

# Smoking Shelter



**Total area on perimeter (T) = front + back + 2 sides**

$$\text{Front area} = 2.2\text{m} \times 5.1\text{m} = 11.22\text{m}^2$$

$$\text{Back area} = 3.4\text{m} \times 5.1\text{m} = 17.34\text{m}^2$$

$$\text{Side area (combined)} = 2(2.2 \times 2.3) + 1(1.2 \times 2.3) = 12.88\text{m}^2$$

$$\mathbf{T = 41.44\text{m}^2}$$

**Total area of solids (X) = front walls + back wall + side walls**

$$\text{Front solid} = 1.6\text{m} \times 1.0\text{m} + 1.8\text{m} \times 1.0\text{m} = 3.4\text{m}^2$$

$$\text{Back solid} = 3.4\text{m} \times 5.1\text{m} = 17.34\text{m}^2$$

$$\text{Sides solid} = 2(2.3\text{m} \times 1.0\text{m}) = 4.6\text{m}^2$$

$$\mathbf{X = 25.34\text{m}^2}$$

**Totals area of gaps (space) to open air (Y) = T - X**

$$41.44\text{m}^2 - 25.34\text{m}^2 = 16.1\text{m}^2 \quad \mathbf{Y = 16.1\text{m}^2}$$

$$X/T \times 100\% = 61\% \text{ is enclosed}$$

$$Y/T \times 100\% = 39\% \text{ is open}$$

Structure has less than 50% open space therefore it is “**substantially enclosed**” and smoking would not be allowed.