RAINWATER COLLECTION

BEYOND THE BARREL
Water is life! We are 80% water as is the Earth, and without water we will not survive. Population growth, weather pattern shifts, and inefficient living space design have led us to a water crisis. Indra Designs' mission is to erode this crisis through intelligent water system design.

- Primary reuse water sources: Rainwater, storm water, Graywater, and Blackwater

- Only 15% of the water used for residential consumption needs to be potable

- Water reuse can save money for businesses, households, and water utilities through lowered energy usage from pumping, reducing chemical inputs, and decreasing need for infrastructure expansion
Each Californian uses an average of 181 gallons of water a day, making California the highest water consumption state.

NASA scientist Christina Milesi estimates that lawns alone in the US drink ~ 19 trillion gallons of water each year.

Due to a yearly 6 month drought cycle, California must store enough water for our full demand throughout summer and early fall.
Water Issues Beyond Drought

- Storm water runoff contaminates water supplies and can overwhelm water treatment plants.

- Meeting ever increasing requirements for Low Impact Development in California can be achieved with on-site water reuse.

- The US sewer system received a D from American Society of engineers. They estimate $300 billion dollars of repairs over the next 20 years.
Rainwater Collection

- Rainwater collection not only saves clean drinking water, it also mitigates storm water overflows.
- Collected rainwater can be used for irrigation, fire suppression, water cooling towers, toilet flushing, as well as potable water for households (in some counties).
- ROI for rainwater collection multiplies when used as a Best Management Practice for California LID requirements.
- Rainwater collection can contribute to LEED requirements and other Green building certifications.
This system retains ~15,000 gallons of rainwater, which is 75% of rainfall for an average year.

Addressed city’s drainage requirements for new home and offsets all irrigation needs.

Buried tank allows landscaping to be on top and limits ascetic impact to landscape.
Small SF backyard collects 8,000 gallons of water in an underground cistern built on site. Mitigates 14,000 gallons of storm water yearly.

Rainwater is used for all irrigation and toilet flushing at the home. Doesn’t impact small landscaping space.
Mitigates over 50,000 gallons of storm water per year

Collected water is used for irrigating 1 acre landscape

Meets LID requirements for site & offsets potable water use

Play Bocce ball on top of collected rainwater!
This home in the Oakland hills has a 5,000 gallon underground cistern and 15,000 gallons of above ground storage.

The rainwater is backup to a graywater system and together they provide irrigation for 70% of the ½ acre landscape.

There are 3,000 gallons that are always kept for an indoor fire suppression system with a dedicated pump and generator.

In the event of a disastrous fire, this home can protect itself using rainwater.
Indra designed and installed this rainwater collection system used to meet LID requirements for a brewery in Alameda, CA.

The collected rainwater will be used for flushing toilets in the brewery.

System is estimated to mitigate 92,000 gallons of storm water from the buildings roof.
This system uses graywater from the house which is filtered to NSF 350 standards, and when the graywater source runs dry, the system is backed up by rainwater collection.

The treated water will be used for toilet flushing and irrigation and will achieve the goal of eliminating municipal water usage for these water demands.

System wanted by developer to meet LEED certifications and market as a green home for increased resale.
THANK YOU!

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