

## Flood Vent Guidelines

**What is a Flood Vent:** A flood vent is a permanent opening in a wall or skirting of mobile home designed to allow floodwater to freely flow through an enclosure such as a crawlspace or garage in both directions without human intervention.

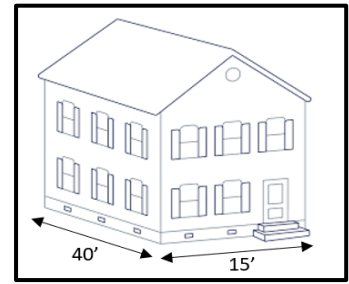
**Purpose:** Flood vents are intended to relieve hydrostatic pressure on foundation walls to reduce the risk of structural damage from the forces of floods or floodwaters to buildings located in special flood hazard areas.

**Flood Vents Installation Requirements:** Flood vents shall satisfy the following requirements per **California Residential Code Section R322.2.2:**

1. A minimum of one square inch of net open area for each square foot of enclosed area for non-engineered openings.

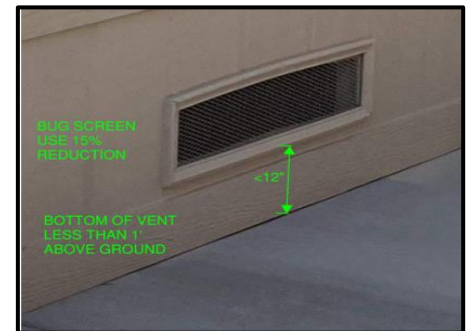
For example: A=15', B=40'. Enclosed Area = AxB = 15' x 40' = 600ft<sup>2</sup> means 600 sq. inches of net flood vent opening area is required

A 15% reduction is required for rodent/bug screens and approximately 40% for decorative screens. To estimate the gross opening area needed  $600/0.85$  (for 15% reduction) = 706 sq. inches. If each vents is 8" x 16", then use  $706/(8" \times 16") = 5.5$  vents. **Use 6 vents.**



2. Vents must be on at least two different sides of the exterior walls as seen above. If a building has more than one enclosed area below the design flood elevation, each area shall have openings.

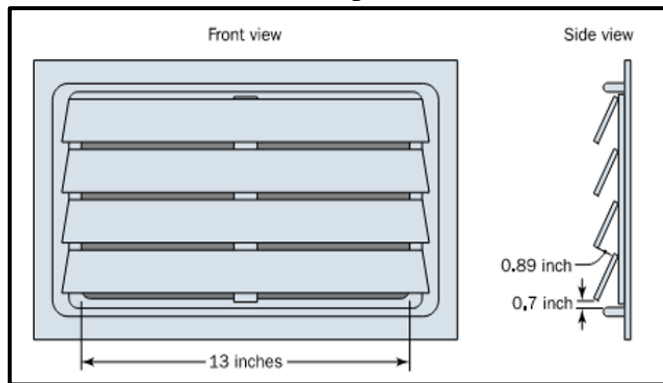
3. The bottom of each flood vent opening shall not be higher than 12 inches above the final interior grade and the exterior grade immediately under each opening, as shown below.



4. The opening within the vent (not the wall) must be at least 3" in diameter. For decorative masonry units and closely spaced holes in brickwork, only the area of each hole counts toward the net open area.



- The presence of louvers, blades, screens and faceplates or other covers and devices shall allow the automatic flow of floodwater into and out of the enclosed area and shall be accounted for in the determination of the net open area.

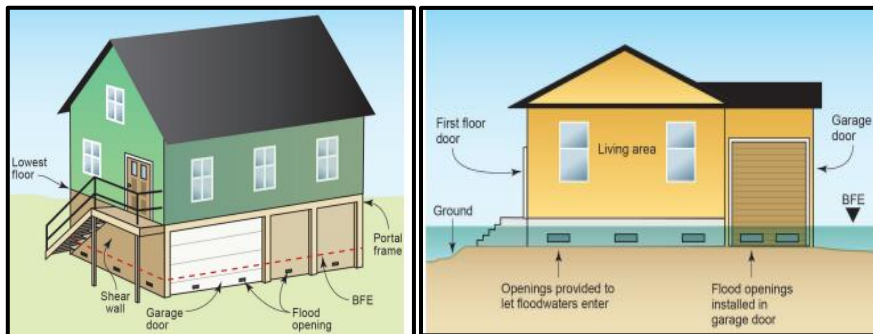


Typical air vent with fixed angled blades only allows approx. 44 in<sup>2</sup>. Net area = 13 x (0.7 + 0.89 + 0.89 + 0.89) = 44 square inches.



Unacceptable flood vents. Flood vents must remain open.

- Enclosed Areas Below Design Flood Elevation, including crawl spaces, that are below the design flood elevation shall be used solely for parking of vehicles, building access or storage.



- Openings shall be permitted to be installed in doors and windows; doors and windows without installed openings do not meet the requirements of this section.

**ENGINEERED FLOOD VENTS AND OPENING COVERS**

Engineered Flood Vents are typically more efficient and require less openings

Smart Vent: <https://smartvent.com/products/allproducts>

Freedom Flood Vents: <https://www.freedomfloodvent.com/products>

Crawl Space Door Systems: <https://www.crawlspacedoors.com/store/flood-vents/>

Flood Solutions: <https://floodsolutions.com/>

Additional Flood Vent information is available in NFIP Technical Bulletin 1:

[https://www.fema.gov/sites/default/files/2020-07/fema\\_tb1\\_openings\\_foundation\\_walls\\_walls\\_of\\_enclosures\\_031320.pdf](https://www.fema.gov/sites/default/files/2020-07/fema_tb1_openings_foundation_walls_walls_of_enclosures_031320.pdf)