

Steve,

Our Part 3700 rules do not allow for unmitigated damages to others' properties. Since there are sensitive flood receptors and known existing flood damages at this site, our standard is no (0) increase over existing conditions flood profiles that would impact sensitive flood receptors. We generally accept that 0.04' rounds to 0'.

Mike

From: Ferguson, Steven P

Sent: Thursday, October 06, 2016 1:32 PM

To: Diedrichsen, Mike

Cc: O'Connor, Matthew R.; Vanbebber, Neil; Kannel, Joseph E; Powell Rick; Peterson, Kristian; Broviak, David E; Altman, Steve; Broviak, David E; Kanellopoulos, Paul

Subject: RE: Utica River bridge - causeway hydraulics

Mike,

I asked our consultant PB to prepare the causeway modeling and listed below are the headwater increase of values. Before we have them do any more modeling, should we be looking at less restrictive causeways, or is there a "number" that your office would be comfortable with?

Would a phone conference call work better in order to discuss this?

Let me know what you think.

Thanks,

Steve

From: Kanellopoulos, Paul [<mailto:Kanellopoulos@pbworld.com>]

Sent: Thursday, October 06, 2016 8:49 AM

To: Ferguson, Steven P

Cc: Powell, William (Rick)

Subject: RE: [External] IL 178 over Illinois River - Worst Case Scenario Model

Steve –

Following are the modeling scenarios we have so far along with the WSE increase approximately 1000 ft upstream. We are still working on adding culverts. HEC-RAS does not allow you to add culverts through obstructions so I'm setting up the model differently as a multiple opening analysis. We will follow up on that later this morning. In the meantime, if there is an additional scenario you want us to look at based on the results below please let us know.

Construction Stage (both causeways at 452 ft as submitted to IDNR) = +0.20 ft

No causeway (6 existing and 2 proposed piers) = +0.06 ft

Construction Stage (both causeways at 450 ft) = +0.17 ft

Construction Stage (both causeways at 448 ft) = +0.15 ft

Construction Stage (both causeways at 446 ft) = +0.13 ft

Please note that the surveyed WSE in April was 450.94 ft which was used to calculate the EWSE, however this run shows the effect of removing part of the causeway in anticipation of a flood.

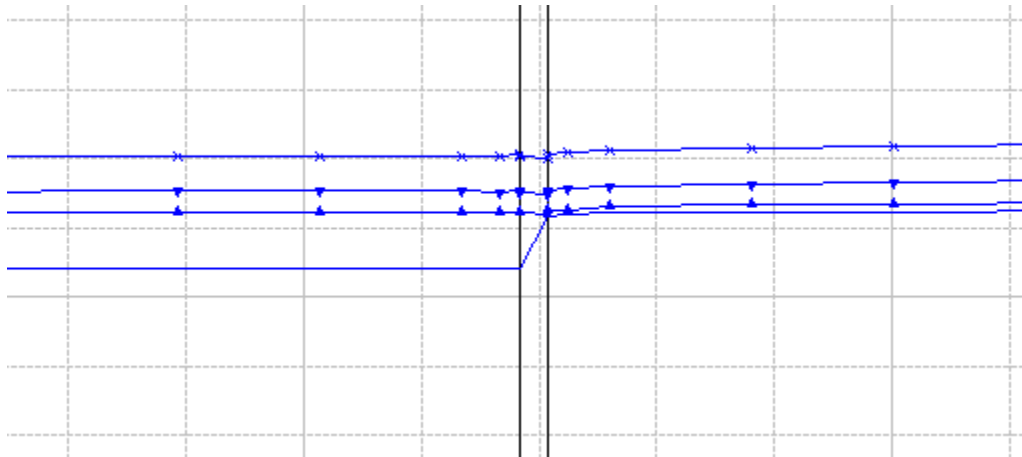
Construction Stage (one causeway at 452 ft, one cofferdam) = +0.13 ft

Construction Stage (one causeway at 450 ft, one cofferdam) = +0.12 ft

Demolition Stage (one causeway at 452 ft, one cofferdam) = +0.15 ft

Demolition Stage (one causeway at 450 ft, one cofferdam) = +0.13 ft

The above summary reports the worse for the 50 and 100 year storms. For Q10 there is a significant created head at the bridge for the less obstructive scenarios as illustrated below. I corrected this by applying Yarnell instead of Momentum equations for Q10.



Thanks,



Paul M. Kanellopoulos
Supervising Engineer

30 N. LaSalle Street, Suite 4200
Chicago, IL 60602
Tel: 312.803.6506

wsp-pb.com/usa

From: Diedrichsen, Mike
Sent: Monday, October 03, 2016 11:08 AM
To: Ferguson, Steven P
Cc: O'Connor, Matthew R.; Vanbebber, Neil; Kannel, Joseph E; Powell Rick; Peterson, Kristian; Broviak, David E; Altman, Steve
Subject: RE: Utica River bridge - causeway hydraulics

Steve,

Thank you for your transmittal of the hydraulic modeling and narrative of the temporary causeway construction proposed for the Illinois Route 178 bridge replacement project. The analysis indicates that both the construction and demolition causeways would result in an additional 0.14 foot water surface profile increases for both the 50 and 100-year frequency flood events. Since this increase would result in an increased risk of flooding of several sensitive flood receptors for about two years, we can't approve the causeways as proposed. We suggest that alternative options be pursued to address this issue such as the purchase of easements, reducing the heights of the causeways, installing culverts through the causeways, removing or notching of the causeways when potentially damaging flood events are anticipated, or using barges rather than constructing causeways.

Thank you,
Mike

Mike Diedrichsen, P.E.
Acting Manager, Downstate Regulatory Programs
IDNR, Office of Water Resources
One Natural Resources Way
Springfield, IL 62702-1271
Tel: 217/782-4426; Fax: 217/785-5014
mike.diedrichsen@illinois.gov

State of Illinois - CONFIDENTIALITY NOTICE: The information contained in this communication is confidential, may be attorney-client privileged or attorney work product, may constitute inside information or internal deliberative staff communication, and is intended only for the use of the addressee. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify the sender immediately by return e-mail and destroy this communication and all copies thereof, including all attachments. Receipt by an unintended recipient does not waive attorney-client privilege, attorney work product privilege, or any other exemption from disclosure.