CEERD-RN 24 Dec 2004

Memorandum for Record: Canton Maine ice jam
POC: Kate White

1. I received a call from Bruce Bryant, Maine State Senator (D-Oxford County) late yesterday, and returned the call last night. Bruce is concerned about the current ice jam on the Androscoggin River in Canton and the potential for additional problems throughout the winter. The jam caused flooding last week and the water has since receded, but rain is forecast for today and he is concerned about additional flooding. Yesterday additional ice (frazil most likely) was building up at the upstream end of the jam and the water level rose several inches. Last week the jam flooded state route 140, a secondary road for which there are detours available. The road was repaired during the week but is likely to be damaged again with additional flooding. Also, a new bridge is under construction just upstream from the jam, and there are double sets of piers in the water, which are capturing some ice. If the water temperature is 34F or above, there is a chance that significant thinning of the ice jam could occur. However, when Bruce checked last night, the water was about 32.5F, not enough to help in this situation. He can monitor water temperatures though, to get an idea of the potential for thinning.

2. We discussed the possible mitigation measures:

a. Mechanically removing or otherwise failing the ice jam now. The problem here is that if the ice moves downstream as a result of a removal operation and then jams in another area, the removers of the jam are potentially liable. In other states, e.g., Nebraska and Montana, there have been opinions by the Attorneys General that if emergency response plans that include ice jam removal are in place prior to the emergency removal, there is no liability. Given that this is only one of a number of jams frozen in place right now, it might be possible for the state to undertake the legal process necessary before ice breakup later in the year.

b. For the bridge, since there are already two cranes in place, it would be helpful to use the cranes to drop weights on the ice to keep the ice moving through the bridge and avoid jamming there. This is particularly important if the piers are not founded on ledge since scour beneath ice jams can be significant and it would be best to avoid damage to the new structure's foundations.

c. For the road, sandbags or a double row of jersey barriers (with joints staggered) filled with sand makes a nice flood wall to direct flow along side the road or down one lane (see attached figures). Also, the side of the river opposite the road is not developed, and it is possible that flow might be directed that way rather than over the road.

d. For longer term mitigation, the whole Androscoggin River Basin could benefit from a basin-wide ice mitigation study under the auspices of either the Flood

Plain Management Service Program (FPMS) or the Section 22 programs. During January 2001, the state had considered the possibility of a statewide study under these programs, but no formal process was started. John Kennelly (978) 318-8505 is the point of contact for information on this option. Summaries of those programs are attached.

e. Dave Schafer (978) 318 8274 is the point of contact for emergency information. I have scanned and attached fact sheets that were provided during the 2001 ice jams.

3. Bruce would like on-site consultation. Andy Tuthill flew the site last Friday; I forwarded his trip report and gave Bruce Andy's home and work phone numbers. Andy will be able to visit the site on either Friday or Monday; he and Bruce will arrange a convenient time.

4. Respectfully submitted, Kathleen D. White, PhD., PE


Jersey Barriers p 1.pdf


Jersey Barriers p 2.pdf


Section 22.pdf


FPMS.pdf


Ice Jam EM fact sheet.pdf


Post flood p 2.pdf


Post flood fact sheet p 1pdf.p...


Flood fighting fact sheet.pdf

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