

Rainwater Harvesting

A Public Health Perspective

June 25, 2013

Hampton Roads Planning District Commission

Title 32.1-248.2

The VDH must develop guidelines regarding the use of gray water and rainwater.

VDH and DEQ must promote the use of rainwater and reuse of gray water

Different modalities pose different health risks

Ingestion :

- Dysentery, etc. (bacteria, virus, etc.)
- Toxicity (metals, such as lead)



Different modalities pose different health risks

Skin contact:

- Irritation & rashes (acidity/alkalinity, chemicals)



Different modalities pose different health risks

Breathing:

- Legionaire's disease (*Legionella* bacteria)
- Cancer (radon & radioactive substances)



Key Concept

- ***Stormwater*** = precipitation that is discharged to waterways (*Stormwater Management Regulations:4VAC50-60*)



- ***Harvested Rainwater*** = precipitation collected from roof or other constructed surfaces

Key Concept

Reclaimed Water = water resulting from treatment of domestic, municipal, or industrial *wastewater*. Excludes “gray water”.

Reuse = the use of *reclaimed* water for...

(Defined in the Water Reclamation & Reuse Regulations: 9VAC25-740)

Harvested Rainwater Quality Considerations

- Dust
- Bird, squirrel, bat, rodent droppings
- Insects
- Detritus
- pH
- Materials of construction
- Design & Maintenance



Potable (Drinking) water standards

stipulated in

Safe Drinking Water Act

Code of Federal Regulations



Code of Virginia

Virginia's *Waterworks Regulations*

Can harvested rainwater meet the drinking water standards?

Sure, if....

- Components are made of suitable materials
- System is engineered to produce high quality water
- On-going maintenance & repair
- On-going water testing to verify performance

Best solution:

Non-potable use of harvested rainwater

Protection of potable water system from mixing
with non-potable water system

Rainwater Harvesting & Use Guidelines

Published by the Virginia Department of Health

March 11, 2011

Available on the web at:

[www.vdh.state.gov/Environmental Health/ONSITE/technical resources](http://www.vdh.state.gov/Environmental%20Health/ONSITE/technical%20resources)

<http://townhall.virginia.gov/L/ViewGDoc.cfm?gdid=4662>

Interagency Coordination

State Agencies:

Virginia Department of Health (VDH)

Department of Housing & Community
Development (DHCD)

Interagency Coordination

Virginia Department of Health (VDH)

Potable Water:

- *Private Well Regulations: 12VAC5-630*
- *Waterworks Regulations: 12VAC5-590*

Cisterns:

- *Sewage Handling & Disposal Regulations:
12VAC5-610-1170*

Interagency Coordination

Department of Housing & Community Development (DHCD)

Virginia Uniform Statewide Building Code:

- Prohibits Cross Connections between public & private water systems
- Requires “Gray Water” systems to be separate from “Rainwater” systems
- Adopts the International Plumbing Code (IPC) for rainwater harvesting systems

Cross-Connection Control & Backflow Prevention

- Program is required of all public water systems
(Waterworks Regulations)
- Local Building Officials implement
(USBC - IPC)

Questions?

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