Recommended Ordinance Enhancements

- **Measures not acceptable as flood openings**
  - *Updated as per FEMA NFIP Technical Bulletin 1/March 2020*
- **Flood Vent Inspections With Every Home Sold**
- **Regulate Shaded X Zones**
- **Non-Engineered Opening Criteria**

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Measures not acceptable as flood openings

The recently released, March 2020 version of FEMA NFIP Technical Bulletin 1, highlights the measures not acceptable as flood openings

9.1 Measures Not Acceptable as Flood Openings

FEMA has determined that the following measures do not satisfy the requirements for flood openings:

- Standard foundation air-ventilation devices that can be closed manually unless they are permanently disabled in the open position because otherwise, they do not allow for the automatic entry and exit of floodwater (see Figure 17).
- Standard foundation air-ventilation devices that have detachable solid covers intended to be manually installed over the vent because they do not allow for the automatic entry and exit of floodwater when the cover is in place.
- Standard foundation air-ventilation devices that are designed to open and close based on temperature unless they are also designed to allow for the automatic entry and exit of floodwater.
- Devices with covers or panels that are intended to displace when floodwaters rise on only one side of a wall because they do not satisfy the requirement for automatic entry and exit of floodwater in both directions.
- Windows below the BFE because the automatic entry and exit of floodwater cannot be satisfied by the expectation that windows will break under rising floodwater.
- Garage doors without openings because human intervention is required to open garage doors when flooding is expected. Gaps between the garage door and the door jamb or walls do not count toward the net open area requirement.

newly added

Flood Vent Inspections With Every Home Sold

Flood vent inspections with every home sold can help to get pre-existing homes that do not meet current standards up to code.

At the time of a real estate transaction in Cape May, a flood vent inspection is triggered. If the house fails, Cape May requires a retrofit into compliance.

Cape May, NJ Ordinance – Page 13

§ 199-6.

A. The purpose of this section is to require an inspection of buildings, structures, or units prior to the transfer of title to determine compliance with City Code Section 258-17E (Flood Damage Prevention), but only with respect to the minimum number of flood vents.

Flood Vent Inspections With Every Home Sold

Sea Isle City, NJ
Non Conversion Agreement and Flood Vent Affidavit

The Property Owner acknowledges and agrees to the following:

1. That s/he is a new owner of the above property,
2. That the enclosed area, if permitted, shall be used solely for parking of vehicles, limited storage, or access to the building and will never be used for human habitation without first becoming fully complaint with the Floodplain Management Ordinance in effect at the time of conversion,
3. That all interior walls, ceilings, and floors below the Flood Protection Elevation shall be unfinished or constructed of flood resistant materials,
4. That mechanical, electrical, or plumbing devices shall not be installed below the Flood Protection Elevation,
5. [At the time of inspection this property required _____ square inches of venting. Requiring _____vents and _____crawl space access door(s) used to meet the flood venting requirements of the City of Sea Isle City,]
6. That this **Non-conversion Agreement** becomes part of Permit Number _____ and grants the City of Sea Isle City the ability to inspect and enforce the provisions of this **Agreement** at any time.

Regulated Shaded X Zones

Houston Ordinance, Chapter 19, Pages 55 - 56

Percentage of uninsured homes that flooded:

- Hurricane Irma: **80%**
- Hurricane Harvey: **80%**
- Hurricane Maria: **50%**
- Hurricane Matthew: **60%**

(b) The following additional requirements apply in an X Shaded Zone:

(1) Any addition to, and new construction of any residential structure shall:

a. Have the lowest floor and all utilities elevated to at least the minimum flood protection elevation, except that additions which are no greater than 33% of the habitable area of the structure shall be permitted to be constructed at the same elevation as the structure it is being added to; and

All other provisions including mitigation requirements included in section 19-24 of this code shall apply to all additions regardless of size and all new construction.

b. If the floor elevation of a garage attached to an addition is lower than the minimum flood protection elevation, the garage must meet the requirements of item (8) of section 19-32 of this Code.

(2) Any addition to, and new construction of nonresidential structure:

a. Shall be elevated to at least the minimum flood protection elevation measured to the lowest floor; or

b. Shall, along with sanitary sewerage facilities, be floodproofed to the minimum flood protection elevation.

The minimum flood protection elevation is equal to the *0.2 percent chance flood elevation* plus 2 feet. Refer to Section 19-2,Definitions, for further guidance.

Criteria for Non-Engineered Vents

Include language to prevent the use of non-engineered openings that will become obstructed with debris

Houston, Chapter 29, Page 52.
Criteria for non-engineered openings:

4. Any louvers, screens, or other opening covers must not block or impede the automatic flow of floodwaters into and out of the enclosed space. All air-ventilation devices being used as non-engineered openings that can be closed manually must be permanently disabled in the open position. Where experience has shown that a particular, or type, of opening has been blocked or clogged by flood debris or sediment, FMO will not accept that type of flood opening. Consult with FMO prior to ordering and installation to ensure that the flood opening is acceptable.

Criteria for Non-Engineered Openings

ASCE 24-14 Reference

ASCE 24-14, C2.7.2.1, Page 45

"Any louvers, blades, screens and faceplates or other covers and devices should be selected or specified so as to minimize the likelihood of blockage by small debris and sediment. Where experience has shown that a particular device or type of device has been blocked or clogged by flood debris or sediment, use of such devices should be avoided."