CEE 142 REINFORCED CONCRETE DESIGN
PROBLEM SET #3 – DESIGN OF BEAMS
PS3-1, PS3-2, PS3-3 Due Wed 1/30/02

PS3-1 For the beam information given in Problem 2-2, compute the maximum quantity of longitudinal reinforcement allowed for cases (a) and (b) for 4,000 psi concrete. For both cases, your solution should include all three approaches covered in class ($A_{s,max}$ ρ_{max} a_b/d). If your answers differ from one approach to the next, discuss why and indicate which answer is correct. Also compute the minimum amount of reinforcement required for the beams (ACI 318-99 section 10.5; MacGregor page 120/121).

PS3-2 Problem 4-7 from MacGregor text.

PS3-3 Problem 4-15 from MacGregor text.

PS3-4 Problem 4-17 from MacGregor text.