

30 September 2002

To: What is Engineering? Section 2  
From: Dr. Schafer

**Re: West Point Bridge Designer – Virtual Lab**

**Task**

Design the lowest cost SINGLE SPAN 40 m bridge that can survive the anticipated loading case, including moving live load (a truck). Briefly report how to optimize your choice of overall structural system and how to optimize your choice of member selection.

**Procedural/getting started (check list)**

- Get the program from the class web site (original link, or mirror)  
[www.ce.jhu.edu/whatis2](http://www.ce.jhu.edu/whatis2)
- Install the program
- Select a single span design
- Develop a working design
- Iterate until your design will hold up under load and you are satisfied with the cost

*more instruction to be given during class!*

**Expected items in your report (not a complete list)**

- A picture showing your overall (successful) bridge design, and cost of your bridge.
- Explanation of how you selected your overall structural form (what else did you try? why did you reject other alternatives?, etc.)
- Explanation of how you performed optimization of the individual members.