

The background is a light blue gradient with several realistic water droplets of various sizes scattered across the surface. The droplets have highlights and shadows, giving them a three-dimensional appearance.

IS IT NAVIGABLE?

(A MANITOWOC COUNTY CASE STUDY)

BY

DALE REZABEK – WDNR
&
REED GAEDTKE – MANITOWOC COUNTY

PINE CREEK (BLUE) NAVIGABILITY DETERMINATION (GREEN)















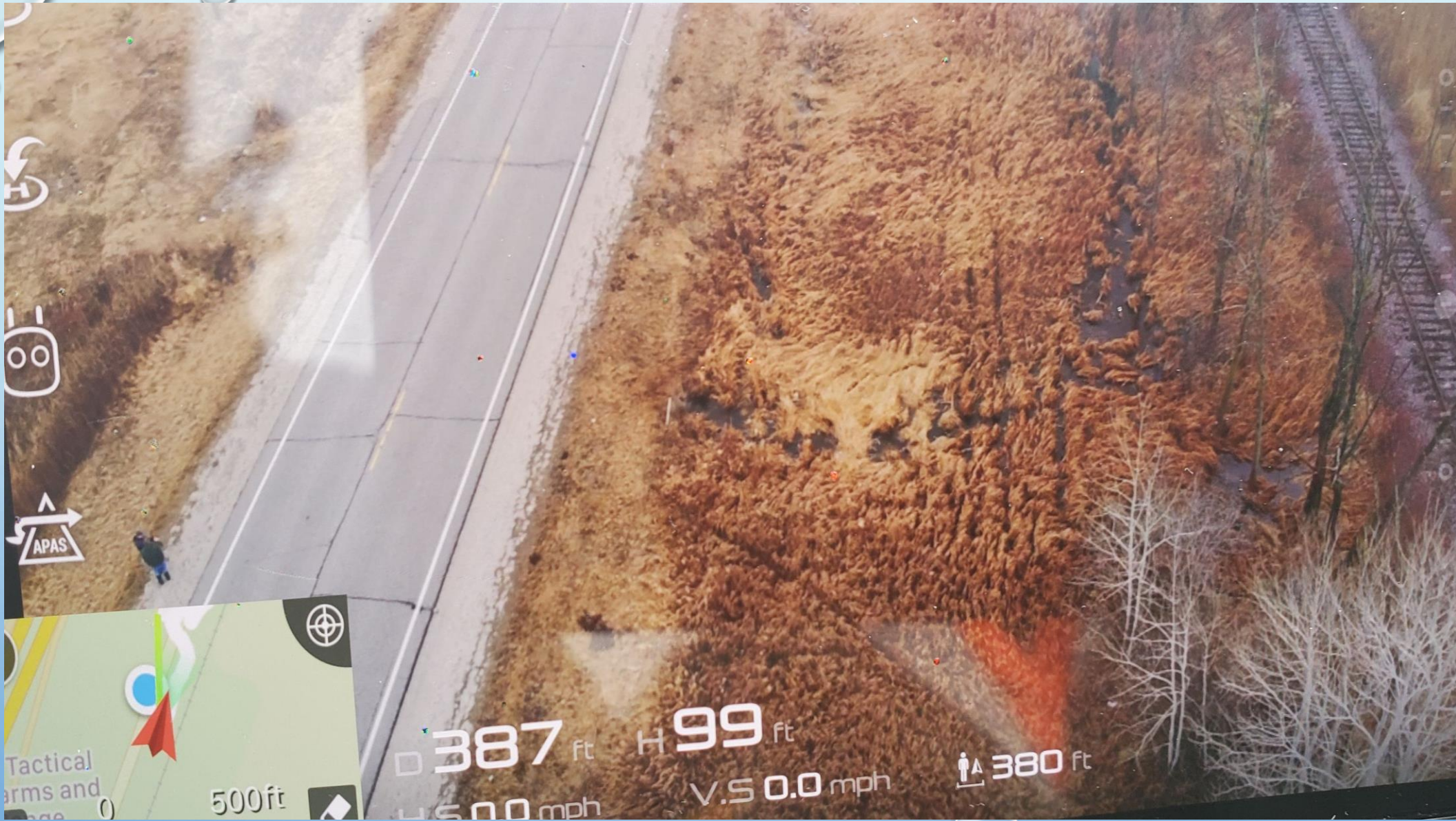






0 10 20 40 60 80 Feet





Tactical arms and
age

500ft

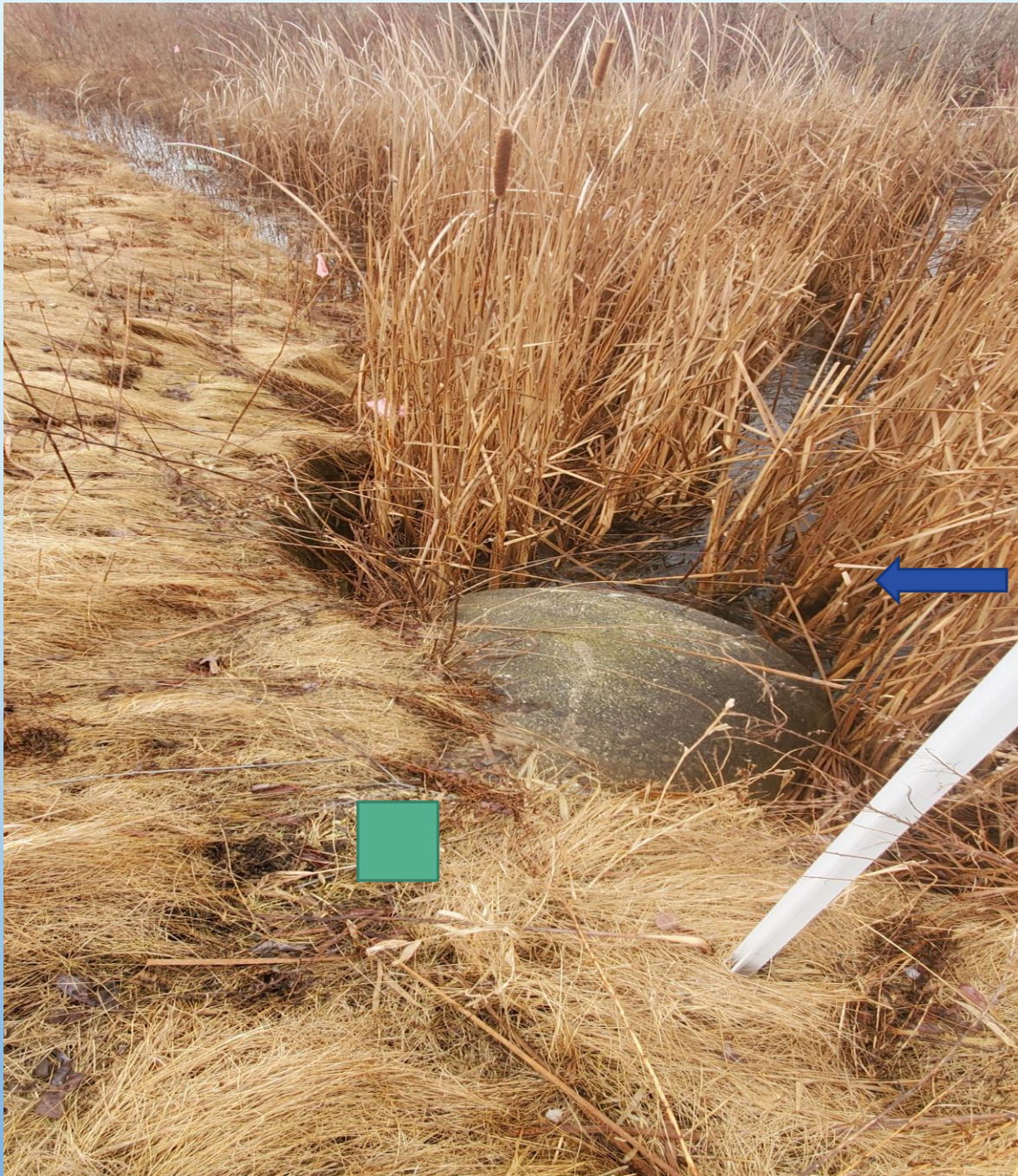
387 ft

H 99 ft

V.S 0.0 mph

380 ft





Culvert on West
Side of CTH CR.



← Pond Entrance

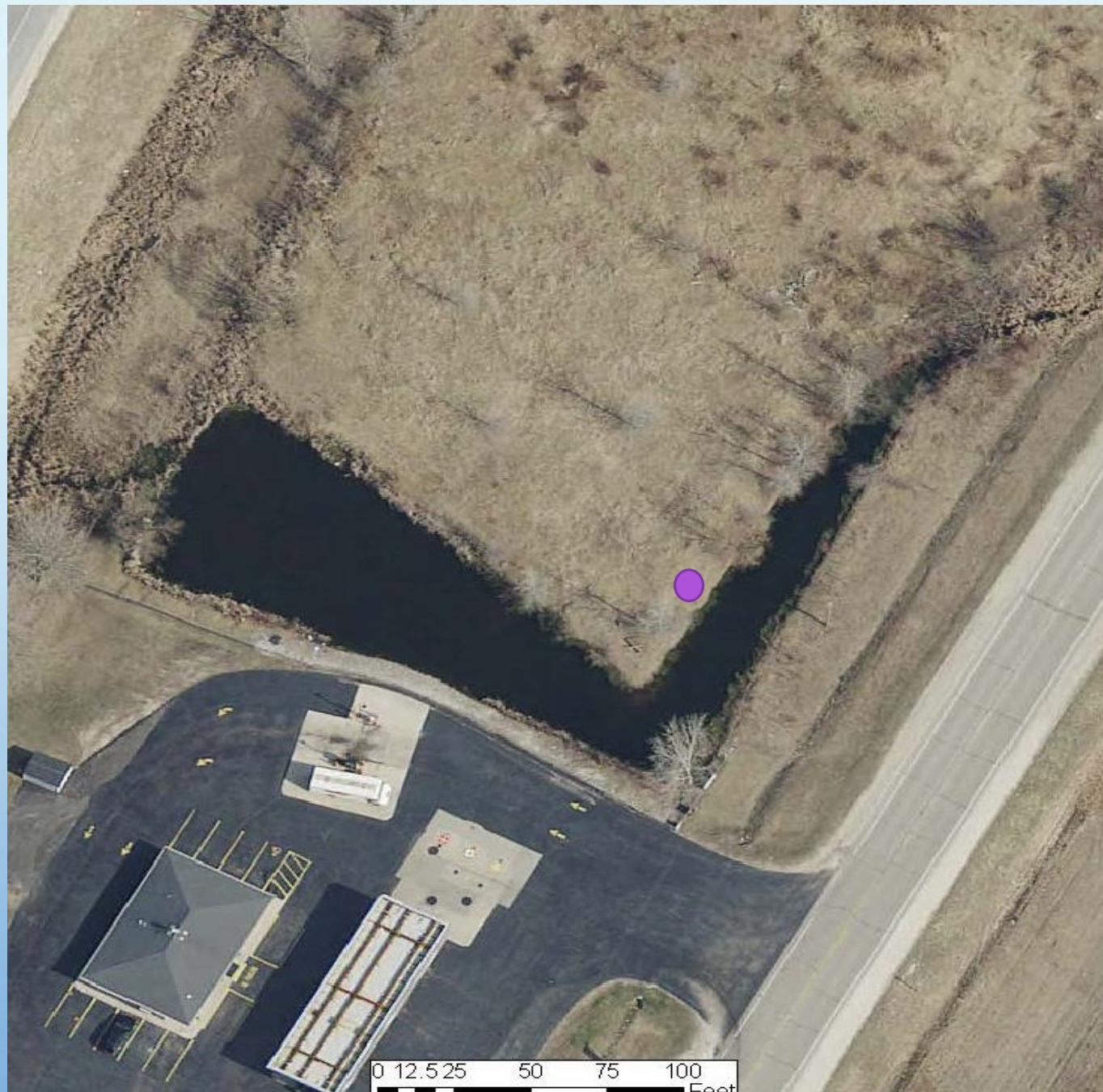
← Road Ditch

Retention Pond



Road Ditch





0 12.5 25 50 75 100 Feet





Looking west towards I-43

Parking lot drain pipe
to man made
retention pond.

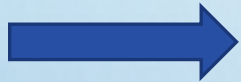
This is what the pond
was made for.

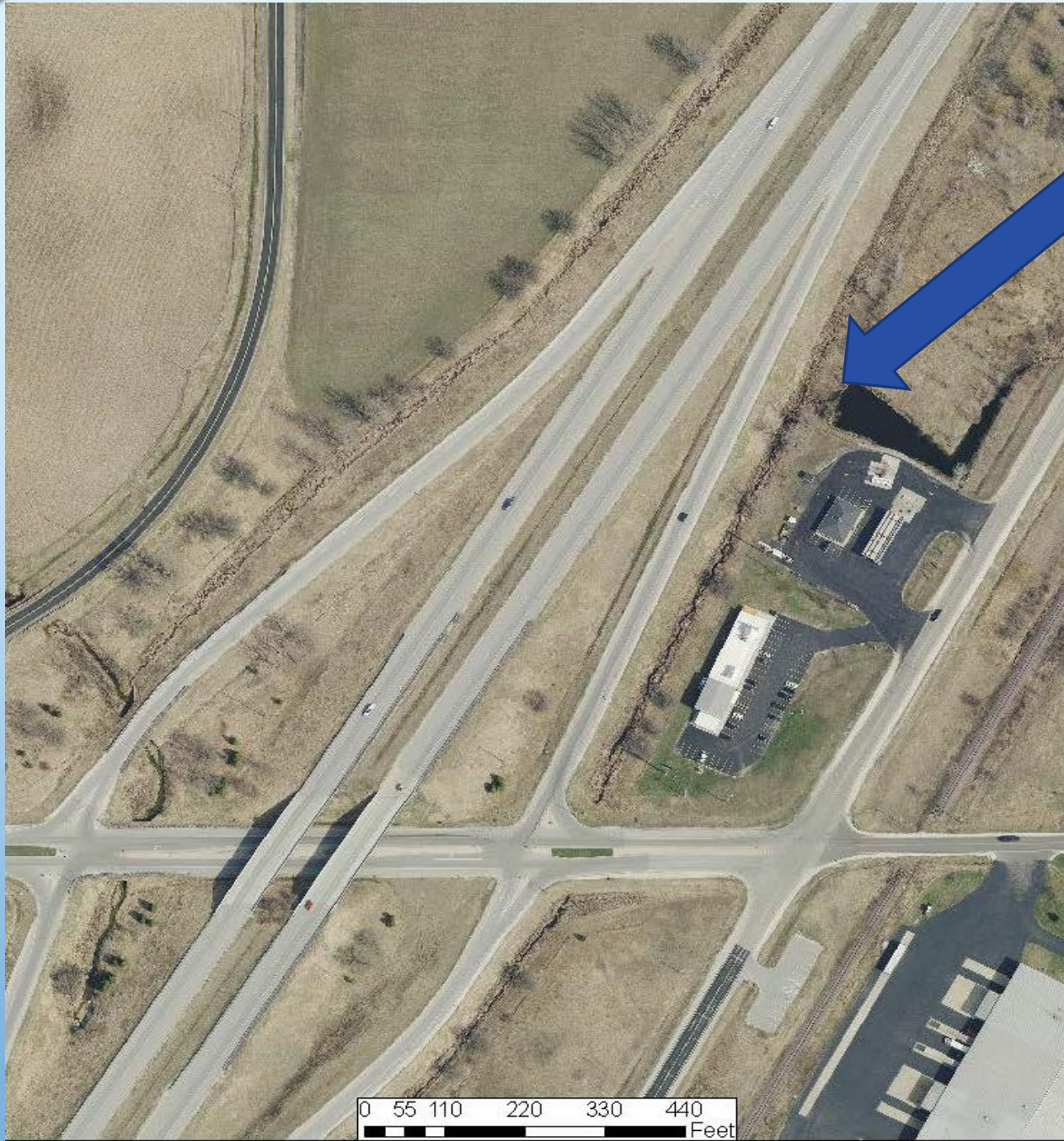


West end of the retention pond designed to spill over into I-43 ditch.

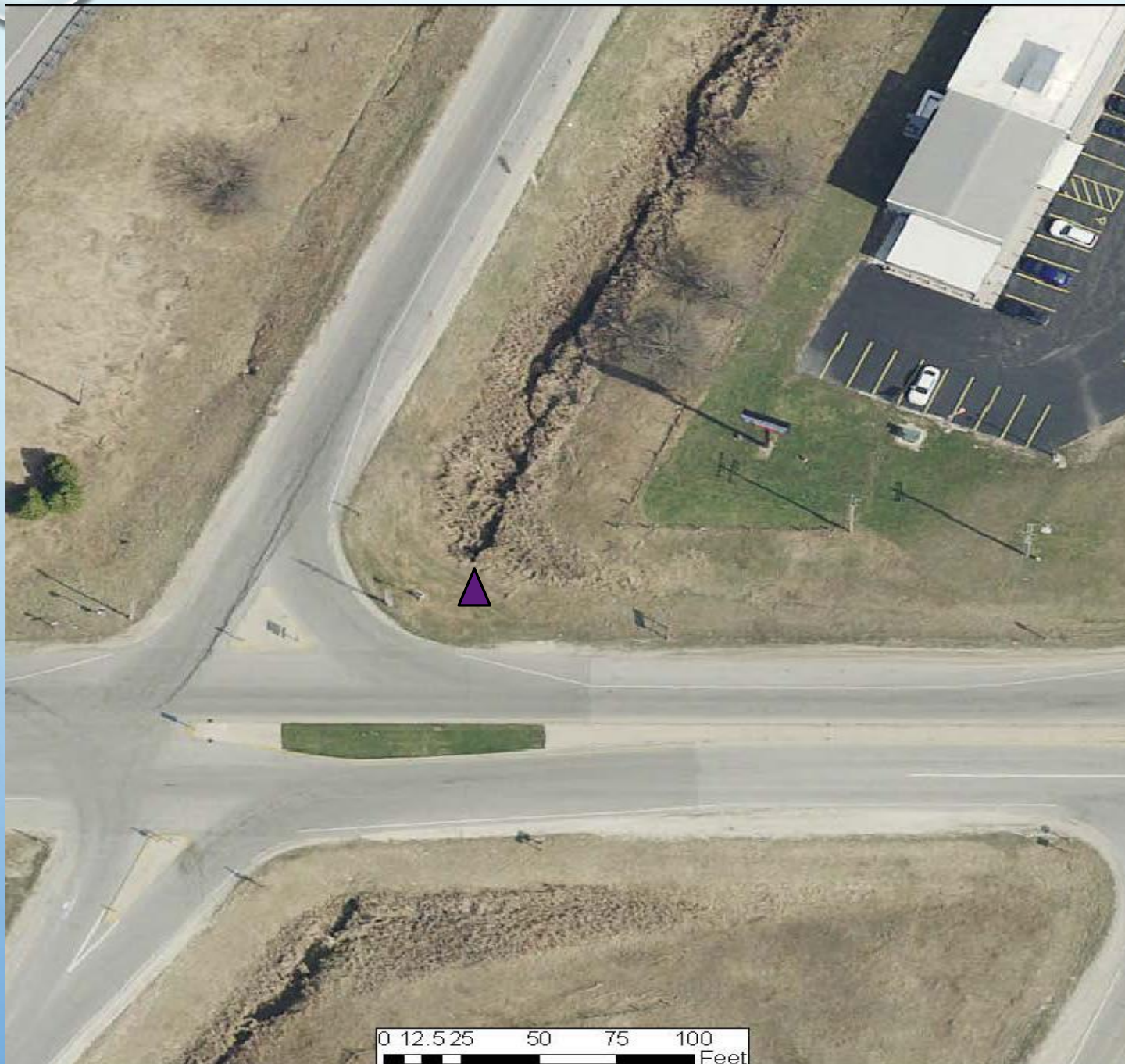


I-43 Ditch





Spill over into ditch.



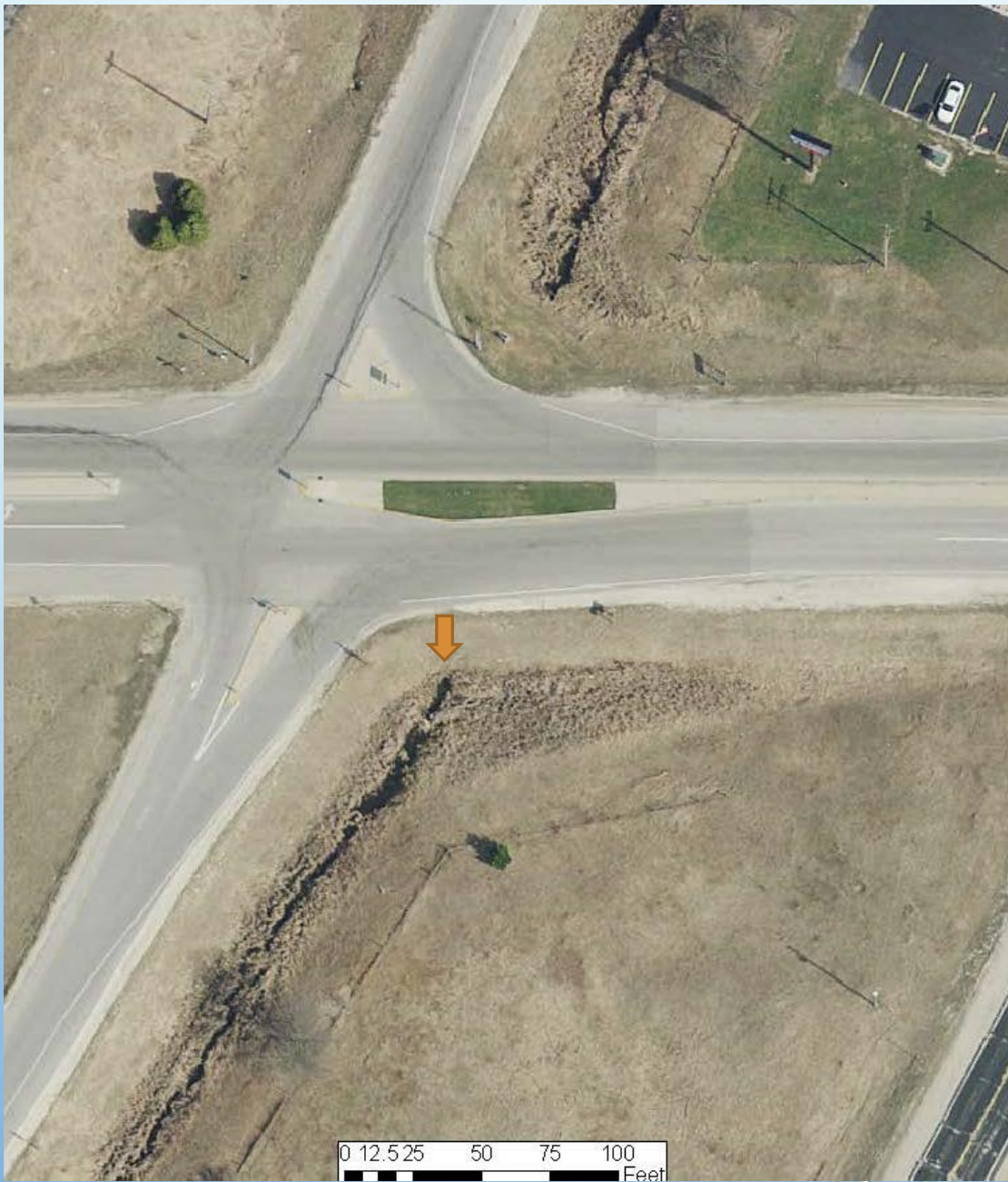
Aerial photo helped show water travel pattern.





No real defined bed or bank. Just flooded weeds.

However, water is starting to move faster so it pushed a path through the weeds.



0 12.5 25 50 75 100
Feet



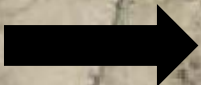
Somewhat of a bed but still
no defined banks.



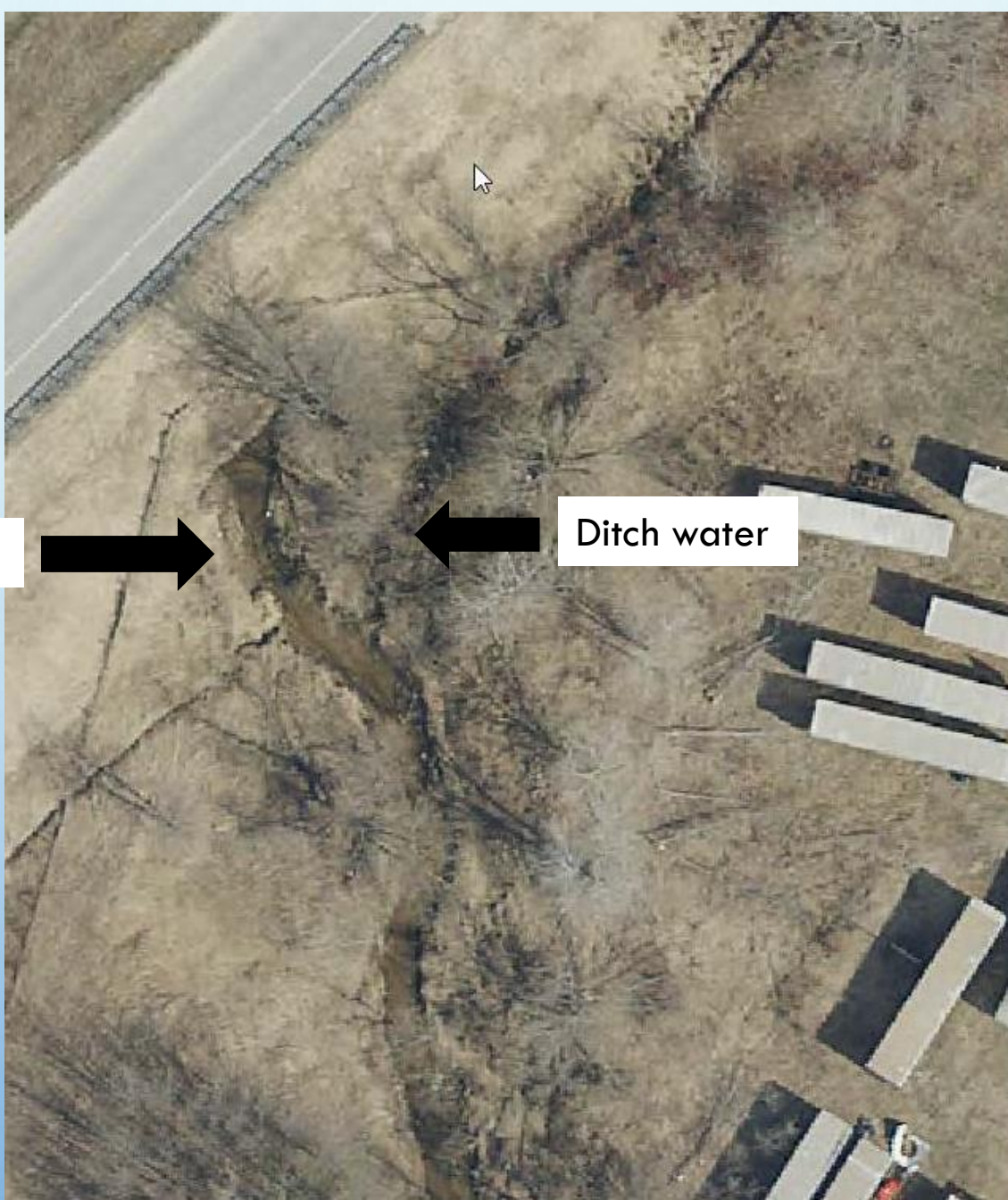
Water from retention pond.

Pine Creek Box Culvert

Pine Creek



Ditch water







The start of a bed and bank just before connecting with Pine Creek.

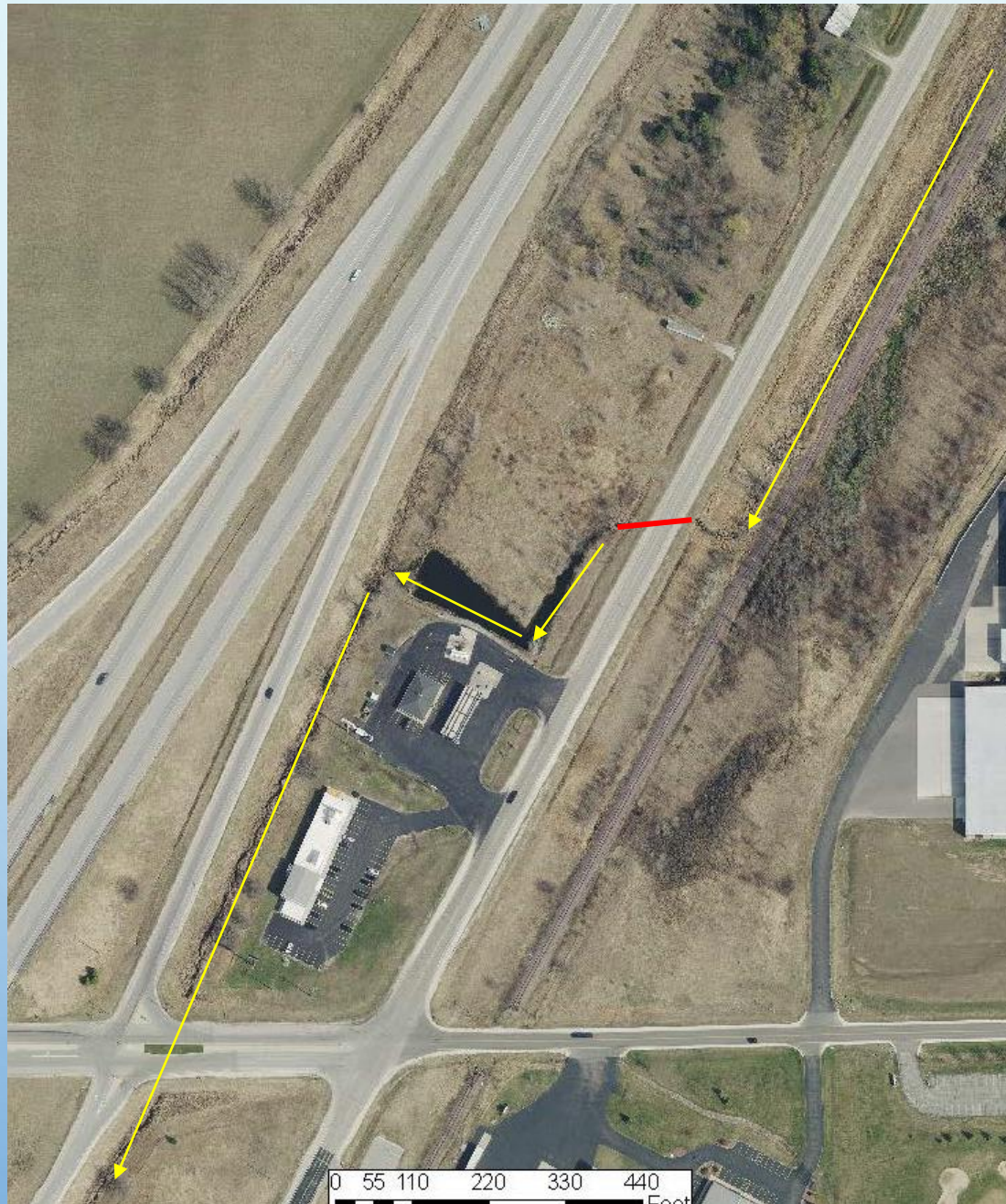








Pine Creek. Defined Bed and Bank.



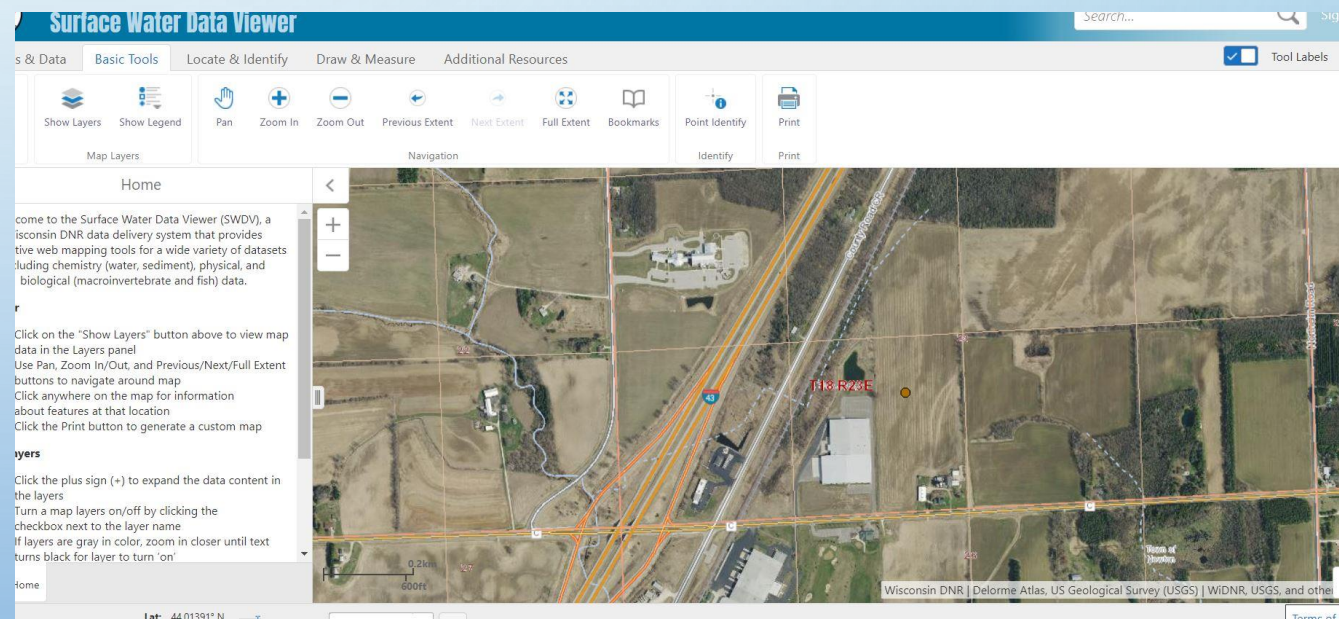
- Water coming from field pipe.
- Goes through a railroad culvert into a wetland area that is chopped by the farmer in fall.
- Passes through another culvert into a manmade retention pond.
- Spills out into a ditch and passes through another culvert where it eventually empties into a known creek.

IS IT NAVIGABLE ?

County request for technical assistance: Is this waterway navigable?

Third Party Navigability Determination Desktop Review Process:

- Previous determinations or permits?
- Stream history?
- USGS Topographic map?
- Historic aerial photography?
- LIDAR elevation mapping?
- If navigable, where does shoreland zoning apply?



Map Layers

Show Layers Show Legend

Pan Zoom In Zoom Out Previous Extent Next Extent Full Extent Bookmarks

Navigation

Point Identify Identify

Print Print

Home

Welcome to the Surface Water Data Viewer (SWDV), a Wisconsin DNR data delivery system that provides interactive web mapping tools for a wide variety of datasets including chemistry (water, sediment), physical, and biological (macroinvertebrate and fish) data.

Click on the "Show Layers" button above to view map data in the Layers panel

Use Pan, Zoom In/Out, and Previous/Next/Full Extent buttons to navigate around map

Click anywhere on the map for information about features at that location

Click the Print button to generate a custom map

Layers

Click the plus sign (+) to expand the data content in the layers

Turn a map layers on/off by clicking the checkbox next to the layer name

If layers are gray in color, zoom in closer until text turns black for layer to turn 'on'

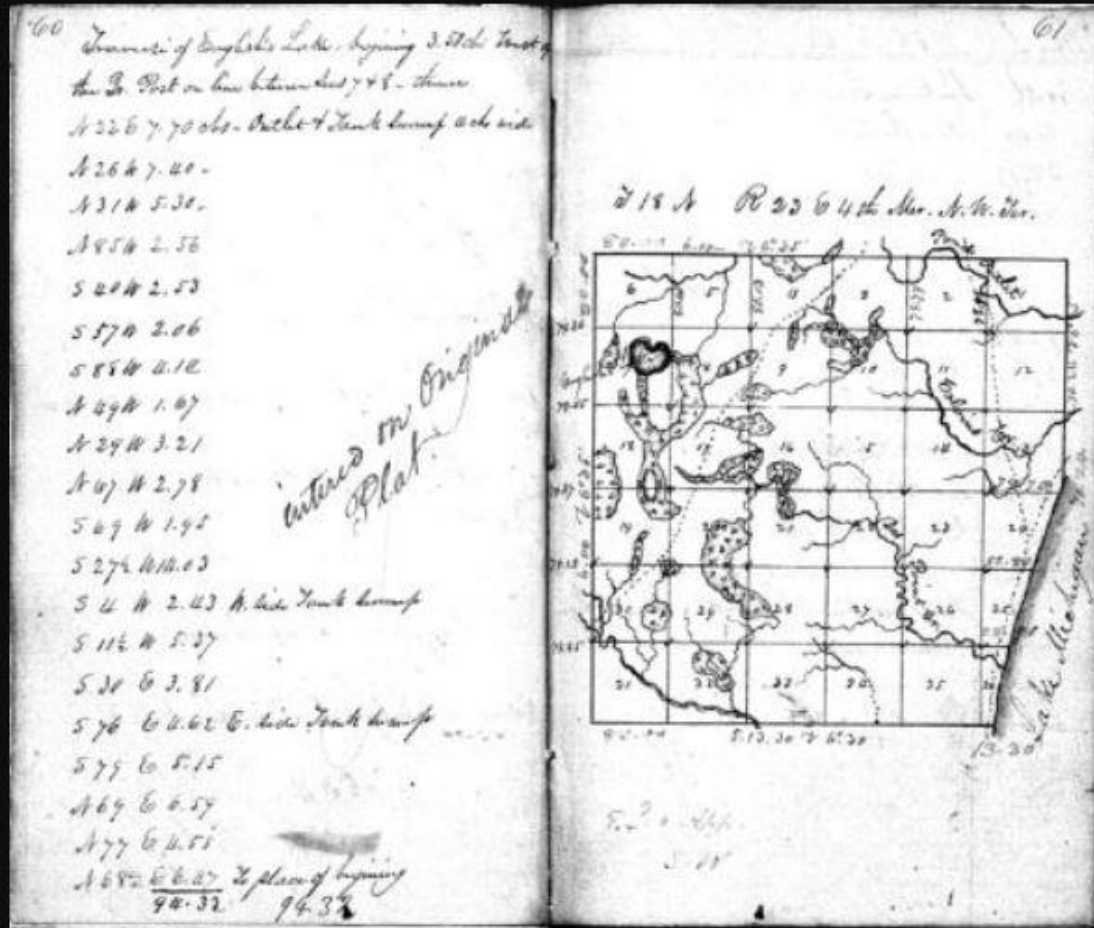


The search begins!

No previous determinations, but:

- An unpermitted pond south of the parcel.
- Mapped wetlands east of the site.
- A DNR 2018 GP for a storm water pond east of the site.
- Highway I-43 ditching, how does that factor into it?
- Culverts under CTH CR and CTH C.

Historical Land Survey 1873





USGS Topographic Map

Wisconsin Department of Natural Resources

Surface Water Data Viewer

Search... Sign in

Maps & Data Basic Tools Locate & Identify Draw & Measure Additional Resources Tool Labels

Home Show Layers Show Legend Pan Zoom In Zoom Out Previous Extent Next Extent Full Extent Bookmarks Point Identify Print

Home Map Layers Navigation Identify Print

0.2km

WKID: 4326 Lat/Long ▲ Lat: 44.01304° N Lon: 87.71784° W 1500 Scale 1: 7,920

WIDNR, USGS, and other data | See Credits associated w/ Map Service layers | WI Dept. of Natural Resources Division of ...

[DNR Website](#) [SWIMS](#) [WATERS](#) [NHI Portal](#) [Comments](#) [Terms of Use](#)

Historical Aerial Photographs 1938



Historical Aerial Photographs 1992

The screenshot displays the Google Earth interface with a historical aerial photograph from May 5, 1992. The search bar at the top left contains the text "Newton, WI". Below it, a "Places" panel lists several locations, including "Sightseeing Tour", "Untitled Path", and "Boat Landing 1". The "Layers" panel on the left shows various map layers such as "Primary Database", "Announcements", "Borders and Labels", "Places", "Photos", "Roads", "3D Buildings", "Weather", and "Gallery". The main map area shows a road labeled "CR" and a "Mobil" gas station. A timeline slider at the top center is set to "5/1992", with a range from 1985 to 2021. The bottom status bar displays the imagery date as "5/5/1992" and coordinates: "44°00'39.04\" N 87°42'58.06\" W elev 651 ft eye alt 1909 ft". The Google Earth logo is visible in the bottom right corner.

Historical Aerial Photographs 2000



LIDAR Elevation Mapping

Waterways Progra... My Dashboard Co... Turtle Database ArcGIS - WI DNR La... EE CASE MANAGE... ePermitting - Permits Imported From IE Wisconsin Local Go... CONTACTS | wcca

GIS Wisconsin DEM and Hillshade from LiDAR - Web Map [Open in new Map Viewer](#) [Modify Map](#)

Details Basemap Share Print Measure Find address or place

About Content Legend

end

shade

High: 571.613

Low: 164.816

ft in Feet


High : 1875.37

Low : 540.733

m in Meters

High : 571.613

Low : 164.816



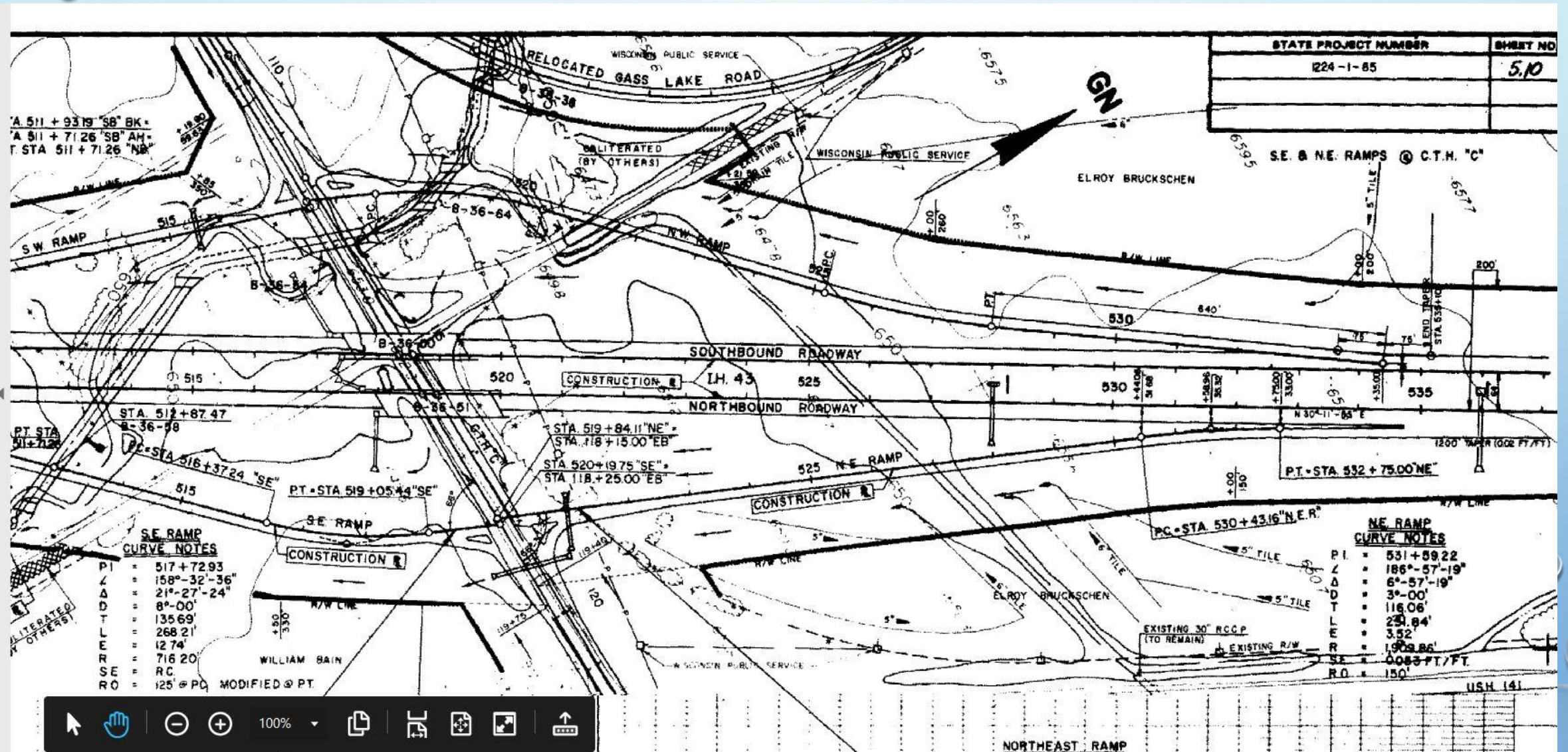
0 150 300ft

st Center Legend Contact Esri Report Abuse

Desktop Findings

- The waterway has history.
- The stormwater pond was constructed for storm water management in 1997 for a gas station, but no state permit is on file.
- The 2018 GP pond permit east of the waterway had a design plan with an overflow to a "waterway" west of the pond, and the wetland delineation identified an OHWM of an unnamed stream.
- Was the GP for pond issued because it is located within 500 feet of a navigable waterway?
- This waterway in question has been heavily manipulated, so I discussed with NER Waterway Team. A WME in meeting noted there was a LOMR-F application, this waterway was determined to be a "backwater of Pine Creek."
- WME also had the WDOT planset for the 1981 I-43 highway construction!

1981 I-43 Highway Planset



Time to check in the field!

Look at the waterway: downstream, at the parcel, and upstream.

DNR staff, together with county staff visited site and reviewed the waterway from where it entered Pine Creek in the south, Culvert at CTH C, along the I-43 ditch, at the parcel, Culvert across CTH CR, and further upstream.

Map Layers

Navigation

Identify

Print

Home

Welcome to the Surface Water Data Viewer (SWDV), a Wisconsin DNR data delivery system that provides interactive web mapping tools for a wide variety of datasets including chemistry (water, sediment), physical, and biological (macroinvertebrate and fish) data.

Click on the "Show Layers" button above to view map data in the Layers panel

Use Pan, Zoom In/Out, and Previous/Next/Full Extent buttons to navigate around map

Click anywhere on the map for information about features at that location

Click the Print button to generate a custom map

Layers

Click the plus sign (+) to expand the data content in the layers

Turn a map layers on/off by clicking the checkbox next to the layer name

If layers are gray in color, zoom in closer until text turns black for layer to turn 'on'



Photo 1



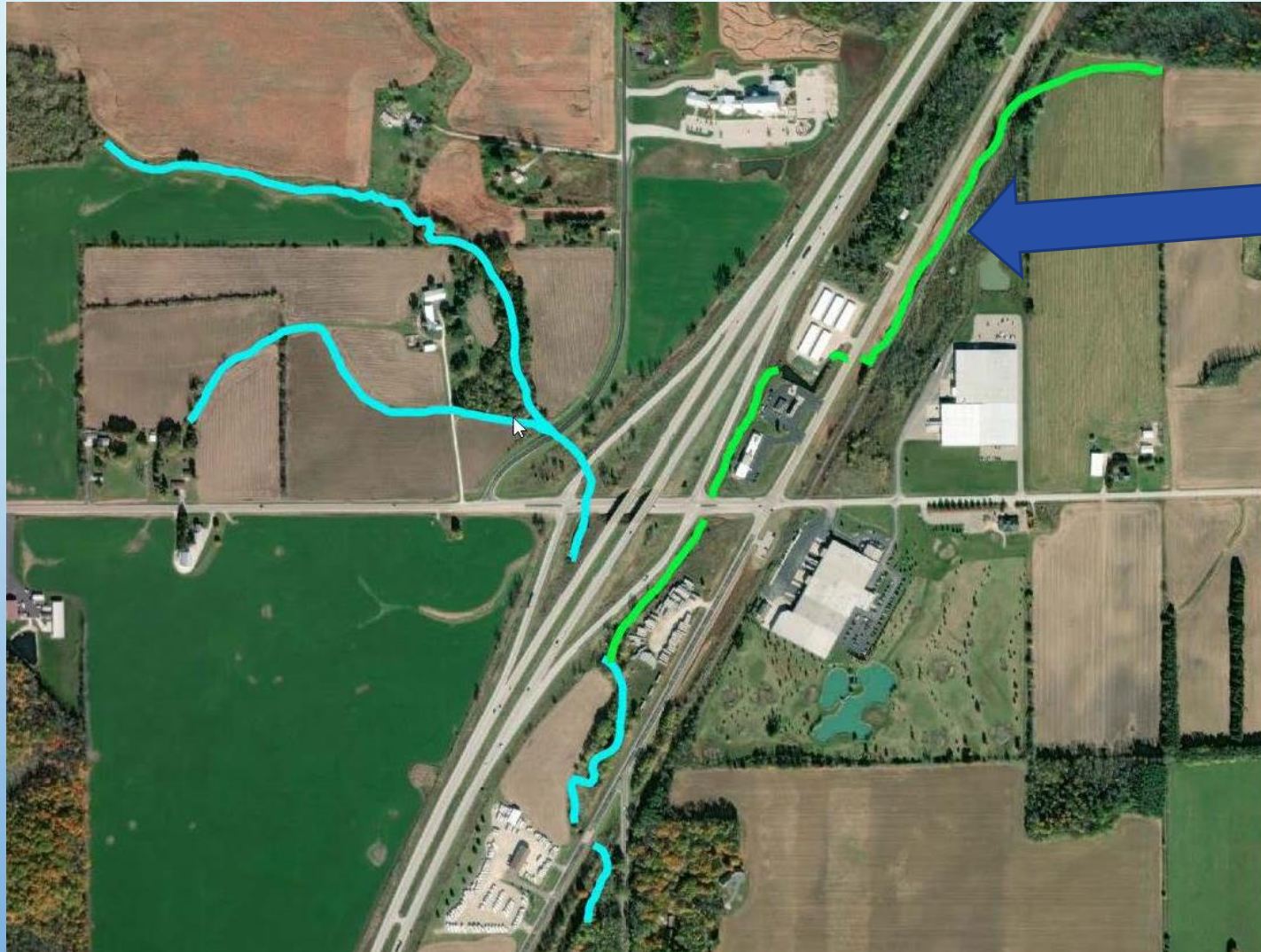


Photo 1

Photo 2



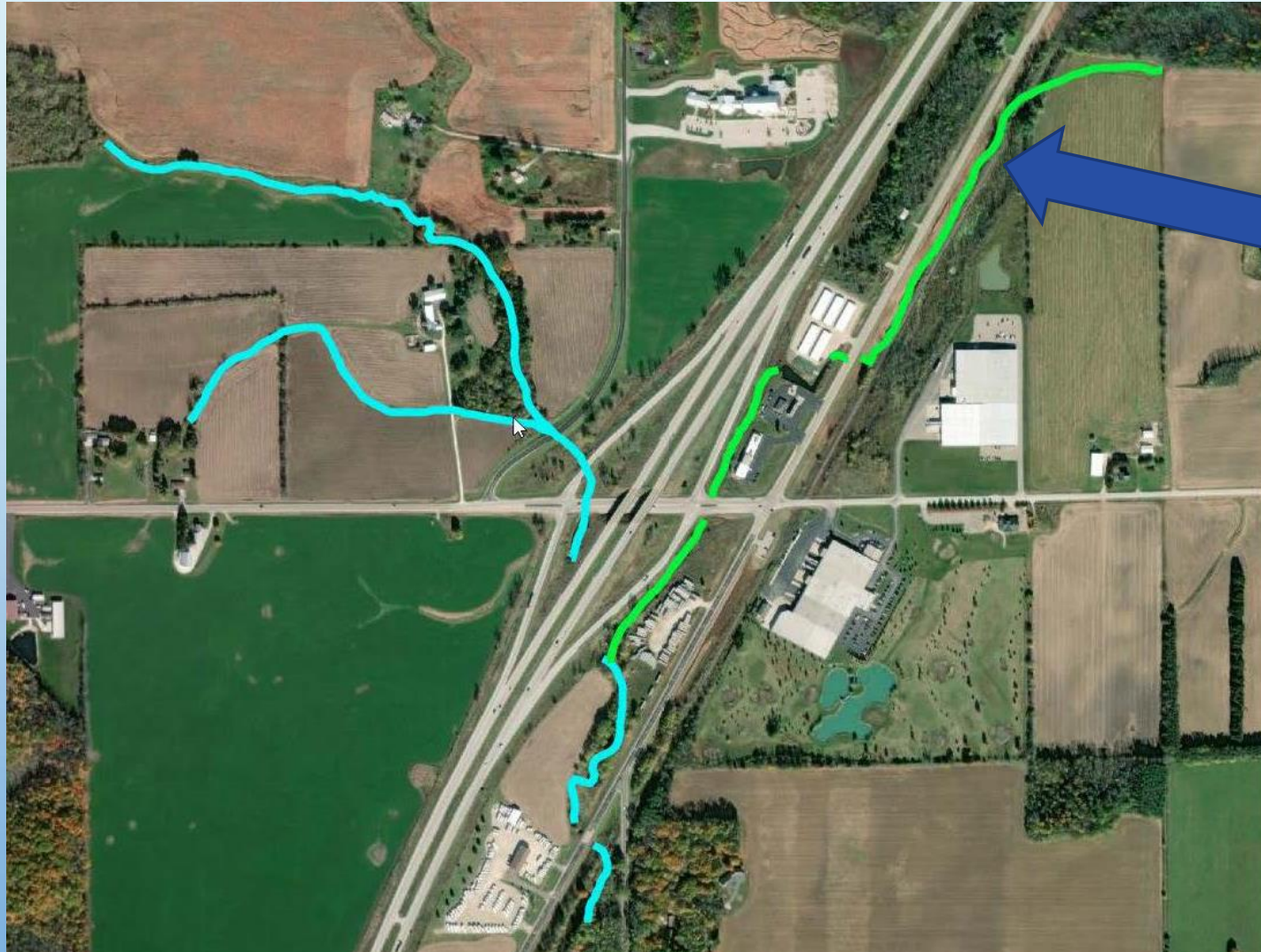


Photo 2



Photo 3

Photo 4





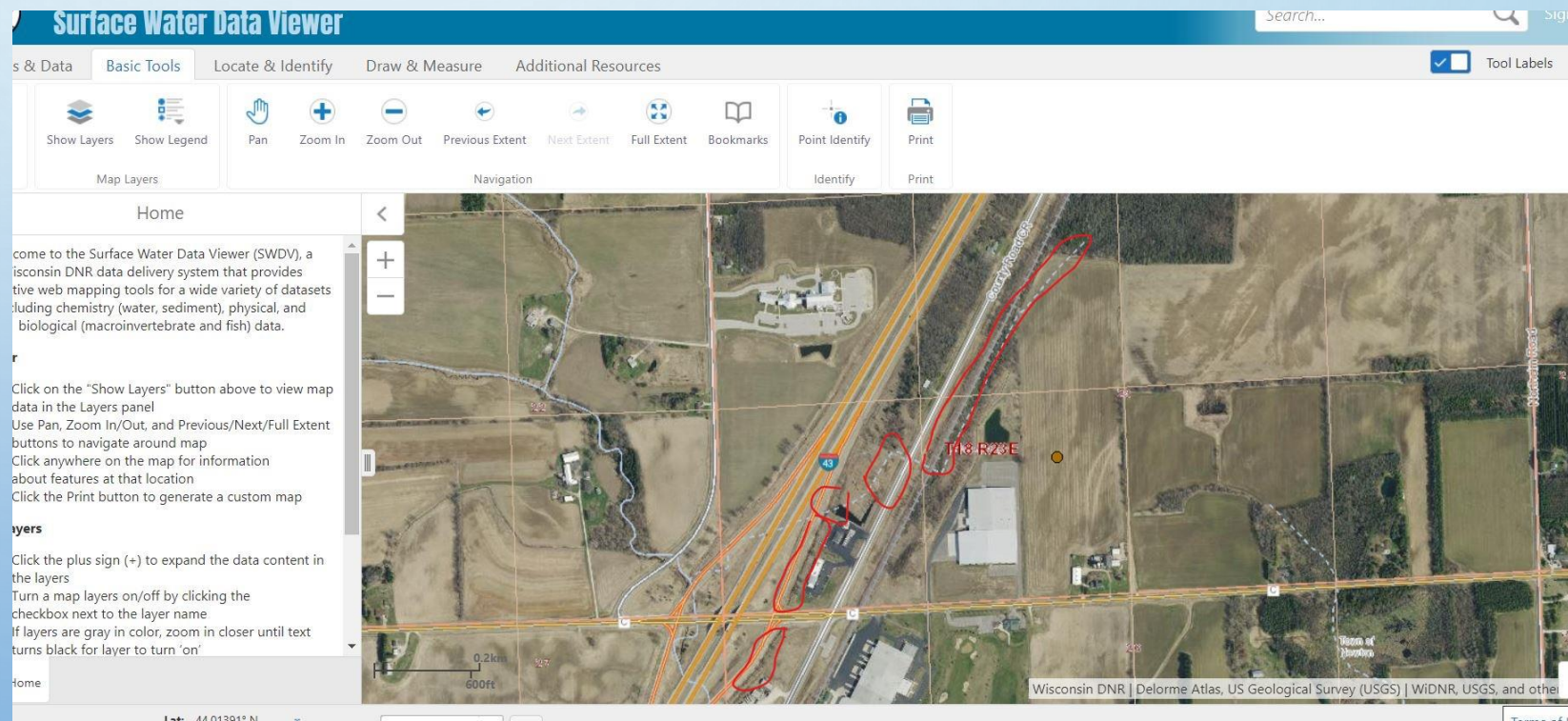
Photos 3 & 4

The Field Data

- Defined bed and bank at an upstream location.
- Bed width at top of bank = 9 ft.
- Bank height = 0.7 ft. or 8.4 in.
- Bed width at OHWM = 6.6 ft. or 66 in.
- Water depth at OHWM = 1.4 ft. or 16.8 in.
- Current water depth = 0.8 ft. or 10.3 in.

Conclusions:

Yes, it is navigable at a point upstream of the parcel, so it is considered public waters downstream all the way to Pine Creek.



Obtained Variance for one of the buildings and installed a retention pond to meet impervious surface and other requirements.

