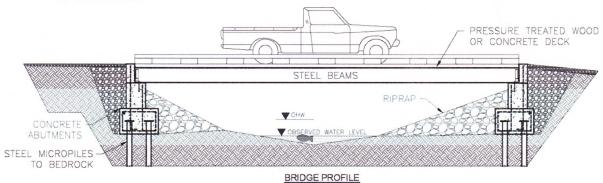
## RESILIENT BRIDGE DESIGN

RESILIENT DESIGN PRINCIPLES FOR THE REBUILDING OF PRIVATE WATER
CROSSINGS DESTROYED BY FLOODS

(Over 140 built in WV, VA, KY, & NC flood response by MDS volunteers and WVVOAD)



- 1. Bridge structure spanning from bank to bank.
- 2. Locate abutments outside stream channel to avoid impeding the natural flow of the water and to minimize the likelihood of abutments being damaged by erosion and scour.
- 3. Locate bridge structure entirely outside of and above the Ordinary High Water (OHW) level and provide superior stream hydraulics to the previously existing structure.
- 4. Support abutment foundations directly on bedrock or on micropiles driven to bedrock.



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