STRESSING INCOMPLETE BRIDGES

There have been several recent requests by contractors for permission to stress partially completed bridges. To assure uniformity in replying to future requests we have established the following guidelines.

1. Pulling all or part of the strands into the ducts and then stressing with enough force to seat the anchor wedges (less than 10% of the strength of the strand) has no structural value. Because the partially stressed steel does not provide sufficient stress to prevent the span from deflecting beyond its ultimate limit should the falsework fail, the concrete will crack and lose its structural stability.

2. Partial prestressing, where some significant fraction of the final force is put into the bridge before the deck is placed, is structurally unacceptable. The only time that this might be considered is for a bridge crossing a waterway where access to the falsework has been cut off by high water and there is danger of collapse.

   Very high concrete stresses result if the falsework does fail. This procedure should be used only as a last resort. The falsework would have to be replaced and the bridge detensioned before the top slab was placed.

3. Early stressing of a bridge, after the deck has been poured but before the minimum time or strength provisions have been complied with, should be determined on a job-to-job basis. This can usually be done without serious consequences to the bridge. However, it should be used only for emergency situations such as floods or falsework that has been inadvertently damaged.

Philip C Warriner

Guy D. Mancarti

AWD:jgf

Supersedes Memo to Designers 11-18 dated January 20, 1974