

### **Determining Detention Time – Practice Problem Answer**

A basin that measures 45 feet by 120 feet and has a water depth of 12 feet is flowing at a rate of 650 gallons per minute. What is the detention time of this basin in hours?

$$DT = \text{Volume (gals)} \div \text{Flow (gpm)}$$

$$DT = (45' \times 120' \times 12' \times 7.48 \text{ gallons}) \div 650 \text{ gpm}$$

$$DT = 484,704 \text{ gallons} \div 650 \text{ gpm}$$

$$DT = 745.7 \text{ minutes}$$

$$DT = 745.7 \text{ minutes} \div 60 \text{ minutes/hour}$$

$$DT = 12.4 \text{ hours}$$