

Chapter 151-11 Environmental

151-11.1 Dams and Water Impoundment Structures

A. General

Dams and water impoundment structures shall be planned, designed and constructed under the supervision of a structural or professional engineer registered in the State of Missouri and shall comply with all applicable county and state standards. A preliminary engineering report, including soil investigations and design procedures, in accordance with state and county standards, shall be submitted to the county prior to any development approval. The applicant's engineer shall certify that the dam is constructed in accordance with the approved plans and specifications. (See Sec. 151-8.13)

B. Dams

A dam construction permit must be obtained from the Building Official before beginning construction of any dam. A dam construction permit shall only be granted as follows:

1. Dams that are proposed to be constructed on parcels of less than 20 acres in area shall be designed by a professional engineer registered in the State of Missouri. Prior to construction of such dam, detailed design plans shall be submitted for review by the Building Official for compliance with all applicable county and state standards. After the construction of such dam, the engineer shall certify that the dam is built in accordance with the approved plans.
2. Submitted plans must show the method of dam construction, the materials to be used for fill, including the specified soil types, all proposed structures for the control of excess water, and the maximum land area that the impounded water could cover. The plan shall note the number of acres contained in the drainage area topographically higher than the lowest point of the dam.
3. Dams that impound water from a drainage area of 20 acres or more shall be designed by a professional engineer registered in the State of Missouri. Prior to construction of such, detailed design plans and specifications shall be submitted to the County Engineer for design review and compliance with State of Missouri standards. The professional engineer shall certify that the dam has been constructed in accordance with the plans and specifications and State of Missouri standards.
4. No pond or lake shall be located closer than 50 feet to any county, state or city road, street or road right-of-way.
5. No pond or lake shall impound water over a utility easement, except a drainage easement, or over an existing utility line including sewage lateral fields. Where impounded waters will back up on to other (off-site) property, water impoundment easements shall be required and recorded.
6. Ponds or lakes with a surface area of 1 acre or less (at normal pool level or normal spillway elevation) and used exclusively for an individual dwelling unit's sewage retention or for agricultural purposes shall be exempt from the standards of this section.

C. Retention Basins

When the development of a site will substantially increase the runoff of stormwater onto adjoining properties, the County Engineer may require that retention basins be provided on-site to control the rate of runoff.

D. Dam Breach Studies

Decision-making bodies shall be authorized to require the preparation of a dam breach study for

lakes with an area of 5 acres or more (at normal spillway elevation). When required, breach studies shall be prepared by a professional engineer registered in the State of Missouri.

As in the case of FIRM floodplain mapping, development shall be discouraged within the designated dam breach area.

151-11.2 Stormwater Management

Stormwater is water from rain or melting snow that does not soak into the ground. It flows from rooftops, over paved areas and bare soil, and through sloped lawns. As it flows, this runoff collects and transports soil, manure, salt, pesticides, fertilizer, oil and grease, leaves, litter and other potential pollutants. Contaminants include: livestock waste, fuels and solvents, pesticides, and chemical fertilizers. Contrary to popular belief, most storm sewers do not carry storm water to wastewater treatment plants. Stormwater is unavoidable, but keeping harmful chemicals and materials out of runoff, as well as designing detention areas that would reduce the flows and, therefore, the amount of erosion can reduce its effects.

Soil type can affect surface water contamination. Although runoff occurs from all soil types, clay soils are more likely to cause surface water runoff because they are less permeable. Eroding soil is considered a water pollutant.

For additional information, contact the University of Missouri Extension Service, the Clay County Soil and Water Conservation District, the Missouri Department of Natural Resources, Missouri Department of Conservation, and the Clay County Health Department.

A. Practices that will reduce stormwater runoff and improve water quality in streams

1. Cover bare soil with vegetable and flower gardens, grass seed, and natural prairie grass coverings.
2. Remove all debris from ditches and creeks and from areas where they might be swept into a channel.
3. Consider using materials other than concrete or asphalt for drives and walkways that would allow for more seepage into the ground.
4. Keep basement windows or doors sealed against leaks.
5. Slope the yard away from the foundation to prevent water from pooling near the structure.
6. Use downspouts to carry water from the roof onto grassy areas.
7. Consider a landscaping layout engineered to reduce runoff.
8. Pump and repair on-site septic systems on a regular basis.
9. Replace septic systems if it is more than 30 years old, made of soil or undersized for any additions you have made to your house.
10. Do not drive vehicles on the drain field.
11. Do not pave, build, or pile heavy objects on a drain field.
12. Divert roof runoff and other surface runoff away from the drain field.
13. Do not dispose of tissues, diapers, sanitary napkins, cigarette butts and other solid waste down the toilet.

14. Paints, solvents, acids, drain cleaners, oils and pesticides can pass untreated through your system and contaminate the groundwater.
15. Consider the individual characteristics of the site when building; such as soil type and depth; depth to bedrock; depth to the water table; and location of wetlands, streams, or other surface water.

B. Stream Protection

No person shall knowingly deposit or dump trash, debris, or other obstacles into a Clay County active stream, or otherwise pollute, contaminate, or significantly retard the flow of water through the watercourse.

*(Note: **Active Channel** – The area of the stream channel that is subject to frequent flows (approximately once per one and a half years), and that includes the portion of the channel below where the floodplain flattens. A USGS “blueline” or a stream that has an average flow of 5cfs or greater may also be used to define an Active Stream Channel.)*

C. Stream Buffer Setbacks

This stream buffer setback ordinance is intended to protect and maintain the native vegetation along all stream systems within Clay county jurisdictional authority. This ordinance establishes minimal acceptable requirements for the design of buffers to protect the streams, wetlands and floodplains of Clay County; to protect the water quality of watercourses, reservoirs, lakes and other significant water resources within Clay County; to protect Clay County’s riparian and aquatic ecosystems; and to provide for the environmentally sound use of Clay County’s land resources.

1. Structure Setback Requirements

No structures shall be constructed within 50’ of the highest stream bank, or in no case within 75’ of the centerline of an active stream channel.

2. Drainage Construction

Stormwater drainage construction may occur within the 75’ setback requirement, if approved by the County Engineer.

3. Water Pollution Hazards

The following land uses and/or activities are designated as potential water pollution hazards, and must be set back from any active stream channel or water body by the distance indicated below:

- a. Storage of hazardous substances (150 feet)
- b. Drain fields from on-site sewage disposal and treatment systems (i.e. septic systems –50 feet)
- c. Raised septic systems (75 feet)
- d. Solid waste landfills or junkyards (300 feet)
- e. Confined animal feedlot operations (250 feet)
- f. Subsurface discharges from a wastewater treatment plant (75 feet)
- g. Land applications of biosolids (100 feet)

4. Zone 1 - Streamside Zone

The function of the streamside zone is to protect the physical and ecological integrity of the stream ecosystem.

- a. The streamside zone will begin at the edge of the highest bank of the active channel and extend a minimum of 50 feet or extend a minimum of 50 feet from the centerline of the active channel and/or waterbody.
- b. Allowable uses within this zone are restricted to:
 - i. Flood control structures
 - ii. Utility rights of way
 - iii. Footpaths and foot bridges

- iv. Road crossings, where permitted.
- v. Driveways, when approved by the highway and planning departments.

5. Zone 2 – Secondary Streamside Zone

- a. The function of the secondary streamside zone is to protect key components of the stream and to provide a distance between upland development and the streamside zone.
- b. The secondary streamside zone will begin at the outer edge of the streamside zone (Zone 1) and extend a minimum of 25 feet.
- c. Allowable uses within the secondary streamside zone are restricted to:
 - i. Biking and hiking paths
 - ii. Stormwater management facilities with the approval of the Clay County Engineer
 - iii. Recreational uses approved by Planning and Zoning and the Clay County Parks Department
 - iv. Limited tree clearing with the approval of the Planning & Zoning Director
 - v. Targeted vegetation is that of mature native vegetation adapted to the region.
 - vi. Wastewater lateral systems with approval of the Clay County Health Department.

D. Plat Requirements

All plats containing active stream channels shall show Zones 1 and 2 and provide a note stating, "There shall be no clearing, grading, construction or disturbance of vegetation except as permitted by Clay County."

E. Stormwater Runoff Requirements

There shall be no increase in off-site stormwater runoff from the proposed development when compared to the predevelopment status.

F. Violation

Any violation of this section of the ordinance will receive written notice of the violation and given a specific length of time to remedy the problems. Failure to do so will constitute a misdemeanor.

151-11.3 Renewable Energy

Renewable energy sources (e.g. wind generators, solar collectors, etc.) are encouraged in Clay County. (See Sec. 151-6.3H)

151-11.4 Junk, Trash and Derelict Vehicles

The regulations of this section are intended to prohibit the accumulation of junk, debris, building materials, used furniture, or other waste items or the repair, restoration, assembly, disassembly, storage or standing of any inoperable vehicle where it is visible and uncovered from surrounding property or roads. In order to adequately investigate complaints, Planning and Zoning does not accept anonymous complaints.

A. Determination of Junk or Debris Status

Piles or accumulation of junk or debris shall be determined to be a nuisance when any one or more of the following conditions exist:

- 1. Accumulation of junk, debris, building materials, used furniture, household trash, tires, barrels or other waste items appear on any property which has the potential to be a:
 - a. Health hazard

- b. Fire hazard
 - c. Nuisance to adjacent property owners
 - d. Degrade water quality of active streams.
2. The burial of trash or debris is considered to be operating a Landfill and is subject to all regulations regarding Waste-Related Use (Sec. 151-6.2X).
 3. Any complaint regarding the accumulation of junk, debris, trash, building materials, used furniture, or other waste items located on property within unincorporated Clay County shall be processed by the Planning and Zoning Director or designee by:
 - a. Receiving a complaint from any citizen of the County;
 - b. Completing a Complaint form which will include the name and phone number of the person lodging the complaint;
 - c. Inspecting the property for any violation(s).
 4. Upon completion of the inspection the Planning and Zoning Director or designee will:
 - a. Make a determination that there was no violation of this ordinance;
 - b. Call the person reporting the problem and give them the results of their investigation;
 - c. Make a determination that there is a violation of this ordinance;
 - d. Send a certified letter to the property owner on which the violation is occurring;
 - e. Indicate the nature of the violation, Code reference, number of days to correct the problem, and the follow up procedure.
 - f. Staff will call the informer to advise them a certified letter has been sent.
 - g. At the end of the allotted time, the property will be inspected for compliance.
 - h. If not in compliance, and after notification to the property owner and investigation by staff, the complaint will be turned over to the County Prosecutor for prosecution of a misdemeanor.
 - i. Each incident of a complaint, after notification to the property owner and investigation by staff, shall be considered a separate violation.

B. Determination of Vehicle Status

1. Inoperable

A motor vehicle shall be determined to be inoperable when any one or more of the following conditions exist:

- a. it is disassembled in whole or in part;
- b. it is unable to move or it has not been moved under its own power within a continuous period of 10 days or more; or
- c. its license plates have been expired for 30 days or more.

2. Storage

Inoperable motor vehicles shall not be stored, nor shall they be allowed to stand in any zoning district in any manner except as follows:

- a. In a legally established and conforming wrecking or salvage yard.
- b. In a fully enclosed storage structure such as a garage or barn.
- c. Where it is covered and/or not visible from adjacent roads or property.

C. Junk Vehicles and/or Trash/Debris are not “grandfathered” and all violations are effective as of June 23, 2003.

151-11.5 Liquid Gas Tanks

Permanently installed liquid gas tanks (propane) with a capacity of 10,000+ gallons shall be permitted only in I-1 or I-2 zoning districts. They shall conform to the zoning restrictions and those of the 2000

Uniform Fire Code, as adopted by Clay County.

Temporary storage tanks of 10,000+ gallons liquid gas must have a Conditional Use Permit and conform to the restrictions that may be required to allow the installation of such a tank.

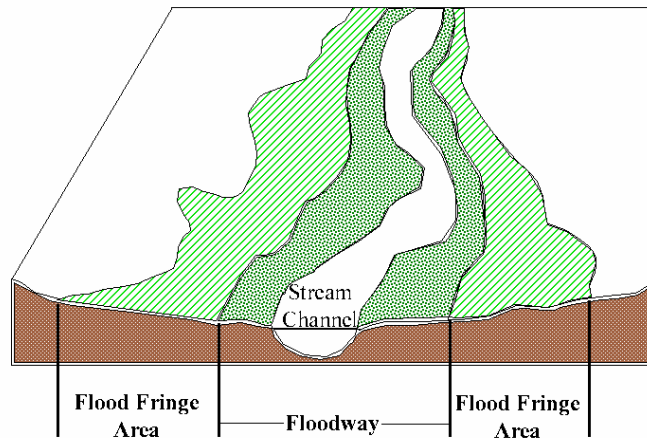
151-11.6 Floodplain Management

A. Floodplain Designations

1. The special flood hazard areas of unincorporated Clay County are subject to periodic inundation that results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
2. These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands that are inadequately elevated, flood proofed, or otherwise unprotected from flood damages.

B. Statutory Authority

The regulations of this section are adopted pursuant to the powers granted and limitations imposed by the Constitution and laws of the State of Missouri, including the statutory authority conferred by RSMo 49.600.



Flood Plain Cross Section

C. Purpose

It is the purpose of these regulations to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

1. restrict or prohibit uses that are dangerous to health, safety and property due to water or erosion hazards or that result in damaging increases in erosion or in flood heights or velocities;
2. require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;
3. control the alteration of natural floodplains, stream channels and natural protective barriers that are involved in the accommodation of flood waters;
4. control filling, grading, dredging and other development that may increase erosion or flood damage waters;

5. prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or that may increase flood hazards to other lands; and
6. maintain the county's eligibility for participation in the National Flood Insurance Program (NFIP) as defined in 44 Code of Federal Regulations (CFR) 59.22(a)(3); and to meet the requirements of 44 CFR 60.3(d).

D. Objectives

The objectives of the regulations of this Chapter are:

1. to protect human life and health;
2. to minimize expenditure of public money for costly flood control projects;
3. to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4. to minimize prolonged business interruptions;
5. to minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
6. to help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas;
7. to protect individuals from buying lands that are unsuited for intended purposes because of flood hazard; and
8. to assure that eligibility is maintained for property owners in the county to purchase flood insurance in the National Flood Insurance Program.

E. Applicability

The regulations of this Chapter shall apply to all areas of unincorporated Clay County identified as numbered and unnumbered A zones, AE, AO, and AH Zones, on the Flood Insurance Rate Map and the Flood Boundary and Floodway Map dated April 16, 2003 as amended, and any future revisions thereto. In all areas covered by this Chapter, no development shall be permitted except upon the issuance of a Floodplain Development Permit granted in accordance with the procedures and standards of this Chapter.

F. Basis For Establishing the Areas of Special Flood Hazard

The areas of special flood hazard identified by the Federal Emergency Management Agency in its Flood Insurance Study, dated April 16, 2003 with accompanying maps and other supporting data, and any revision thereto are adopted by reference and declared to be a part of this Chapter.

G. Warning and Disclaimer of Liability

The degree of flood protection required by this Chapter is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions, and flood heights may be increased by manmade or natural causes. The regulations of this Chapter do not imply that land outside special flood hazard areas or that uses permitted within such areas will be free from flooding or flood damages. This Chapter shall not create liability on the part of the Clay County or by any officer or employee thereof for any flood damages that result from reliance on this Chapter or any administrative decision lawfully made hereunder.

H. Interpretation

In their interpretation and application, the provisions of this chapter shall be held to be minimum requirements and shall be liberally construed in favor of the governing body and shall not be deemed a limitation or repeal of any other powers granted by state statutes.

I. Compliance

No development located within known flood hazard areas of unincorporated Clay County shall be located, extended, converted or structurally altered without full compliance with the terms of this chapter and other applicable regulations.

J. Abrogation and Greater Restrictions

This Chapter is not intended to repeal, abrogate or impair any existent easements, covenants or deed restrictions. However, where this chapter imposes greater restrictions, the provision of this chapter shall prevail.

151-11.7 Floodplain Definitions

The definitions of this section shall be used solely for the purpose of interpreting and administering the Floodplain Management provisions of this Chapter. If the definitions of this section conflict with other definitions of this Land Development Code, the definitions of this section shall control.

Term	Definition
Agricultural Commodities	agricultural products and livestock.
Agricultural Structure	means any structure used exclusively in connection with the production, harvesting, storage, drying, or raising of agricultural commodities.
Accessory or Appurtenant Structure	means a structure that is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.
Area of Special Flood Hazard	is the land in the floodplain within the county subject to a 1 percent or greater chance of flooding in any given year, e.g. "100 year Flood Plain."
Base Flood	means the flood having a 1 percent chance of being equaled or exceeded in any given year.
Basement	means any area of the structure having its floor below ground level on all sides.
Development	means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, levees, levee systems, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.
Elevated Building	means, for insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.
Existing Construction	means for the purposes of determining rates, structures for which the "start of construction" commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. "Existing construction" may also be referred to as "existing structures."
Existing Manufactured Home Park or Subdivision	means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured housing units are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations of the county.

Term	Definition
Expansion of an Existing Manufactured Home Park or Subdivision	means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured housing units are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).
Flood or Flooding	means a general and temporary condition of partial or complete inundation of normally dry land areas from (a) the overflow of inland and/or (b) the unusual and rapid accumulation or runoff of surface waters from any source.
Flood Boundary and Floodway Map (FBFM)	means an official map of the county on which the Floodplain Administrator has delineated both special flood hazard areas and the designated regulatory floodway.
Flood Elevation Determination	means a determination by the Floodplain Administrator of the water surface -elevations of the base flood, that is, the flood level that has a 1 percent or greater chance of occurrence in any given year.
Flood Elevation Study	means an examination, evaluation and determination of flood hazards.
Flood Fringe	means the area outside the floodway encroachment lines, but still subject to inundation by the regulatory flood.
Flood Hazard Boundary Map (FHBM)	means an official map of the county issued by the Floodplain Administrator, where the boundaries of the flood areas having special flood hazards have been designated as (unnumbered or numbered) A zones.
Flood Insurance Rate Map (FIRM)	means an official map of the county, on which the Floodplain Administrator has delineated both the special flood hazard areas and the risk premium zones applicable to the county.
Flood Insurance Study (FIS)	means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations.
Floodplain or Flood-prone Area	means any land area susceptible to being inundated by water from any source (see "flooding").
Floodplain Management	means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.
Floodplain Management Regulations	means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain and grading ordinances) and other applications of police power. The term describes such state or local regulations, in any combination thereof, that provide standards for the purpose of flood damage prevention and reduction.
Flood proofing	means any combination of structural and nonstructural additions, changes, or adjustments to structures that reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, or structures and their contents.
Floodway or Regulatory Floodway	means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than 1 foot.
Floodway Encroachment	means the lines marking the limits of floodways, on federal, state and local

Term	Definition
Lines	floodplain maps.
Freeboard	means a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as bridge openings and the hydrological effect of urbanization of the watershed.
Functionally Dependent Use	means a use that cannot perform its intended purpose unless it is located or carried out in close proximity to water. This term includes only docking facilities and facilities that are necessary for the loading and unloading of cargo or passengers, but does not include long-term storage or related manufacturing facilities.
Highest Adjacent Grade	means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
Historic Structure	means any structure that is: (a) listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either (i) by an approved state program as determined by the Secretary of the Interior or (ii) directly by the Secretary of the Interior in states without approved programs.
Lowest Floor	means the lowest floor of the lowest enclosed area, including basement. An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access, or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable flood proofing design requirements of this chapter.
Manufactured Housing Unit	means a structure, transportable in 1 or more sections, that is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured housing unit" does not include a "recreational vehicle."
Manufactured Home Park or Subdivision	means a parcel (or contiguous parcels) of land divided into 2 or more manufactured housing unit lots for rent or sale.
Market Value or Fair Market Value	means an estimate of what is fair, economic, just and equitable value under normal local market conditions.
Mean Sea Level	means, for purposes of the National Flood Insurance Program the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on the county's Flood Insurance Rate Map are referenced.
New Construction	means, for the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an

Term	Definition
	initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of the floodplain management regulations adopted the county and includes any subsequent improvements to such structures.
New Manufactured Home Park or Subdivision	means a manufactured home park or subdivision for which the construction of facilities for servicing the lot on which the manufactured housing units are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by the county.
Person	includes any individual or group of individuals, corporation, partnership, association, or any other entity, including federal, state, and local governments and agencies.
Principally Above Ground	means that at least 51 percent of the actual cash value of the structure, less land value, is above ground.
Recreational Vehicle	means a vehicle which is (a) built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projections; (c) designed to be self-propelled or permanently towable by a light-duty truck; and (d) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.
Remedy A Violation	means to bring the structure or other development into compliance with federal, state, or local floodplain management regulations; or, if this is not possible, to reduce the impacts of its noncompliance.
Risk Premium Rates	means those rates established by the Floodplain Administrator pursuant to individual studies and investigations which are undertaken to provide flood insurance in accordance with Section 1307 of the National Flood Disaster Protection Act of 1973 and the accepted actuarial principles. "Risk premium rates" include provisions for operating costs and allowances.
Special Flood Hazard Area	see "area of special flood hazard."
Special Hazard Area	means an area having special flood hazards and shown on an FHBM, FIRM or FBFM as zones (unnumbered or numbered) A and AE.
Start of Construction	includes substantial-improvements, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvements were within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on-site, such as the pouring of slabs or footings, the installation of piles, the construction of columns, any work beyond the stage of excavation, or the placement of a manufactured housing unit on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, the installation of streets and/or walkways, excavation for a basement, footings, piers, foundations, the erection of temporary forms, nor installation on the property of accessory structures, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial-improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other

Term	Definition
	structural part of a building, whether or not that alteration affects the external dimensions of the building.
State Coordinating Agency	means that agency of the state government, or other office designated by the governor of the state or by state statute at the request of the Floodplain Administrator to assist in the implementation of the National Flood Insurance Program in that state.
Structure	means, for floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured housing unit.
Structure	for insurance purposes, means a walled and roofed building, other than a gas or liquid storage tank, that is principally above ground and affixed to a permanent site, as well as a manufactured housing unit on a permanent foundation. For the latter purpose, the term includes a building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.
Substantial-Damage	means damage of any origin sustained by a structure whereby the cost of restoring the structure to pre-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred,
Substantial-Improvement	means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either (a) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or (b) any alteration of an "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."
Variance	means a grant of relief by the county from the terms of a floodplain management regulation.
Violation	means the failure of a structure or other development to be fully compliant with the county's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required by this chapter is presumed to be in violation until such time as that documentation is provided.
Water Surface Elevation	means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 (or other datum where specified) of floods of various magnitudes and frequencies in the floodplain.

151-11.8 Floodplain Administration and Procedures

A. Designation of Local Floodplain Administrator

The Planning and Zoning Director shall be responsible for administering and implementing the provisions of this Chapter.

B. Duties of the Floodplain Administrator

Duties of the Floodplain Administrator shall include:

1. Review all development permits to assure that sites are reasonably safe from flooding and that the permit requirements of this chapter have been satisfied.
2. Review permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required.
3. Notify adjacent communities and the Missouri State Emergency Management Agency prior to any alteration or relocation of a watercourse, and shall submit evidence of such notification to the Federal Emergency Management Agency.
4. Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.
5. Verify, record and maintain record of the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures.
6. Verify, record and maintain record of the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been flood proofed.
7. When flood proofing is utilized for a particular structure the Building Official shall be presented certification from a registered professional engineer or architect.
8. Issue Floodplain Development Permits for all approved applications.

C. Floodplain Development Permit Required

No person, firm or corporation shall initiate any development or substantial improvement or cause the same to be done without first obtaining a separate permit for development as defined in this chapter.

D. Application for Permit

To obtain a permit, the applicant shall first file an application in writing on a form furnished for that purpose. Every such application shall:

1. Identify and describe the work to be covered by the permit.
2. Describe the land on which the proposed work is to be done by lot, block tract and house and street address, or similar legal description that will readily identify and definitely locate that proposed building or work.
3. Indicate the use or occupancy for which the proposed work is intended.
4. Be accompanied by plans and specifications for proposed construction.
5. Be signed by the permittee or their authorized agent who may be required to submit evidence to indicate such authority.
6. Indicate the value of the structures and improvements.
7. Specify whether development is to be located in designated flood fringe or floodway.
8. Identify the existing base flood elevation and the elevation of the proposed development.
9. Give such other information as reasonably may be required by the Floodplain Administrator.

E. Appeals

Appeals of decisions of the Floodplain Administrator shall be processed in accordance with the procedures of Sec. 151-3.14.

151-11.9 General Flood Hazard Reduction Standards

- A.** No permit for development shall be granted for new construction, substantial improvements and other improvements including the placement of manufactured housing units and mobile homes within all numbered and unnumbered A zones or AE zones unless the general flood hazard reduction standards of this section are satisfied.
- B.** All areas identified as unnumbered A zones on the Flood Insurance Rate Map are subject to inundation of the 100-year flood; however, the water surface (flood) elevation was not provided. The unnumbered A zones shall be subject to all standards of this Land Development Code. If Flood Insurance Study data is not available the county shall be authorized to use any base flood elevation or floodway data currently available from federal, state, or other sources.
- C.** Until a floodway has been designated, no new construction, substantial improvements or other development, including fill, shall be permitted within any unnumbered or numbered A zones or AE zones on the Flood Insurance Rate Map unless the applicant has demonstrated that the proposed use, when combined with all other existing and reasonably anticipated uses, will not increase the water surface elevation of the 100-year flood more than 1 foot at any point within the county.
- D.** All new construction, subdivision proposals, substantial improvements, prefabricated structures, placement of manufactured housing units and mobile homes and other developments shall require:
 - 1. Design or anchorage to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
 - 2. New or replacement water supply systems and/or sanitary sewage systems be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, and on-site waste disposal systems be located so as to avoid impairment or contamination.
 - 3. Construction with materials resistant to flood damage, utilizing methods and practices that minimize flood damage, and with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
 - 4. All utility and sanitary facilities be elevated or flood proofed up to the regulatory flood protection elevation.
 - 5. Subdivision proposals and other proposed new development, including manufactured housing units and mobile home parks, located within special flood hazard areas are required to assure that:
 - a. all such proposals are consistent with the need to minimize flood damage;
 - b. all public utilities and facilities such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damage;
 - c. adequate drainage is provided so as to reduce exposure to flood hazards; and
 - d. all proposals for development of 5 acres or more or 50 lots or more include base flood elevation data.

- E. The storage or processing of materials that are in time of flooding buoyant, flammable, explosive, or could be injurious to human, animal or plant life is prohibited. Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or if readily removable from the area within the time available after flood warning.
- F. Structures used solely for agricultural purposes in connection with the production, harvesting, storage, drying or raising of agricultural commodities, including the raising of livestock may be constructed at-grade and wet-flood proofed, provided that:
 - 1. there is no human habitation or occupancy of the structure;
 - 2. the structure is of single-wall design;
 - 3. there is no permanent retail, wholesale or manufacturing use included in the structure;
 - 4. a variance has been granted from the standards of this chapter; and
 - 5. a Floodplain Development Permit has been issued.
- G. Structures used solely for parking and limited storage purposes, not attached to any other structure on the site, of limited investment value and not larger than 400 square feet, may be constructed at-grade and wet-flood proofed, provided that
 - 1. there is no human habitation or occupancy of the structure;
 - 2. the structure is of single-wall design;
 - 3. a variance has been granted from the standards of this chapter; and
 - 4. a Floodplain Development Permit has been issued.

151-11.10 Residential and Nonresidential Building Floodplain Protection Standards

A. Applicability

The standards of this section shall apply in all areas identified as numbered and unnumbered A zones, AE and AH zones, where base flood elevation data has been provided.

B. Residential

New construction or substantial improvements of residential structures, including manufactured housing units and mobile homes, shall have the lowest floor, including the basement, elevated to at least 1 foot above the base flood elevation.

C. Nonresidential

New construction or substantial improvements of nonresidential structures shall have the lowest floor, including basement, elevated to at least 1 foot above the base flood elevation or, together with attendant utility and sanitary facilities, be flood proofed so that below the base flood elevation the structure is water tight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer, architect or surveyor shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator at the time of application for a Floodplain Development Permit.

D. Residential and Nonresidential

Fully enclosed areas below the lowest floor (to be used solely for the parking of vehicles, building access or storage in an area other than a basement) that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a

registered professional engineer, architect or surveyor or meet or exceed the following minimum criteria:

1. a minimum of 2 openings with a total net area of not less than 1 square inch for every 1 square foot of enclosed area subject to flooding shall be provided; and
2. the bottom of all openings shall be no higher than 1 foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

Within AH zones adequate drainage paths around structures on slopes shall be required in order to guide floodwaters around and away from proposed structures.

151-11.11 Floodplain Standards for Manufactured Housing Units and Mobile Homes

- A.** All manufactured housing units and mobile homes to be placed within all numbered and unnumbered A zones, AE and AH zones shall be required to be installed using methods and practices that minimize flood damage. For the purposes of this requirement, manufactured housing units and mobile homes must be elevated and anchored to resist flotation, collapse or lateral movement. Methods of anchoring must be designed and installed in accordance with local building codes or FEMA guidelines. In the event that over-the-top frame ties to ground anchors are used, the following specific requirements (or their equivalent) shall be met:
1. Over-the-top ties be provided at each of the four corners of the mobile home with two additional ties per side at the intermediate locations and manufactured housing units and mobile homes less than 50 feet long requiring one additional tie per side.
 2. Frame ties be provided at each corner of the home with five additional ties per side at intermediate points and manufactured housing units and mobile homes less than 50 feet long requiring four additional ties per side.
 3. All components of the anchoring system be capable of carrying a force of 4,800 pounds.
 4. Any additions to manufactured housing units and mobile homes be similarly anchored.
- B.** Require that all manufactured housing units and mobile homes to be placed or substantially improved within all numbered and unnumbered A zones, AE and AH zones be elevated so that either:
1. a permanent foundation is provided and elevated such that the lowest floor of the manufactured housing unit or mobile home is at least 1 foot above the base flood elevation; or
 2. the manufactured housing or mobile home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be secured attached to an adequately anchored foundation system to resist flotation, collapse or lateral movement.

151-11.12 Standards for Areas of Shallow Flooding

Located within the areas of special flood hazard are areas designated as AO zones. These areas have special flood hazards associated with base flood depths of 1 to 3 feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate.

A. AO Zones

The standards of this subsection shall apply in all AO zones.

1. Residential

All new construction and substantial improvements of residential structures shall have the lowest floor (including the basement) elevated above the highest adjacent grade at least as high as 2 feet above the depth number specified in feet on the Flood Insurance Rate Map (at least 2 feet if no depth number is specified).

2. Nonresidential

All new construction and substantial improvements of nonresidential structures shall:

- a. Have the lowest floor (including the basement) elevated above the highest adjacent grade at least as high as 2 feet above the depth number specified in feet on the Flood Insurance Rate Map (at least 2 feet if no depth number is specified), or
- b. Together with attendant utility and sanitary facilities be completely flood proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Such certification shall be provided to the Floodplain Administrator at the time of application for a Floodplain Development Permit.

3. Residential and Nonresidential

Adequate drainage paths shall be provided around all structures on slopes shall be required in order to guide floodwaters around and away from proposed structures.

B. AH Zones

The standards of this subsection shall apply in all AH zones.

1. The specific building protection standards for all areas of special flood hazard where base flood elevation data has been provided shall be as set forth in Sec. 151-11.8.
2. Adequate drainage paths shall be provided around all structures on slopes shall be required in order to guide floodwaters around and away from proposed structures.

151-11.13 Standards for Floodways

Located within the areas of special flood hazard are areas designated as floodways. Floodways are extremely hazardous areas due to the velocity of flood waters that carry debris and possible projectiles. The standards of this section shall apply within floodways.

A. Allowed Uses

Only uses having a low flood-damage potential and not obstructing flood flows shall be permitted within the floodway. The following are recommended uses within the floodway:

1. Agricultural uses such as general farming, pasture, nurseries, forestry.
2. Residential uses such as lawns, gardens, parking and play areas.
3. Nonresidential areas such as loading areas, parking, airport landing strips.
4. Public and private recreational uses such as golf courses, archery ranges, picnic grounds, parks, wildlife and nature preserves.

B. Encroachments

All encroachments, including fill, new construction, substantial improvements and other

developments shall be prohibited unless certification by a professional registered engineer is provided demonstrating that encroachments shall not result in any increase of flood levels during occurrence of the base flood discharge. No use shall increase the flood levels of the regulatory flood elevation.

C. Standards

Any uses or encroachments that the county allows within the floodway shall be subject to all other applicable standards of this chapter.

D. Unnumbered A Zones

In unnumbered A zones, the county shall be authorized to use any floodway data currently available from federal, state, or other sources.

151-11.14 Floodplain Standards for Recreational Vehicles

Recreational vehicles within numbered or unnumbered A zones, AO, AE and AH zones shall either:

- A. be on site for fewer than 180 consecutive days and be fully licensed and legal for highway use; or
- B. comply with the permitting, elevating and anchoring requirements for manufactured housing units and mobile homes, as set out in this chapter.
- C. For the purpose of this section, a recreational vehicle shall be deemed ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-connect type utilities and securing devices, and has no permanently attached additions.

151-11.15 Floodplain Variances

A. Procedure

Variances from the regulations and standards of this chapter may be requested and granted in accordance with the procedures of Sec. 151-3.8, as modified by the provisions of this section.

B. Variance Criteria

In passing upon applications for variances from the provisions of this chapter, the Board of Zoning Adjustment shall consider all technical data and evaluations, all relevant factors, standards specified in other sections of this chapter, and the following criteria:

1. The danger to life and property due to flood damage.
2. The danger that materials may be swept onto other lands to the injury of others.
3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
4. The importance of services provided by the proposed facility to the community.
5. The necessity to the facility of a waterfront location, where applicable.
6. The availability of alternate locations, not subject to flood damage, for the proposed use.
7. The compatibility of the proposed use with existing and anticipated development.
8. The relationship of the proposed use to the *Comprehensive Plan* and floodplain management program for that area.
9. The safety of access to the property in times of flood for ordinary and emergency vehicles.

10. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters, if applicable, expected at the site.
11. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, water systems, streets, and bridges.

C. Conditions for Approval of Variances

Generally, Variances may be issued for new construction and substantial improvements to be erected on a lot of ½ acre or less in area contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the conditions of paragraphs 1 through 5 of this subsection (immediately below) have been fully considered. As the lot size increases beyond ½ acre, the technical justification required for issuing the variance increases.

1. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this section.
2. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
3. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
4. Variances shall only be issued upon:
 - a. a showing of good and sufficient cause;
 - b. a determination that failure to grant the variance would result in exceptional hardship to the applicant; and
 - c. a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
5. Any applicant to whom a variance is granted shall be given a written notice (over the signature of the Presiding Commissioner of the County Commission) that the cost of flood insurance will increase to as high as \$25 per \$100 of coverage and that construction below the base flood elevation increases risks to life and property. Such notification shall be maintained with the record of all variance actions.

151-11.16 Floodplain Nonconformities

A structure or the use of a structure or premises that was lawful at the time of establishment but that does not comply with the provisions of this chapter may be continued, subject to the following conditions:

A. Discontinuance and Abandonment

A nonconformity under this chapter that is discontinued or remains vacant for a continuous period of 12 months, shall be presumed abandoned and shall not thereafter be reestablished or resumed. Any subsequent use or occupancy of the structure or land site must conform with all applicable provisions of this chapter. The presumption of abandonment may be rebutted upon a showing, to the satisfaction of the Floodplain Administrator that during such period, the owner of the land or structure has been:

1. maintaining the land and structure in accordance with all applicable regulations, including the Building Code and did not intend to discontinue the use; or

2. has been actively and continuously marketing the land or structure for sale or lease; or
3. has been engaged in other activities that would affirmatively prove there was not an intent to abandon.

B. Nuisances

Uses or adjuncts thereof that are or become nuisances shall not be entitled to continue as nonconformities.

C. Damage or Destruction

If any nonconformity is destroyed by any means, including flood, it shall not be reconstructed if the cost is more than 50 percent of the market value of the structure before the damage occurred, unless it is reconstructed in compliance with all applicable provisions of this chapter. This limitation does not include the cost of any alteration to comply with existing state or local health, sanitary, building or safety codes or regulations or the cost of any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

151-11.17 Floodplain Violations

Violation of the provisions of this floodplain ordinance or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with granting of variances) shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent Clay County or other appropriate authority from taking such other lawful action as is necessary to prevent or remedy any violation.

151-11.18 Floodplain Amendments

The regulations, restrictions and boundaries set forth in this chapter may from time to time be amended, supplemented, changed or repealed to reflect any and all changes in the National Flood Disaster Protection Act of 1973. All such amendments shall be processed in accordance with the procedures of Sec. 151-3.2. A copy of amendments approved will be provided to the Federal Emergency Management Agency.

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