



Building Code Clarification Handout, #2008.014, March 2008

## Flood Plain Requirements

Page 1 of 7

The following building code requirements are the current minimum code standards, as taken from the IRC Code & Commentary 2006, required for Flood-Resistant Construction in One and Two family dwellings, and their accessory buildings, and based on Kentucky Amendments to the 2007 Kentucky Residential Code, Second Edition, May 15, 2007. These requirements are taken from the following codes and ordinances in Hardin County: 2007 Kentucky Residential Code; 2007 Kentucky Building Code; the Hardin County, Kentucky Development Guidance System, the Storm Water Management Ordinances; and the Local Floodplain Management Program for Hardin County, (Flood Insurance Rate Map 2007).

Introductory Note: "The National Flood Insurance Program, NFIP, was established to reduce flood losses, to better indemnify individuals from flood losses and to reduce federal expenditures for disaster assistance. A community that has flood hazard areas participates in the NFIP to protect health, safety and property, and so that its citizens can purchase federally-backed flood insurance. FEMA administers the NFIP and monitors community compliance with the floodplain management requirements of the NFIP." (IRC Code & Commentary 2006).

**Disclaimer:** This is not a listing of all code sections involving building or utilities which involve this subject, but only the sections most often questioned. Refer to the 2007 Kentucky Residential Code book for information not listed in this handout and for other requirements of the building code.

## Building Code Requirements

Table R301.2(1) Climactic and Geographic Design Criteria: Hardin County has adopted the *Local Floodplain Management Program for Hardin County, (Flood Insurance Rate Map 2007)*.

- **As required in KRC R106.1.3, Anytime a project is proposed in or near a flood prone area, an application must be sent to the State Division of Water, Floodplain Management Section, for review.** The Hardin County Engineer office handles flood plain management enforcement and can handle local questions pertaining to this subject. (Contact Vicki Brackett, County Engineer at (270)765-2359, extension 236, the office is located on the third floor of the H. B. Fife Courthouse in the center of Public Square, Elizabethtown, KY.)
- **Make your application to build in a flood prone zone area at the County Engineer office.**
- **Areas prone to Flooding. (R104.10.1).** The building official shall not grant modifications to any provisions related to areas prone to flooding as established by local jurisdiction without the granting of a variance to such provision by the board of appeals. (2007 KRC, Amendments, Second Edition, May 15, 2007)

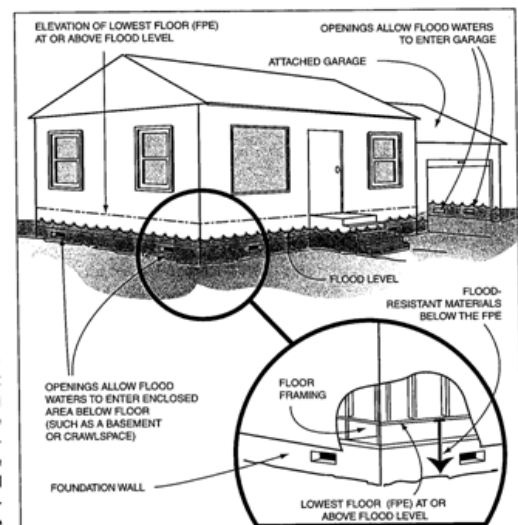
## Flood-Resistant Construction, Section R324

**A. General. (R324.1)** Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in Table R301.2(1) shall be designed and constructed in accordance with the provisions contained in this section.

**Exception:** Buildings and structures located in whole or in part in identified floodways as established in Table R301.2(1) shall be designed and constructed as stipulated in the *International Building Code*.

**B. Structural systems. (R324.1.1)** All structural systems of all buildings and structures shall be designed, connected and anchored to resist flotation, collapse or permanent lateral movement due to structural loads and stresses from flooding equal to the design flood elevation.

**C. Flood-Resistant Construction. (R324.1.2)** All buildings and structures erected in areas prone to flooding shall be constructed by methods and practices that minimize flood damage. (See Figure 6-1).



**Figure 6-1**  
A typical wet floodproofed house that is compliant with the minimum requirements of a community's floodplain management ordinance or law.

FEDERAL EMERGENCY MANAGEMENT AGENCY

## Flood Plain Requirements

- D. Establishing the design flood elevation. (R324.1.3)** The design flood elevation shall be used to define areas prone to flooding, and shall describe, at a minimum, the base flood elevation at the depth of peak elevation of flooding (including wave height) which has a 1 percent (100-Year Flood) or greater chance of being equaled or exceeded in any given year.
- E. Determination of design flood elevations. (R324.1.3.1)** If design flood elevations are not specified, the building official is authorized to require the applicant to:
1. Obtain and reasonably use data available from a federal, state or other source; or
  2. Determine the design flood elevation in accordance with accepted hydrologic and hydraulic engineering practices used to define special flood hazard areas. Determination shall be undertaken by a registered design professional who shall document that the technical methods used reflect currently accepted engineering practice. Studies, analyses and computations shall be submitted in sufficient detail to allow thorough review and approval.
- F. Determination of impacts. (R324.1.3.2)** In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the applicant shall demonstrate that the effect of the proposed buildings and structures on design flood elevations, including fill, when combined with all other existing and anticipated flood hazard area encroachments, will not increase the design flood elevation more than 1 foot (305mm) at any point within the jurisdiction.
- G. Lowest Floor. (R324.1.4)** The lowest floor shall be the floor of the lowest enclosed area, including basement, but excluding any unfinished flood-resistant enclosure that is useable solely for vehicle parking, building access or limited storage provided that such enclosure is not built so as to render the building or structure in violation of this section.
- H. Protection of mechanical and electrical systems. (R324.1.5)** Electrical systems, equipment and components, and heating, ventilating, air conditioning and plumbing appliances, plumbing fixtures, duct systems, and other service equipment shall be located at or above the design flood elevation. If replaced as part of a substantial improvement, electrical systems, equipment and components, and heating, ventilating, air conditioning and plumbing appliances, plumbing fixtures, duct systems, and other service equipment shall meet the requirements of this section. Systems, fixtures, and equipment and components shall not be mounted on or penetrate through walls intended to break away under floor loads.
- Exception:** Electrical systems, equipment and components, and heating, ventilating, air conditioning and plumbing appliances, plumbing fixtures, duct systems, and other service equipment are permitted to be located below the design flood elevation provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation in compliance with the flood-resistant construction requirements of the *International Building Code*. Electrical wiring systems are permitted to be located below the design flood elevation provided they conform to the provisions of the electrical part of this code for wet locations.
- I. Protection of water supply and sanitary sewage systems. (R324.1.6)** New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems in accordance with the plumbing provisions of this code. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into systems and discharges from systems into floodwater in accordance with the plumbing provisions of this code and Chapter 3 of the *International Private Sewage Disposal Code*.
- J. Flood-resistant materials. (R324.1.7).** Building materials used below the design flood elevation shall comply with the following:
1. All wood, including floor sheathing, shall be pressure-preservative-treated in accordance with AWPA U1 for the species, product, preservative and end use or be the decay-resistant heartwood of redwood, black locust or cedars. Preservatives shall be listed in Section 4 of AWPA U1.
  2. Materials and installation methods used for flooring and interior and exterior walls and wall coverings shall conform to the provisions of FEMA/FIA-TB.
- K. Manufactured housing. (R324.1.8).** New or replacement manufactured housing shall be elevated in accordance with Section R324.2 and the anchor and tie-down requirements of Sections AE604 and AE605 of Appendix E shall apply. The foundation and anchorage of manufactured housing to be located in identified flood ways as established in Table R301.2(1) shall be designed and constructed in accordance with the applicable provisions in the *International Building Code*.
- L. As-built elevation documentation. (R324.1.9).** A registered design professional shall prepare and seal documentation of the elevations specified in Section R324.2 or R324.3.
- M. Flood hazard areas (including A zones). (R324.2).** Areas that have been determined to be prone to flooding but not subject to high velocity wave action shall be designated as flood hazard areas. All buildings and structures constructed in whole or in part in flood hazard areas shall be designed and constructed in accordance with Section R324.2.1 and R324.2.3.

**[Note: This is the requirements for Hardin County and includes the following designated Areas of Flood Hazard Zones on the adopted floodplain maps: A, AE, AH, AO, AR, A99, V and VE.] Zone A has no base flood elevations determined. There are no Zones V and VE in Hardin County.**

**Flood Plain Requirements**

The following **LEGEND insert** indicates the description of the designated Areas of Flood Hazard Zones as seen on the adopted floodplain maps: (See **LEGEND insert, below**)

**LEGEND**

**SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

**ZONE A** No base flood elevations determined.

**ZONE AE** Base flood elevations determined.

**ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

**ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

**ZONE AR** Area of Special Flood Hazard formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

**ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no base flood elevations determined.

**ZONE V** Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.

**ZONE VE** Coastal flood zone with velocity hazard (wave action); base flood elevations determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot; or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

**OTHER AREAS**

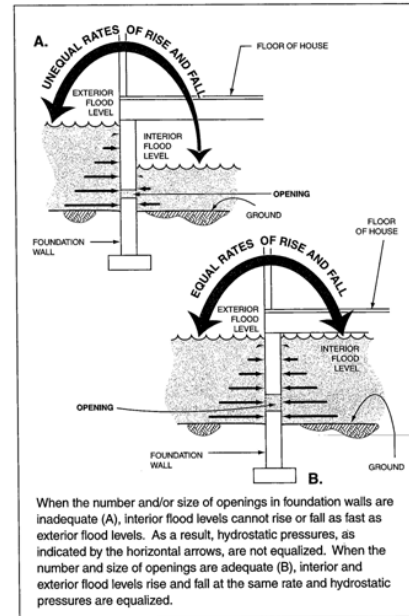
**ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.

**ZONE D** Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

**Figure 6-2**  
Wall openings must allow flood waters not only to enter the house but also to rise and fall at the same rate as flood waters outside.



**N. Elevation Requirements. (R324.2.1)**

1. Building and structures shall have the lowest floors elevated to or above the design flood elevation.
2. In areas of shallow flooding (**AO Zones**), buildings and structures shall have the lowest floor (including basement) elevated at least as high above the highest adjacent grade as the depth number specified in feet (mm) on the FIRM, or at least 2 feet (610 mm) if a depth number is not specified.
3. Basement floors that are below grade on all sides shall be elevated to or above the design flood elevation.  
**Exception: Enclosed areas below the design flood elevation, including basements whose floors are not below grade on all sides, shall meet the requirements of Section R324.2.2.**

**O. Enclosed area below design flood elevation. (R324.2.2)** Enclosed areas, including crawl spaces, that are below the design flood elevation shall:

1. Be used solely for parking of vehicles, building access or storage.
2. Be provided with flood openings that meet the following criteria:
  - 2.1 There shall be a minimum of two openings on different sides of each enclosed area; if a building has more than one enclosed area below the design flood elevation, each area shall have openings on exterior walls. (See **Figure 6-2, above right**)
  - 2.2. The total net area of all openings shall be at least 1 square inch (645 mm<sup>2</sup>) for each square foot (0.093 m<sup>2</sup>) of enclosed area, or the opening shall be designed and the construction documents shall include a statement that the design and installation will provide for equalization of hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwaters.
  - 2.3. The bottom of each opening shall be 1 foot (305 mm) or less above the adjacent ground level.
  - 2.4. Openings shall be at least 3 inches (76 mm) in diameter.
  - 2.5. Any louvers, screens, or other opening covers shall allow the automatic flow of floodwaters into and out of the enclosed area. (See **Flood Vent Picture Samples, next following page**).
  - 2.6. Openings installed in doors and windows that meet requirements 2.1. through 2.5, are acceptable; however, doors and windows without installed openings do not meet the requirements of this section.

**Flood Plain Requirements**

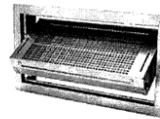
The following **Flood Vent Picture Samples** are examples of flood opening vents available:

**FLOOD VENTS:**

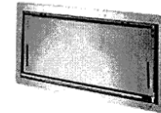
The flood vent is FEMA complaint to meet the flood zone requirements. This is the most economical flood vent in the market today. Protect your home from flood waters and save money on flood insurance by using these vents. They are made of durable PVC/ABS plastic (no rust or rot) with a UV retardant. The flood vent is excellent for converting an existing home to meeting FEMA's flood zone requirements or for new construction. The flood vent comes with a vent plate, vermin screen, louver, lid and installation hardware. The flood vent is only certified to meet FEMA's requirements when used without the lid.



Inside Opening	Outside Frame	Flood Vent Price	Non-Eng.	Engineered	Net-Free Air
12" X 20"	18" X 26"	\$79	240	380	220
12" X 32"	18" X 38"	\$99	384	610	353
16" X 16"	22" X 22"	\$79	256	410	235
16" X 24"	22" X 30"	\$99	384	610	353
16" X 32"	22" X 38"	\$99	512	810	471
20" X 32"	26" X 38"	\$99	640	1,020	589
24" X 24"	30" X 30"	\$99	576	920	530
24" X 36"	30" X 42"	\$109	864	1,380	795



Smart VENT



Flood VENT

Smart VENT is a revolutionary flood mitigation device that is not only designed to help minimize damage during a flood event, it can also reduce mold and mildew as well. Built in a state-of-the-art, laser-driven manufacturing facility, Smart VENT is crafted from 100% stainless steel, and designed to last. It is the only Certified Foundation Flood Vent on the market.

During a flood event, the patented float mechanism disengages, allowing hydrostatic pressure to equalize resulting in a significant decrease in potential damage to your foundation crawlspace. The Smart VENT is so unique that it is recognized by FEMA for its innovative design. Some insurance companies are recognizing the benefits of installing a Smart VENT system; possibly reducing flood insurance premiums. This directly benefits the homeowner and provides the opportunity for a considerable Return On Investment.

**P. Foundation design and construction. (R324.2.3)** Foundation walls for all buildings and structures erected in flood hazard areas shall meet the requirements of Chapter 4 (Foundations).

**Exception:** Unless designed in accordance with Section R404:

1. The unsupported height of 6-inch (152 mm) plain masonry walls shall be no more than 3 feet (914 mm).
2. The unsupported height of 8-inch (203 mm) plain masonry walls shall be no more than 4 feet (1219 mm).
3. The unsupported height of 8-inch (203 mm) reinforced masonry walls shall be no more than 8 feet (2438 mm). For the purpose of this exception, unsupported height is the distance from the finished grade of the under-floor space and the top of the wall.

**Q. Coastal high-hazard areas (including V Zones). (R324.3)** Areas that have been determined to be subject to wave heights in excess of 3 feet (914 mm) or subject to high-velocity wave action or wave-induced erosion shall be designated as coastal high-hazard areas. Buildings and structures constructed in whole or in part in coastal high-hazard areas shall be designated and constructed in accordance with Sections R324.3.1 through R324.3.6.

**Location and site preparation. (R324.3.1)**

1. Buildings and structures shall be located landward of the reach of mean high tide.
2. For any alteration of sand dunes and mangrove stands the building shall require submission of an engineering analysis which demonstrates that the proposed alteration will not increase the potential for flood damage.

**Elevation Requirements. (R324.3.2)**

1. All buildings and structures erected within coastal high hazard areas shall be elevated so that the lowest portion of all structural members supporting the lowest floor, with the exception of mat or raft foundations, piling, pile caps, columns, grade beams and bracing, is located at or above the design flood elevation.
2. Basement floors that are below grade on all sides are prohibited.
3. The use of fill for structural support is prohibited.
4. The placement of fill beneath buildings and structures is prohibited. **Exception:** Walls and partitions enclosing areas below the design flood elevation shall meet the requirements of Sections R324.3.4 and R432.3.5.

**R. Foundations. (R324.3.3).** Buildings and structures erected in coastal high-hazard areas shall be supported on pilings or columns and shall be adequately anchored to those pilings or columns. Pilings shall have adequate soil penetrations to resist the combined wave and wind loads (lateral and uplift). Water loading values used shall be those associated with the design flood. Wind loading values shall be those required by this code. Pile embedment shall include consideration of decreased resistance capacity caused by scour of soil strata surrounding the piling. Pile systems design and installation shall be certified in accordance with Section R324.3.6. Mat, raft or other foundations that support columns shall not be permitted where soil investigations that are required in accordance with Section R401.4 indicate that soil material under the mat, raft or other foundation is subject to scour or erosion from wave-velocity flow conditions. Slabs, pools, pool decks and walkways shall be located and constructed to be structurally independent of buildings and structures and their foundations to prevent transfer of flood loads to the buildings and structures during conditions of flooding, scour or erosion from wave-velocity flow conditions, unless the buildings and structures and their foundation are designed to resist the additional flood load.

## Flood Plain Requirements

- S. Walls below design flood elevation. (R324.3.4).** Walls and partitions are permitted below the elevated floor, provided that such walls and partitions are not part of the structural support of the building or structure and:
1. Electrical, mechanical, and plumbing system components are not to be mounted on or penetrate through walls that are designed to break away under flood loads; and
  2. Are constructed with insect screening or open lattice; or
  3. Are designed to break away or collapse without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system. Such walls, framing and connections shall have a design safe loading resistance of not less than 10 (479 Pa) and no more than 20 pounds per square foot (958 Pa); or
  4. Where wind loading values of this code exceed 20 pounds per square foot (958 Pa), the construction documents shall include documentation prepared and sealed by a registered design professional that:
    1. The walls and partitions below the design flood elevation have been designed to collapse from a water load less than that which would occur during the design flood.
    2. The elevated portion of the building and supporting foundation system have been designed to withstand the effects of wind and flood loads acting simultaneously on all building components (structural and nonstructural). Water loading values used shall be those associated with the design flood. Wind loading values shall be those required by this code.
- T. Enclosed areas below design flood elevation. (R324.3.5)** Enclosed areas below the design flood elevation shall be used solely for parking of vehicles, building access or storage.
- U. Construction Documents. (R324.3.6).** The construction documents shall include documentation that is prepared and sealed by a registered design professional that the design and methods of construction to be used meet the applicable criteria of this section.

## Summary of Actions Required to build in a Flood Hazard Area.

1. **A STREAM CONSTRUCTION PERMIT** For Construction In or Along A Stream is required to be obtained from the state by applying through the **Hardin County Engineer's Office**. *The Hardin County Engineer office handles flood plain management enforcement and can handle local questions pertaining to this subject. (Contact Vicki Brackett, County Engineer at (270)765-2359, extension 236, the office is located on the third floor of the H. B. Fife Courthouse in the center of Public Square, Elizabethtown, KY.)*
2. Upon approval by the state, the **Manager of the Water Resources Branch** will issue a **STREAM CONSTRUCTION PERMIT**. Their website is: [www.water.ky.gov](http://www.water.ky.gov)
3. This will be issued by the:  
Environmental and Public Protection Cabinet  
Department for Environmental Protection  
Division of Water  
14 Reilly Road  
Frankfort, Kentucky 40601
4. The **STREAM CONSTRUCTION PERMIT** will be issued to the property owner (applicants) and will be mailed to them. A copy will be sent to the local building official.
5. Accompanying this permit is a listing of **Facility Requirements** associated with the Stream Construction Permit. These **Submittal/Action Requirements** and **Narrative Requirements** descriptively lists the actions and documents the property owner (applicant) is obligated to complete before occupying or using the building or structure described in the application.

## INSPECTIONS:

6. **Floodplain Inspections.**
  - a. **First Inspection:** For construction in areas prone to flooding as established by local jurisdiction, **upon placement of the lowest floor, including basement, and prior to further vertical construction, the building official shall require submission of documentation, prepared and sealed by a registered design professional, of the elevation of the lowest floor, including basement, required in Section R324.** (2007 KRC Kentucky Amendments, Second Edition, May 15, 2007).
  - b. **Second Inspection: Condition S-1:** The (applicant named) must submit final construction report: Due within 90 days after completion of construction.  
The (applicant named) must notify the state in writing that the project has been completed in accordance with the approved plans and specifications.
  - c. A **Final Construction Report** is enclosed to the (Applicant Named) along with the Stream Construction Permit. [401 KAR 4:060 Section 3(2)] *(This Final Construction Report is completed by the applicant and sent to the state in order to officially and properly notify them.)*
  - d. **After receiving the Final Construction Report an authorized inspector will be sent to the jobsite, either by the state, or from the Hardin County Engineering Department, to confirm information and**

## Flood Plain Requirements

perform a **FINAL INSPECTION** as it relates to the floodplain requirements. *(This inspection is in addition to the local building code final inspection.)*

### The following is a typical listing of Facility Requirements for a Stream Construction Permit and is given as an example only.

*(Always refer to the actual Facility Requirements for the specific property location, there could be additional requirements not listed in this handout.)*

#### **Submittal/Action Requirements:**

- **Condition S-1:** The (applicant named) must submit final construction report: Due within 90 days after completion of construction.
- The (applicant named) must notify the state in writing that the project has been completed in accordance with the approved plans and specifications.
- A **Final Construction Report** is enclosed to the (Applicant Named) along with the Stream Construction Permit. [401 KAR 4:060 Section 3(2)] *(This Final Construction Report is completed by the applicant and sent to the state in order to officially and properly notify them.)*
- **Condition S-2:** The finished lowest floor elevation must be certified to be at or above elevation (as stated on permit), which is the base flood elevation. The applicant must submit an **Elevation Certification Form**: Due within 90 days after completion of construction. The attached form must be completed by a licensed professional surveyor or professional engineer. Submit a completed copy to the Division of Water, Water Resources Branch. Local agencies may require an elevation surcharge in your area, i.e., they may require that the finished floor elevation be higher than that required by the state. [401 KAR 4:060 Section 6(2)(a), 401 KAR 4:060 Section 6(2)(c), 401 KAR 4:060 Section 6(2)(d)]

#### **Narrative Requirements:**

- **Condition T-1:** This permit is issued from the standpoint of stream construction only and does not constitute certification of any other aspect of the proposed construction. The applicant is liable for any damage resulting from the construction, operation, or maintenance of this project. This permit has been issued under the provisions of KRS Chapter 151.250 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal and local agencies. [KRS 151.250].
- **Condition T-2:** A copy of this permit must be available at the construction site. [KRS 151.250].
- **Condition T-3:** Any work performed by or for (applicant named) that does not fully conform to the submitted application or drawings and the limitations set forth in this permit is subject to partial or total removal and enforcement actions pursuant to KRS 151.280 as directed by the Kentucky Department for Environmental Protection. [KRS 151.280].
- **Condition T-4:** Any design changes or amendments to the approved plans must be submitted to the Division of Water and approved in writing prior to implementation. [KRS 151.250].
- **Condition T-5:** Since Hardin County participates in the National Flood Insurance Program, a local floodplain permit must be obtained prior to beginning of construction. Upon completion of construction (applicant named) must contact the local permitting agency for final approval of the construction for compliance with the requirements of the local floodplain ordinance. [401 KAR 4:060, Section 1(16)].
- **Condition T-6:** At no point below the base flood elevation (as stated on permit) shall the use of construction materials or the permanent storage of materials subject to flood damage be allowed. [401 KAR 4:060].
- **Condition T-7:** The foundation walls, if any, must be vented below the base flood elevation to allow the free flow of floodwater in and out. Total vent area must equal or exceed one square inch of opening to one square foot of floor space with the location of vents placed with bottom of vent no greater than one foot above adjacent finished grade. [401 KAR 4:060].
- **Condition T-8:** A manufactured home shall be placed on a properly engineered foundation, and shall be securely anchored to resist flotation, lateral movement, or collapse from the impacts of flood waters. [KRS 151.250].
- **Condition T-9:** Any electrical components should be elevated above the base flood elevation of (as stated on permit) or provided with ground fault breakers. [KRS 151.250].
- **Condition T-10:** No portion of the structure shall extend further from (the street named) than (distance stated on permit), measured perpendicularly from the centerline of the road. [401 KAR 4:060 Section 5].
- **Condition T-11:** Upon completion of construction all disturbed areas shall be seeded and mulched or otherwise stabilized to prevent erosion. [401 KAR 4:060].
- **Condition T-12:** Construction other than as authorized by this permit shall require written approval from the Division of Water. [401 KAR 4:060].

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#### **Bibliography:**

**Flood Plain Requirements**

*Figure 6-1, "A Typical Wet Flood Proofed House..."; Federal Emergency Management Agency, Homeowner's Guide to Retrofitting, FEMA 312/June 1998; this handout page 1.*

*Figure 6-2, "Wall openings must allow floodwaters..."; Federal Emergency Management Agency, Homeowner's Guide to Retrofitting, FEMA 312/June 1998; this handout page 3.*

*LEGEND, National Flood Insurance Program; NFIP Map, Hardin County Planning Office, this handout page 3.*

*Flood Vent Picture Samples, captured from internet websites, left side picture from [www.crawlspacedoors.com](http://www.crawlspacedoors.com); the right side picture from [www.smartvent.com](http://www.smartvent.com); this handout page 4.*

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**Building Code Clarification Handouts Available Listing, 03-25-08**

- |                                                   |                                                               |
|---------------------------------------------------|---------------------------------------------------------------|
| 2008.001, Crawlspace & Basement Requirements      | 2008.008, Egress Windows and Window Wells                     |
| 2008.002, Energy Efficiency Requirements          | 2008.009, 2007 Top Residential Code Requirements (Booklet)    |
| 2008.003, Accessory Structure on Residential Lots | 2008.010, Inspection Checklist                                |
| 2008.004, Dryer Vent Requirements                 | 2008.011, Ramps, Landings, etc. for the Physically Challenged |
| 2008.005, Footing Inspection Checklist            | 2008.012, Swimming Pools                                      |
| 2008.006, Deck and Stair Guide                    | 2008.013, Manufactured Homes Installation                     |
| 2008.007, Windows & Doors- Safety Glazing         | 2008.014, Floodplain Requirements                             |