



# South Dakota Drainage Issues, Drainage Studies & Litigation



Providing Initial Input

# Presentation Format

- ▶ Very informal
- ▶ Presentation is not recorded
- ▶ General questions after presentation
- ▶ Specific questions “anytime”
- ▶ Written comments

A vertical strip on the left side of the slide shows a topographic map of a watershed. It features contour lines, a network of roads, and a drainage system with several streams and a larger water body at the bottom. The map is rendered in shades of green, brown, and white.

# Drainage Issues - Why?

- ▶ Knowledge & Understanding of Drainage Law
- ▶ Interpretation of the Law
- ▶ Administration or application of the Law with regard to local drainage matters (Drainage Boards)
- ▶ Lack of technical support or adequate information (Engineering)
- ▶ Local Control (desire to handle at local level)

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# Knowledge & Understanding

- ▶ Most know or have a general understanding of drainage do's and don'ts.
- ▶ A clear and concise definition of “natural drainage”
- ▶ “Cannot change the drainage!”
- ▶ Who has the authority?
- ▶ Who should have the authority?



# Interpretation

- ▶ Based on your perspective
  - ▶ Landowner wanting to tile or modify drainage
  - ▶ Downstream landowner accepting or pass through
  - ▶ Drainage Board (if in existence)
  - ▶ Engineers
  - ▶ Attorneys
  - ▶ Judges



# Administration

- ▶ Process must be controlled
  - ▶ Not every drainage issue needs to be addressed in court
  - ▶ Drainage board actions set precedence
  - ▶ Inaction is worse
  - ▶ Inconsistency is negligent behavior (creates liability)
  - ▶ Decisions based on the science (engineering)

A vertical strip on the left side of the slide shows a topographic map of a watershed. It features contour lines, a network of streams and rivers, and a yellow line that likely represents a road or a specific boundary within the watershed.

# Engineering

- ▶ Watersheds may or may not be complex
- ▶ No two are alike, may be similar, but not alike
- ▶ Opinions very! Elements in drainage work are not exact
- ▶ Landowners, Highway Superintendents, County Commissioners, Attorney's and Judges will over simplify
- ▶ Engineers too need to avoid shortcuts and base decisions on facts not educated guesses.

# Local Control

- ▶ Intent of the legislature for local control was spot on!
- ▶ Most drainage issues at the local level involve neighbors
- ▶ Decisions need to be fair, unbiased, reasonable, but most importantly verified by the engineering.
- ▶ It's difficult to be perfect with every determination
- ▶ Education of local boards on drainage would make a huge difference in the number of court cases.



# Drainage Studies

- ▶ What are they?
- ▶ Gathering of information to evaluate the drainage characteristics of a watershed for different rainfall/runoff events
- ▶ Includes but not limited to:
  - ▶ Size, shape, slope, cover, soil types, soil moisture content,
  - ▶ Time of Concentration
  - ▶ Flow volumes, velocities, storage volumes
  - ▶ Meteorological data



# Drainage Studies

## Watershed Characteristics

- ▶ Modeling
- ▶ Predict damages from flooding
- ▶ Provides a basis for the design or solution



# Drainage Studies

- ▶ Necessary (necessary evil)
- ▶ Cost (cost prohibitive)
- ▶ Value (no value)

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# Litigation

- ▶ Necessary for the system to work (Legal Remedies)
- ▶ Should be the option of last resort
- ▶ The best solution does not always come from litigation

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# Role of the Engineer

## Two-fold Responsibility

- ▶ Know and be able to apply the legal principles
- ▶ Be prepared for direct legal involvement

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# Actions – generated from complaints, “issues” or requests from clients

- ▶ Conduct investigations
- ▶ Advise & provide technical information
- ▶ Active role at drainage hearings
- ▶ Expert witness

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# Conduct Investigations

- ▶ Obtain Maps, Aerial Photos, USGS Quad maps
- ▶ Clearly determine the basis for the complaint
- ▶ Cause(s) of the damages (Complainant's opinion)
- ▶ Research past history, dates, times, durations
- ▶ Note changes or improvements

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# Conduct Investigations, continued

- ▶ Obtain Meteorological Data related to the flood
- ▶ Obtain eye witness reports, observed high water
- ▶ Drainage facilities –pipes, bridges, crossings
- ▶ Document condition & functionality
- ▶ Evaluate damages

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# Advise & provide technical information

- ▶ Determine and analyze the facts
- ▶ Complete hydraulic and hydrological study
- ▶ Decide on cause or solution (what's needed)
- ▶ Prepare the report
- ▶ Minimum - at least document the findings

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# Drainage Hearings

- ▶ Present findings/Recommendations
- ▶ Answer questions
- ▶ Ask questions

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# Legal Opinion

## To state the Opinion

- ▶ Subject watercourse/watershed must be viewed
- ▶ State the problem
- ▶ State the cause(s)
- ▶ State the proposed solution (if requested)
- ▶ “was the natural drainage modified or will it be”

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# Legal Opinion, continued

## To state the Opinion

- ▶ Assign liability or present all potential liability
- ▶ State the benefits to whom if the changes are made
- ▶ Is what's being proposed “reasonable”
- ▶ More importantly is it defensible

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# Things to keep in mind!

- ▶ Remain unbiased (only the facts)
- ▶ Two sides to every story
- ▶ Motivation of the involved parties
- ▶ Determinations may set precedence
- ▶ Watersheds may be very complicated
- ▶ You may not know the answer, say I don't know

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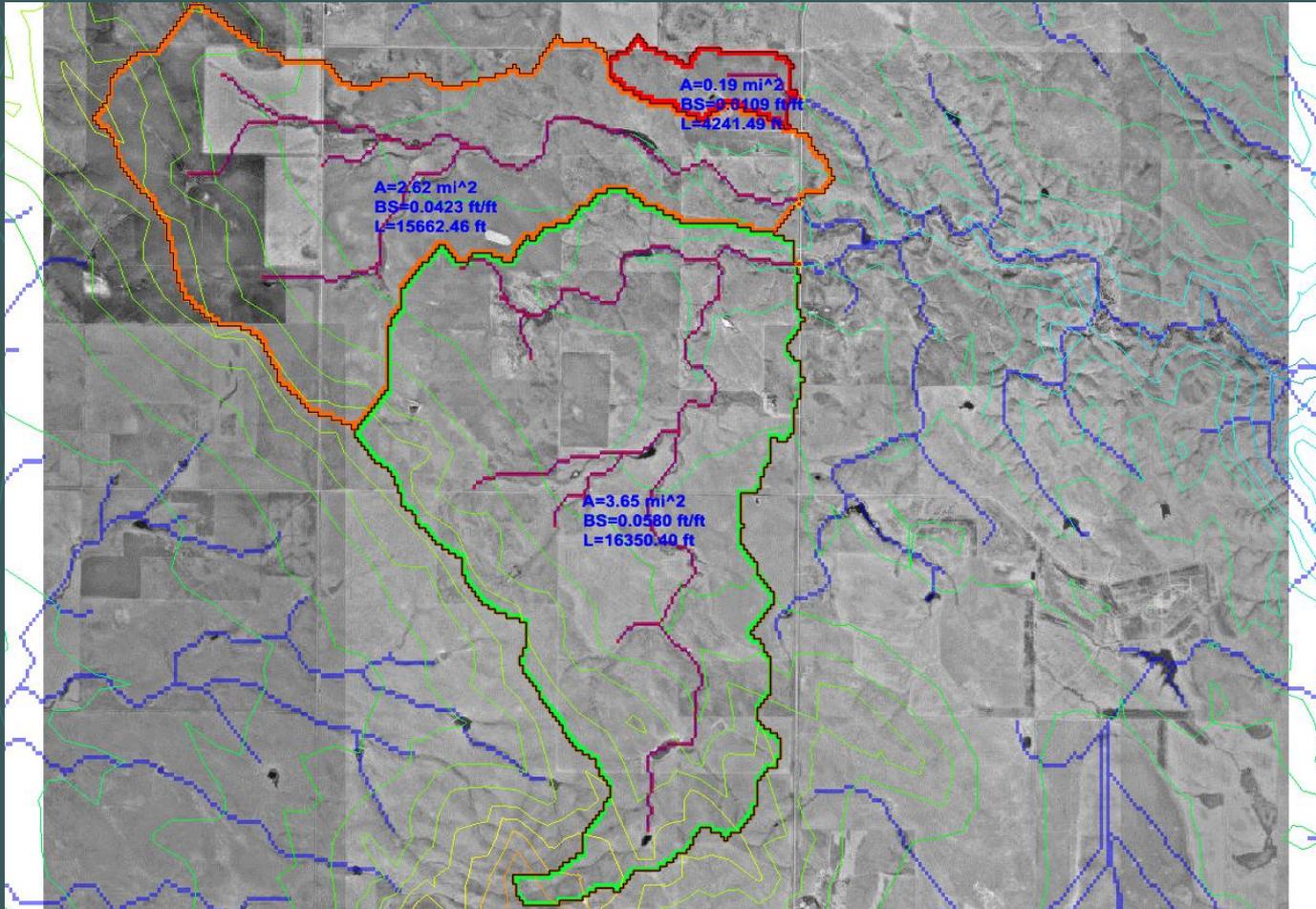
# Things to keep in mind!

- ▶ Be able to tell the client he's/they're wrong
- ▶ Each situation is different, give it the review it needs

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# Lower Brule Route 10 Cedar Creek



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# Some issues never die!



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# Some resolve themselves!



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# Why we must persevere!



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# Questions?

## Questions to ask yourself:

What are the most important issues

What are your expectations? Why?

Who is affected? How?

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# GO BIG, GO BLUE, GO JACKS



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