Lake Bluffs Drain
Board of Determination Meeting

Engineering Presentation
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Director of MI County Drain Services
GEI Consultants of Michigan, P.C.

Lake Bluffs Drain
Board of Determination

October 29, 2020

6:00 p.m.

Leelanau County Board of Commissioner's Room

8527 E. Government Center Drivre

Leelanau County Drain Commissioner

Steve Christensen

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PURPOSE OF ENGINEERING REVIEW:

- A Landowner Application and Petition submitted to the Leelanau County Drain Commissioner for establishing a new County Drain District (Ch. 3) and a new County Drain (Ch. 4) to provide flooding and drainage relief
- Drain Commissioner required to hire a Licensed Professional Engineer to Determine the District Boundary (i.e. the drainage area / watershed) contributing to the proposed Drain Route
- Field Review of potential routes for the proposed Lake Bluffs Drain; potential Drainage District options
- Identify any potential drainage problems or issues that may necessitate construction of a new County owned & operated drain and/or including branch drain
- Determine the most feasible and prudent route for the Drain that would service the Drainage District Boundary
- Present a Preliminary Engineering Summary of findings at a Board of Determination

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WORK PERFORMED:

- Obtain & analyze existing record information (County maps, building records, aerials, topographic contour information, County Road Commission records, existing land use information, soils info, wetland data, etc.)
- Delineate the proposed Lake Bluffs Drain Drainage District boundary through County topographic contour information, site inspections and survey work to understand stormwater inputs into the drain system and analyze direction of flow for stormwater runoff
- Perform basic hydraulic analysis for different storm events to analyze the capacity needed to provide adequate drainage and flooding relief based on various design criteria for the proposed County Drain

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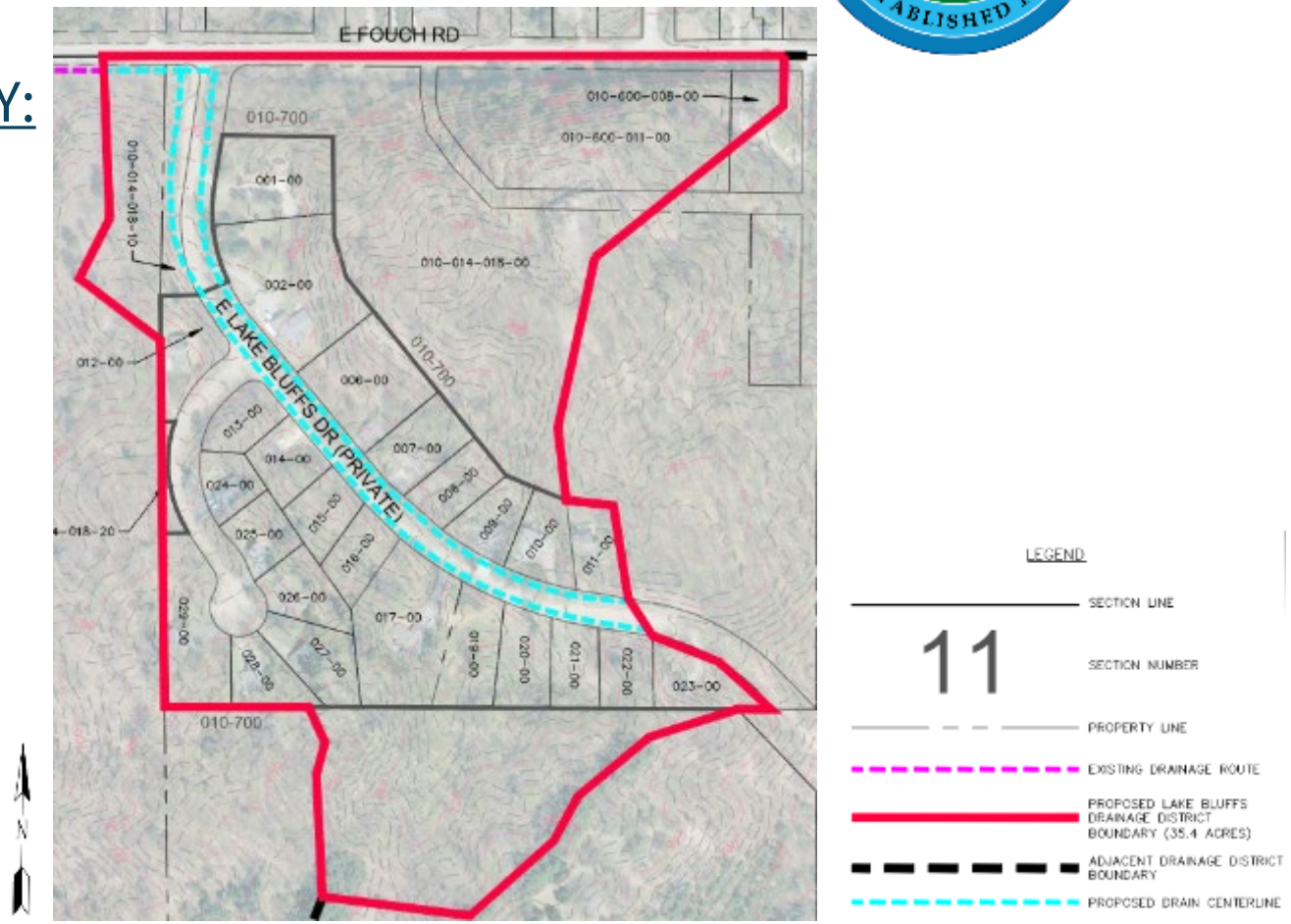
PROPOSED DRAINAGE DISTRICT BOUNDARY:

- Proposed Drainage District Boundary is determined based on topographic contour information and field observations
- Proposed Drain route shown is preliminary and the Drain Commissioner is not held to it



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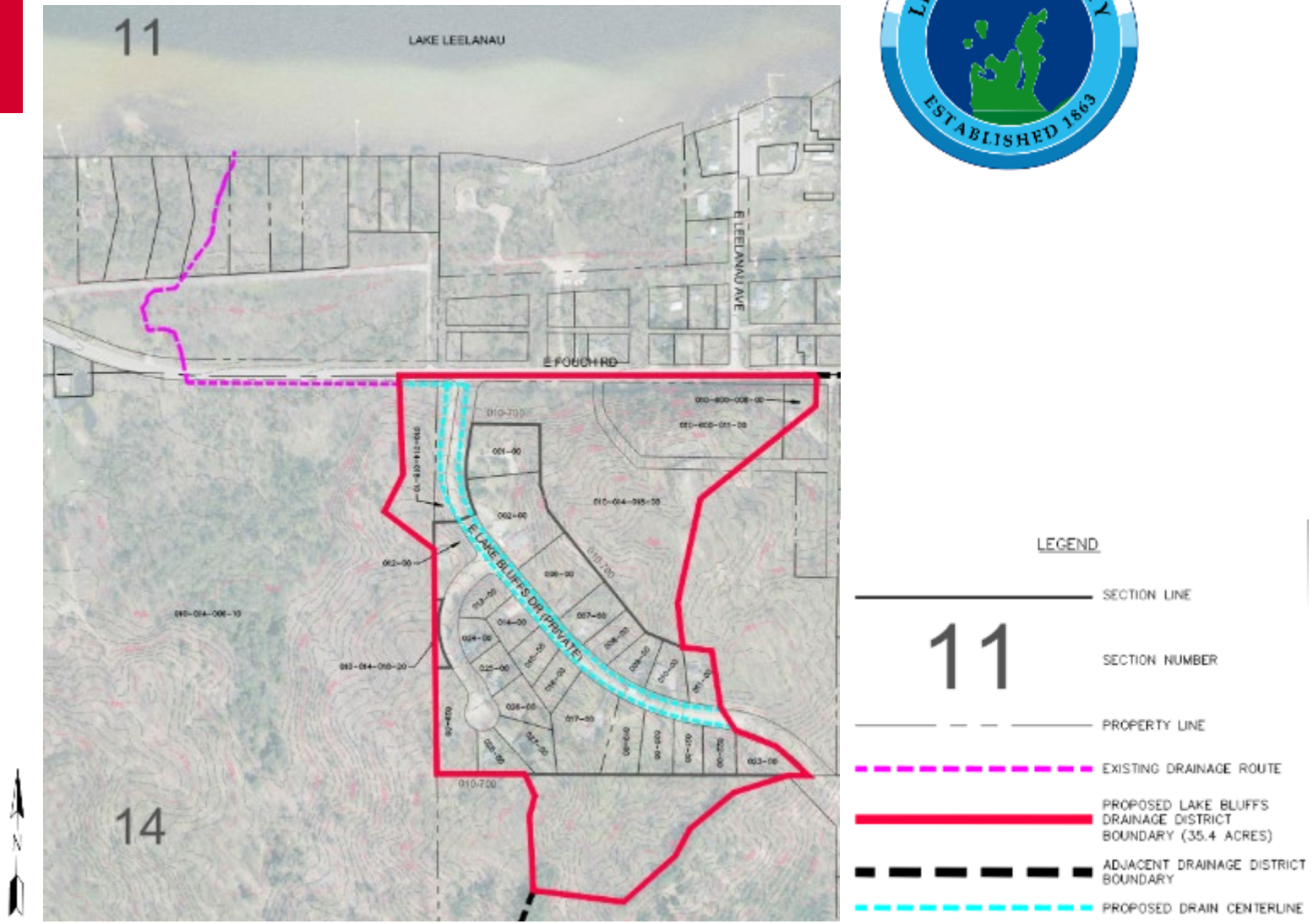
PROPOSED ROUTE AND COURSE:

- The proposed Route and Course would start on E. Lake Bluffs Drive and continue north along E. Lake Bluffs Drive on both sides of the road to E. Fouch Road where the route would turn west and join an existing drainage route.



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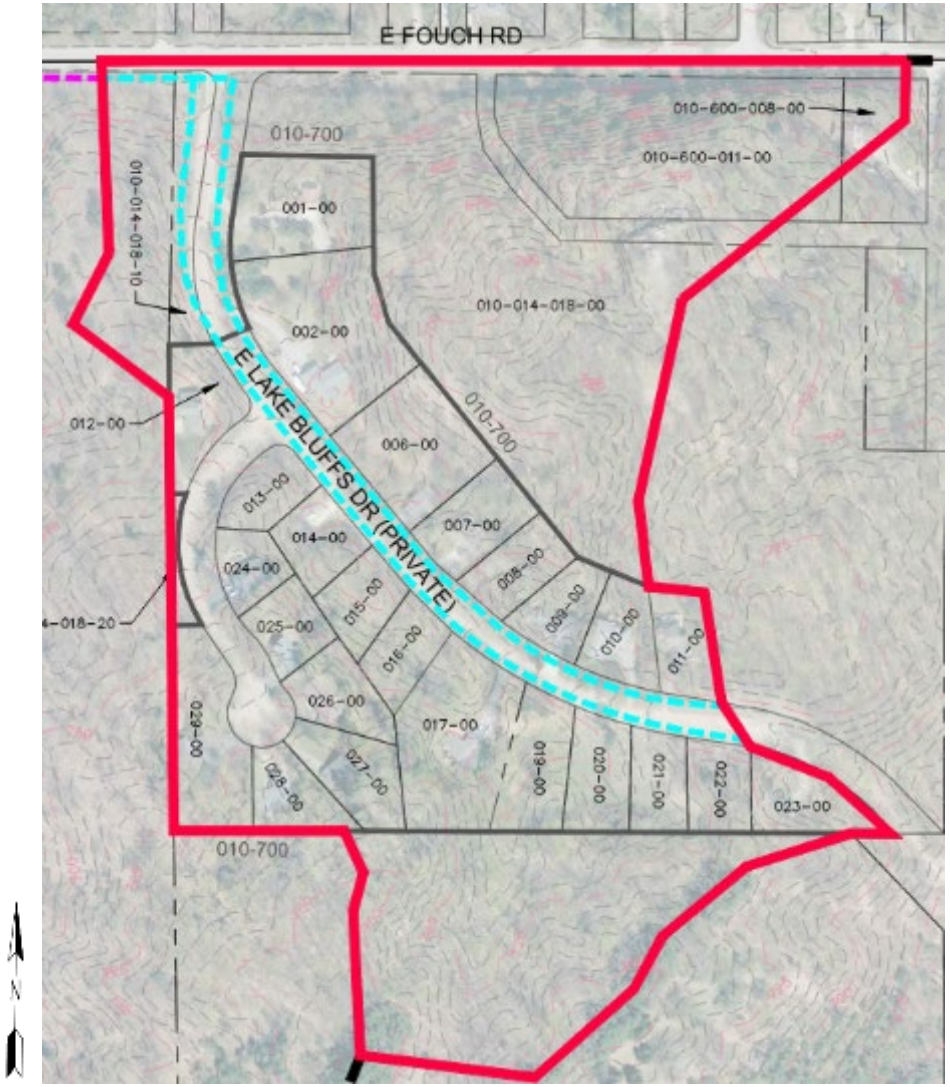
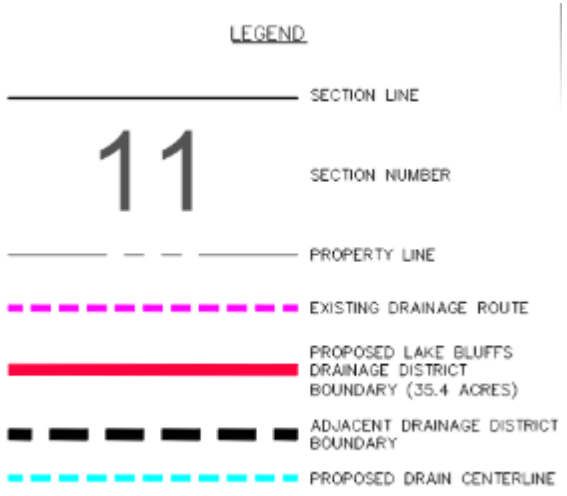
EXISTING INFRASTRUCTURE:

- Stormwater runoff within the proposed Lake Bluffs Drain Drainage District currently sheet flows to E. Lake Bluffs Dr. where it then flows along E. Lake Bluffs Dr. north to E. Fouch Road.
- E. Lake Bluffs Dr. is a gravel road with poorly graded to nonexistent roadside ditches and the roadway washes out during storm events due to the lack of appropriate drainage infrastructure combined with the steep grade (average of 8%-10%)





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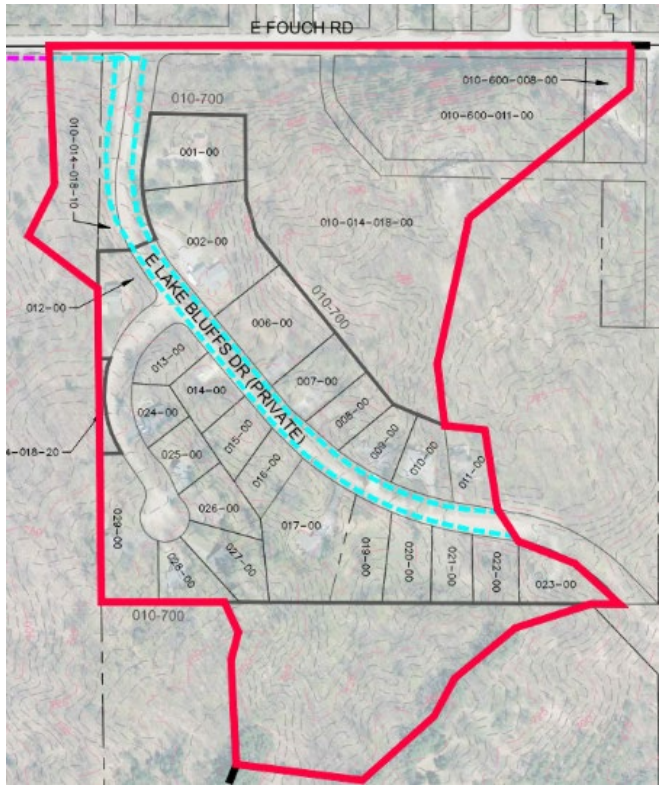

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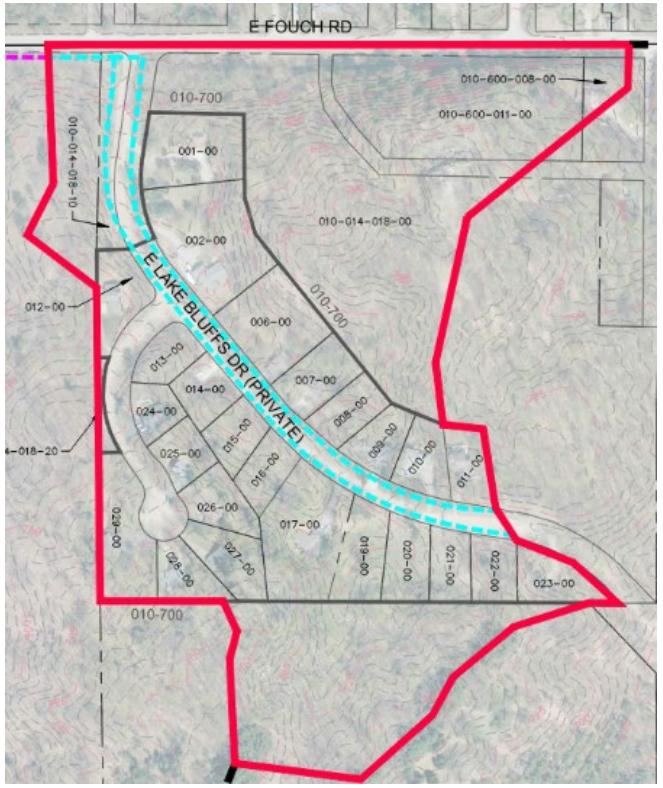

Questions

GEI Consultants