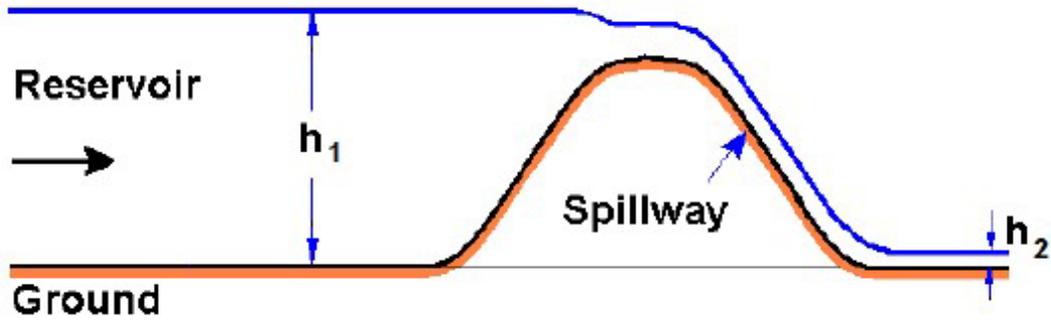## Problem 220H

An incompressible, inviscid liquid flow (density, ρ) of depth, h_1, and upstream velocity, V, flows over a spillway:

The depth downstream of the spillway is denoted by h_2. Determine the magnitude of the horizontal force per unit width (normal to sketch), F, necessary to hold the spillway plate in place in terms of ρ, g, h_1 and h_2. [The anchors used to secure the spillway to the ground would therefore have to sustain this force.]