

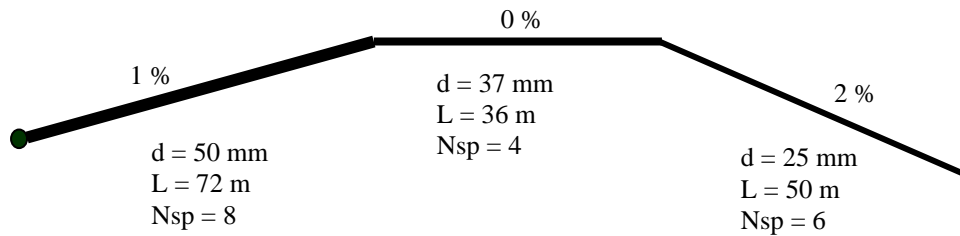
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$$Q_3 = 6 \times \frac{15}{60} = 1.5 \text{ L/s}$$

$$F_3 = 0.387$$

$$Q_2 = 10 \times \frac{15}{60} = 2.5 \text{ L/s}$$

$$F_2 = 0.412$$

$$Q_1 = 18 \times \frac{15}{60} = 4.5 \text{ L/s}$$

$$F_1 = 0.377$$

$$H_{f1} = 1.22 \times 10^{10} \times 72 \times \left(\frac{4.5}{145}\right)^{1.852} \times (50)^{-4.87} \times 0.377 = 2.837 \text{ m}$$

$$H_{f2} = 1.22 \times 10^{10} \times 36 \times \left(\frac{2.5}{145}\right)^{1.852} \times (37)^{-4.87} \times 0.412 = 2.262 \text{ m}$$

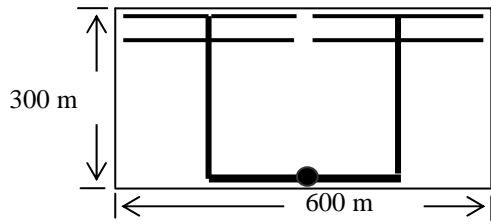
$$H_{f3} = 1.22 \times 10^{10} \times 50 \times \left(\frac{1.5}{145}\right)^{1.852} \times (25)^{-4.87} \times 0.387 = 7.732 \text{ m}$$

$$(H_f)_{total} = 2.837 + 2.262 + 7.732 = 12.831 \text{ m}$$

$$H_L = (2.5 \times 10) + 1.1(12.831) + \frac{1}{100} \times 72 + 0 - \frac{2}{100} \times 50$$

$$= 25 + 14.114 + 0.72 - 1 = 38.834 \text{ m}$$

$$\therefore P_L = \frac{38.83}{10} = \underline{3.88 \text{ Kg/cm}^2}$$



$$\frac{600}{4} = 150$$

S_s	9	12	18
N_{sp}	16.7	12.5	8.3
L_{irr}	148.5	150	144

$$\therefore S_s = 12 \text{ m} \quad N_{sp} = 12$$

$$\text{محور الارتفاع} \rightarrow \text{TAW} = 80 \text{ mm/m}$$

$$\text{محور العرض} \rightarrow \text{ORZ} = \frac{80 + 110}{2} = 95 \text{ cm}$$

$$\therefore \text{TAW} = 80 \times 0.95 = 76 \text{ mm}$$

$$\text{معدل} \quad M_{ad} = 50\%$$

$$\therefore D_n = 0.50 \times 76 = 38 \text{ mm}$$

$$\text{محور العرض} \rightarrow \text{ETC} = 7.3 \text{ mm/day}$$

$$\therefore II = \frac{38}{7.3} = 5.2 = 5 \text{ day}$$

$$\therefore D_n = 5 \times 7.3 = 36.5 \text{ mm}$$

$$\text{معدل} \rightarrow \text{Ea} = 75\%, T_{day} = 12 \text{ hr}$$

$$\therefore D_g = \frac{36.5}{0.75} = 48.67 \text{ mm}$$

$$330$$

S_L	12	15	18
N_L	27.5	22	18.3
L_{irr}	324	330	324

$$\therefore S_L = 15 \text{ m} \quad N_L = 22$$

مواصفات الرياش:

$$d_{noz} = 4.76 \times 3.18 \text{ mm}$$

$$P_{sp} = 3.17 \text{ kg/cm}^2$$

$$Q_{sp} = 2.13 \text{ m}^3/\text{hr}$$

$$\therefore R_a = \frac{2.13}{12 \times 15} \times 1000 = 11.66 \text{ mm/hr}$$

$$\therefore R_a < I_b$$

المواصفات:

$$T = \frac{D_g}{R_a} = \frac{48.67}{11.66} = 4.17$$

$$(\text{No})_{irr \text{ at day}} = \frac{12}{4.17} = 2.88 = 2$$

$$(\text{No})_{irr \text{ at II}} = 2 \times 5 = 10$$

$$(N_L)_{total} = 22 \times 4 = 88$$

$$\therefore (N_L)_{irr} = \frac{88}{10} = 8.8 = 8 \text{ and } 10$$

$$Q_s = 10 \times 12 \times 2.13 + \frac{10}{2} (2.13)$$

$$= 255.6 + 10.65$$

$$= 266.25 \text{ m}^3/\text{hr}$$

$$= 73.96 \text{ L/s}$$

$$R_L = 6 \times 42 = 252 \text{ m}$$

$$R = 252 + 18 + 10 = 280 \text{ m}$$

$$A_i = \pi (280)^2 = 246300 \text{ m}^2$$

at $x = 50\%$.

$$D_g = \frac{48}{0.75} = 64 \text{ mm}$$

$$T_{rev} = T_i = 72 \text{ hr}$$

$$V = \frac{2\pi R_L}{T_{rev}} = \frac{2\pi \times 252}{72} = 22 \text{ m/hr}$$

$$Q_s = \frac{D_g \times A_i}{T_i} = \frac{0.064 \times 246300}{72} = 218.93 \text{ m}^3/\text{hr} = 60.81 \text{ L/s}$$

$$R_{am} = \frac{4}{\pi} \times \frac{7200 \times 60.81}{280 \times 2 \times 10} = 99.5 \text{ mm/hr}$$

at $x = 100\%$.

$$D_g = 64 \times \frac{50}{100} = 32 \text{ mm}$$

$$V = 22 \times \frac{100}{50} = 44 \text{ m/hr}$$

$$T_{rev} = 72 \times \frac{50}{100} = 36 \text{ hr}$$

$$Q_s = \text{const} = 60.81 \text{ L/s}$$

$$R_{am} = \text{const} = 99.5 \text{ mm/hr}$$