A Review of the Centerville Creek and Hika Park Restoration Project

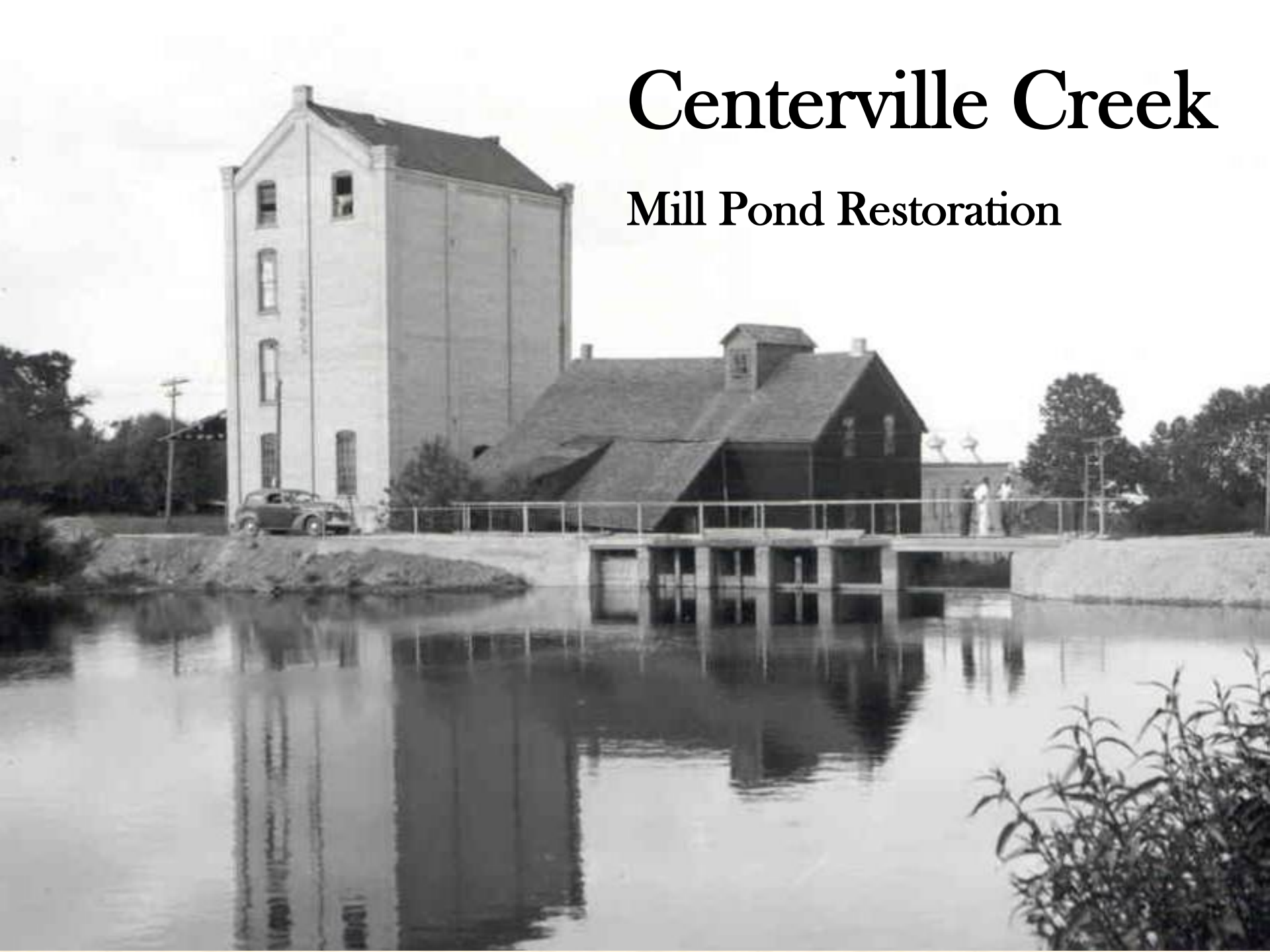
A Partnership between the Village of Cleveland and LNRP that helped form the Friends of Hika Bay

Friends of Hika Bay

Calvin, Pine, Point, Fischer & Centerville Watersheds

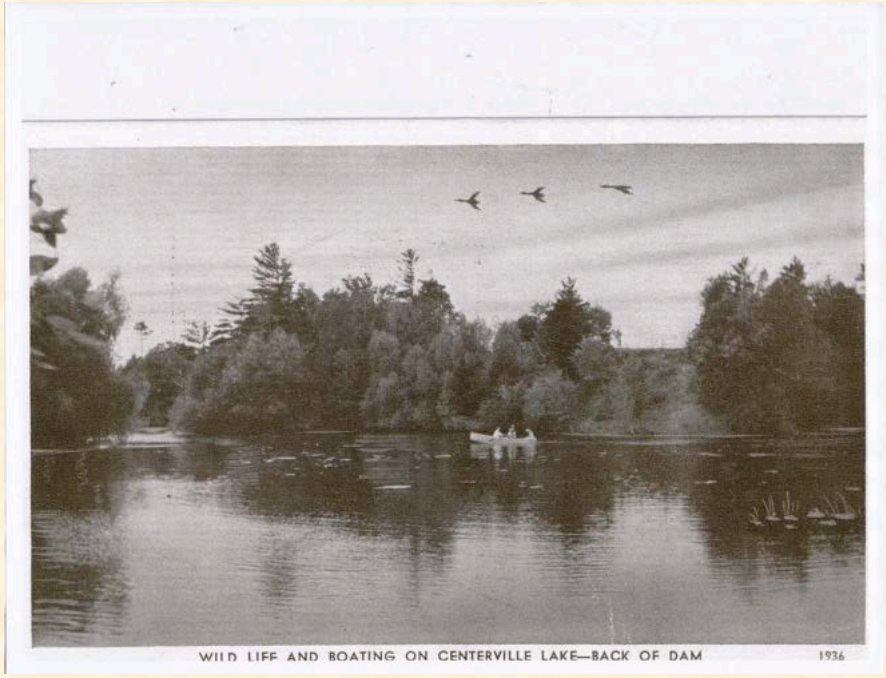
Centerville Creek

Mill Pond Restoration



Centerville Creek

Mill Pond Restoration



CONFLUENCE OF NORTH AND SOUTH BRANCHES OF CENTERVILLE CREEK

LOCATION OF FORMER DAM PREVIOUSLY REMOVED

HIKA SHORES NATURAL AREA

HIKA PARK BOAT LANDING

CENTERVILLE CREEEK RESTORATION AREA

VIEW OF CENTERVILLE CREEK AND HIKA SHORELAND PROJECT AREA

N

Centerville Creek Restoration Timeline

- 1996 Dam removed
- 2000-2001 WDNR River Planning Grant Assessment (Interfluve)
- 2002 USACE Section 206 initiated

River Planning Grant Assessment and Section 206

- Purpose: “to investigate possible restoration alternatives for Centerville Creek (in the impoundment area)
- Geomorphic assessment
- Topographic survey
- Concept plans
- Preliminary cost estimates of almost $900,000 plus with a required 50% match

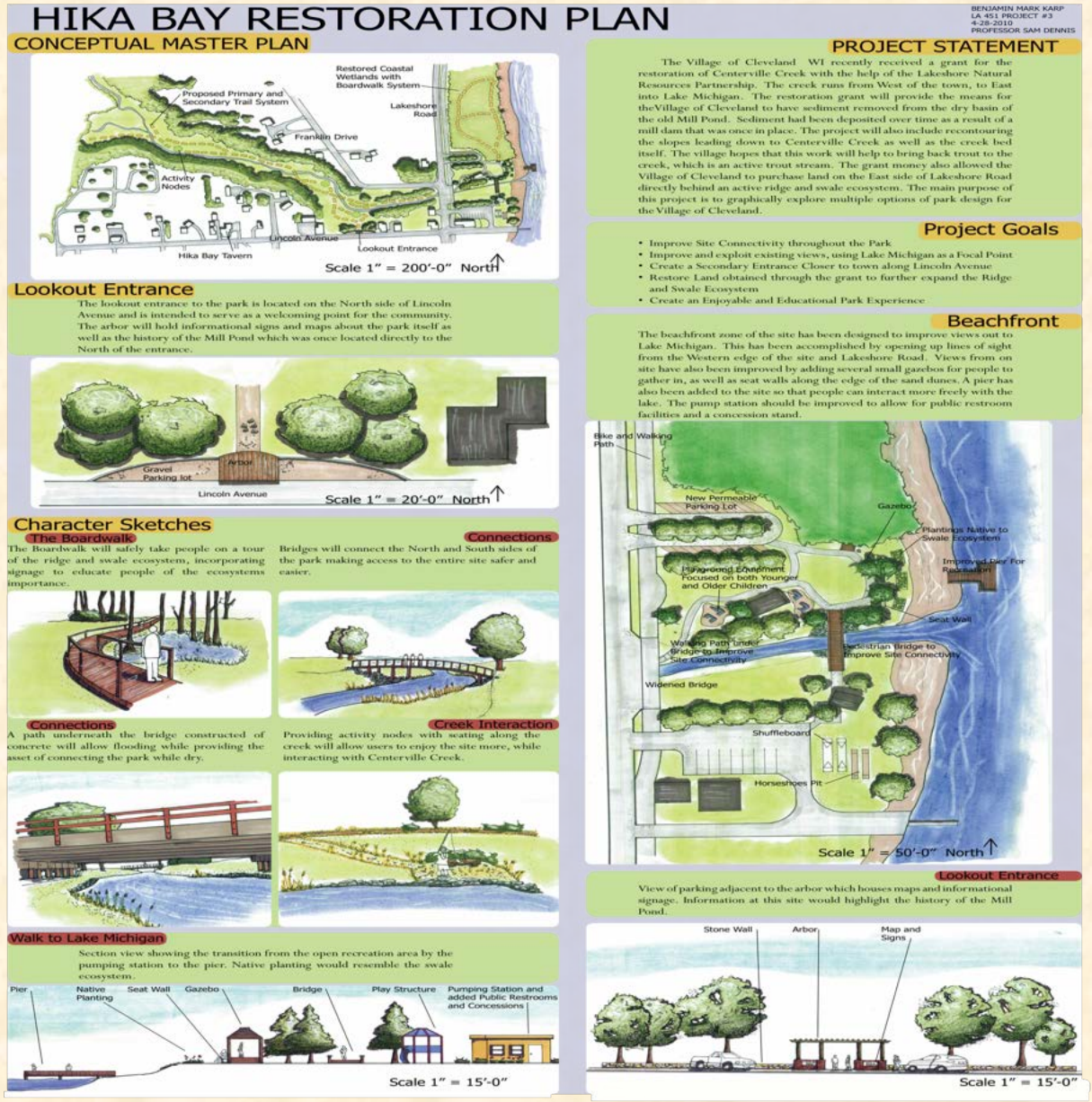
Centerville Creek Restoration Timeline

- 2003 Priority Restoration Project (PRP) Alternatives Analysis
- 2005 Wisconsin Coastal Management Grant Helped Purchase Hika Sands Property
- 2007 Village of Cleveland 20-Year Comprehensive Plan – Bay Lake RPC
- 2009 Village of Cleveland Municipal Facilities Report – Plunkett Raysich Architects
- 2009 Contract given to LNRP by the Village of Cleveland for a Feasibility Analysis

Inputs on Design Elements

- Citizen Advisory Committee
- Interfluve
- River Alliance
- UW Stevens Point – Watershed Studies
- County LWCD, DNR, and Invasive Species Coordinator
- D & H Land Surveys
- UW Madison – Landscape Designs

Open Space Planning and Design Course



Example of UW Madison Student Design

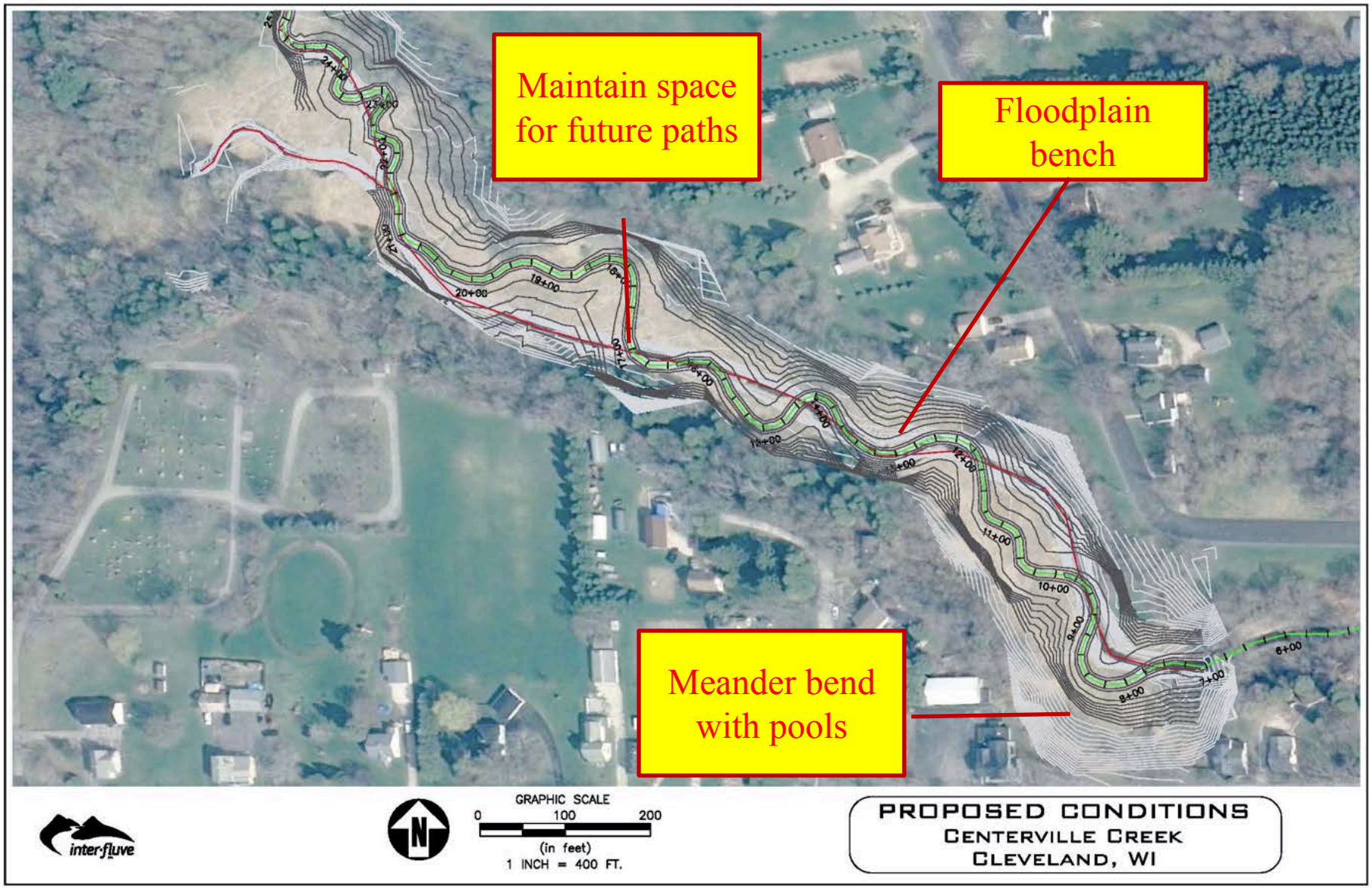
We received 19 student designs for the overall restoration plan.

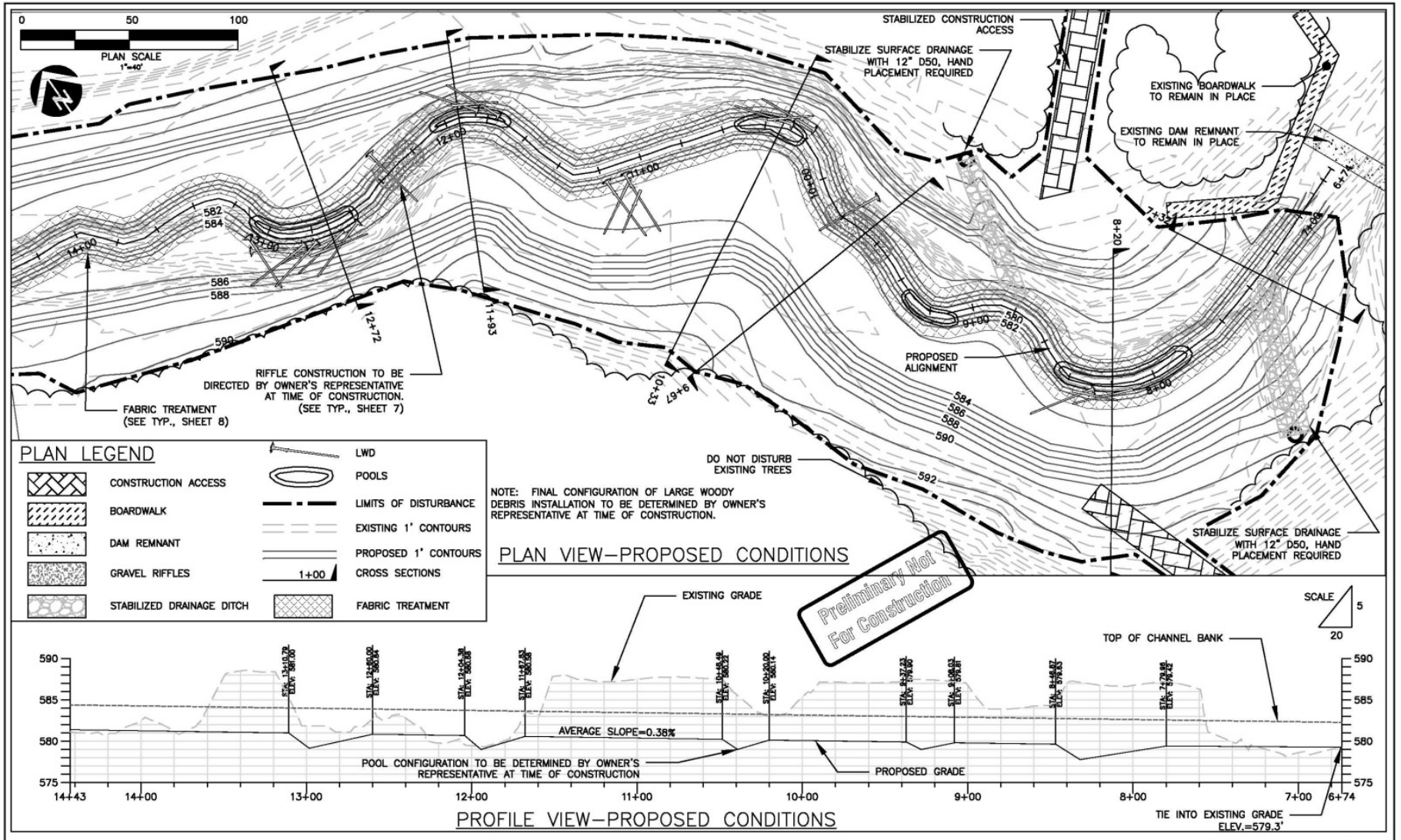
Centerville Creek Restoration

Our Aspirations:

A return to a natural appearing and functioning stream

Similar to the upstream character of the South Branch


Maintain space for future paths
Floodplain bench
Meander bend with pools
inter-fluve
GRAPHIC SCALE
0 100 200
(in feet)
1 INCH = 400 FT.
PROPOSED CONDITIONS
CENTERVILLE CREEK
CLEVELAND, WI



NO.	BY	DATE	REVISION DESCRIPTION

DRAWN	DESIGNED	CHECKED
BOL	BOL	GO. MJM
APPROVED	DATE	PROJECT
GO. MJM	05/04/11	

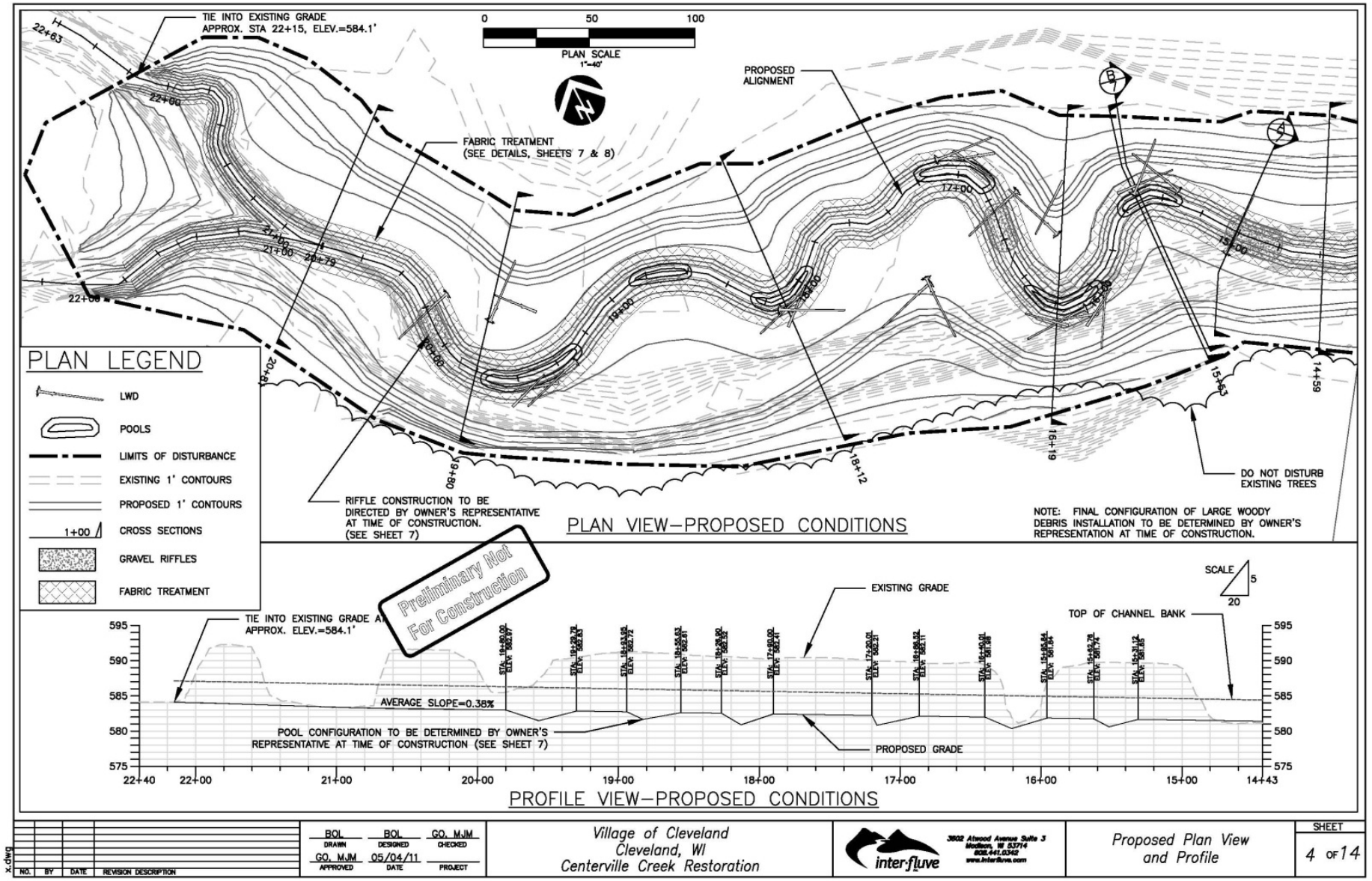
Village of Cleveland
Cleveland, WI
Centerville Creek Restoration

inter·fluve
3602 Atwood Avenue Suite 3
Madison, WI 53714
608.441.0342
www.interfluve.com

Proposed Plan View and Profile

SHEET 3 OF 14

inter·fluve



NO.	BY	DATE	REVISION DESCRIPTION

BOL	BOL	GO, MJM
DRAWN	DESIGNED	CHECKED
GO, MJM	05/04/11	
APPROVED	DATE	PROJECT

Village of Cleveland
Cleveland, WI
Centerville Creek Restoration

inter·fluve
3502 Atwood Avenue Suite 3
Madison, WI 53714
608.441.0342
www.interfluve.com

Proposed Plan View and Profile

SHEET
4 OF 14

inter·fluve

Project Photos
October / November 2012

Project Photos
November 2012

Project Photos

Tree Planting

Spring 2013

PASSIVE - NATURE BASED

TRANSITIONAL

ACTIVE

RESTORE BEACH ... REMOVE WOODY PLANTS ... ENCOURAGE BEACH GRASSES AND DUNES

REMOVE INVASIVE SHRUBS AND OTHER PLANTS FROM WOODED AREA

WOOD BENCH (TYPICAL)

HIKING TRAIL LOOP SECTION ALONG EXISTING DUNE CREST

RESTORE AND EXPAND SWALE WETLAND

REMOVE OLD CONCRETE PIECES

TRAIL HEAD WITH KIOSK FOR PROPERTY AND LOCAL BUISNESS INFORMATION

COVERED VIEWING AREA AND SEATING CIRCLE WITH INTERPRETIVE GRAPHIC DISPLAYS

PEDESTRIAN BRIDGE ... PREFERRED LOCATION SHOWN. LOCATION TO BE VERIFIED WITH REVIEW AGENCY.

NATURALIZE TURF AREA ... CREATE WET MEADOW

RIDGES TYPE LANDFORM WITH FILL REMOVED FROM CENTERVILLE CREEK RESTORATION PROJECT. PLANT WITH NATIVE TREES

TRAIL LOOP SECTION THROUGH MEADOW

MOWED DITCH AND ROAD EDGE TO MAINTAINI "MANAGED" NATURAL LANDSCAPE PRESENTATION OF PARK

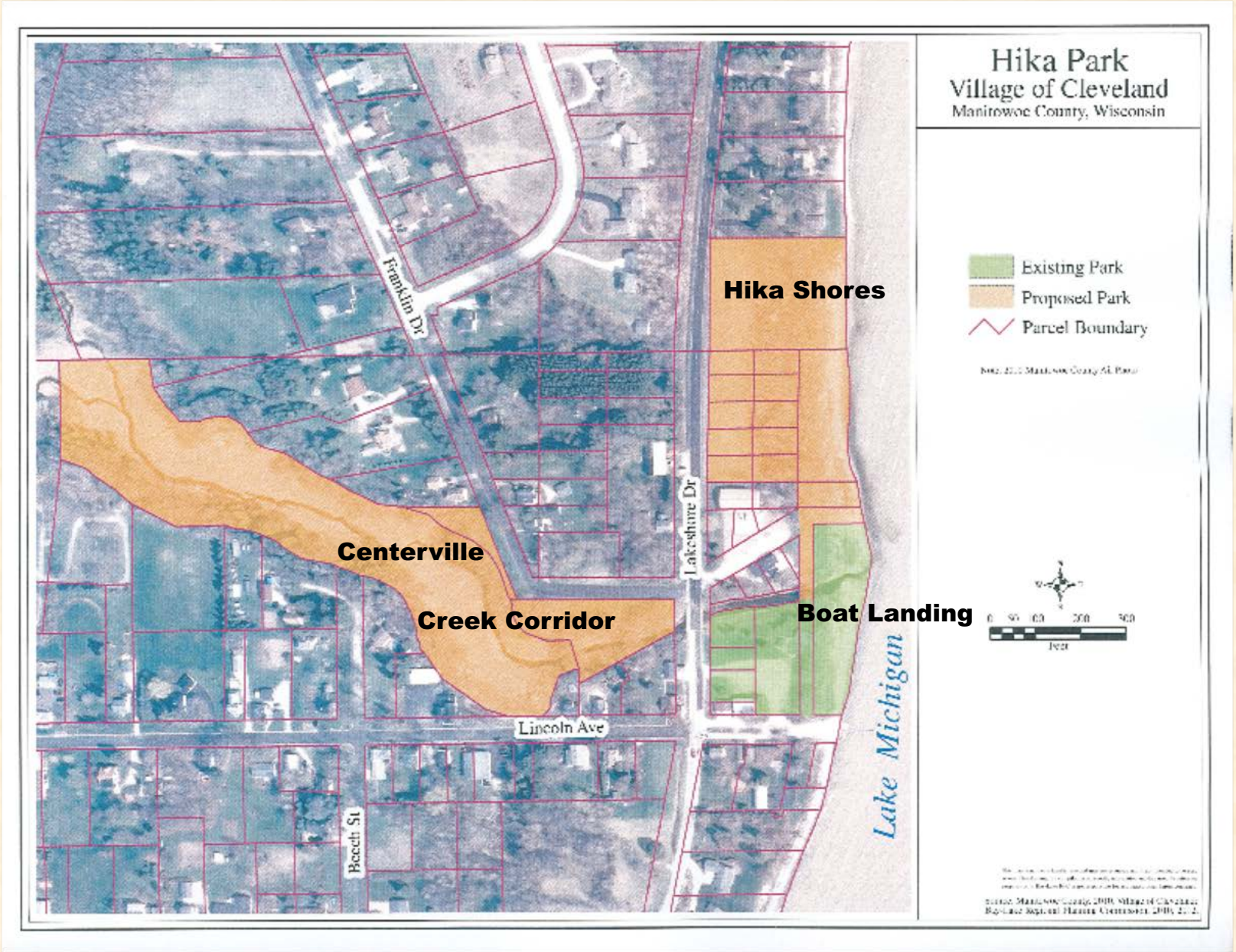
PARKING LOOP WITH CENTER GARDEN SPACE UPON FUTURE REMOVAL OF DPW GARAGE

POTENTIAL FOR FUTURE EXPANSION OF BOAT TRAILER PARKING UPON REMOVAL OF APARTMENT BUILDING

DESIGN CONCEPTS FOR HIKA PARK SHORELAND

0' 20' 40'
SCALE

N



In September 2012, Cleveland Village Board approved LNRP recommendations to expand Hika Park and delineate three areas: Boat Landing, Hika Shores, and Centerville Creek Corridor. The park area expanded 6.3 times from 2.21 to 13.85 acres, an increase of 11.64 acres.

Partnership UWGB-Manitowoc
Ten Years
2010 - 2020

Student interns

- Baseline assessment
- 5 points in 2010, 7 points in 2011, 10 points in 2012, 14 Points in 2016
- Weekly measurements of physical, chemical, biological characteristics
  - pH, temperature, flow, turbidity, conductivity, dissolved oxygen, ammonia, phosphorus
  - *E. coli*

Lab Courses

- Macroinvertebrate surveys
- Repeated Measures on Centerville Creek

Pedestrian Bridge

Designed and Installed with Additional Grant Dollars

Links South and North Portions of the Park

Interpretive Kiosks

Kiosk #1
Centerville Creek

Witness the renewal of

Centerville Creek

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has." Margaret Mead

REMOVING THE DAM POWERS STEWARDSHIP

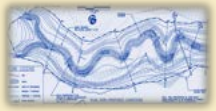
After the dam was removed in 1996, decades of sediment, a severely degraded stream bed and an abundance of invasive plants remained. Sediment from the mill pond washed into Lake Michigan impacts fish habitat and causes algae blooms. *The Village begins restoration planning.*

STRONGER TOGETHER

With a combined focus to improve water quality and wildlife habitat, restore the creek and increase recreation, partnerships form.

A CITIZEN ADVISORY COMMITTEE gathers many area groups to work together, ensuring the creek returns to a healthy, functioning ecosystem.

WATER QUALITY MONITORING
Students from UW-Manitowoc sample 14 sites in the watershed each year to better understand the overall impact that various land practices have on the quality of our lakes and streams and to assess any improvements to water quality after restoration.
SEE THE DATA AT WWW.HIKA-BAY.ORG



RESTORATION DESIGN
Meandering, With A Purpose

To restore Centerville Creek back to to a free flowing, meandering stream with native plantings that reflect conditions prior to dam construction.

ONE PROJECT'S LEFT-OVERS? ANOTHER'S TREASURE!

Truckloads of sediment from the creek were hauled away, across the street!
The ridge/swale ecosystem of Hika Shores was in need of restoration and the leftover sediment from the creek project was just the answer.

Sediment removed from the creek was repurposed just down the road at Hika Park to restore the ridge/swale habitat, rebuild a section of dunes, and create a new naturalized ridge along the roadway.

Creek restoration spurred other projects and improvement efforts to include the expansion of Hika Park from 2.21 acres to 13.85 acres, construction of the pedestrian bridge over Centerville Creek, bird monitoring and many stewardship opportunities.

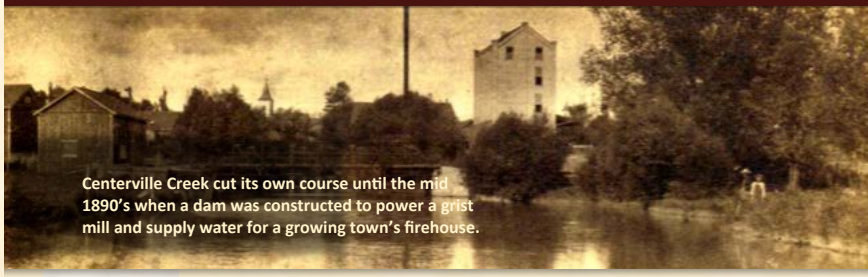
EXPLORE THE UNIQUE RIDGE/SWALE AND SHORELINE HABITATS OF HIKA PARK
Walk to the park. Learn more about the unique ridge/swale and shoreline habitat restoration. Discover the rich diversity of plants and animals found there.

ADDITIONAL SUPPORT PROVIDED BY

Learn More!

A Village Shaped by Water

A history of growth and restoration for a community and its creek



Centerville Creek cut its own course until the mid 1890's when a dam was constructed to power a grist mill and supply water for a growing town's firehouse.

OLD MILL POND

The dam created the town's first mill pond and the site became a popular gathering place for the community. The creek and mill pond gave residents a place to grow an income, cast a line for a fish dinner or skate with family on the frozen water each winter.

The wooden dam collapsed in 1906 and a concrete dam was built. Then in 1924 the dam collapsed again and for the next ten years the community struggled with how to raise funds for a new dam and another *Old Mill Pond.*

A GALA EVENT

In 1934 residents arranged a *Gala Fall Festival* to raise funds for a new dam. The festival featured a picnic, dance and parade. Forty-cents bought a ticket to the dance and twenty-five cents got a luncheon plate at the picnic.

"When the dam broke out ten years ago [1924] We have ever since tried to figure out ways and means how we could possibly reestablish this dam so as to get the pond back. We have now arranged a Gala Fall Festival with PICNIC and DANCE. There will also be a BIG PARADE at 1 o'clock. Don't miss it!"
Excerpt: An Invitation from The People of the Little Village of Centerville 1934

THE MILL POND RETURNS

After two successful money making picnics, a new dam was erected in 1935, impounding 12 acres of the creek, bringing the mill pond back. Again, Centerville and Hika citizens enjoyed the benefits of their *Old Mill Pond.*

In 1942 a heavy rainfall washed away the soil at both ends of the dam and caused the Mill to collapse and wash away into Lake Michigan making ongoing repairs necessary.

THE CREEK RETURNS HOME

NO LONGER NEEDED FOR LOCAL INDUSTRY, THE DAM WAS REMOVED IN 1996

The creek was free to meander once more. But there was much work to be done: restore the natural floodplain, re-establish native vegetation and enhance recreational opportunities for the community.

REMOVING THE DAM BUILDING COMMUNITY

After the drawdown of the mill pond, decades of sediment and a stream bed full of invasive plants remained

In 2009, with a focus on water quality, restoration and recreation, the community gathers many groups who work together, restoring the creek to a healthy, functioning, ecosystem once more.
Water shapes the people and the land once more.

Interpretive Kiosks

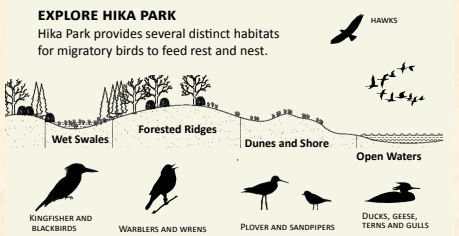
Kiosk #2
Ridge Swale

You are in a
Migratory Corridor

"That such delicate creatures undertake these epic journeys defies belief. "
Scott Weidensaul—Living on the Wind

SOUTHERN MANITOWOC COUNTY
COASTAL ECOLOGICAL LANDSCAPE

EXPLORE HIKA PARK
Hika Park provides several distinct habitats for migratory birds to feed rest and nest.

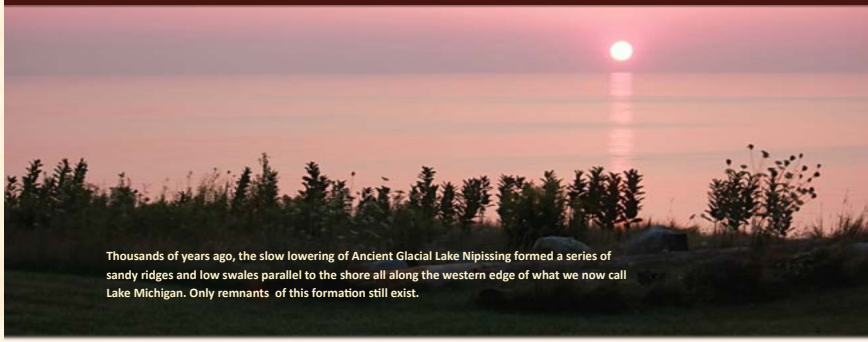


ADDITIONAL SUPPORT PROVIDED BY

LNRP · West Foundation, Inc. · Cleveland Metroparks · Sustain the Great Lakes · CSB · Wisconsin Coastal Management Program · Friends of Hika Bay · Learn More!

Preserving an Ancient Topography

Hika Park is home to rare coastal landscapes

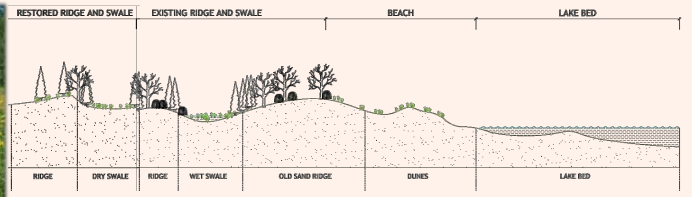


Thousands of years ago, the slow lowering of Ancient Glacial Lake Nipissing formed a series of sandy ridges and low swales parallel to the shore all along the western edge of what we now call Lake Michigan. Only remnants of this formation still exist.

GREAT LAKES RIDGE SWALE COMPLEX

DISCOVER ONE OF THE FEW REMAINING EXAMPLES OF GREAT LAKES COASTAL FORESTS AND WETLANDS

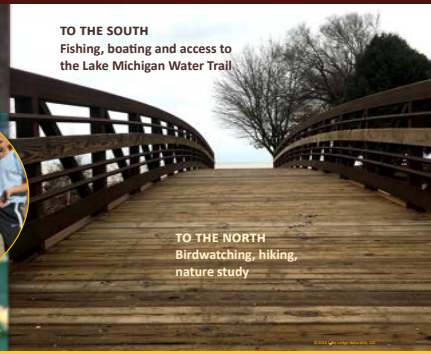
This narrow strip of land harbors a mosaic of microhabitats
Each forested ridge was once an active sand dune along the shoreline and each swale was once part of Lake Michigan. This unique landscape now supports a diversity of plants and provides critical habitat for wildlife.



LINKING PEOPLE WITH NATURE | Walk the bridge across Centerville Creek
Explore the best in active and passive recreational opportunities

HIKA RIDGE AND SWALE HABITAT
Recently preserved and restored through a series of community outreach events to reclaim the natural landscape.

TO THE SOUTH
Fishing, boating and access to the Lake Michigan Water Trail



TO THE NORTH
Birdwatching, hiking, nature study

Lakeshore Natural Resource Partnership - Outreach

Newsletter: The Source
Websites: www.LNRP.org and www.hika-bay.org
Regional Outreach: Lake Michigan Stakeholders

Jim Kettler, Director of Projects
Telephone: 920-304-1919
Email: jim@LNRP.org