

Navigability and Ordinary High Water Mark Training

Provided in partnership between the Wisconsin County Code
Administrators and Wisconsin Department of Natural Resources

May 30, 2019 – Vilas County

June 12, 2019 – Green Lake County

Why are we here?

Department's administration of s. [30](#) Wis. Stats.

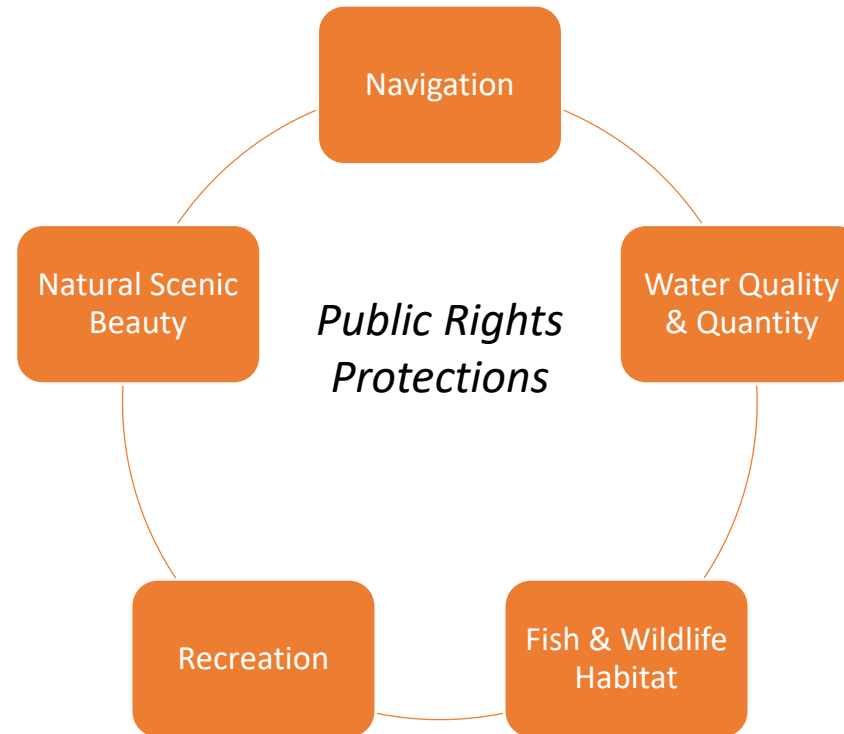
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Protection of Navigable waters under S. [281.31](#) Wis. Stats. And s. [59.692](#)

Both rooted in the Public Trust Doctrine

Public Trust Doctrine

- Wisconsin's waters are public resources, owned in common by all citizens
- "Common highways and forever free"
- Dating back to Northwest Ordinance of 1787 Article IV



Public Trust Doctrine

- Emanates from the WI Constitution, Article IX, Section 1
- Sizable body of common law, which holds all navigable waters in trust by the state for the public
- State has an affirmative duty to protect and preserve these public trust waters (trustee)

“Champions of the Public Trust”

- https://dnr.wi.gov/topic/waterways/about_us/doctrine.htm

“Public” vs. Private Ownership

- 2 general criteria
 - Navigable waterways
 - Ordinary High Water Mark

State v. Trudeau (1987)

- The state holds title to the beds of lakes up to the ordinary high water mark.
 - OHWM is the point on the bank which divides private land and public water.
- The riparian property owner holds title to the bed of a navigable stream.
 - The water in the stream is public. When the water is gone, so is public access.

- Public Access for navigation:
<https://dnr.wi.gov/topic/fishing/documents/questions/PublicAccessFactSheet.pdf>
- Public or Private OHWM brochure:
<https://dnr.wi.gov/topic/fishing/questions/access.html>

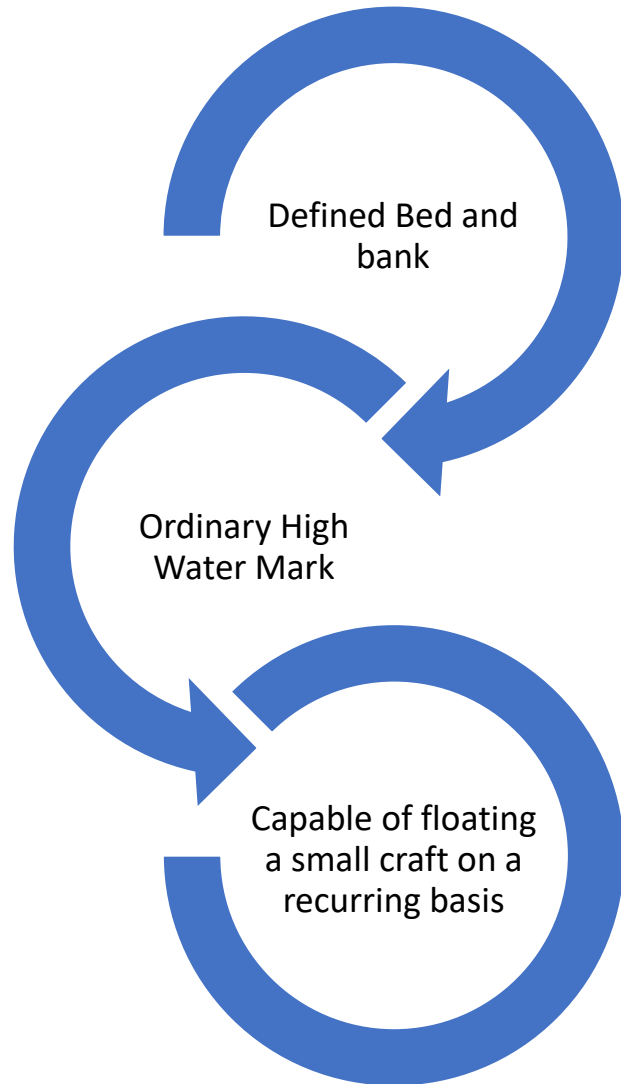
Wisconsin's Water Regulations

- Chapters 30 and 31 of Wisconsin Statutes

State v. Bleck (1983)

- The state has jurisdiction under chapter 30, Wisconsin Statutes over all waters which are navigable in fact.
- NR 115, 116 and 117 - shoreland, wetland, and floodplain ordinances administered by local governments, with DNR assistance and oversight

What is a Navigable Waterway?



DeGayner & Co. Inc. v. DNR (1975)

- A stream can be navigable even if it is only navigable in fact on a regularly recurring basis, such as in spring high water.

Ordinary High Water Mark

- “the point on the bank or shore up to which the presence and action of the water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation, or other easily recognized characteristic.” Diana Shooting Club v. Husting (1914), 156 Wis. 261, 272

Navigability Begins with The Northwest Ordinance of 1787

- “The navigable waters leading into the Mississippi and St. Lawrence, and the carrying places between the same shall be common highways, and forever free, as well as to the inhabitants of said territory, as to the citizens of the United States, and those of any other states that may be admitted into the confederacy, without any tax, impost or duty therefore.”

Northwest Ordinance of 1787
Article IV



Identifying a Navigable waterway

- A waterway is considered navigable if it:
 - has defined bed and banks; and
 - is capable of floating a small recreational watercraft on a regular basis
- A waterway is presumed navigable if it appears on the USGS topographic map as either an intermittent or perennial stream

Identifying a Navigable waterway

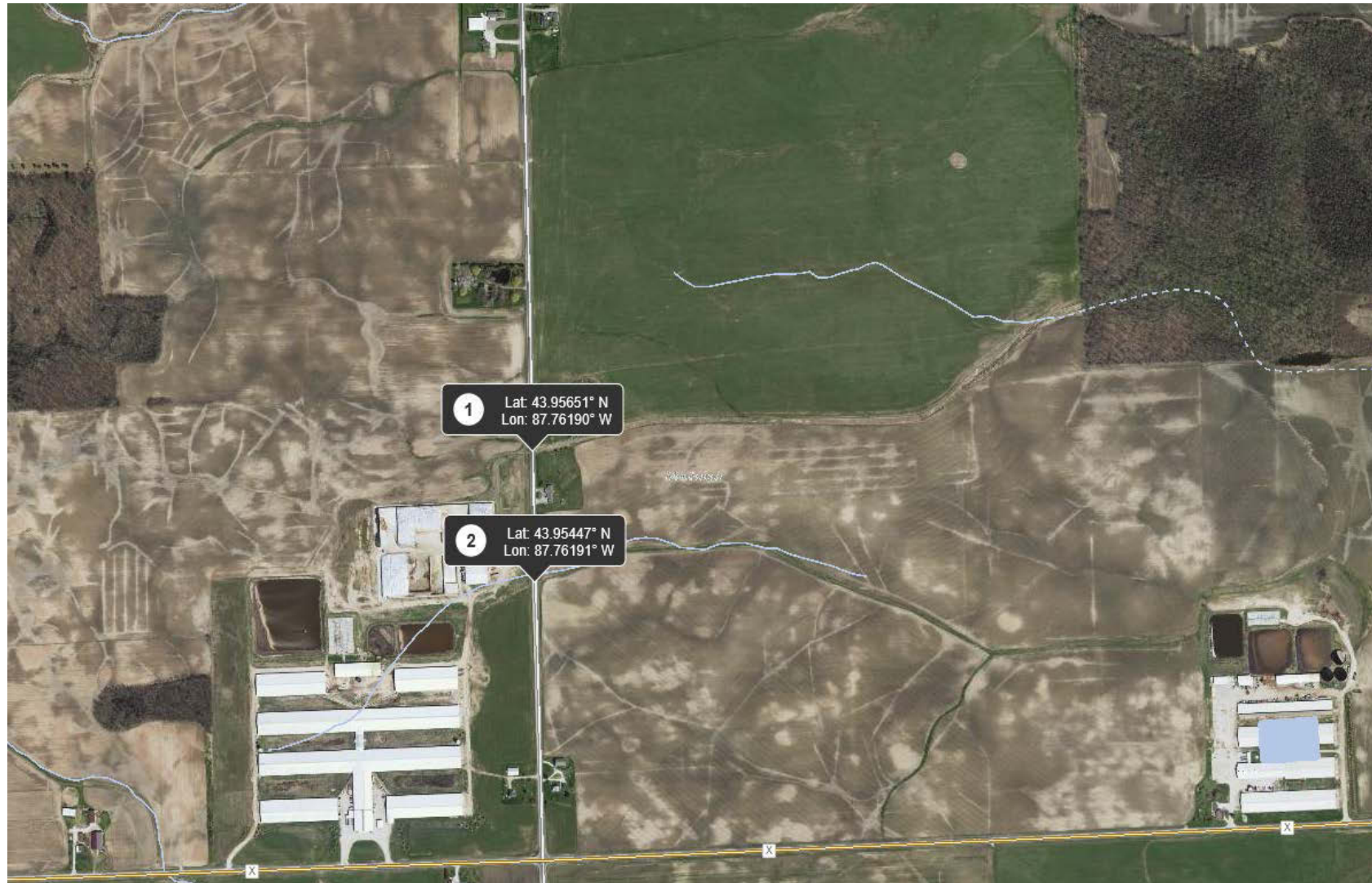
- “Navigable-in-opinion”
 - look at the size of the channel and indicators which show the presence of high water
 - a stream flow approximately 3-feet wide and four inches deep in high water will generally support a person in a solo canoe
 - natural or manmade obstructions can be portaged around - e.g. tree fall, rocks, bridges

Identifying a Navigable waterway

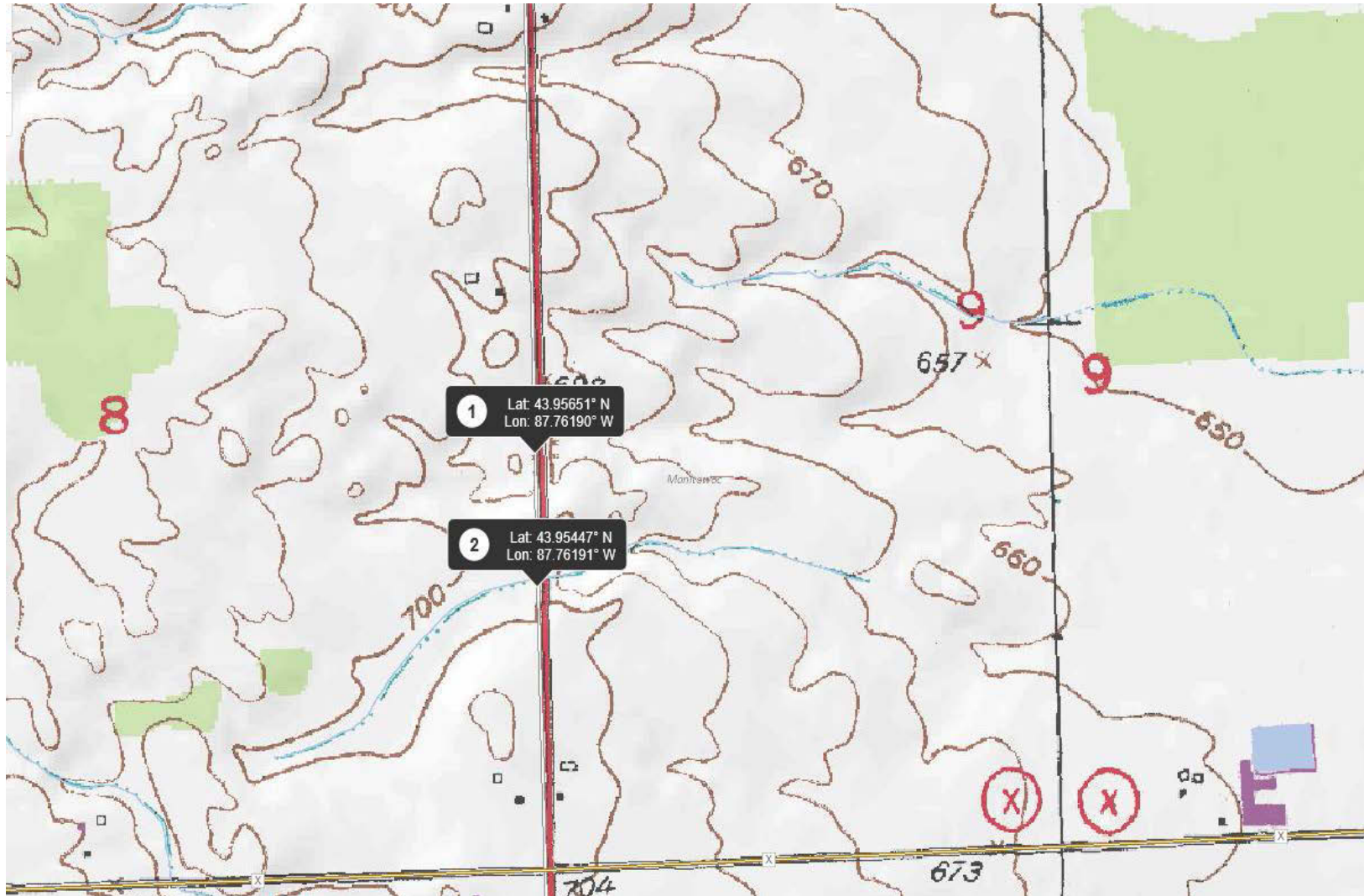
- “Navigable-in-fact”
 - to verify, or when landowner contests
 - visit the site in high water, navigate the stream
 - document evidence of higher flows if present
- If a person can float in a solo canoe or kayak on a small stream, even once a year in spring high water, Wisconsin law says that the waterway is considered navigable.



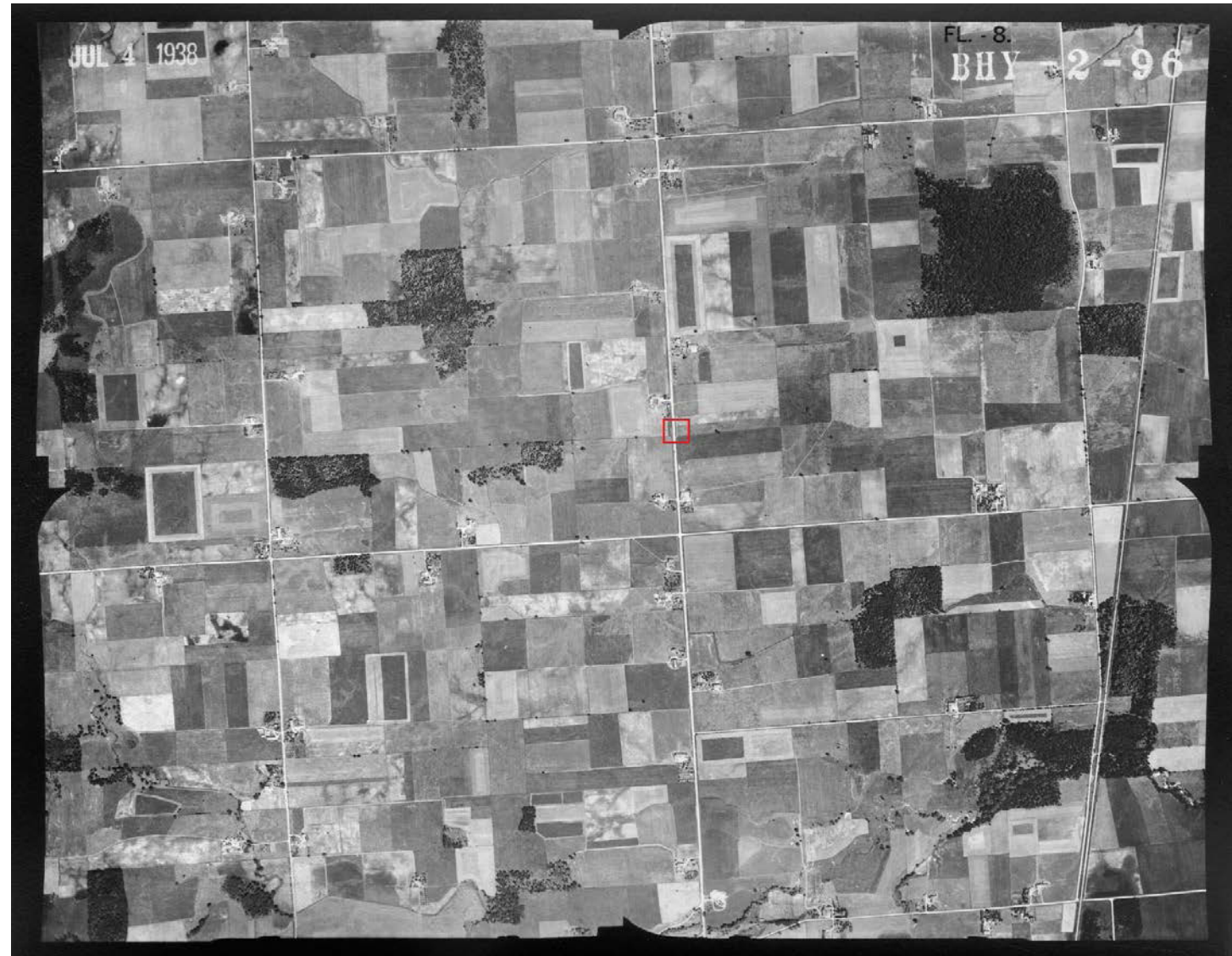
Stream History:



USGS Topo Map from 1973



1938 Aerial Photo:



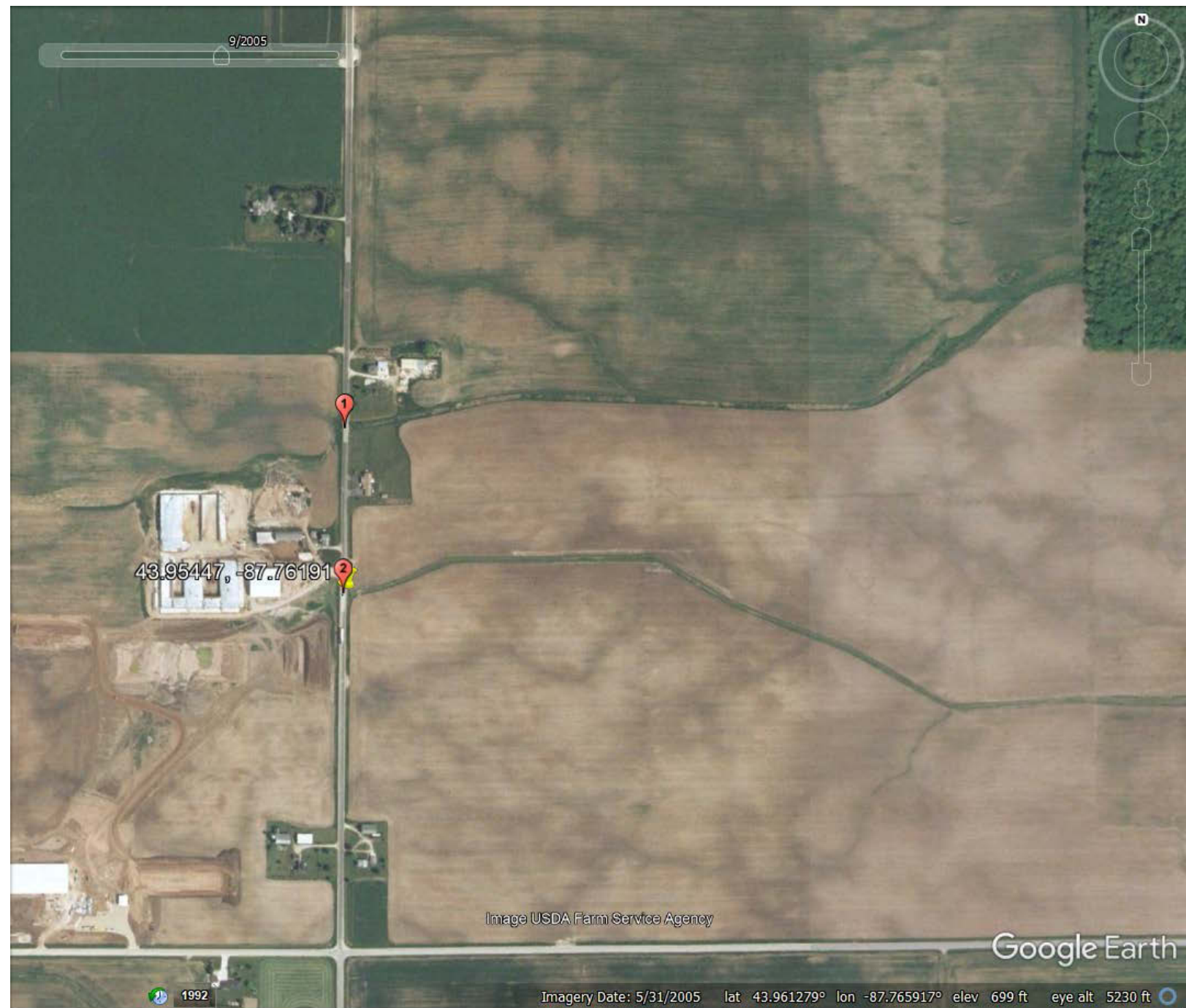
1992 Aerial:



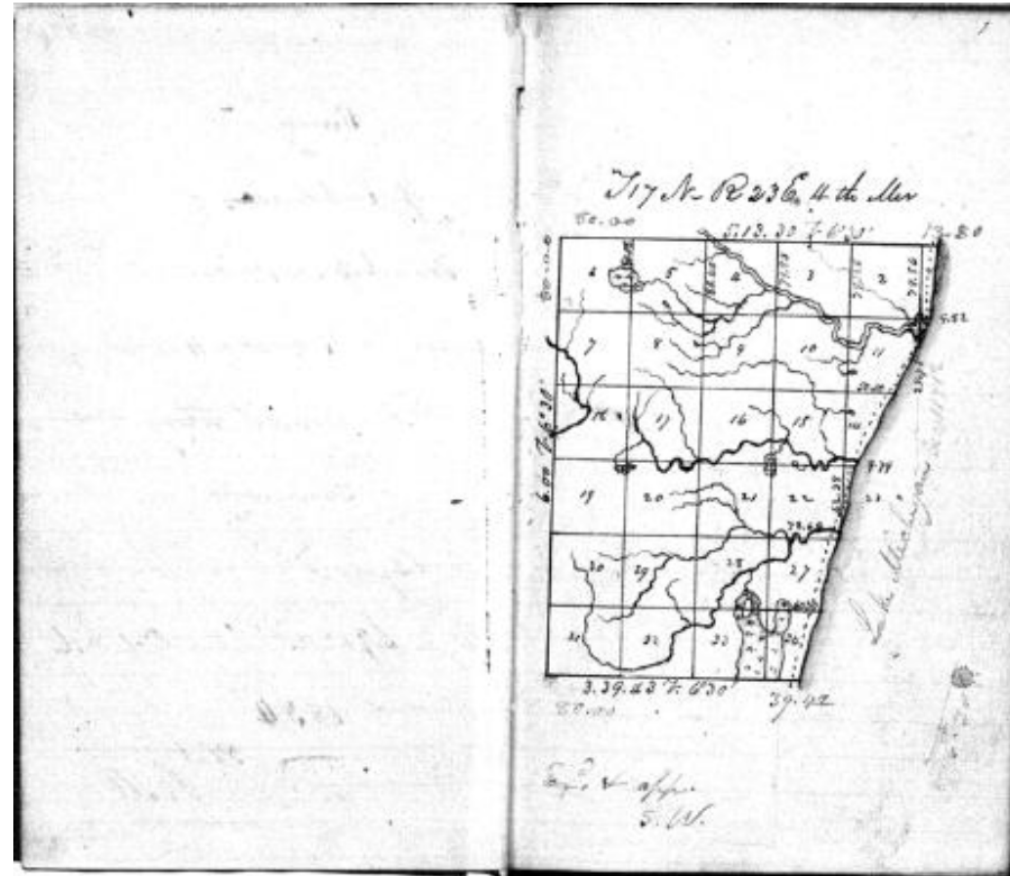
2000 Aerial



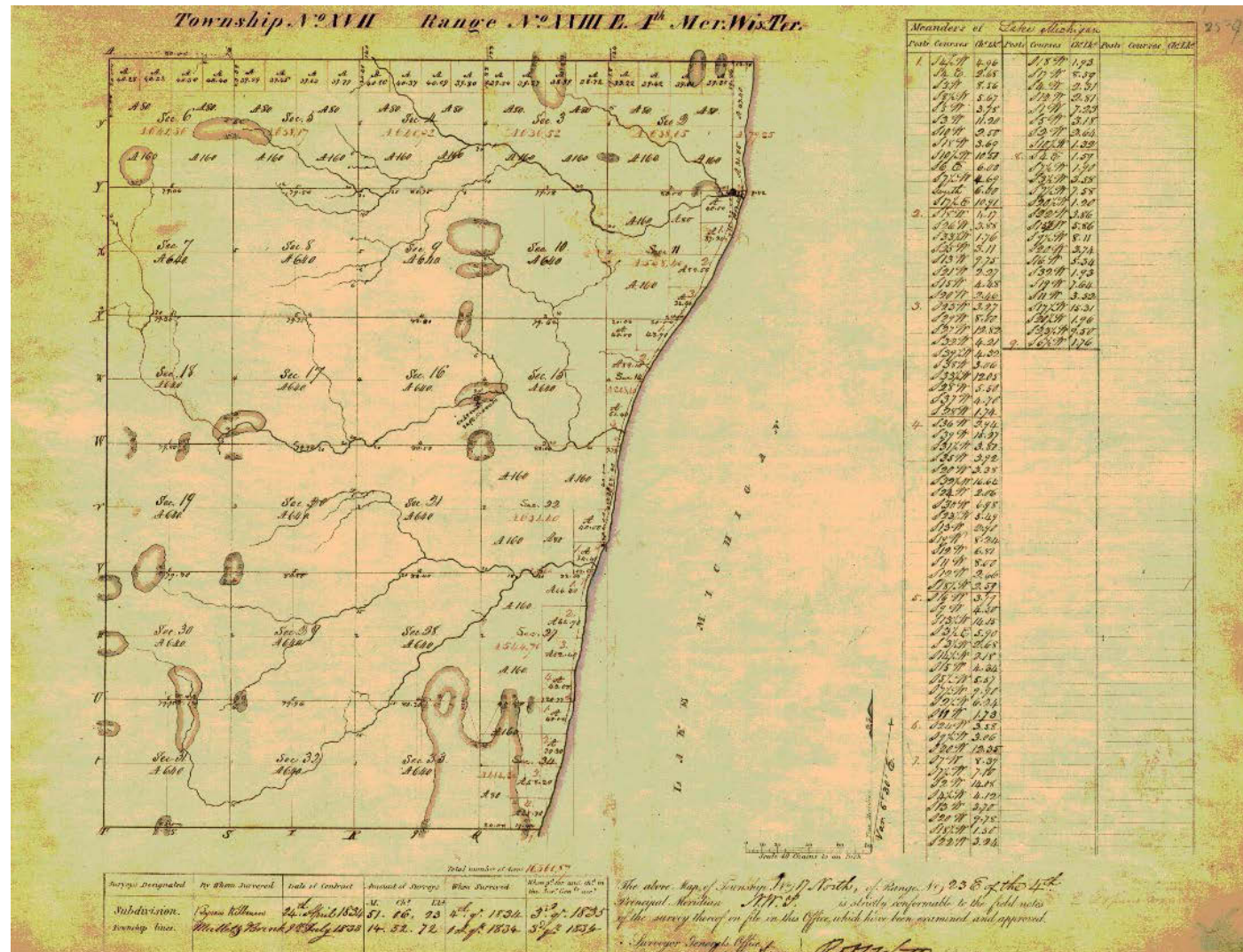
2005 Aerial



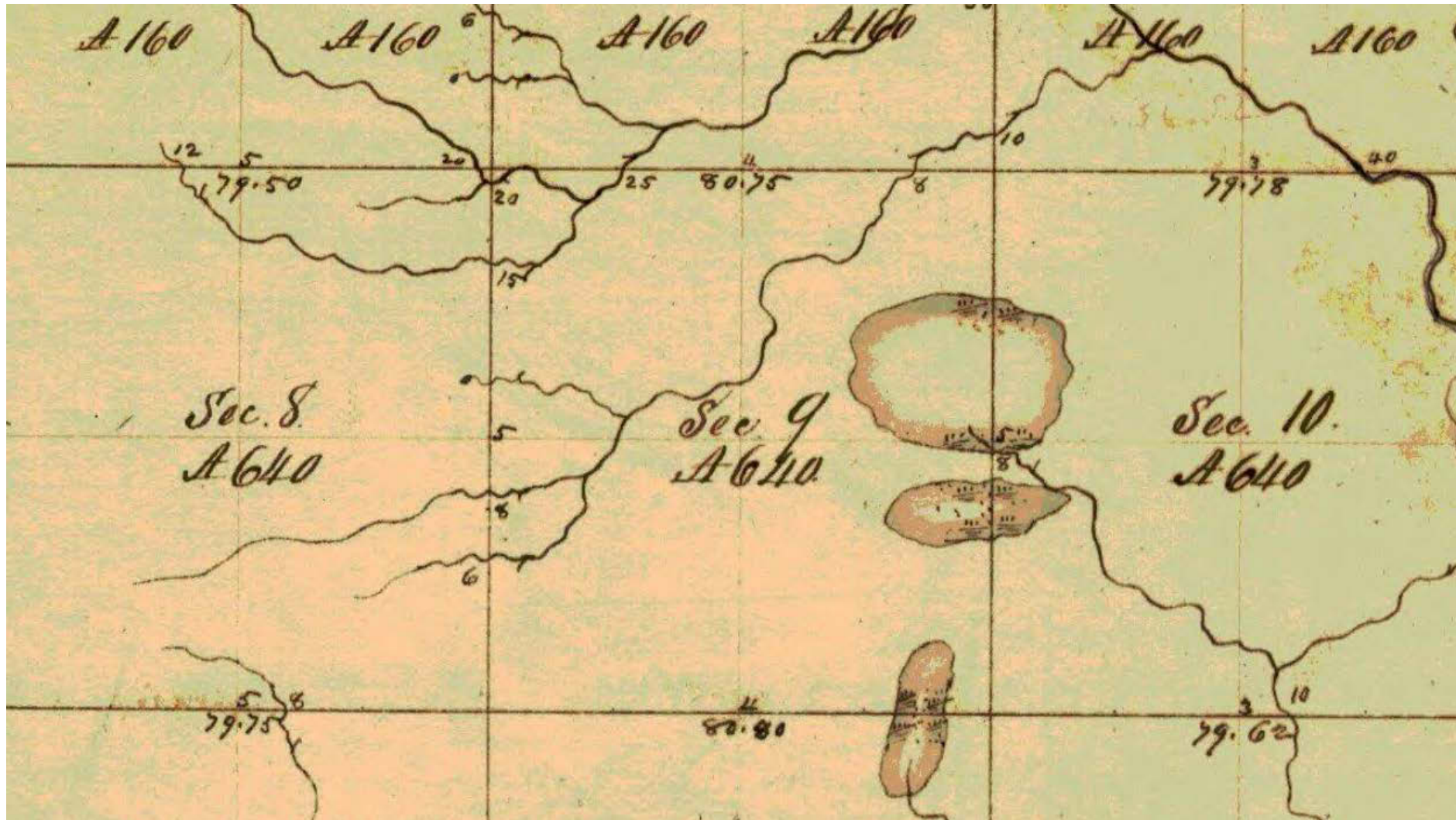
Board of Commissioners of Public Lands Original Land Survey Sketch Map



Board of Commissioners of Public Lands Original Land Survey Plat Map



Between Sections 8 and 9 zoomed in:



Downstream of culvert



Upstream of culvert



Upstream of culvert water depth – 7 inches



Upstream of culvert stream width measurement –
24 inches



Upstream of culvert OHWM indicators



Downstream of culvert



Downstream of culvert



Navigable in fact



Navigable in fact



Navigable?



Navigable?



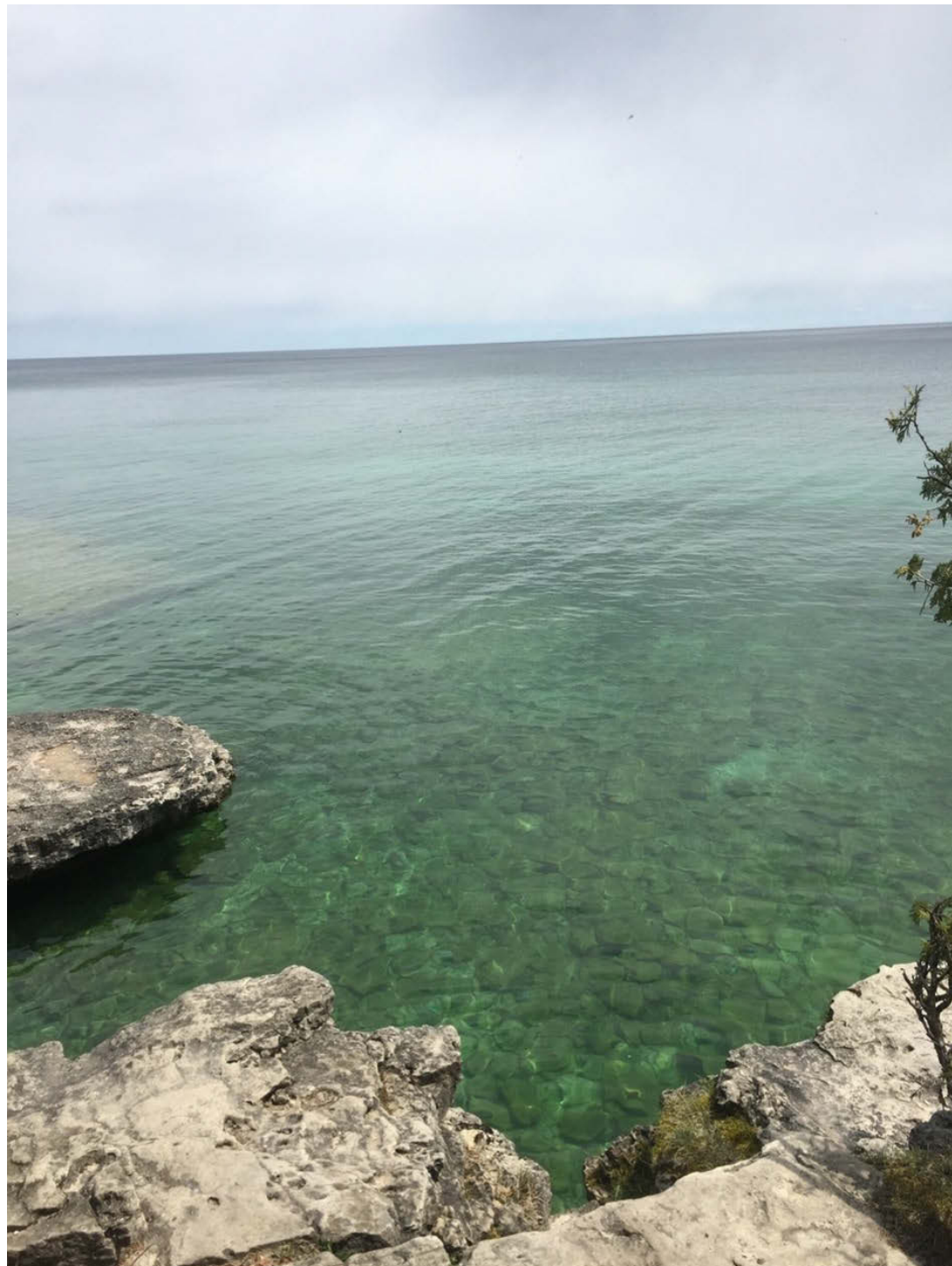
Navigable?



Navigable?



Navigable?



Navigable?



Navigable?



Navigable?



Navigable?



Navigable?



Navigability Determination

Date:	Investigator:	Docket #:
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Requestor:	Property Owner (local address & contact info):
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Location of stream segment or waterbody (attach map):

Section: I N, P W E (circle one)

County:	Waterway Name (if applicable):
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Town, Village, City:

Defined bed and bank: Yes <input type="checkbox"/> No <input type="checkbox"/>	Bed type: Channelized <input type="checkbox"/> Natural <input type="checkbox"/> Unknown <input type="checkbox"/>
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Bed width at top of banks (ft):	Bank height (ft):
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Bed width at OHWM (ft):	Water depth at OHWM (ft):	Current water depth (ft):
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Agricultural ditch: Yes <input type="checkbox"/> No <input type="checkbox"/>	Stream history: Yes <input type="checkbox"/> No <input type="checkbox"/>
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Was the waterway navigated? Yes <input type="checkbox"/> No <input type="checkbox"/>	Approximate survey length:
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Watercraft type/size (Example: 12 foot canoe with 4" draft):

Navigable: ☐ Non-navigable: ☐

Documentation used to determine waterway history:

Hydrologic condition of the waterway (Dow or high water, recent heavy rainfall, etc.):

Physical characteristics of the waterway (land use, culverts, springs, tile lines, etc.):

Biological characteristics of the waterway (vegetation, fish, bugs, wildlife, etc.):

Additional notes:

Questions about Navigability?

Ordinary High-Water Mark

- “By **ordinary high-water mark** is meant the point on the bank or shore up to which the presence and action of the water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation, or other easily recognized characteristic.

Diana Shooting Club v. Husting (1914)

Ordinary High-Water Mark

State v. Trudeau (1987)

- Public title includes areas within the OHWM which are covered with aquatic vegetation, with plants rising far above the water.
- An area need not be navigable to be lakebed. If an area of vegetation or land is part of a navigable lake and is below the ordinary high water mark, the fact that the specific area cannot be navigated is irrelevant.

Ordinary High-Water Mark

- ... And where the bank or shore at any particular place is of such a character that it is impossible or difficult to ascertain where the point of ordinary high-water mark is, recourse may be had to other places on the bank or shore of the same stream or lake to determine whether a given stage of water is above or below the ordinary high-water mark.”

Ordinary High-Water Mark

Diana Shooting Club v. Husting (1914)

- Public rights in navigable waters include the right to hunt
- Public trust doctrine extends to the protection of this right
- definition of OHWM that we use today

Identifying the OHWM

- Field hints:
 - look for long-term indicators of water action
 - slump or *high* water marks can mislead
 - look at many indicators
 - look beyond your site - sometimes the best OHWM indicator is at a different property
 - mark with flags or stakes
 - for greater accuracy, you can survey OHWM elevation and tie to a known benchmark

Identifying the OHWM

- Physical Indicators
 - ice scars
 - erosion from waves
 - mud stain or debris
 - water stains on rocks/culverts/seawalls
 - leachate marks on the soil
 - change in soil type (e.g. organic => mineral)

OHWM Physical Indicators – water stain



OHWM Physical Indicators – water stain



OHWM Physical Indicators – waterstain



OHWM Physical Indicators – erosion at shoreline



OHWM Physical Indicators – erosion at shoreline



OHWM Physical Indicators – erosion at shoreline



OHWM Physical Indicators – erosion at shoreline



Identifying the OHWM

- Biological Indicators
 - mosses
 - lichen
 - tree roots (multiple, buttress)
 - cattail mats
 - algae stain lines
 - change in vegetation from aquatic to terrestrial



OHWM Biological Indicators – tree roots



OHWM Biological Indicators – vegetation change



OHWM Biological Indicators – vegetation change



OHWM Biological Indicators – vegetation change



OHWM challenging sites



OHWM challenging sites



OHWM Challenging Sites




OHWM Challenging Sites



Site in 2013



An aerial photograph of a dense forest. A dark, irregularly shaped pond is located in the center-left of the image. The forest is a mix of green and brownish-green, suggesting different tree species or perhaps some bare ground. A small, lighter-colored area, possibly a clearing or a path, is visible on the left side of the image.

**Guess
where the
OHWM is?**



OHWM

This is what it
looked like out over
the lakebed...below
the OHWM...



OHWM?



OHWM?



OHWM?



OHWM?



OHWM?



OHWM?



OHWM?



OHWM?



OHWM?



OHWM?



OHWM?



OHWM?



OHWM?





Ordinary High Water Mark Determination

Date:	Investigator:	Docket #:
Requestor:		Property Owner (local address & contact info):
Location of determination on waterbody (attach map):		
<div style="display: flex; justify-content: space-between;"> T₁ S₁ Section T N, R W E (circle one) </div>		
County:		Waterway Name (if applicable):
Town, Village, City:		

Wave Height (fractional ft.)

Lake Level (relative to OHWM)

Distance from OHWM to water's edge (ft.)

OHWM Tied to benchmark? Yes <input type="checkbox"/> No <input type="checkbox"/>	For Great Lakes OHWM Determination:	
OHWM Elevation:	Shore:	Height (ft) _____ Slope (%) _____
Benchmark Elevation:	Beach:	Width (ft) _____ Slope (%) _____
Vertical Datum NGVD19 <input type="checkbox"/> NAD83 <input type="checkbox"/>		
Benchmark Description:		

Narrative Description:

Include all factors that apply to the determination:

- Weather conditions
- OHWM Indicators
- Vegetation types above and below the OHWM
- Factors affecting location of the OHWM (structures, shore protection, shore configuration, etc.)
- The extent of this determination as it relates to the water body

Questions about OHWM?

Shoreland Zoning

- Setbacks and the OHWM.
- The OHWM is on a Survey?
- The OHWM is underwater!
- Shoreline Erosion Projects (DNR and County Overlap).
- The OHWM and the Vegetative Buffer Zone.
- Open Discussion and Questions?

Areas where NR115 applies

NR115 – Shoreland and Floodplain Zoning



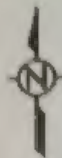
An OHWM Elevation?

- Why not just use an elevation?
- OHWM definition based on physical and biological factors
- Location may be different at different elevations on same water body
- Changes in grade
- Physically manipulated shorelines
- Erosion (fetch, storm events)

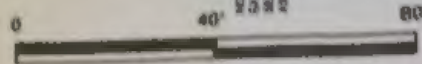


Setbacks

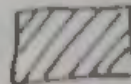
- Use the closest navigable waterway OHWM.
- Use the closest portion of the structure to measure the setback.
- Principal structures.
- Other structures (boathouses, accessory structures)



NEUTRAL POINT ADJUSTMENTS TO THE
EAST LINE OF FRACTIONAL LOT 1,
SECTION 16-18-19
ASSUMED TO BEAR N 87° 48' 30" E.



SCALE: 1" = 40'



AREA OUT
OF HOUSE
FOOTPRINT
NOTED IN P.





A Surveyor-Estimated OHWM

- The surveyor's estimate is accurate.
- The surveyor's estimate is not accurate.
- Other options.

GREEN LAKE



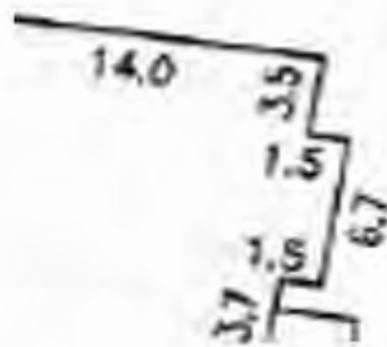
FILL TO EXTEND 9.5' TO
THE PROPERTY LINE AT A
MINIMUM GRADE OF 751.4

APPROXIMATE 75'
SHOREYARD SETBACK
LINE. THIS SETBACK
NEEDS TO BE VERIFIED
BY WINNEBAGO COUNTY
BEFORE ANY
CONSTRUCTION.



DEVELOP
P NUMBER 6832
RTIFIED SURVEY
N SECTION 4,
AST, TOWN OF
TY, WISCONSIN.

LOCATION OF NORMAL HIGH WATER
AS DELINEATED BY CANDACE ZEINERT,
CODE ENFORCEMENT OFFICER FOR
WINNEBAGO COUNTY, APRIL 17, 2015



The OHWM is Underwater!

- Seepage lakes.
- Flooded.

MAP OF SURVEY: FOR ROBERT BUBERL

ALL OF LOT 2 OF CERTIFIED SURVEY MAP #1581 VOLUME 8, PAGE 137, LOCATED IN GOVERNMENT LOT 5 OF SECTION 24, TOWNSHIP 40 NORTH, RANGE 15 WEST, TOWN OF JACKSON, BURNETT COUNTY, WISCONSIN.

ANY LAND BELOW THE ORDINARY HIGH WATER MARK OF A LAKE OR NAVIGABLE STREAM IS SUBJECT TO THE PUBLIC TRUST IN NAVIGABLE WATERS THAT IS ESTABLISHED UNDER ARTICLE IX, SECTION 1 OF THE STATE CONSTITUTION.

Wagner Surveying Associates, INC.
26745 Lakeland Avenue N.
P.O. Box 89
Webster, Wisconsin 54893
715-866-4295

BONNER

LAKE

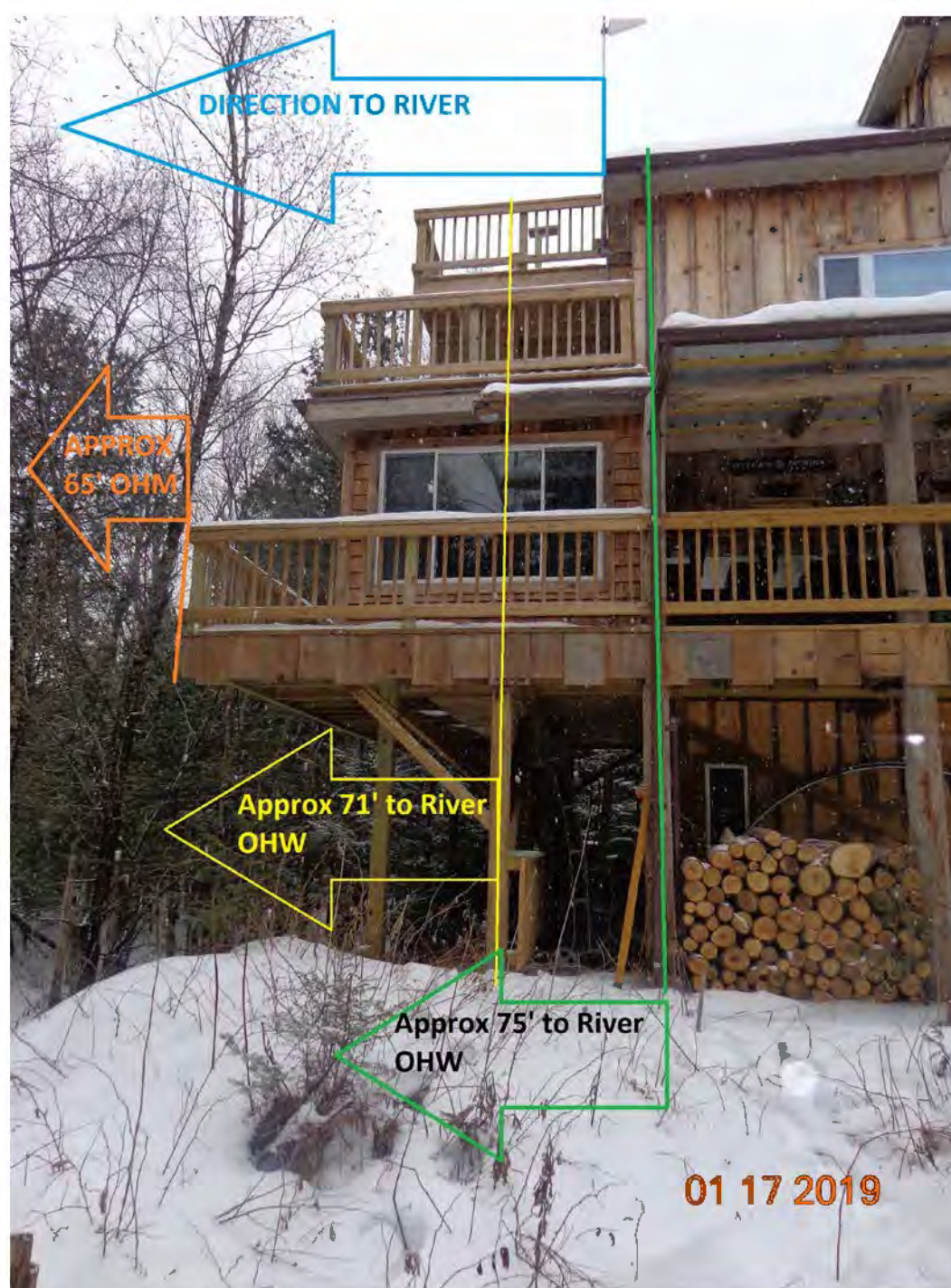


BEARINGS BASED ON A LINE BETWEEN THE W 1/4 OF SEC. 24 AND MC #5 ASSIGNED S 00°10'44" E



OHWL and Shoreline Projects

- Who is measuring the OHWL?
- Projects that are only below the OHWL.
- Projects with some activities above and some below the OHWL.
- Riprap exemptions.
- Other shoreline erosion control projects.
- Land disturbance activities.
- Vegetative buffers and shoreline projects.



DIRECTION TO RIVER

APPROX
65' OHM

Approx 71' to River
OHW

Approx 75' to River
OHW

01 17 2019





Open Discussion and Questions