



Comfort • Savings • Efficiency

# Root Home in Rockville, Maryland

Mrs. Root grew up in this 1800 square foot Cape Cod style home built in 1952 and purchased it from her widowed mother in 2000. Today, she is retired from the Federal government and lives here with her daughter. There have been no major home improvements to the home in over 25 years. A recreation room was added onto the back of the home in 1959. The side house was further expanded in 1965 with the addition of a dining room and a laundry room.



The Root Home in Rockville, MD

## House Facts

- Cape Cod style 2-story with crawlspace
- Built in 1952
- 1800 square feet
- Occupied by 2 adults
- \$370 a month on average, combined energy utility bills (total annually almost \$2,200 in electricity and almost \$2,350 in gas)

## Their Home Energy Makeover

### Comprehensive Energy Analysis

Troy Tanner of The Home Energy Detective conducted a comprehensive home energy analysis using diagnostic equipment. The analysis looked at how the different components of the home energy system worked together compared to national “whole house” energy efficiency and safety standards. Troy found the home to be a “wind tunnel” with about 43 air changes per day, more than 5 times what should be expected, through the outside walls, attic and vented crawl space. Troy determined what improvements would have the greatest impact for energy savings, health and safety, and comfort.

Edge Energy, another local home energy audit firm, did similar analysis on other finalist homes in the area. Comprehensive national standards are set by the Building Performance Institute.

### Heating and Air Conditioning System

F.H. Furr provided a system tune-up for the gas furnace and electric air conditioner. The home has an additional gas heater in a room addition, and two portable air conditioners in both upstairs bedrooms due to comfort issues.

### Sealing and Insulation

In the attic, AC&R Insulation used Johns-Manville products to air seal all leaks where conditioned air could exit the home, and then re-insulated the attic for an overall insulation value of R-49. Also, they insulated the attic hatch to prevent heat from entering or escaping through the closet area.

In the vented crawlspace, AC&R insulated the inside of the foundation walls, sealed the crawlspace and added a ground cover to reduce moisture entering the home and reduce energy losses through the floor. AC&R Insulation also insulated all exterior pipes to prevent insects as well as unwanted air from entering the home.

In addition, Atlantic Duct Cleaning applied AeroSeal duct sealant to the interior of all the existing ductwork in order to be sure the conditioned air was delivered efficiently through each vent.





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## Water Heater

Tankless Concepts replaced the existing 40-gallon natural gas storage water heater with a Rinnai RC80HPi condensing tankless water heater with a 95% thermal efficiency.

## Windows

Quanta supplied 35 of its QuantaPanel™ Insulating Glass Systems (Low-E Storm Windows) which were installed by Windows on Washington over the home's existing single pane wood and dual-paned metal-framed clear glass windows. Installation of QuantaPanel™ IGSs delivers energy savings equivalent to the savings delivered if the existing windows were replaced with traditional windows - at a fraction of the cost and without the generation of landfill waste (i.e., disposal of old windows).

## INVESTMENT

- \$ 4,575 Storm Windows with Installation
- \$ 3,500 Tankless Water Heater with Installation
- \$ 2,000 Insulation with Air Sealing
- \$ 1,940 Duct Sealing
- \$ 150 Safety and Performance Inspection of Heating and Cooling System
- \$ 350 Comprehensive Home Energy Analysis
- \$12,515 Total Retail Value of Home Energy Makeover Improvements

## Makeover Team

Primary Home Auditor:



[www.homeenergydetective.com](http://www.homeenergydetective.com)



[www.edge-gogreen.com](http://www.edge-gogreen.com)



[www.homeenergydetective.com](http://www.homeenergydetective.com)



[www.windowsonwashington.net](http://www.windowsonwashington.net)



[www.myenergymedics.com](http://www.myenergymedics.com)



[www.wellhome.com](http://www.wellhome.com)

Attic and crawlspace Insulation materials provided by:



[www.jmhomeowner.com](http://www.jmhomeowner.com)

Heating and Cooling System provided by:



[www.lennox.com](http://www.lennox.com)

Heating and Cooling System Tune-up provided by:



[www.fhfurr.com](http://www.fhfurr.com)

Water Heater provided by:



[www.rinnai.us](http://www.rinnai.us)

Air sealing and Insulation installation provided by:



[www.acrinsulation.com](http://www.acrinsulation.com)

Duct Sealing provided by:



[www.atlanticductcleaning.com](http://www.atlanticductcleaning.com)





# Makeover Team

Water Heater installed by:



[www.tanklessconcepts.com](http://www.tanklessconcepts.com)

Storm Windows installed by:



[www.windowsonwashington.net](http://www.windowsonwashington.net)

Storm Windows provided by:



[www.quantapanel.com](http://www.quantapanel.com)

## Participating Utilities:

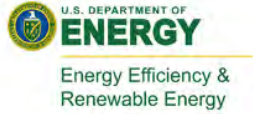


[www.pepco.com](http://www.pepco.com)



[www.washingtongas.com](http://www.washingtongas.com)

## Contest Hosts:



[www.energy.gov](http://www.energy.gov)



[www.epa.gov](http://www.epa.gov)



[www.loudoun.gov](http://www.loudoun.gov)

Contractor Accreditation and Quality Assurance provided by:



[www.bpi.org](http://www.bpi.org)

Contest Administration provided by:



[www.egia.org](http://www.egia.org)

Television Coverage provided by:



[www.wjla.com](http://www.wjla.com)



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