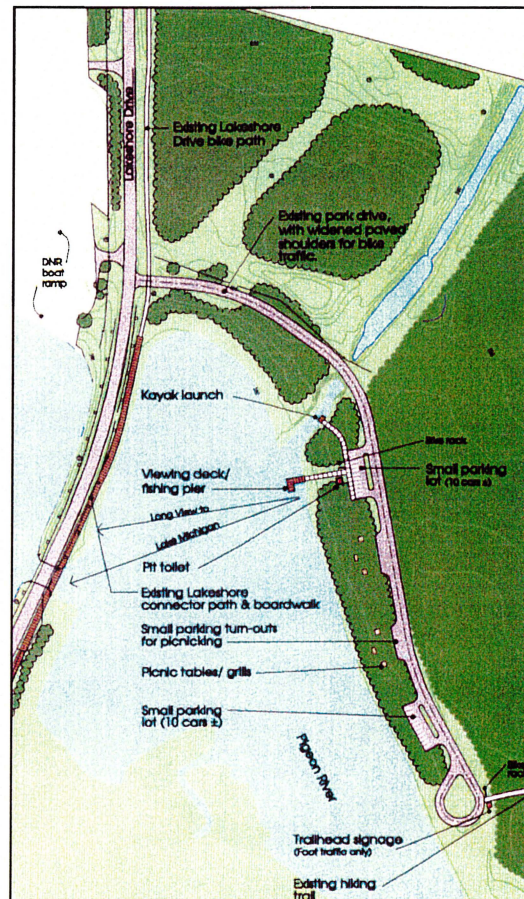
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Consumers Energy Section Plan

environmental enhancement area, Port Sheldon Township currently maintains a river access park on property leased from Consumers Energy. The Park and Recreation Commission is exploring a partnership with the Township and Consumers Energy to redevelop this property as a westerly greenway access point. As shown on the plan below, the access point/park would feature two small parking lots, a canoe/kayak launch, a fishing/viewing, and pit toilets. The proposed park drive would follow the alignment of the existing road and would be paved to improve access. The park's design is intended to improve access to the river, provide a resting spot for Lakeshore Dr. bike path users, and provide a staging area for



Lakeshore Trailhead Park

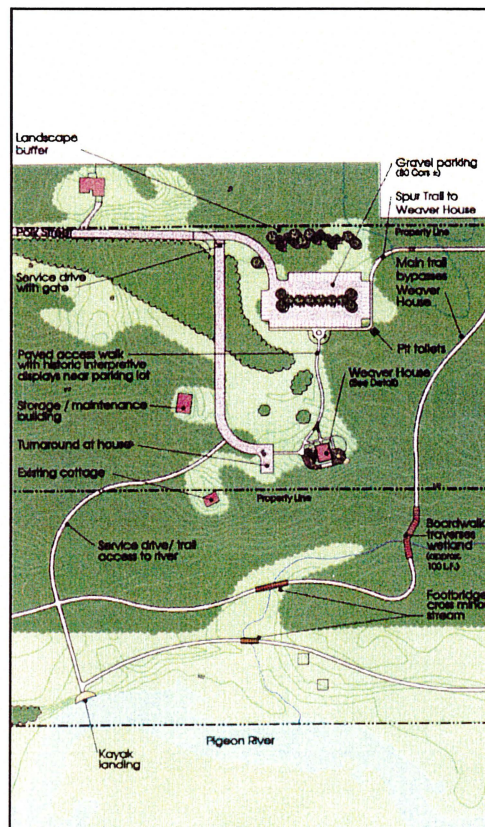


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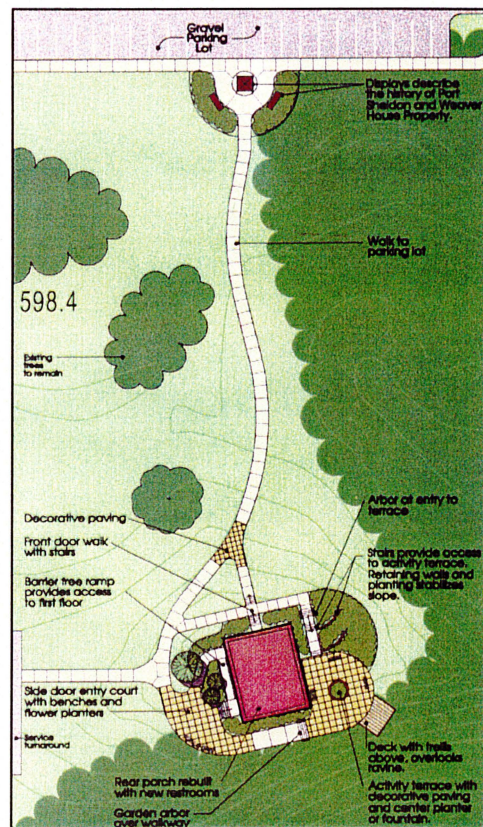
Ottawa County, Michigan

greenway trail users. East of the proposed park drive/turn around, only hiking and cross country skiing would be permitted to protect the sensitive landscapes along the greenway.

- County Owned Greenway Property - East of the Consumers Energy property and west of W. Olive Rd., Ottawa County owns 239 acres of land with approximately 1.5 miles of frontage along the north side of the Pigeon River, and 1.0 mile on the south side. Plans for these lands call for the development of system of trails to link recreation facilities at each end of the property. Specific proposals include the following:
  - The Polk Street Access, with the Weaver house, would be developed as a staging area and meeting place for special events, educational programs, and historic interpretation. Existing structures on the property including the main house, a small cottage, and a maintenance building would remain to support proposed programs. Several small outbuildings would be removed to create an attractive



Polk Street Access Plan



Weaver House Plan Detail

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landscape setting for the area. An 80 car gravel parking lot would provide access to nearby trails, pit toilets, and the main Weaver house. Interpretive displays discussing the history of the property and Port Sheldon would be installed near the parking lot. Following a short walk to the main house, visitors could enter the formal front door or a new side door entry which will include a barrier free access ramp. Renovations to the house would include new insulation, wiring, wall board, restoration of wood work and floors, and new paint and wall covering on the first floor. New restroom facilities would also be added to the building's rear porch area. The house grounds would be developed with a new side door entry court and a rear activity terrace to host outdoor events. All site improvements would be developed in a manner consistent with the historic character of the house. The existing driveway would remain to provide service access to the house, and new spur trails would be constructed to connect the area to nearby greenway trails.

- Footpath System - East and south of the Weaver house, a system of footpaths is proposed to provide access to the river and the property's other unique natural features. These trails would be for hiking and cross country skiing only.

Approximately four miles of trails are proposed along the north side of the river and two miles along the south side. The vast majority of these trails would be unimproved packed earth paths requiring only minor clearing and grading. A little over one mile of paved paths are proposed at the W. Olive Rd. access site to provide handicapped access to a portion of the trails. Ten minor bridges

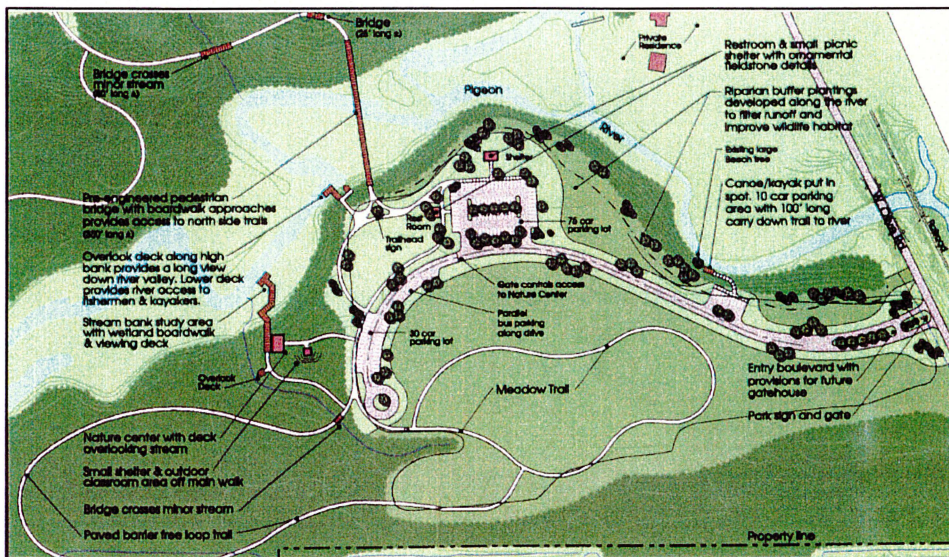


Pedestrian Bridge

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are required at various locations to cross wetlands and small streams and six overlook decks are proposed to provide outstanding views of the river. One major pedestrian bridge is proposed near the east end of the County property crossing the Pigeon River valley to provide access between the north and south bank trails. This bridge would be approximately 350' long and would be constructed as an open pile boardwalk with a center clear span bridge across the river channel. All park bridges would be designed to support light vehicle loads so that maintenance equipment could be moved along the trails.



West Olive Road Access Site Plan

- West Olive Rd. Access Site - The proposed W. Olive Rd. access site would serve as the major point of entry to the greenway. Facilities at this site would be developed in an old blueberry field minimizing clearing and disruption of sensitive habitats. A new paved park drive would be constructed to provide access to three separate parking areas. The first small (10 car) parking area would provide access to a canoe/kayak launch near W. Olive Rd. A second parking lot would accommodate approximately 75 cars and would serve the access site's major facilities including a small picnic shelter, a restroom building, and the trailhead for the greenway trail system. A 30 car parking lot would be constructed near the end of the park drive to serve a proposed Nature Center building. The Nature Center would be open all year for interpretive programs and special events as scheduled by the Parks

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Department. The building would include a multi-purpose auditorium, classrooms, exhibit areas, work areas, and offices. An outdoor classroom, viewing deck, and wetland boardwalk would complement the Nature Center facilities.



Grose Park, Ottawa County, Michigan

All structures and facilities along the greenway will be designed with a keen sensitivity to the site's natural features and will be detailed to fit the landscape character of the site. The proposed picnic shelter, restroom, and nature center will be constructed with rough sawn timbers, wood siding, and fieldstone exterior details similar to the County's recently constructed facilities at Grose Park. Bridges, overlook decks, and other site structures will be constructed using pressure treated lumber, weathering steel, and other durable, low maintenance materials.

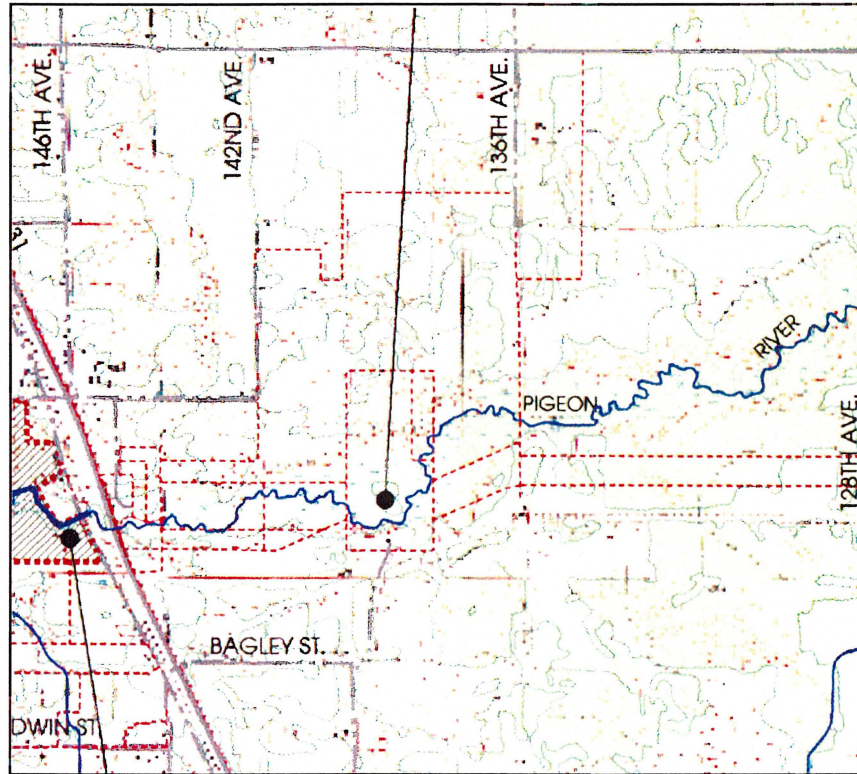
- Central Greenway Partnership Area - Between the County owned property west of W. Olive Rd. and Pigeon Creek Park (a distance of a little over two miles), the Parks and Recreation Commission will explore partnerships with private land owners to preserve the existing natural character of this section of greenway. Because this greenway segment connects two existing County properties, a long range goal of the Commission is to develop a trail system along the river corridor that would link their properties, creating a continuous 4.5 mile long trail system along the Pigeon River. Because much of the land in this section of the greenway is divided into large tracts with single owners, the property is

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well suited for the establishment of conservation measures that would preserve and enhance natural habitat.



Central Greenway Partnership Area

Protecting the land in this and other sections of the greenway will require a variety of techniques including conservation easements, land donations, and bargain sales of land. Each of these techniques can reduce the tax liabilities of the property owner while preserving the natural character of the land for future generations. A brief description of these options follows:

- Conservation Easement - Is a legal agreement between a land owner and a land trust or government agency that permanently protects land while the landowner continues to own it. Donating the easement can reduce income and estate taxes.
  
- Land Donations - Donating conservation land to a land trust or government agency preserves the land for future generations, and can result in a substantial income tax deduction. The donation can even be set up in a way that

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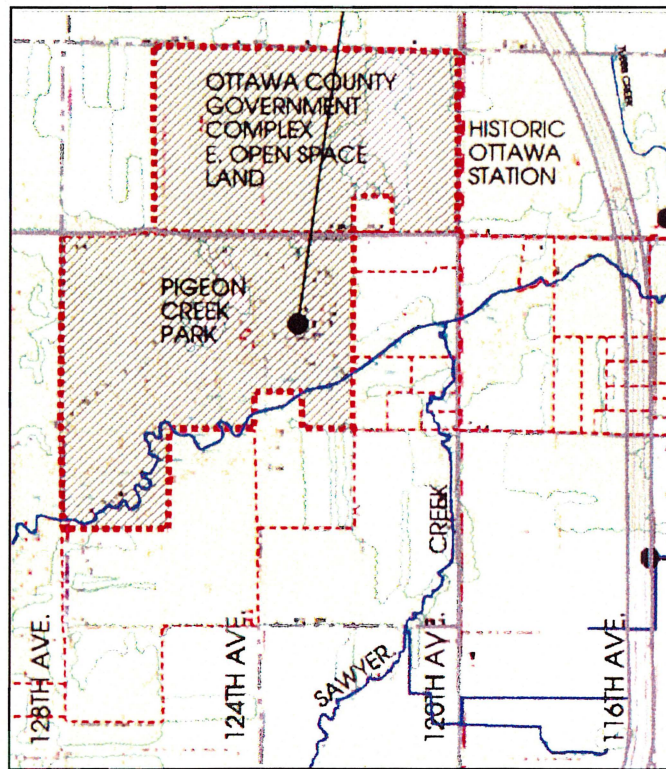
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allows the owner to continue to live on the land or to receive a life income.

- Bargain Sale of Land - Selling land to a land trust or government agency at less than fair market value makes the purchase more affordable while creating a donation with tax benefits to the land owner. The bargain sale of land also provides capital gains and income tax benefits to the land owner.

The land preservation techniques described above can be carried out by the Parks Commission or a land trust such as the Land Conservancy of West Michigan.

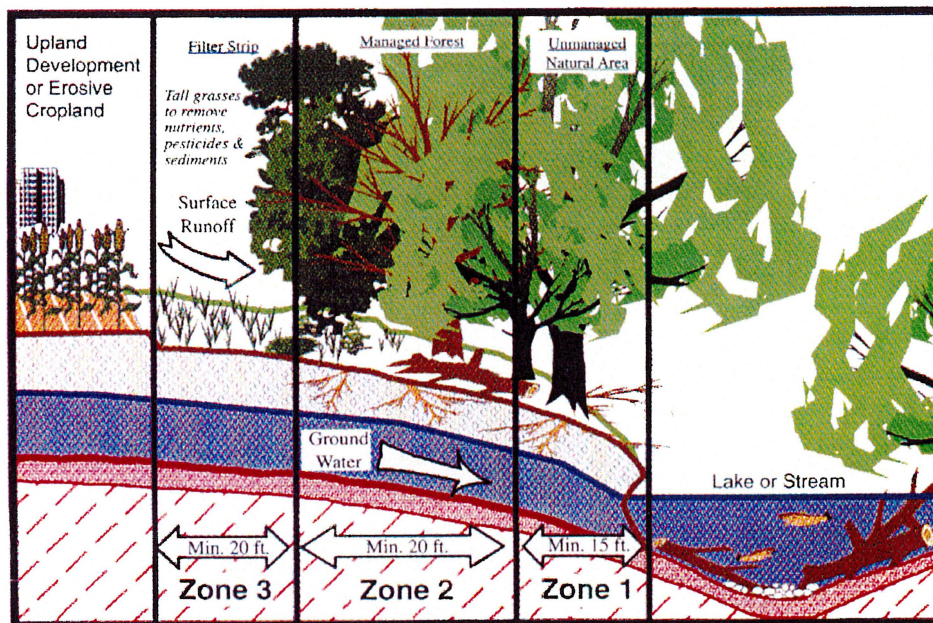
- County Owned Property/Pigeon Creek Park - The existing Pigeon Creek Park could provide an alternative staging area for greenway users. Its system of hiking, biking, cross country skiing, and equestrian trails currently provides a variety of recreation opportunities. Adding additional lighting to segments of the trails has been proposed to expand evening cross-country skiing and promote use of the park.



County Owned Property/Pigeon Creek Park

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Typical Riparian Buffer

- East Greenway Partnership Area - A second greenway partnership area is proposed east of Pigeon Creek Park along the upper reaches of the Pigeon River and its tributaries. In this section of the greenway the Parks and Recreation Commission will explore acquisitions and partnerships with private land owners and other interested groups such as the Pigeon River Watershed Project, to preserve and improve the character of the landscape. While much of the Pigeon River in this segment of the greenway has a pleasant, natural appearance, its upper reaches, and especially its tributaries, have an engineered appearance with little if any vegetative buffer between the river and adjoining land users. In this section of the greenway a system of riparian buffers is proposed to stabilize banks, filter sediment and nutrients, enhance wildlife habitat, and improve the visual quality of the landscape. Riparian buffers are permanent vegetated strips of land adjacent to the river, composed of a filter strip of tall grasses and wildflowers, bordered by a managed forest, ending at the waters edge with an unmanaged natural area. As shown in the diagram above, the minimum suggested width of a riparian buffer is 55'. Where steep grades exist, or improved wildlife habitat is desired, buffers should be constructed a minimum of 100' wide.

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## **Project Costs**

The following cost opinions outline the probable cost of proposed improvements based on past experience with similar projects. These opinions have been prepared for the County owned and Consumers Energy properties and are intended for preliminary budgeting purposes. More detailed studies will eventually be required to further define the character, quality, and cost of proposed improvements.

The following summary outlines the cost of the project's major components. Detailed estimates of project costs are provided on the following sheets.



### SUMMARY:

West Olive Road Access Site & Nature Center	\$ 1,912,000.00
Polk Street Access	\$ 403,000.00
Lakeshore Drive Trailhead Park	\$ 204,000.00
Trail Construction (County & Consumers Energy Properties)	<u>\$ 273,000.00</u>
<b>Total</b>	<b>\$ 2,792,000.00</b>

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## Opinion of Probable Costs

Item	Qty.	Unit	Unit Price	Total
<b>West Olive Road Access Site &amp; Nature Center</b>				
<u>Park Construction</u>				
Miscellaneous Demolition	Allowance	-	- \$	10,000.00
Grading and Drainage	Allowance	-	- \$	45,000.00
Site Lighting	Allowance	-	- \$	40,000.00
Bituminous Paving	11,600	SY	\$ 15.00	\$ 174,000.00
Concrete Paving	500	SF	\$ 3.00	\$ 1,500.00
Curb Face Walk	170	LF	\$ 25.00	\$ 4,250.00
Canoe/Kayak Launch	Allowance	-	- \$	8,000.00
Picnic Shelter	Allowance	-	- \$	30,000.00
Restroom Building	800	SF	\$ 120.00	\$ 96,000.00
Overlook Deck	1	EA	\$ 6,000.00	\$ 6,000.00
Boardwalk	60	LF	\$ 280.00	\$ 16,800.00
Pedestrian Bridge	Allowance	-	- \$	175,000.00
Trailhead Signage	Allowance	-	- \$	5,000.00
Site Furniture	Allowance	-	- \$	12,000.00
Entry Gate	Allowance	-	- \$	4,000.00
Landscaping	Allowance	-	- \$	45,000.00
Interpretive Displays	Allowance	-	- \$	3,000.00
Entry Sign/Directional Sign	Allowance	-	- \$	7,000.00
Subtotal				\$ 682,550.00
+10% Contingency				\$ 68,450.00
Park Construction Total				\$ 751,000.00
<u>Nature Center Development</u>				
Clearing	Allowance	-	- \$	5,000.00
Grading & Drainage	Allowance	-	- \$	15,000.00
Site Lighting	Allowance	-	- \$	20,000.00
Bituminous Paving	2,600	SY	\$ 15.00	\$ 39,000.00
Concrete Paving	500	SF	\$ 3.00	\$ 1,500.00
Curb Face Walk	160	LF	\$ 25.00	\$ 4,000.00
Outdoor Classroom	Allowance	-	- \$	15,000.00
Nature Center Building	7,200	SF	\$ 120.00	\$ 864,000.00
Overlook Deck	Allowance	-	- \$	15,000.00
Boardwalk	220	LF	\$ 280.00	\$ 61,600.00
Site Furniture	Allowance	-	- \$	3,000.00
Landscaping	Allowance	-	- \$	5,000.00
Service Gate	Allowance	-	- \$	4,000.00
Interpretive Displays	Allowance	-	- \$	3,000.00
Subtotal				\$ 1,055,100.00
+10% Contingency				\$ 105,900.00
Nature Center Development Total				\$ 1,161,000.00
<b>Total (West Olive Road Access Site &amp; Center)</b>				<b>\$ 1,912,000.00</b>

# Pigeon River Greenway

Ottawa County, Michigan

## Opinion of Probable Costs

Item	Qty.	Unit	Unit Price	Total
<b>Polk Street Access</b>				
Miscellaneous Demolition	Allowance	-	- \$	25,000.00
Grading and Drainage	Allowance	-	- \$	20,000.00
Gravel Parking Lot	3,500	SY	\$ 8.00	\$ 28,000.00
Service Gate	1	Lump Sum	\$ 3,000.00	\$ 3,000.00
Pit Toilet	Allowance	-	- \$	8,000.00
Curb Face Walk	220	LF	\$ 25.00	\$ 5,500.00
Concrete Walk	3,300	SF	\$ 2.50	\$ 8,250.00
Concrete Steps and Railing	Allowance	-	- \$	5,000.00
Barrier Free Ramp	Allowance	-	- \$	3,500.00
Special Paving	2,000	SF	\$ 10.00	\$ 20,000.00
Arbors and Deck	Allowance	-	- \$	15,000.00
Entry Sign	Allowance	-	- \$	2,000.00
Site Furniture	Allowance	-	- \$	7,000.00
Trailhead Sign	Allowance	-	- \$	1,500.00
Entry Gate	Allowance	-	- \$	4,000.00
Historical Displays	Allowance	-	- \$	15,000.00
Storage/Maintenance Building	1,300	SF	\$ 35.00	\$ 45,500.00
Weaver House Renovations	Allowance	-	- \$	75,000.00
Weaver House Restrooms	Allowance	-	- \$	50,000.00
Landscaping	Allowance	-	- \$	25,000.00
Subtotal			\$	366,250.00
+10% Contingency			\$	36,750.00
<b>Total</b>			\$	<b>403,000.00</b>

# Pigeon River Greenway

Ottawa County, Michigan

## Opinion of Probable Costs

Item	Qty.	Unit	Unit Price	Total
<b>Lakeshore Drive Trailhead Park</b>				
Miscellaneous Demolition	Allowance	-	-	\$ 10,000.00
Grading and Drainage	Allowance	-	-	\$ 25,000.00
Bituminous Paving	5,800	SY	\$ 15.00	\$ 87,000.00
Concrete Walks	2,400	SF	\$ 2.50	\$ 6,000.00
Canoe/Kayak Launch	Allowance	-	-	\$ 3,000.00
Fishing/Viewing Deck	Allowance	-	-	\$ 20,000.00
Pit Toilet	Allowance	-	-	\$ 8,000.00
Entry Sign/Directional Signs	Allowance	-	-	\$ 6,000.00
Trailhead Sign	Allowance	-	-	\$ 1,500.00
Site Furniture	Allowance	-	-	\$ 5,000.00
Entry Gate	Allowance	-	-	\$ 4,000.00
Landscaping	Allowance	-	-	\$ 10,000.00
Subtotal			\$	185,500.00
+10% Contingency			\$	18,500.00
<b>Total</b>			\$	<b>204,000.00</b>
<b>Trail Construction (County &amp; Consumers Energy Properties)</b>				
Miscellaneous Demolition	Allowance	-	-	\$ 15,000.00
Grading and Drainage	Allowance	-	-	\$ 20,000.00
Boardwalks	430	LF	\$ 280.00	\$ 120,400.00
Bridge (50' span)	1	EA	\$ 60,000.00	\$ 60,000.00
Overlook Decks	3	EA	\$ 6,000.00	\$ 18,000.00
Site Furniture	Allowance	-	-	\$ 5,000.00
Trail Markers and Signs	Allowance	-	-	\$ 5,000.00
Landscaping/Restoration	Allowance	-	-	\$ 5,000.00
Subtotal			\$	248,400.00
+10% Contingency			\$	24,600.00
<b>Total</b>			\$	<b>273,000.00</b>

# Pigeon River Greenway

## Natural Features Inventory Plan

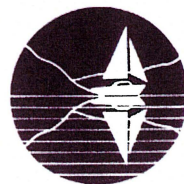
William Martinus & Assoc.

**Slocum Associates**  
331 South River Drive  
Kalamazoo, Michigan 49004  
Phone 313.349.1111 Fax 313.349.1199

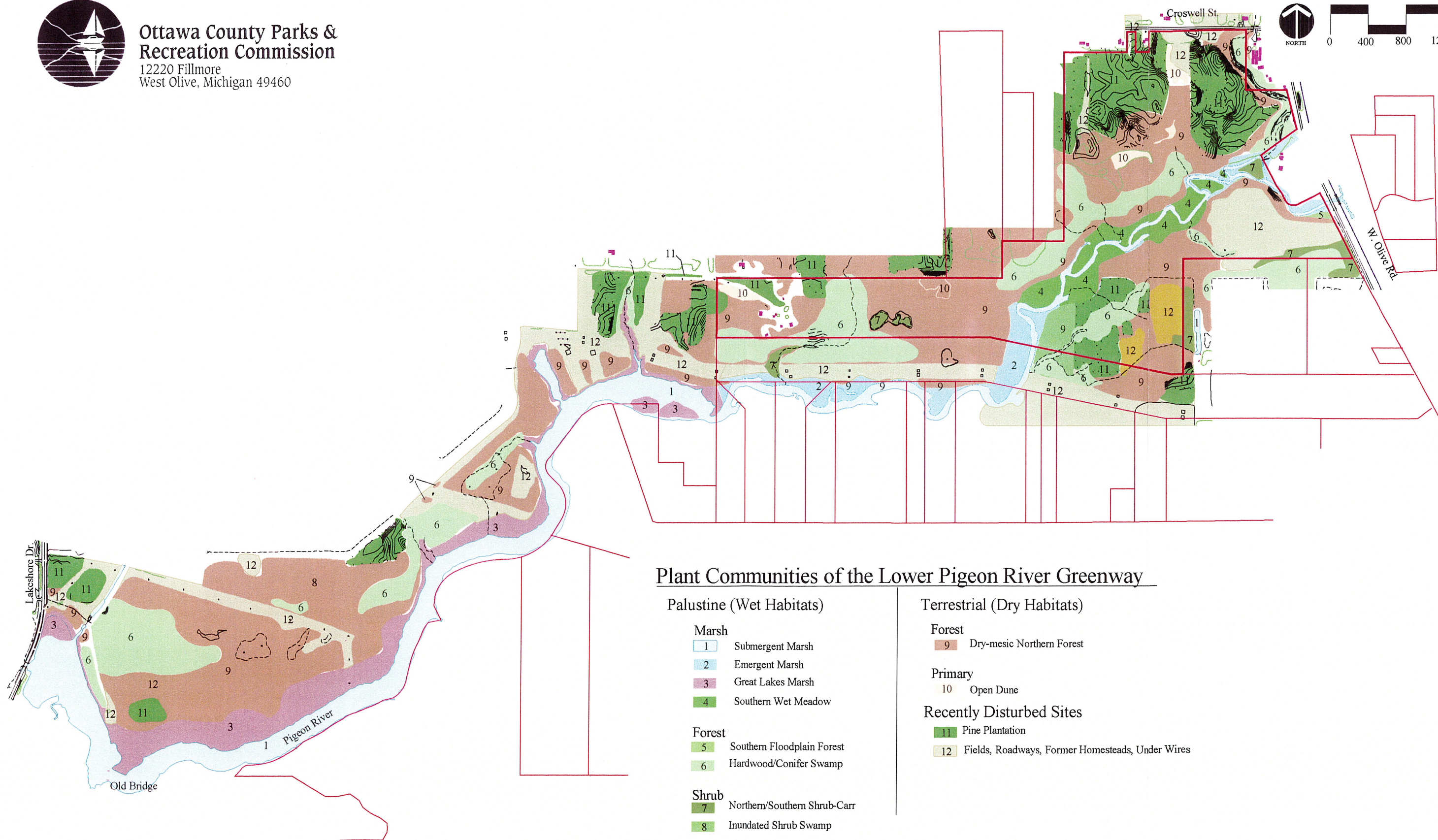
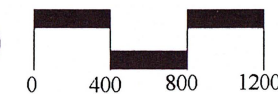
**OCBA**

O'BOYLE  
COWELL  
BLALOCK  
& Associates, Inc.

November, 2000



**Ottawa County Parks & Recreation Commission**  
12220 Fillmore  
West Olive, Michigan 49460



### Plant Communities of the Lower Pigeon River Greenway

#### Palustine (Wet Habitats)

- Marsh**
- 1 Submergent Marsh
  - 2 Emergent Marsh
  - 3 Great Lakes Marsh
  - 4 Southern Wet Meadow

- Forest**
- 5 Southern Floodplain Forest
  - 6 Hardwood/Conifer Swamp

- Shrub**
- 7 Northern/Southern Shrub-Carr
  - 8 Inundated Shrub Swamp

#### Terrestrial (Dry Habitats)

- Forest**
- 9 Dry-mesic Northern Forest

- Primary**
- 10 Open Dune

- Recently Disturbed Sites**
- 11 Pine Plantation
  - 12 Fields, Roadways, Former Homesteads, Under Wires

Natural Features Analysis by: William Martinus

# Pigeon River Greenway

Greenway Master Plan William Martinus & Assoc.



November, 2000



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## RECREATION/ CONSERVATION GREENWAY CORRIDOR

Proposed foot path system developed in collaboration with Consumers Energy links Weaver House with Lakeshore Drive Trailhead Park

## FOOT PATH SYSTEM

Proposed foot path system links park activity node on the south side of the river with Weaver House on the north side of the river

## RECREATION/ CONSERVATION GREENWAY CORRIDOR

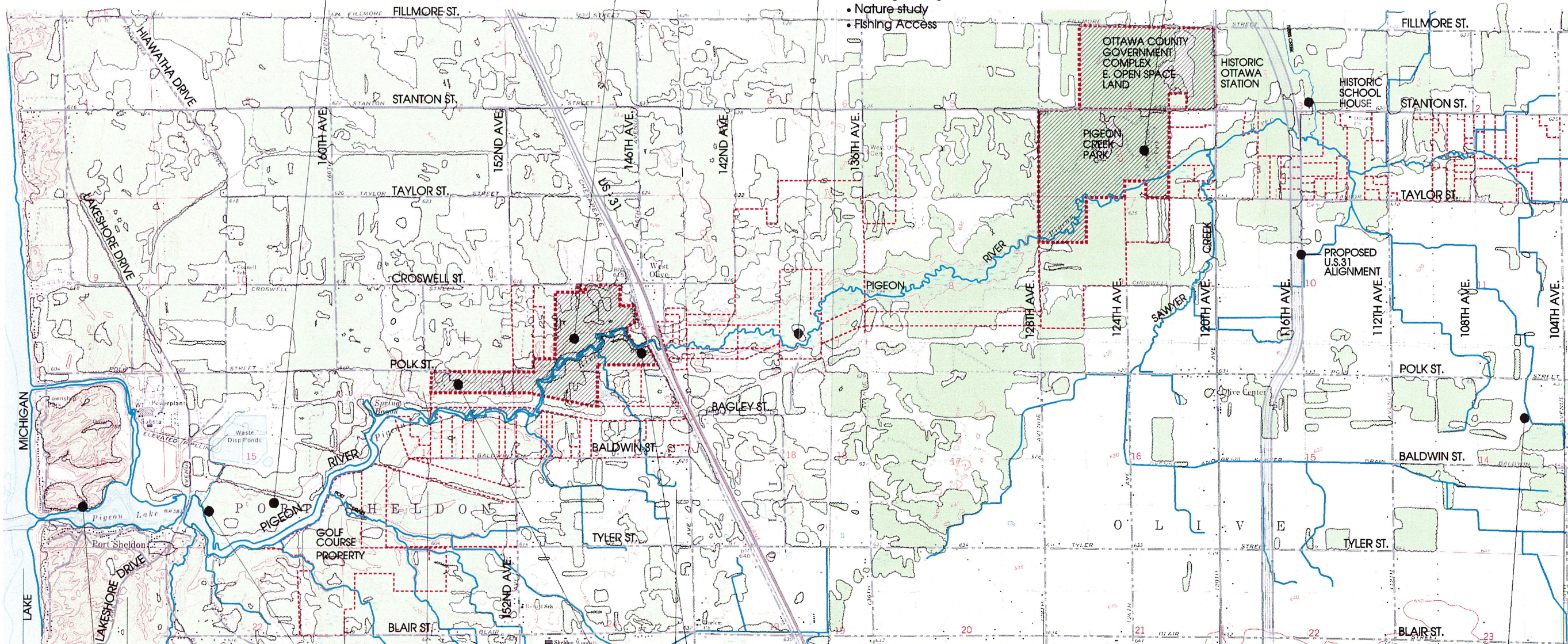
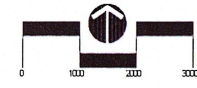
Greenway corridor developed along the Pigeon River between Pigeon Creek Park and the County owned property West of US-31 to support a variety of uses:

- Trails: (Hiking, Mountain Bike, Equestrian, Cross-Country Skiing)
- Hunting on large tracts
- Nature study
- Fishing Access

## PIGEON CREEK PARK

Existing park provides a staging area for greenway users. Uses include:

- Trails for hiking, biking, cross country skiing, and equestrian
- Lodge/ warming house for group functions
- Sledding hills
- Group camping area



## TRAILHEAD PARK

Existing township park redeveloped as a trailhead facility with parking, canoe/kayak launch, and pit toilet facilities

## PROPOSED BOARDWALK

Proposed Consumers Energy boardwalk provides public access to Pigeon Lake and Lake Michigan

## CONSUMERS ENERGY BOARDWALK

Boardwalk and staging area provides access to Pigeon Lake and the North Pier

## CONSUMER'S ENERGY GREENWAY

Explore partnership with Consumers Energy to develop foot paths and partner in habitat conservation programs on its Environmental Enhancement lands on the North side of the Pigeon River.

## POLK STREET ACCESS

Weaver House property redeveloped to host special events & meetings

- Group rentals
- Secondary trailhead
- Historic Interpretation
- Educational programs

## COUNTY OWNED PROPERTY

Major recreation node developed along W. Olive Rd. provides a staging area for Greenway users. Foot path system constructed along the North and South sides of the Pigeon River

## WEST OLIVE ACCESS SITE

Park activity node constructed on the South side of the Pigeon River with entrance off W. Olive Rd.

- Parking
- Rest Rooms
- Picnic Shelter
- Trail System
- Nature Center
- Pedestrian Bridge
- Canoe, Kayak Launch

## CENTRAL GREENWAY PARTNERSHIP AREA

Extensive tract of natural lands with few owners. Explore potential for greenway land preservation and trail connections through acquisition, partnerships, or easements.

## COUNTY OWNED PROPERTY

Existing park development provides a staging area for Greenway users

## RIPARIAN BUFFERS/ WETLAND RESTORATION

Work with the Pigeon River Watershed Project to develop riparian buffers and restore wetlands along the banks of the upper reaches of the Pigeon River and tributaries to improve water quality, enhance wildlife habitat and improve the character of the landscape

## EAST GREENWAY PARTNERSHIP AREA

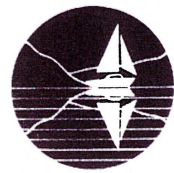
Explore acquisition opportunities and partnerships with private land owners for land preservation, public recreation and habitat restoration along the Pigeon River



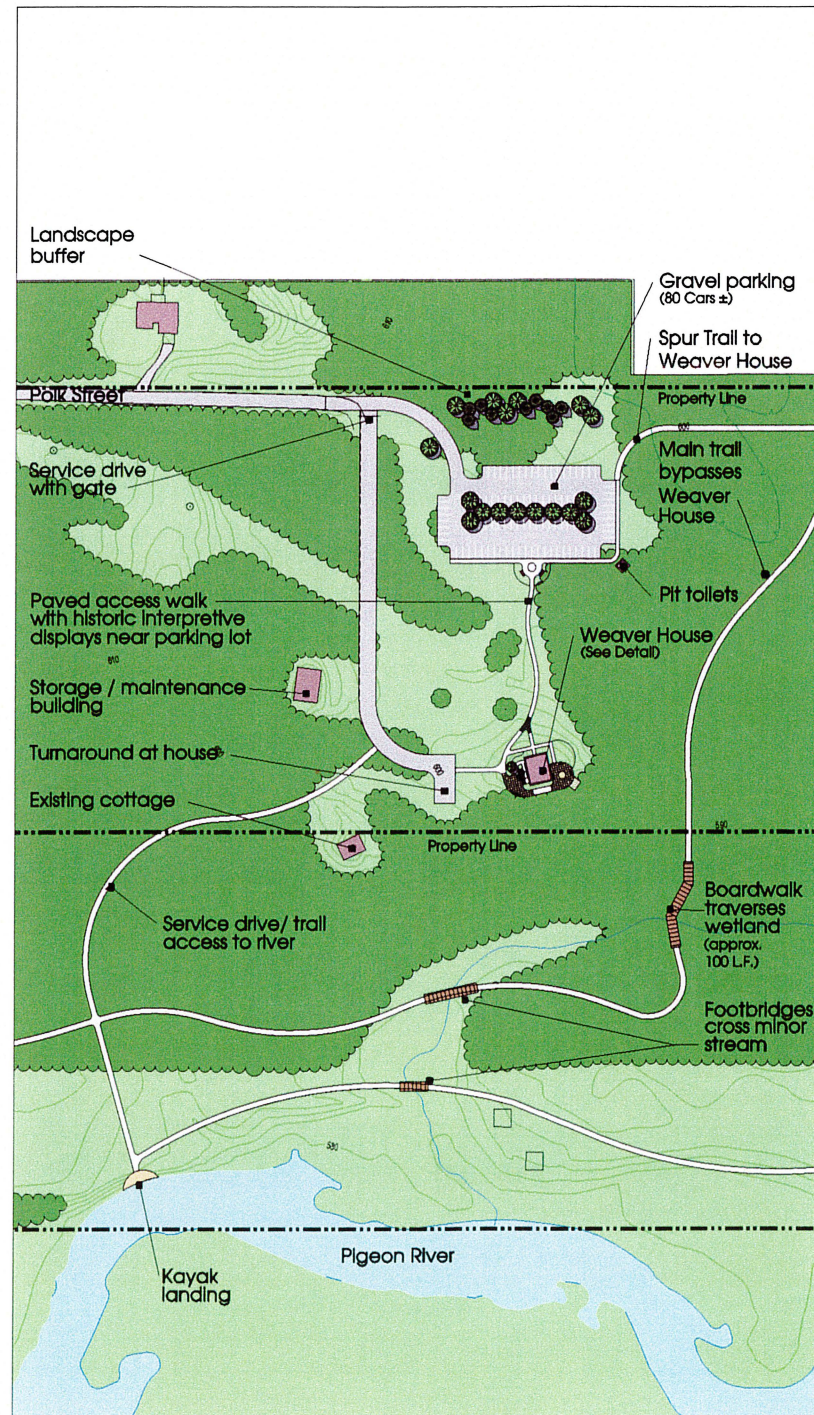
# Pigeon River Greenway

## Greenway Master Plan William Martinus & Assoc.

November, 2000

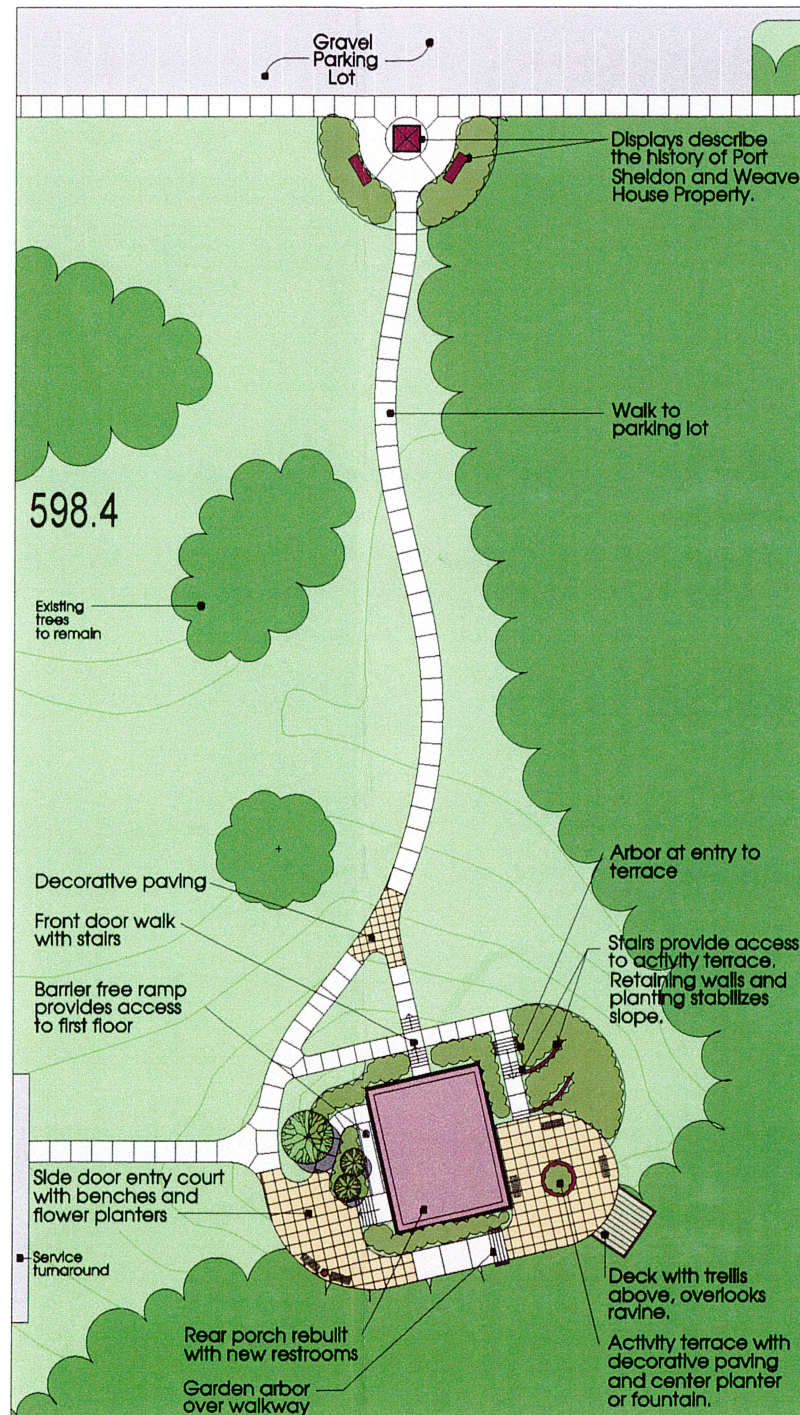


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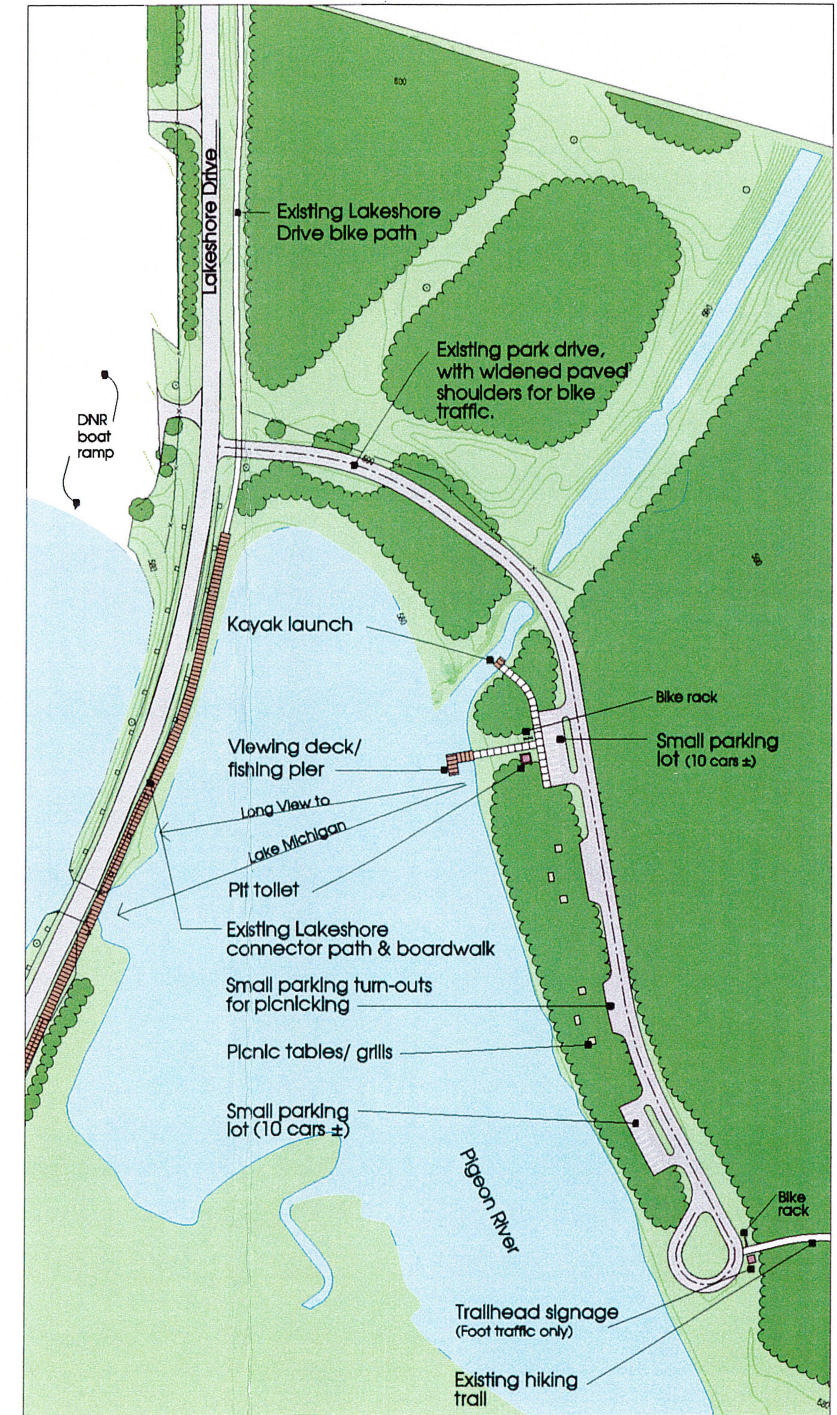
**Polk Street Access Plan**

Scale= 1"= 100'-0"



**Weaver House Plan- Detail**

Scale= 1"= 20'-0"



**Lakeshore Drive Trailhead Park**

Scale= 1"= 100'-0"



# Pigeon River Greenway

## Nature Center Floor Plan + Elevation

William Martinus & Assoc.

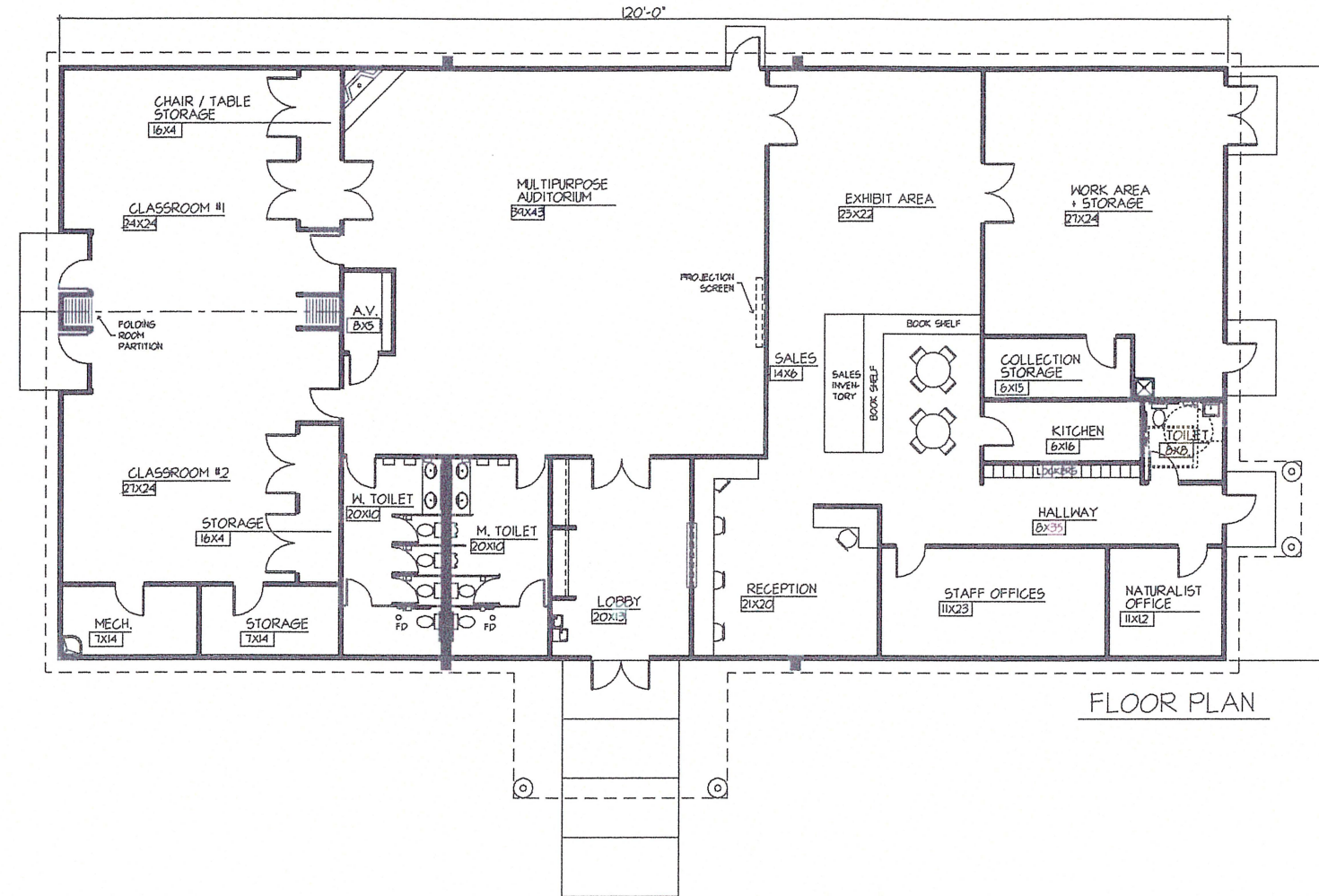
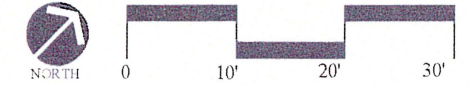
**Slocum Associates**  
323 South Kalamazoo, P.O. Box 49004, West Olive, Michigan 49004  
Phone: 616-891-1000

**O'Boyle Cowell Blalock & Associates, Inc.**

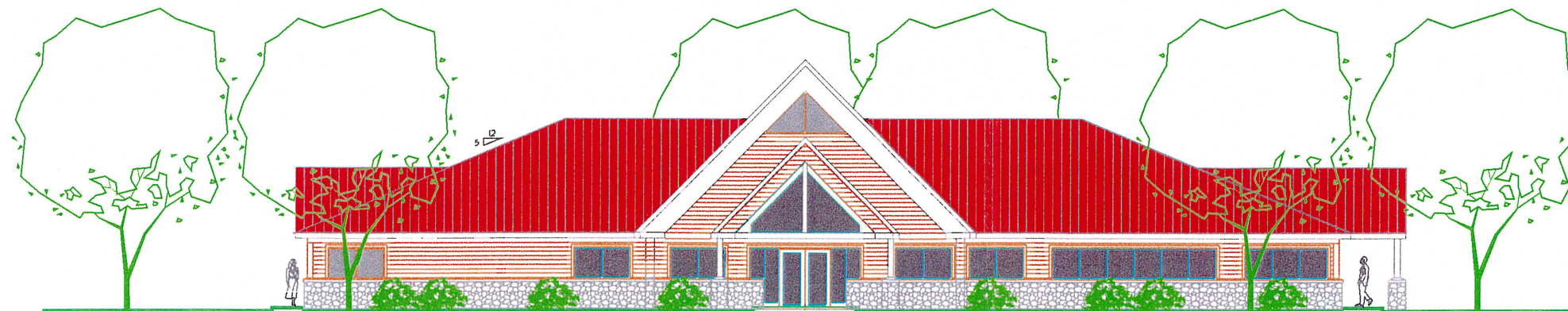
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FLOOR PLAN



FRONT ELEVATION



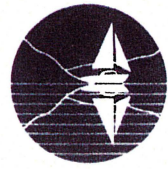
# Pigeon River Greenway

## Restroom Building Floor Plan + Elevations

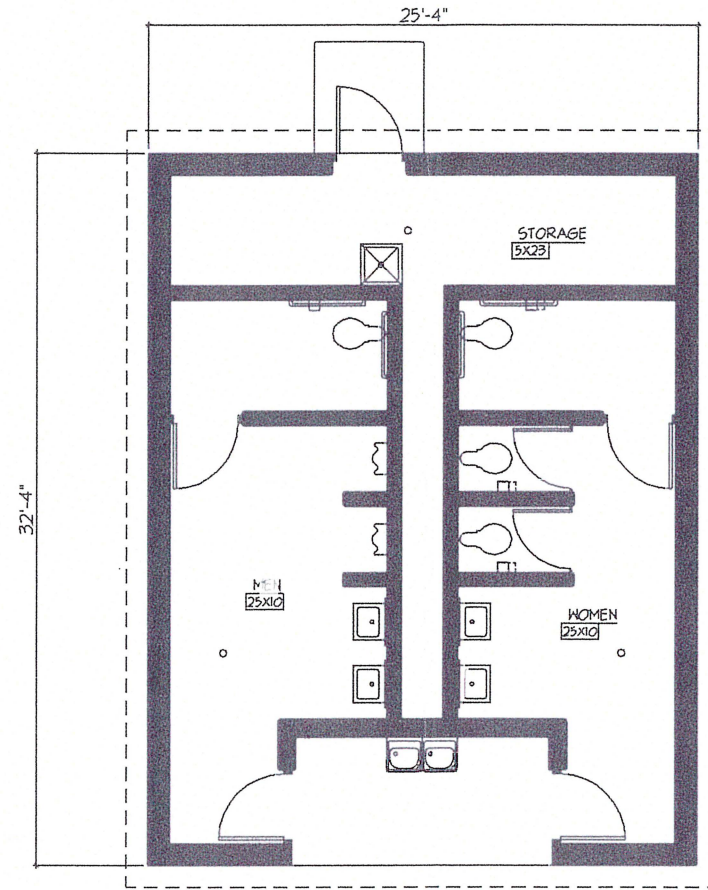
William Martinus & Assoc.



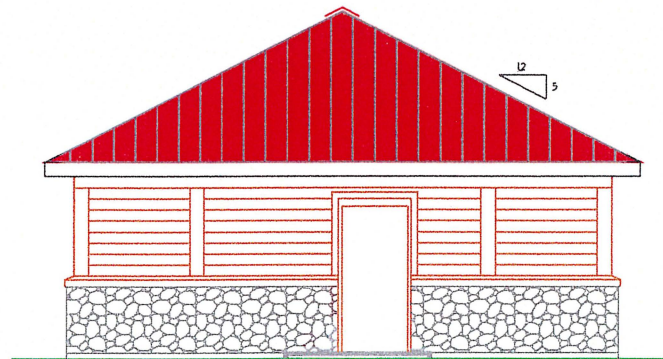
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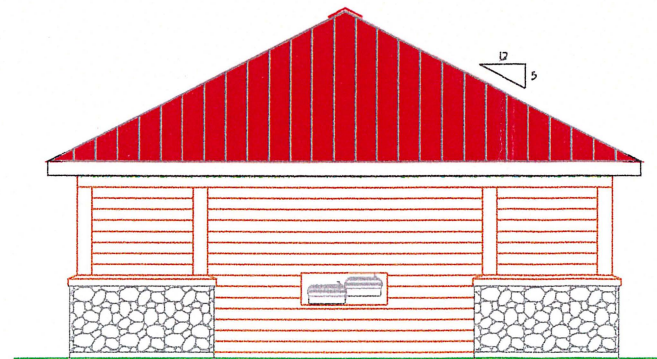
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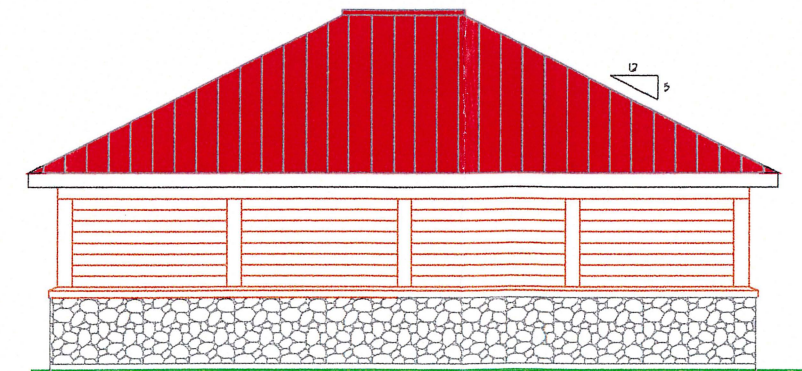
FLOOR PLAN



REAR ELEVATION



FRONT ELEVATION



TYP. SIDE ELEVATION