

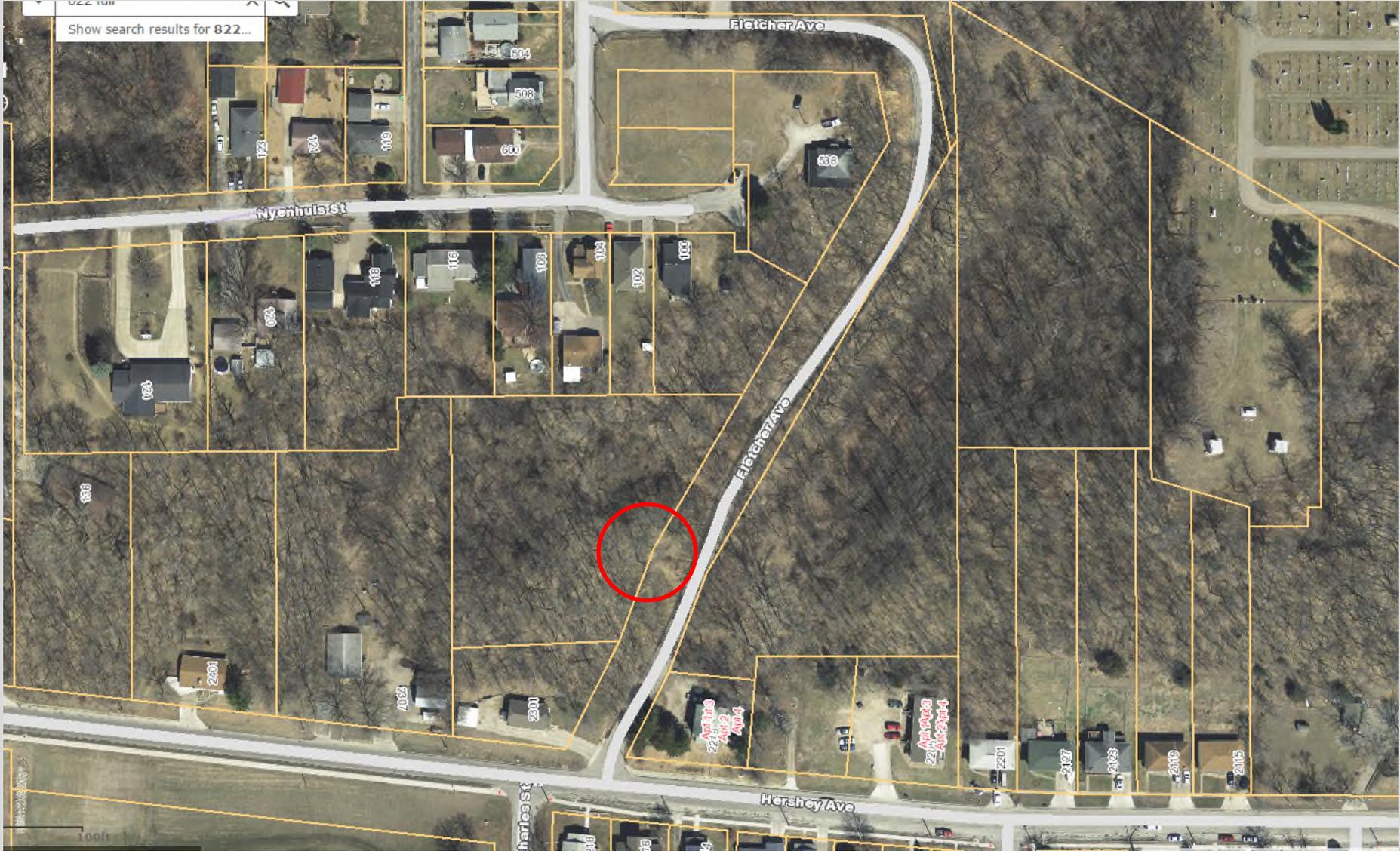
# Fletcher Avenue / “Miller’s Hill” Update

Council In-depth Meeting  
January 9, 2020  
Brian Stineman  
Public Works Director

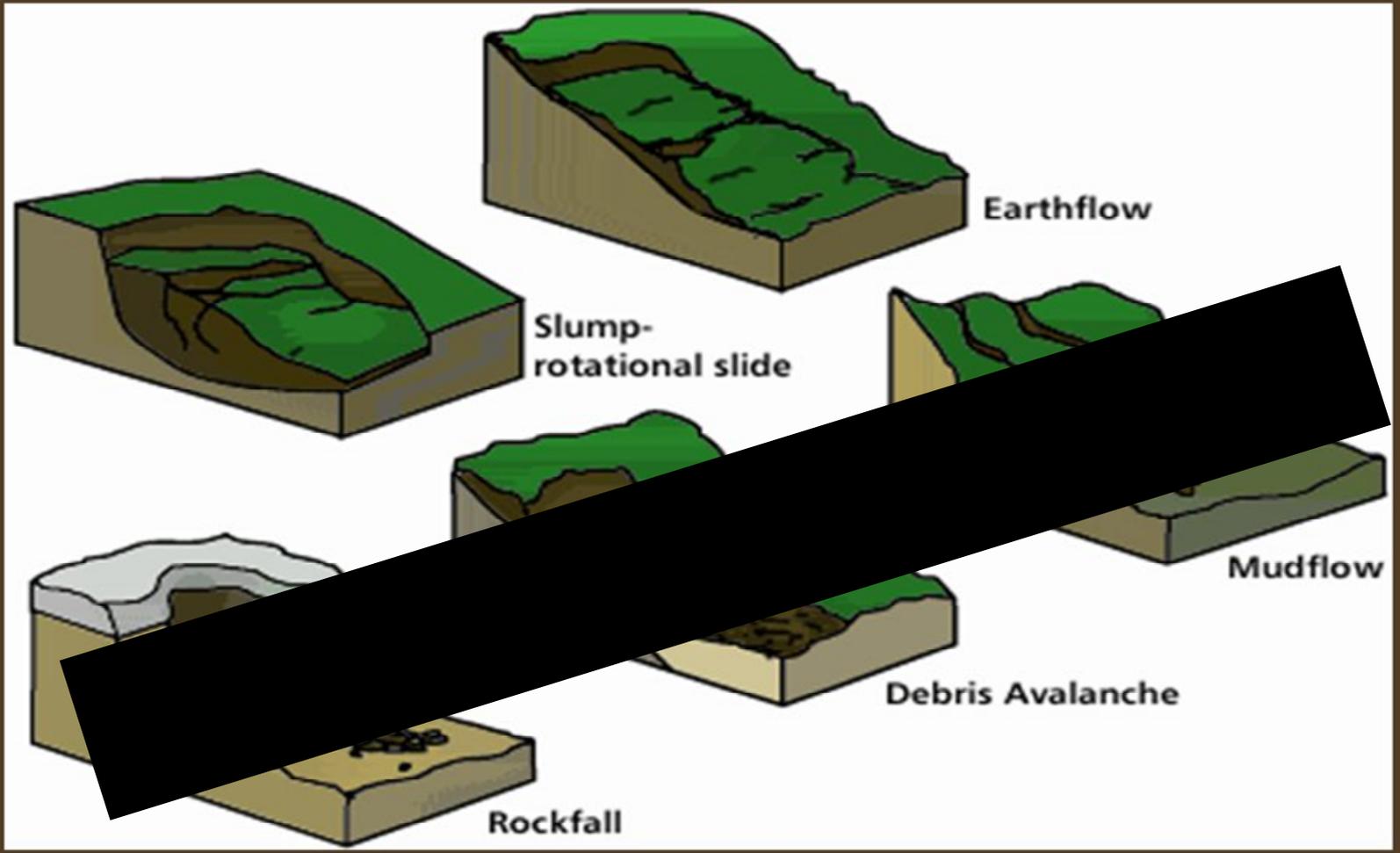
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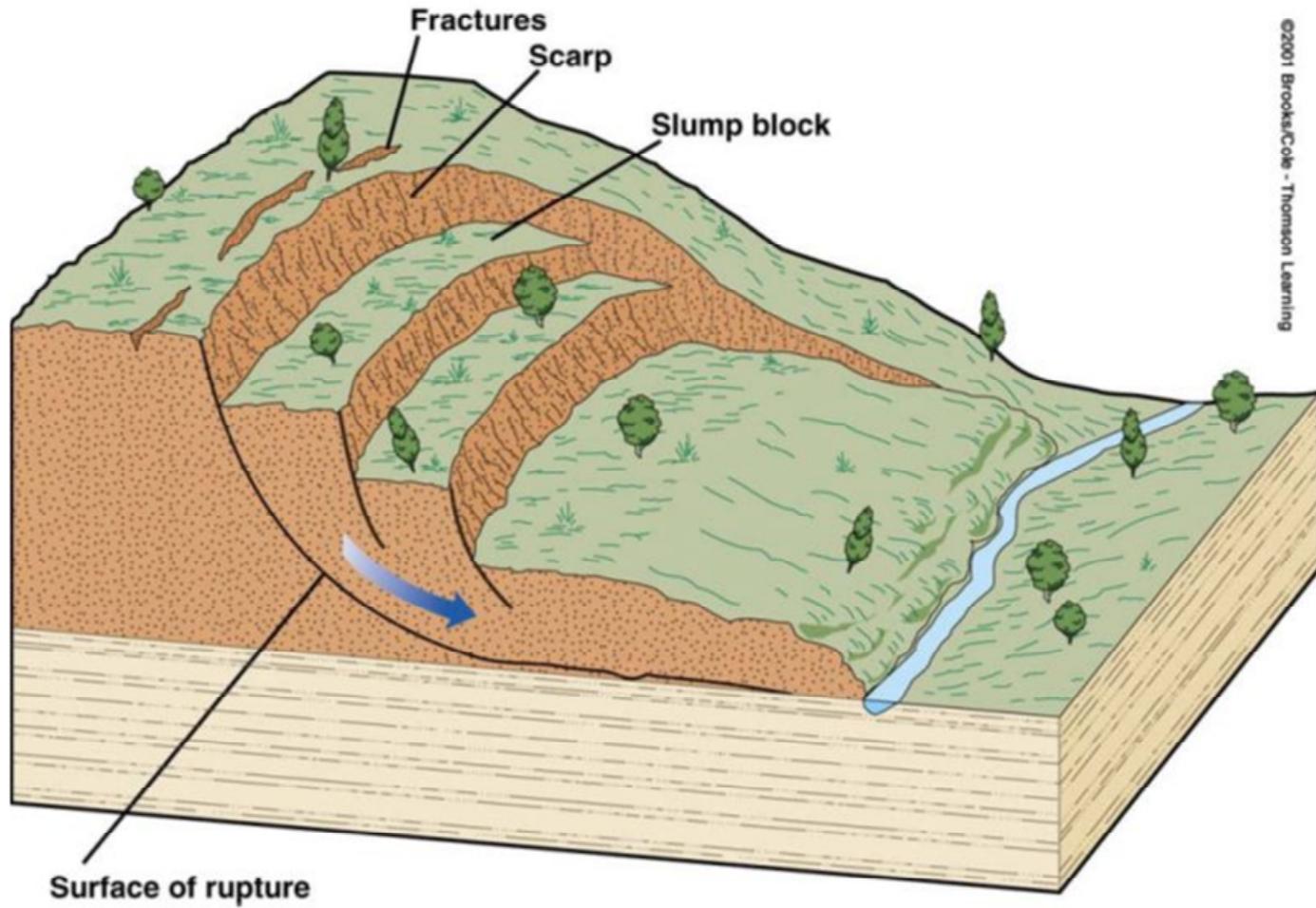
100ft

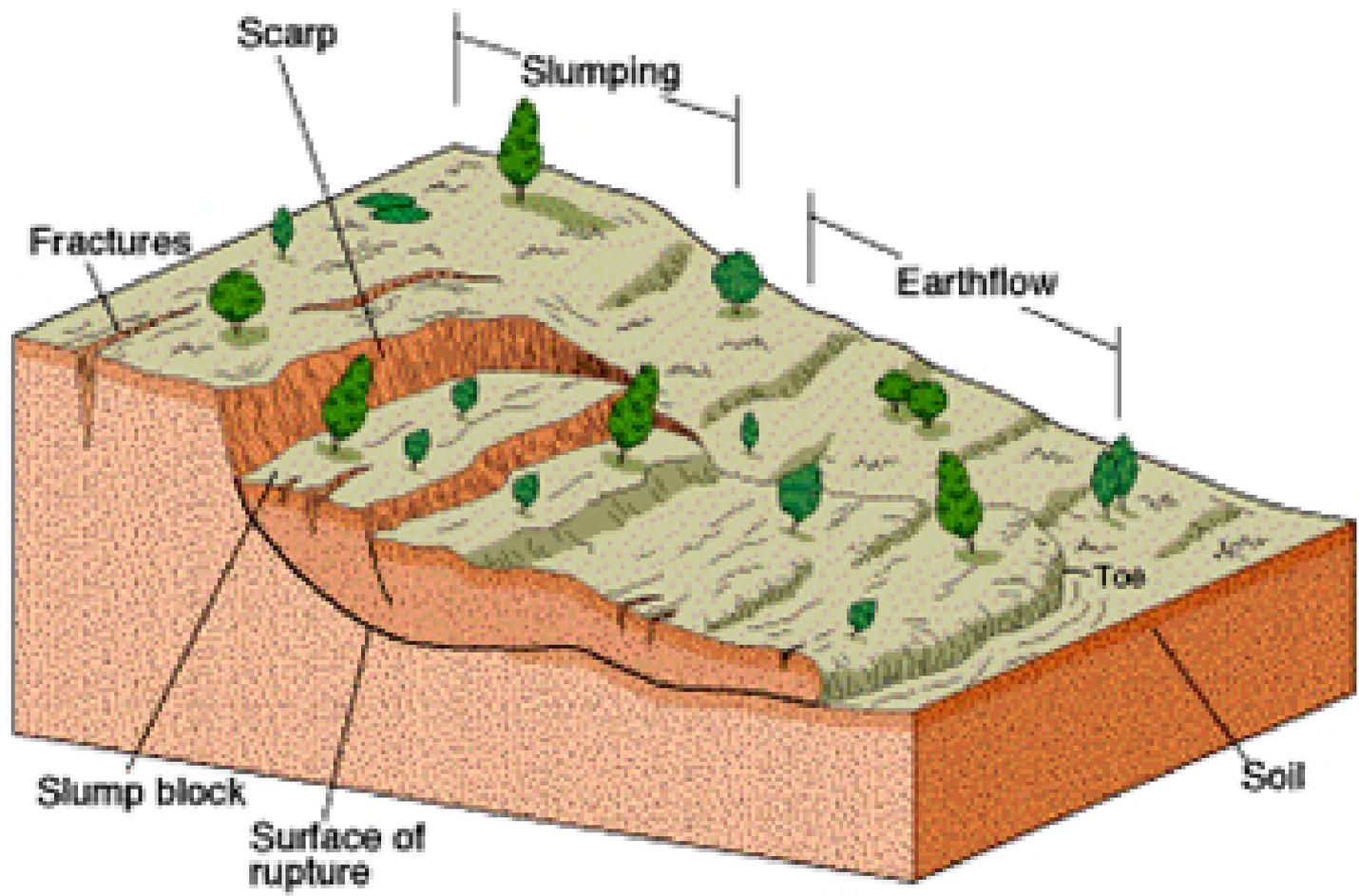


# Erosion-Mass Movement: A large mass of sediment drops down!

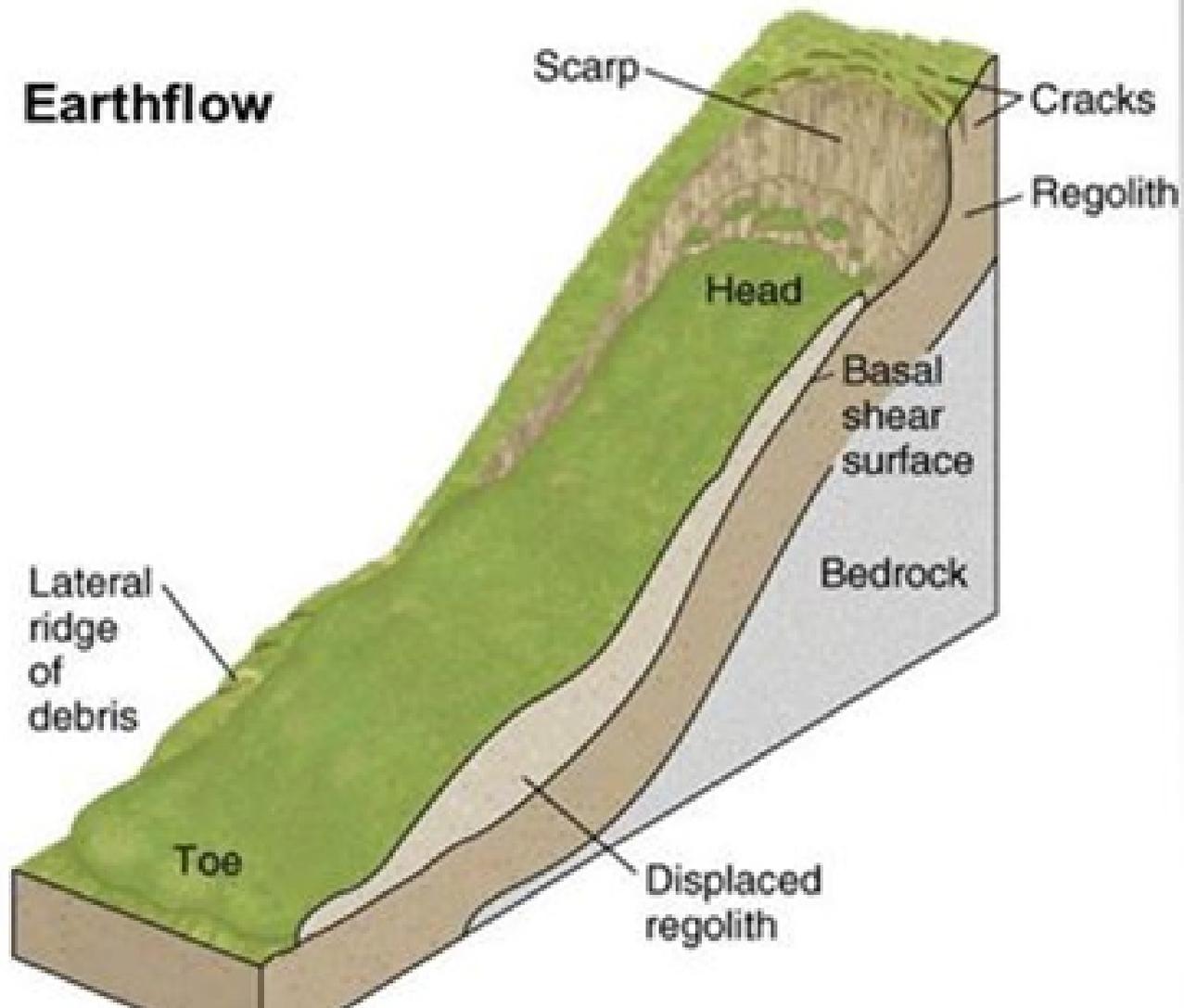


## Slides: Rotational (slump)

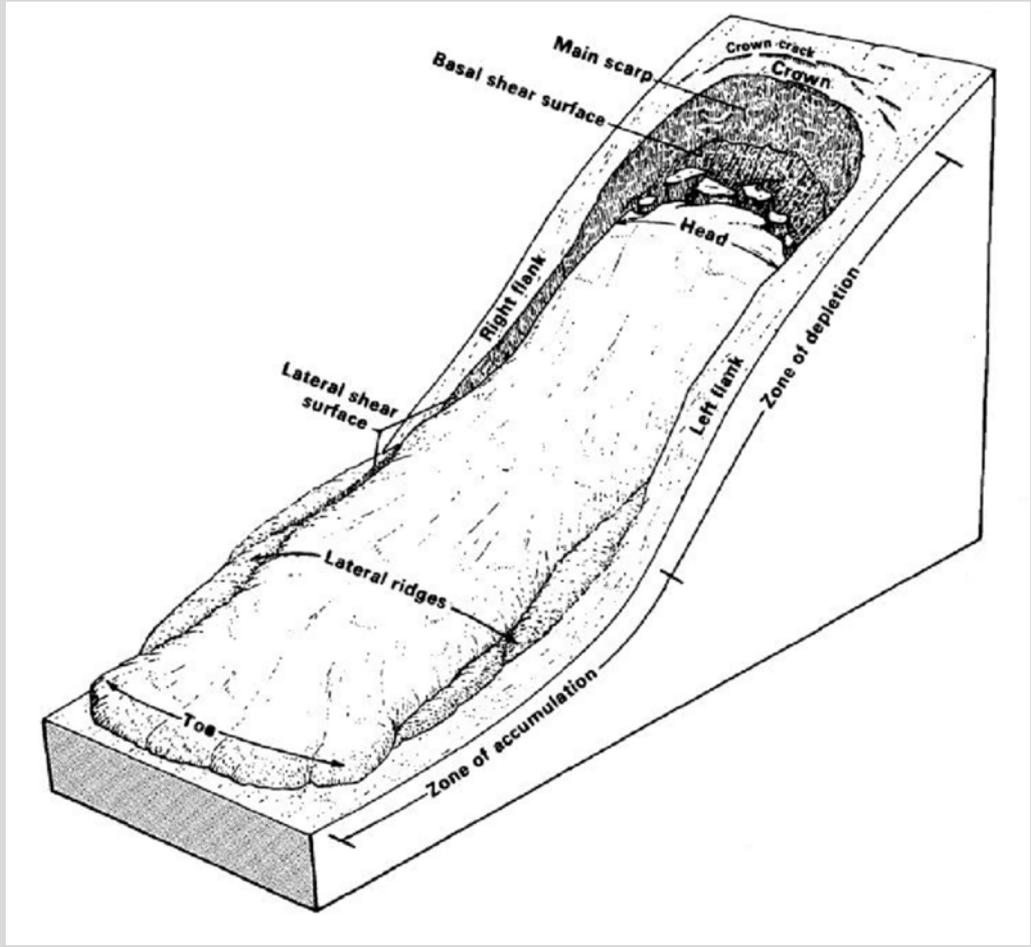


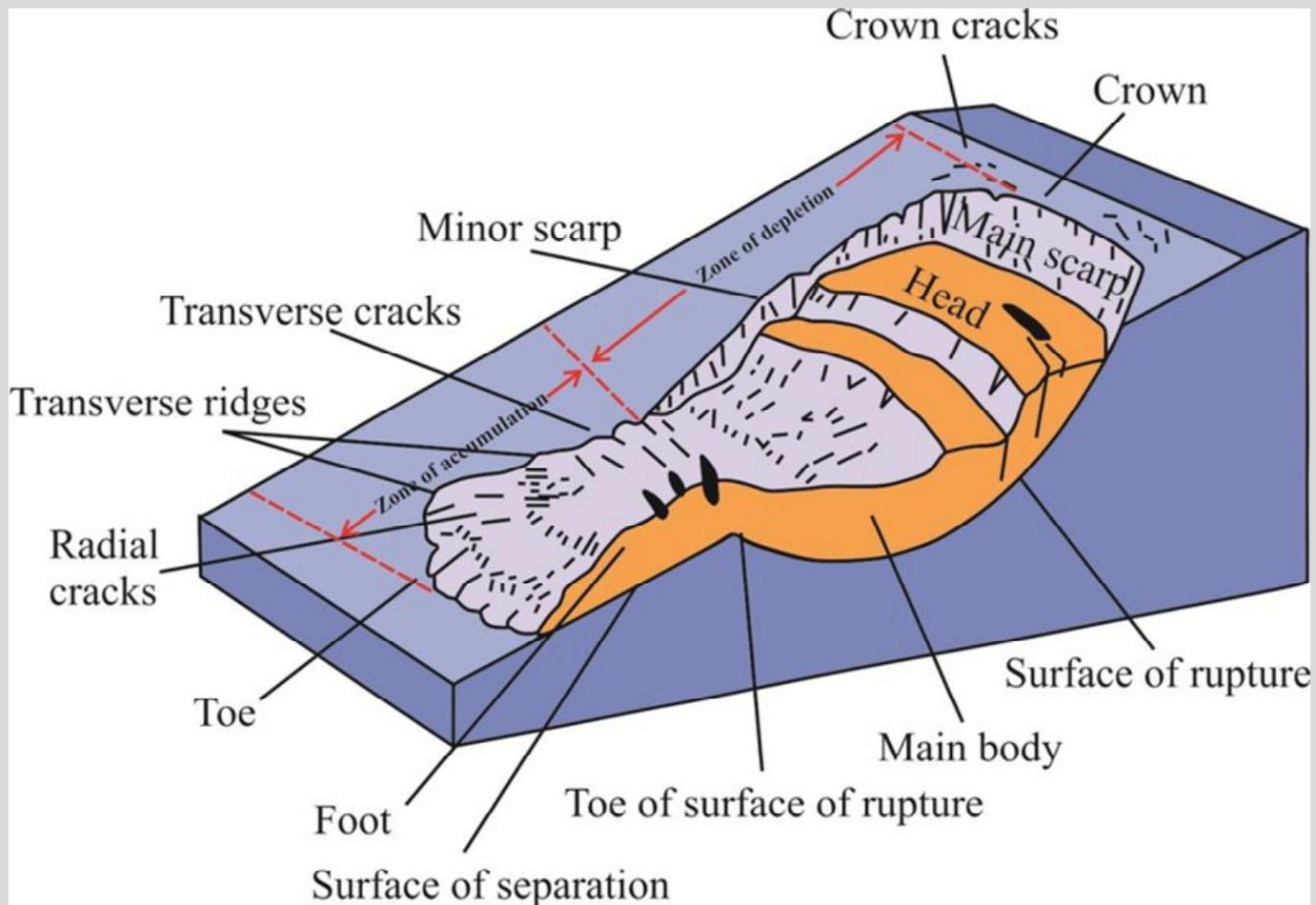


# Earthflow









# History

- This area has been prone to movement since before 1973.
- Study done in 1973 by Soil Testing Services of Iowa, Inc.
- Recently (last 20 years) Roadway Maintenance Division responds to slides and removes soil and trees and re-opens roadway.
- Usually 1-10 dump truck loads of material

# The Difference

- The scarp, crown cracks and transverse cracks of this movement area indicate that it is very large. 450-500 dump truck loads
- If this were to move at one time it could be very dangerous.
- If all of it moves the cleanup time and costs may not outweigh the benefit of having the road opened.









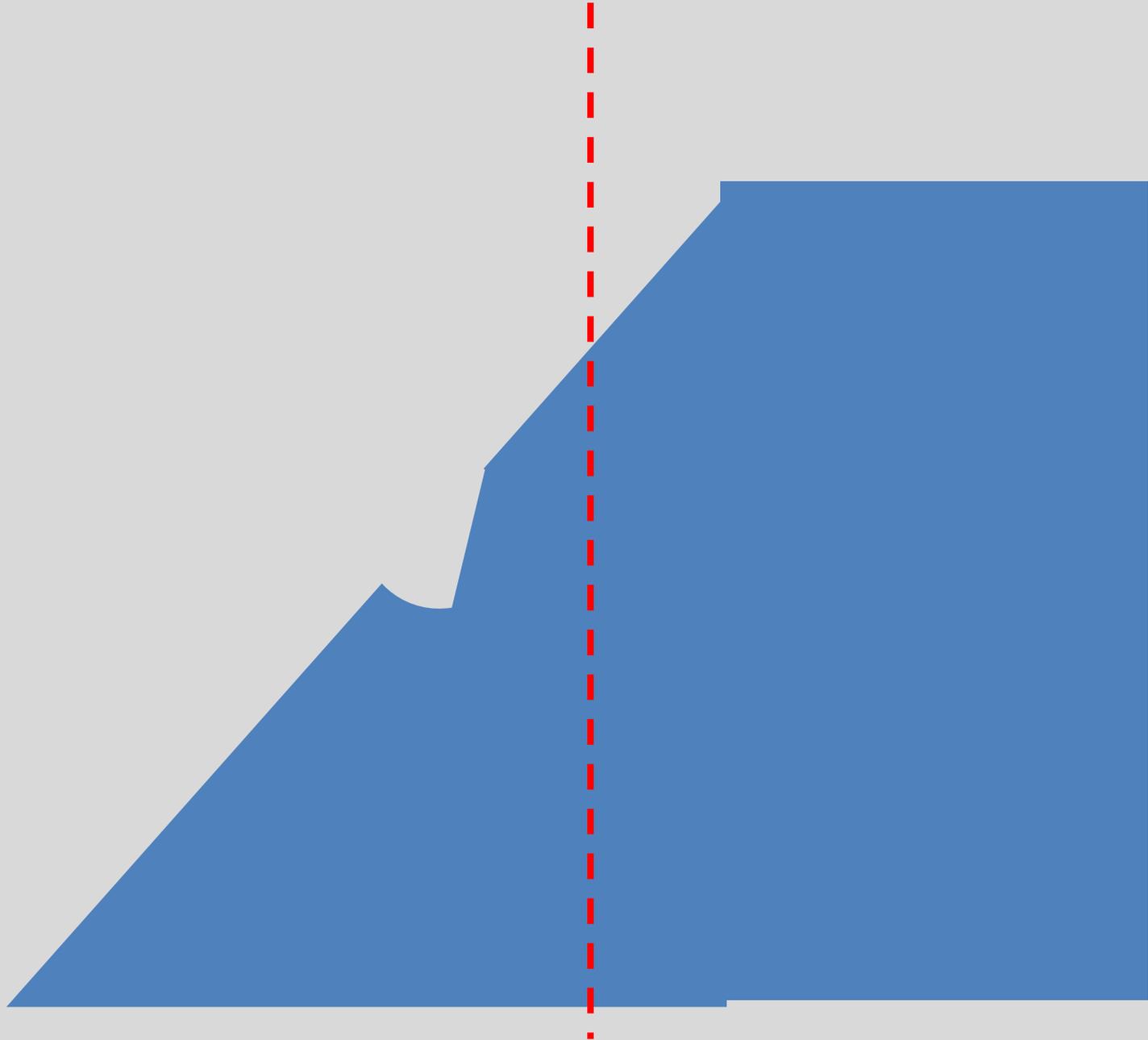












# Timeline

- July 3, 2019 discovered and road closed
- July 8, fly drone and site assessment
- July 9, summary memo and photos to council
- September 23, attempt to remove some soil, hillside moved and work abandoned.
- November 21, received quote for geotechnical evaluation and slope stability analysis \$10-\$50K
- November 22, provide 1973 report and update to council on discussion with DNR
- December 10, received quote to remove trees and soil in slide area \$17,500 and provided to council

# Options

- Leave road closed and continue to monitor
- Contract with Braun's Excavating to cut tops off of trees in slide area and remove toe of slide. Monitor and then open road. \$17,500
- Contract with Terracon to perform site visit and review existing data \$10,500
- Contract with Terracon for soil borings and slope stability monitoring \$25,000-\$50,000
- Regrade hillside to a 2:1 slope, removing trees, installing sub-drain tiles and retaining wall (1973 report suggestions) \$500,000

# Discussion

