2. For the flexural member shown below determine the lightest **HEB** section ((σ_y) = 355 MPa) that can safely support the given loads according provisions. Consider all possible limit states. The given dead load (***D***) o load (***L***) of 225 kN are service loads (unfactored loads). Use LRFD and t combination 1.2D+1.6L. Lateral braces are provided at the supports and a 2.5 meter intervals. The **service live load** deflection should not exceed ***L/*** beam span. Note that for a simply supported beam loaded at the mid-

deflection is $\Delta = \frac{PL^3}{48EI}$. Take $E = 200\text{GPa}$.