



# Welcome!

Weatherization and Seasonal Maintenance

November 4, 2017



County of Henrico  
Department of Community Revitalization



# Weatherization and Seasonal Maintenance



**Henrico County**  
**Dept. of Community Revitalization**  
in partnership with  
**Environmental Green Solutions, LLC**



Presented by Monique Johnson, President  
Environmental Green Solutions, LLC



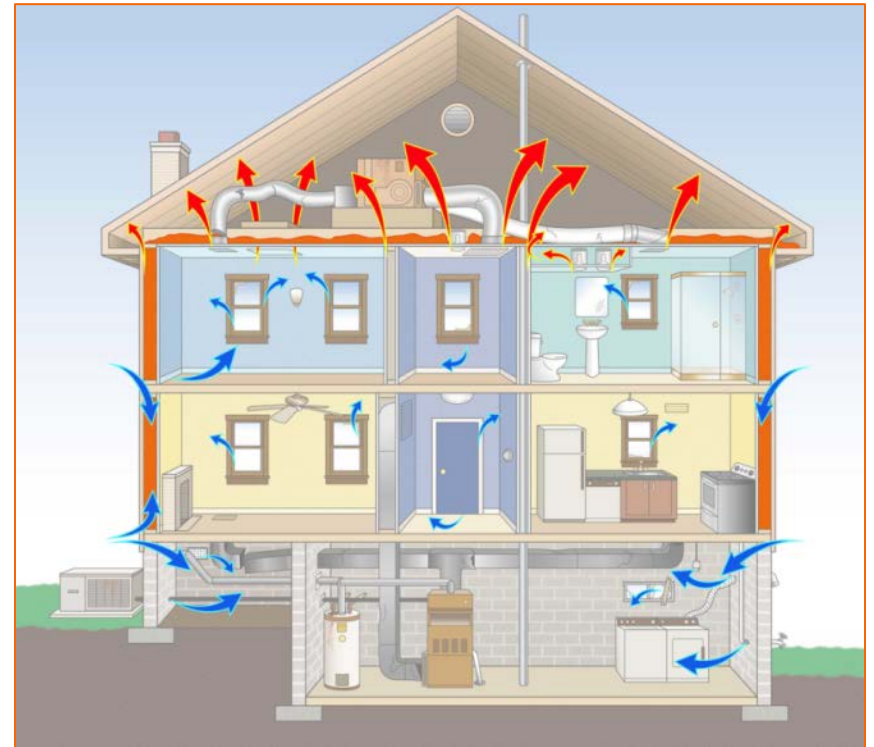
# Why is Weatherization Important?

- Saves you money on utility bills
- Protects home from seasonal damage
  - Especially rain and freezing temperatures
- Improves the comfort level of your home



# Understanding the Home Building Envelope

The thermal envelope separates the conditioned (heated or cooled) interior of a building from the unconditioned outdoor air.





# Window & Door Weatherization



# Window Weatherization

Use caulking, plastic covering, foam, and/or other products to weatherize your windows.



Window weatherization materials can be purchased at any home improvement store.



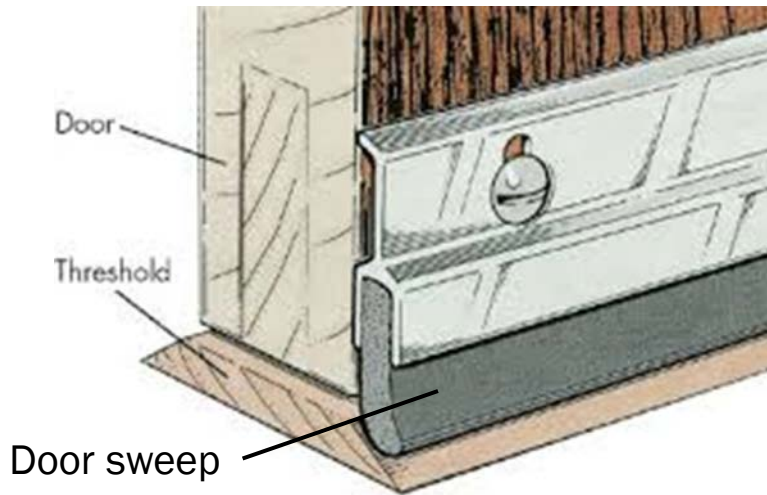
# Window Weatherization

- Leaving window air conditioners in windows during the winter can cause drafts and lead to increased energy consumption
- Removing unit from windows is the best option – store removed unit in an attic, basement, or utility room (away from potential insects/rodents)
- If you *must* keep the unit mounted in the window be sure to use an air conditioner cover that is specifically designed to protect AC units from weather damage.



# Door Weatherization

- Install door sweeps, door insulation, and caulk around door trim



- Door weatherization materials can be purchased at any home improvement store.



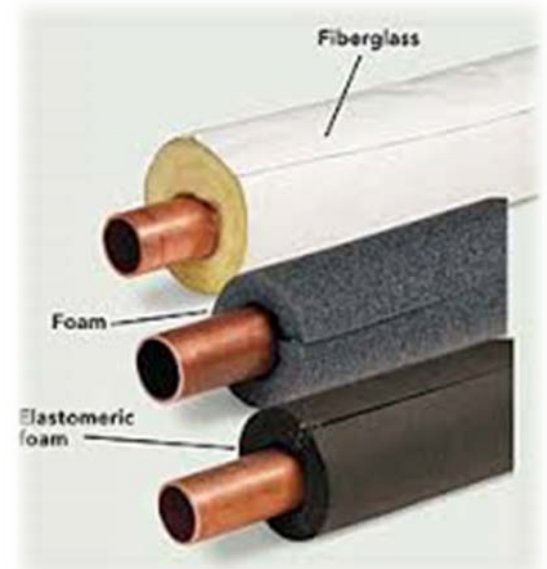


# Outdoor Water Spigot Maintenance

- One of the leading causes of frozen pipes are outdoor water spigots
- Faucet spigot protection is needed to help protect your pipes from freezing.



# Frozen Pipes



# How to Prevent Your Pipes from Freezing

- Insulate all piping that's not located in a conditioned space
  - Example: crawlspace and attic
- Turn the main valve off to your outdoor spigots
- Close foundation vents
- Insulate your crawlspace



# Check Insulation Level



- Poor insulation in your crawlspace and attic can be very costly on your cooling and heating bills.
- Using a spray foam gun, spray underneath your crawl space around sill plate and rim joist.
- If your crawl space looks like the picture on the right a contractor is needed.
- It's always good to have a contractor come out to take a look at your crawl space and attic.



# Address Air Leakage

- Caulk around your windows and doors
- Spray foam in openings around the home
- Gaps, cracks and holes
- Caulk around outlets
- Insulate your crawl space
- Insulate the attic



# Water Heater/Piping

- Insulate water heater
  - Especially if located in garage
- Insulate water heater pipes
- Insulate pipes underneath your home
- Use foam insulation



# Duct Sealing

Sealing up your duct work will improve the efficiency of the heating unit. Unconnected/ unsealed duct work increase your utility bill.



# Setting Your Thermostat

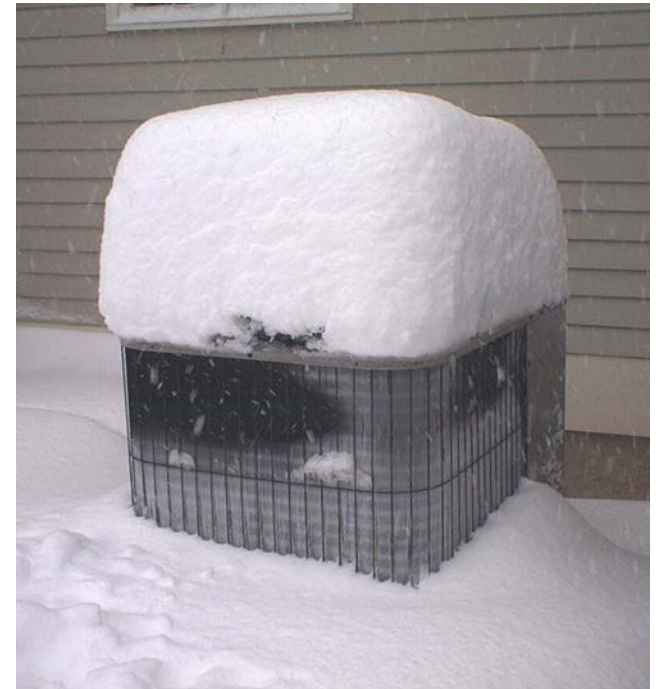
- Pros and Cons of a Programmable Thermostat:
  - Pros
    - Able to set thermostat weekly
    - Can lower temperature when you are away from home
    - Filter change reminders
  - Cons
    - Expensive
    - Can be technically challenging
- Dominion Virginia Power Thermostat Recommendations
  - Winter: 68 degrees when away from home
  - Summer: 78 degrees when away from home





# HVAC Unit Efficiency

- High efficiency units
  - Respond better to a wider temperature range
  - Offer more air flow
  - Use less energy to perform
- Non-high efficiency units
  - More difficult for older units to maintain a comfortable temperature in extreme conditions such as in summer and winter.
  - More costly on your utility usage



# Routine Maintenance

- Dirty air ducts
  - If the filter's dirty, everything past the filter is dirty too, including the air you breathe.
  - This pumps dust and allergens into your home.
- Reduced air flow
  - Units are designed to work with a certain amount of internal air flow and if that isn't being met the unit may malfunction and ultimately fail.
- Skyrocketing power bills
  - Between the heat & cooling inefficiency and the reduced air flow, a dirty air filter means your A/C has to work much, much harder, which means it takes more power to fuel it.
  - You may not realize how much money could be saved by simply changing the filter.



# Routine Maintenance

- Change filters every 1 to 3 months, depending on type of filter
  - Especially if you have pets and/or allergies
- Vacuum dust from interior air intakes on a regular basis
- Have your unit inspected and maintenance performed seasonally.
  - Fall and spring



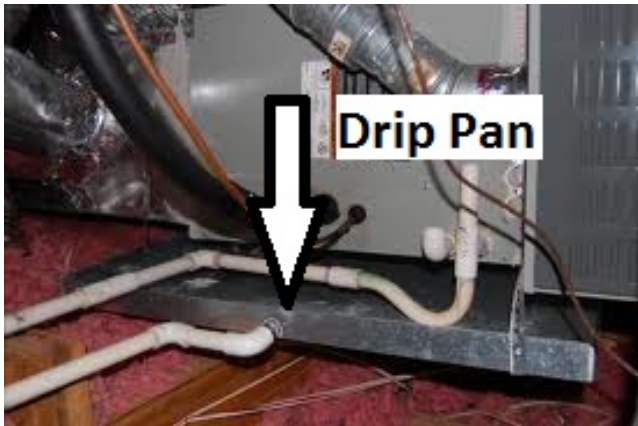
# Professional Tune -Ups

- Should be done twice a year.
  - Tune-ups are usually done in the fall and spring.
- Maintenance tune-ups include:
  - Clean indoor and outdoor coil
  - Change air filter on unit
  - Check refrigerant pressure
  - Check outdoor unit for problems
  - Check indoor unit for problems



# Routine Maintenance

- Condensate Line and Drain Pan Float Switch
  - Monthly inspection (interior and exterior)
  - Air conditioning drip pan – make sure it is draining correctly to the exterior
  - If unit is located in attic, a drain pan float switch should be installed



# Routine Maintenance

Cleaning a Dirty Condenser Coil: Turn off the power to the unit(s)



Use a water hose with a nozzle and gently wash condenser coil down



# Why is maintenance important?

- To catch minor problems before they turn into major ones
- Extends the life of your property
- Saves you from spending big money in the future as a result of improper upkeep



# Exterior Seasonal Maintenance





# Gutter Cleaning & Maintenance

- Cleaning out the gutters, spouts, and drains around your home is very important.
- Improper maintenance can cause damage to your foundation and rot fascia boards.
- The next few slides will cover cleaning and maintenance tips for your gutters.



# Gutter Cleaning Safety

- Before you start cleaning your gutters make sure you are prepared to do it safely.
- Safety First!
- If you are not comfortable with cleaning your gutters, hire a professional.



# Cleaning Gutters: Homeowner vs. Professional



- Homeowners who decide to clean their own gutters should always keep in mind safety and risk.
- Choose the right ladder.
- Inspect the ladder.
- Never rest the ladder on your gutter.
- Wear thick work gloves.
- Wear protective eyewear.
- Have a spotter.
- Use a plastic gutter scoop.

# Cleaning Gutters: Homeowner vs. Professional



- Hiring a professional contractor will help you save time and money.
- Professional contractors are able to fix and repair damaged gutters that homeowners may not notice.

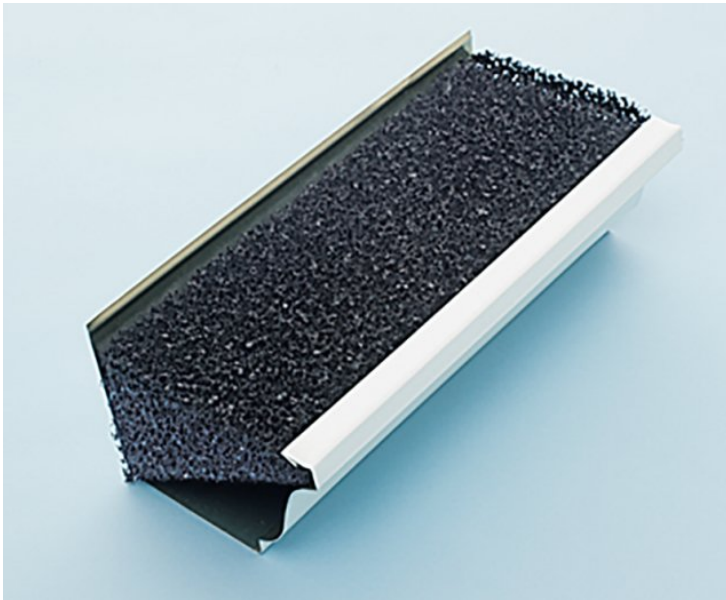
# Gutter/Downspout Maintenance

- Check to make sure gutters are in alignment to ensure rainwater collects and drains away from the house. Adjust as needed.
- Clean and remove leaves and other debris from gutters.
- Cleaning gutters seasonally will prevent leaves and debris from accumulating in the gutter downspout and blocking water flow.



# Gutter Guard Protection

A Debris Stopper will fit in most gutters. Debris stoppers are usually made of foam.



Non-Clog gutter protection are made of plastic and have to be professionally installed.



# Common Problems Gutter & Downspout



Rotten Fascia



Gutter Unattached



Damaged Gutter  
& Downspout

# Seasonal Roof Inspection



- Roof maintenance can get very tricky for a homeowner. Seek a professional roofer to come out and inspect your roof.
- The next slide will help homeowners identify certain problems with an on the ground visual inspection.



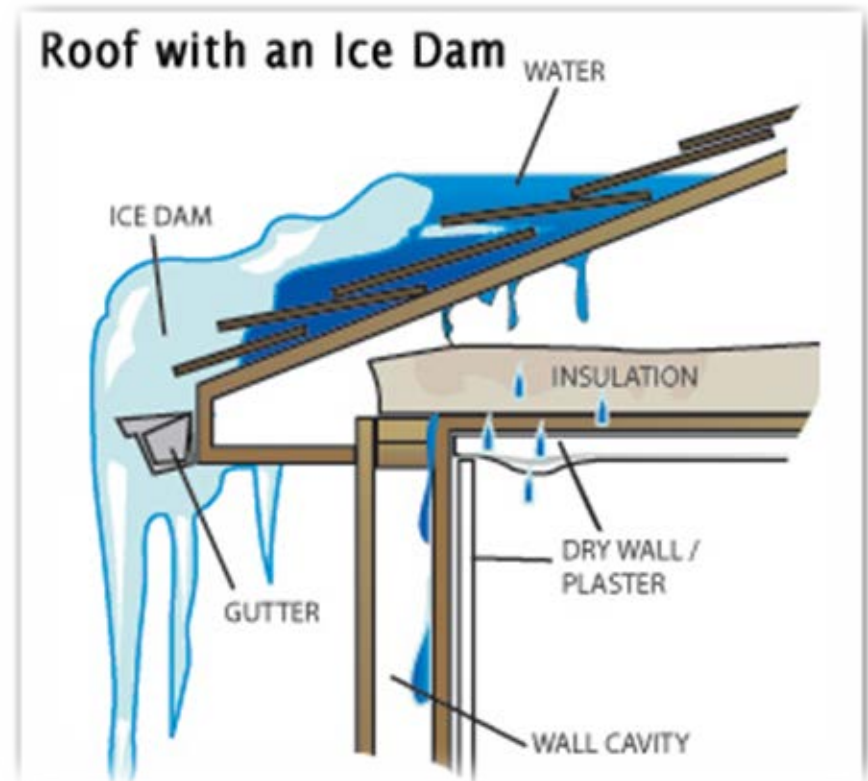
# Seasonal Roof Inspection

1. Missing Granules
2. Damaged Shingles
3. Curling
4. Hail Damage
5. Ceiling Spots
6. Rotting
7. Damaged Flashing
8. Buckling
9. Missing Shingles
10. Algae Growth



# Ice Dams

- An ice dam forms when the roof over the attic gets warm enough to melt the underside layer of snow on the roof.
- Water trickles down between the layer of snow and the shingles until it reaches the eave of the roof, which stays cold because it extends beyond the side of the house.
- The water then freezes, gradually growing into a mound of ice.



# Ice Dam Prevention



# Exterior Siding

- Damaged siding can cause serious problems for your home.
- All siding should be inspected by a professional.



# Vinyl Siding Repair

Always examine siding and replace as needed.



All siding should have a moisture barrier.



# Vinyl Siding Maintenance

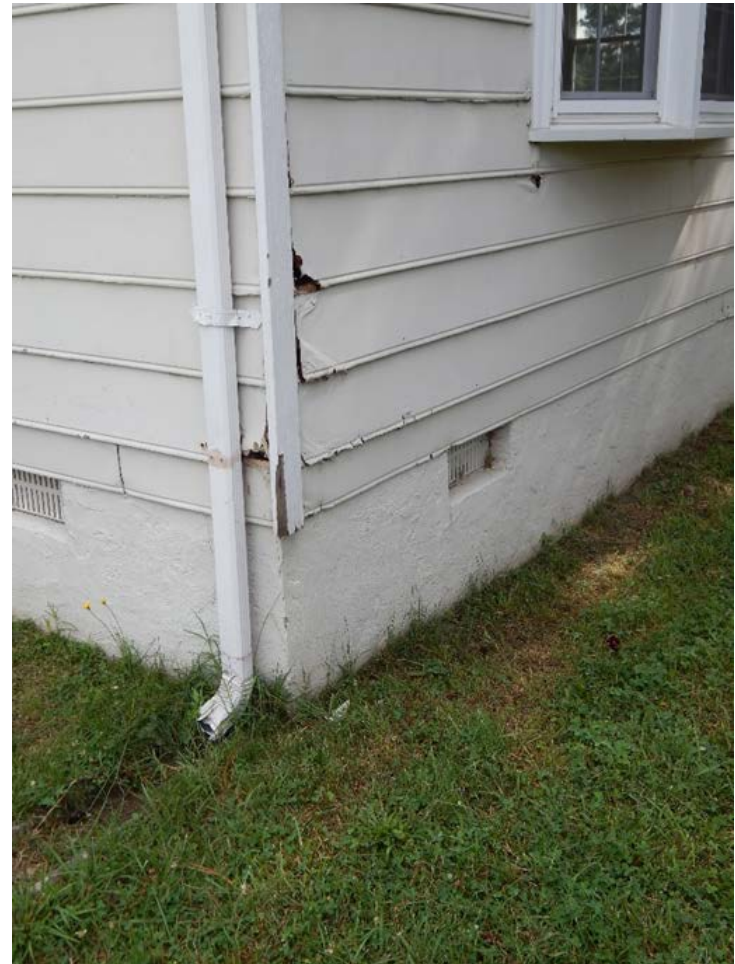


Algae growing on siding

Seasonal pressure washing helps to maintain aesthetics and durability.

# Masonite Siding Maintenance & Repair

- Will rot and warp if not properly sealed
- Replace damaged pieces of masonite
- Paint siding with an exterior paint every 3 to 5 years to prevent water damage



# Painted Wood Siding

- Check for peeling, bubbling and flaking
- Check for water damage
- Paint every 5 years
- Use a wood stain paint or a paint used for exterior wood





# Wood Trim

- If able, replace with vinyl trim
  - Will save money and time and be less prone to damage
- Otherwise, paint every 5 years
  - Use wood exterior paint



# Decks and Porches

- Check for loose boards
  - Replace nails with screws
- Check handrails to make sure they are secure
- Stain wood every 2 years to protect from water damage and dry rotting
- More on decks and porches on March 4!



# Exterior Drains

Clogged drains allow water to build up and enter house.  
Clear leaves and other debris surrounding drain.  
Use a water hose to make sure drain is not clogged.



# Washer & Dryer Maintenance



# Washing Machine Maintenance



1. Always check your washer hoses for leaks and tightness
2. Check washing machine drain hose for lint and other debris
3. Pull washing machine out to check drywall for discoloration

# Dryer Maintenance

Always check your exhaust duct and vents for clogs. A clogged duct or vent can cause a fire.



# Routine Maintenance

- Wood fireplace
  - Routine maintenance of removing ashes and cleaning up debris around the fireplace.
  - Once a year, call a chimney sweep to inspect the chimney and chimney cap and to scrub off any creosote that has built up within the chimney.
    - If you don't do this, particularly if you burn a lot of wood, you could get a chimney fire.
- Gas fireplace
  - You should arrange for an annual check by a professional
  - The service technician should adjust the controls, particularly the ignition system if the fireplace lacks a pilot light.



# Routine Maintenance

## Electrical Equipment

- Check for and replace damaged cords
- Test ground fault interrupters
- Smoke and CO alarms
  - Replace battery when chirping or a minimum of once a year – when changing clocks for daylight savings time
  - Vacuum dust from detectors
  - Replace detectors every 8 to 10 years
  - Units with 10-year lithium batteries do not require changing of batteries but must be replaced every 10 years.

