

**From:** Martin, Chal  
**Sent:** Tuesday, April 03, 2007 12:04 PM  
**To:** rboge RicBoge  
**Cc:** 'Bell, Esco'; 'Rick Blair'; Harmon, Mike; Fleek, Margaret; 'Hanson, Jana'; 'DaveBrookings'; 'dolson@clearwire.net'; dkdist12@cnw.com; 'NEIL HAMBURG'; 'Hanson, Jana'  
**Subject:** nhc report comments

Ric, per your request last night. Thanks for the opportunity to respond.

My overall impression is that this is a thoughtful and well-written report that contains valuable data and concise summary information of the relevant issues related to the historic flood estimates. I appreciate the obvious effort that went into the study. Here are my comments:

1. page 3, last word in the second paragraph: consider replacing "measurement" with "estimate."
2. page 4, 3<sup>rd</sup> full paragraph: "This impact cannot be reliably quantified, but with Section 2 located close to the downstream end of the bar the effects are probably quite small." Could a sentence be added that states something like "But in theory, the effect would be \_\_\_\_\_."
3. page 6, top sentence: not sure if "Ased" is supposed to be "used."
4. page 7 and subsequent: I think "Cockerham" should be spelled "Cockreham."
5. page 8: I will attach the pdf file of the COE 1911 map of the Hamilton reach. Maybe that could be incorporated into the migration map on figure 3.
6. page 9, conclusion: "More definitive estimates of water levels at the Smith House during the December 1921 flood are not possible given the lack of detailed channel geometry data from the period." But isn't it possible to artificially insert a range of channel configurations into the model, and see what affect that has on water surface levels at the Smith house location? For example, the report speaks of 1.5 feet of aggradation in that area since the mid-sixties, as well as channel width decreases. Couldn't an estimate of the appropriate cross sections be made and modeled, bookending the worst and best cases? There is evidence that the flood of 1932 did put water into Hamilton, with a discharge of 147,000 cfs. Seems like that bit of information might be dialed into the assumptions made on the cross sections. (see attached Concrete Herald news article of the time – "nearly the whole of Hamilton was covered at the height of the flood). In addition, it must be remembered that the Smith house was also subjected to a 1909 flood discharge of 260,000 cfs, as well as a 1917 discharge of 220,000cfs. Finally, in the same Concrete Herald news article of March 3, 1932, the statement "Hamilton and Lyman suffered only the usual damage, with no buildings washed away" is intriguing. Does this statement imply that some houses were washed away in the floods of 1921 or 1917, those events still relatively fresh in peoples' minds in 1932? If so, the Smith house was not. Or does this statement imply that the minor floods of 1928, 1926, and 1924 also flooded Hamilton with a much lower discharge? (see page 16)
7. page 15: the report accepts the 1932 unregulated value of 182,000 cfs published by USGS; however, I wonder what really happened back then. See several 1932 articles, attached. There seem to be conflicting reports, but I would submit it is quite plausible that the dams were not operated at that time in a way that would have effectively reduced the peak flow by 35,000 cfs at the peak of the flood – J.D. Ross' protestations to the contrary notwithstanding. Seems like maybe this is an area that could be explored further, with a range of assumptions about precedent reservoir levels, etc. My impression from the newspaper articles is that most likely these dams were operating as run of the river facilities at the times that would have reduced the flood peak. 35,000 cfs reduction is quite a lot, given only Baker and Diablo had flood control capability at the time.
8. page 22, 3<sup>rd</sup> sentence from bottom: change "expect" to "except"
9. page 25, 2<sup>nd</sup> paragraph, last sentence: replace "vales" with "values"
10. again, nice report

Thanks Chal

**Chal A. Martin, P.E.**

Public Works Director / City Engineer

City of Burlington

900 East Fairhaven Avenue

Burlington, WA 98233

(360) 755-9715 Office      (360) 755-0783 FAX

[cmartin@ci.burlington.wa.us](mailto:cmartin@ci.burlington.wa.us)