

#### 4.3.2 Rainwater Harvesting/Cistern Credit

##### **Definition of Rainwater Harvesting/Cistern Credit**

A credit is given when rainwater collection systems are used to retain roof runoff resulting in the reduction of the development impervious cover. Rainwater collection systems will generate an impervious cover reduction for the area that drains to the rainwater collection barrel(s) based on the ratio of the barrel volume to the roof (catchment) area. Rainwater collection can occur at single family residences, multi-family complexes, and commercial developments. This credit can be used to gain compliance with the Alternate Standards or reduce the water quality volume. The maximum impervious cover reduction is 75% to account for rainwater system maintenance and operation challenges that may occur over the system life.

Rainwater collection can also be used to satisfy the roof-top disconnection credit, but can not be counted as a credit for both rainwater harvesting and roof-top disconnection.

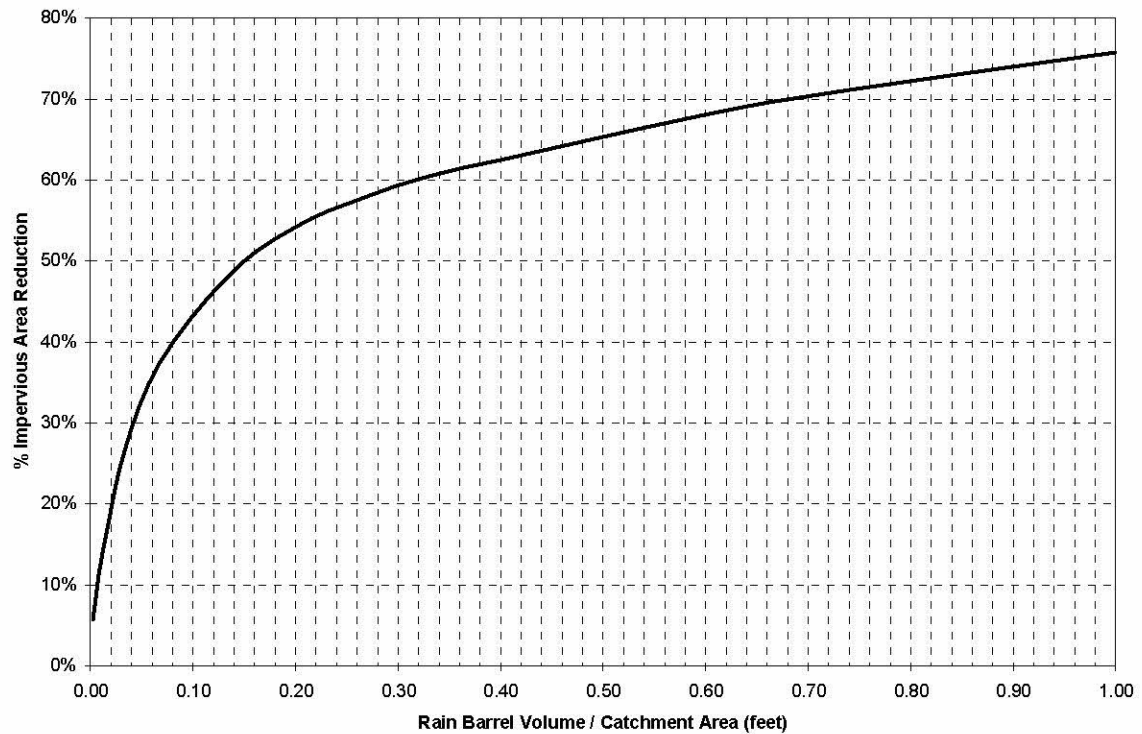
Reduced impervious cover credit is computed per the following equation and figure:

Where:

$$A_r = A_{RT} * \%IC \text{ REDUCTION FACTOR (per Figure below)}$$

$A_r$  = Allowable reduction in impervious cover  
 $A_{RT}$  = Area of roof-top directed to rain barrel(s) (catchment area) (sq ft)  
 $\%IC \text{ REDUCTION FACTOR}$  = % Impervious area reduction  
 $RBV$  = Rain barrel volume (cubic feet)

## Rainwater Harvesting Effectiveness



### Rainwater Collection Credit

#### *Restrictions on the Credit*

The rainwater harvesting credit is subject to the following restrictions:

- Rainwater collection and distribution systems must be designed and installed per the requirements in this Section;
- A rainwater collection system maintenance plan must be approved by LCRA before issuance of a development permit. The maintenance plan will need to identify the responsible maintenance party and allow for periodic LCRA inspection;
- The development permit will include a condition that the contractor must contact LCRA 48 hours prior to the final completion of the rainwater collection system;
- Storage shall be provided in cisterns, rain barrels, tanks, or other approved methods.
- Overflows from rainwater tanks should be diverted to grassy swales and/or lawns to promote infiltration of excess runoff volume.

*Example calculation*, the required water quality volume before the credit for a ten (10) acre site with 30 single family lots would be:

Impervious cover = 3 acres = 30%

1-year runoff volume = 0.59 inches based on Equation 2.9

Water quality volume = (0.59 inches) \* (10 acres) \* (43,560/12) = 21,417 cubic- feet.

