College of Architecture, Planning & Landscape Architecture

Rainwater Harvesting at the University Of Arizona

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INTRODUCTION

Rainwater harvesting systems at the U of A can save large amounts of water as well as money - creating a more sustainable environment. Water is becoming less available and because we live in a desert landscape where water is already scarce, these systems can greatly improve the landscape. Various businesses and residents around town can use this knowledge for their personal gain, and the City of Tucson can use this knowledge to create incentives and programs for those who might be on the fence about installing the systems.

	Cost of System	Gallons Collected Per Year	Tucson Water Price	System Collection	Payback Period
CAPLA	$40,000	230,000	$0.005/gal	$1,150/year	35 years
ENR2	$69,000	196,940	$0.005/gal	$984.70/year	70 years

METHODOLOGY

Observations, photographs, documents, and interviews were conducted/analyzed. Qualitative data provided me with insight on costs associated with the systems, benefits, advantages/disadvantages regarding costs, and the necessary materials for construction.

Top Left: Underwood Family Sonoran Landscape Laboratory Site Plan
Source: Landscape Performance Series

Top Right: ENR2 North Section
Source: Tom Evans

Left: The Underwood Sonoran Landscape
Source: Bill Timmerman

Right: Interior Courtyard View of ENR2
Source: Self

DATA, DISCUSSION, & RESULTS

The installed rainwater harvesting systems on the University of Arizona campus are beneficial to, not only conservation of water on the U of A campus, but also the conservation of water in the state of Arizona. The amount of water that is saved each year by these two buildings combined is over 425,000-gallons. Installing other rainwater harvesting systems on different buildings of the University of could save large amounts of money and water for the University – creating a more sustainable environment for the users.

CONCLUSION

Using this knowledge, various businesses and residents around the city can use this information for personal gain – City of Tucson can use this knowledge to adapt more desirable incentives and programs. Rainwater harvesting is the most beneficial practice with 50-70% of all water usage being used for household or irrigation purposes, leaving a small percentage for the essential functions of drinking water and food production. It is a low cost and high value solution that can create a greener community and environment for us all.