

CE 717 RIVER MECHANICS

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Homework #4 - Riverbank Stability and River Engineering - Chapters 7-9 due April 16, 2009

Problem #1 (40%) Riverbank Protection (*Individual grade for this problem*)

Examine the potential problem of neck cutoff of the Thompson Bend of the Mississippi River in Case Study 8.1(RM p. 255). Extract images and information from Google Earth or other aerial photos for this site. What would be your approach to solve this problem at the lowest possible cost? Provide a preliminary plan to prevent neck cutoff at that location. Provide sketches illustrating the type of structures that you recommend. Provide a ppt slide of your proposed plan.

Problem #2 (60%) River Dynamics and River Engineering (*Team grade for this problem*)

Your team assignment is to prepare a powerpoint presentation on one of the following topics:

- River Armoring: Comport, Kositgittiwong, Scholl, Youngblood
- Reservoir Sedimentation: An, Foy, Shafie
- Streams with Large Sediment Loads: O'Brien, Paris, Scurlock
- Cutoffs and Abandoned Channels: Beckman, Ku, Roznowski,

Teams should prepare a max of 20 slides. Individual assignments are possible at a minimum of 15 slides.

The slides should include a title page, objectives, physical processes, governing equations and design methods if appropriate, and several illustrations of field structures or laboratory experiments. You can use material from the book, the lectures, the web, or your own personal/professional experience for this assignment.

The end product should be a simple team or individual ppt file. A brief text (1p. or so) may also be attached to provide additional description of the work. There is no in-class oral presentation required for this assignment.
