

## Property Protection Measures

- **Purchase of Flood Insurance for all Properties:** The Jefferson County Commission voluntarily participates in the National Flood Insurance Program. This means that they have written ordinances that meet or exceed the requirements of FEMA's National Flood Insurance Program. The ordinances are enforced by the Jefferson County Office of Planning, Zoning and Engineering. Because Jefferson County has chosen to participate in this program, residents of our community are eligible to purchase flood insurance. Flood insurance is not available everywhere. It is available only to residents of communities that participate in the National Flood Insurance Program. Flood insurance is a good investment. A Flood Insurance Policy will cover all floods, no matter how large. Flood insurance cannot be denied because of a floodplain location or flood history. Flood insurance will cover replacement costs for single-family residences, if you have full coverage. Flood insurance will cover both structures and contents, if insured for both. Premiums can often be reduced if mitigation measures are taken. Flood insurance will pay to repair the flood-damaged part of your building or contents in accord with your policy. Flood insurance has a deductible, very much like other insurance policies. It will not pay for additional costs for retrofitting or to meet local codes. Flood insurance can pay a claim or partial claim within days of the disaster even without a presidential declaration. However, if there is a presidential declaration, other sources of funds may be available for mitigation. For more information about Flood Insurance, contact your local insurance agent or visit <http://www.fema.gov/nfip/infocon.shtm>
- **Continued Strong Enforcement of Floodplain Regulations and Regulatory High Standards** Jefferson County Office of Planning, Zoning and Engineering is responsible for floodplain management in the unincorporated areas of the County. They have copies of the official FEMA Flood Insurance Rate Maps and copies of all building permit regulations, including the floodplain ordinance. Jefferson County adheres to strict enforcement of all floodplain regulations in order to protect the County's residents and their property, to protect

the natural and beneficial functions of the floodplains, and to ensure that flood insurance will continue to be available to County residents.

- **Acquisition of flood-prone structures** From time to time after a presidentially-declared disaster, mitigation funds may become available from FEMA to the State. The WV Office of Homeland Security and Emergency Management will notify counties and cities when this funding is available. A City or County Government must apply for mitigation funds and the funds must be approved by the state and by FEMA for projects. There are always more requests than there is funding available. If your property is selected and you agree to be in the acquisition project, your structure and property would be purchased. You would take the money from the sale and purchase another home to live in. The property would become the property of the city or county that purchased it and it has to be managed as "open space" forever. Suitable uses for "open-space-management" are parks, garden space, boat ramps and other uses with no permanent structures on the property.
- **Elevation of flood-prone structures** Most types of homes can be elevated above floodwaters, including wood frame, brick, slab-on-grade, crawlspace, or homes with basements. This is an extremely reliable floodproofing method and requires little human intervention to prepare for a flood event. The floor elevation height should be set according to the local floodplain regulations, and well above the 100-year flood elevation. Elevating a home requires use of professional plumbers, electricians, house movers, contractors, and structural engineers to help you design your new foundation and to obtain building permits from the Office of Planning, Zoning and Engineering. Because the new foundation will be in the floodwaters, it is extremely important that it be structurally designed to withstand lateral (sideways) forces such as fast-flowing currents and the impact of water-borne debris. The basic steps to the process are: Obtain a building permit before starting any work. Have appropriate professionals disconnect all utilities. Hire a professional house mover to disconnect the house from the existing foundation, jack it up to the new height and provide a temporary foundation. Have the utilities temporarily reconnected so the house is liveable while foundation work is done. Build a temporary access stair to meet the new height. Build

a new, permanent foundation. Have the house mover lower the house onto the new foundation and connect anchor bolts. Have the utilities permanently reconnected. Build a new, permanent access stair and landing. \*This is basic information about elevations. Please be sure to discuss any anticipated elevation project with professionals before beginning any work.

- **Relocation of flood-prone mobile homes**-It is possible and sometimes necessary, to move your mobile home to a new location outside of the floodplain. Moving your mobile home outside of the floodplain is the surest way to protect it and yourself from flood damage, but it can be costly. You may need to purchase a new lot unless your present lot is large and has a good location on higher ground. Relocations need to be approved by the Office of Planning, Zoning and Engineering. Relocation of a mobile home or a house is a complex operation that requires a professional mover. Be certain that they have liability insurance to cover the move.
- **Use of Water-Resistant Building Materials**-When building in certain areas of the floodplain or repairing structures that have been flooded, water-resistant building materials are sometimes required by local code and should be used on any structure that has the possibility of getting wet from flooding. Some of these materials are: Marine plywood. Marine plywood is the most water-resistant plywood. It can be used for floor and exterior-wall sheathing. Exterior-grade plywood. Meant to resist low-level moisture, humidity. Exterior-grade plywood should not be used for water saturation conditions. Greenboard. Manufacturers do not consider greenboard (moisture-resistant dry wall) to be a floodproofing material. It can be submerged for several hours without extensive deterioration and it is only slightly more expensive than normal plasterboard. Rigid (closed cell) insulation. Will not deform or lose its isolative properties when wet. It can be dried out and reinstalled in wall or floor cavity. Use instead of fiberglass insulation. Synthetic baseboards. Use instead of wood base. Galvanized nails. Will not rust after being saturated with floodwaters. Use at all locations up to three feet above flood-level. Metal doors. Will not warp if saturated. The door may rust in spots, but this can be sanded out and repainted. Use at all doors, especially exterior. Metal Windows. Will not warp if saturated. Will

need cleaning and oiling after a flood. Sheet vinyl flooring or tile. Adheres to marine or pressure treated plywood underlayment with waterproof adhesive. Indoor and outdoor carpet. Use with synthetic carpet pad. Do not permanently fasten down. Aluminum drywall screws. Will not rust and will allow easy removal and reassembly of interior walls. Use instead of standard drywall nails. Brick, concrete. Not damaged by water saturation, but must be used in conjunction with a waterproof membrane. Plastic Wood. Made of recycled plastics in matching shapes of dimensional lumber. Waterproof and dimensionally stable. Use for foundation and wall framing members. Pressure-treated lumber/plywood. Relatively stable in water saturation conditions. Will not sustain heavy damage but may warp. Plywood second only to marine plywood in water-resistance. Use at all flood-levels. Moisture-resistant material below the 100-year-flood-level. Again, these are suggestions, please check with local ordinances and your contractor before making any decisions.

- **Elevation of Utilities-** The surest way to protect your valuable electrical system is to keep it from getting wet. Be sure all that electrical wiring is done by a licensed electrician and that all local codes are observed.
- Move all wiring well above the 100-year flood level. All outlets, switches, light sockets and junction boxes, as well as the main breaker or fuse box and electric motors should be out of danger of getting wet. Run wires overhead. If a wire has to run into the zones that could get wet, it is best to use a wire rated for underground use. No wire should end in the flood zone and all junctions should be in approved junction boxes. If a wire has to terminate below the 100-year flood level, it should be specially marked in the panel box and turned off at the time of a flood warning. Change all outlets to ground fault interrupters (GFI). Be sure that all electrical wiring is done by a licensed electrician and that all local codes are observed.
- **Anchoring Propane or fuel tanks-**Unanchored fuel tanks can tip over or float. Escaping fuel may result in spills and fires. To prevent this, anchor your fuel tank. Use non-corrosive metal structural supports and fasteners or pressure treated wood structural supports. The type of anchorage will vary depending on the size of the tank and the

structure it is being attached to. Keep the fuel tank topped off to increase the tank's weight and reduce its tendency to float. Check with the manufacturer for recommendations on anchoring. Be sure that all work done conforms to state and local building codes. For rented tanks, check with the fuel supplier before making any modifications to the tank.

- **Installing Septic Backflow valves** The sewage/septic system is designed to remove sewage from a house. If flood water enters the system, the sewage can backup and enter your home. To help prevent this, install a backflow valve in the sewer line. The backflow valve is opened by the flow of sewage exiting your home, but closes when the flow reverses, preventing sewage from backing up into your home. Check with your local building official for permitting and code requirements. It is recommended that this work be done by a qualified, licensed contractor.
- **Relocate or elevate water heater-**When relocating or raising the water heater, be sure it will be at least 12 inches above the 100-year flood level. Consult your local building officials before beginning any work.
- **Relocate or elevate washer and dryer-**Elevate your washer and dryer on a base of masonry or pressure treated lumber to at least a 12 inch safety margin above the base flood elevation, or the highest known flood level. Or, relocate the washer and dryer to a floor with at least a 12 inch safety margin above the base flood elevation to protect them from flooding.
- **Installation of floating floor drain plugs-**The easiest way to stop sewer backup is to plug the opening where the backup can first enter the house. The sanitary system's lowest opening in the house is the floor drain. Commercial plugs are available that can be placed in the floor drain below the grate. Bolts on metal end pieces are tightened, causing a rubber gasket to expand and seal the plug in the pipe. A plug not only stops water from entering the house, but it prevents it from leaving the house as well. Because of this, it may be best to put the plug in place only during heavy rains. You may install a plug with a float. The float allows the water to drain out of the basement. When the sewer backs up, the float rises and plugs the drain. A float plug

permanently installed will not interfere with the floor drain's normal operation. Float plugs may be blocked open by even small amounts of debris. Floor drain plugs do not stop backup from coming out of the next lowest opening, for example a laundry tub or basement toilet. In older houses the sewer lines under the basement floor may be clay tile. A build up of water pressure can damage the sewer lines. Check with your local building official before beginning any repairs.

- Elevating or relocating Electrical system
- Elevating Air Conditioning Compressor or Heat Pump
- Purchase and use of sump pump