Rainwater Harvesting Systems

Presented by Sasha Earl, P.E., President of Blue Gold Engineering With an average rainfall of 32" an average-sized roof can save over 20,000 gallons annually.

Potentially halves potable water costs.

Immunity from city water rationing.

Healthier, more productive plants.

Addresses stormwater problems at the same time.

Makes a rainy day really satisfying!

Why collect rainwater?

"But it's not raining?" (especially during drought)

"Doesn't the water go 'bad'?"

"I already have a rain barrel."

"The drought won't last forever."

"I'm going to drill a well instead."

Common misperceptions

System anatomy

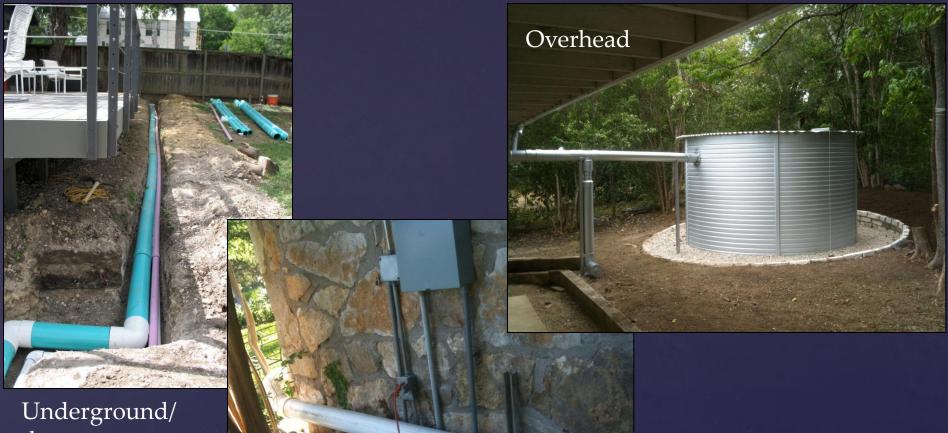
Follow the drop!





First flush/roof washer





downspouts

Attached to house

Conveyance From gutter to tank



can also be underground

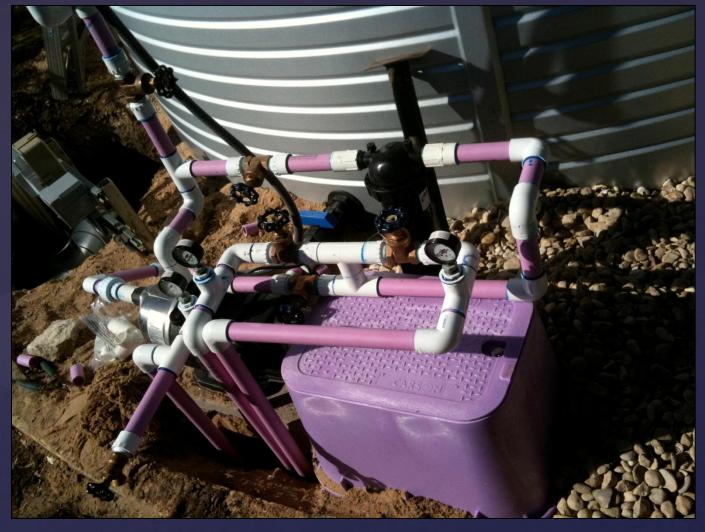
Storage tank







Tank pad



Pump (pressurized vs. gravity fed)



Municipal backup

City of Austin's rebate program

Rainwater equipment exempt from sales and property taxes

Costs generally \$3-5 per gallon, depending on amount of gutters and irrigation

At current water rates, slow return

Incentive, investment and return



Water so carefully collected shouldn't be subsequently wasted: drip!

Rainwater systems can be connected to existing irrigation systems with modifications.

Can also be used for fountains, ponds, pools, etc. Can also drain pool to tank.

Movement toward allowing potable use of rainwater in city.

Theory of highest, best use: towards greywater.

Irrigation applications

Permitting:

- Over 5,000 gallons of storage requires a building permit
- Heritage tree protection often an issue in city
- Also involves electrical and plumbing permits

Backflow prevention: RPZs and expansion tanks

Annual CSI required

City of Austin regulations

Questions?