

FLOOD VARIANCE CHECKLIST (completed by staff)

The applicant shall be notified in writing by the director that:

- The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance commensurate with the increased risk; and
- Such construction below the base flood level increases risks to life and property. Such notification shall be maintained with a record of all variance actions.

Date Completed:

The department of community Planning shall:

- Maintain a record of all variance actions, including justification for their issuance; and
- Report such variances issued in its annual or biennial report submitted to the Federal Insurance Administrator.

Date Completed:

Guidance for Applying Floodplain Management Variance Criteria to Certain Agricultural Structures

1. Agricultural structure is solely used for agricultural purposes in which the use is exclusively in connection with the production, harvesting, storage, drying, or raising of agricultural commodities, including the raising of livestock.
2. Pole frame buildings with open or closed sides used exclusively for the storage of farm machinery and equipment.
3. Steel grain bins and steel frame corn cribs.
4. General purpose barns for the temporary feeding of livestock which are open on at least one side.
5. For livestock confinement buildings, poultry houses, dairy operation, and similar livestock operations, variances may only be issued for structures which were substantially damaged. New construction or substantial improvements of such structures must meet the floodplain management requirements of 44 CFR 60.3 of the NFIP Regulations for non-residential structures which require that new or substantially improved non-residential buildings must be elevated or floodproofed to the Base Flood Elevation (BFE).
6. Detached garages and storage sheds solely used for parking and limited storage which are no greater than 400 square feet in area.

Considerations to address as part of Variance for Wet Floodproofed Agricultural Structures

1. The applicant for a variance should demonstrate that such agricultural structures are located in wide, expansive floodplain areas, and that no other alternative location for the agricultural structure exists. Communities should require the applicant to demonstrate that the entire farm acreage consisting of a contiguous parcel of land on which the structure is to be located must be in the Special Flood Hazard Area and that no other alternative locations for the structure are available.
2. The community should consider stipulating a size limit for this structure to be wet floodproofed. Also, the community should take into consideration any existing or future wet floodproofed structures on the site by establishing a minimum number of structures which may be potentially wet floodproofed at any one farmstead in order to minimize future flood damages.
3. The community should consider stipulating minimum distances to levees which are not certified under the NFIP levee criteria in order to protect structures which could be subject to high velocity waters as a result of a levee break or breach.
4. In order to achieve the minimum variance for the NFIP standards necessary in order to afford relief, the community should consider a combination of elevation on fill and wet floodproofing.

Conditions for Variances Issued for Agricultural Structures which are Wet Floodproofed

1. Use of structures must be limited to agricultural purposes in only Zones A, A-30, AE, AO, or AH of the community's Flood Insurance Rate Map (FIRM).
2. The agricultural structure must be built or rebuilt, in the case of an existing building which is substantially damaged, with flood-resistant materials for the exterior and interior building components and elements (i.e., foundation, wall framing, exterior and interior finishes, flooring, etc.) below the BFE in accordance with 44 CFR 60.3(a)(3) of the NFIP Regulations. The NFIP *Technical Bulletin 2 Flood-Resistant Materials Requirements* provides guidance on what constitutes materials resistant to flood damage and how and when these materials must be used to improve the building's ability to withstand flooding.
3. The agricultural structure must be adequately anchored to prevent flotation, collapse, or lateral movement of the structure in accordance with 44 CFR 60.3(a)(3) of the NFIP Regulations. All of the building's structural

components must be capable of resisting specific flood-related forces including hydrostatic, buoyancy, hydrodynamic, and debris impact forces. Where flood velocities exceed 5 feet per second, fast-flowing flood waters can exert considerable pressure on the building's enclosure walls or foundation walls. The NFIP *Technical Bulletin 1 Openings in Foundation Walls* and the NFIP *Technical Bulletin 3 Non-Residential Floodproofing* provide guidance on design considerations to address these forces.

4. The agricultural structure must meet the NFIP openings requirement which require that enclosure walls or foundation walls that are subject to the 100-year flood contain openings that will permit the automatic entry and exit of floodwaters in accordance with 44 CFR 60.3(c)(5) of the NFIP Regulations. Guidance is provided in the NFIP *Technical Bulletin 1 Openings in Foundation Walls* for designing openings in cases where a rate of rise is greater than 5 feet per hour.
5. Any mechanical, electrical, or other utility equipment must be located above the BFE or floodproofed so that they are contained within a watertight, floodproofed enclosure which is capable of resisting damage during flood conditions in accordance with 44 CFR 60.3(a)3).
6. The agricultural structure must comply with the floodplain management floodway encroachment provisions of 44 CFR 60.3(c)(10) or (d)(3). No variance may be issued for agricultural structures within any designated floodway if any increase in flood levels would result during the base flood.
7. Major equipment, machinery, or other contents must be protected. The rate-of-rise of flood waters or the flood warning time available through an existing, reliable (community based or regionally based) flood warning system must be adequate to provide sufficient lead time to remove and relocate contents to land above the BFE. A community shall make a finding that rate-of-rise of flood waters and/or flood warning is adequate. Protection techniques must be specified.
 - a. Protection techniques for contents that cannot be relocated in the event of a flood include constructing protective watertight floodproofed areas within the building, the use of equipment hoists for readily elevating contents, or permanently elevating certain contents on pedestals or shelves above the BFE.
 - b. For contents that can be relocated, a determination must be made that property owners can safely remove contents without risk to lives and that the contents will be located to a site out of the floodplain. The site for storing relocated contents should be specified.

Minimum Conditions for an Agricultural Structure Variance

1. It must be anchored to resist flotation, collapse, and lateral movement.
2. The portions of these structures located below the BFE must be constructed of flood-resistant materials.
3. It must be designed to allow for the automatic entry of flood waters.
4. Mechanical and utility equipment must be elevated or floodproofed to or above the BFE
5. It must comply with the floodway encroachment provisions of the NFIP Regulations.
6. Its use must be limited to agricultural purposes (production, harvesting, storage, drying, or raising of agricultural commodities, including the raising of livestock).

Conditions for Approving Variances for Accessory Structures

1. Only be used for parking or for limited storage purposes only.
2. Be built with Flood Resistant Materials below the BFE. Information about FEMA accepted flood resistance materials can be found in FEMA's *Technical Bulletin 2-08, 7-93, and 11-01*. There is also a fact sheet titled "Building with Flood Damage Resistant Materials".
3. Must be properly anchored to prevent flotation or lateral movement and collapse of the structure during the 1% annual chance flooding event (certification provided by a design professional).
4. Any utilities servicing the building must be located above the BFE, or floodproofed within a watertight enclosure capable of resisting flood damage, or meet the floodproofing development standards in *FEMA Publication 348*, Sections 3.3.4 and 3.3.5 specified on pages 3.3-7 to 3.3-11. (Additional requirements associated with floodproofing or electrical equipment by this method are discussed in the "*Non-Structural Development Activities*" fact sheet).
5. Have flood openings in the area below the BFE to allow flood water to enter and exit.
6. If it is going to be located within a Regulatory Floodway, the development must still meet the "No-Rise" requirements, before allowing moving forward with the variance procedure. (See the fact sheet titled "Development in the Regulatory Floodway" for more information on this process and within a watertight enclosure capable of resisting flood damage, or meet the floodproofing development standards in *FEMA Publication 348*, Sections 3.3.4 and 3.3.5 specified on pages 3.3-7 to 3.3-11. (Additional requirements associated with floodproofing or electrical equipment by this method are discussed in the "*Non-Structural Development Activities*" fact sheet).
7. Have flood openings in the area below the BFE to allow flood water to enter and exit.

8. If it is going to be located within a Regulatory Floodway, the development must still meet the “No-Rise” requirements, before allowing moving forward with the variance procedure. (See the fact sheet titled “*Development in the Regulatory Floodway*” for more information on this process and certification).
9. Equipment, machinery, or other contents must be protected for any flood damage.
10. Will not qualify for Disaster Relief Assistance for repair costs after a flooding event.
11. If the structure will need to be insured, the flood insurance premium cost will be higher, than if the structure had been elevated instead.
12. Wet floodproofing techniques may be utilized if certified by a design professional.

Minimum Conditions for an Accessory Structure Variance

1. It must be anchored to resist flotation, collapse, and lateral movement.
2. The portions of these structures located below the BFE must be constructed of flood-resistant materials.
3. It must be designed to allow for the automatic entry of flood waters.
4. Mechanical and utility equipment must be elevated or floodproofed to or above the BFE
5. It must comply with the floodway encroachment provisions of the NFIP Regulations.
6. Its use must be limited to parking and/or limited storage (a community is required to define limited storage).