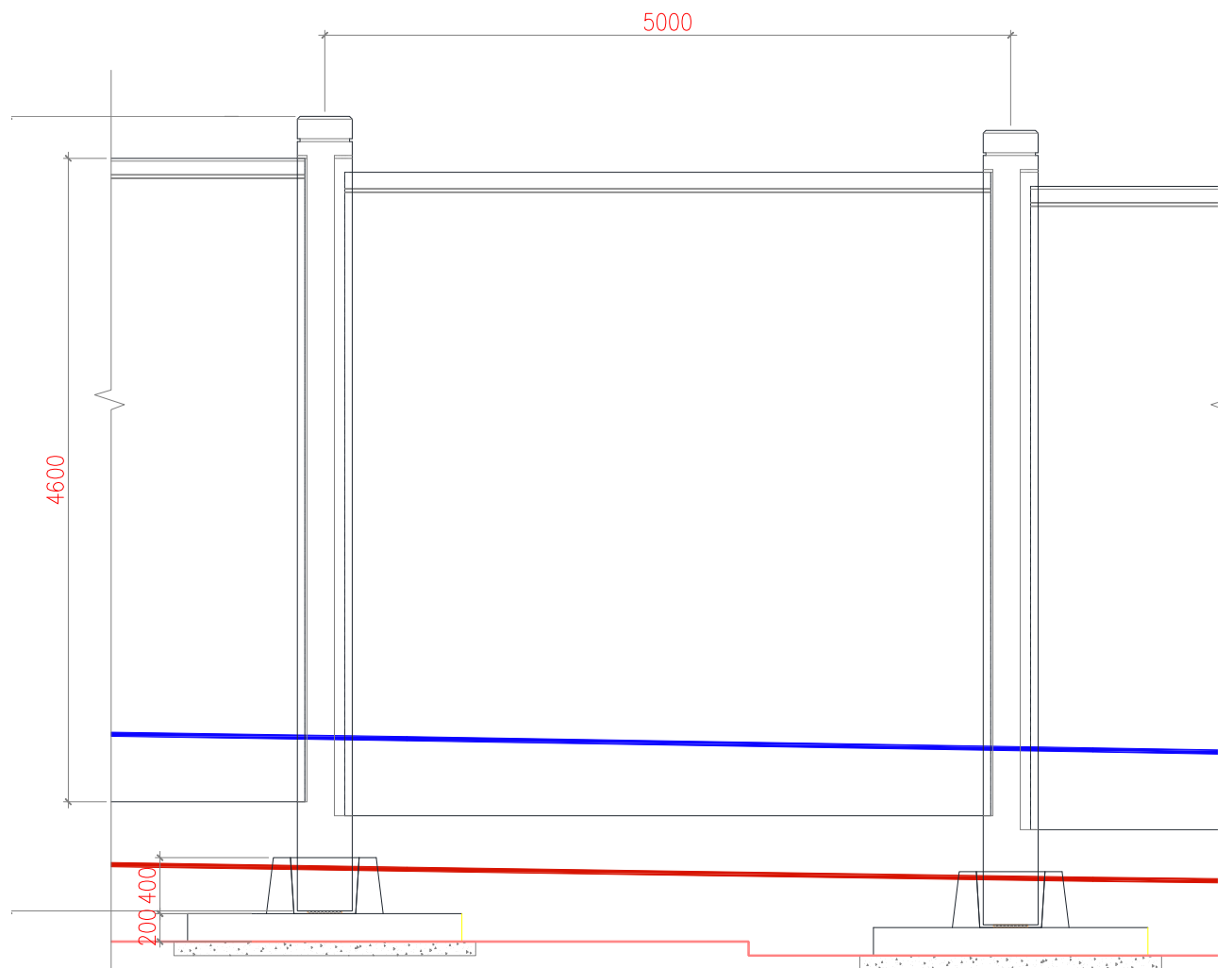
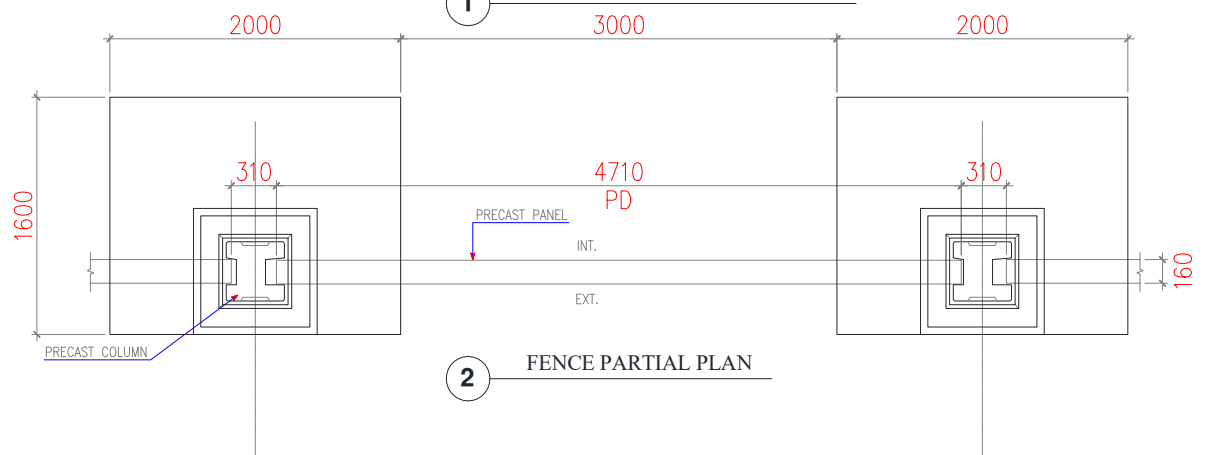


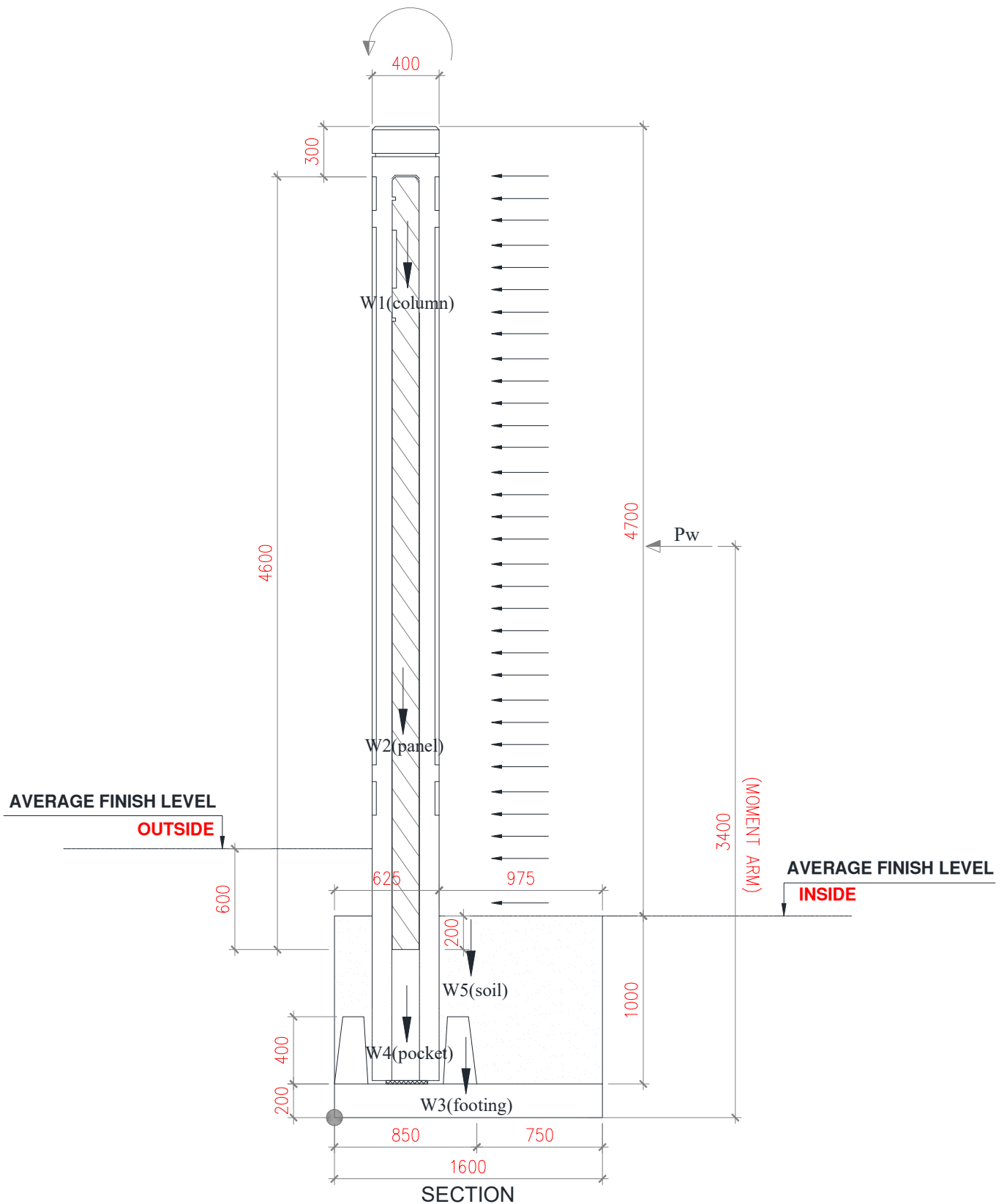
1. Fence Plan & Elevation



1 FENCE PARTIAL ELEVATION



2 FENCE PARTIAL PLAN



Gravity Loads & Moment Arm (Resisting Moments)

1. Column Weight	(W1) =	17.5	kN (0.425m)
2. Panel Weight	(W2) =	86.5	kN (0.425m)
3. Footing Base Weight	(W3) =	20.0	kN (0.80m)
4. Pocket Weight	(W4) =	4.25	kN (0.425m)
5. Soil Weight	(W5) =	51.0	kN (0.8m)

$$\text{Total Gravity load } N = 175 \text{ kN}$$

$$\text{Moment due to gravity loads} = 17.5 \times 0.425 + 86.5 \times 0.425 + 20.0 \times 0.8 + 4.25 \times 0.425 + 51 \times 0.8 = \mathbf{102.8 \text{ kN-m}}$$

**Resisting moment due to passive earth pressure is ignored to simplify calculation.*

$$\text{Total Resisting Moment} = 102.8 \text{ kN-m}$$

1. **Wind Load (Over Turning Moment)**

$$\text{Wind Pressure } P = 0.7 \text{ kN/m}^2 \text{ acting on area } 5 \times 4.4 \text{ m}$$

$$\text{Wind Load } P_w = 0.7 \times 5 \times 4.4 = \mathbf{15.4 \text{ kN}}$$

$$\text{Moment arm} = 3.4 \text{ m}$$

$$\text{Moment due to wind load} = 15.4 \times 3.4 = \mathbf{52.4 \text{ kN-m}}$$

2. **Footing Eccentricity (Over Turning Moment)**

$$N = W_1 + W_2 + W_4 = 17.5 + 86.5 + 4.25 = 108.3 \text{ kN}$$

$$e = 0.8 - 0.85/2 = 0.375 \text{ m}$$

$$M = 108.3 \times 0.375 = 40.6 \text{ kN-m}$$

$$\text{Total Overturning Moment} = 52.4 + 40.6 = 93 \text{ kN-m}$$

Factor Of Safety In Resisting Overturning

$$F.O.S = 102.8 / 93 = 1.1$$

(NOT O.K)

$$F.O.S = 102.8 / 52.4 = 1.96$$

(O.K)