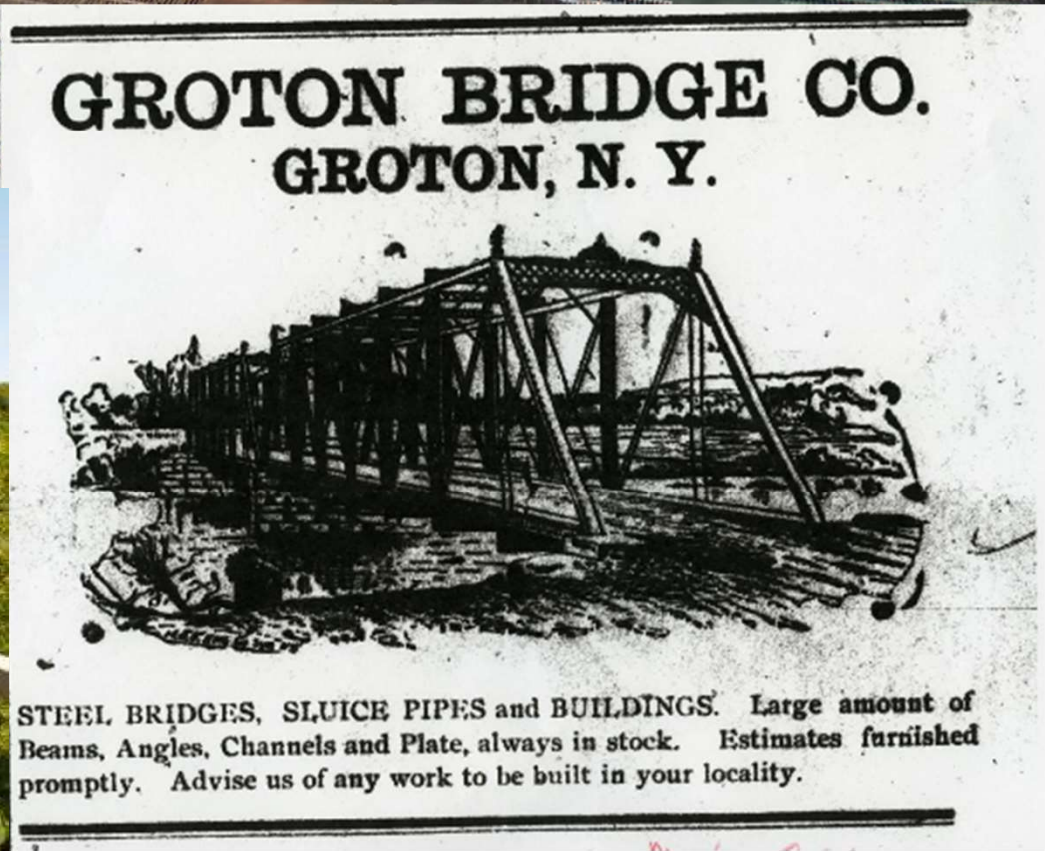
Sediment? Phosphorus? Nitrogen? E-coli?



GROTON BRIDGE CO.
GROTON, N. Y.

STEEL BRIDGES, SLUICE PIPES and BUILDINGS. Large amount of Beams, Angles, Channels and Plate, always in stock. Estimates furnished promptly. Advise us of any work to be built in your locality.

What we will lose:

- One of the 10 remaining pre-1900 Groton Bridges in NY; **rated 8 out of 10** in national historical importance (historicbridges.org).
- **One of only 2 remaining** pre-1900 pin-connected continuous truss in NY.
- Judged by NYSHPO as eligible for the **National Registry of Historic Structures**.


Elimination of 4’ wide pier in the upper 11’ of the flood zone.
80’ high-water floodplain, will be filled in and reduced by 30’.
Freese Rd
Freese Rd
Google

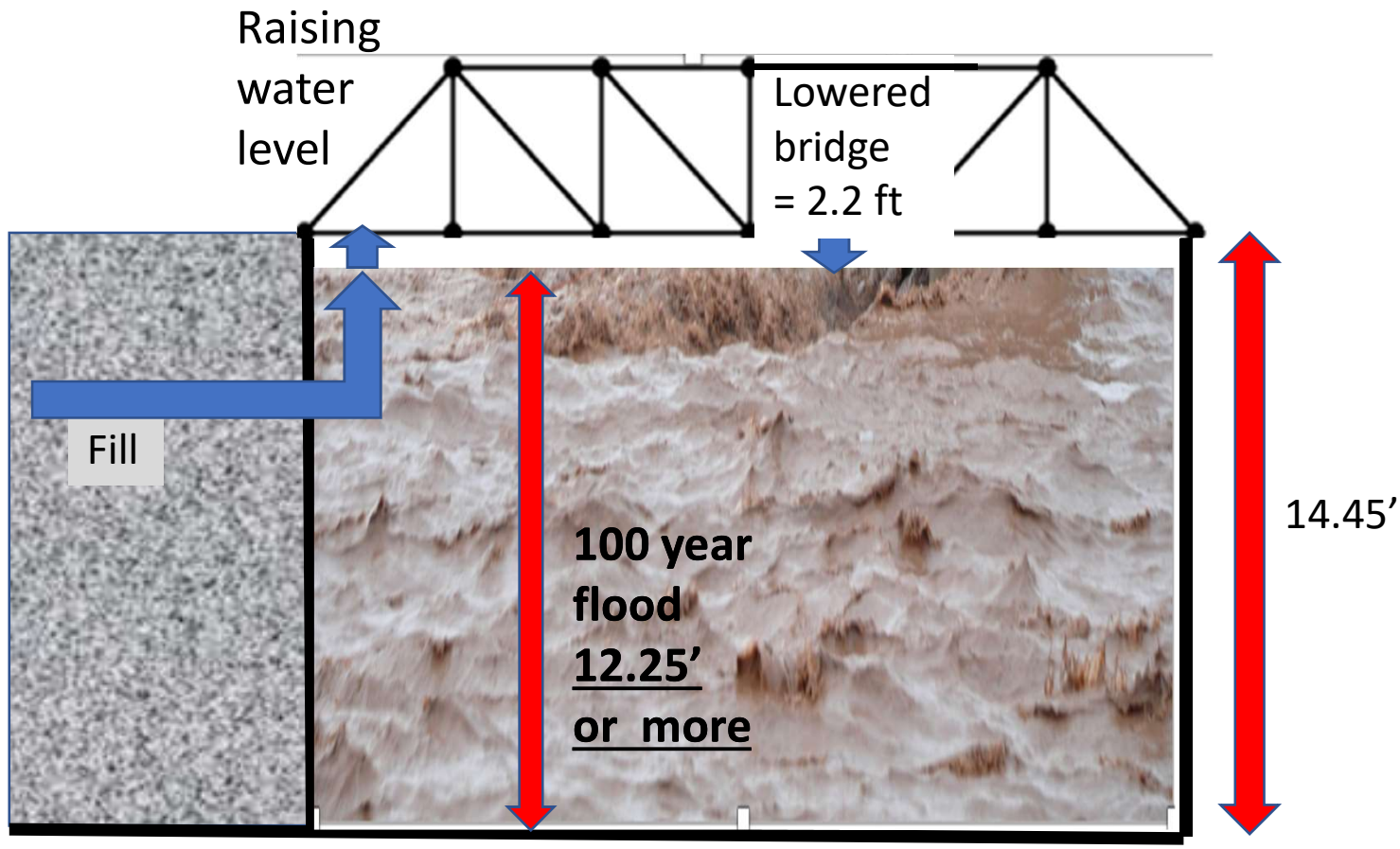
The issues for the watershed:

When municipalities insist on replacing bridges.

- Replacing the bridge instead of rehabilitating it means **decreasing the flood channel width by 20%.**
- **Filling in of Federally designated wetland** beneath bridge.
- Increasing the **height and/or velocity** of water, and **erosion potential** downstream.
- Increasing the potential for backup and **flooding upstream**.
- Rehabilitation would **cost the same** as replacement.
- In the last 20 years, the northeastern US states received **37% more extreme precipitation events.**

Increased flood risk and erosion

- Clearance reduced at least 3.2 ft
- Higher floods
- Debris dams
- ? Velocity
- Erosion ?



- **Horizontal width of flood channel reduced 20%**
- **Cross sectional area of opening below bridge reduced 26%**

With removal of 4' pier, net change 26'

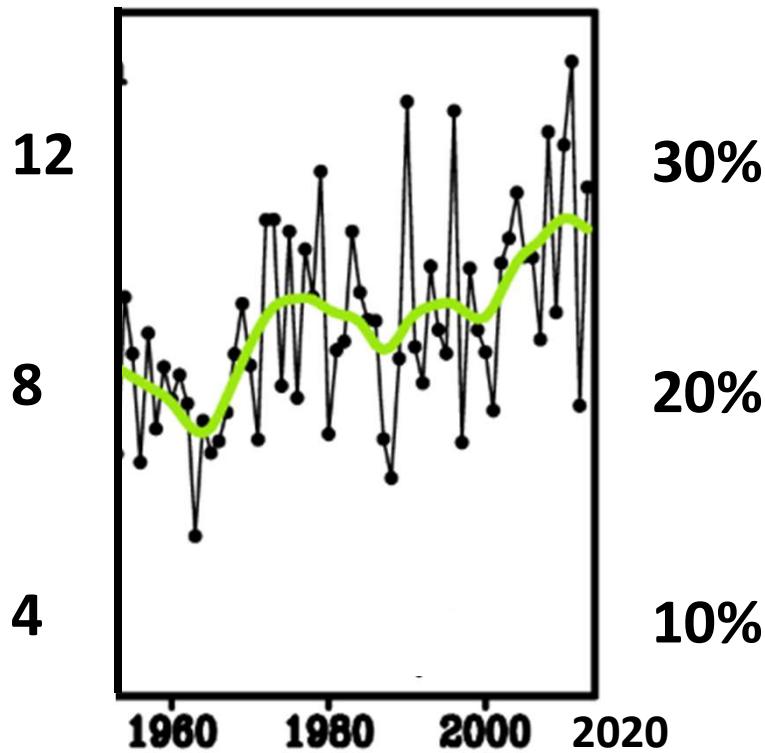
Note: Dimensions not drawn to scale.
Flood height at gage 1 mile downstream.

Dangers ???

- **US Army Corp** is supposed to defend our wetlands from destruction, **but**
  - Nationwide permits allow towns **extraordinary power** without citizen pressure.
- The **NY DEC** also has protection power, **but**
  - They are often **reluctant** to confront towns.

More of our rain is coming in high intensity events

Amount of rain in high intensity events (upper 5% of rainfall events; cumulative inches per yr)

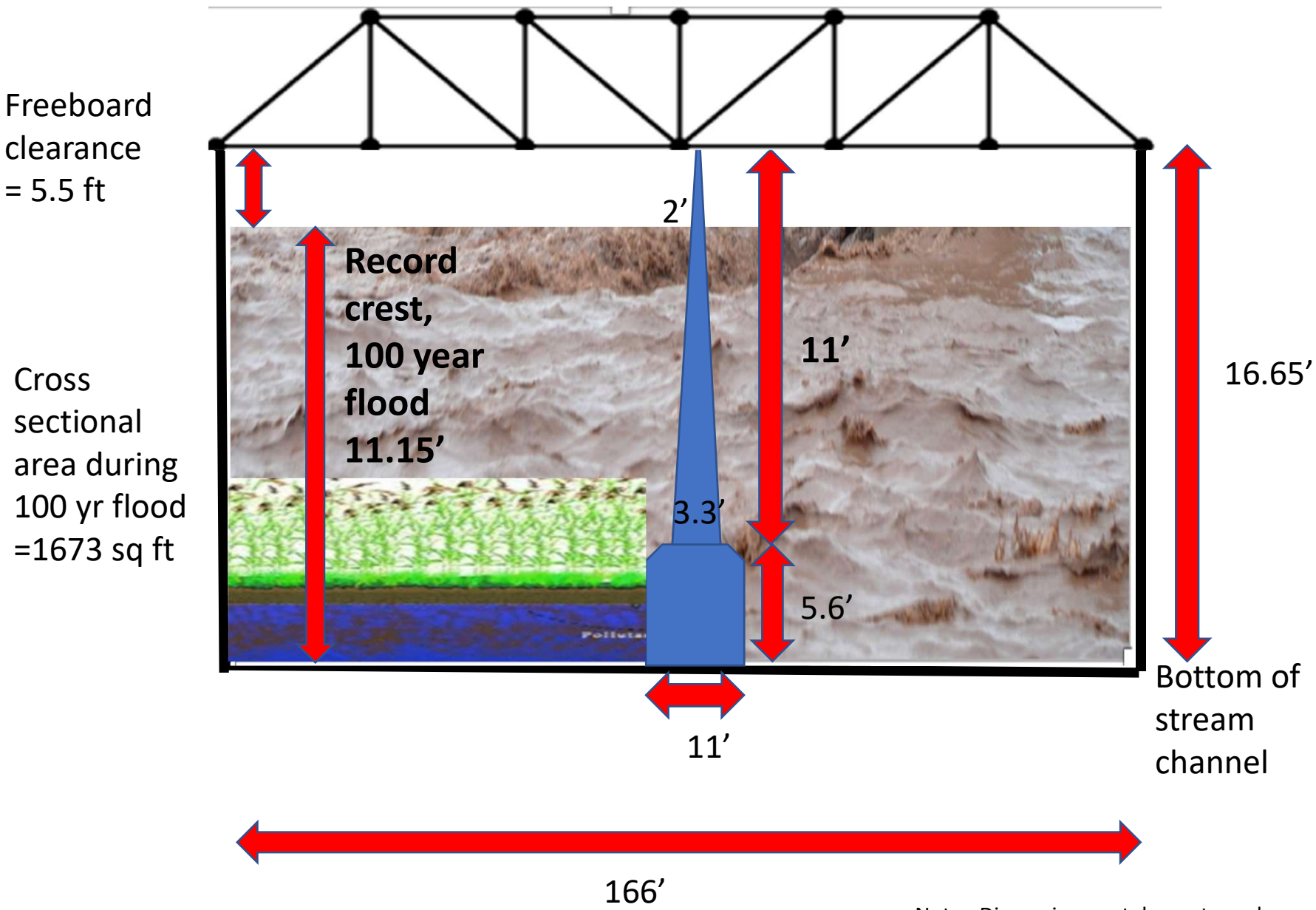


% of rain in high intensity events

Characterizing Recent Trends in U.S. Heavy Precipitation. Hoerling, Martin; Eischeid, Jon; Perlwitz, Judith; Quan, Xiao-Wei; Wolter, Klaus; Cheng, Linyin . Journal of Climate ; Boston Vol. 29, Iss. 7, (Apr 1, 2016): 2313-2332.

Flood of October 28, 1981

(2.8 feet below the historic Crest of Fall Creek, Feb 21, 1971)



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