

Sanderson Drain

Public Informational Meeting

March 4, 2021

6:00 PM



Brian J. Wendling

Saginaw County Public Works Commissioner

Purpose of Meeting



- Inform landowners in the drainage district of the proposed improvements
- Public Works Commissioner to receive input and comments from landowners on the proposed plan

Presentation Agenda



- Drain Background and History
- Drainage District
- Survey and Design
- Open Channel Improvements
- Drain Crossing Improvements
- Cleanup and Restoration
- Tentative Project Schedule
- Preliminary Estimate of Cost
- Questions and Comments

Drain Background

- Where is the Sanderson Drain?
 - Outlet is in the Cass River north of Gabel Road
 - Upper end is located at Bell Road approximately 330 feet south of Moore Road
 - Total length of approximately 1.7 Miles
 - Drain currently is composed of open channel drain. A portion of the open channel drain between Moore Road and Bell Road has a low flow tile under the drain bottom

Drain History

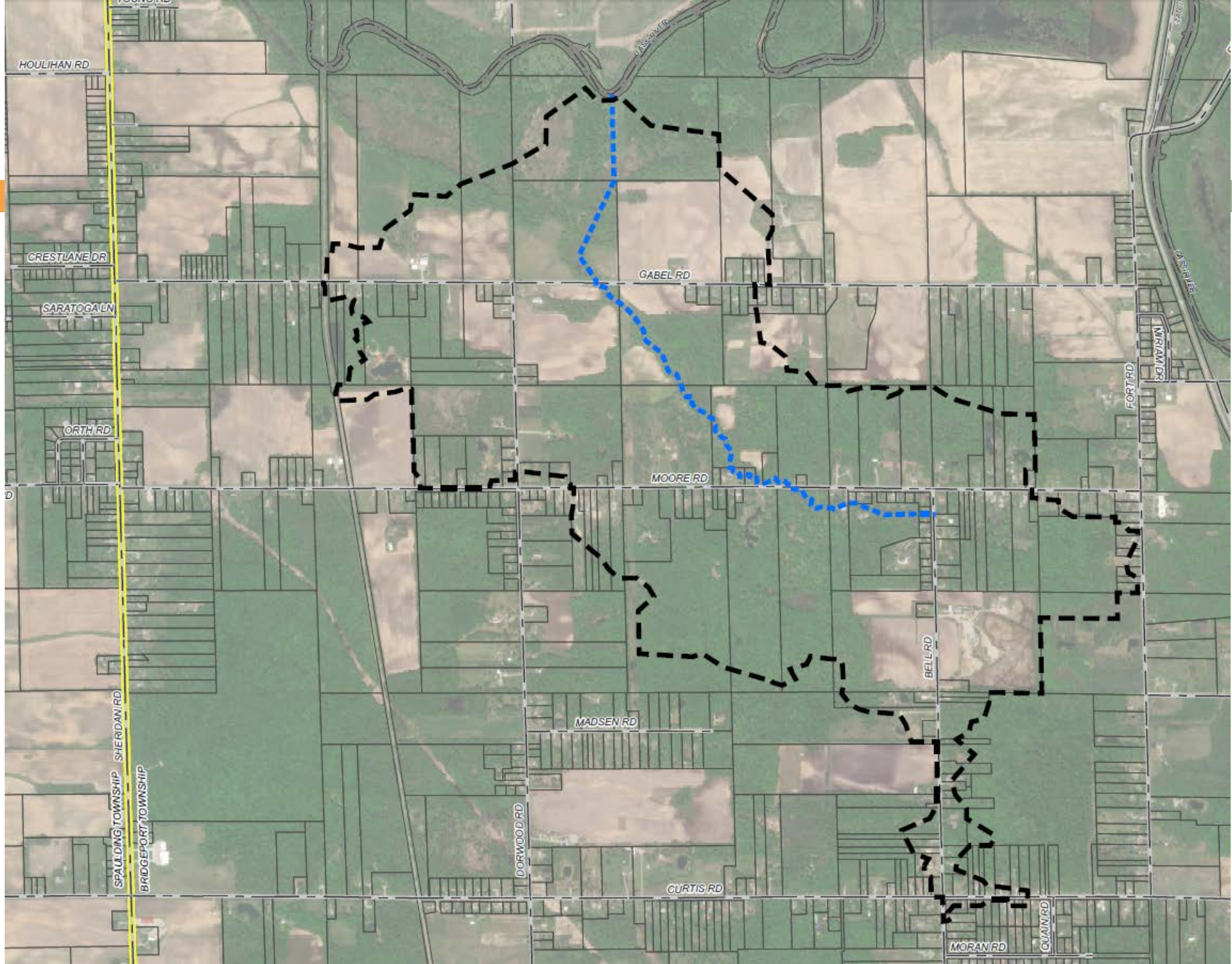
- The Sanderson Drain was legally established as a drain in 1981 and constructed in 1984
- 2017 to 2019 the SCPWC received multiple calls regarding flooding along Bell Road and problems with the existing low flow tile installed in the drain bottom
- 2014 and 2017 SCPWC performed maintenance in response to phone calls
- The Saginaw County Road Commission also performed several maintenance projects along Bell Road in an attempt to improve drainage

Drain History Continued

- June 2019 the current petition was received
- September 2019 a Board of Determination deemed a project was necessary

Drainage District

- What is the drainage district?
 - ▣ Lands that contribute storm water to drain
 - ▣ Drainage District serves as the special assessment district
 - ▣ Sanderson Drain Drainage District includes:
 - Bridgeport Township
 - Saginaw County
 - Landowners – Approximately 187 parcels



Survey, Engineering & Design

- Survey of drain
- Draft survey onto plans
- Existing utility research
- Hydrology and hydraulic calculations
- Analyze alternatives
- Final design of plans

Survey

- Surveyed approx. 1.7 miles of open drain
 - Collected flowline elevations every 250 feet
 - Collected cross sections at minimum every 500 feet
 - Collected topography within 50 feet of the drain
 - Collected elevations of all culvert crossings and low flow tiles

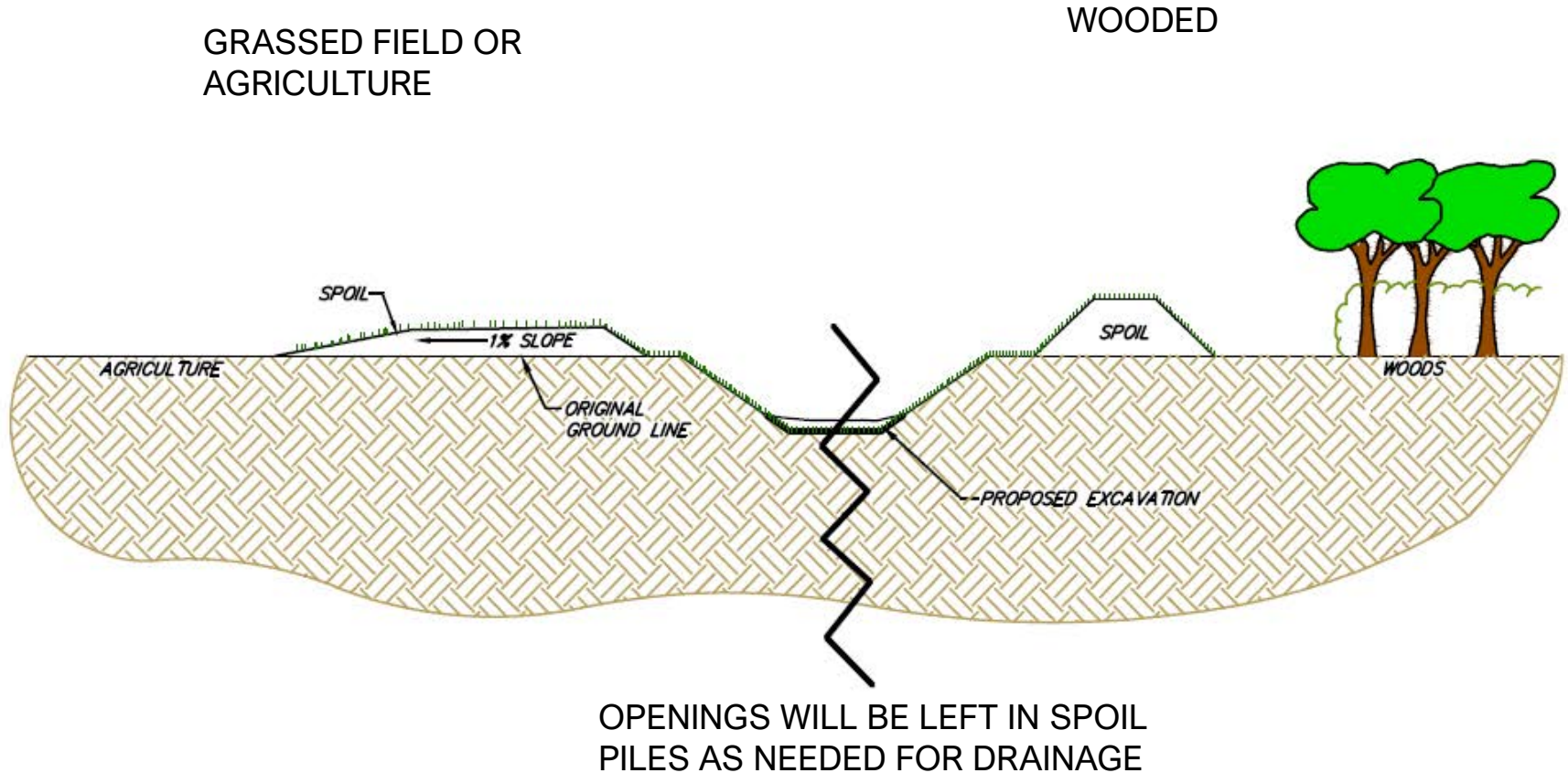
Design

- Developed Design
 - Drafted results of survey onto plans
 - Drafted historical drain flow line grade
 - Identified level of sediment in drain
 - Designed drain flow line and cross sections
 - Evaluated improvement alternatives
- 10-Year Design Storm
 - Saginaw County Standard Level of Service
 - 1.43 Inches of rain in 1 hour
 - 3.05 Inches of rain in 24 hours

Open Channel Improvements

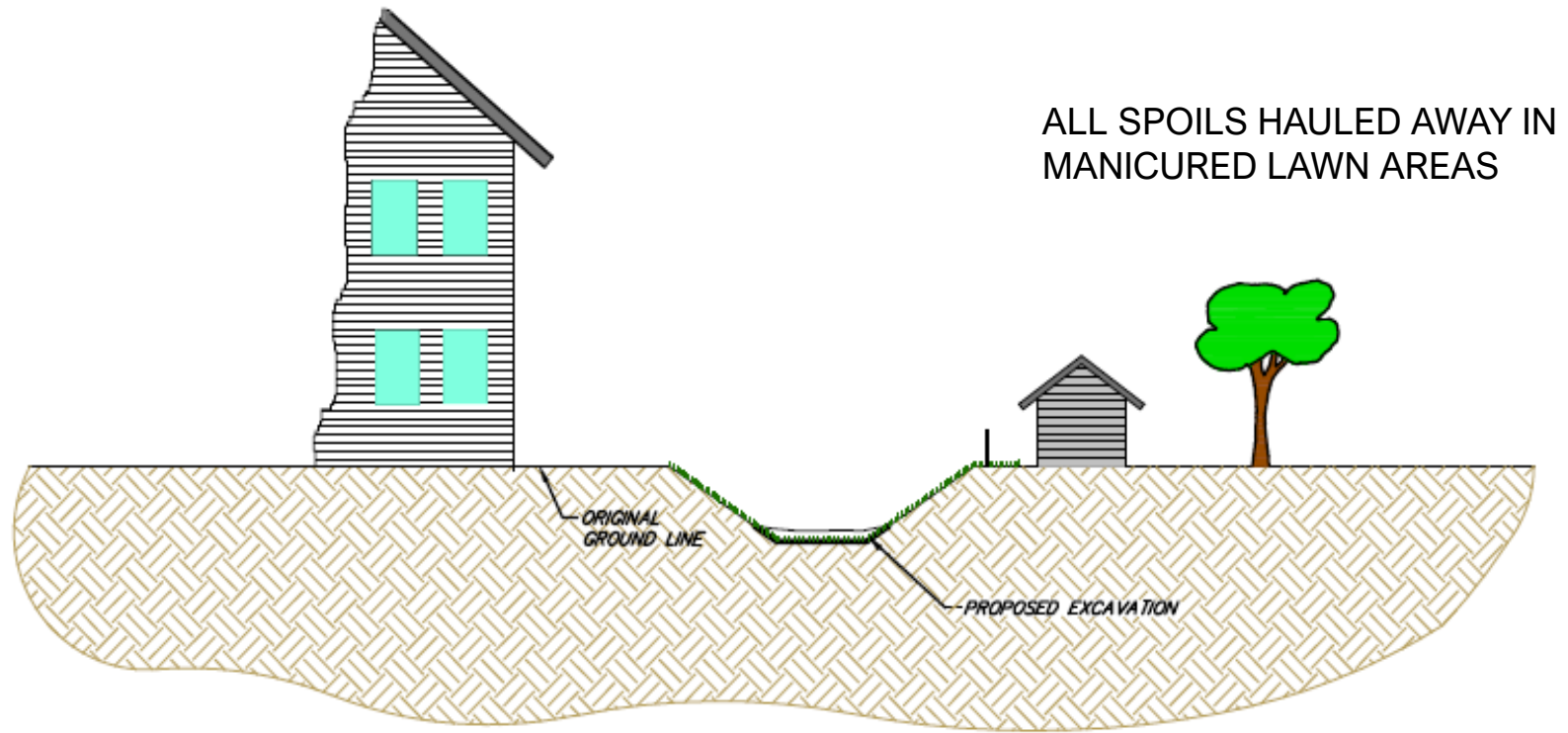
- Clearing
 - Removal of trees in drain and maintenance lane (may be one or both sides)
- Sediment Removal/Open Channel Work
 - Portions of drain will have a channel cleanout
 - Sediment is removed from drain bottom only
 - Portions of drain channel will be re-excavated
 - Sediment is removed from bottom and one or both side slopes are regraded
 - Low flow tile is being eliminated as part of this project
 - Level spoils along drain right-of-way or haul

Typical Channel Cleanout Detail



Typical Channel Cleanout Detail

Lawn Areas



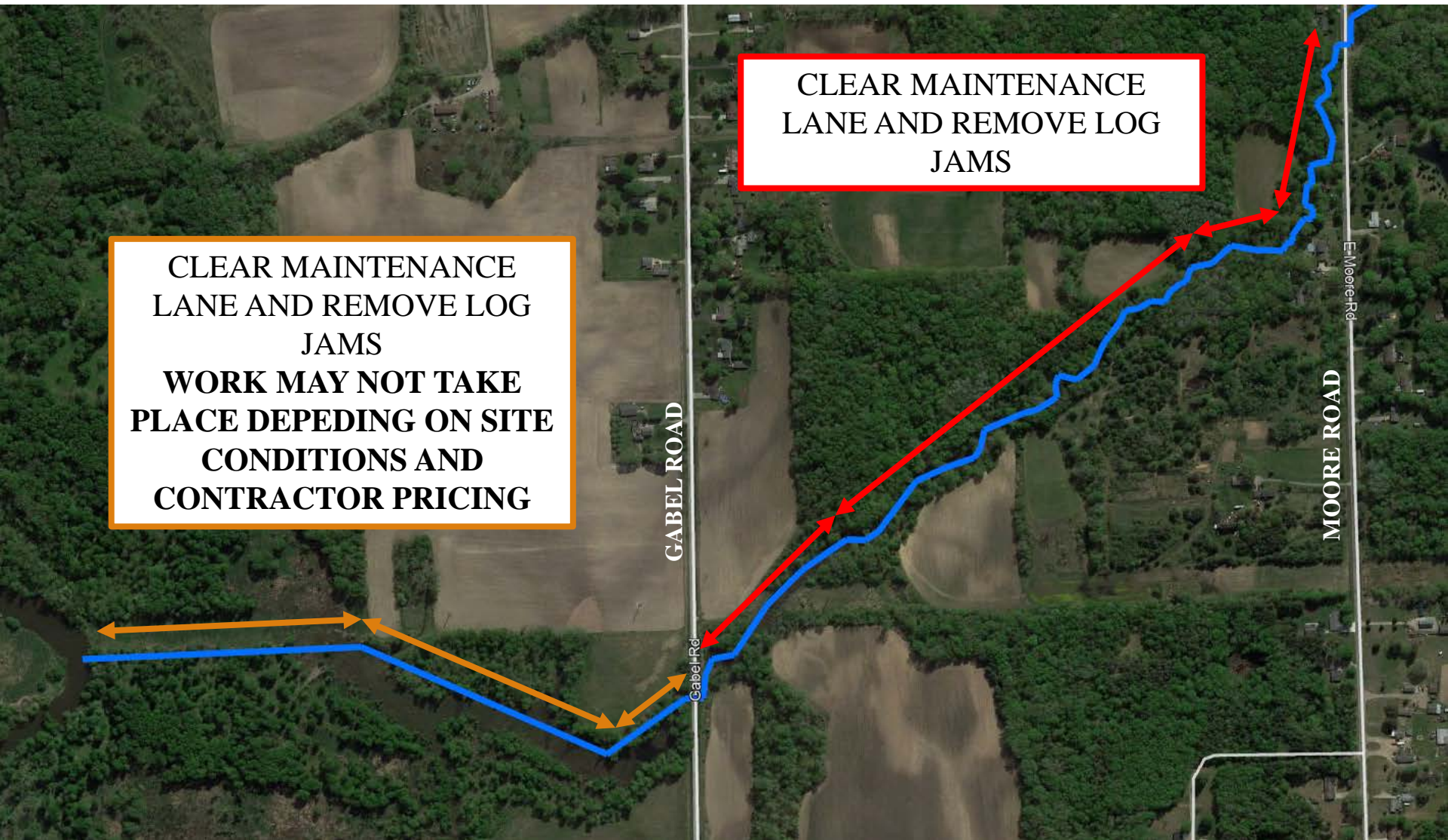


**CLEAR MAINTENANCE
LANE AND REMOVE LOG
JAMS
WORK MAY NOT TAKE
PLACE DEPENDING ON SITE
CONDITIONS AND
CONTRACTOR PRICING**

**CLEAR MAINTENANCE
LANE AND REMOVE LOG
JAMS**

GABEL ROAD

MOORE ROAD



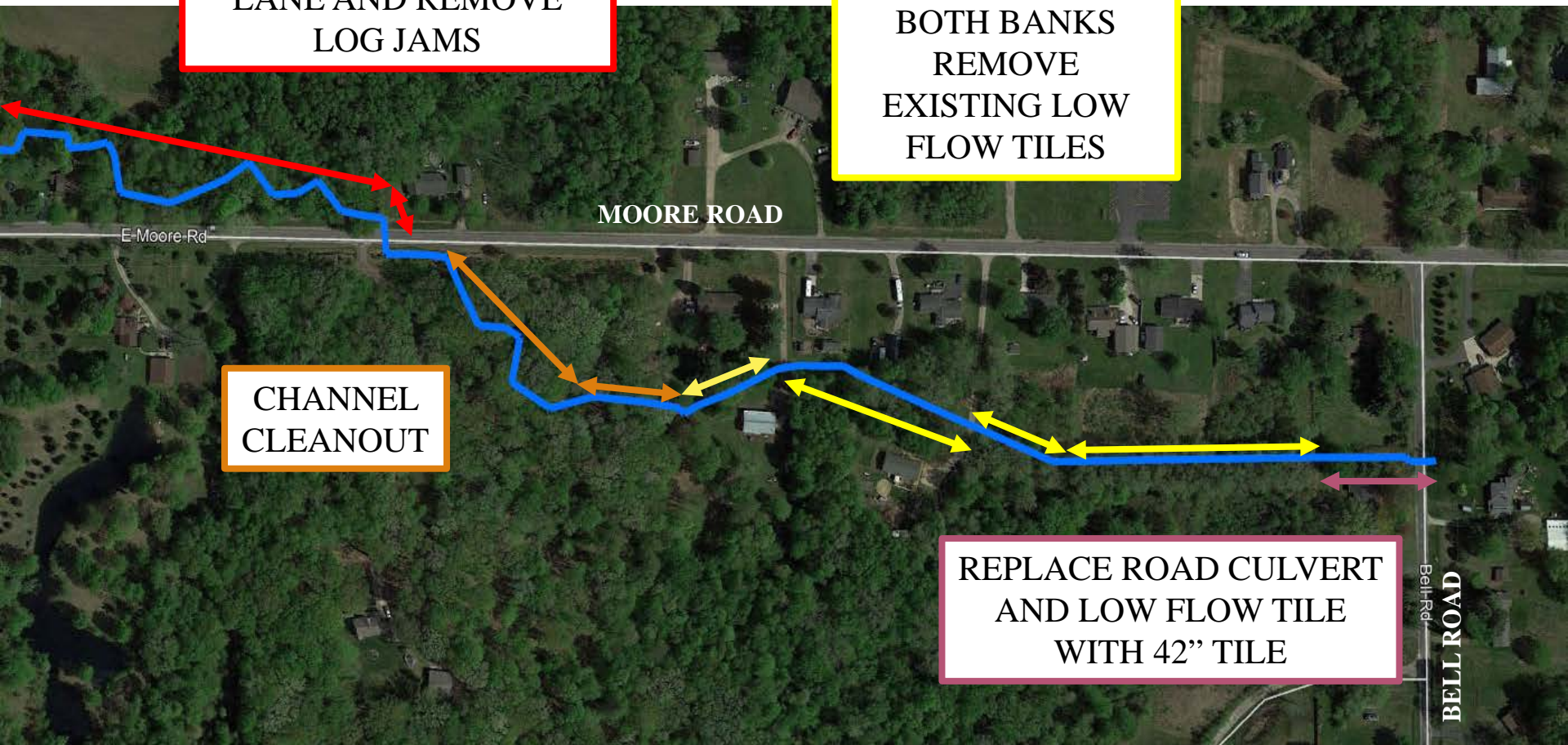


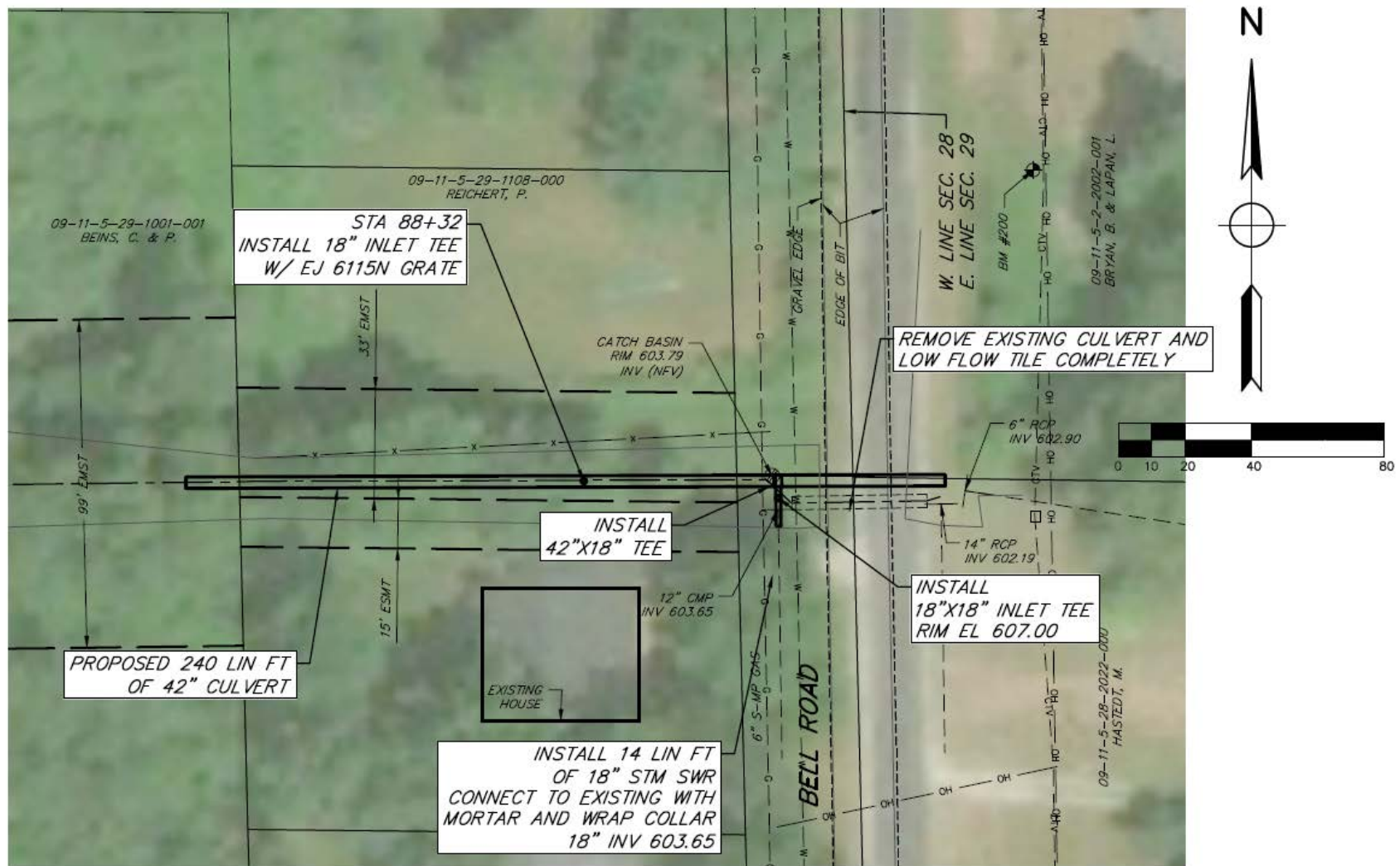
CLEAR MAINTENANCE
LANE AND REMOVE
LOG JAMS

CHANNEL
EXCAVATION 4'
BOTTOM, SLOPE
BOTH BANKS
REMOVE
EXISTING LOW
FLOW TILES

CHANNEL
CLEANOUT

REPLACE ROAD CULVERT
AND LOW FLOW TILE
WITH 42" TILE





CROSSING NO 7 STA 89+17 BELL ROAD DETAIL

- Replacement of Bell Road Culvert and Existing low flow tile
- Proposed tile will be able to convey 10-Year Storm (42" Diameter)
- Tile is being utilized downstream of Bell Road due to limited room in the drain right-of-way

Open Channel Improvements

- Erosion Control
 - Bank stabilization – riprap and fabric
 - Spillways – riprap and grass
 - Seeding and mulching
- Tile outlets
 - Riprap splash pads
 - Repair outlet if in poor condition
 - Maintain outlet if in good condition

Drain Crossings

- Total of 7 existing drain crossings
 - 4 Private crossings
 - Drives and Footbridges
 - 3 Road crossings
 - Gabel Road
 - Moore Road
 - Bell Road

Drain Crossings

- Measured length, elevation and size of all drain crossings
- Assessed condition of crossings and headwalls
- Replacement criteria
 - Inadequately sized
 - Crossing is set high in the drain

Drain Crossings

- No. 1 – Sta. 25+72 – Gabel Road
 - No Work



Drain Crossings

- No. 2 – Sta. 49+87 – Weiler, L.
- No Work



Drain Crossings

- No. 3 – Sta. 59+00 – Schultz, R. & P.
 - No Work



Drain Crossings

- No. 4 – Sta. 68+83 – Moore Road
 - No Work



Drain Crossings

- No. 5 – Sta. 77+88 – Sanderson, G.
 - Replace Existing Crossing with 42" Culvert
 - Existing crossing is off grade



Drain Crossings

- No. 6 – Sta. 81+28 – Beins, C. & P.
 - Replace Existing Crossing with 42" Culvert
 - Existing crossing is off grade



Drain Crossings

- No. 7 – Sta. 89+17 – Bell Road
 - Replace Existing Crossing with 42" Culvert
 - Existing crossing is off grade



Cleanup and Restoration

- All spoils along lawn areas will be hauled
- All disturbed lawn areas will be landscape graded and seeded with a minimum 4" of topsoil
- An attempt will be made to work around large trees in landscape and lawn areas. If needed, large trees in lawn areas will be completely removed from the site unless the landowner requests to keep the wood

Cleanup and Restoration

- Small trees and shrubs will be removed as needed for construction
- If needed, mailboxes will be temporarily relocated and reinstalled as necessary for construction
- All driveways shall be restored in kind
- Local traffic shall be maintained at all times

Moore Road Drainage

- Drainage infrastructure along Moore Road is under the jurisdiction of the SCRC
- We have coordinated with SCRC to inform them of drainage complaints from landowners in the Sanderson Drain Drainage District
- SCRC will be performing a maintenance project to Moore Road west of the Sanderson Drain

Tentative Project Schedule

- Day of Review of Drainage District Boundary – April 15, 2021
- Bid Project – April 20, 2021
- Day of Review of Apportionments – May 18, 2021
- Contractor Notice to Proceed – July 2021
- Completion – 2022
- A formal Notice will be mailed with dates for both days of review

Project Cost

- Estimated Cost: \$455,000
 - Includes:
 - Open channel improvements
 - Crossing replacements
 - Erosion control
 - Cleanup and restoration
 - Utility coordination
 - Engineering, survey, and design
 - Financing fees
 - Construction staking and inspection
 - Contingencies
 - Final project cost determined by Contractor's bid

Questions or Comments?

For further information on your individual property please call the Saginaw County Public Works Office at 989-790-5258

