

Name: _____

Period _____

Water Budget Calculation Worksheet – Santa Fe

DETERMINE RAINWATER SUPPLY

1. Record this number from *Lesson 5 -Supply Worksheet*

Collection Surface: Length (ft) x Width (ft) = Area (ft²)

Collection Surface: _____ (ft) x _____ (ft) = _____ (ft²)

2. Record Annual Harvested Rainfall volume from *Lesson 5 -Supply Worksheet* (Bottom right-hand corner of data table)

TOTAL ANNUAL HARVESTED RAINFALL = _____ (gal/yr)

TOTAL PLANT CANOPY AREA

3. Record the Total Plant Canopy Area by Water Use Category from *Proposed Plants Canopy Area Worksheet*

a. Very Low Water Use Plants: = _____ (ft²)

b. Low Water Use Plants: = _____ (ft²)

c. Moderate Water Use Plants: = _____ (ft²)

d. High Water Use Plants: = _____ (ft²)

DETERMINE PLANT WATER DEMAND

4. Calculate Annual Plant Demand: (Use values from Question #3 above by water use type)

$$\text{Total Annual Plant Demand} \left(\frac{\text{gal}}{\text{yr}} \right) = \text{Area} (\text{ft}^2) \times \text{demand} \left(\frac{\text{in}}{\text{yr}} \right) \times \left(\frac{1 \text{ ft}}{12 \text{ in}} \right) \times \left(\frac{7.48 \text{ gal}}{\text{ft}^3} \right)$$

a. Very Low Water Use: _____ (ft²) x 8.0 $\left(\frac{\text{in}}{\text{yr}} \right)$ x $\left(\frac{1 \text{ ft}}{12 \text{ in}} \right)$ x $\left(\frac{7.48 \text{ gal}}{\text{ft}^3} \right)$ = _____ $\frac{\text{gal}}{\text{yr}}$

b. Low Water Use: _____ (ft²) x 12.0 $\left(\frac{\text{in}}{\text{yr}} \right)$ x $\left(\frac{1 \text{ ft}}{12 \text{ in}} \right)$ x $\left(\frac{7.48 \text{ gal}}{\text{ft}^3} \right)$ = _____ $\frac{\text{gal}}{\text{yr}}$

c. Moderate Water Use: _____ (ft²) x 25.0 $\left(\frac{\text{in}}{\text{yr}} \right)$ x $\left(\frac{1 \text{ ft}}{12 \text{ in}} \right)$ x $\left(\frac{7.48 \text{ gal}}{\text{ft}^3} \right)$ = _____ $\frac{\text{gal}}{\text{yr}}$

d. High Water Use: _____ (ft²) x 40.0 $\left(\frac{\text{in}}{\text{yr}} \right)$ x $\left(\frac{1 \text{ ft}}{12 \text{ in}} \right)$ x $\left(\frac{7.48 \text{ gal}}{\text{ft}^3} \right)$ = _____ $\frac{\text{gal}}{\text{yr}}$

TOTAL ANNUAL PLANT WATER DEMAND = _____ $\frac{\text{gal}}{\text{yr}}$

BALANCE THE WATER BUDGET

5. Calculate Annual Water Budget:

$$\text{_____} \left(\frac{\text{gal}}{\text{yr}} \right) - \text{_____} \left(\frac{\text{gal}}{\text{yr}} \right) = \text{_____} \left(\frac{\text{gal}}{\text{yr}} \right)$$

**TOTAL ANNUAL
HARVESTED RAINFALL**
(Question #1)

**TOTAL ANNUAL
PLANT DEMAND**
(Question #4)

**SURPLUS (+)
DEFICIT (-)**