



Simple Retrofit Prevents Structural Damage

Full Mitigation Best Practice Story

Saint Tammany Parish, Louisiana

Slidell, LA – Hurricane Katrina (2005) moved four feet of water into Bruce Colby’s garage and one foot of water into his home in Slidell, Louisiana. Mr. Colby’s garage doors are intact and the overall home is structurally sound. His neighbors, however, will have to replace their entire garages because of structural damage.



The difference between Mr. Colby’s and his neighbors’ homes is that he installed three International Code Council (ICC)-evaluated flood vents prior to Katrina. Mr. Colby installed the flood vents in order to reduce his flood insurance premium; that financial decision resulted in the physical protection of his property during the hurricane. “My insurance agent told me to get flood vents and so I did an [internet] search,” Colby explained. He chose a flood vent certified by the ICC, which ensures that the vent has been rigorously tested for performance under flood conditions, including debris-filled flood waters that could clog ordinary vents.

The National Flood Insurance Program (NFIP) requires flood vents for residential basements, crawl spaces, garages, and other enclosed structures that are below the Base Flood Elevation in Special Flood Hazard Areas (SFHAs). SFHAs are at high-risk of flooding and subject to inundation by the base flood, which is the flood that has a one-percent chance of being equaled or exceeded in any given year. Much different than air vents, flood vents are specifically designed to open during flooding to allow the free flow of water through the structure. Normally these vents are closed so that animals, debris, and moisture are kept out. Some models are sealed, allowing for conditioned space in the interior. Other models are temperature-sensitive, opening during hot weather to allow air circulation.

Flood vents are critical because if water cannot equalize quickly enough, pressure from the flood water can blow out doors and windows, magnifying the damages from the flood. Often, pressure from flood waters that are not properly vented will compromise the entire structure, rendering the home uninhabitable. Proper flood venting may help prevent such substantial loss.

Because he installed flood vents, Mr. Colby saves \$700 per year in flood insurance, and he only paid a total of \$600 for three flood vents. The fact that his garage survived and his home is structurally sound following Katrina underscores the real value of proper flood venting.

Four feet of floodwater flowed through Mr. Colby’s garage without causing structural damage. He is pleased with his decision to install flood vents: “I don’t know anyone [else] who has a flood vent. No one around here knew what they were. I guess it will all change now.”

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region VI**

State: **Louisiana**

County: **Saint Tammany Parish**

City/Community: **Slidell**

Key Activity/Project Information

Sector: **Private**
Hazard Type: **Hurricane/Tropical Storm**
Activity/Project Type: **Building Codes; Retrofitting, Non-structural; Flood Insurance**
Structure Type: **Wood Frame**
Activity/Project Start Date: **02/2005**
Activity/Project End Date: **05/2005**
Funding Source: **Property Owner, Residential**

Activity/Project Economic Analysis

Cost: **\$600.00 (Actual)**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **No**
Value Tested By Disaster? **Yes**
Tested By Federal Disaster #: **No Federal Disaster specified**
Year First Tested: **2005**
Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: <http://www.floodsmart.gov>
Reference URL 2: <http://www.smartvent.com/resource/svvideo.wmv>

Main Points

- Bruce Colby installed three International Code Council (ICC)-certified flood vents prior to Hurricane Katrina.
- The NFIP requires flood vents for residential basements, crawl spaces, garages, and other enclosed structures that are below the BFE in SFHAs.
- Four feet of floodwater flowed through Mr. Colby's garage without causing structural damage.



Bruce Colby stands near a flood vent that saved his garage during Hurricane Katrina.



Slidell homeowner did not install flood vents, and Katrina floodwaters buckled the garage door.



Home without flood vents is structurally compromised.