

Rainwater Harvesting: *Residential Application*

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President



Capturing Water's Value

- Water is a finite resource
- Storm drain runoff is robbing us of much of our freshwater sources
- 14% of the nation's water supply is lost through water main leaks
- Worldwide consumption is rising at double the population growth rate



Rainwater Harvesting Regs

- States adopting rainwater harvesting regulations and guidelines:
 - Montana
 - Ohio
 - Texas
 - Virginia (state buildings)
 - King County, WA
 - Portland, OR



Rainwater Harvesting Regs: Recent

- Virginia
 - State Construction and Professional Services Manual*
 - May 9, 2008: Rainwater harvesting is permitted for the purposes of flushing water closets and urinals; landscape irrigation systems; and fire protection systems.
- Oregon
 - Oregon State Plumbing Board*
 - June 20, 2008: Oregon adopted a new statewide standard for rainwater harvesting systems on residential and commercial buildings that allows installation without a special permit.



Why Harvest Rainwater?

- Save money on utility bills
- Reduce non-point source pollution
- Reduce reliance on aging water infrastructure
- Conserve energy
- Provide alternative water source

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How to use Harvested Rainwater?

Nonpotable

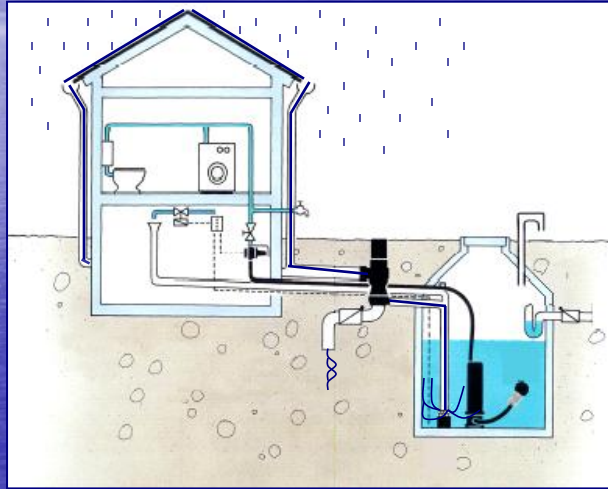
- Building washing
- Cooling towers
- Fire suppression
- Household cleaning
- Irrigation
- Laundry washing
- Pool/pond filling
- Toilet flushing
- Vehicle washing

Potable

- Drinking water
- Cooking
- Bathing
- Dish washing

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Residential/Small Commercial



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Components

Vortex Filters
for fine filtration
and oxygenation



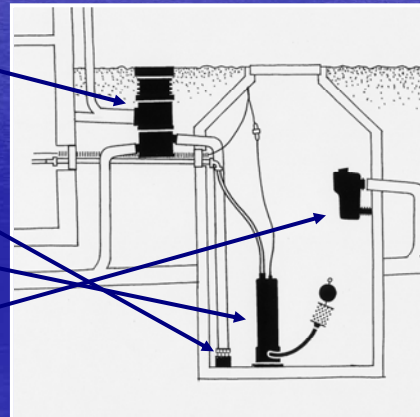
Smoothing Inlet
stable sedimentation
and oxygenation



Floating Filter
takes the cleanest
water



Multifunction overflow
for a clean water
surface
protects water
quality



Tanks

Choices

- Above or Below ground
- Polyethylene
- Fiberglass
- Metal



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Potable Water Needs

- UV light treatment
- Drinking water not available



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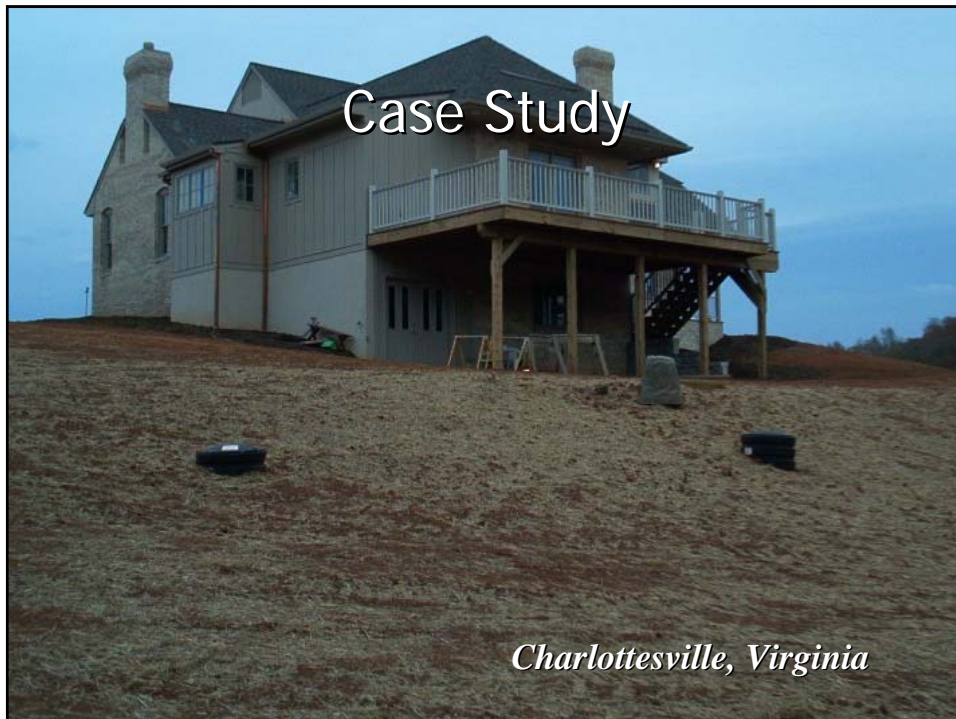
Considerations: Sizing a System

- Water demand vs. supply
- Available land
- Area rainfall
- Aesthetics
- Soil type
- Cost

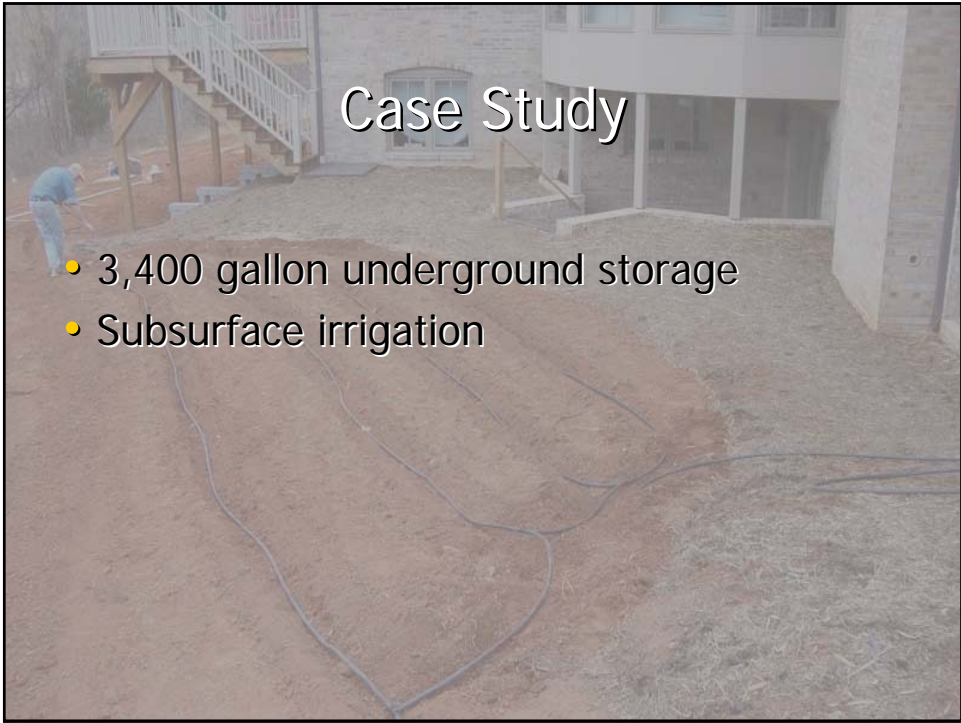


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RESIDENTIAL WATER MANAGEMENT SYSTEMS

Case Study

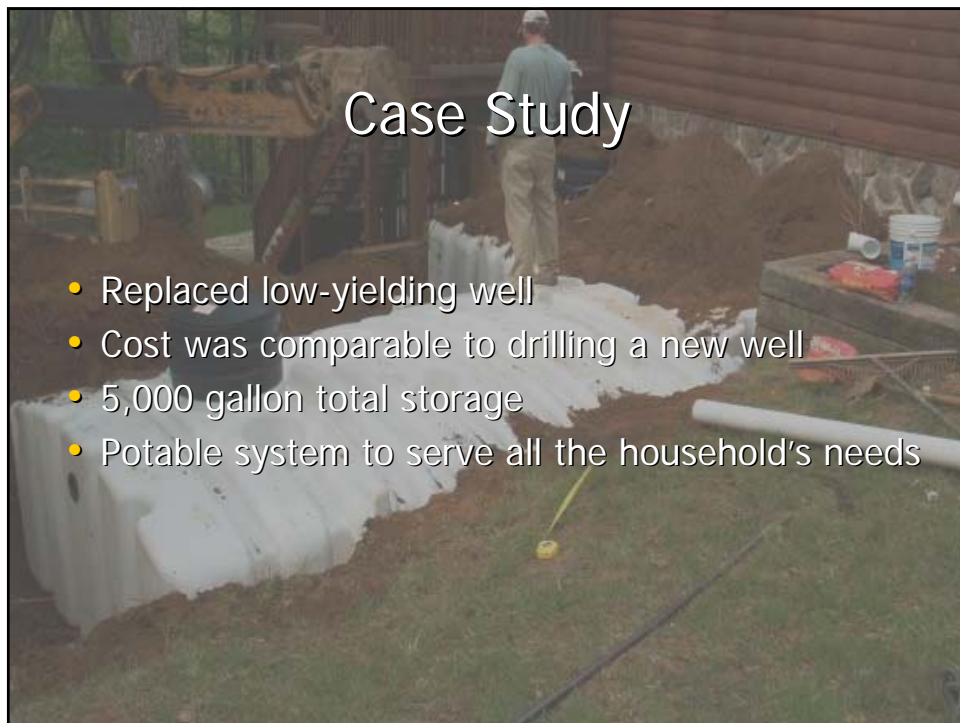
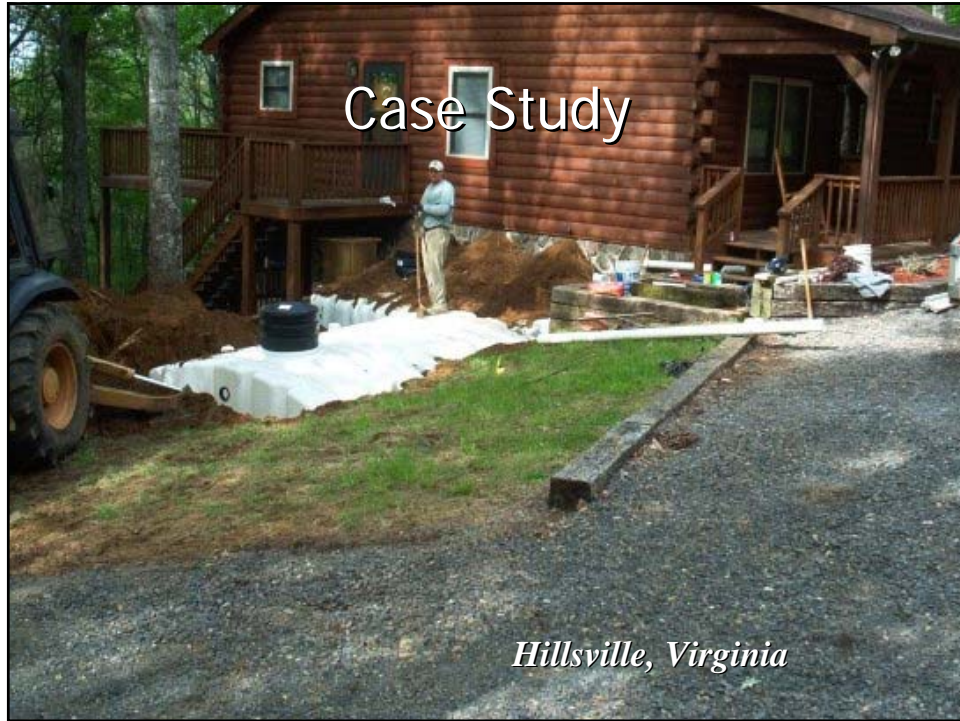


Charlottesville, Virginia









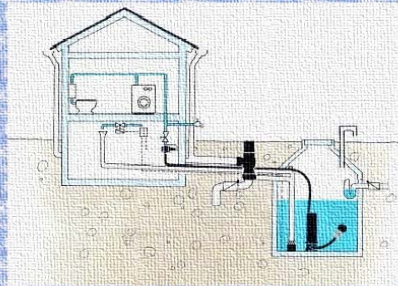
Summary

- RWH has many applications
- RWH can supply a water source, while reducing stormwater runoff
- Each RWH system is “custom made” for the building & site

Unlike water, the possibilities are infinite

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Virginia Rainwater Harvesting Manual



available for free download at:
www.cabellbrandcenter.org



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Thank You
Questions?

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