



AUGLAIZE COUNTY

Engineering Department

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Douglas Reinhart
COUNTY ENGINEER

HDR Engineering
Cincinnati, Ohio

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Attn: Christian Nyberg, P.E.
Senior Bridge Engineer

Structure AUG-66-17.30: According to our drainage records, this structure is the outlet for the Potts Ditch that has a watershed of 660 acres and an extremely low gradient. The proposed structure will have the capacity to accept the 100-year flood. Your calculated plan elevation for the 100-year flood versus what our office has determined from past flooding events is within 0.1', and is acceptable.

Structures AUG-501-5.03 & AUG-501-5.34: Both proposed structures have comparable cross-sectional openings as the existing and will provide enough capacity for a 100-year flood. Your calculated 100-year event elevations are within a few tenths of a foot of what my office has determined based upon past flooding events, and are acceptable.

My only other comment concerning these structures deal with the design. Both proposed bridges are designed to replicate the existing – a three span structure having a total length of approximately 55'. The short span beams will presumably be designed with a 17" thickness versus a single (55') span having a beam thickness of 27" - 33". Based upon the calculated 100-year flood elevation, even the thicker beam depth will still allow for this flood to pass under the structure. The elimination of the construction of two piers should reduce the road closure by possibly three weeks for each structure. Knowing the local traffic patterns and the fact that there is no other State routes in the immediate proximity, my local roads will see up to an additional six weeks of traffic that normally uses SR# 501. I didn't know if your firm had considered not only the cost difference for a single span structure, along with the effects of the additional road closure. I have found that the single span structures designed by my staff have been just as cost effective as a multi-span structure -- as long as the 100 - year flood elevation does not create extensive roadway reconstruction.

A handwritten signature in black ink, appearing to read 'D. Reinhart'.

Douglas Reinhart, P.E., P.S.
Auglaize County Engineer
Auglaize County Flood Plain Coordinator