

## ENSC-283

### Assignment #6

Assignment date: Monday Feb. 23, 2009

Due date: Monday Mar. 2, 2009

**Problem:** (Flow under a sluice gate: hydrostatic pressure force)

Water in an open channel is held in by a sluice gate. Compare the horizontal force of the water on the gate (a) when the gate is closed and (b) when it is open (assuming steady flow, as shown). Assume the flow at sections 1 and 2 is incompressible and uniform, and that (because the streamlines are straight there) the pressure distributions are hydrostatic.

