

FORMULA SHEET

$$\begin{array}{l} \text{TOTAL VOLUME OF} \\ \text{WATER IN A RAIN} \\ \text{(GALLONS)} \end{array} = \begin{array}{l} \text{WATERSHED} \\ \text{(ACRES)} \end{array} \times \begin{array}{l} \text{INCHES} \\ \text{OF RAIN} \end{array} \times 27,154$$

$$\text{GPM REQUIRED} = \frac{\text{TOTAL VOLUME OF WATER (GALLONS)}}{\text{HOURS REQUIRED TO PUMP OFF WATER}} + 60$$

$$\begin{array}{l} \text{HOURS REQUIRED} \\ \text{TO PUMP} \end{array} = \frac{\text{TOTAL VOLUME (GALLONS)}}{\text{GPM PUMPED}} + 60$$

$$\begin{array}{l} \text{DITCH HOLDING} \\ \text{CAPACITY} \\ \text{(GALLONS)} \end{array} = \begin{array}{l} \text{WIDTH} \\ \text{(FEET)} \end{array} \times \begin{array}{l} \text{DEPTH (FEET)} \\ 2 \end{array} \times \begin{array}{l} \text{LENGTH} \\ \text{(FEET)} \end{array} \times 7.48$$

*THESE FORMULAS ASSUME 100% RUNOFF. COMPENSATION SHOULD BE MADE DEPENDING ON EXISTING MOISTURE CONTENT OF THE SOIL.

1 CUBIC FOOT OF WATER = 7.48 GALLONS

1 CUBIC FOOT OF WATER = 62.4 POUNDS

1 GALLON OF WATER = 8.34 POUNDS

1 TON OF WATER = 239.8 GALLONS

1 ACRE INCH = 27,154 GALLONS

1 ACRE FOOT = 325,851 GALLONS

1,000,000 GALLONS PER DAY = 694.4 GPM