

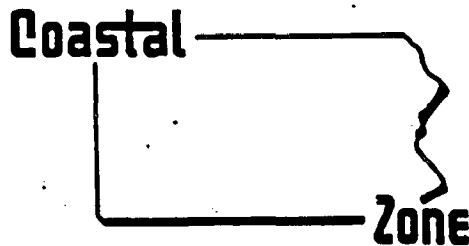
L797-P74-P4/1994/92-PS.05

Pennsylvania Coastal Zone Management Program
Presque Isle Visitor Center Interpretive Exhibits

May, 1994

DER Grant/Contract No. CZ1:92.05PS
Grant Task No. _____
ME No. 93315

A REPORT OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES TO
THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION PURSUANT TO
NOAA AWARD NO. _____



Project was financed in part through a federal Coastal Zone Management Grant from the Pennsylvania Department of Environmental Resources, with funds provided by the NOAA. The views expressed herein are those of the author(s) and do not necessarily reflect the views of NOAA or any of its subagencies.

L799 - P74 - P4 1994

Maintenance Manual for

Exhibit Panels
at
Presque Isle State Park
Visitors' Center

Erie, Pennsylvania

Prepared by



700 Crossroads Ct.
Vandalia, Ohio 45377
(513) 890-7000
FAX (513) 890-1750

May 6, 1994

Project Synopsis

The Pennsylvania Coastal Zone Management Program provided funding for a seven (7) panel exhibit on succession of Presque Isle State Park. The exhibit panels are located in the newly-renovated park visitor center. The six ecological zones, along with the introductory panel, have color coding and a cross section successional profile on the panel headers to help the visitor identify these zones throughout the exhibits.

The goals of the exhibits are:

1. To encourage visitors and the local community to explore various successional stages occurring on Presque Isle peninsula.
2. To foster a sense of stewardship in the visitor and local community, through learning about the uniqueness of plant and animal communities on Presque Isle; to preserve and protect the natural communities.
3. To identify the visitor center as a Pennsylvania Bureau of State Parks facility.

The project was completed through a cooperative effort between Pennsylvania's Coastal Zone Management Program and the Pennsylvania Bureau of State Parks, both within the Department of Environmental Resources. The Bureau of State Parks provided a 50 percent match through in-kind services for research and story line development, visitor center modifications and materials and supplies. The contract to design and construct the exhibits was awarded to Exhibit Concepts of Dayton, Ohio through an RFP process. The completed exhibits serve as the first phase of additional exhibits for the visitor center.

Panel 1

Looking Back 600 Years

Presque Isle is a natural outdoor laboratory. Within a distance of three miles, from the newly formed eastern tip westward, you can review six centuries of plant communities—from pioneer beach plants to climax forest ecosystems.

"Unfortunately there is only one Presque Isle."

— O.E. Jennings
Personal Letter, 1952

From the water's edge to the climax forest, more than 600 species of plants have been found here. More than 300 bird species, many not found elsewhere in Pennsylvania, are here. This is indeed one of nature's special places.

Are you into zoning? The plants and animals of Presque Isle are. There are six distinct ecological zones on Presque Isle, each with a different plant/animal community. They include: Lake Erie, bay and water's edge; sand plain and new ponds; dunes and ridges; old ponds and marshes; thicket and sub-climax forest; and climax forest. We will tell you more about each of these unique places.

Right before your eyes. These zones are not dramatic or abrupt like rings of a tree, but are very subtle blends of one into the other. Where high water and human interference have disrupted growth, strange mixtures may be seen, such as willows and cottonwoods growing in a climax forest where they do not really belong. It is nature's way of mending the damage.

Panel 1

Predictable yet unpredictable, stable, yet always changing, old but new—Presque Isle is unique! Why? Read on.

Where did it come from? Presque Isle is a recent feature of Lake Erie which some believe formed less than 11,000 years ago after the final retreat of glacial ice. Others believe that it was formed from the mouth of one of our major streams, such as Walnut Creek, as early as 1,000 years ago. The exact answer remains a mystery.

What's in a name? About one mile across at its widest point, Presque Isle is attached to the mainland four miles west of the City of Erie. But the Isle has been "both" an island and a peninsula - its form changes yearly. Presque Isle means "almost an island."

Can you see it grow? As westerly waves wash upon the beaches in a diagonal direction, sand and pebbles carried with them are left on the shore as the waves recede. Upon each wave's rush, they are deposited a little farther east, adding to Presque Isle's eastward growth. Geologists think that the peninsula has moved eastward one-half mile per century. You can stand on the shoreline and watch it grow—if you have some time on your hands.

Panel 2

Did you know...?

The Great Lakes constitute one of the most important natural resources in the world! Lake Erie is the shallowest of the five Great Lakes, and is especially vulnerable to pollution. But the fact that about 50% of the total Great Lakes' fish are produced here, indicates the lake is in fairly good shape today.

Lake Erie is part of a major route for migrating waterfowl, whose survival is in part due to the health of the lake.

Presque Isle Bay was created by the natural formation of a long recurring sand spit. That spit, which is Presque Isle, has made the bay an important industrial and recreational area by protecting the Erie harbor and mainland from lake storms.

Panel 2

The Remarkable Beginning

The drama of Presque Isle's beginnings is revealed at the water's edge.

Like a wet desert, the place where the waves pound and winds sweep holds few living things—the water's edge. The newly deposited sands appear almost barren for about the first year.

Life takes hold here on the lower beach where the pioneer ecological zones of plant and animal life begin. At least three plants able to adapt to this harsh and unstable condition near the water's edge—sea rocket, clot bur, and sea-beach spurge—help bind the shifting sands.

Here for a visit? Offshore winds blow insects from other areas to the water's edge where stones and bits of drift provide them temporary protection. Other animals visit the water's edge as well, such as many kinds of shore birds who rest here in large numbers during their yearly migrations.

Panel 2

Gull Point Natural Area

The Most Special Place

The most fragile, the most dynamic, the most diverse of all habitats on Presque Isle is the far east end. Why? Read on.

A continuously changing sand spit, Gull Point Natural Area constitutes about 300 acres of beach, sand plain, ponds, dunes, thicket and sub-climax forest. It is widely known as a site of significant concentrations of migrating birds and unusual plants. Bird rarities, particularly water birds and shore birds, can be expected with regularity. Many plant species are rare, some unique to Pennsylvania.

*Panel 2
quote*

"Here (at Presque Isle) where the waves washed into our feet, we could see with our own eyes, a kind of creation—a new land being born of bright pebbles and shifting sand and new inhabitants moving into their own little niches, their own special Gardens of Eden."

*- Edwin L. Peterson
"Perrin's Woods West" 1959*

Panel 3

Extending from the upper reach of winter waves is the sand plain. In some places, it is partly sheltered by sand ridges protecting it from the harshness of lake winds.

Conditions here result in richer soil with greater water-holding capacity. Thus the plain is characterized by a wide variety of unique plants, several found nowhere else in Pennsylvania.

Included among the flowering varieties on the sand plain are:

Rose pink	Brook lobelia*
Beach pea*	Flax
Russian thistle	Gerardia
Cypress spurge	Wormwood
Rabbit-foot clover	Nodding ladies' tresses
Hairy puccoon*	Obedient plant
Lupine	Lyre-leafed rock cress

*Species of special concern in Pennsylvania

Later the sand plain is invaded by bayberry.

Many bird species of open spaces can be found here at any time of the year.

Panel 3

How a pond is born. As westerly Lake Erie waves rush upon Presque Isle's beaches, curving deposits of sand are sometimes left along the shore. These water filled depressions, if big enough, may eventually form new ponds. Staying around may be hard for a new pond. Waves may breach the pond's edges or sand may fill them.

If the pond escapes destruction by natural forces, plant and animal succession in and around it will slowly begin. Cottonwood seedlings are among the first to take root there, and anchor the sand around them. Through this type of process—plants holding the sand together—Presque Isle was formed.

Growing near a newly-formed pond on Gull Point is silverweed, a plant unique in western Pennsylvania.

Panel 4

The Amazing Dunes

The most complex ecological features at Presque Isle are the dunes and ridges.

Summer waves pile up sand, which is picked up by the wind and carried until something blocks the wind. Cottonwood and willow seedlings, the first plants to take hold on the moist edges of new ponds, help stop the drifting sand. As the sand stops there and accumulates, miniature dunes form. As plants like dune grass begin to grow on the dune, more sand is stopped and the dune continues to grow.

Changing winds may change the form or shape of dunes, or erase them completely. After many years, decomposing plants on surviving dunes changes the sand enough to allow other plants to live there. Eventually, the dune could be completely covered with plants as the process of succession continues.

Panel 4

Reading a Ridge

Formed by storm winds and waves, a series of east-west sand ridges characterize Presque Isle. Usually parallel to the lake, their vegetation helps determine when an original beach lagoon was formed. It has been determined that Long Ridge, more than half a mile from the present shore line, was actually the eastern shore of the peninsula around 1862.

Bayberry is a predominant shrub. Wintering yellow-rumped warblers depend upon its fruit for subsistence. Fox dens can be found in some of the ridges or dunes.

When white pine and red maple take over, neither ridges nor dunes are readily recognized.

Panel 5

History In the Ponds

A complicated network of Old Ponds and marshes is embraced by Presque Isle. They help determine the historic shores of the peninsula. For example Cranberry Pond is estimated to be more than 300 years old.

As ponds age, their edges may support different plants, such as cattails, sedges, bulrushes, and phragmites. Waterlilies may appear after about 40 years. Tufted loosestrife can occasionally be found near 100-200 year old ponds.

The great diversity and abundance of plant and animal life is found in the shallow, calm, older waters. Look for beaver, turtles, and colorful dragonflies.

Here on Presque Isle many of the old ponds and marshes are connected by a channel to form the lagoon.

To be a marsh

As ponds age, the vegetation at their edges accumulates soil and debris. Slowly the edges of the pond close in with less and less open water. A marsh is born as a pond dies.

Like a busy and crowded city alive with excitement, a marsh is filled with a variety of plant and animal life. During the spring and summer months, marsh music fills the air with songs from everything from courting birds, to frogs and insects. There is always something going on if you take the time to look and listen.

What might you see? Long-billed marsh wrens, least and American bitterns, soras and Virginia rails, red-winged blackbirds and black ducks nest here. Characteristic shrubs are buttonbush, willows and alders. Especially attractive are blueflag, arrowheads and water plaintain. Flowering rush has also been found as well as swamp rose mallow, an especially showy plant when in blossom.

As natural succession takes place, these marshes dry and become overgrown with thicket.

Panel 5

"The peninsula should be a natural reserve for the people of Erie forever; it should belong to all of the people."

- John Miller, 1909
A Twentieth Century History
of Erie County Pennsylvania

Panel 6

In the thick of things! As Dunes and ridges age, they can support a dense thicket of poison ivy, greenbriars, blackberry, bittersweet and wild grapes. Not a great place for us to live, but a wonderful home to many different kinds of birds, insects and mammals. Can you think of some that would like to live here?

After the thicket comes a sub-climax forest. This is home to new kinds of plants like wild cherries, cottonwoods, white pines, and red maples. Eventually shade-enduring red or black oaks begin to outlive other vegetation and take over the spot. Here, where the thicket and forest merge, may apples, starry false Solomon's seal and rarely, orchids can be found.

New neighbors? With the changing of the habitats, comes new residents such as mice, squirrels, chipmunks, rabbits, skunks, foxes and opossums. Many different kinds of birds also begin to move in, like thrushes, finches, waxwings and flycatchers.

But it's not over yet! Changes are still on the way for the development of our Presque Isle climax forest.

Panel 7

From sandy and barren shoreline and hundreds of years of slow, constant change, the sub-climax forest is invaded by hemlocks, sugar maples and, finally, black and red oaks. The transformation will be complete and change no more unless the climax forest is removed by nature or people. This is a stable condition and no new climax plant species are expected to grow here.

About 200 acres of the oldest climax forest on Presque Isle was cleared in 1956 to develop the Marina. Along West Fisher Drive, one can see what remains.

In this climax forest the most notable plants are mosses, ferns and a few wildflowers, including star flower and Indian Pipe. Deer can be seen here, but since they require a wide spectrum of habitats, they can be found in each of the zones throughout Presque Isle.

Recognition copy

Presque Isle State Park staff would like to thank the following people who made this portion of the Visitor Center possible:

Coastal Zone Management
Jean Stull
Evelyn Anderson
Bob Grubbs
Sam Stull

Red-winged Blackbird

Thicket and Sub-climax Forest

Red-winged Blackbird

Wild Grapes

Swamp Rose Mallow

Green Brian

American Bittern

Mayapple (Flowers)

Blue Flag

Red Maple (Leaves)

Flowering Rush

Red Squirrel

Old Pond (Niagara)

Fox Squirrel

Fox Squirrel

House Finch

American Tree Sparrow

Chickadee

Downy Woodpecker

Saw-whet Owl

White Pine Tree

Saw-whet Owl (With Vole)

Helleborine

White Tail Doe

Chipmonk

Eastern Hemlock Tree

Skunk

Red Oak (Leaf)

Fragrant Water Lily

Beaver

Lagoons at Sunset

Painted Turtle

Lagoons in Autumn

Widow Dragonfly on Black-eyed Susan

Common Cattail

Marsh

Bladderwort

Marsh Wren

Water Smartweed

Pickerelweed (Whole Plants)

Tufted Loosestrife

Pickerelweed (Flowers)

Brook Lobelia

Dunes and Dune Grasses

Purple Gerardia

Dune and Cottonwoods

Nodding Ladies Tresses

Bayberry

Obedient Plant

Fox Kits at Den

Silverweed

Monarch Butterfly on Bayberry

Young Cottonwood Trees

Eastern Black Swallowtail on Goldenrod

New Pond

Spatterdock

Sea Rocket

Beach Pea Plant

Beach Clotbur

Beach Pea Flowers

Seaside Spurge

Cypress Spurge

Ruddy Turnstone

Wild Lupine

Willet

Sand Plain

Gull Point

Eastern Bluebird

Hairy Puccoon

Rose Pink

Water's Edge - Lake Erie

Bufflehead Duck

Dune

Scaup Duck

Ridge

Canvasback, Mallards, Goldeneyes

Old Pond

Tundra Swans, Canvasbacks

Thicket & Sub-climax Forest

Ring-billed Gull

Climax Forest

Greater Black-backed Gull

Redhead Duck

Herring Gull

Yellow Perch

Black Crappie

Lake Trout

Oak Trees

Moss on Old Log

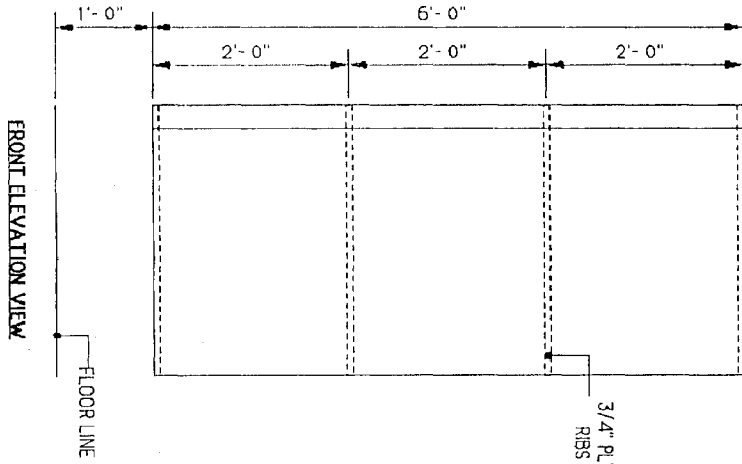
Emerging Ferns

Climax Forest

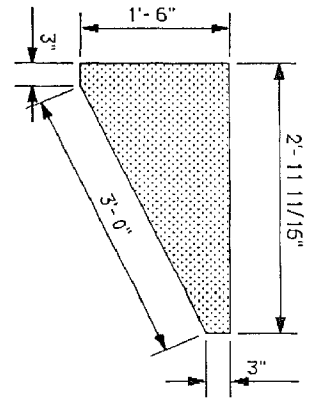
Starflower

Indian Pipe

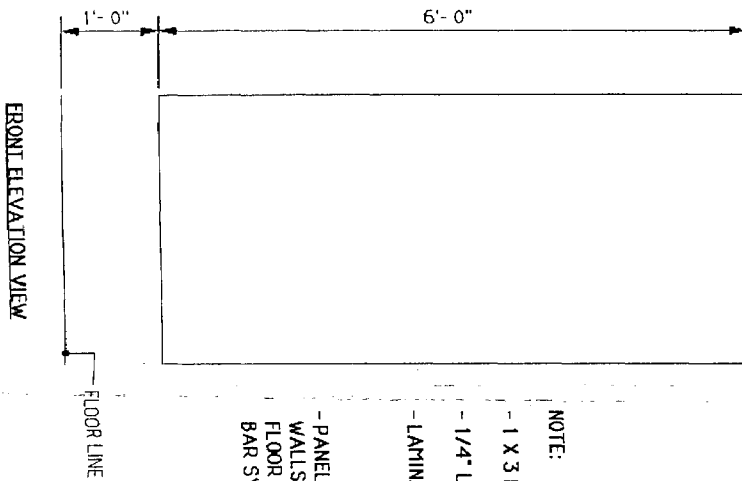




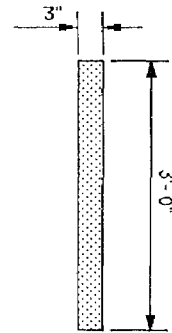
- NOTE:**
- 3/4" PLYWOOD RIBS
 - 1/4" LUAN SKIN
 - LAMINATE: WILSONART GREY FINESSE 4613-6
 - PANEL WILL HANG FROM WALL 12" UP FROM EXISTING FLOOR (WILL USE A HANGER BAR SYSTEM)



ELEVATION A DETAILS
 BUREAU OF STATE PARKS PA.
 PRESQUE ISLE VISITORS CENTER
 SCALE: 3/4" = 1'-0"



- NOTE:**
- 1 X 3 POPLAR FRAMING
 - 1/4" LUAN SKIN
 - LAMINATE: WILSONART GREY FINESSE 4613-6
 - PANEL WILL HANG FROM WALLS 12" UP FROM EXISTING FLOOR (WILL USE A HANGER BAR SYSTEM)



ELEVATION D DETAILS
 BUREAU OF STATE PARKS PA.
 PRESQUE ISLE VISITORS CENTER
 SCALE: 3/4" = 1'-0"

Sheet of 2

Contracting
 Revisions
 Date: 1-26-94

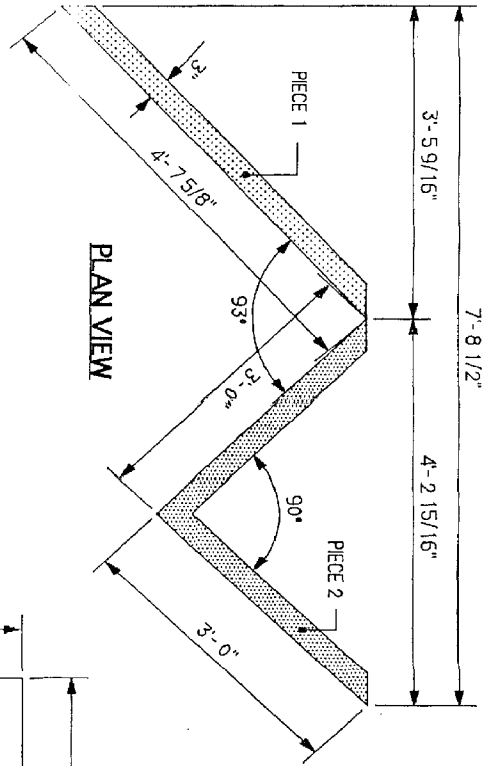
Drawn by: R. SCHELTZ
 Date: 1-26-94

BUREAU OF STATE
 PARKS PA.
 PRESQUE ISLE

All concepts, designs and plans represented by this document are the property of Exhibit Concepts Inc. and are for use on the project specified in this document.
 Copyright © by Exhibit Concepts Inc. All Rights Reserved.

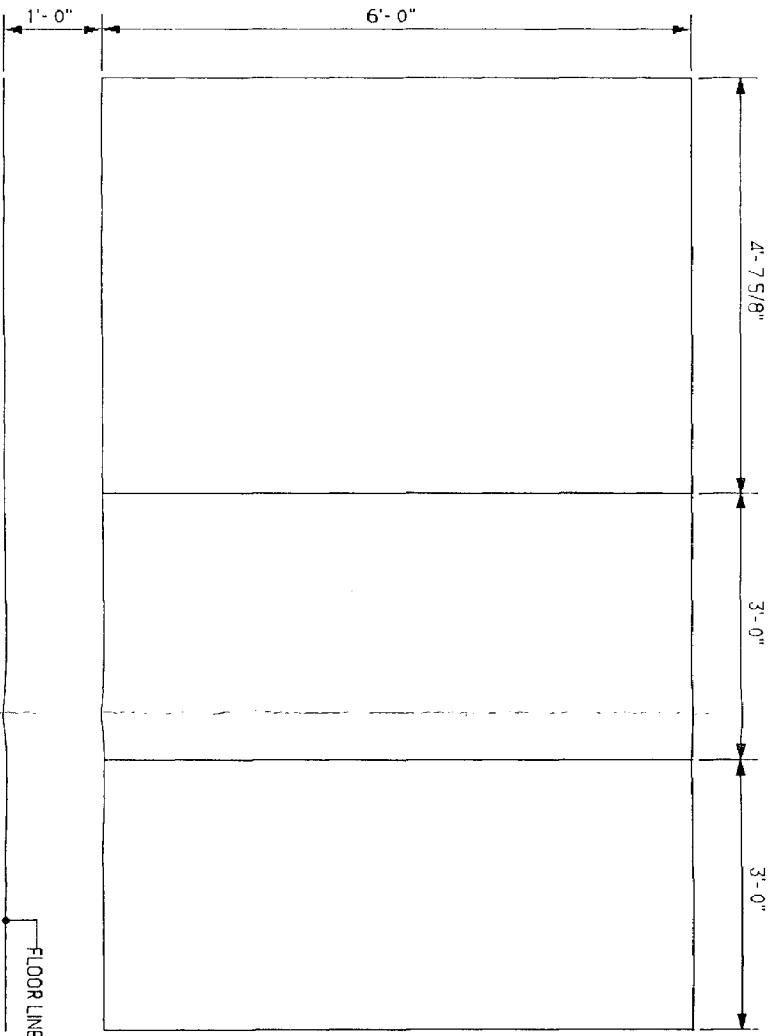


700 Crossroads Ct.
 Vandalla, Ohio
 45377
 (513) 890-7000



NOTE:
 - BUILD IN TWO PIECES SO NO SEAMS ARE SHOWING

- NOTE:
- 1 X 3 POPLAR FRAMING
 - 1/4" LUAN SKIN
 - LAMINATE: WILSONART GREY FINESSE 4613-6
 - PANELS WILL HANG FROM WALLS 12" UP FROM EXISTING FLOOR (WILL USE HANGER BAR SYSTEM)



ELEVATION B DETAILS

BUREAU OF STATE PARKS PA.
 PRESQUE ISLE VISITORS CENTER
 SCALE: 3/4" = 1'-0"

ELEVATION VIEW (UNFOLDED)

FLOOR LINE

Sheet	01
Of	3

Drawing No.	
Contract No.	
Revisions	

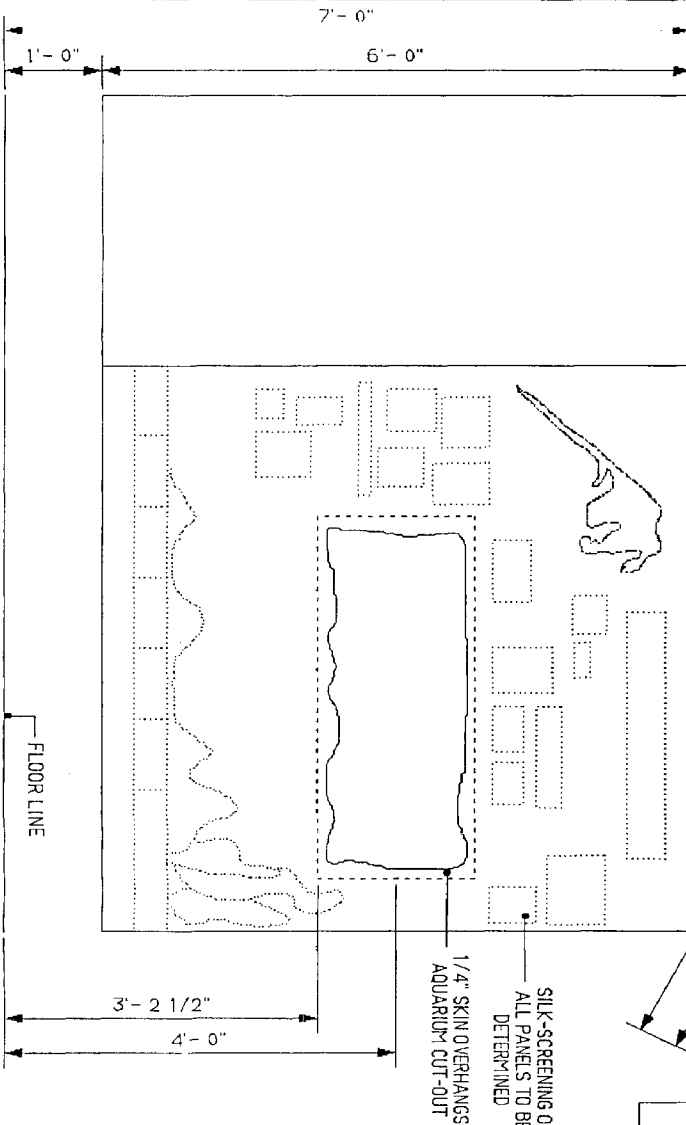
Drawn By:	K. SCHIELTZ
Date:	1-24-94

BUREAU OF STATE PARKS PA.
 PRESQUE ISLE

All concepts, designs and plans represented by this document are the property of Exhibit Concepts Inc. and are for use on the project specified in this document.
 Copyright © _____ by Exhibit Concepts Inc. All Rights Reserved

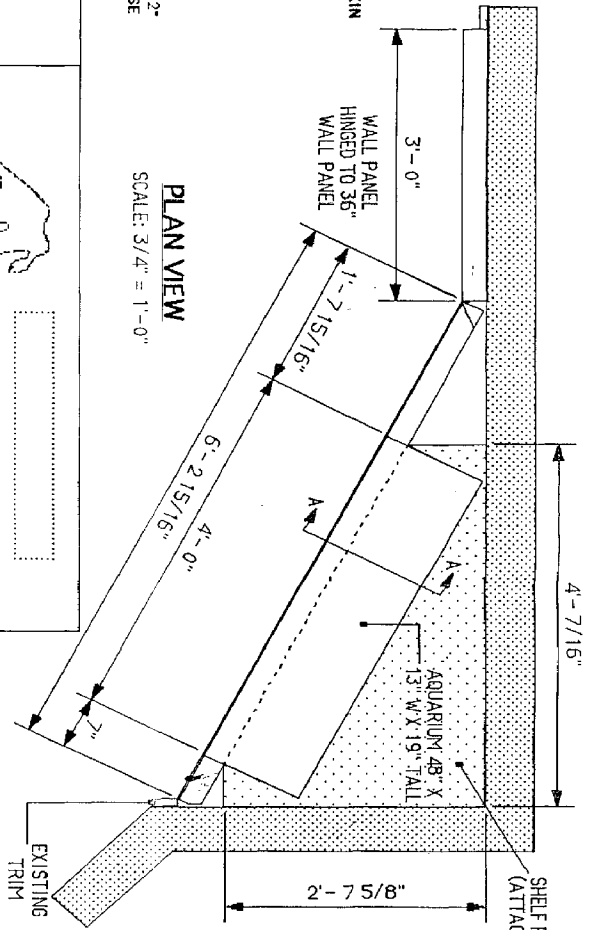
Exhibit Concepts INCORPORATED
 700 Crossroads Ct.
 Vandalla, Ohio 45377
 (513) 890-7000

ELEVATION VIEW (UNFOLDED)
SCALE: 3/4" = 1'-0"



- NOTE:
- 1 X 3 POPLAR FRAMING W/ 1/4" SKIN
 - WALL LAMINATE: WILSONART GREY FINESSE 4613-6
 - COPY TAG LAM: WILSONART ANTIQUE WHITE 1572-6
 - PANELS WILL HANG FROM WALLS 12" UP FROM EXISTING FLOOR (WILL USE A HANGER BAR SYSTEM)

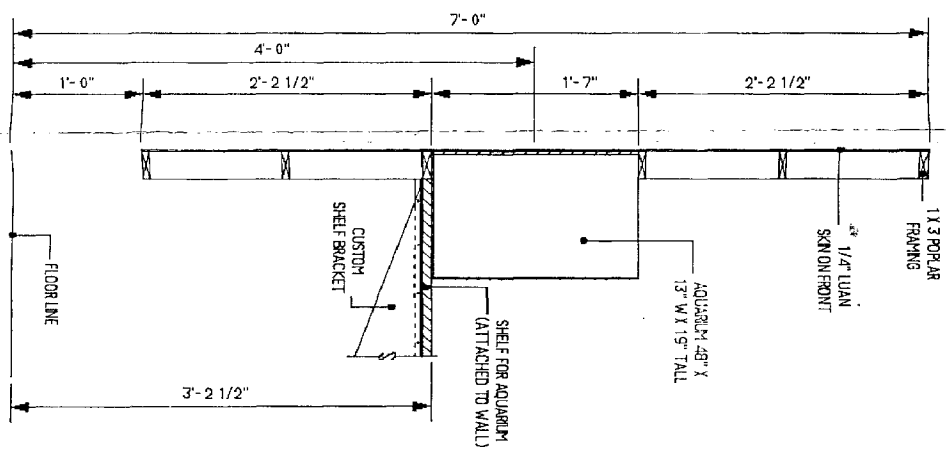
PLAN VIEW
SCALE: 3/4" = 1'-0"



ELEVATION C DETAILS

BUREAU OF STATE PARKS PA.
PRESQUE ISLE VISITORS CENTER
SCALE: VARIES

SECTION A-A
SCALE: 1" = 1'-0"



BUREAU OF STATE PARKS PA.
PRESQUE ISLE

All concepts, designs, and plans represented by this document are the property of Exhibit Concepts Inc. and are for use on the project specified in this document.
Copyright © by Exhibit Concepts Inc. All Rights Reserved



700 Crossroads Ct.
Vandalla, Ohio
45377
(513) 890-7000

Sheet of	4
Drawing No.	
Contract No.	
Revisions	
Drawn by:	K. SCHIELEITZ
Check:	1-26-94

NOAA COASTAL SERVICES OCS LIBRARY



3 6668 1411 1944 8