

Whitmore & South Branch of Swan Creek Intercounty Drain

Hearing of Necessity

Swan Valley High School

November 12, 2025

6:00 PM



Drainage Board Members

Department of Agricultural and Rural Development – Brandon Williams

Saginaw County Public Works Commissioner – Brian Wendling

Midland County Drain Commissioner – Joseph Sova

Gratiot County Drain Commissioner – Bernard Barnes

What is a Drain?

A “Drain” can include:

- Open watercourses (streams, rivers, creeks, wetlands)
- Roadside ditches
- Storm sewers (pipes)
- Swales
- Detention/retention ponds
- Any pumping equipment necessary to assist or relieve the flow of such drains
- Any levee, dike, (dam) barrier, or a combination



Established Intercounty Drain

- Must go through a specific process outlined in the Michigan Drain code to be an established Intercounty Drain
- Established intercounty drains impact lands from multiple counties
- Under the jurisdiction of the Drainage Board
- Not all drainage facilities are established drains

Drainage Board

- Drain/Public Works Commissioner from each county
- Designated Representative from the Michigan Department of Agriculture and Rural Development (MDARD)
 - *Non-voting member except in the case of tie*

What is a Drainage District?

- Every established drain has a drainage district
- Lands benefitted by the Drain
- Drain's watershed
- Drain's special assessment district

Special Assessment District

A drainage district serves as the special assessment district for a drain

- Costs incurred to establish, construct, operate, maintain, and improve a drain
- No other general funding mechanism for maintenance of drains
- Each drainage district is its own legal entity and has its own account

Drainage Board Jurisdiction - Maintenance

- The Drainage Board has jurisdiction over maintenance and improvement of the Drain
- Maintenance is limited
 - Type of work
 - Spending Limitation

Petitions

- Who can Petition
 - Five property owners within the drainage district
 - City, Township, or Village
 - Road Commission
 - MDOT
- Activities may include maintenance or improvement

Necessity Hearing

- Receive evidence on condition of drain
- Receive cost *estimate*
- Receive evidence from public during public comment
- → Determine whether the petition is “necessary and conducive to the public health, convenience or welfare”

Necessity Hearing

- The Necessity Hearing does NOT:
 - Determine the ultimate scope of the project
 - Determine the ultimate cost of the project
 - Decide the assessment amounts

Project Cost

- Split Between Counties
 - Determined by Drainage Board
- Each county maintains a separate assessment roll that includes assessable entities

Assessable Entities

- Michigan Department of Transportation (MDOT)
- Counties
- Cities, Villages, Townships
- Landowners

Necessity Hearing



If found necessary,
project moves forward



If found not necessary, no
petition may be filed for
one year

Next Steps, If Determined Necessary

- Final engineering and project scoping
- Coordination and permitting with impacted utilities and governmental agencies
 - MDOT, EGLE, Townships, Road Commission, Power, Gas, Communications
- Property Acquisition
- Bid Letting phase
- Day of Review of Apportionments
- Project financing and bonding
- Proceed with construction

Next Steps, If Determined NOT Necessary

- Costs incurred to date are assessed to Drainage District
- No petition may be filed for one year

Drain Background

- Existing Drain
 - 11.5 miles of open drain
 - 25 existing crossings
 - 13 County Road Crossings
 - 1 MDOT Highway Crossing
 - 1 Railroad Crossing
 - 10 Private Crossings
 - Watershed area of 17,398 acres

Drain Background

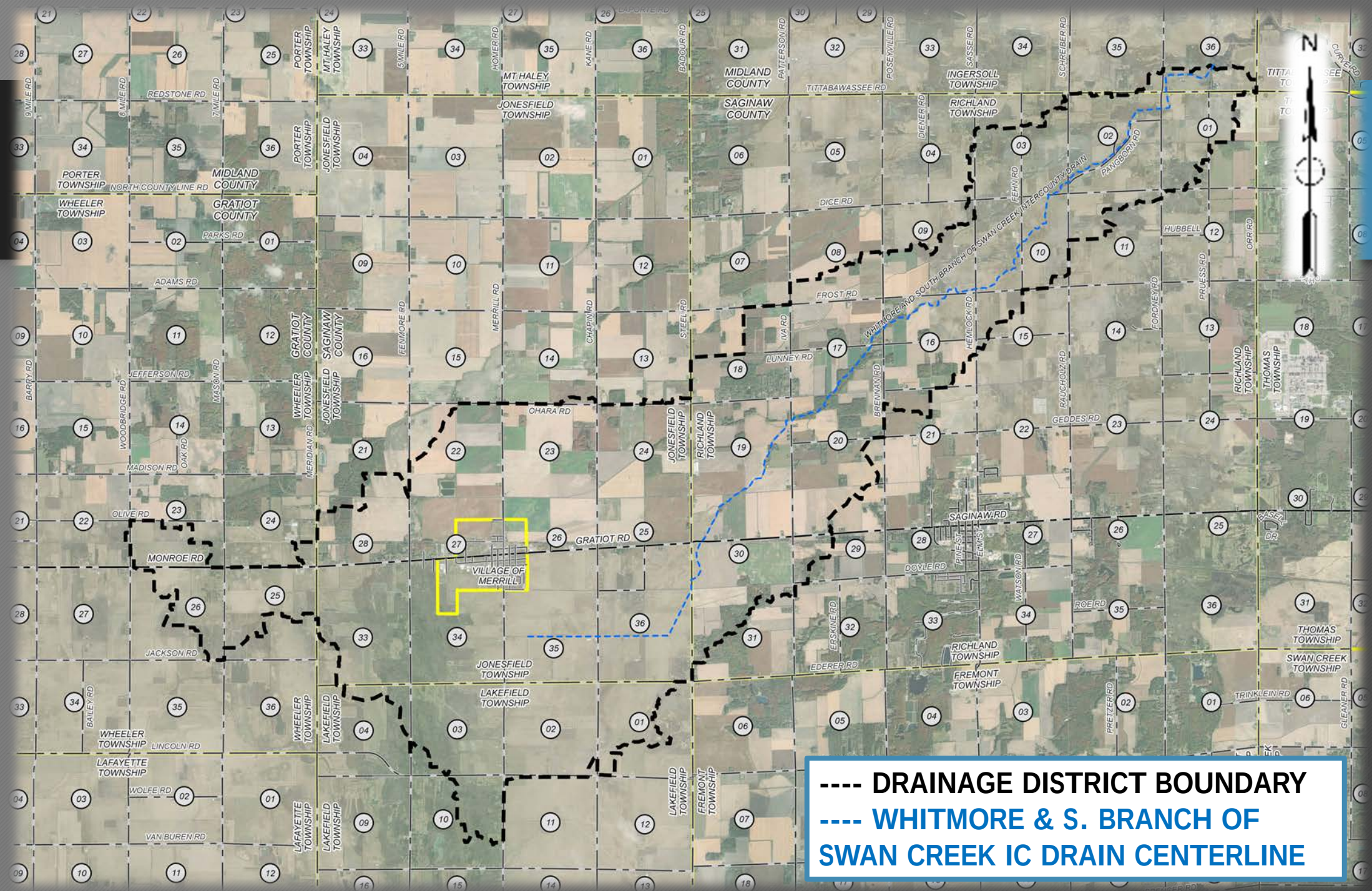
- Previous Projects
 - Petition - 1892
 - Petition - 1898
 - Petition - 1905-1906
 - Petition - 1924-1928
 - Petition - 1937-1939
 - Petition - 1954 (not completed)

Drain Background

- August 5, 2024 – Petition filed with Saginaw County Public Works Commissioner
- December 5, 2024 – Hearing of Practicability
 - Testimony of flooding adjacent to drain
 - Determined to move forward with preliminary engineering study

Whitmore & S Branch of Swan Creek ICD - Drainage District

- Drainage District includes:
 - County, Township, & Village Government
 - Saginaw County – 16,227 Acres
 - Jonesfield Twp., Richland Twp., & Village of Merrill
 - Midland County – 176 Acres
 - Ingersoll Twp.
 - Gratiot County – 995 Acres
 - Wheeler Twp.
- District updated in 2018



Engineering

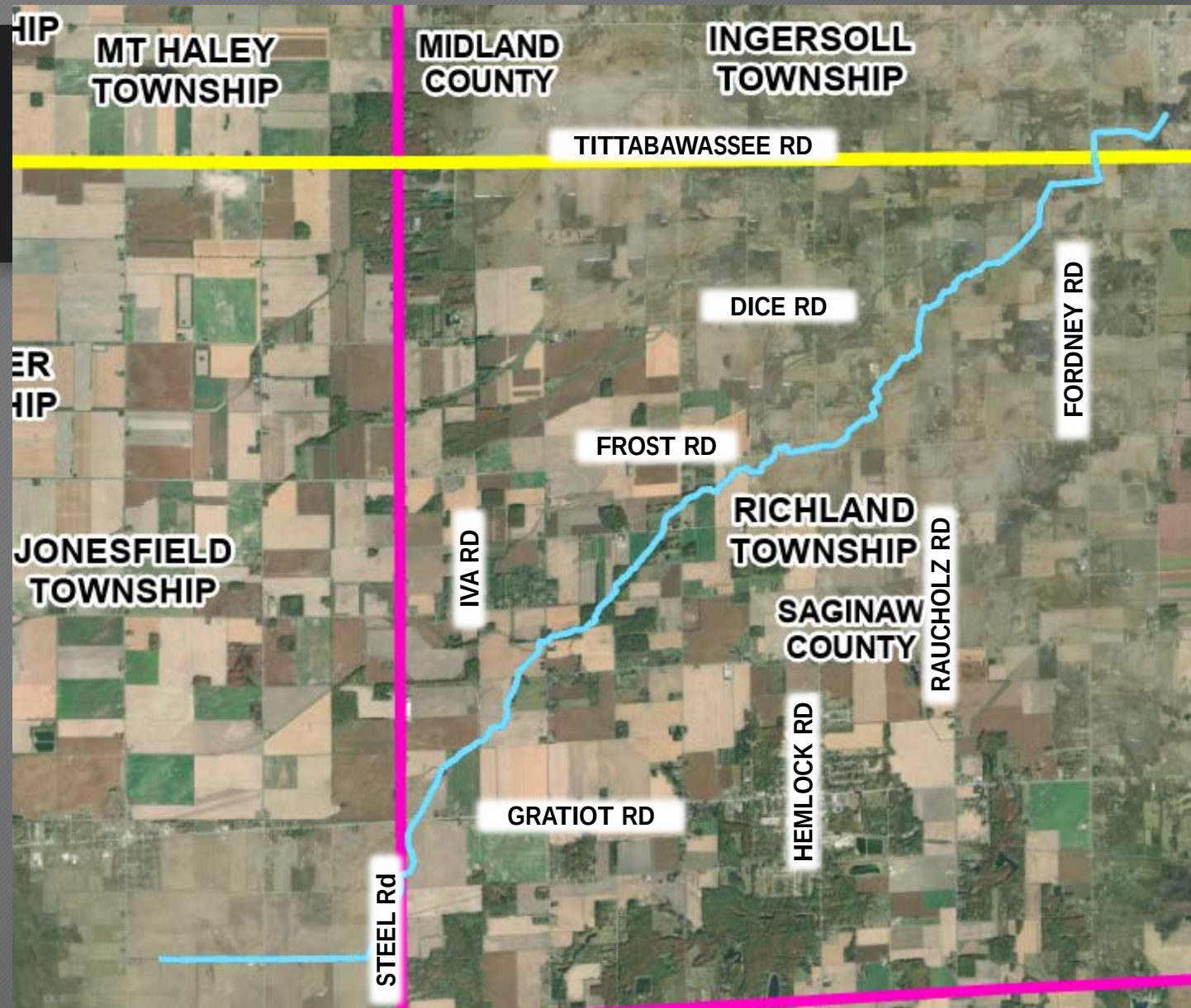
- Survey and inspection of drain
- Hydrologic and hydraulic analysis – flow capacity and culvert sizing
- Development of proposed improvements
- Estimate of cost

Survey and Inspection of Drain

- Surveyed approximately 11.5 miles of drain
 - Drain elevations at 500 ft. intervals
 - Drain cross sections at 1,000 ft. intervals
 - Topographic features within 50 ft. of drain
- Identified the following items:
 - Levels of sedimentation
 - Areas of erosion
 - Log jams and obstructions
 - Crossings that are inadequate

Drain Location

- Outlets into the Weeks Intercounty Drain on the north end of the drain in Midland County
- Extends southwesterly and ends in Saginaw County approximately 2.25 miles east of the Gratiot County line

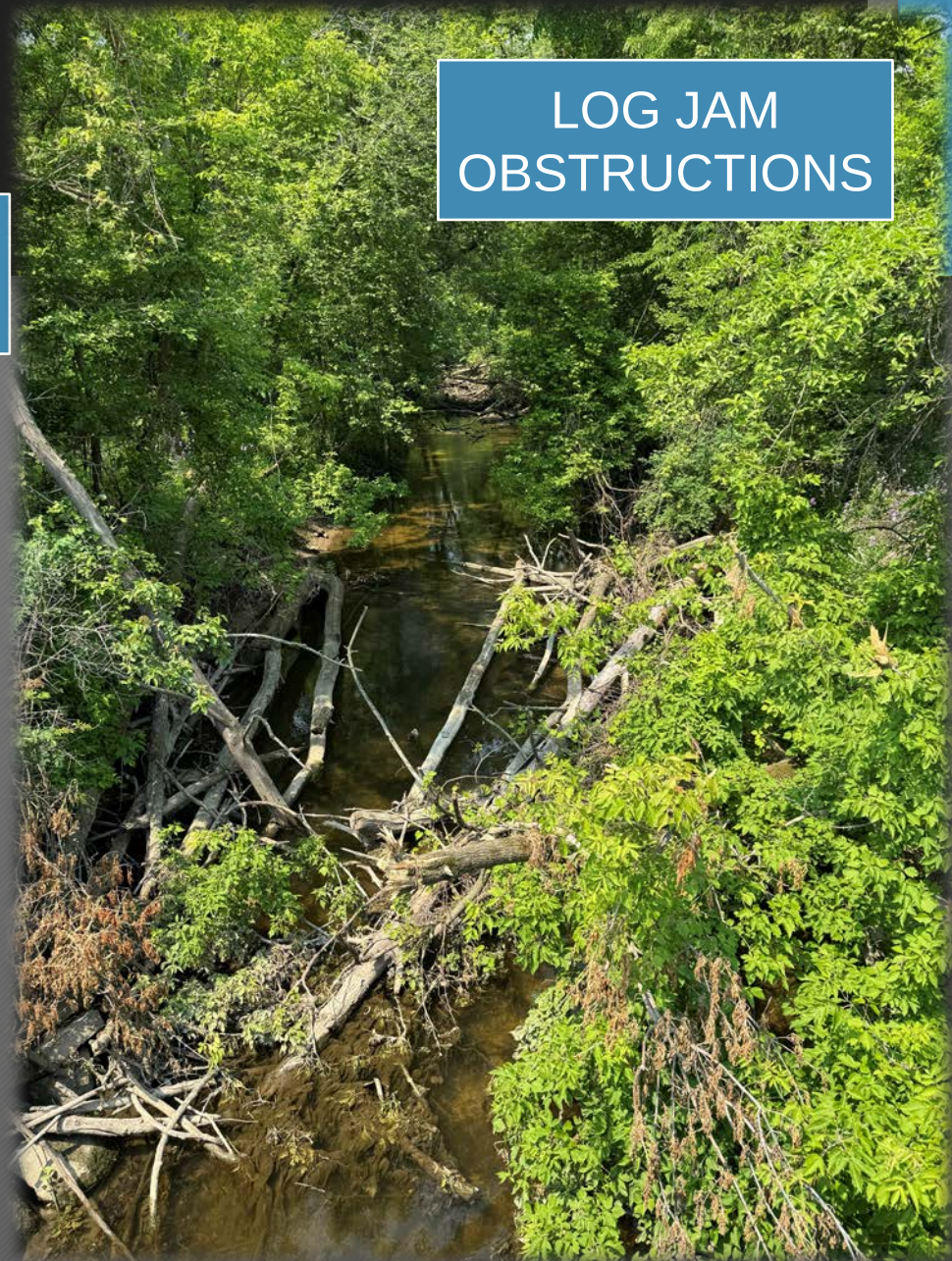


Survey Results

- Approximately 11.5 miles in length
- Total fall is 60.5 ft.
 - Average grade 0.10%
 - Average sediment depth:
 - 0.0' to 1.0' from outlet to Iva Road
 - 1.0' to 2.5' from Iva Road to point of ending
- Areas of standing water
- Bank erosion
- Significant log jams/obstructions

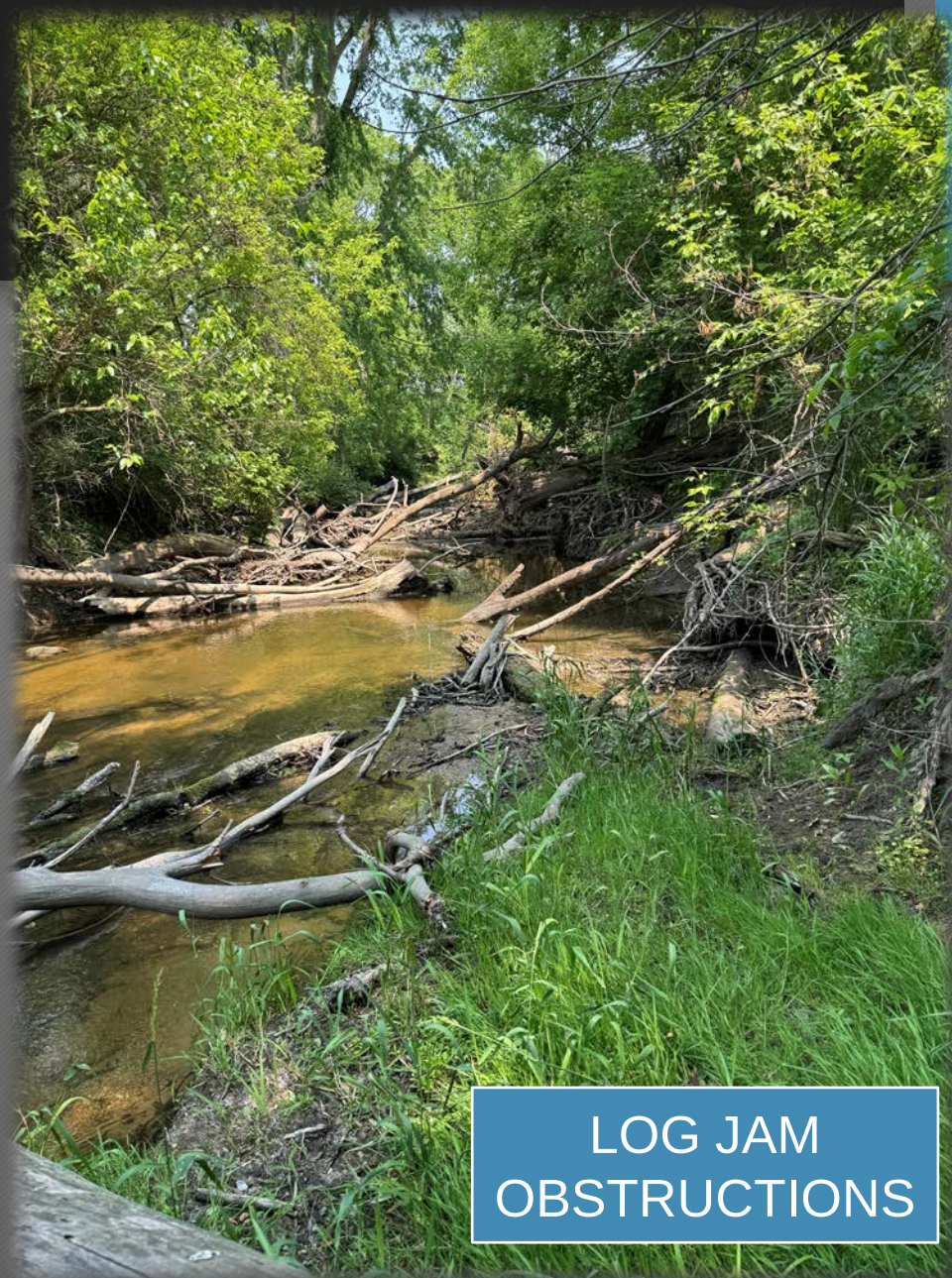
Field Review - Photos

OUTLET RAUCHOLZ RD



Field Review - Photos

OUTLET TO RAUCHOLZ RD (cont.)



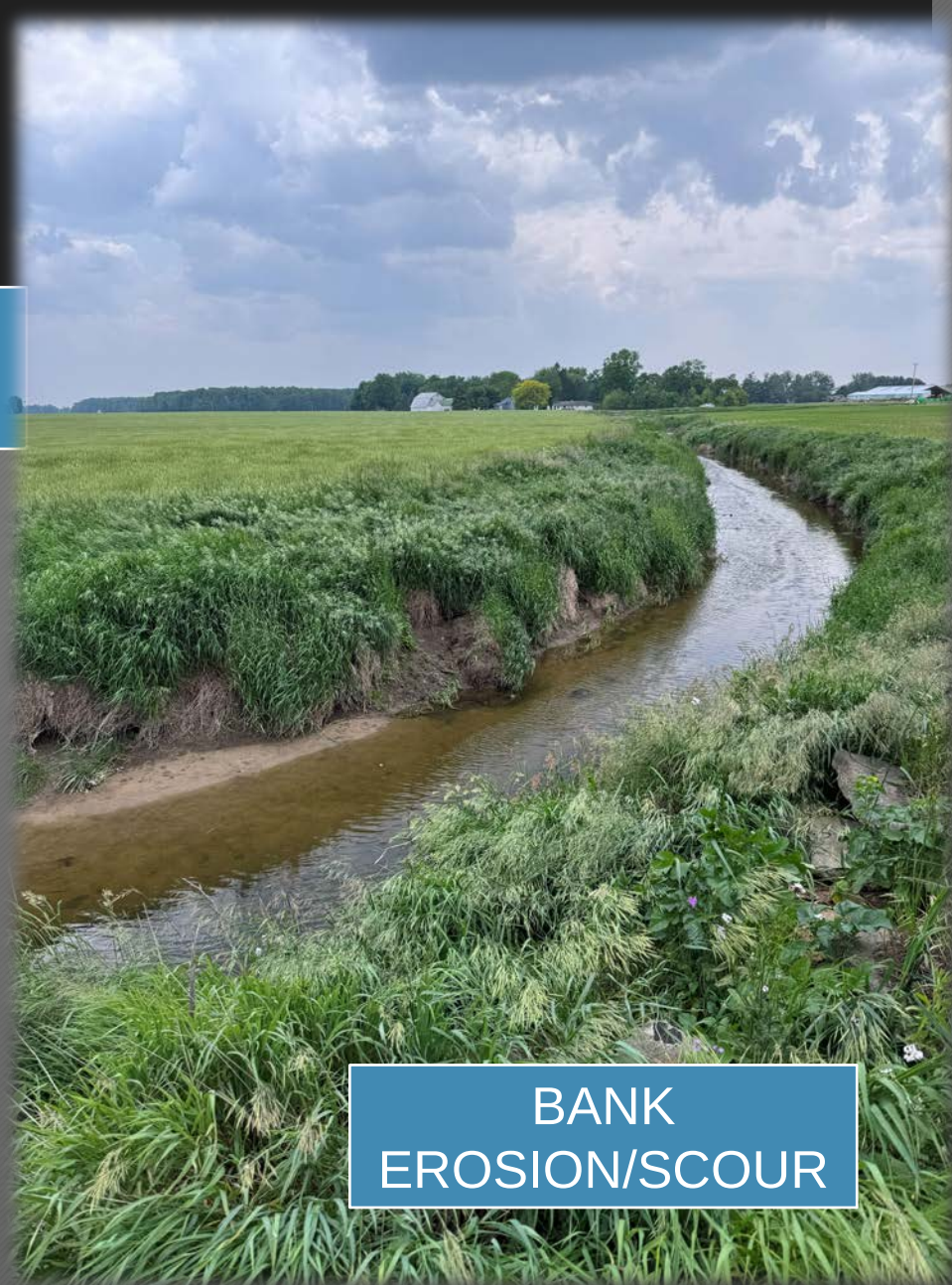
LOG JAM
OBSTRUCTIONS

Field Review - Photos

RAUCHOLZ RD TO FROST RD



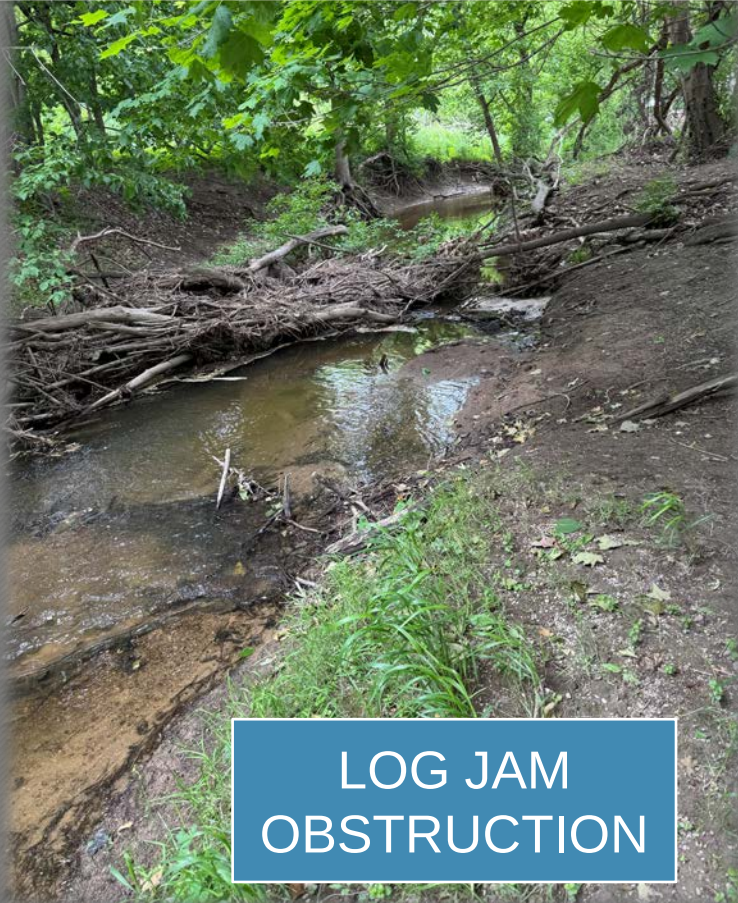
BANK
SLOUGHING



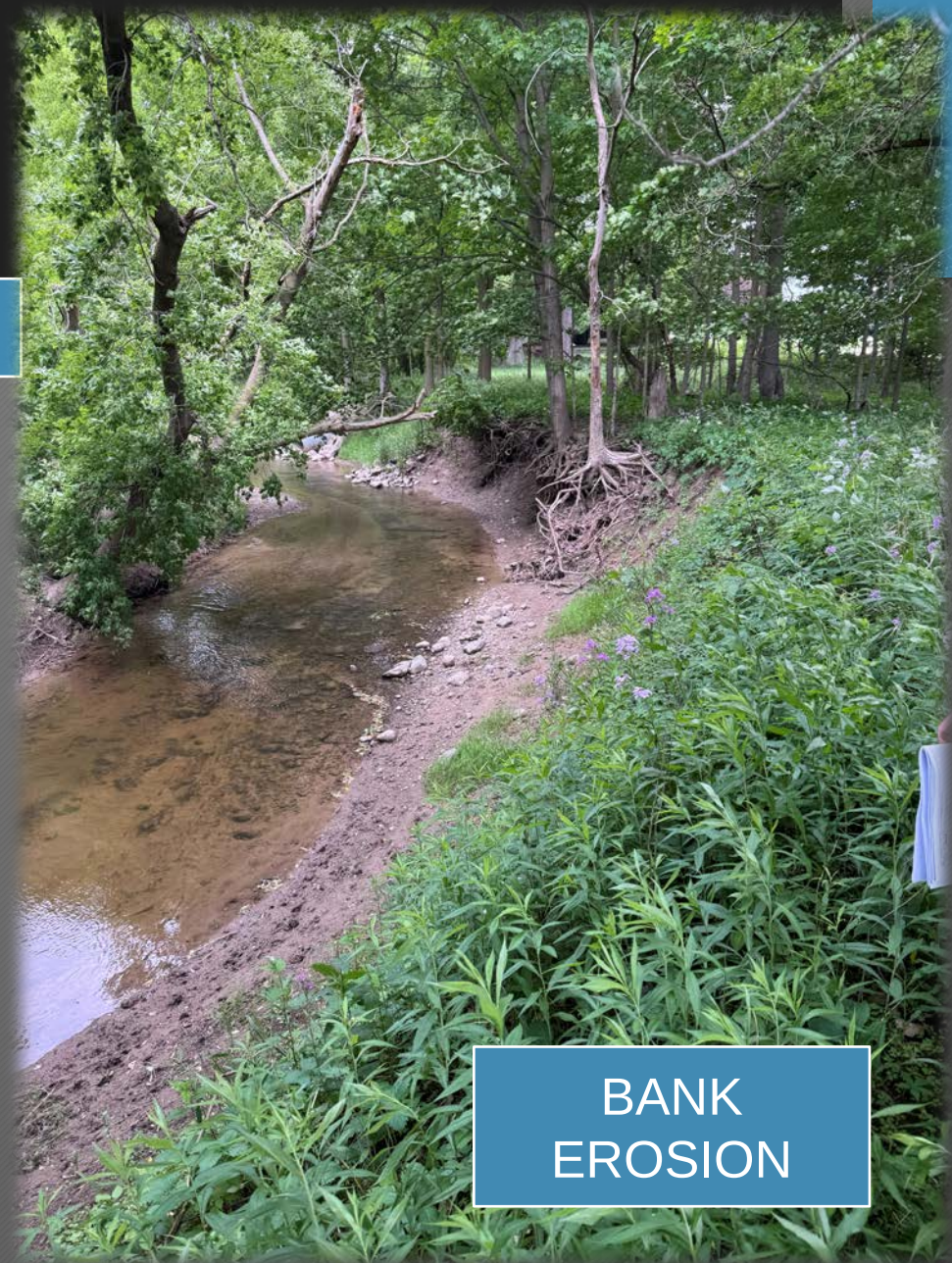
BANK
EROSION/SCOUR

Field Review - Photos

RAUCHOLZ RD TO FROST RD (cont.)



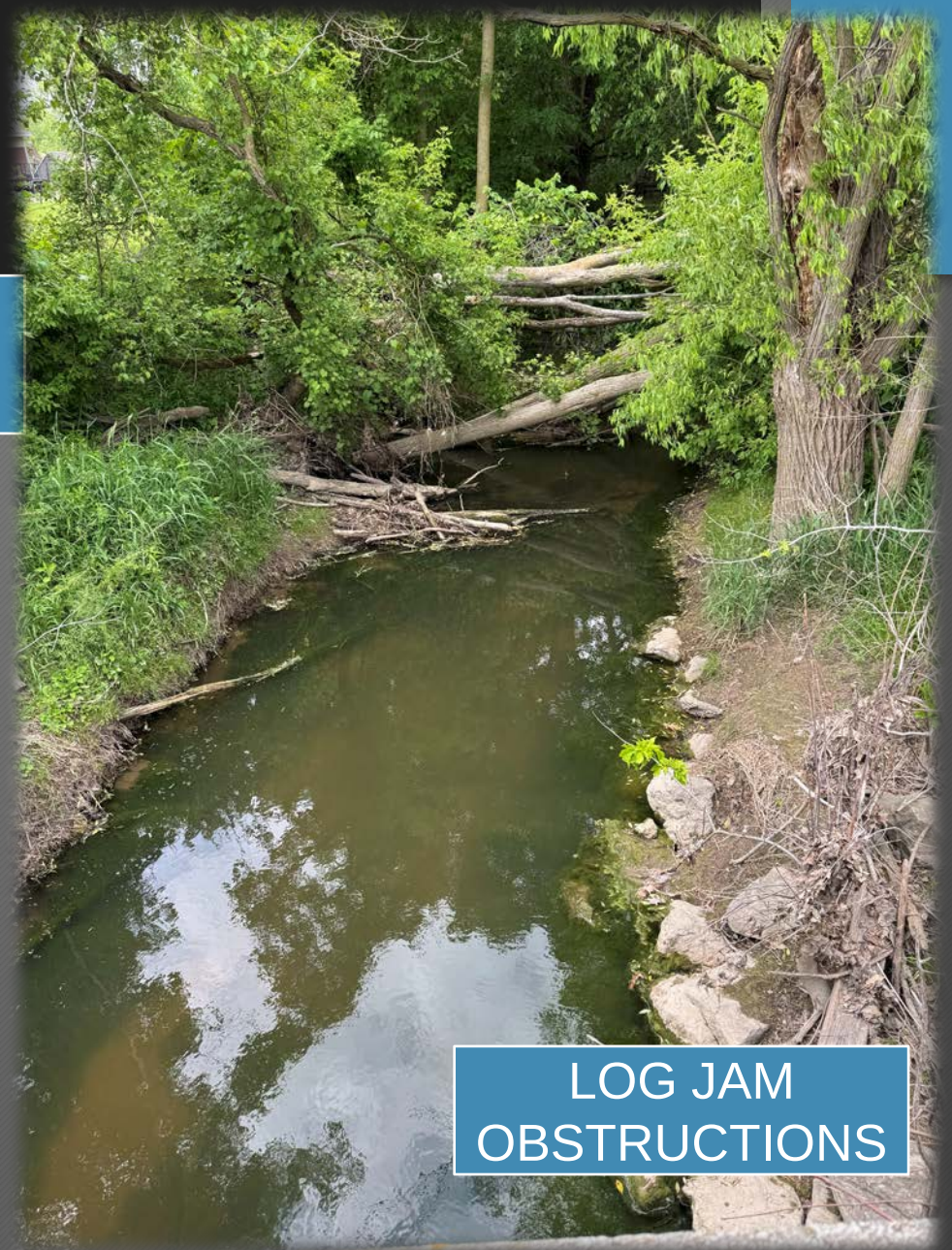
LOG JAM
OBSTRUCTION



BANK
EROSION

Field Review - Photos

FROST RD TO GRATIOT (M-46)



LOG JAM
OBSTRUCTIONS

Field Review - Photos

FROST RD TO GRATIOT (M-46) (cont.)

Obstructions



Field Review - Photos

GRATIOT (M-46) to Point of Ending



SEDIMENTATION



Summary of Field Review Observations

- In Summary the following items were observed:
 - Downstream of M-46
 - Significant erosion
 - Significant fallen trees, log jams/obstructions
 - Channel capacity concerns
 - Upstream of M-46
 - Significant sedimentation
 - Standing and stagnant water

Hydrology/Design Flow Capacity

- 10-Year Design Storm
 - 1.6 inches of rainfall in 1 hour
 - 3.3 inches of rainfall in 24 hours
- Sections of existing channel do not meet capacity

Summary – Open Drain Improvements

- Site Clearing
- Open Channel Maintenance
- Channel Capacity Improvements
- Spoil Leveling and Hauling
- Drain Crossings
- Erosion Control Measures
- Cleanup and Restoration

Site Clearing

- Obstructions and debris will be removed from drain including trees and brush
- Maintenance lane along drain cleared on one side or both sides of drain depending on work scope to allow for equipment access
- All trees, brush and stumps to be disposed of either by burning, chipping or hauling from site

Open Channel Maintenance

- Drain Restoration
 - Remove obstructions – vegetation & sediment
 - Spot repairs of existing erosion areas
- Channel Cleanout
 - Select removal of trees and brush
 - Removal of sediment from drain bottom
 - Spot repairs of existing erosion areas
 - Excavate from one or both sides of drain

Open Channel Maintenance

- Channel Excavation

- Sediment removed from drain bottom
- Reconstruct original bottom width
- One or both banks sloped to 2 hor. to 1 vert.
- All trees and brush grubbed from banks being sloped
- Excavate from one or both sides of drain

Channel Capacity Improvements

- Analyze alternatives during Final Design
 - Two Stage Channel
 - Berming
 - Detention

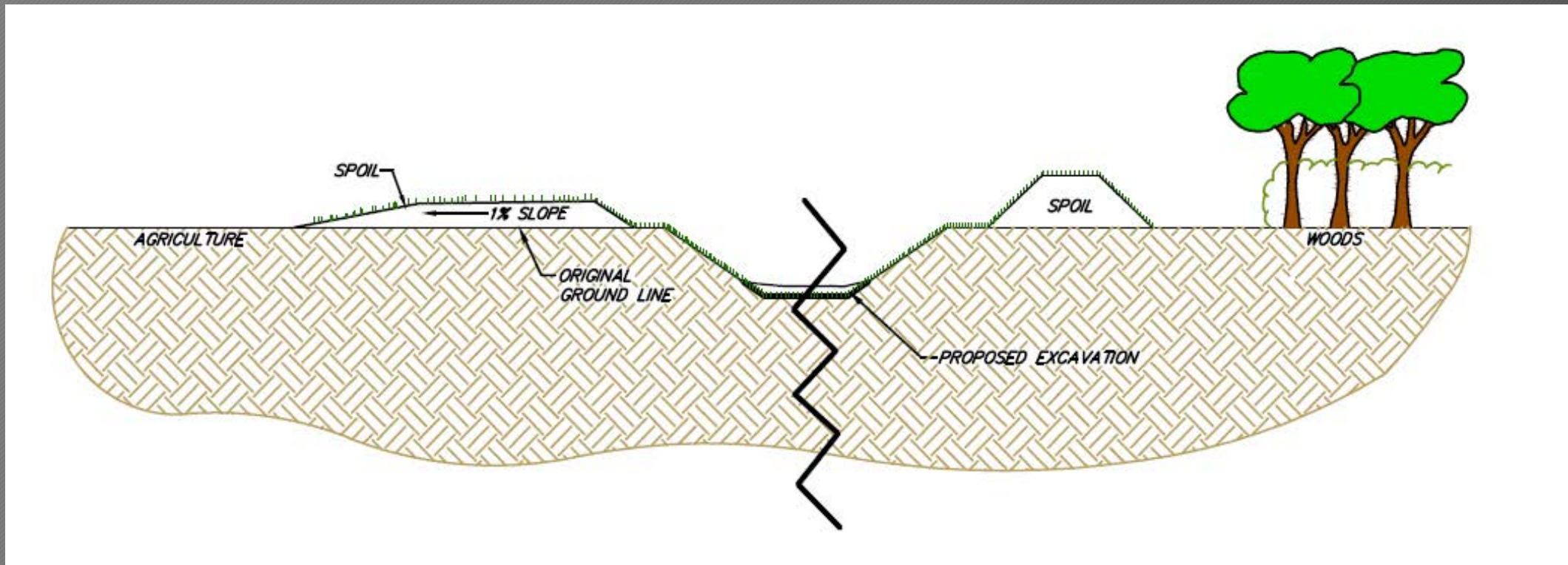
Spoil Leveling and Hauling

- Spoils will be leveled within the drain right-of-way in agricultural and wooded areas
- Spoils will be hauled in lawn areas
- Openings will be left in spoils to allow for drainage

Typical Open Channel Detail For Wooded & Agricultural Areas

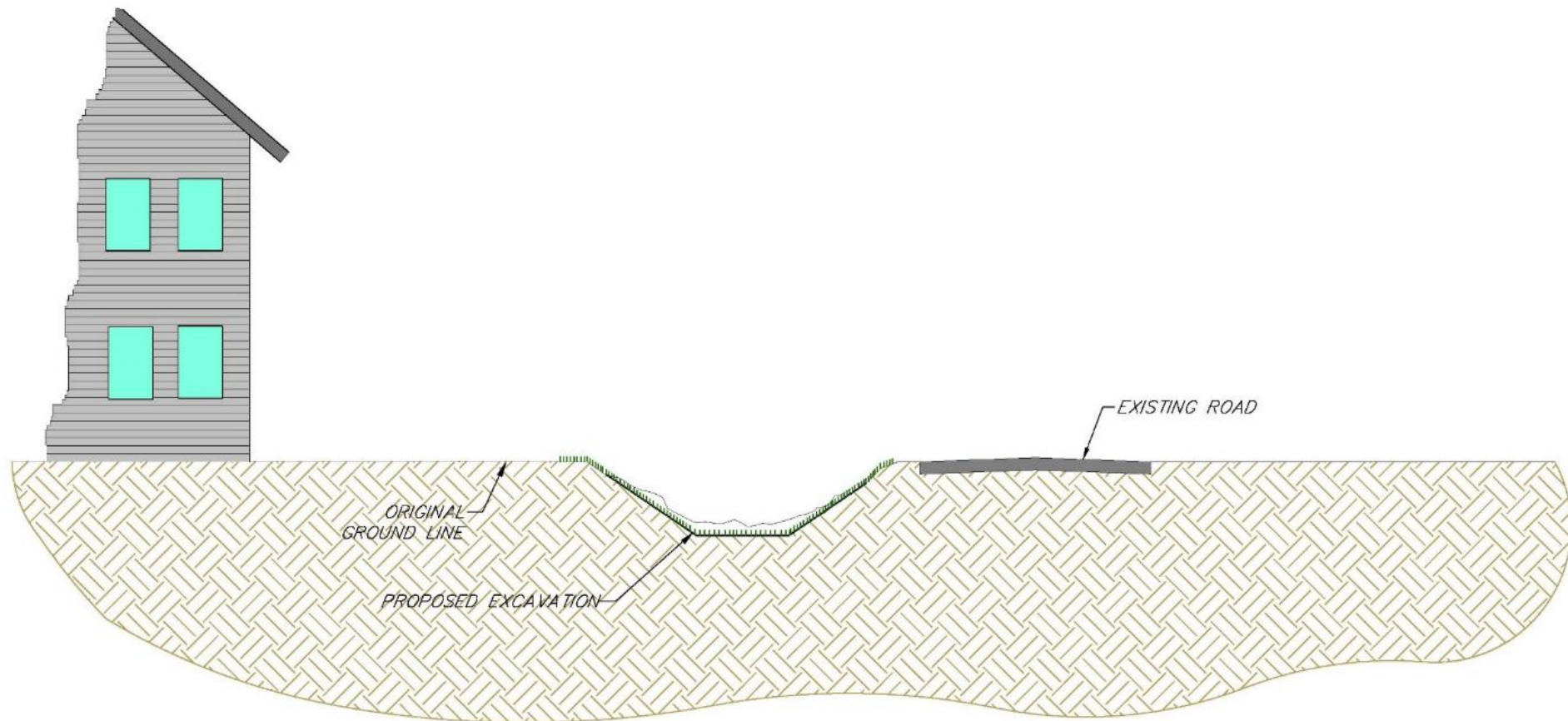
GRASSED FIELD OR
AGRICULTURE

WOODED



OPENINGS WILL BE LEFT IN
SPOILS PILES AS NEEDED FOR
DRAINAGE

Typical Open Channel Detail For Road/Lawn Areas



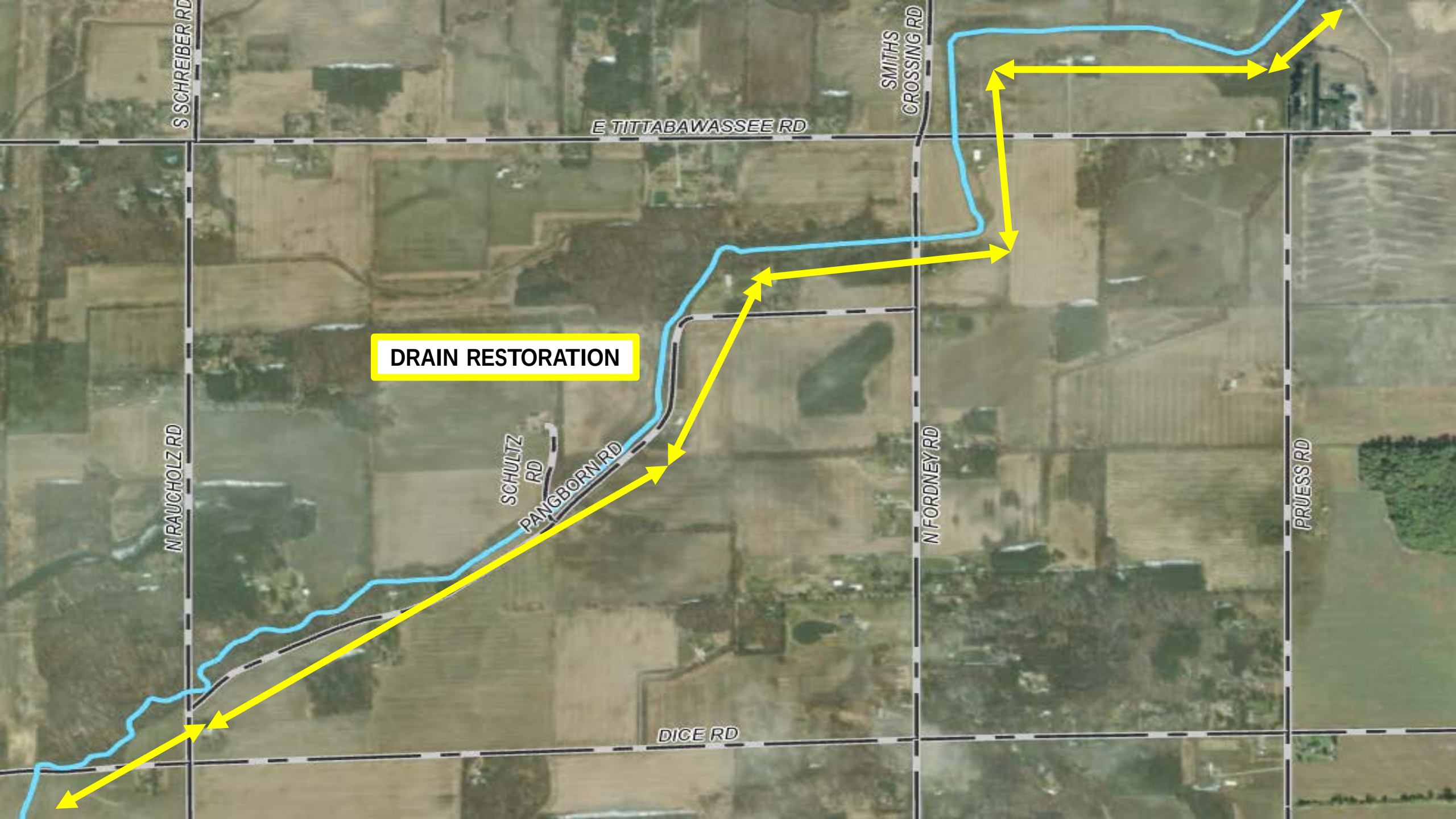
EXAMPLE PHOTOS

DRAIN BEFORE CONSTRUCTION



DRAIN AFTER CONSTRUCTION





SSCHREIBER RD

E TITTABAWASSEE RD

SMITHS
CROSSING RD

DRAIN RESTORATION

N RAUCHOLZ RD

SCHULTZ
RD

PANGBORN RD

DICE RD

N FORDNEY RD

PRUESS RD



N BRENNAN RD

N HEMLOCK RD

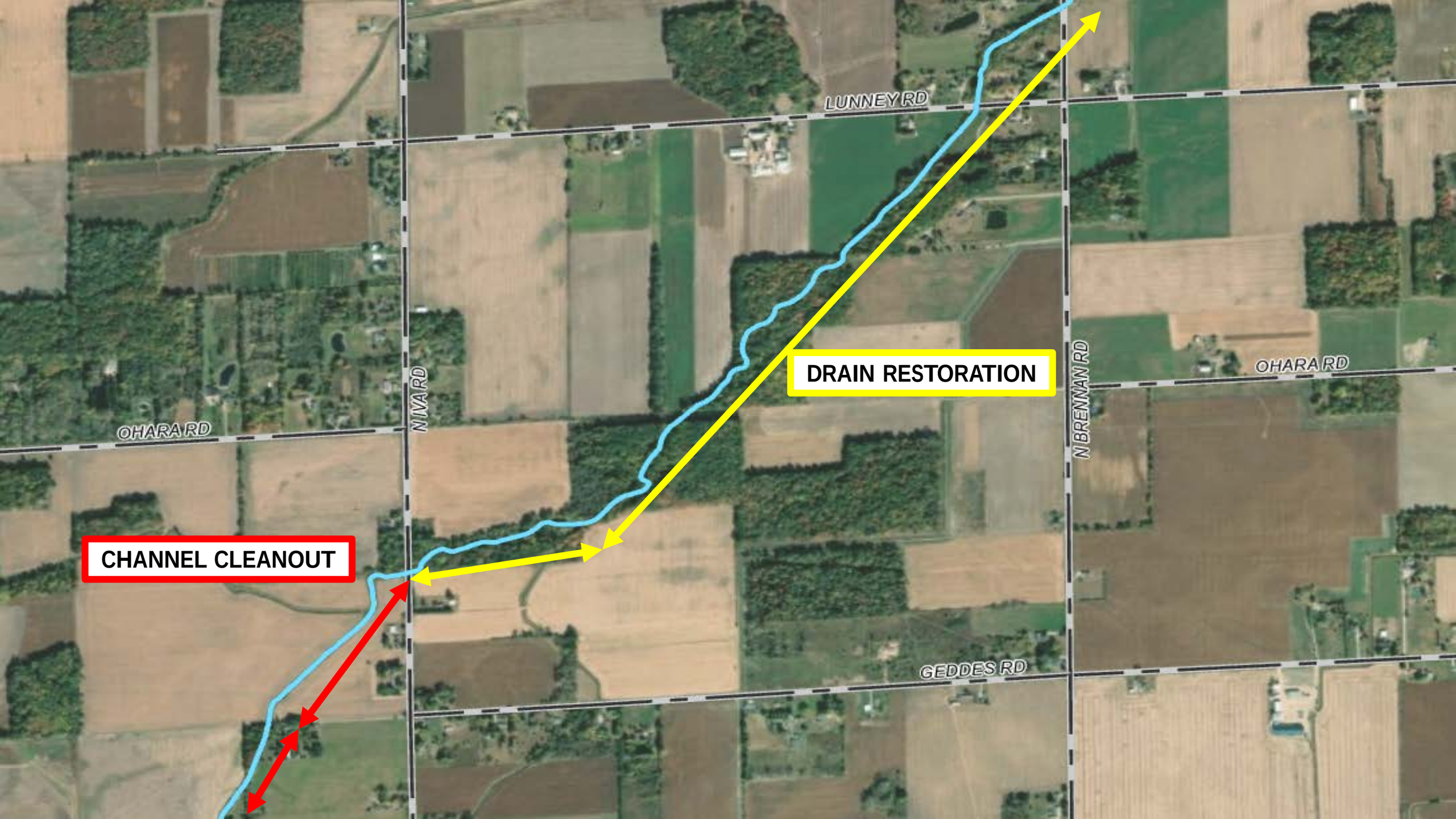
N RAUCHOLZ RD

LUNNEY RD

FROST RD

DRAIN RESTORATION

FEHN RD



LUNNEY RD

DRAIN RESTORATION

CHANNEL CLEANOUT

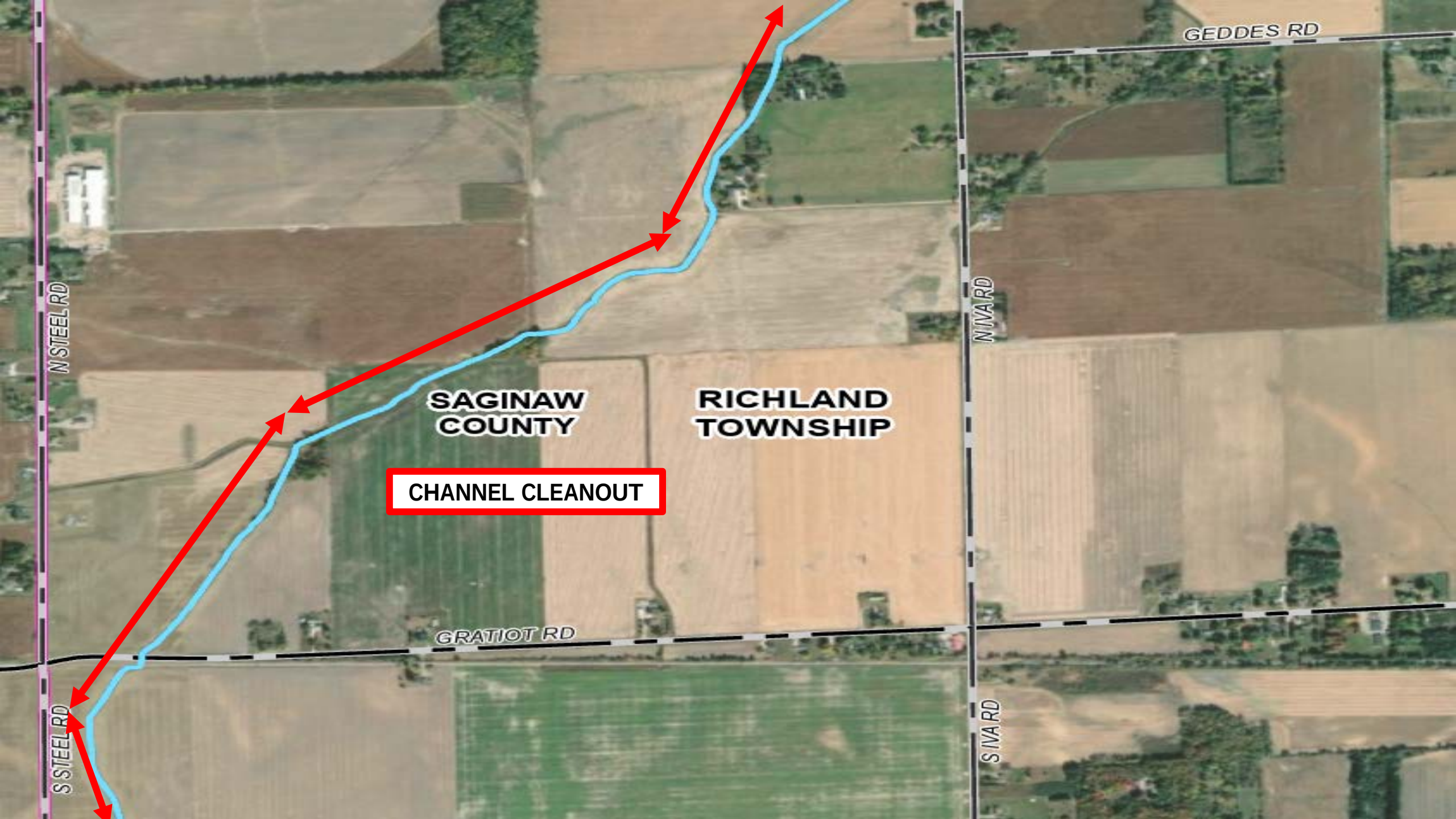
OHARA RD

NIVAR RD

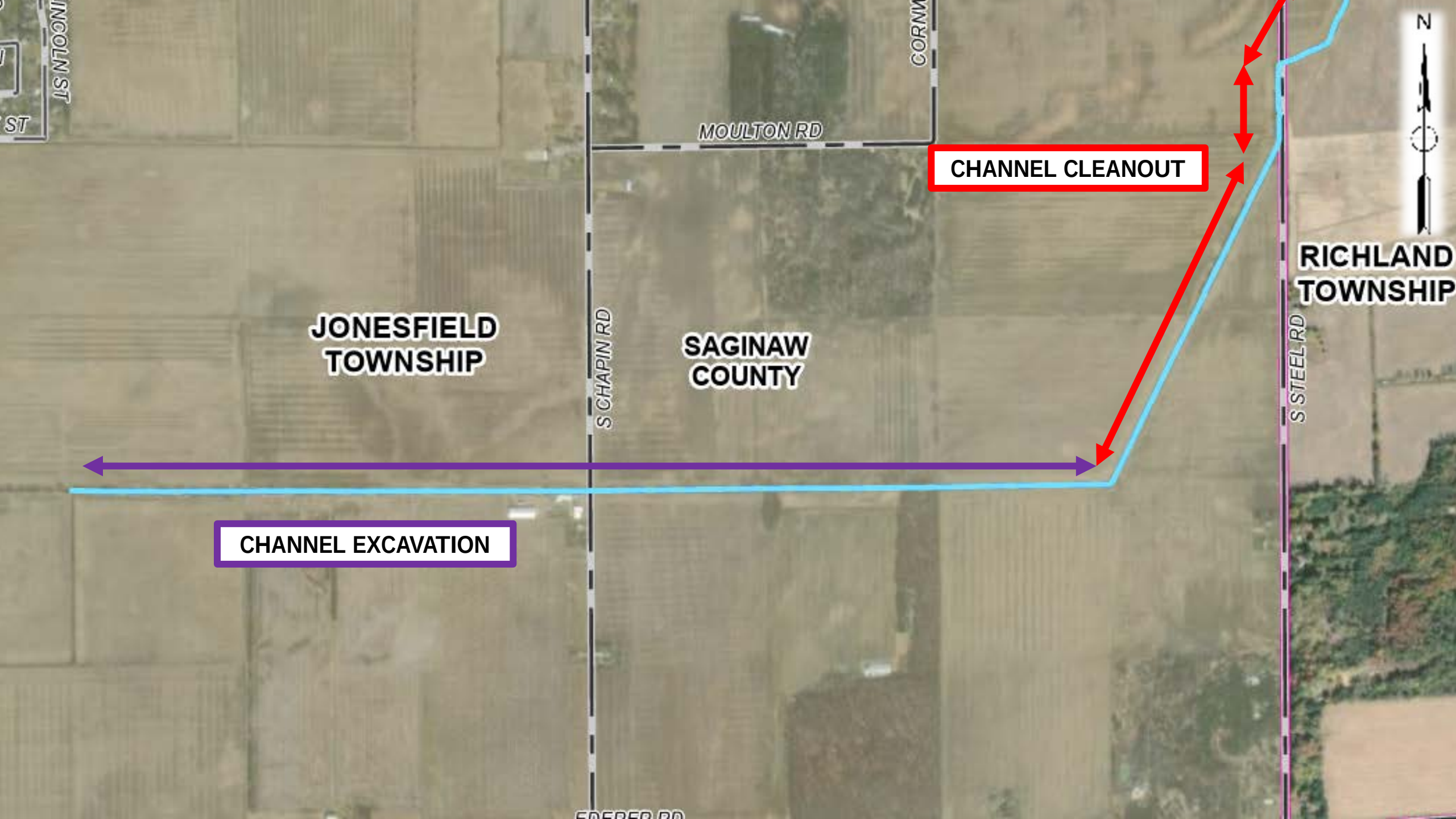
N BRENNAN RD

OHARA RD

GEDDES RD



CHANNEL CLEANOUT



LINCOLN ST
ST

CORNWELL RD

MOULTON RD

CHANNEL CLEANOUT

JONESFIELD
TOWNSHIP

SAGINAW
COUNTY

S CHAPIN RD

RICHLAND
TOWNSHIP

S STEEL RD

CHANNEL EXCAVATION



Survey and Inspection of Drain Crossings

- Measured length, elevation and size of drain crossing
 - Culverts and bridges
- Assessed condition of crossings and headwalls
- 25 existing crossings total:
 - 20 crossings proposed for cleanout
 - 2 crossings proposed for replacement
 - Undersized hydraulically – waterway opening is too small
 - 3 crossings proposed for removal (abandoned)

Drain Crossings

- Culvert and bridge design criteria
 - 0.5 ft. of head loss for design storm
 - Minimum of 1.5 ft. of cover on drive culverts
 - Minimum of 2 ft. of cover on road culverts
 - Farm crossings – 24 ft. drive width
 - Drive crossings – 20 ft. drive width
 - Private Culverts
 - Corrugated metal pipe arches for large crossings
 - Polypropylene pipe for smaller crossings
 - Drive surface to be replaced in-kind
 - County roads – meet county standards

Drain Crossing Summary

- 25 existing crossings
 - 13 County Road Crossings
 - 1 MDOT Highway Crossing
 - 1 Railroad Crossing
 - 10 Private Crossings

Drain Crossings

- All drain crossings are proposed to have accumulated sediment cleaned out, except for the following:
- Proposed for Replacement:
 - Steel Rd
 - Chapin Rd
- Abandoned Bridge Removal:
 - Moulton, T & N Jr
 - Farmland Reserve Inc.
 - Irish Family Farms, LLC/Ground Zero Investments, LLC

Erosion Control

- Vegetation re-established
- Bank erosion prevention
 - Riprap or grassed spillways
 - Riprap placed at high runoff concentration areas
 - Riprap or erosion fabric placed at erosion prone areas
- Field tile outlets repaired, Install splash pads

Cleanup and Restoration

- Disturbed areas will be seeded
- All debris and spoils will be disposed of
- All disturbed lawn areas will be landscape graded and seeded with in-kind topsoil
- Drain must be stabilized prior to final inspection

Planning Level Cost Estimate

- Construction
 - Site Clearing
 - Open Channel Maintenance
 - Channel Capacity Improvements
 - Spoil Leveling and Hauling
 - Drain Crossings
 - Erosion Control Measures
 - Cleanup and Restoration

Planning Level Cost Estimate

- Cost Estimate Includes:
 - Construction Costs
 - 10-15% Contingencies
 - Inspection, Survey, & Design
 - Bond and Interest
 - Easements (if necessary)
 - Permitting (if necessary)
 - Construction Administration
 - Utility Coordination
 - Legal
- Total Cost Estimate: \$4.5 Million (in today's dollars)
- Actual project cost will be based on contractor's bid

Public Testimony

- Fill out speaker cards
- State name and relation to proposed project
- Limit comment to 3 minutes
- Be specific, focus on necessity questions
- Leave copy of materials, if any, with Board

Board Deliberation and Necessity Decision

- Decide if it is necessary to move forward with a project on the Whitmore & South Branch of Swan Creek Intercounty Drain.

Appeal

- The Board's decision may be appealed within 10-days to the Circuit Court in the County where the property is located

Any questions regarding how to appeal should be addressed to your legal counsel