Classroom Problem 5-14-1: Design a bearing plate to distribute the reaction of a **W14 x 68** with a span length of 20 ft., center-to-center of supports. The dead load, including the beam weight, is 2 *k*/*ft*, and the live load is 6 *k/ft*. The beam is to be supported on reinforced concrete walls with f_c' = 4,000 *psi*. For the beam, F_y = 50 *ksi*, and F_y = 36 *ksi* for the plate.

Classroom Problem 5-14-2: A **W8 x 58** is used as a column and is supported by a concrete pier as shown below. The top surface of the pier is 12 in. by 12 in. Design an **A36** (F_y = 36 *ksi*) base plate for a column dead load of 50 *k* and a live load of 125 *k*. The concrete strength is 3 *ksi*.